



Rehabilitation of Fire Protection Systems at Port Newark, Elizabeth Port Authority Marine Terminal, and Port Jersey

Stage I Report

Prepared By
Design Division
Engineering Department
The Port Authority of NY & NJ

Final Submission
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The report was prepared by the Port Authority of New York and New Jersey Engineering Department Design Division Architectural Unit.

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Department Mechanical Unit	Port Authority Engineering Department Structural Unit	
Structural Engineering	Port Authority Engineering Department Traffic Unit	
Traffic Engineering	Port Authority Engineering Department Management Services	
Estimating Services	Port Authority Engineering Department Materials Engineering Unit	
Materials Engineering		

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EXECUTIVE SUMMARY

The Port Authority of New York and New Jersey Port Department authorized and requested to perform a Stage I Condition Assessment Design Report for existing fire protection systems at the following buildings at the New Jersey Marine Terminal (NJMT).

- Port Newark: Building 111, [REDACTED], 255, 260, 263, [REDACTED], 301, and [REDACTED]
- [REDACTED]
- [REDACTED]

The objective of this project is to evaluate the existing fire protection systems and recommend repairs/upgrades for these systems to ensure that they detect, extinguish, and limit the extent of damage and loss of life during fire in the selected buildings. The existing fire protection systems include automatic fire suppression systems, such as sprinklers (wet fire sprinklers, dry pipe, pre action, and deluge systems), clean agent or other specialized extinguishing systems along with the associated fire alarm detection systems. The assessment of the selected buildings would determine the condition of the existing sprinkler systems such as piping, hangers, sprinkler heads, valves, backflow preventers, fire protection/ fire alarm control panels, and related fire alarm and electrical apparatus.

Many of the selected buildings located at Port Newark, Elizabeth Port Authority Marine Terminal, and Port Jersey are old and their fire protection systems are beyond their useful service lives. While some of the buildings have been upgraded, their fire protection systems have not been upgraded. It is vital that fire protection life safety systems, and related fire alarm and heating ventilation and air conditioning (HVAC) systems comply with the latest applicable codes and are in a fully operational condition.

Stage I reviewed the existing documentation including available quality assurance division (QAD) /life safety reports and existing design drawings to verify the condition of the existing fire protection, power distribution, fire alarm and other related systems at the selected buildings. In addition, Engineering conducted field visits to verify locations of existing equipment such as fire alarm panel, emergency generator, and associated devices. The report reviewed and analyzed applicable code requirements for fire suppression and fire alarm systems based on building and space occupancy classification.

An environmental assessment was also performed, and its findings are included in this report. Refer to Section 9 Summary of Recommendation in Table 1.

The report's recommendations will provide a code compliant solution for the fire protection system upgrade or replacement at each of the selected building at Port Newark, Elizabeth Port Authority Marine Terminal, and Port Jersey.

All surveyed fire protection systems in selected buildings demonstrated certain code compliance issues needed to be addressed. However, the report prioritized the fire protection systems' condition in each selected building based on visual assessment and classified them into three categories as Good, Fair and Poor.

CONDITION PRIORITIES:

Good ("C") – Fire protection systems have minimal signs of corrosion and relatively clean. Minor system components improvements needed. The systems show minimal damage or defect with no functional impact.

Fair ("B") – Fire protection systems have minor signs of damage and contain notable amounts of corrosion on the components. Equipment has little damage on the exposed surface or finishes but functioning as intended.

Poor ("A") – Fire protection systems have signs of damage or deteriorating wear, and shows excessive corrosion, that are affecting equipment operation and reliability. This classification is associated with the age of the equipment and where a condition of prolonged absence of maintenance exists.

To minimize interruption to the facilities' operation, construction must be phased and staged for the selected buildings. All work is to be performed during nights and weekends. Estimated Stage III design duration and construction duration are also included in Table 1 Fire Protection Rehabilitation Recommendations Summary Matrix. The quantitative risk analysis is included in Appendix C.

Per the direction of the Port Department, Design-Bid-Build (DBB) will be the project delivery method in lieu of Design-Build (DB).

The conceptual construction cost including net cost, extra work, and contingency is listed in the Table 1. The conceptual construction cost estimates can be found in Appendix A.

Items	Building No.	Building Occupancy	Occupant	Recommendations	TCC (\$M *)	Design Duration (Months)	Construction Duration (Months)	Priority	Remarks
[Redacted Section Header]									
■	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
■	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
■	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
■	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
■	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
■	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
Port Jersey									
■	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
Sub Total					[Redacted]				*TCC includes a 20% contingency

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LIST OF ABBREVIATIONS

The following is a list of abbreviations used throughout this report.

#	NUMBER	HX	HEAT EXCHANGER
°F OR F	DEGREES FAHRENHEIT	IBC	INTERNATIONAL BUILDING CODE
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	IFC	INTERNATIONAL FIRE CODE
AC	AIR CONDITIONER	IMDB	INTERNATIONAL MECHANICAL CODE
ACH	AIR CHANGE PER HOUR	IN OR "	INCH
ACI	AMERICAN CONCRETE INSTITUTE	I/O	INPUT/OUTPUT
ACM	ASBESTOS CONTAINING MATERIALS	ITM	INSPECTION TESTING AND MAINTENANCE
ADA	AMERICANS WITH DISABILITIES ACT	KW	KILOWATT
AFA	AFA FIRE PROTECTIVE SYSTEMS, INC.	KWH	KILOWATT HOUR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LBS	POUNDS
AMCA	AIR MOVEMENT AND CONTROL ASSOCIATION	LD	LINE DEPARTMENT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	LE/A	LEAD ENGINEER ARCHITECT
APW	AIR-PRESSURIZED WATER	LRFD	LOAD AND RESISTANCE FACTOR DESIGN
ARI	AIR CONDITIONING AND REFRIGERATION INSTITUTE	MCB	MAIN CIRCUIT BREAKER
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	MPH	MILES PER HOUR
ASD	ALLOWABLE STRESS DESIGN	MSS	MANUFACTURER STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AIR CONDITIONING ENGINEERS	MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
ATS	AUTOMATIC TRANSFER SWITCH	NEC	NATIONAL ELECTRIC CODE
B OR BLDG	BUILDING	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
BFE	BASE FLOOD ELEVATION	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
BFP	BACKFLOW PREVENTER	NJ	NEW JERSEY
BTU	BRITISH THERMAL UNIT	NJAC	NEW JERSEY ADMINISTRATIVE CODES
CCCU	CROSS-CONNECTION CONTROL UNIT	NJMT	NEW JERSEY MARINE TERMINAL
CFM	CUBIC FEET OF AIR PER MINUTE	NJUCC	NEW JERSEY UNIFORM CONSTRUCTION CODE
CL	COLUMN LINE	NJUFC	NEW JERSEY UNIFORM FIRE CODE
CMDA	CONTROL MODE DENSITY AREA	NTS	NOT TO SCALE
CMU	CONCRETE MASONRY UNIT	O.C.	ON CENTER
CO2	CARBON DIOXIDE	OD	OUTSIDE DIAMETER
CRG	CLIAMTE RESILIENCE DESIGN GUIDELINES	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
DFE	DESIGN FLOOD ELEVATION	PA	PORT AUTHORITY OF NEW YORK AND NEW JERSEY
EADD	ENGINEERING ARCHITECTURE DESIGN DIVISION	PANYNJ	PORT AUTHORITY OF NEW YORK AND NEW JERSEY
EF	EXHAUST FAN	PCB	POLYCHLORINATED BIPHENYLS
EPAMT	ELIZABETH PORT AUTHORITY MARINE TERMINAL	PFIRM	PRELIMINARY FLOOD INSURANCE RATE MAP
FDC	FIRE DEPARTMENT CONNECTION	PJ	PORT JERSEY
FA	FIRE ALARM	PN	PORT NEWARK
FACP	FIRE ALARM CONTROL PANEL	PSI	POUNDS PER SQUARE INCH
FACU	FIRE ALARM CONTROL UNIT	QAD	QUALITY ASSURANCE DIVISION
FAS	FIRE ALARM SYSTEM	RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
FFE	FINISHED FLOOR ELEVATION	RSD	RESILIENCE & SUSTAINABLE DESIGN
FPLS	FIRE PROTECTION LIFE SAFETY	RTU	ROOF TOP UNIT
FT OR '	FEET	SLRDFE	SEA LEVEL RISE-ADJUSTED DESIGN FLOOD ELEVATION
GAL	GALLONS	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION
HVAC	HEATING VENTILATION AIR CONDITIONING	SQFT OR SF	SQUARE FEET
HP	HORSEPOWER	UH	UNIT HEATER
HR	HOUR	UL	UNDERWRITERS LABORATORIES
		V	VOLTS
		W	WATTS

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BACKGROUND

General Description

The Port Authority New Jersey Marine Terminal (NJMT) includes Port Newark (PN), Elizabeth Port Authority Marine Terminal (EP), and Port Jersey (PJ). The Port Newark is one of four container terminals at the Port of New York and New Jersey, serving for goods entering and leaving the New York metropolitan area and the northeast quadrant of North America. Operations in the facilities of Port Newark Marine Terminal began in 1948, followed by operations in the facilities of Elizabeth Port Authority Marine Terminal beginning in 1952. The container buildings are located between Port Newark and Elizabeth Port Authority Marine Terminal shipping channels.

Port Newark is a 930-acre facility that was leased by PANYNJ since 1948 and expanded in 1963. The marine terminal houses containers, autos, bulk, warehouses, and intermodal transport.

Elizabeth Port Authority Marine Terminal is a 1200-acre facility constructed by PANYNJ in 1958 as the world’s first dedicated container port. The marine terminal houses containers, bulk, intermodal transport, and warehouses.

Port Jersey is a 169-acre facility constructed by PANYNJ in 1976. The marine terminal houses containers, auto, warehouses, cruise, intermodal transport, and the western terminus of Cross Harbor Railcar Float.

Port Timeline

- 1910 – Excavation of shipping channel forming Port Newark
- 1915 – City of Newark constructs Port Newark
- 1948 – Port Authority takes over operations of Port Newark after it serves as a major shipyard during WWI & WWII and provides reparations
- 1958 – First container ship departs as container carrier from Port Newark
- 1958 – Excavation of shipping channel between Port Newark and Port Elizabeth. Construction of Elizabeth Port Authority Marine Terminal
- 1962 – Elizabeth Port Authority Marine Terminal container port opens

Objective

Many of the buildings located at Port Newark, Elizabeth Port Authority Marine Terminal, and Port Jersey are old. Some of the buildings have been upgraded over time but in some instances, their fire protection systems have not been upgraded or the systems are beyond their useful life and require rehabilitation or replacement. It is vital that fire protection systems, related HVAC, and Fire Alarm equipment comply with the latest codes and are in operational condition.

The objective of this project is to evaluate the existing fire protection systems at the selected NJMT buildings that exceeded their useful lives or are in a deteriorated condition and, if necessary, install new fire protection systems designed to detect, control, and limit the extent of fire damage and enhance life safety. The existing fire protection systems at the selected NJMT buildings include automatic fire suppression systems, such as sprinklers (wet fire sprinklers, dry pipe, pre action, and deluge systems), clean agent, foam, or other specialized extinguishing systems along with associated fire alarm detection systems which are required to be fully compliant with the applicable building and fire codes. All the selected buildings were inspected to determine the condition of the existing fire

protection systems such as piping, hangers, sprinkler heads, valves, backflow preventers, fire protection/ fire alarm control panels, and related fire alarm and electrical apparatus.

Below is the list of the selected NJMT buildings that require the rehabilitation or replacement of fire protection systems.

- Port Newark: Building 111, [REDACTED], 255, 260, 263, [REDACTED], 301, [REDACTED]

Site Plan

Figure 1: Port Newark Site Plan

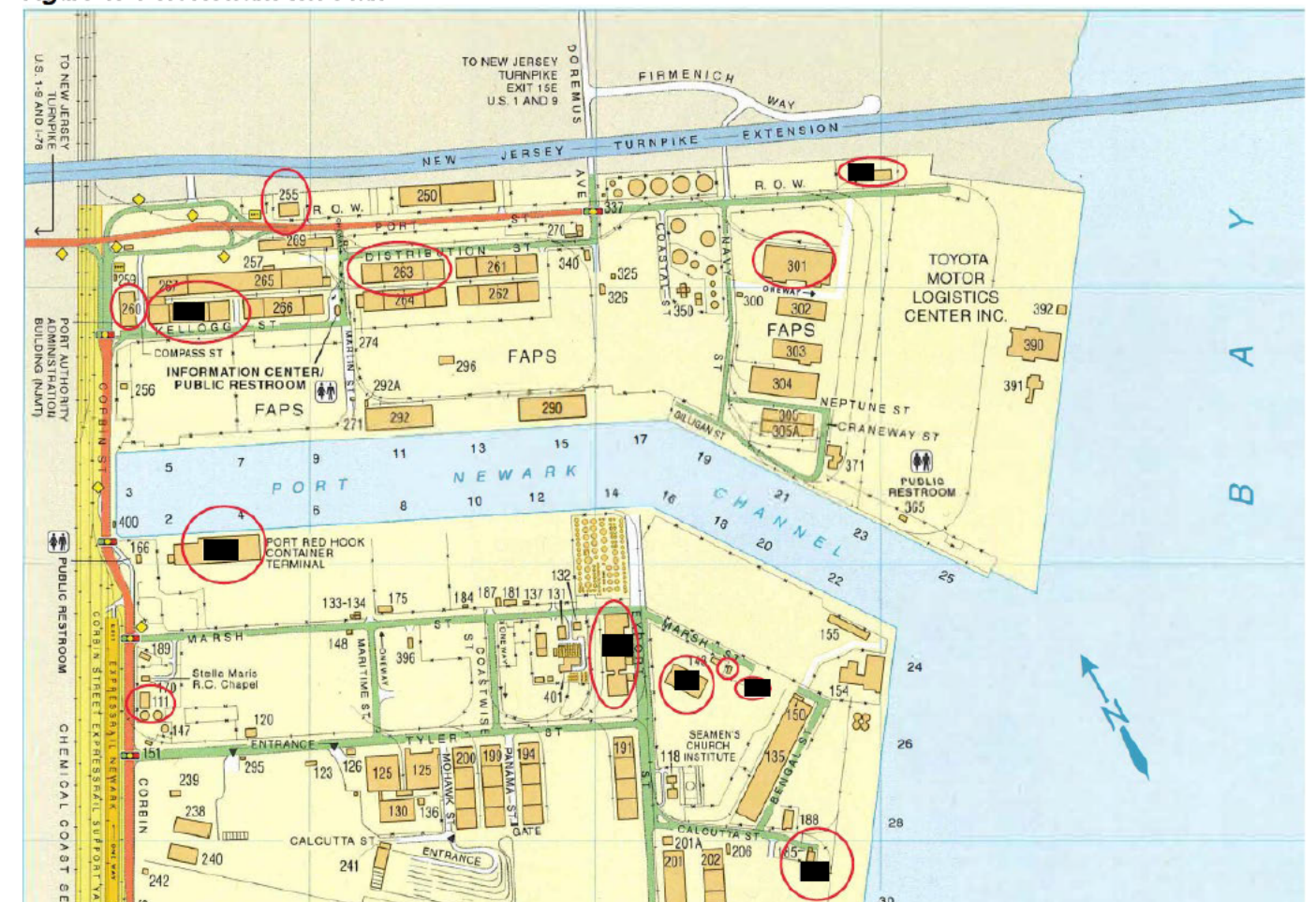


Figure 2: Elizabeth Port Authority Marine Terminal Site Plan

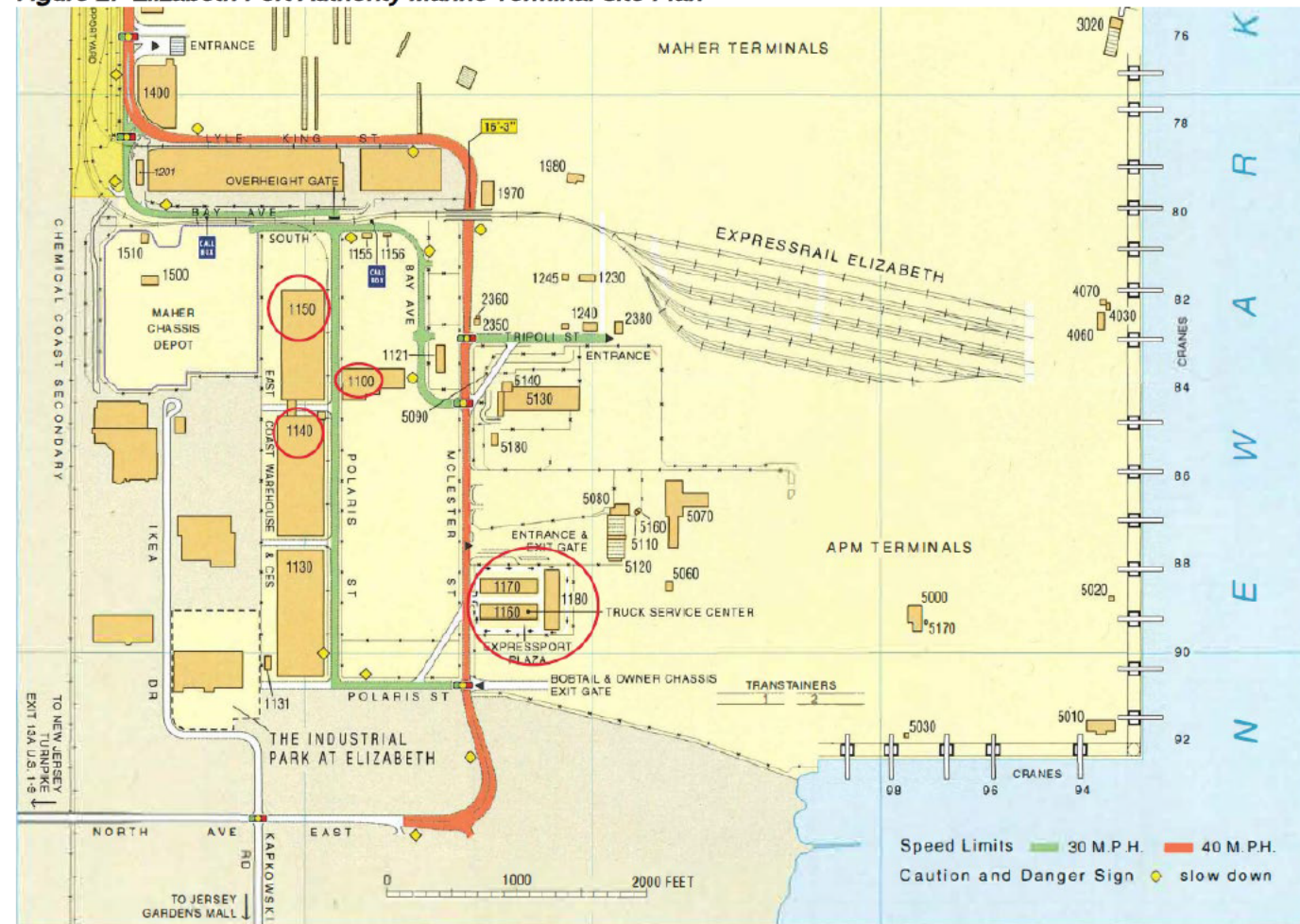


Figure 3: Port Jersey Site Plan



DESIGN CRITERIA

Architecture

Criteria for the selection and installation of fire protection systems are included in the New Jersey State Uniform Building Code and Fire Code. These standardized codes and their applicable subcodes and referenced standards provide minimum performance criteria for the installation and maintenance of fire protection systems. The codes provide design criteria that can be used in both new buildings and existing buildings. Over time, the fire protection engineering field has evolved to allow the provision of higher levels of protection through the introduction of new and improved equipment and technologies to increase the reliability of fire protection systems and their associated response times.

For the 18 sites included in this project, the architects have been assigned to prepare base plans and gather physical information based on surveys and research of available documents. This will assist the engineering disciplines involved in the scoping of the required work to renovate, modernize, or update existing fire protection systems in the project buildings and to, in certain circumstances, provide fire protection in buildings or building areas that were not previously fire protected.

Upon completion of the scoping of fire protection improvements for each of the buildings, an architectural scope of work will be developed to provide the necessary associated required architectural design work needed to provide a complete fire protection system installation that is also in compliance with the New Jersey Building Subcode or the New Jersey Rehabilitation Subcode. Some of these key design tasks include the removal and replacement of non-code-compliant building elements. Additional work includes closure of openings building walls, floors, ceilings, and roofs to maintain weathertight conditions. Similarly architectural work includes the repair or restoration of interior building elements will be designed to maintain required fire separations. Restoration of surfaces and finishes including partitions, suspended ceilings and other interior building elements may require repair or replacement due to construction activities performed by other disciplines relating to the installation of fire protection systems.

All scheduled new work will be designed in accordance with the current version of the New Jersey Uniform Construction Code and New Jersey Uniform Fire Code including the Building Subcode, the 2018 International Building Code New Jersey Edition. During the architectural survey work, if non-conforming construction is found, an evaluation will be made to determine if the provisions of the Rehabilitation Subcode should be applied or if said construction should be replaced if it presents an ongoing fire risk if left in place if the rehab code permits it.

In association with the drawings and details for the Stage I design, architecture will prepare a list of the necessary technical specifications to implement included in the contract scope.

Architectural work will be dependent on existing building conditions, a code analysis of each building and the scope of fire protection work for each building. In general, but with some exceptions, roof repairs and replacements and exterior envelope repair will not be included under this design work. Roof repairs, unless otherwise noted, will be prepared under a separate contract.

The cost estimate for all work included under this project will be compiled by the design groups. The PA Estimating group will review and comment on the 50% and 100% submission. The architectural scope of work will be coordinated with the scope determined by the Fire Protection and related work of other engineering disciplines as required.

In addition to the design criteria noted above, the architectural group, working in concert with PA Sustainability Group and the rest of the project team, will assist in the Stage I effort to scope out work to protect critical fire protection equipment from flood damage in cases where the installation of equipment is below the applicable flood elevation.

This work may include elevation of equipment, floodproofing of spaces or installing other means to protect flood damage. All final decisions to protect equipment will be made in accordance with Climate Resilience Design Standards.

It should be noted that Section 5:23-6.3A Flood Resistant Construction in the Rehabilitation Subcode provides criteria for when work on buildings in designated flood hazard areas are required to comply with the applicable flood-resistant construction requirements. It states that any work that constitutes a substantial improvement or repair of substantial damage of the existing building, as determined by the local floodplain administrator, shall comply with the applicable flood-resistant construction requirements. As defined in the National Flood Insurance Program rules, 44 CFR 59.1, " 'substantial improvement' means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the 'start of construction' of the improvement. This term includes structures which have incurred 'substantial damage,' regardless of the actual repair work performed." As defined in these Federal rules, " 'substantial damage' means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred."

Where the above conditions occur the following sections of the building subcode shall apply:

- Building subcode: Sections 802.4, 1202.4.4, 1403.6, 1403.7, 1603.1.7, 1605.2.1, 1605.3.1.2, 1612, 1804.5, and 1805.1.2.1.

Civil

No Civil related scope of work identified that is required by the sprinkler system at this point. See Section 6, 7, and 8 for details.

Electrical

An active fire protection system shall perform the functions of detecting a fire, alerting the occupants or fire department of a fire emergency, mass notification, gas detection, controlling smoke, and controlling or extinguishing the fire. These requirements are based on the occupancy and height/area of the building since these are factors that affect firefighting capabilities and the relative hazard of a specific building or portion of building. In general, a fire alarm system consists of a fire alarm control panel, primary power supply, backup power supply, initiating devices, and notification devices. The fire alarm devices are coordinated with the fire suppression system. In a typical sprinkler configuration, there will be components such as tamper switches, flow switches, and supervisory switches that send a supervisory and/or alarm signal to the fire alarm control panel which will activate the appropriate notification devices and notify personnel. The existing fire suppression systems in coordination with any existing fire alarm equipment in the Port buildings are being evaluated against required design criteria as per the 2015 International Fire Code New Jersey Edition, 2018 International Building Code New Jersey Edition, NFPA 101 Life Safety Code, and NFPA 72 National Fire Alarm and Signaling Code requirements. This also includes any new equipment added such as those specified by the Plumbing and Fire Protection recommendations. See Table 2 below for information pertaining to fire alarm system requirements based on occupancy group classification (for more details such as exceptions and required devices for each occupancy group refer to IBC New Jersey Edition and NFPA 101).

Table 2: Fire Alarm Device Requirements based on Occupancy Classification

Occupancy Group	Conditions for Mandatory Fire Alarm System	Typical Areas Covered
Assembly Group (A)	Occupant load of 300 or more, or more than 100 persons above or below the lowest level of exit discharge.	Any number of occupants: civic or social functions, worship, recreation, food or beverage consumption, transportation waiting areas, or similar group activities. 75 persons or more: educational or instructional purposes.
Business Group (B)	At least one of the following conditions: The combined occupant load of all floors is above 500 or more More than 100 occupants above or below the lowest exit discharge level A fire area containing an ambulatory healthcare facility	Office spaces, professional and service-type transactions, public or civic services, limited record and account storage, and limited stocked goods for office usage.
Factory and Industrial Group (F)	Both of the following conditions exist: Two or more stories in height Combined occupant load of 500 or more above or below the lowest level of exit discharge	Industrial activity with non-combustible materials, including cleaning, laundering, fabrication, manufacturing, finishing, packing, or processing, among others.
High Hazard Group (H)	Subgroup H-5 occupancies, and all occupancies used for the manufacture of organic coatings. Automatic smoke detection system shall be installed for highly toxic gases, organic peroxides, and oxidizers.	Manufacturing, processing, generation, or storage activities, with dangerous materials that represent a physical or health hazard in the quantities present.

Institutional Group (I)	All Group I occupancies.	Supervised environments for people with physical limitations due to health or advanced age, for caretaking or treatment. Also includes facilities where people are detained for penal or correctional purposes.
Mercantile Group (M)	At least one of the following conditions: Combined occupant load of all floors is 500 or more persons. Occupant load is more than 100 persons above or below the lowest level of exit discharge.	Spaces uses to display and sell merchandise, which may include storage areas.
Storage Group (S)	Group S public and self-storage occupancies three stories or greater in height for interior corridors and interior common areas (visible notification devices are not required within storage areas)	Warehouses, storage rooms, freight depots and distribution centers that are not classified under Group H.

- Section 17 Initiating Devices: Provides requirements for initiating devices including but not limited to smoke/heat detectors, sprinkler waterflow alarm initiating devices, detection of automatic extinguishing systems, manually actuated alarm initiating devices, and supervisory signal initiating devices.
- Section 18 Notification Appliances: Provides characteristic requirements for audible and visual notification devices such as horns and strobes.

Key code references summarizing basis of fire alarm design features as per this project scope include, but not are limited to, as follows:

- NFPA 101 Life Safety Code
 - Section 6 Classification of Occupancy and Hazard of Contents: This section is used to classify the occupancy of a building or structure. Fire alarm system requirements vary based on this classification. Section 6.1.14 identifies how to categorize buildings with multiple types of occupancies.
 - Section 9.6 Fire Detection, Alarm, and Communication Systems: For systems required to have a fire alarm system as per sections 11-43, this section is used to provide the various requirements for appropriate coverage and protection of the fire alarm system. This includes signal initiation, occupant notification, annunciation, and other required features of the system.
 - Section 9.7 Automatic Sprinklers: This section lists the requirements for automatic sprinklers as required by other sections of the code. This section also details transmission of alarm signals for supervisory attachments as required by NFPA 72.
 - Sections 11-43: These sections detail requirements for installation of fire alarm system based on occupant loads, exit discharge, etc. See Table 2 above for more information. Based on the occupancy type and criteria, certain initiation and notification devices are required as per the Detection, Alarm, and Communication Systems subsection within each respective section.
- NFPA 72 National Fire Alarm and Signaling Code
 - Section 10 Fundamentals: Provides design requirements for a complete fire alarm and/or signaling system.
 - Section 10.4 Design and Installation provides some basic design requirements for installation of devices such as vibration considerations and types of manual alarms. Section 10.4.5 specifies that in areas not continuously occupied an automatic smoke detector shall be installed at each fire alarm control unit, notification appliance circuit power extender, and supervising station which is providing notification for that location. As per PANYNJ Electrical Design Guidelines section 4.6.1.L a spot-type smoke detector must be located within 15 feet (horizontally) of this equipment.
 - Section 10.6 Power Supplies: Provides information on primary power supplies, secondary power supplies, and storage batteries including appropriate circuit identification and markings.

Environmental

Applicable Building Codes, Standards and Guidelines

- Department of Community Affairs Subchapter 8 Asbestos Hazard Sub Code (N.J.A.C. 5:23-8)
- Air Quality Permitting Program (N.J.A.C. 7:27).
- OSHA Hazard Communication Standard 29 CFR 1910.1200
- N.J.A.C section 5:17, Subchapter 17- Lead Hazard Evaluation and Abatement Code
- EPA 40 CFR Part 761
- EPA 40 CFR Part 273

An asbestos survey shall be performed by ATC on the sprinkler system and adjacent existing structures that may be impacted because of the proposed upgrade to the fire protection system, per the requirements of the New Jersey Administrative Code (N.J.A.C) section 5:23-Subchapter 8 – Asbestos Hazard Abatement Sub-code. Asbestos materials impacted by the renovation of existing facilities, shall be abated in accordance with NJAC 5:23, Subchapter 8 prior to demolition.

A lead paint survey testing will not be performed, however painted areas will be visually inspected, noted, and assumed to contain lead. This is in accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200, and the (N.J.A.C) section 5:17, Subchapter 17- Lead Hazard Evaluation and Abatement Code. Incidental lead paint abatement is assumed to be required on 10% of the painted pipes.

PCBs testing shall be conducted on caulk/grout materials suspected of containing PCBs. Materials containing PCBs shall be disposed in accordance with 40 CFR Part 761 regulations. Materials classified as Universal Wastes shall be properly packaged and disposed in accordance with 40 CFR Part 273.

Environmental Permits

Soil disturbance is not anticipated, based on the scope. Therefore, a Soil Erosion and Sediment Control plan/permit from the Soil Conservation District is not required.

NJPDES General Permits

Since soil disturbance is not anticipated, the NJPDES General Permit is not required.

Dewatering discharge to surface water is not anticipated on this project.

A Water Allocation Permit is not expected for the diversion of ground and/or surface water.

Design Criteria Assumption

1. No Army Corps permits required.
2. No Soil sampling for disposal.
3. No wetlands impact.
4. No endangered species of plants and animals.
5. No sanitary sewer connection /discharges.
6. No Soil Erosion and Sediment Control plan/permit
7. No Historic fill and Deed Noticed area impact.

Mechanical

Heating Requirements for Fire Sprinkler Valves, Piping and Appurtenances

The mechanical design criteria shall be provided for protection of piping against freezing of fire sprinkler valves, piping, and appurtenances as per NFPA 13 Chapter 16.4. Above ground water-filled supply pipes, risers, and sprinkler branch piping shall be maintained at or above 40 °F, 24/7 all year around. For valve rooms, source of heat shall be of permanently installed type. Heat tracing shall not be used in lieu of heated valve enclosure rooms to protect the piping in the valve room from freezing. Where above ground water-filled supply pipes, risers, system risers, or feed mains pass through open areas, cold rooms or other areas exposed to temperatures below 40°F, the pipe shall be protected against freezing as per 2019 NFPA 13 Chapter 16.4.1.3. The weather temperature used to determine if an unheated portion of a system is subject to freezing and required heating, the lowest mean temperature for one day shall be used as per the NFPA 13 Chapter 16.4.1.1.1.

Ventilation Requirements

The mechanical design criteria shall be provided for occupied spaces where air inlets and outlets will be removed and replaced. The design and performance of air inlets and outlets shall provide the required ventilation air quantity as per the International Mechanical Code (IMC) 2018 as amended by the State of New Jersey and ASHRAE Standards 62.1/2016 - Ventilation for Acceptable Indoor Air Quality. Criteria for supply airflow rates will be as follows:

- i. Cooling and heating load requirements
- ii. Minimum ventilation requirements
- iii. Exhaust air make-up requirements

Table 3: Minimum Ventilation Rates in Breathing Zone

Area	Minimum Ventilation rates	
	CFM/Person	CFM/Square Feet
-		
Offices	5	0.06
Breakrooms	7.5	0.12
Lobby	5	0.06
Conference room	5	0.06

Table 4: Minimum Exhaust Rates

Area	Required Exhaust Airflow			
	CFM/Sq. Ft.	CFM/Shower Head	CFM/Toilet	CFM/Urinal
-				
Locker Rooms	0.5	-	-	-
Breakrooms	0.7	-	-	-
Shower/Restrooms		50	70	70

Building Space Envelope and Interior Loads

Envelope and interior loads will be calculated using Carrier Hourly Analysis Program.

Table 5: Internal Load Criteria

Area/Degree of Activity	People Metabolic Rates		Equipment		Lighting
	Sensible BTU/hr.	Latent BTU/hr.	Sensible BTU/sq.ft.	Latent BTU/hr/sq.ft.	Sensible Watts/Sq. ft.
-					
Offices	250	200	2	-	1.11
Locker Rooms	275	475	1		0.75
Conference/Breakrooms	245	155	1	0.5	0.73
Lobby	250	200	1	-	1.11
Storage	250	200	0	0	0

Plumbing and Fire Protection

Automatic Fire Sprinkler Systems

There are several systems that can be used for fire protection applications: a wet system, dry system, pre-action system, or deluge system. Each system has its own set of advantages and disadvantages. NFPA 13 chapter 8 describes the basic requirements of all types of sprinkler systems. Section 8.1.1 gives the main points for sprinkler installation such as sprinklers shall be installed throughout the entire space and sprinkler heads must be located as to not exceed the maximum protection area per sprinkler. The systems must meet requirements to provide satisfactory performance with respect to activation time and water distribution. Section 8.1.2 mandates that the system and all system components such as valves and gauges must be accessible for operation, inspection, testing and maintenance. Chapter 8 also details the maximum system size in section 8.2, defining the maximum allowable floor area that can be served by a single sprinkler system riser. This maximum area ranges for varying levels of hazard can be found in the table below.

Table 6: NFPA 13 8.2 System Protection Limitations

Hazard Classification	Maximum Floor Area	Maximum Protection Area by a Sprinkler head	Maximum Spacing between sprinkler heads
Light Hazard	52,000 sq ft	225 sq ft	15 ft
Ordinary Hazard	52,000 sq ft	130 sq ft	15 ft
Extra Hazard	40,000 sq ft	90 sq ft	12 ft
Storage	40,000 sq ft	100 sq ft	12 ft

Wet systems are the most common fire protection systems. They consist of overhead piping and sprinklers that are always filled with water. During a fire event, the system delivers water immediately at the activation of a sprinkler head. Chapter 7 of NFPA 13 describes the systems requirements for fire protection systems. Wet pipe systems are required to have pressure gauges connected to the system risers, relief valves or expansion tanks to relieve pressure in the system along with a vent pipe attached to the system to allow air to leave the system. (Section 7.1.1, 7.1.2, 7.1.5) Compared to other system types, a wet system is the simplest requiring the fewest number of different components. Section 7.1.3 allows for auxiliary systems to connect to a wet system. The main issue with wet systems is that they cannot be used in spaces that experience freezing temperatures.

Dry systems are typically used in places where a wet system is unsuitable, such as an area that may experience freezing temperatures. In a dry system, the overhead sprinkler piping is filled with pressurized air or nitrogen. This pressurized air holds a dry pipe valve closed. The dry pipe valve separates the water supply from the air-filled sprinkler piping. When a sprinkler head is activated, the air in the system bleeds from the sprinkler head. This decreases the pressure in the sprinkler piping allowing the dry pipe valve to open and charge the system with water. This delays the application of water to the sprinkler head by a maximum of 40 – 60 seconds depending on the hazard the system is protecting. (NFPA 13 7.2.3.6) Dry systems are more complex than wet systems due to the inclusion of the dry pipe valve. Dry systems are also limited to a maximum system size of 750 gallons. (NFPA 13 7.2.3.4) Dry systems include a few more components than a standard wet system. These include an antiflooding device (NFPA 13 7.2.4.8), high water level protection device (NFPA 13 7.2.5.4), a pressurized air supply (NFPA 13 7.2.6), a relief valve (NFPA 13 7.2.6.5) and an automatic air maintenance device (NFPA 13 7.2.6.6). The only benefit of using a dry system is its ability to protect a space that experiences freezing temperatures. It is important to note that in a dry system, everything back from the dry valve is filled with water and must be in a heated space to prevent freezing. (NFPA 13 7.2.5)

Pre-action systems are like a dry system in that the overhead sprinkler piping is charged with air or nitrogen instead of water. Pre-action systems differ from dry systems in that it typically takes two events for the system to discharge water. A pre-action system is connected to an alarm system with sensors for detecting flame, smoke, heat, or any

combination of the three. When the alarm system is triggered, a pre-action valve in the system opens, charging the system with water. (NFPA 13 7.3.2.1) Water is discharged when a sprinkler head is activated like a wet system. Pre-action systems are limited in size to 1000 automatic sprinklers per one pre-action valve. (NFPA 13 7.3.2.2) Additionally, for a double interlock pre-action system, a system requiring both an alarm and an automatic sprinkler head to activate, the size of the system is limited to 500 gallons. (NFPA 13 7.3.2.3.1.1) Pre-action systems tend to be more expensive to install and maintain due to a larger number of components and the complex control systems necessary for operation.

Deluge systems are very similar to pre-action systems. The major difference is the sprinkler head type. In a deluge system all heads in the system are open. When the system is activated, typically through a control system linked to a flame, smoke or heat detection, water will enter the system through the deluge valve and flow from all heads in the system. The primary use for a deluge system is for protection of high hazard spaces where a large quantity of water over a large area is desired.

Chapter 8 of NFPA dictates the installation of sprinkler systems for fire protection. Sections 8.5 and 8.6 define the protection area of coverage and maximum spacing for sprinkler heads. Sprinkler heads must be placed in such a way that their spray pattern is unobstructed without exceeding maximum spacing and maximum protection area.

Along with this maximum coverage area, sprinkler heads can be located no closer than 6 feet together on center (NFPA 12 8.6.3.4.1) and must be located at least 4 inches from any vertical walls (NFPA 13 8.6.3.3). Chapter 8 of NFPA continues by describing the various cases in which sprinklers may be obstructed and how handle the obstructions on a case-by-case basis. Section 8.16.2 specifies the necessity of pitching withing sprinkler systems. Wet systems are permitted to be level, but dry and pre-action systems must be pitched in such a way that the systems can be completely drained after testing. Section 8.16 also describes the need for low point drains to be included in dry and pre-action systems.

Commodity Classification and Storage Requirements

As part of the fire protection efforts, it is necessary to identify commodities, storage arrangements, packaging materials, storage heights, clearances, as well as other general protection criteria for storage conditions. General requirements for storage and commodity classifications can be found in NFPA 13, Chapter 20.

As per Chapter 20 Section 20.2, protection of storage shall follow the following steps:

1. Identify the storage commodity class in accordance with Sections 20.3 and 20.4.
2. Identify the method of storage in accordance with Section 20.5.
3. Establish storage height, building height, and associated clearances in accordance with Section 20.6.
4. Define the general protection criteria that are common to all storage protection options in accordance with Sections 20.7 through 20.15.
5. Select the appropriate system/sprinkler technology for protection criteria (Chapters 21 through 25).

Design and install system in accordance with the remainder of NFPA 13.

It is important to note that the type of commodity, amount of commodity, the packaging of commodity, and the individual storage units (i.e., pallet types and unit loads) used for the commodity must be considered in the classification of the commodity. Pallet types include but are not limited to plastic pallets (unreinforced and reinforced), slave pallet, open-top container, solid unit load of nonexpanded plastic. Please refer to NFPA 13 section 20.3 for further information on the makeup of individual storage units. Chapter 12 contains the design approaches for the protection of storage, including idle pallets, miscellaneous storage, storage less than 12 ft (low-piled storage), palletized, solid pile, bin box, and shelf storage, rack storage less than 25 ft, shelving, aisles, flues, rack storage

greater than 25 ft, rubber tire, baled cotton, rolled paper, and special storage designs. Further details on storage arrangement are available in NFPA 13 20.5.

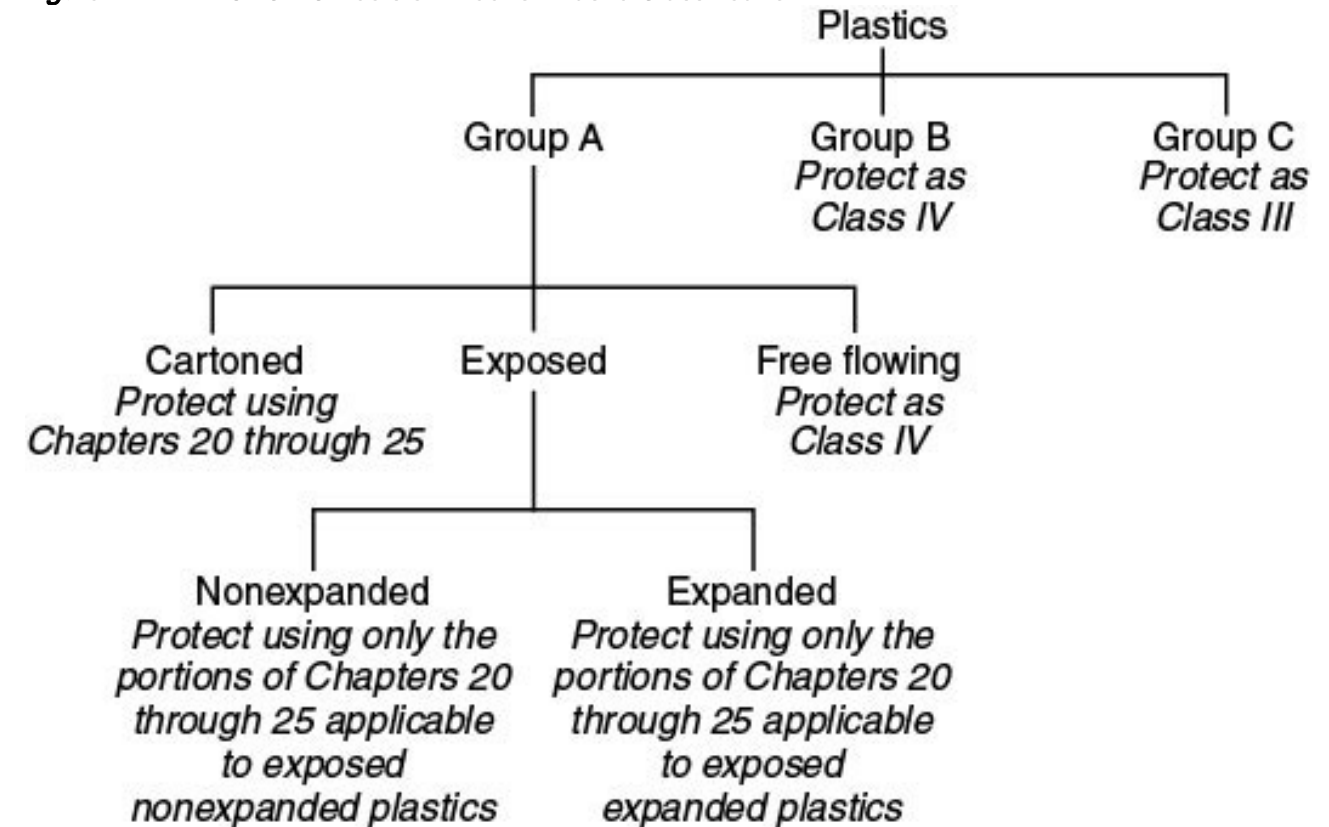
When combustible materials are being stored, they are classified and sub-categorized based on their respective fire risks. The classification of commodities is as follows:

- **Class I Commodities:** These are products that are noncombustible that are stored either on a wood pallet, single-layered corrugated cartons, or shrink-wrapped or paper-wrapped as a unit load with or without pallets. Examples of Class I Commodities are included in NFPA 13 Table A.20.4.1.
- **Class II Commodities:** These commodities are products that are Class I but also stored in combustible packages, such as slatted wooden crates, solid wooden boxes, or multiple-thickness paperboard cartons, with or without pallets. Examples of Class I Commodities are included in NFPA 13 Table A.20.4.2
- **Class III Commodities:** These commodities are made of wood, paper, or natural fiber material, or Group C plastics. Examples of Class III Commodities are included in NFPA 13 Table A.20.4.3.
- **Class IV Commodities:** These commodities are those that are in Class I, II, or III that also contain Group A plastics in ordinary corrugated cartons. If Group A plastic packaging is used in Class I, II, or III products they are also given a designation of Class IV (NFPA 13, 20.4.4.1). Examples of Class IV Commodities are included in NFPA 13 Table A.20.4.4.

Plastics, elastomers, and rubber shall be classified as Group A, Group B, or Group C as per NFPA 13 20.4.5. Plastic commodities shall be protected in accordance with Figure 4.

- **Group A Plastics:** These are the most combustible types of plastics. Many plastics fall into Group A. (See NFPA 13 20.4.5.1 for examples of Group A plastics)
- **Group B Plastics:** Group B plastics have a lower heat combustion and burning rate than Group A plastics but are higher than that of normal, non-combustible plastics (See NFPA 13, 20.4.6 for examples of Group B plastics)
- **Group C Plastics:** Group C plastics are those that have the lowest fire risk, such as most thermosetting, fluorinated, and lightly plasticized plastics (See NFPA 13, 20.4.7 for examples of Group C plastics)

Figure 4: NFPA 13 20.4.8 Decision Tree for Plastic Classification



For general storage applications, rack storage, rubber tire storage, roll paper storage, and baled cotton storage being protected with upright and pendent spray sprinklers with required densities of greater than 0.2 gpm/ft² to 0.34 gpm/ft², standard-response sprinklers with a nominal K-factor of K-8.0 or larger shall be used (NFPA 13 21.1.3). Refer to Chapter 21 of NFPA 13 for more details regarding Control Mode Density Area (CMDA) specifications.

The storage of rubber tires for passenger automobiles, aircraft, light and heavy trucks, trailers, farm equipment, construction equipment (off-the-road), and buses will be a point of consideration. For storage of rubber tires that is incidental to the main use of the building; storage areas do not exceed 2000 sq ft, and on-tread storage piles, regardless of storage method, do not exceed 25 ft in the direction of the wheel holes. Acceptable storage arrangements include (a) on-floor, on-side storage up to 12 ft high; (b) on-floor, on-tread storage up to 5 ft high; (c) double-row or multirow fixed or portable rack storage on-side or on-tread up to 5 ft high; (d) single-row fixed or portable rack storage on-side or on-tread up to 12 ft high; and (e) laced tires in racks up to 5 ft in height (NFPA 13 3.3.124). NFPA 13 Table 21.6.1 (a) lists the protection criteria for rubber tire storage using Control Mode Density/Area Sprinklers. The clearance from the top of storage to sprinkler deflectors shall be not less than 36 in. where rubber tires are stored (NFPA 13 20.6.6.5). For further information on rubber tires, rolled paper, and plastic motor vehicle components please refer to NFPA 13 20.4.9, 20.4.10, and 20.4.11, respectively.

Storage is considered miscellaneous when it does not exceed 12 ft in height, is incidental to another occupancy use group, does not constitute more than 10 percent of the building area or 4000 sq ft of the sprinklered area, whichever is greater, does not exceed 1000 sq ft in one pile or area, and is separated from other storage areas by at least 25 ft (NFPA 13 3.3.123).

The fire protection system design should also consider the maximum storage height. Maximum storage height is the usable height at which commodities can be stored above the floor while the minimum required unobstructed space below sprinklers is maintained. Table 20.6.4.2 indicates the requirements that shall apply for maximum clearance from top of storage to ceiling for CMDA protection criteria. Further details regarding storage heights and clearances can be referenced in NFPA 13 20.6.

Table 7: Maximum Clearance from Top of Storage to Ceiling for CMDA Protection Criteria (From NFPA 13 Table 20.6.4.2)

Commodity	Class I to IV	Group A Plastic
Palletized, solid-piled, bin box, shelf, or back-to-back shelf storage	20 ft	20 ft
Rack storage up to 25 ft (7.6 m)	20 ft	10 ft
Rack storage >25 ft (7.6 m)	10 ft	10 ft

For permissible use of in-rack sprinklers, please see NFPA 13 Table 20.6.4.3 and Table 20.6.4.4 for CMDA criteria that exceed the maximum allowable clearance in Table 20.6.4.2.

Fire spreads at different rates for different directions. High-Piled Storage requires extra consideration due the greater risk of fire spreading quickly and rapidly at the base. Solid-piled, palletized, rack storage, bin box, and shelf storage more than 12 ft in height is considered High-Piled Storage (NFPA 13 3.3.95). NFPA 13 Chapter 21 contains the requirements and considerations for protection of high-piled storage using CMDA sprinklers.

Early suppression fast-response (ESFR) sprinklers shall not be used in buildings with automatic heat or smoke vents unless the vents use a high-temperature rated, standard-response operating mechanism (NFPA 13 20.6.5.2). Additionally, unless the requirements of 20.6.6.2 through 20.6.6.5 are met, the clearance between the deflector and the top of storage or contents of the room shall be 18 in. or greater (NFPA 13 20.6.6.1).

Concealed spaces of noncombustible and limited-combustible construction with minimal combustible loading having no access shall not require sprinkler protection. For un-sprinklered combustible concealed spaces, the density/area method or room design method states that the minimum area of sprinkler operation for that portion of the building shall be 3000 sq ft, however NFPA 13 20.7.2 outlines un-sprinklered combustible concealed spaces that do not require a minimum design area of sprinkler operation of 3000 ft².

As per NFPA 13 20.8.1, the water supply requirements for sprinklers are based upon the room that creates the greatest demand.

High expansion foam system offers a fire extinguishing procedure that engulfs the fire with a high volume of foam. The foam blanket transports water to the fire, suffocates and cools the fire, suppresses escaping vapors, and encapsulates the toxic vapors and particulate. NFPA 13 20.9 outlines the requirements and specifications regarding high-expansion foam systems.

In accordance with NFPA 13 20.10, when a small higher hazard area is larger than the required minimum area dictated by the surrounding occupancy, even when separated by draft curtains, barriers, or partitions capable of delaying heat, the size of the operating area is determined by the higher hazard storage.

Hose stream allowance and water supply duration for NFPA 13 Chapters 20 through 25 shall be in accordance with Section 20.12.

Wet systems are generally recommended for storage occupancies. Dry pipe systems should be permitted only where it is impractical to provide heat, such as areas that are subject to freezing.

Idle pallet storage presents a severe fire hazard. Stacking idle pallets in piles promotes rapid spread of fire, heat release, and complete combustion. Pallets may dry out and their edges may become frayed and splintered. In this condition, they are subject to easy ignition. Therefore, high piling is not desirable, and it is preferable to store pallets outdoors where possible. NFPA 13 20.14.1 and 20.14.2 indicates the arrangements of wood pallets and plastic pallets, respectively.

Columns at the ends of racks or in the aisles need to be protected from the heat of a fire in the racks if they are near the racks. NFPA 13 20.15 outlines the specifications for column protection in relation to rack storage and rubber tire storage.

Fire Extinguishers

There are basically four different types or classes of fire extinguishers, each of which extinguishes specific types of fire. Fire extinguishers, correctly used on the type of fire they are intended for, can have a large role in stopping major fire damage. However, it should be noted that it may not be possible to extinguish every fire with fire extinguishers. When personal safety is in jeopardy, personnel should not attempt to extinguish the fire but should evacuate the building. In all instances, the fire department should be called immediately if a fire occurs.

A fire extinguisher is an active fire protection device used to extinguish or control small fires, often in emergency situations. It is not intended for use on an out-of-control fires, such as one which has reached the ceiling or can endanger the user. For these types of fires, it requires the expertise of the fire department. Typically, a fire extinguisher consists of a hand-held cylindrical pressure vessel containing an agent which can be discharged to extinguish a fire.

There are two main types of fire extinguishers: stored-pressure and cartridge-operated. In stored pressure units, the expellant is stored in the same chamber as the firefighting agent itself. Depending on the agent used, different propellants are used. With dry chemical extinguishers, nitrogen is typically used; water and foam extinguishers typically use air. Stored pressure fire extinguishers are the most common type.

Portable fire extinguishers are central in helping to prevent fire damage and loss, however, their effectiveness hinges on proper maintenance. Therefore, every effort should be made to ensure that, as a minimum, fire extinguishers are located and maintained in accordance with NFPA's standards.

Fire extinguishers are further divided into handheld and cart-mounted also called wheeled extinguishers. Handheld extinguishers weigh anywhere from 1.1 to 30.9 lbs. and therefore, are easily portable by hand. Cart-mounted units typically weigh more than 51 lb. These wheeled models are in the parking areas of the terminal.











The water extinguishers or the APW extinguishers are only suitable for class A fires. Water extinguishers are filled with water and are typically pressurized with air. There are several these types of extinguishers throughout the terminal. Water extinguisher must never be used on grease fires, electrical fires, or class D fires. If this should occur the flames will spread and make the fire bigger. The fire extinguishers are generally divided into categories, based on different types of fires. Each fire extinguisher also has a numerical rating that serves as a guide for the fire that extinguisher can handle. The higher the number, the more fire-fighting power.

Beyond the requirements of NFPA 10 there is no official standard for the color of fire extinguishers, However, they are typically red, except for class D extinguishers which are usually yellow, water and Class K wet chemical extinguishers which are usually silver, and water mist extinguishers which are usually white.

Extinguishers are also marked with pictograms depicting the types of fires that the extinguisher is approved to fight. In the past, extinguishers were marked with colored geometric symbols, and some extinguishers still use both symbols. See Table Below:

Fire extinguishing capacity is rated in accordance with ANSI/UL 711: Entitled Rating and Fire Testing of Fire Extinguishers. The ratings are described using numbers preceding the class letter, such as 1-A:10-B: C. The number preceding the A multiplied by 1.25 gives the equivalent extinguishing capability in gallons of water. The number preceding the B indicates the size of fire in square feet that an ordinary user should be able to extinguish. There is no additional rating for class C, as it only indicates that the extinguishing agent will not conduct electricity, and an extinguisher will never have a rating of just C.

Table 8: Fire Extinguisher Types

Fire class	Geometric symbol	Pictogram	Intended use	Mnemonic
A			Ordinary solid combustibles	A for "Ash"
B			Flammable liquids and gases	B for "Barrel"
C			Energized electrical equipment	C for "Current"
D			Combustible metals	D for "Dynamite"
K			Oils and fats	K for "Kitchen"

The Fire Code and OSHA require that the facility select and distribute fire extinguishers based on the classes of anticipated workplace fires and on the size and degree of the hazard that would affect their use. The following chart contains requirements for classes of fires. This general guide of the fire extinguisher types, and applicable fire class is based some of the most common uses.

Table 9: Fire Extinguisher Applications

TYPE OF EXTINGUISHER	CLASS A FIRES	CLASS B FIRES	CLASS C FIRES	CLASS D FIRES
Water cartridge expelled	Yes	No	No	No
Water stored pressure	Yes	No	No	No

Water pump tank	Yes	No	No	No
Foam	Yes	Yes	No	No
Loaded steam	Yes	Yes	No	No
Carbon dioxide	No	Yes	Yes	No
Dry chemical	No	Yes	Yes	No
ABC	Yes	Yes	Yes	No
Travel distance	75ft	50ft	Based on appropriate A or B Hazard	Within 30ft of Cooking Equipment

Class A extinguishers are for ordinary combustible materials such as paper, wood, cardboard, and most plastics. The numerical rating on these types of extinguishers indicates the amount of water it holds and the amount of fire it can extinguish. The Geometric symbol is a green triangle.

Class B fires involve flammable or combustible liquids such as gasoline, kerosene, grease, and oil. The numerical rating for class B extinguishers indicates the approximate number of square feet of fire it can extinguish. The Geometric symbol is a red square.

Class C fires involve electrical equipment, such as appliances, wiring, circuit breakers and outlets. Never use water to extinguish class C fires - the risk of electrical shock is far too great. Class C extinguishers do not have a numerical rating. The C classification means the extinguishing agent is non-conductive. The Geometric symbol is a blue circle.

Class D fire extinguishers are commonly found in a chemical laboratory. They are for fires that involve combustible metals, such as magnesium, titanium, potassium, and sodium. These types of extinguishers also have no numerical rating, nor are they given a multi-purpose rating - they are designed for class D fires only. The Geometric symbol is a yellow decagon.

Class K fire extinguishers are for fires that involve cooking oils, trans-fats, or fats in cooking appliances and are typically found in restaurant and cafeteria kitchens. The Geometric symbol is a black hexagon.

**Note: There are no kitchen areas in the PA public spaces. The Class K fire extinguishers are predominantly associated with the tenant spaces.

Some fires may involve a combination of these classifications, in such scenario the fire extinguishers should have ABC ratings on them. Water extinguishers can be very dangerous in the wrong type of situation and should fight the fire if it contains ordinary combustible materials only.

Dry Chemical Extinguishers

Dry chemical extinguishers are filled with foam or powder, usually potassium bicarbonate or sodium bicarbonate (baking soda) and pressurized with nitrogen. Baking soda is effective because it decomposes at 158 degrees Fahrenheit and releases carbon dioxide, which smothers oxygen once it decomposes. Dry chemical extinguishers interrupt the chemical reaction of the fire by coating the fuel with a thin layer of powder or foam, thereby separating the fuel from the surrounding oxygen.

- The type of flammable metal you are dealing with determines which type D fire extinguisher you will require.
- Copper extinguishing medium should be used when you are dealing with lithium and lithium alloy metals.
- Sodium chloride extinguishers should be used when you are dealing with magnesium, sodium, potassium, uranium, and powdered aluminum.

Dry chemical extinguishers come in a variety of types and are suitable for a combination of class A, B, and C fires.

- **ABC** - This is the multipurpose dry chemical extinguisher. The ABC type is filled with monoammonium phosphate, a yellow powder that leaves a sticky residue that may be damaging to electrical appliances such as a computer.
- **BC** - This is the regular type of dry chemical extinguisher. It is filled with sodium bicarbonate or potassium bicarbonate. The BC variety leaves a mildly corrosive residue which must be cleaned immediately to prevent any damage to materials.

Dry chemical extinguishers have an advantage over CO₂ extinguishers since they leave a non-flammable substance on the extinguished material, reducing the likelihood of re-ignition.

CO₂ extinguishers are used for class B and C fires. CO₂ extinguishers contain carbon dioxide, a non-flammable gas, and are highly pressurized. The pressure is so great that it is common for bits of dry ice to shoot out of the nozzle. They do not work very well on class A fires because they may not be able to displace enough oxygen to put the fire out, Therefore, causing the fire to re-ignite.

CO₂ extinguishers have an advantage over dry chemical extinguishers since they do not leave a harmful residue - a good choice for an electrical fire on a computer or other favorite electronic device. Flames need fuel, oxygen, and heat to burn. Fire extinguishers are designed to remove one of these elements by applying an agent that either cools the burning fuel or removes or displaces the surrounding oxygen. Fire extinguishers contain either water or a smothering material, such as CO₂. By pulling out the safety pin and depressing the lever at the top of the cylinder, the fire extinguishing material is released under high amounts of pressure. At the top of the cylinder, there is a smaller cylindrical container filled with compressed gas. A release valve acts as a locking mechanism and prevents this gas from escaping. When you pull the safety pin and squeeze the lever, the lever pushes on an actuating rod that presses the valve down to open a passage to the nozzle. The compressed gas is released, applying a downward pressure on the fire-extinguishing material, and pushing it out the nozzle under tremendous force. Although the temptation is to aim the extinguishing material at the flames, the proper way is to aim it directly at the fuel.

Water Extinguishers

Water extinguishers are filled with regular tap water and typically pressurized with air. The most common way to remove heat is to spray water on the fire; however, depending on the type of fire, this approach is not always the best option.

Distribution

Fire extinguishers are required for all types of occupancies and are distributed based on building areas and degree of hazard. Rooms or areas shall be classified as being light (low) hazard, ordinary (moderate) hazard, or extra (high) hazard in accordance with the guidelines specified in section 5.4.1 of NFPA 10. The requirements of the occupational safety and health act (OSHA) of the federal government must also be fulfilled.

Class A hazard:

Class I occupancy - This class includes "light hazard" occupancies such as offices, assembly halls and public buildings where the number of combustibles is relatively small. In such areas, a 2A-UL rated unit (2.5 gallons' water or nonfreezing solution, pressurized) should be provided for each 6000 ft.² area, no more than 75 feet of travel should be needed in a point reached extinguisher.

Based on the requirements of NFPA 10 Section 5.4.1.1: Light (low) hazards shall be classified as locations where the quantity and combustibility of Class A combustibles and Class B flammables are low and fires with relatively low rates of heat release are expected. These occupancies consist of fire hazards having normally expected quantities

of Class A combustible furnishings, and/or the total quantity of Class B flammables typically expected to be present is less than 1 gal in any room or area.

Class II occupancy- This class includes "ordinary hazard" occupancies such as mercantile or retail stores. In such areas, a 2A-UL rated unit should be provided for each 3000 ft.² area. In fully sprinkle red buildings coverage for extinguisher may be increased to 5000 ft.² however extinguishers should be located within 50feet of travel to a point of application. Based on the requirements of NFPA 10 Section 5.4.1.2: Ordinary (moderate) hazards shall be classified as locations where the quantity and combustibility of Class A combustible materials and Class B flammables are moderate and fires with moderate rates of heat release are expected. These occupancies consist of fire hazards that only occasionally contain Class A combustible material beyond normal anticipated furnishings, and/or the total quantity of Class B flammables typically expected to be present is from 1 gal to 5 gal in any room or area.

Class III occupancy- This class includes "extra hazard" occupancies such as woodworking, paint spraying and dipping and flammable liquid handling. The same rule for class II occupancy applies with the exception that the fire extinguisher unit should have 3-A ratings and additional units may be required to serve a specific hazard. It is important to note that in areas where there are hose-stations equipped with a 1 ½ inch hose the requirement for "Class A" extinguishers may be reduced.

Based on the requirements of NFPA 10 Section 5.4.1.3: Extra (high) hazard occupancies shall be classified as locations where the quantity and combustibility of Class A combustible material are high or where high amounts of Class B flammables are present and rapid developing fires with high rates of heat release are expected. These occupancies consist of fire hazards involved with the storage, packaging, handling, or manufacture of Class A combustibles, and/or the total quantity of Class B flammables expected to be present is more than 5 gal in any room or area.

Class B hazard:

Area other than fires in flammable liquids of appreciable depth.

Minimal size and number of extinguishers for the type of hazard shall be provided based on the following criteria:

- Locate extinguishers so that the maximum travel distance does not exceed 50 feet.
- Light hazard-rating 4B minimum.
- Ordinary hazard-rating 8B minimum.
- Extra hazard-rating 12B minimum.

Two or more extinguishers of lower rating shall not be used to meet the protection requirements, except for foam extinguishers where up to three (3) foam extinguishers may be used.

Area in flammable liquids of appreciable depth.

Provide Class B extinguishers based on one numerical units of class B extinguishing value per square foot of flammable liquid surface of the largest Tank hazard in the area.

Two or more extinguishers of lower rating shall not be used in place of extinguishers for the largest tank. except for foam extinguishers where up to three (3) foam extinguishers may be used.

Extinguishers for the protection of special hazard should be located out of the fire area but not more 30 feet distance from the tank or booth on the protection.

Class C hazard:

Extinguishers with class “C” rating are required where energized electrical equipment is used. This pertains to fire either involving or surrounding electrical equipment. Since the fire, itself is a Class A or Class B hazard, the extinguishers are sized and located based on a Class A or Class B hazard but must bear the Class “C” designation to prevent electric shock. It is also important to de-energize electrical equipment, whenever possible before attacking with a class C fire with extinguisher.

Special distribution requirement: for enlarged areas there should be an approved class B wheel type dry chemical or CO2 extinguishers. The parking garages areas are equipped with these types of extinguishers. In accordance with NFPA 10 5.3.2.7, wheeled fire extinguishers shall be considered for hazard protection in areas in which a fire risk assessment has shown the following:

- High hazard areas are present.
- Limited available personnel are present, thereby requiring an extinguisher that has the following features:
 - High agent flow rate
 - Increased agent stream range
 - Increased agent capacity

As per section 5.4.2.5 of NFPA 10, where fire extinguishers have more than one letter classification (such as 2-A:20-B:C), they shall be permitted to satisfy the requirements of each letter class.

Signage and Support

Since fire extinguishers are necessary to be functional and use as first aid, they are to be kept in their designated locations, fully charged, operable, and ready for the emergency. They must be accessible, not blocked by stock, wire partitions, or even closets. They should be readily seen and available in the event of fire. Extinguishers intended for different classes of fire, when grouped, shall be plainly marked to ensure quick identification and proper application of the correct extinguishing media on the class of fire encountered. In the selection of extinguishers, it is important to consider the following measures in their maintenance and their use:

- Caution labels relating to the usage should be prominent and their wording quickly understandable.
- Warning signs should be evident at every point’s confined space and area subject to total flooding.

Method of Support:

Extinguishers shall be in conspicuous and readily accessible areas. They should be supported on hangars, brackets, or set the shelves, unless they are of the wheeled type, so that the top of the extinguisher is not more than 5 feet above the floor if not more than 40 pounds or more than 3.5 feet for those over 40 pounds.

Table 10: Fire Extinguisher Installation

Type	Method of Support	Height Above Floor	Max Weight
Portable	Hangers/Brackets	5'-0"	40 Lbs.
Portable	Hangers/Brackets	3 ½'	>40 Lbs.
Wheeled Type	Floor	Mounted	N/A

Where the extinguishers cannot be readily observed the location of the extinguishers should be indicated by the appropriate signs or identification markings for example striped columns, red band around columns etc. When the extinguisher is supported against a wall, the location should be indicated by hanging overhead isle sign reading “fire extinguisher” with a directional arrow as indicated below.

Figure 5: Fire Extinguisher Signage



Where combination standpipe hose fire extinguisher cabinets are used, the sign on the doors should read “fire extinguishers” in letters 2 inches high on a contrasting background as well as the standpipe designation fire hose.

For cabinets in public areas extinguishers should be placed within the cabinet and the door clearly marked “fire extinguisher”. Where mounted in cabinets or recessed or set on shelves ensure that operating instructions faced outwards. Because of the diversity in today’s population bilingual signage should be considered. For a list of regular fire extinguisher signage refer to the section entitled “SIGNAGE”

Consideration must be given to range a remote application extra-long-range nozzles, operation in unventilated areas, use of breathing apparatus, and other personal protective equipment. While firefighting entails an amount of calculated risk such risk is not to be compounded by poor training. Taking unnecessary chances, lack of or insufficient protective equipment, or blind heroism. The potentially toxic effects of some extinguishing agents in high concentration and product decomposition, must also be considered. Therefore, where the fire extinguishers are provided for use, the staff must be provided with an educational program to familiarize each person on the principles and use of the extinguishers. This educational program should be maintained annually.

Inspection Requirements and Checklist

Fire extinguishers in all buildings other than residential houses are generally required to be serviced and inspected by a fire protection service company at least annually. Some jurisdictions require more frequent service for fire extinguishers. Generally, the servicer places a tag on the extinguisher to indicate the type of service performed for example if it is an annual inspection, recharge, or new fire extinguisher.

Based on today’s camera technology and tools that are already in place, periodic inspection and electronic monitoring of fire extinguishers can be performed and include a check of at least the following items:

- Location in designated place
- No obstruction to access or visibility
- Pressure gauge reading or indicator in the operable range or position.
- Fullness determined by weighing or hefting for self-expelling-type extinguishers, cartridge-operated extinguishers.
- Condition of tires, wheels, carriage, hose, and nozzle for wheeled extinguishers
- Indicator for non-rechargeable extinguishers using push-to-test pressure indicators.

Nevertheless, the fire extinguishers shall be visually inspected, if they are located where any of the following conditions exist:

- High frequency of fires
- Severe hazards
- Locations that make fire extinguishers susceptible to mechanical injury or physical damage
- Exposure to abnormal temperatures or corrosive atmospheres.

Where at least monthly manual inspections are conducted, the date of the manual inspection was performed and the initials of the person performing the inspection shall be recorded. This information can be incorporated into the facility’s asset management system.

A visual inspection alone cannot ensure that a portable fire extinguisher is safe or will operate properly when needed. Over time, normal handling or workplace conditions can impact the structural integrity of the extinguisher and cause it to malfunction or burst. To prevent this from happening, all portable fire extinguishers are required to be inspected and pressure tested by a qualified individual using the proper equipment and facilities. [OSHA-29 CFR 1910.157(f)(1)]

Hydrostatic testing is the method used to pressure test an extinguisher’s critical components (cylinder, shell, hose assembly, etc.) for leaks and structural flaws by pressurizing them with a liquid. For stored-pressure fire extinguishers this is required every 6 years, and for dry chemical it requires 12-year hydrostatic examination procedures as detailed in the manufacturer’s service manual and the requirements of NFPA 10.

Fire Extinguishers Summary and Recommendations

Water and Foam fire extinguishers extinguish the fire by taking away the heat from the fire. Foam agents also separate the oxygen from the fuel and heat. Water extinguishers are for Class A fires only, they should not be used on Class B or C fires. The discharge stream could spread the flammable liquid in a Class B fire or could create a shock hazard on a Class C fire. Foam extinguishers can be used on Class A & B fires only. They are not for use on Class C fires due to the shock hazard.

Carbon Dioxide fire extinguishers extinguish the fire by separating the oxygen element from the fuel and heat, and by removing the heat with a very cold discharge. Carbon dioxide can be used on Class B & C fires. They are usually ineffective on Class A fires.

Wet Chemical is a new agent that extinguishes the fire by removing the heat from the fire and prevents re-ignition by creating a barrier between the oxygen and fuel elements. Wet chemical or Class K extinguishers were developed for modern, high efficiency deep fat fryers in commercial cooking operations. Some may also be used on Class A fires in commercial kitchens.

Clean Agent extinguishers are either based on halocarbon agents or on the older and no longer made halon 1211 agent, which can no longer be used for training. Halocarbon agents replaced halon 1211 within the last 8 years and are much more environmentally acceptable. Commercialized halocarbon agents extinguish the fire by removing heat from the combustion zone. Halon 1211 extinguishers, however, were chemically active and interfered with the chemical reactions occurring in the combustion zone. Halocarbon and halon 1211 extinguishers are effective on Class A, B, and C type fires, although very small sizes do not achieve the lowest UL Class A rating, 1-A.

Dry Powder extinguishers are like dry chemical except that they extinguish the fire by separating the fuel from the oxygen element of the fire. However, dry powder extinguishers are for Class D or combustible metal fires, only. They are ineffective on all other classes of fires.

Water Mist extinguishers are a recent development that extinguishes the fire by taking away the heat from the fire. They are an alternative to the clean agent extinguishers where contamination is a concern. Water mist extinguishers are primarily for Class A fires, although they are safe for use on Class C fires as well.

Extinguishers are to be properly supported from hangers and brackets approved for extinguisher use.

The extinguisher shall be tested and labeled. Also, based on today’s camera technology and available tools that are already in place, periodic inspection and electronic monitoring of fire extinguishers can be performed.

Table 11: Fire Extinguisher Matrix

BUILDING	LOCATION	CLASS/TYPE	QUANTITY	CAPACITY	REMARKS
Building - 301	Maintenance Areas	ABC/DRY	1	20 lbs.	
PN - Sub – Total					
Sub – Total					
Grand – Total					
Coordination is required in these areas to finalize the coverage.					

Protection of Telecommunications Rooms

There are three recommended measures to prevent the spread of fire and effectively extinguish the fire in telecommunications rooms. They are clean agent gaseous fire suppression systems, pre-action fire sprinkler systems and combination primary clean agent gaseous and secondary pre-action fire suppression systems.

Clean Agent Gaseous Fire Suppression System

A clean agent is an electrically non-conducting, gaseous extinguishing agent that does not leave a residue upon evaporation. The clean agent is stored in tanks under pressure as a liquid and when released, floods the room as a gas, interrupting the combustion process. To operate effectively, clean agent systems must produce a specified concentration. To accomplish this, the room being protected must be airtight. Computer rooms do not always meet this requirement. These agents are governed by the National Fire Protection Association Standard for Clean Agent Fire Extinguishing Systems – NFPA 2001. The system typically consists of the agent, agent storage containers, agent release valves, fire detectors, fire detection system (wiring control panel, actuation signaling), agent delivery piping, and agent dispersion nozzles.

A clean agent system is preferred for telecommunication rooms because fires can be rapidly extinguished without residues from the gas. The result is minimal service interruptions because no clean-up is required and limited fire damage because agents are discharged within seconds.

Pre-action Fire Sprinkler System

These systems are like dry pipe systems in that water is discharged through a sprinkler head as a cooling agent; however, a pre-action system's piping is not filled with water but uses air to maintain the system pressure. The protected area is provided with smoke and heat detectors set below the melting point of the sprinkler link. When conditions in the protected area activate a detector, a valve is released allowing water to fill the piping in the exposed area. If the temperature in the area exceeds the melting point of the sprinkler link, water is then discharged onto the fire.

This type of system is preferred for high value equipment because it requires two events to initiate water flow. Typically, the detector causes a local alarm to sound that should bring personnel to investigate. Additionally, the alarm circuitry can be interfaced with computer equipment to shut down critical equipment before water is discharged. By initiating an alarm earlier than the application of water, on-site personnel can often extinguish the fire using fire extinguishers, thus limiting water damage. Further, when the alarm is interfaced to shut down the equipment power, damage from short-circuiting of equipment is eliminated.

Combination Gaseous / Pre-action Fire Suppression System

Clean agent systems are designed with the purpose of protecting the contents of water sensitive hazards, such as IT or telecom equipment. Automatic sprinkler systems are intended and designed as primary fire protection as they offer life safety to occupants and provide building protection. A dual agent system provides the highest level of protection for mission critical facilities.

Automatic sprinklers are required in all compartments of completely sprinklered buildings as defined in NFPA 13. Pre-action systems are specialized sprinkler systems that provide security against accidental water damage by using supervisory air pressure in the piping instead of water. When used in combination with sprinkler systems, clean agent systems are designed to serve as initial fire protection with the intent of extinguishing the fire, thereby reducing the potential for sprinkler discharge, and thus minimizing damage to the electronic equipment.

The water-based system gives a code-compliant approach to providing automatic sprinklers for all areas of the building, or a fully sprinklered building. This option should be explored when fully automatic sprinkler protection is required and the use of the clean agent system in lieu of sprinklers is not allowed. The clean agent system gives a first line of defense against a fire that, if extinguished, should not actuate the water-based system. If fire growth continues, the water-based system will provide protection of the building.

It is not uncommon for a pre-action sprinkler system to meet the automatic sprinkler system code requirements and then supplement a clean agent system for protection of the equipment. The pre-action system does not have water in the system prior to activation, thus mitigating the potential for water damage. The pre-action system can be

designed to require two detection components to operate before the water is released into the room. This can be a combination of smoke detection and sprinkler actuation.

The ideal system would incorporate a clean gas system and a pre-action water sprinkler system in the ambient space. Gas suppression systems are friendlier to the hardware in the event of a discharge. There is some concern regarding the use of water on sensitive electronic equipment, whereas the hardware in a room subjected to a gas discharge can often be brought back online soon after the room is purged. Gas systems are, however, one-shot designs. If the fire is not put out in the initial discharge, there is not a second chance. The gas system cannot be reused until it is recharged or connected to a backup source. Water systems can continue to address the fire until it has been brought under control. While a water system is more likely to damage the hardware, it is also a better means of protecting the building structure. Water-suppression systems are often preferred or mandated by building owners or insurance companies. Water systems are also highly recommended in areas containing a high level of combustible material use of storage. The decision of what means of fire suppression to utilize must incorporate numerous factors, including the mission and criticality of the data center operations.

Table 12: Fire Protection Systems in Electrical and Computer Rooms Matrix

Rank	Fire Protection System	Advantages	Disadvantages	Testing	Remarks
1	Pre-Action Sprinkler System (NJ: Double Interlock)	<ul style="list-style-type: none"> Provides a higher level of reliability and an additional safety protection from accidental water discharge. Pre-action system reliability is based on a primary detection system. Water only based pre-action system is good for the environment. Uses unlimited public water supply. No redundancy is required. 	<ul style="list-style-type: none"> Sprinkler is more expensive than wet and dry sprinkler systems and does not eliminate the possibility of water damage to the protected space. Drainage is required. 	<ul style="list-style-type: none"> System shall be tripped tested annually at full flow. No water discharge from sprinkler heads is required. 	<ul style="list-style-type: none"> Pre-action system is recommended because it provides superior reliability and an additional safety protection from accidental discharge while alleviating challenges associated with clean agent system testing.
2	Combination Pre-Action sprinkler and Clean Agent System	<ul style="list-style-type: none"> Provides Fire Protection to both the electronic equipment and building. Minimizes the chance of water damage to electronic equipment. Provides two (2) distinct, separate sources of fire protection for the space. 	<ul style="list-style-type: none"> Combination system is more expensive than other options. Difficult to seal (airtight) the room for clean agent system initial acceptance and annual room integrity test. Drainage is required. 	<ul style="list-style-type: none"> Initial and annual room integrity (air leakage) tests need to be performed to confirm and maintain room's integrity. System shall be tripped tested annually at full flow. No water discharge from sprinkler heads is required. 	<ul style="list-style-type: none"> Combination system's additional cost may be justified when both the prevention of damage to electronic equipment and prevention of fire spreading from electrical or computer room to the rest of the building are prioritized. Room integrity must be maintained. Clean agent system acts as main system and pre-action acts as reserve (redundant) system.
3	Clean Agent System (Cross Zoned)	<ul style="list-style-type: none"> Discharge of gaseous system in protected space will not damage critical equipment. No water is utilized in fire protection system. No significant adverse impact to the environment. 	<ul style="list-style-type: none"> Difficult to seal (airtight) the room for clean agent system initial acceptance and annual room integrity test. Supply of clean agent may be depleted in the event of reoccurring fires. 	<ul style="list-style-type: none"> Initial and annual room integrity (air leakage) tests need to be performed to confirm and maintain room's integrity. 	<ul style="list-style-type: none"> Clean agent system is recommended when the building has no water supply. A risk analysis is generally required with owner's input. Main and reserve cylinders are required.

Resilience & Sustainable Design

The project is exempt from the PANYNJ Sustainable Design Guidelines. The project is subject to the PANYNJ Climate Resilience Guidelines. The Resilience & Sustainable Design unit assessed the flood risk of the fire protection valves at an additional 18 locations throughout Port Jersey, EPAMT, and Port Newark. All locations are situated in the 1% annual chance floodplain ("100-year floodplain") per the FEMA Preliminary Flood Insurance Rate Maps. In the state of NJ, when determining the flood hazard area, the preliminary FEMA map that has not been superseded by a new effective FEMA map must be used where these maps depict higher flood elevations than depicted in the most recent effective FEMA Flood Insurance Study. In this case, the PFIRMS were found to be more conservative. The following table summarizes the FEMA flood maps utilized at each facility.

Table 13: Summary of FEMA Flood Maps

Facility	FEMA PFIRM Panel #	Year
Elizabeth Port Authority Marine Terminal	34039C0025G	2015
Port Newark	34013C0159G	2014
	34013C0167G	2014
Port Jersey	34017C0112E	2013

Figure RSD-1 presents the FEMA Preliminary Flood Insurance Rate Maps for the area.

CRG require a comprehensive flood protection strategy based on each asset's location with a sea level rise-adjusted design flood elevations (SLRDFE) commensurate with the asset's current and future flood risk. The SLRDFE is the sum of FEMA base flood elevation (BFE) obtained from the PFIRMS, a code-required freeboard safety factor for critical assets, and a sea level rise adjustment to maintain flood protection levels across the design life of the asset.

It is assumed that fire protection valves have a 40-year design life, according to the agency's Asset Class Manual; however, according to the facility, the valves in question have been in use for approximately 30-40 years and are nearing the end of their useful life. The exceptions to this are Port Newark Building 111, Port Newark Building 260, and Port Jersey Building 51, which were rehabbed and or replaced more recently based on photo documentation. The minimum 1.33' sea level rise adjustment is used for the fire protection assets near the end of their design life, whereas 2.33' is used for the newer equipment. Fire protection valves are critical infrastructure, requiring 2' freeboard.

RSD worked with the Mechanical unit to pinpoint the locations of the fire protection equipment within each building, at which locations, a moderately precise digital elevation tool was used to approximate the finished floor elevations at the equipment locations. For most locations, the valves are inside the buildings with the finished floor elevations (FFE) flush with the adjacent grade and therefore the nearest adjacent ground elevation was used. One exception is Port Newark Building 255, where the equipment is at the level of the loading dock 48" above grade. The elevations provided are not exact and require survey. Building 111 is the only location that was equipped with priority protective measures (stop logs) following Superstorm Sandy to an elevation of 4.5' above FFE, or 13' NAVD88; this location should be retrofitted to meet the SLRDFE. Table RSD-14 provides a summary of the SLRDFE criteria for each asset under review.

Note that Structural calculations for flood loads would apply a DFE that includes a sea level rise adjustment but omits the freeboard.

Table 14: Summary of Sea Level Rise-Adjusted Design Flood Elevations at Each Asset

Building No.	SLRDFE (ft NAVD88)	Lowest Adjacent Grade (ft NAVD88)	Approx. Feet Above Grade	
Port Newark				
111	BFE (12' NAVD88) + 2' freeboard + 2.33' SLR	16.33	8.5	7.8
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
255	BFE (11' NAVD88) + 2' freeboard + 1.33' SLR	14.33	8.5 + 4' loading dock = 12.5	1.8
260	BFE (11' NAVD88) + 2' freeboard + 2.33' SLR	15.33	9	6.3
263	BFE (11' NAVD88) + 2' freeboard + 1.33' SLR	14.33	8	6.3
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
301	BFE (12' NAVD88) + 2' freeboard + 1.33' SLR	15.33	SW: 6.5 S: 6.6	SW: 8.8 S: 8.7
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Building No.	SLRDFE (ft NAVD88) (BFE + freeboard + SLR)	Lowest Adjacent Grade (ft NAVD88)	Approx. Feet Above Grade	
Port Newark				
111	12' NAVD88 + 2' + 2.33'	16.33	8.5	7.8
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
255	11' NAVD88 + 2' + 1.33'	14.33	8.5 + 4' loading dock = 12.5	1.8
260	11' NAVD88 + 2' + 2.33'	15.33	9	6.3
263	11' NAVD88 + 2' + 1.33'	14.33	8	6.3
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
301	12' NAVD88 + 2' + 1.33'	15.33	SW: 6.5 S: 6.6	SW: 8.8 S: 8.7
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Table 15:

Structural

The design of the fire sprinkler system vertical hangers and seismic braces will follow the National Fire Protection Association 13, Standard for the Installation of Sprinkler Systems 2019, which follows Allowable Stress Design (ASD) as per section A.18.5.9.4.

Design loads have been established utilizing the codes and standards mentioned in section 5 of this report and industry standard practices. Key components of the structural loading can be summarized as follows:

Dead loads consist of the self-weight of the fire sprinkler pipes, the vertical hangers, the seismic braces, and other miscellaneous components. In addition, it will be assumed that all pipes are filled with water.

Per NFPA 13, section 18.5.9.2, for seismic loading the weight of the system shall be taken as 1.15 times the weight of the water filled piping to account for miscellaneous hardware attached to the pipe.

Per NFPA 13, section 17.1.2.(1), vertical hangers shall be designed to support five times the weight of the water-filled pipe plus a 250 lb. point load at one pipe support at the worst-case location within a beam span. From field photos and visits, existing vertical hangers seem to be hung from every steel roof framing beam or from every other steel roof framing beam, but initial vertical hanger calculations indicate that the vertical hanger spacing might have to be smaller than the existing roof framing spacing. It is possible that historical NFPA standards had a factor of less than 5, which could account for the larger spacing of the existing vertical hangers for these buildings built between 1951 to 1996, but the earliest copy of NFPA found was 1999 which had a factor of 5. PA Structural was not able to find older copies of NFPA around the time the buildings were built to confirm this assumption.

Site Class for each building was provided by PA Geotechnical. Refer to table 16 below.

Per NFPA 13, section A.18.5.9.1, sprinkler systems are emergency systems and should be designed with an importance factor (Ip) of 1.5.

Per NFPA 13, section A.18.5.9.1, short period response parameters, Ss, used in Table 18.5.9.3 for determining seismic coefficients, Cp, are based on assuming a response modification factor of Rp = 4.5 and a component amplification factor of ap = 2.5.

Per NFPA 13, Table 17.4.2.1.(a), maximum spacing for vertical hangers of steel pipe except threaded light wall is 12 ft on-center for 1 in to 1.25 in diameter pipe and 15 ft on-center for 1.5 in to 8 in diameter pipe. Existing conditions for fire sprinkler system had vertical hangers spaced every roof frame beam or every other roof frame beam. For this stage 1 design, PA Structural design approach is to have the maximum spacing match the roof steel and timber framing spacing of around 5 to 6 ft on-center. For concrete slabs, PA Structural design approach is to have a similar maximum spacing of 5 to 6 ft on-center. Refer to Vertical Hanger Load Calculation Table in Appendix H for further details on vertical hanger spacing for each building.

Per NFPA 13, 2019, section 18.5.5.2.2, lateral sway brace spacing are not to exceed intervals of 40ft on center.

Per NFPA 13, 2019, section 18.5.6.1, longitudinal sway brace spacing are not to exceed intervals of 80ft on center.

PA Structural has provided stage 1 structural calculations for the design of vertical and seismic hangers which can be found in Appendix H. In addition, stage 1 structural calculations were provided to analyze the existing loads on the roof structures to determine how much additional loading the sprinkler system with its hangers would add to the existing roof structure. Due to lack of as-built drawing information, the analysis of the existing member capacity could

not be performed for all the buildings and would require further investigation in stage 3 design to finalize this review. For the buildings where analysis was performed, refer to Sections 6, 7 and 8 for result information.

Refer to the tables below for summary of design load parameters.

Table 16: Allowable Stress Design Load Combinations

Equation	Density
16-8	D
16-9	D + L
16-10. a	D + Lr
16-10. b	D + S
16-10.c	D + R
16-11. a	D + 0.75L + 0.75Lr
16-11. b	D + 0.75L + 0.75S
16-11.c	D + 0.75L + 0.75R
16-12. a	D + 0.6W
16-12. b	D + 0.7E
16-13. a.1	D + 0.75L + 0.75*0.6W + 0.75Lr
16-13. a.2	D + 0.75L + 0.75*0.6W + 0.75S
16-13. a.3	D + 0.75L + 0.75*0.6W + 0.75R
16-14	D + 0.75L + 0.75*0.6E + 0.75S
16-15	0.6D + 0.6W
16-16	0.6D + 0.7E

Notes:

1. Equations from IBC NJ edition.
2. D = dead load
3. E = earthquake load
4. L = live load
5. Lr = roof live load
6. R = rain load
7. S = snow load
8. W = wind load

Table 17: Material Density

Component	Density
Concrete	150 PCF
Steel	490 PCF

Table 18: Fire Sprinkler Pipe Parameters

Schedule	Diameter (IN)	Outer Diameter (IN)	Inner Diameter (IN)	Weight (PLF)
40, Black Steel	1.25	1.66	1.38	2.27
40, Black Steel	1.5	1.9	1.61	2.72
40, Black Steel	2	2.375	2.07	3.66
40, Black Steel	3	3.5	3.07	7.58

40, Black Steel	4	4.5	4.03	10.8
40, Black Steel	5	5.563	5.05	14.63
40, Black Steel	6	6.625	6.07	18.99
40, Black Steel	8	8.625	7.98	28.58

Table 19: Fire Sprinkler Seismic Design Parameters

Category	Parameter
Seismic Design Category	See Table Below
Mapped Spectral Acceleration at Short Periods, SS	See Table Below
Mapped Spectral Response Acceleration at 1-Second Periods, S1	See Table Below
Site Class	See Table Below
Risk Category	IV
Seismic Importance Factor, I.e.,	1.5
Response Modification Factor, R	4.5
Component Amplification Factor, ap	2.5

Table 20: Building Site Classes

Facility / Building	Site Class	Seismic Design Category	Mapped Spectral Acceleration at Short Periods, SS	Mapped Spectral Response Acceleration at 1-Second Periods, S1
Port Newark / 111	D	C	0.286	0.059
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Port Newark / 255	D	C	0.286	0.059
Port Newark / 260	D	C	0.286	0.059
Port Newark / 263	D	C	0.286	0.059
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Port Newark / 301	D	C	0.286	0.059
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Elizabeth Port Authority Marine Terminal / 1180	D	C	0.284	0.059
Port Jersey / 51	D	C	0.285	0.059

Table 21: Dead and Roof Live Loading Details

Load Type	Uniform (PSF)
Dead Load - Deck	3
Dead Load - Insulation	1.5
Dead Load - Waterproof Membrane	1.5
Dead Load - Low Hung Ceiling Tile	2
Dead Load - Hung Utilities	3
Roof Live Load - Maintenance Personnel	20

Table 22: Snow Loading Details

Item	Value
Ground Snow Load, pg.	25 PSF
Risk Category	II
Importance Factor, Is	1.00
Minimum Snow Load, PS	20 PSF
Surface Roughness Category	D
Exposure Factor, Ce	0.8
Thermal Factor, Ct	1.1

Table 23: Wind Loading Details

Item	Value
Exposure Category	C
Basic Wind Speed	130 MPH
Design Wind Pressure	34 PSF
Thermal Factor, Ct	1.2

Table 24: Building Structural Document References

Building	QAD Report Reference	Contract Drawing Reference Number	Available As-built Structural Drawings?
Port Newark Building 111	P05-925.650, January 2018	PN-354.004	Yes. PN-354.004 DWG S-4: joists 36LH9, 44LH14-SP1, 44LH14-SP2, 44LH15-SP3, max. @ 5'-6" O.C., 62 and 82ft long, drawing has load diagram for joist design
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Port Newark Building 255	P05-925.111, March 2014	None on EDOCS	No
Port Newark Building 260 Office Building	P05-925.111, March 2014	PN-130.226, PN-158, PN-196, PN-226, PN226A, PN-315.011, PN-466.203, PN-466.204, PN-994.553, PN-FC-065	No
Port Newark Building 260 Main Building	P05-925.111, March 2014	PN-130.226, PN-158, PN-196, PN-226, PN226A, PN-315.011, PN-466.203, PN-466.204, PN-994.553, PN-FC-065	No

Port Newark Building 263	P05-925.103, March 2012	PN-110.052, PN-110.052A, PN-1223, PN-1235, PN-1342, PN-1495, PN-198, PN-199, PN-502.339, PN-560.005, PN-560.007, PN-560.010, PN-560.012, PN-560.015	Yes. 12x16 steel beam 5'-6" O.C.
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Port Newark Building 301	P05-925.650, January 2018	PN-1359, PN-140.077, PN-140.078, PN-1534, PN-183, PN-201, PN-209, PN-710.013, PN-710.015	No
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Traffic

Any work on or adjacent to active travel lanes shall be protected as per Chapter 6 of the MUTCD.

CODES AND STANDARDS

As a bi-state agency, the PANYNJ enforces the construction codes of the jurisdiction in which the work is performed. The PANYNJ Tenant Construction Review Manual specifies the applicable codes for each jurisdiction and outlines certain specific requirements unique to PANYNJ projects. All construction work at the NJMT shall comply with the PANYNJ and the local building codes and standards apply to construction on PANYNJ property.

The Design shall comply with all applicable Federal, State and Local laws, ordinances, regulations and codes, and the latest industry guidelines and standards including, but not limited to, the entities listed below:

Codes

- International Building Code New Jersey Edition 2018
- International Fire Code New Jersey Edition 2015
- International Mechanical Code (IMC) 2018 as amended by the State of New Jersey
- National Electrical Code 2017 as amended by NJUCC
- New Jersey Energy Subcode Compliance N.J.A.C. 5:23-3.18 – ASHRAE 90.1-2016
- New Jersey Uniform Construction Code
- New Jersey Rehabilitation Subcode
- Department of Community Affairs Subchapter 8 Asbestos Hazard Sub Code (N.J.A.C. 5:23-8)
- Air Quality Permitting Program (N.J.A.C. 7:27)
- OSHA Hazard Communication Standard 29 CFR 1910.1200
- N.J.A.C section 5:17, Subchapter 17- Lead Hazard Evaluation and Abatement Code
- EPA 40 CFR Part 761
- EPA 40 CFR Part 273

Reference Standards

- Air Conditioning and Refrigeration Institute
- Air Movement and Control Association
- American Concrete Institute 318, Building Code Requirements for Structural Concrete
- American Institute of Steel Construction
 - 360-16, Manual of Steel Construction
 - Design Guide 15, Rehabilitation and Retrofit, Second Edition
- American National Standards Institute
- American Society of Civil Engineers ASCE 7-16, Minimum Design Loads and Associated Criteria for Buildings and Other Structures
- American Society of Heating, Refrigeration Air-Conditioning Engineers
 - ASHRAE Standard 90.1
 - ASHRAE Applications Handbook - ASHRAE Equipment Life Expectancy
- American Society of Mechanical Engineers
- American Society for Testing and Materials
- Manufacturers Standardization Society of the Valve and Fittings Industry

- National Fire Protection Association
 - NFPA 10 Standard for Portable Fire Extinguishers
 - NFPA 12 Standard on Carbon Dioxide Extinguishing Systems
 - NFPA 13 Standard for Installation of Sprinkler Systems
 - NFPA 14 Installation of Standpipe, Private Hydrants and Hose Systems
 - NFPA 20 Standard for the Installation of Stationary Pumps for Fire Protection
 - NFPA 24 Standard for the Installation of Private Fire Service Mains and Their Appurtenances
 - NFPA 25 Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems
 - NFPA 31 Standard for the Installation of Oil Burning Equipment
 - NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals
 - NFPA 70 National Electrical Code
 - NFPA 72 National Fire Alarm and Signaling Code
 - NFPA 75 Standard for the Protection of Information Technology Equipment
 - NFPA 76 Standard for the Fire Protection of Telecommunications Facilities
 - NFPA 90A Standard for the Installation of Air-Conditioning and Ventilating Systems
 - NFPA 90B Standard for the Installation of Warm Air Heating and Air-Conditioning Systems
 - NFPA 101 Life Safety Code
 - NFPA 241 Standard for Safeguarding Construction, Alteration and Demolition Operation
 - NFPA 2001 Clean Agent Fire Extinguishing Systems
- Sheet Metal and Air Conditioning Contractors' National Association
- Steel Joist Institute, American National Standard SJI-LH/DLH-2010
- Underwriters Laboratories

PANYNJ Standards

- PANYNJ Construction Tenant Review Manual
- PANYNJ Electrical Design Guidelines
- PANYNJ Structural Design Guidelines
- PANYNJ Mechanical Design Guidelines
- PANYNJ Climate Resilience Guidelines

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PORT NEWARK**BUILDING 111****Architecture**Existing Conditions

Building 111 is located on the east side of Corbin Street between Marsh Street and Tyler Street. According to the 2010 Quality Assurance Division (QAD) report the building serves as a pump station for the Port Newark domestic and firefighting water systems. There are two adjacent circular water storage tanks which are not included in the scope of this report. For Building 111, the architectural team conducted a walkthrough visual field survey of the building interior to verify the layout of existing building spaces. Subsequently, a review of the provided Port Authority Quality Assurance Building Condition Inspection Report was undertaken. Building 111 is a one-story reinforced block building, approximately 17' high, with full-height storefront window system infill primarily along its west side. The building is approximately 128' long by 82' wide for a total area of approximately 10,500 SF. The floor space is generally open except for rooms partitioned in the northeast corner. Pump machinery is located towards the south and west sides of the open area. These rooms include entry vestibule, toilet room, control room/office, generator room, fuel tank room and electrical room. The fuel storage, generator and electrical rooms are each constructed with concrete masonry walls which continue to the underside of a metal roof deck below the level of the main roof. This metal roof deck is supported on steel beams with a concrete cover. A suspended ceiling system with 2' x 4' acoustical lay in panels is provided in the vestibule, toilet room and control room/office. The building has a flat roof system composed of a corrugated metal deck. The floor system construction is a concrete slab.

Reference the code analysis drawings in Appendix G for information related to occupancy, construction type and fire resistance ratings.

Assumptions

Although a comprehensive condition survey was not performed, existing conditions visually identified from the building interior which appeared to compromise the ability of the exterior envelope to maintain a habitable interior environment are noted in the evaluation section as required. The building envelope should be maintained, repaired, or upgraded as required to maintain an interior environment which sustains the long-term operational state of fire protection equipment. This includes prevention from premature corrosion or damage to systems from flooding events.

It should be noted that Building 111 is a part of an ongoing NJMT Roofs Rehabilitation Stage 1 project. The results of that study should be referenced for pertinent repair items regarding the facility's roof. Note that the Roofs study did not evaluate the integrity of the building envelope.

Also, note that in accordance with the flood protection elevation determinations by the Port Authority, the flood mitigation measures recommended in Port Newark NJMT Building 111 Electrical and Mechanical Equipment Resiliency Stage I Report (PID # 16501000) should be considered. The architectural aspects of the following options in the report include:

- Option 1: Elevate all critical electrical and mechanical equipment to meet the DFE in a new building addition and on exterior enclosed platforms.
- Option 2 Dry flood proof the building by creating a watertight barrier around the building perimeter using stop logs and sealing windows.

- Option 3 – combines elements of first two options by elevating critical electrical and mechanical equipment and dry flood proofing other parts of the building.

Evaluation

No significant architectural issues were noted during the field survey that would compromise the interior environment or sprinkler system operation.

Recommendations

- Acoustical ceiling tile replacement due to sprinkler heads replacement.
- Repair and patch wall at new fire department connection in brick with block backup exterior wall.
- Roof repairs and flood mitigation measures referenced in the Assumptions section above should be undertaken.

Civil

No Civil related scope of work identified on Building 111 that is required by the sprinkler system at this point.

ElectricalExisting Conditions

Building 111 is divided up into pump room, generator room, electric room, office, and fuel tank storage room. As per 1996 as-built drawings PN-354.004, there was a single Simplex fire alarm control panel installed near the building entrance inside the pump room. However, per field inspection this configuration has changed. Inside the office area and just outside the door the electrical room there are several fire alarm system components installed include the main fire alarm control panel, (4) fire alarm control/communicator panels, and (2) battery backup enclosures. There is also an unidentified red enclosure with red indicator light in this location which appears to be no longer in service. There appears to be an existing communicator panel, but during Stage 3 will need to verify with AFA as to whether this is communicating with central station. The fire alarm panel appears to be tied into the Main Control Panel for the building as per 1996 as-built drawings. The Main Control Panel seems to work as an annunciator panel for alarms in addition to monitoring pump and tank controller levels and provides selector switches and indicator lights for pump control. Nothing is obstructing opening of fire alarm panel enclosures but there is a shelf with binders/books installed directly underneath some of the panels which can make access/maintenance work more difficult. The office area is sprinklered and contains smoke detector and horn/strobe. The bathroom area inside the office is also sprinklered and contains strobe (could not identify if there is horn too per visual inspection). The main fire alarm control panel appears to be fed from panel RP (208/120V, 3PH) circuit #3 even though there is writing in black marker on the fire alarm control panel itself which states "Power Panel 2P circuit #2". The as-built drawings showed the fire alarm panel supplied by panel RP circuit #1 so since the panel schedule has since been updated it is assumed that panel RP is still the primary power supply. Circuit breaker #3 does not have marking as per NFPA 72 section 10.6.5.2. Panel RP also appears to serve some of the heaters for the generator and pumps along with generator battery charger and day tank controls. The main fire alarm control panel is a Radionics panel which is maintained by AFA Protective Systems. All the other control/communicator panels appear to be Radionics brand equipment as well, but this should be verified with AFA. One of the two battery backup enclosures is Altronix brand. The electrical room is not sprinklered and contains a manual pull station box and a smoke detector. The generator room is sprinklered and contains horn/strobe and smoke detector. The fuel tank storage room is sprinklered and contains smoke detector. The pump room is sprinklered and contains remote fire alarm annunciator panel, horn/strobe, and manual pull station box. Inside the pump room there are several fire pumps which are backed up by the emergency generator located in the generator room. The fire pumps also appear to have tamper switches, flow switches, and supervisory signals

connected to the main fire alarm system. The fire pump controller is listed as 460V, 3-phase with built-in fire pump transfer switch for emergency power all contained within NEMA 3R rated enclosure (HP rating varies with pump). The booster pump disconnect switch is rated for 400A, 600V. There is a red telephone by one of the rolled-up doors labeled as "AFA HOT LINE" which needs to be verified during Stage 3 with AFA whether this is still in service and if so, what function it serves. All fire alarm devices appear to be in good working condition.

Assumptions

- The base building fire alarm system is operating normally, and the existing sequence of operations provides appropriate notification and signaling. This project scope only evaluates required additional or replacement signaling as per other discipline recommendations in this report. All new fire alarm related equipment added will require testing and verification by AFA and witness testing by QAD.
- Any existing sprinkler system devices not being replaced as per recommendations in this report shall be functionally tested against the requirements of NFPA 72 and transmit supervisory and alarm signals in compliance with NFPA 101. This should be verified with AFA.
- The existing fire alarm system, initiating devices, and notification devices outside the scope of this project meet the design criteria as per NFPA 72.
- The existing lighting system, including emergency, has not been evaluated as this is outside the project scope. Any lighting modifications pertain to Architectural recommendations for ceiling replacement in coordination with replacement of sprinkler piping system.
- The existing fire pump and emergency power supplies are sized adequately. The sprinkler heads are being replaced in kind as per Plumbing and Fire Protection recommendations. Therefore, no modifications are being made to the overall system distribution requirements and it is assumed the original installation complies with NEC requirements.
- The existing electrical distribution equipment in the building is outside the project scope requirements. Only condition of electrical equipment directly correlated with fire alarm system has been considered.

Evaluation

No fire alarm system issues noted during the site survey that would compromise the sprinkler system operation. Normal power and emergency power supply are provided for existing fire pump system. Occupancy group classification for building is primarily S-2 with a secondary occupancy of B as per code analysis drawings in Appendix G. As per NFPA 101 section 6.1.14.1.3, where incidental to another occupancy, the storage (S-2) occupancy is permitted as the predominant occupancy and is subject to provisions of the code for said occupancy. Therefore, this building is evaluated under criteria of S-2 occupancy. The area is provided with sprinkler protection as per NFPA 101 section 42.3.4.2(3) with a minimum of one manual fire alarm box. There also appears to be a manual pull box located all exit doorways as per NFPA 72 section 17.15.9.4. Further investigation would be required to verify if the travel distance to the nearest manual fire alarm box does not exceed 200 feet as per NFPA 72 section 17.15.9.5. The adequacy of the existing sprinkler coverage is as per the assessment of the Plumbing and Fire Protection section. The electrical room is the only area not provided with sprinkler coverage but uses a smoke detector for automatic fire detection in accordance with 42.3.4.2(2) with a minimum of one manual fire alarm box. The existing branch circuit feeding the fire alarm control panel needs to be appropriately marked as per NFPA 72 section 10.6.5.2. A smoke detector is installed near existing fire alarm control panel as per NFPA 72 section 10.4.5 however it should be verified that it is within 15 feet as per PANYNJ Electrical Design Guidelines. Any modifications to sprinkler system must provide supervisory and alarm signaling as per NFPA 101 section 9.7.2 for automatic sprinkler system.

Recommendations

It is recommended to replace all fire alarm I/O in kind that are affected by sprinkler system work as noted in Plumbing and Fire Protection recommendations. Verify smoke detector near existing fire alarm panels is within 15 feet horizontally. Primary power disconnecting means for fire alarm panels must be marked appropriately as per NFPA

72 section 10.6.5.2. During Stage 3, Verify with AFA if current system communicates with central station. If not, then communicator panel must be configured so that signals are sent to approved alarm receiving facility. Verify functionality of all new and existing initiating and notification devices related to fire protection system and update programming of existing fire alarm control panels accordingly.

Environmental

Existing Conditions

An Environmental survey with sample collection and testing was completed on the sprinkler system and adjacent areas. The intent of this survey was to locate and identify all Asbestos Containing Materials (ACM), Lead Paint, Polychlorinated Biphenyls (PCBs), and Universal Wastes that could be impacted by the renovation of the sprinkler system.

The following five (5) homogeneous materials were inspected and sampled for ACM:

Table 25: ACM Testing Matrix

Suspect Material	Location
2' X 4' Suspended Ceiling Tile	1st Floor – Office Space, Lobby & Bathroom
Cinder Block Wall Mortar	1st Floor – Lobby, Bathroom & Generator Room
Soft Concrete Decking	1st Floor – Above Pump Room, Above Generator Room & Above Electric Room
Expansion Board (Brown) on Decking Wall Perimeter	1st Floor – at Pump Room & Generator Room Walls
Vertical Expansion Caulking on CMU Wall	1st Floor – Generator Room, Pump Room & East wall

Based upon visual inspection and analytical results of bulk samples collected, none of the materials tested are asbestos-containing (> 1%).

Assumptions

The existing sprinkler system pipes are painted. The paint was not tested but is assumed to be lead-containing.

Recommendations

The assumed lead paint on the sprinkler system does not have to be completely abated/removed, but an estimated 10% of the paint on the sprinkler system will be impacted, and thus will require incidental abatement/removal. The 10% of the existing sprinkler system to be impacted is estimated to be 102 linear feet.

Mechanical

Existing Conditions

Building 111 consists of an office space, bathroom, controls and electrical equipment room, generator room, and diesel and electric fire pump room. Existing HVAC system is comprised of eight (8) indirect gas-fired unit heaters (UH), four (4) exhaust fans (EF) and one (1) split system type air conditioner (AC) unit. The gas-fired UHs and EF-1 and EF-2 serve the fire pump and valve areas.

Assumptions

There is no HVAC assumption.

Evaluation

Building spaces are maintained at 65°F temperature setpoint. Building spaces are provided with adequate heating to maintain the wet sprinkler system above the required 40°F as per NFPA 13 Chapter 16.4.1.3. Existing HVAC equipment including ceiling attached gas-fired indirect unit heaters and ductwork do not obstruct the fire sprinkler replacement work.

Recommendations

There is no HVAC recommendation.

Plumbing and Fire ProtectionExisting Conditions

Building 111 was constructed in 1997, its a 1 story reinforced concrete building, with approximate length of 128' by a width of 82' by a height of 17' with approximate area of 10,500 SF. The building serves as a pump station for the Port Newark domestic and fire water systems. The building is divided up into pump room, generator room, electric room, office, bathroom, and storage room. The entire building is fully sprinklered with a wet, tree system served by 4" alarm check valve and an inspector's test connection southeast corner of the building. There is one (1) 4"x 2-1/2" x 2-1/2" fire department connection (FDC) northwest corner of the building that supplies the wet sprinkler system. There are two (2) incoming water services one 20" for domestic water and second 24" which is a combination domestic and fire service entering the west side of the building. The third incoming domestic water service enters south into the building is split into three (3) supplies that go into reduced pressure zone (RPZ) backflow preventers. There is additional take off from the fire service that splits into two (2) supply lines that feed two (2) RPZ's which in turn feed the domestic water jockey pumps. There are two (2) diesel and two (2) electrical fire pumps with capacity 1500 @ 80psi with associated jockey pumps that serve Port Newark. There are two (2) domestic water booster pumps with capacity 1500 @ 80psi with associated jockey pumps with that serve Port Newark. Building 111 pumping station also serves as a backup for the fire protection system at Elizabeth Port Authority Marine Terminal.

Assumptions

Based on historic record, the hydraulic capacity of the pumping station is adequate for the water demand. The systems are inspected tested and maintained in accordance with current codes and the agencies fire protection life safety (FPLS) Manual. The "Inspection, Testing and Maintenance (ITM) requirements for all FPLS throughout the building are maintained.

Evaluation

Evaluate existing sprinkler system to maintain code compliance, enhance the system effectiveness, reliability, and reduce the operation and maintenance cost. The building sprinkler system is approximately 24 years old and appears to be in relatively good shape, however, the sprinkler heads have exceeded their useful lives and require replacement. Therefore, based on the age of the system the sprinklers heads should be replaced.

There were no major issues regarding the building fire protection system from the facility maintenance staff.

Recommendations

Replace the branch piping, miscellaneous pipe supports, and existing sprinkler heads.

StructuralExisting Conditions

For Building 111, the structural task lead performed a review over the as-built drawings, the latest Port Authority Quality Assurance Division condition inspection report (P05-925.650, January 2018) and field photos of other disciplines to determine the condition of the fire sprinkler system vertical hangers, seismic braces, and roof framing that the sprinkler pipes are attached to. Building 111 is a single-story pump station that consists of flat, corrugated metal deck roof spanning between steel open web joist beams (spaced 5'-6" O.C.) supported on concrete masonry

unit bearing walls. The fire sprinkler system spans through the open web joists and is supported off the top chord of every other joist with c-clamps, threaded rods, and swivel rings. The main line has seismic lateral sway braces made of steel rods.

Assumptions

The following are the assumptions used to develop the structural cost estimate:

- The linear feet of main and branch fire sprinkler pipe installation provided in the cost estimate by the Plumbing and Fire Protection group will be used in the structural estimate to quantify the vertical hangers and seismic bracing removal and installation.
- The Plumbing and Fire Protection group linear feet of main and branch fire sprinkler pipe removal and installation assumes that all sprinkler pipes in each building need to be replaced. This means that the quantity of vertical hangers and seismic bracing provided by the Structural group are based on worst case conditions.
- The structural estimate assumes a production rate of 6 vertical hanger or seismic brace removal or installation per hour. The estimate also assumes that the tenant will assist in relocation of their merchandise to accommodate contractors' access to roof section where vertical hangers and seismic braces need to be removed or installed.

Evaluation

- Structural task leader reviewed available field photos of the existing vertical hanger and seismic braces to evaluate their conditions and reviewed the Quality Assurance Division condition survey reports for any structural roof priority repairs that might affect the sprinkler pipes attachment to the roof structure.
- Available field photos and Quality Assurance Division condition survey reports review showed no significant structural issues that would compromise the feasibility of the sprinkler system attachment to the roof member.
- Scope of the structural evaluation was limited to the existing roof members, and their availability of supporting the additional load from the proposed sprinkler system.
- The structural task leader preformed preliminary analysis of the existing roof loading and sprinkler loading on the existing roof beam members and found that they were not overstressed.

Recommendations

- Replace all vertical hangers in kind, as directed by the Plumbing and Fire Protection group. Install seismic braces for main pipe (diameters equal to or greater than 3 inches in diameter).
- Site specific structural analysis will be required in stage 3 design, based on the final sprinkler layout. Due to the larger quantity of utilities hung from the existing roof beam members, recommend increasing existing utility load to a value higher than 3 psf.

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BUILDING 255

Architecture

Existing Conditions

Building 255 is located on Port Street just west of the intersection of Port and Marlin Streets. The building is occupied by the Port Newark Sign Shop. For Building 255, the architectural team conducted a walkthrough visual field survey of the building interior to verify the layout of existing building spaces. Subsequently, a review of the provided Port Authority Quality Assurance Building Condition Inspection Report was undertaken. Building 255 is a one-story steel frame structure which measures approximately 110 ft by 158 ft with a total floor area of 17,075 SF. Steel columns support four rows of steel girders running east-west which support open web steel joists and a flat gypsum panel roof system. The building’s interior height is approximately 25 ft. The exterior walls consist of a 6 ft high concrete grade beams which supports a reinforced translucent panel system that extends to the roof line. The building is currently being used by the Port Authority for fabricating signs.

Offices and support spaces including bathrooms, break rooms and locker rooms occupy the southeast corner of the building. This includes a modular office structure along the south wall and the building entrance vestibule at the southeast corner of the building. The garage area occupies the north side of the building and has roll up door access to a rear yard and provides access to the sprinkler room and the electrical room. An elevated loading dock runs the entire length of the garage space and the sprinkler room, and several storage rooms are accessed directly from this level. The electrical room is accessed from inside the garage space at grade level. The remainder of the building’s interior spaces are open workspaces or storage rooms.

The office spaces have partial height partitions with a combination of gypsum board, and ceramic tile finishes and partial height block wall partitions. The office areas contain suspended lightweight acoustical tile in 2’ x 2’ or 2’ x 4’ configurations and perforated metal 1’ x 1’ layouts. The open work areas, the garage and storage room are open to the structure above and have full height concrete block partitions. The floors are concrete throughout with vinyl tile and ceramic tile finishes in the office areas.

Reference the code analysis drawings in Appendix G for information related to the building occupancy classification, construction type and fire resistance ratings.

Assumptions

- Although a comprehensive condition survey was not performed, existing conditions visually identified from the building interior which appeared to compromise the ability of the exterior envelope to maintain a habitable interior environment are noted in the evaluation section.
- It should be noted that Building 255 is a part of an ongoing NJMT Roofs Rehabilitation Stage 1 project. The results of that study should be referenced for pertinent repair items regarding the facility’s roof. Note that the Roofs study did not evaluate the integrity of the building envelope.
- In accordance with the flood protection elevation determinations by the Port Authority and the designation of the fire protection valves as critical infrastructure one or a combination of the options indicated in the current Port Authority Climate Resilience Design Guidelines are recommended.
- Site observations during field surveys indicate that spraying operations occur in the central space between C.L. C & D and 3 & 4.
- Quantities of hazardous materials are within the prescribed NJ Building Code limits and stored in appropriate containers.

- We presume that wood framed structures, where they exist in non-bearing partition walls, are permitted by the current codes in buildings of Type IIB construction when materials are fire retardant treated. A review of these interior constructions should be undertaken in future stages to verify their continued use.

Evaluation

It appears the application of flammable finishes occur in the area indicated in assumptions section above. In accordance with NJ Building Code section 307.1.1(1) these spaces should conform to the relevant requirements in Section 416 of the Building Code and Chapter 2404 of the Fire code of New Jersey (IFC 2015). Spraying spaces or limited spraying spaces shall be operated and ventilated accordingly. Noncombustible spray curtains should be provided to restrict the spread of flammable vapors in spraying spaces. Other fabrication or application spaces or enclosed rooms should be identified and classified in accordance with the applicable sections of the NJ codes.

No other significant architectural issues were noted during the field survey that would compromise the interior environment or sprinkler system operation. Replacement of the sprinkler system as indicated by the Plumbing and Fire Protection design will require replacement of suspended ceiling systems as indicated in recommendations.

It should be noted that wood constructions such as storage lofts or partition walls should be of fire retardant treated materials in accordance with designated non-combustible construction type.

Recommendations

- To accommodate fire protection system upgrades, remove and replace suspended ceiling system throughout.
 - Remove suspended ceiling system.
 - Provide suspended ceiling system and 2' x 2' acoustical ceiling tiles:
 - Vinyl coated and scrubbable acoustical lay in panels in the toilet rooms and showers.
 - Standard acoustical lay in panels elsewhere.
- Patch and repair wall at new fire department connection in concrete wall.
- Install spray curtains in open spraying spaces to comply with requirements in Section 416 of the NJ Building Code and the Fire Code of NJ:
 - Provide suspended curtain assembly around spraying spaces attached to existing structure.
- Recommended repair work not under the scope of the Fire Sprinkler Rehabilitation Project includes the following:
 - Roof repair recommendations as part of NJMT Roofs Rehabilitation project.
 - In accordance with the flood protection elevation determinations and the designation of the fire protection valves as critical infrastructure one or a combination of the following options as indicated in the current Climate Resilience Design Guidelines are recommended:
 - Elevation of fire protection valves and other relevant critical infrastructure above the DFE
 - Dry floodproofing the sprinkler valve room perimeter by placing permanent, deployable, or temporary mitigation measures (e.g., flood walls, sealing openings and or deployable protection measures like stop logs to prevent floodwater intrusion).
 - Installing pumps to prevent build-up of incidental leakage in a dry floodproofed sprinkler room.

Civil

No Civil related scope of work identified on Building 255 that is required by the sprinkler system at this point. The cost associated with the 6" backflow preventer is included in the fire protection work.

Electrical

Existing Conditions

Building 255 consists of a garage/storage area which also contains the electrical and sprinkler room, the work/spray room/storage area, and office/bathroom area. There are no relevant electrical as-built drawings that could be found. Inside the sprinkler room, there is a main fire alarm control/communicator panel, annunciator panel, communicator panel, and battery backup enclosure. The main fire alarm control/communicator panel is a Radionics panel maintained by AFA Protective Systems and the battery backup enclosure is Altronix. The fire alarm equipment seems to be in generally good condition. In this room there are some sprinkler switches and signaling devices that appear to be connected to the fire alarm system. Per visual inspection only, fire alarm system might be fed from panel LPA (208/120V) located in the work/storage area near column E-2/3, however, this would need to be field traced and verified during Stage 3. Per the panel schedule, circuit breaker #31 feeds "Fire Alarm Lt; S. Exit Lights.; Assembly Area Night Lights." so this most likely only feeds the lighting circuits but was the only circuit that mentioned fire alarm. None of the electrical panel directories seemed to indicate power supply for fire alarm control panel and there was no visible marking on fire panel indicating primary power feed location. The existing electrical equipment inside the Electrical/Communications Room is in very poor condition. This includes panels with covers removed, exposed wiring, and significantly aged. It is assumed that the fire alarm power is not fed from this equipment and therefore rehabilitation of existing equipment inside this room is not required. Battery backup power is provided for fire alarm panel. There was no smoke detector observed above fire alarm panel. There was a visible communicator panel seen near fire alarm panel, but it needs to be verified with AFA during Stage 3 if this communicates with central station. There was also a single ASCO break glass fire alarm box located outside of the electrical communications room. This appeared to be very aged and no longer in service. The electrical equipment in this room was also very degraded, missing covers, and in generally poor condition. There did not appear to be any initiating or notification devices installed in the building. There were devices mounted in the ceiling of the office areas which appeared to be occupancy sensors as opposed to smoke detectors. The area is sprinklered.

Assumptions

- The base building fire alarm system is operating normally, and the existing sequence of operations provides appropriate notification and signaling. This project scope only evaluates required additional or replacement signaling as per other discipline recommendations in this report. All new fire alarm related equipment added will require testing and verification by AFA and witness testing by QAD.
- Any existing sprinkler system devices not being replaced as per recommendations in this report shall be functionally tested against the requirements of NFPA 72 and transmit supervisory and alarm signals in compliance with NFPA 101. This should be verified with AFA.
- The existing fire alarm system, initiating devices, and notification devices outside the scope of this project meet the design criteria as per NFPA 72.
- The existing lighting system, including emergency, has not been evaluated as this is outside the project scope. Any lighting modifications pertain to Architectural recommendations for ceiling replacement in coordination with replacement of sprinkler piping system.
- The existing electrical distribution equipment in the building is outside the project scope requirements. Only condition of electrical equipment directly correlated with fire alarm system has been considered.
- No work is required inside the existing Electrical/Communications Room.

Evaluation

This area is split up into (3) unseparated mixed occupancies, which include B, F-1, and S-1 as per code analysis drawings in Appendix G. As per NFPA 101 section 6.1.14.3.2 the building shall comply with the most restrictive requirements of the occupancies involved. A fire alarm system is required as per NFPA 101 section 40.3.4.1 since there is more than 25 persons above or below the level of exit discharge. Therefore, since the area is sprinklered, as per NFPA 101 section 40.3.4.2(3) a minimum of one manual pull box needs to be installed and as per NFPA 72 section 17.15.9.4 a manual pull box should be installed at each exit doorway. The adequacy of the existing sprinkler coverage is as per the assessment of the Plumbing and Fire Protection section. There were no observed notification devices that appeared to be connected to the fire alarm system. As per NFPA 101 section 40.3.4.3 an occupant notification system must be installed, and it shall comply with NFPA 72 section 18 requirements. The existing power supply to the fire alarm control panel needs to be field verified and evaluated as to whether it meets appropriate criteria as per NFPA 72 section 10.6 during Stage 3. A smoke detector must be installed near the existing fire alarm control panel to meet criteria as per NFPA 72 section 10.4.5 and should be installed within 15 feet horizontally as per PANYNJ Electrical Design Guidelines. Confirm supervisory and alarm signal supervision complies with NFPA 101 section 9.7.2 for automatic sprinkler system.

Recommendations

It is recommended to replace all fire alarm I/O in kind that are affected by sprinkler system work as noted in Plumbing and Fire Protection recommendations. In addition to this, a manual pull box should be installed at every exit doorway to comply with NFPA 72 section 17.15.9.4. Horn/strobe devices should be installed throughout building to comply with NFPA 72 section 18 requirements. The power feed for the main fire alarm control/communicator panel needs to be field traced and verified during Stage 3. Confirm primary disconnecting means is compliant with NFPA 72 section 10.6. During Stage 3, verify with AFA whether existing main fire alarm control panel has sufficient spare I/O points for new devices or if an auxiliary panel needs to be added. Verify functionality of all new and existing initiating and notification devices related to fire protection system and update programming of fire alarm control panels accordingly. A smoke detector needs to be installed near existing fire alarm control panel as per NFPA 72 section 10.4.5 within 15 feet horizontally as per PANYNJ Electrical Design Guidelines. If current system does not communicate with central station, then signals must be sent to approved alarm receiving facility as per NFPA 101 9.7.2.2.1. As per Architecture recommendations for renovations of ceiling areas, lighting in all associated areas will need to be replaced with new. The power feed for the lighting should be traced and verified during Stage 3.

Environmental

Existing Conditions

An Environmental survey with sample collection and testing was completed on the sprinkler system and adjacent areas. The intent of this survey was to locate and identify all accessible Asbestos Containing Materials (ACM), Lead Paint, Polychlorinated Biphenyls (PCBs), and Universal Wastes that could be impacted by the renovation of the sprinkler system.

The following seventeen (17) homogeneous materials were inspected and sampled for ACM:

Table 38: ACM Testing Matrix

Suspect Material	Location
2' X 2' Ceiling Tile Type I	1 st Floor – Office by the Entrance
2' X 2' Ceiling Tile Type II	1 st Floor – Lunchroom
2' X 2' Ceiling Tile Type III	1 st Floor – Locker Room
Ceiling Blanket Insulation Backing	1 st Floor – Locker Room
Fiberglass Pipe Insulation Paper on Ceiling	1 st Floor – Office by the Entrance, Lunchroom & Locker Room
2' X 2' Ceiling Tile Type IV	1 st Floor – Storage Rooms
Fiberglass HVAC Duct Insulation Cover	1 st Floor – Office by the Entrance, Lunchroom & Locker Room

CMU Wall Mortar	1 st Floor – Office by the Entrance, Lunchroom & Locker Room
Gypsum Board Paper on Wall	1 st Floor – Office by the Entrance, Lunchroom & Locker Room
Gypsum Board on Wall	1 st Floor – Office by the Entrance, Lunchroom & Locker Room
Joint Compound on Wall	1 st Floor – Office by the Entrance, Lunchroom & Locker Room
Fiberglass HVAC Duct Insulation 2 nd Layer	1 st Floor – Office by the Entrance, Lunchroom & Locker Room
2' X 2' Ceiling Tile Type V	Printer Room
Fiberglass Insulation Cover (3" & 4" Pipes)	Sprinkler Room
Mudded Fitting Insulation 3" Pipe	Sprinkler Room
CMU Wall Mortar	Sprinkler Room
2' X 2' Ceiling Tile Type VI	Main Lobby

Based upon visual inspection and analytical results of bulk samples collected, none of the materials is asbestos-containing (> 1%):

Assumptions

Gaskets inside the sprinkler pipes could not be tested but are assumed to be asbestos containing. A total of 15 gaskets are assumed to be asbestos containing.

The existing sprinkler system pipes are painted. The paint was not tested but is assumed to be lead-containing.

Recommendations

The assumed 15 asbestos gaskets will require abatement/removal with the sprinkler system renovation.

The assumed lead paint on the sprinkler system does not have to be completely abated/removed, but an estimated 10% of the paint on the sprinkler system will be impacted, and thus will require incidental abatement/removal. The 10% of the existing sprinkler system to be impacted is estimated to be 101 linear feet.

Mechanical

Existing Conditions

Building 255 consists of office spaces, building areas for fabricating signs, spray finishing application, garage space, bathroom, male lockers, and a lunchroom. The HVAC system is comprised of one (1) rooftop air conditioning unit, two (2) un-operational rooftop gas-fired make-up air units, twelve (12) exhaust fans, ten (10) ceiling mounted unit heaters and one (1) air intake hood. Painting, assembly, carpentry sign shop and vehicle garage areas are interconnected spaces. RTU-1 serves the existing offices and lounge areas through the existing supply air distribution ductwork. Existing offices along the Southeast and Southwest perimeter are provided with supply air distribution system through a 24"x14" ductwork. Fire sprinkler valve room is located inside the building.

Assumptions

- RTU provides the required minimum outdoor ventilation airflow rates and adequate supply airflow for the heating and cooling of the building spaces served the supply air distribution system.

Evaluation

The fire valve room is provided with adequate heating. Existing 5.5 kW electric unit heater provides adequate heating to the valve room and maintains the space temperature above the 40°F as per NFPA 13 Chapter 16.4.1.3 requirement. Building spaces are maintained at 75 °F. Additional heating for the valve room is not required.

In the offices, bathroom, and the lunchroom, there are supply air diffusers and return air registers. There are ten (10) supply air diffusers and eight (8) return air registers that require removal due to the removal of the suspended ceiling system. Existing supply air diffusers and exhaust air registers obstruct the sprinkler piping replacement work.

There are three (3) spray finishing booth spaces in the Work/Storage area at the south end of the building between columns C&D. The booths are intermittently used, and the frequency of spray operation is not a continuous application. There are three (3) exhaust fans serving the spraying booths and the Work Area/Storage space. The EF-3, EF-4 and EF-5 serve the spraying booths directly through existing exhaust hoods located above the booths and have airflow capacities of 2,300 CFM, 3,700 CFM and 3,000 CFM, respectively. As per NJ IMC Section 502.7.2 and IFC Section 2404.9.1, the positive ventilation systems serving the "Limited Spraying Spaces" shall be at a minimum of six (6) complete air changes per hour (ACH). The EF-3, EF-4 and EF-5 provide a total of 9,000 CFM and with 25 FT. interior space height, this corresponds to eleven (11) ACH, which is greater than the code required six (6) ACH.

Recommendations

Remove and replace existing supply air diffusers and return air registers in spaces including manager's office, secretary office, lunchroom, bathroom, and locker area.

- Perform air quantity readings from the RTU serving the 1st floor spaces and its existing supply air distribution and return air ductwork prior to removal of air inlets and outlets.
- Testing, adjusting, and balancing for new air inlets and outlets will be required.

Plumbing and Fire Protection

Existing Conditions

Building 255, built in 1974, is 1 story building with approximately 16,848 sq. ft. The building has 6" incoming fire service which enters in the building on the northeast end into the sprinkler room with access to the room from the garage area. The building is protected by wet sprinkler system in a tree system configuration layout. The building is fully sprinklered and the sprinkler system has reached the end of its useful life.

Assumptions

Based on the current condition of the building, the sprinkler system is very old and is beyond its useful life.

Evaluation

The existing sprinkler system and sprinkler heads appear to be original to the building. The 6" Star Sprinkler Corp. alarm looks to be in good condition however, due to its age and it is no longer manufactured it should be replaced.

Recommendations

The sprinkler heads, piping, related valves, and fire alarm devices have reached the end of their useful life and will require replacement. Replace the sprinkler heads, piping, related valves, 6" OS&Y valve, check valves, 6" alarm valve, water flow indicator, tamper switch, and fire alarm panel. Install a new 6" backflow preventer.

Structural

Existing Conditions

For Building 225, the structural task lead performed a review over the as-built drawings, the latest Port Authority Quality Assurance Division condition inspection report (P05-925.111, March 2014) and field photos of other disciplines to determine the condition of the fire sprinkler system vertical hangers, seismic braces, and roof framing that the sprinkler pipes are attached to. Building 255 is a single-story, flat roof building consisting of steel framing that supports bar joist. The fire sprinkler system spans between the bar joist and is supported off from the top flange

of each bar joist (spacing unknown) with c-clamps, threaded rods, and swivel rings. The main line is not supported by seismic braces.

Assumptions

The following are the assumptions used to develop the structural cost estimate:

- The linear feet of main and branch fire sprinkler pipe installation provided in the cost estimate by the Plumbing and Fire Protection group will be used in the structural estimate to quantify the vertical hangers and seismic bracing removal and installation.
- The Plumbing and Fire Protection group linear feet of main and branch fire sprinkler pipe removal and installation assumes that all sprinkler pipes in each building need to be replaced. This means that the quantity of vertical hangers and seismic bracing provided by the Structural group are based on worst case conditions.
- The structural estimate assumes a production rate of 6 vertical hanger or seismic brace removal or installation per hour. The estimate also assumes that the tenant will assist in relocation of their merchandise to accommodate contractors' access to roof section where vertical hangers and seismic braces need to be removed or installed.

Evaluation

- Structural task leader reviewed available field photos of the existing vertical hanger and seismic braces to evaluate their conditions and reviewed the Quality Assurance Division condition survey reports for any structural roof priority repairs that might affect the sprinkler pipes attachment to the roof structure.
- Available field photos and Quality Assurance Division condition survey reports review showed no significant structural issues that would compromise the feasibility of the sprinkler system attachment to the roof member.
- Scope of the structural evaluation was limited to the existing roof members, and their availability of supporting the additional load from the proposed sprinkler system.

Recommendations

- Replace all vertical hangers in kind, as directed by the Plumbing and Fire Protection group. Install seismic braces for main pipe (diameters equal to or greater than 3 inches in diameter).
- No structural as-built drawings were found in stage 1 review; additional Stage 3 research of available data and / or site survey will be required to determine existing structural member sizes and layout. This will require a scissor lift.
- Site specific structural analysis will be required on Stage 3 design, based on the final sprinkler layout.

BUILDING 260**Architecture**Existing Conditions

Building 260 is located on Kellogg Street at the intersection of Kellogg and Corbin Streets. The building is a multifunction facility used as the Administration Building for the Port Authority's New Jersey Marine Terminals, offices for the Port Authority Police and a maintenance shop for Port Authority vehicles. For Building 260, the architectural team conducted a walkthrough visual field survey of the building interior to verify the layout of existing building spaces. Subsequently, a review of the provided Port Authority Quality Assurance Building Condition Inspection Report was undertaken. The building consists of three-story office and a double height garage. Its structure consists of steel girders and open web joists supported by steel columns. The roof deck consists of a flat insulated gypsum panel system. The office building's exterior wall system is brick and concrete, and the garage is a reinforced translucent panel system that extends to the roof line with roll-up overhead doors at the long side elevations. The facility has concrete floors throughout with carpet and tile finishes in the offices and restroom areas. The office area measures 129 ft by 46 ft and is approximately 36 ft. tall. The double-height garage has a rectangular footprint of 121 ft. wide by 216 ft. long and is approximately 24 ft. tall. There is approximately 50,000 SF of floor space throughout the structure.

The garage includes an approximately 40 ft deep open mezzanine used for storage along the entire length of its east side. Beneath the mezzanine are enclosed rooms used as breakrooms or storage. Several of these storage spaces were not entered. At the south side of the garage area is an enclosed two bay garage with two roll up doors for direct access to the exterior. The space, which is open to the garage roof structure has full height masonry walls and two storage lofts. The west storage loft is over ground level storage and break rooms accessed from the garage while the east storage loft is over a shed built with wood partitions and access stairs. There are also office and support spaces built under the roof of the garage space. This includes a modular two-level office structure at the northwest corner and a one level office suite just to the south. Both spaces have suspended 2' x 2' ceilings and partial height gypsum board partitions. Directly east of the one-story office suite is a large open space with full height gypsum board partitions. The space, which is open to the garage roof structure above, appears to be used as a break room and locker area. The sprinkler room and electrical room are in a suite of rooms accessed from the exterior. These are primarily concrete the same space at the southwest corner of the building.

The building's entrance lobby is within the footprint of the three-story office space at its west side. An egress stair and two elevators open onto the lobby and a conference room, a suite of offices and a toilet room are accessed from this area. The office spaces are primarily gypsum board partitions with 2' x 2' suspended ceilings. The men's restrooms and lockers and women's restrooms are also within the footprint of the three-story space but are accessed through the garage. The women's locker room is in the space of the garage. The restrooms are a mix of CMU walls and partitions with gypsum board and tile finishes. There are 2' x 2' suspended ceilings throughout these spaces except for the women's toilet room which has gypsum board ceilings.

The second and third floor office spaces include a mix of offices at the perimeter with open seating areas furnished with modular office furniture partitions. Meeting rooms, restrooms and office pantries are located on each floor. A secondary egress stair is located at the southeast corner of the office space. Both levels appear to have been recently renovated and contain gypsum board partitions throughout with 2' x 2' suspended ceilings. The second floor contains a data room with a clean agent suppression system.

Reference the code analysis drawings in Appendix G for information related to the building occupancy classification, construction type and fire resistance ratings.

Assumptions

- Although a comprehensive condition survey was not performed, existing conditions visually identified from the building interior which appeared to compromise the ability of the exterior envelope to maintain a habitable interior environment are noted in the evaluation section. The building envelope should be maintained, repaired, or upgraded as required to maintain an interior environment which sustains the long-term operational state of fire protection equipment. This includes prevention from premature corrosion or damage to systems from flooding events.
- It should be noted that Building 260 is a part of an ongoing NJMT Roofs Rehabilitation Stage 1 project. The results of that study should be referenced for pertinent repair items regarding the facility's roof. Note that the Roofs study did not evaluate the integrity of the building envelope.
- In accordance with the flood protection elevation determinations by the Port Authority and the designation of the fire protection valves as critical infrastructure one or a combination of the options indicated in the current Port Authority Climate Resilience Design Guidelines are recommended.
- Quantities of hazardous materials are within the prescribed NJ Building Code limits and stored in appropriate containers.
- We presume that wood framed structures, where they exist in non-bearing partition walls, are permitted by the current codes in buildings of Type IIB construction when materials are fire retardant treated. A review of these interior constructions should be undertaken in future stages to verify their continued use.

Evaluation

No significant architectural issues were noted during the field survey that would compromise the interior environment or sprinkler system operation. Replacement of the sprinkler system in garage and adjacent support spaces as indicated by the Plumbing and Fire Protection design will require replacement of suspended ceiling systems as indicated in recommendations.

The field survey indicated several unsealed penetrations in the interior perimeter wall of the second-floor data room. These were visible above the suspended ceiling system in areas where acoustic tiles had been removed. The clean agent suppression system in this space requires construction features which control the dissipation of the fire suppression agent in an event. This is achieved using joint and penetration sealants at walls, floors, and doors as required. Reference standards include applicable versions of NFPA 75 - Standard for the Fire Protection of Information Technology Equipment and NFPA 2001 (Chapter 6 Construction Requirements) - Standard on Clean Agent Fire Extinguishing Systems (Annex C - Enclosure Integrity Procedure).

Recommendations

- To accommodate fire protection system upgrades, remove and replace suspended ceiling systems at first floor toilet rooms, locker rooms, low roof offices constructed in the garage area, two rooms beneath storage mezzanine, and locker/breakroom adjacent to auto repair space.
 - Remove suspended ceiling systems and gypsum ceilings.
 - Provide suspended ceiling system and 2' x 2' acoustical ceiling tiles:
 - Vinyl coated and scrubbable acoustical lay in panels in the toilet rooms and showers.
 - Standard acoustical lay in panels elsewhere.
 - Provide suspended glass mat faced gypsum board ceiling in women's locker and men's showers.
- Ensure data room construction meets construction requirements for installed clean agent suppression system

- 1)At the second-floor data room, inspect the interior perimeter walls from floor to ceiling for unsealed openings. Inspection should include walls above any suspended ceilings. Seal existing penetrations with a listed fire-stop system rated for a minimum of one hour. Assume 10 locations require wall firestopping application.
- At the second-floor data room, inspect the interior floor and ceilings for unsealed openings. Seal existing penetrations with a listed fire-stop system rated for a minimum of one hour. Assume 10 locations require wall firestopping application.
- Perform a 'Room Integrity Test' in accordance with NFPA 2001 to ensure room containment meets requirements for effective operation of suppression system.
- Furnish and install 2' x 2' ceiling tile replacement due to sprinkler heads replacement in office areas on first, second and third floor.
- Patch and repair wall at new fire department connection in brick with block backup wall.
- Recommended repair work not under the scope of the Rehabilitation of Fire Protection Systems project includes the following:
 - Roof repair recommendations as part of NJMT Roofs Rehabilitation project.
 - In accordance with the flood protection elevation determinations and the designation of the fire protection valves as critical infrastructure one or a combination of the following options as indicated in the current Climate Resilience Design Guidelines are recommended:
 - Elevation of fire protection valves and other relevant critical infrastructure above the DFE
 - Dry floodproofing the sprinkler valve room perimeter by placing permanent, deployable, or temporary mitigation measures (e.g., flood walls, sealing openings and or deployable protection measures like stop logs to prevent floodwater intrusion).
 - Installing pumps to prevent build-up of incidental leakage in a dry floodproofed sprinkler room.

Civil

No Civil related scope of work identified on Building 260 that is required by the sprinkler system at this point. The cost associated with the 6" backflow preventer is included in the fire protection work.

Electrical

Existing Conditions

Building 260 consists of a three-story office and double height warehouse garage and within the garage area are breakrooms and storage areas. There most recent and relevant electrical as-built drawing is PN-FC-065 dated 2003 which just pertains to female restroom area, however, there is a note in the drawing that states to connect fire alarm devices to existing fire alarm system which is Pyrotronics Co. System. This does not seem to reflect the current configuration as observed during the field visit. The existing electrical room is entered through the sprinkler room area which is accessed through the building exterior. Outside the sprinkler room there is a Star Sprinkler Corp. sprinkler alarm bell installed and in between the sprinkler room and the stairway entrance there is a break glass pull station installed. The sprinkler alarm bell appears to have a significant crack in the housing and the pull station shows signs of corrosion, so it's unverified if these are still in use. Inside the sprinkler room there is a pull station installed at the doorway along with an ASCO break glass station on the opposite wall. The ASCO switch is most likely no longer in use, but this should be verified. There were also many sprinkler switches and signaling devices which appeared to be connected to the fire alarm system. Inside the electrical room in the back of the sprinkler room, there is a main fire alarm control panel, communicator panel, power supply cabinet, battery backup enclosure, an enclosure labeled "Keltron relay" and what appear to be some Notifier modules. The main fire alarm control panel is a Notifier NFS-320 and the communicator panel is a HWF2V-COM all manufactured by Honeywell. Communicator

panel is labeled stating "call central alarm before shutdowns" so this appears to communicate with central station but should be verified with AFA during Stage 3. Next to these fire alarm panels are electrical panels LPHX and LPLX. Panel LPHX is a 480/277V, 3-phase, 100A panel and panel LPLX is a 240/120v, 1-phase, 100A panel. Fire alarm panel is fed from panel LPLX circuit #4 based on panel schedule. There was no marking/label on control panel indicating source of primary power. There is a smoke detector installed in the electrical room.

Inside the 1st floor office area there is a remote fire alarm annunciator panel near the building entrance (Notifier by Honeywell), smoke detectors located above both elevator entrances, a pull box with horn/strobe device located near first elevator unit, along with several other horn/strobe devices located throughout the area. In the 1st floor warehouse garage area, there is a two-story office space. Running alongside this office space is ductwork where a red device was seen installed. It is unverified whether this was a horn/strobe, duct detector, or some other device during the site visit. There was an AFA Protective Systems enclosure affixed to the exterior of this office building, however, there is no visible conduit connection, so it is assumed that this is not connected to the fire alarm system (should verify during Stage 3). Walking through spaces such as the restroom area there appeared to be several horn/strobe devices installed. Most areas on the 1st floor had strobe device installed in nearby location (some horn/strobe). All the exit doorways in the maintenance garage area appeared to have horn/strobe device and manual pull box installed. The exit doorway near column 3-D did not have a pull station box installed. No manual pull boxes were installed in any of the rooms on the 1st floor east side of the building (shops/break rooms), however, there were horn/strobe devices installed at each of the room entrances from the maintenance garage. There is also a bell near the stairway to the mezzanine area on the east side of the building, but it is not believed this is connected to the fire alarm system. There were no fire alarm devices seen on the mezzanine.

The 2nd floor office area has a pull station and horn/strobe near the stairwell doorway, a smoke detector above the elevator entrance (which appears to provide adequate coverage to nearby clean agent panel), along with some other horn/strobe devices scattered throughout the floor. There is also an Aegis 2.0 Clean Agent control panel, dedicated clean agent strobe/horn alarm, Notifier module, L.E.D. model TA-123PP purge indicator panel, and maintenance switch located in the hallway area. Battery backup for the Aegis panel and communication with central station would need to be confirmed with Kistler Obrien Fire Protection (tag on panel so this is the assumed maintainer for this system). Inside the fire suppression system room, there is a Kidde FM-200 pull station box with dedicated horn/strobe alarm, system abort button with dedicated bell/strobe alarm, and fire alarm horn/strobe alarm. In the corner of this room there are (2) Kidde clean cylindrical agent storage containers with HFC-227ea agent. Mounted on the ceiling above the data/communication cabinets there are (2) fire alarm smoke detectors and a golden nozzle to disperse clean agent solution.

The 3rd floor office area has a pull station and horn/strobe near the stairwell doorway, a smoke detector above the elevator entrance, along with some other horn/strobe devices scattered throughout the floor. In the break room/kitchen area on this floor a device which appeared to be a smoke detector was observed. All areas were sprinklered.

Assumptions

- The base building fire alarm system is operating normally, and the existing sequence of operations provides appropriate notification and signaling. This project scope only evaluates required additional or replacement signaling as per other discipline recommendations in this report. All new fire alarm related equipment added will require testing and verification by AFA and witness testing by QAD.
- Any existing sprinkler system devices not being replaced as per recommendations in this report shall be functionally tested against the requirements of NFPA 72 and transmit supervisory and alarm signals in compliance with NFPA 101. This should be verified with AFA.
- The existing fire alarm system, initiating devices, and notification devices outside the scope of this project meet the design criteria as per NFPA 72.

- The existing lighting system, including emergency, has not been evaluated as this is outside the project scope. Any lighting modifications pertain to Architectural recommendations for ceiling replacement in coordination with replacement of sprinkler piping system.
- The existing electrical distribution equipment in the building is outside the project scope requirements. Only condition of electrical equipment directly correlated with fire alarm system has been considered.

Evaluation

This area is split up into (3) unseparated mixed occupancies, which include B, F-1, and S-1 as per code analysis drawings in Appendix G. As per NFPA 101 section 6.1.14.3.2 the building shall comply with the most restrictive requirements of the occupancies involved. A fire alarm system is required as per NFPA 101 section 39.3.4.1(1) since the building is three or more stories in height. Therefore, since the area is sprinklered, as per NFPA 101 section 39.3.4.2(3) not less than one manual fire alarm pull box shall be installed and as per NFPA 72 section 17.15.9.4 a manual pull box shall be installed at each exit doorway. Not all exit areas were seen during the site visit but of the ones observed only (1) on the 1st floor near column D-3 was observed to be missing a manual pull station. The adequacy of the existing sprinkler coverage is as per the assessment of the Plumbing and Fire Protection section. As per NFPA 101 section 39.3.4.3 an occupant notification system must be installed, and it shall comply with NFPA 72 section 18 requirements. There are several horn/strobe devices installed throughout all floors and areas of the building. It cannot be determined without further discussion with the fire alarm maintainer, AFA, whether the currently installed system also provides a positive alarm sequence, pre-signal system, or voice communication/public address system. The fire alarm control panel should be marked/labeled with primary power location as per NFPA 72 section 10.6.

Recommendations

It is recommended to replace all fire alarm I/O in kind that are affected by sprinkler system work as noted in Plumbing and Fire Protection recommendations. In addition to this, a manual pull box should be installed at exit doorway near column D-3 and any other exit doorways missing a manual pull station to comply with NFPA 72 section 17.15.9.4. Audible and visual coverage seems adequate but need to verify with fire alarm maintainer whether a positive alarm sequence, pre-signal system, or voice communication/public address system is installed as per NFPA 101 section 39.3.4.3. The primary power source should be labeled on fire alarm control panel in sprinkler valve room. During Stage 3, the power feed for the clean agent system on the 2nd floor should also be field traced and verified, however, it is believed this is connected to panel LPLX circuit #1 based on panel schedule. During Stage 3, verify with AFA whether existing main fire alarm control panel has sufficient spare I/O points for new devices or if an auxiliary panel needs to be added. Verify functionality of all new and existing initiating and notification devices related to fire protection system and update programming of fire alarm control panels accordingly. As per Architecture recommendations for renovations of ceiling areas, lighting in all associated areas will need to be replaced with new. The power feed for the lighting should be traced and verified during Stage 3.

Environmental

Existing Conditions

An Environmental survey with sample collection and testing was completed on the sprinkler system and adjacent areas. The intent of this survey was to locate and identify all accessible Asbestos Containing Materials (ACM), Lead Paint, Polychlorinated Biphenyls (PCBs), and Universal Wastes that could be impacted by the renovation of the sprinkler system.

The following five (39) homogeneous materials were inspected and sampled for ACM:

Table 39: ACM Testing Matrix

Suspect Material	Location
CMU Wall Mortar	1 st Floor – Sprinkler Room, Hallway, Warehouse
Cementitious Plaster	1 st Floor – Sprinkler Room
2' X 2' Ceiling Tile Type I	1 st Floor – Lobby, Lunchroom, South Offices
Spray-on Fire Proofing on Ceiling Deck Metal Beams	1 st Floor – Lobby, Lunchroom, South Offices, Men's Locker Room
2' X 4' Ceiling Tile Type II	1 st Floor – Men's Locker Room, Entrance from Lunchroom
2' X 4' Ceiling Tile Type III	1 st Floor – Hallway Men's Room
Spray-on Fire Proofing on Ceiling Deck & Metal Beams	1 st Floor Warehouse – East Offices
Gypsum Board Paper - Wall	1 st Floor Warehouse – East Offices
Gypsum Board - Wall	1 st Floor Warehouse – East Offices
Joint Compound on Gypsum Board Wall	1 st Floor Warehouse – East Offices
HVAC Duct Insulation	1 st Floor Warehouse – East Offices by Main entrance Door, Hallway Restroom
Gypsum Board Paper - Ceiling	1 st Floor - U.S.M. Shop
Gypsum Board - Ceiling	1 st Floor - U.S.M. Shop
Joint Compound on Gypsum Board Ceiling	1 st Floor - U.S.M. Shop
HVAC Duct Insulation Cover Beige	1 st Floor - Warehouse East Office Mezzanine
Fiberglass Ceiling Insulation Blanket	First Floor - Entry Room by U.S.M. Shop
Fiberglass Insulation Metal Jacket Covering	1 st Floor - Locker Room
Mudded Joint Packing Pipe Fitting Insulation associated with Fiberglass Pipe Insulation	1 st Floor - Locker Room
2' X 2' Ceiling Tile Paper	1 st Floor - Hallway Restroom Ceiling
2' X 2' Ceiling Tile Type I	1 st Floor - Lunch Room
HVAC Duct Insulation Cover	1 st Floor - Lunch Room
CMU Wall Mortar	1 st Floor – Electric Shop, Carpenter Shop & Plumbing Shop
2' X 2' Ceiling Tile	2 nd Floor – Office Space
Gypsum Board Paper - Wall	2 nd Floor – Office Space
Gypsum Board - Wall	2 nd Floor – Office Space
Joint Compound on Gypsum Board Wall	2 nd Floor – Office Space
HVAC Duct Insulation Cover	2 nd Floor – Office Space
Spray-on Fire Proofing on Ceiling Deck Metal Beams	2 nd Floor – Office Space
Fire Stop Sealant - Red	2 nd Floor – Office Space @ Deck Level
2' X 2' Ceiling Tile Type II	2 nd Floor – Slope Sink
2' X 2' Ceiling Tile Type I	3 rd Floor – Office Space
HVAC Duct Insulation Cover	3 rd Floor – Office Space
Gypsum Board Paper - Wall	3 rd Floor – Office Space
Gypsum Board - Wall	3 rd Floor – Office Space
Joint Compound on Gypsum Board Wall	3 rd Floor – Office Space
Spray-on Fire Proofing on Ceiling Deck Metal Beams	3 rd Floor – Office Space
Gypsum Board Paper - Ceiling	3 rd Floor –East & West Side Staircases
Gypsum Board - Ceiling	3 rd Floor –East & West Side Staircases
Joint Compound on Gypsum Board Ceiling	3 rd Floor –East & West Side Staircases

Based upon visual inspection and analytical results of bulk samples collected, the following materials are asbestos-containing (> 1%):

Table 40: ACM Schedule

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
56-58	Mudded Joint Packing Pipe Fitting Insulation associated with Fiberglass Pipe Insulation	10% Chrysotile	6 L.F. (See Note 1)	ACM001

Assumptions

- Gaskets inside the sprinkler pipes could not be tested but are assumed to be asbestos containing. A total of 25 gaskets are assumed to be asbestos containing.
- The existing sprinkler system pipes are painted. The paint was not tested but is assumed to be lead-containing.

Recommendations

The confirmed asbestos materials shall be abated as part of the sprinkler system renovation.

The assumed 25 asbestos gaskets will require abatement/removal with the sprinkler system renovation.

The assumed lead paint on the sprinkler system does not have to be completely abated/removed, but an estimated 10% of the paint on the sprinkler system will be impacted, and thus will require incidental abatement/removal. The 10% of the existing sprinkler system to be impacted is estimated to be 407 linear feet.

Mechanical

Existing Conditions

Building 260 consists of administrative office spaces, bathroom and locker rooms, and maintenance garage area. The HVAC system consist of three (3) packaged rooftop AC units, fifteen (15) exhaust fans, sixteen (16) gas-fired indirect unit heaters, and six (6) mini-split air-cooled condensing units. The building 260 Administrative office areas consist of offices, conference and break rooms, and bathrooms. The 1st floor areas include office spaces, bathrooms men's locker rooms and the garage area. The offices and lockers areas in the 1st floor areas are served by the existing rooftop AC unit (RTU-3) located on the roof. The 1st floor women's lockers, corridor and bathroom areas are interconnected in a single zone and served by return air register and supply air diffusers located in the bathroom. The 1st floor maintenance garage has two modular offices. The supervisor modular office is served by a make-up unit air. The second modular office space is used as offices and conference room and served by window type AC units. There are also two storage lofts, west and east storage lofts. The East storage loft is in the MES/welding shop.

Assumptions

- HVAC equipment and supply air ductwork serving the 1st floor areas do not require modifications or upgrade.

Evaluation

The fire valve room is provided with adequate heating. Existing 5.0 kW electric unit heater provides adequate heating to the valve room and maintains the space temperature above the 40°F as per NFPA 13 Chapter 16.4.1.3 requirement. This heating output is sufficient given that the heating load for this space is 13,934 BTU/hr. or approximately 4.1 kW. Building spaces are provided with adequate heating for the fire sprinkler piping. No additional

heating is required since the building indoor temperature is maintained above the minimum required 40°F as per NFPA 13 Chapter 16.4.1.3.

Garage spaces do not have visible HVAC equipment obstruction for the replacement of fire sprinkler piping work. In the 1st floor toilet and lockers and offices areas, there are supply air diffusers and return air registers that obstruct the sprinkler replacement work and require removal. The 1st floor women's lockers, corridor and bathroom areas are interconnected spaces as single zone and served by return air register and supply air diffusers located in the bathroom.

Recommendations

Remove and replace existing supply air diffusers and return air registers in the 1st floor restrooms, locker rooms and office areas. Install new supply air diffusers and return registers.

- It will be required to perform air quantity readings from the existing supply air distribution, return air ductwork and air inlets and outlets serving the 1st floor areas.
- Testing, adjusting, and balancing of new air inlets and outlets will be required.

Plumbing and Fire Protection

Existing Conditions

Building 260 is a three (3) story office with a one (1) story shop/garage section in the back. The office space has an approximate area of 5,520 sq. ft. per floor with a total of 16,560 sq. ft. for all three (3) floors. The shop has an approximate area of 26,262 sq. ft. with the total building area of 42,822 sq. ft. The 6" incoming fire service enter the building

Assumptions

Based on the current condition of the building, the sprinkler system in the shop/ garage section is very old and is beyond its useful life. The sprinkler system in the 3-story office area is in good condition.

Evaluation

The evaluation includes the system effectiveness and reliability and reduce the operation and maintenance cost. The building sprinkler system is approximately 32 years old, however, sprinklers that have been in service for several years should not be expected to have all the performance qualities of a new sprinkler.

Recommendations

Replace the sprinkler heads and related sprinkler and standpipe piping system in the Maintenance garage area and adjacent offices and toilets/ locker space at the north section of Bldg. 260, 6" OS&Y and check valves, 6" alarm valve and tamper switches, and water flow indicator. The sprinkler system serving the first, second, and third floor office space at the south section of Bldg. 260 is existing to remain. Install a new 6" backflow preventer.

Structural

Existing Conditions

For Building 260, the structural task lead performed a review over the as-built drawings, the latest Port Authority Quality Assurance Inspection condition inspection report (P05-925.111, March 2014) and field photos of other disciplines to determine the condition of the fire sprinkler system vertical hangers, seismic braces, and roof framing that the sprinkler pipes are attached to. Building 260 has a flat roof, three story office building and a flat roof, one-story garage shop. The office building consists of cast-in-place concrete floors supported on metal decks that spans between steel framings. The roof structure is metal decking supported on steel bar joist. The fire sprinkler system

either supported from of the concrete slab (spacing unknown) with anchor, threaded rods and swivel rings or spans between the steel bar joists and is supported off each bar joist (spacing unknown) with c-clamps, threaded rods, and swivel rings. The main line is not supported by seismic braces.

Assumptions

The following are the assumptions used to develop the structural cost estimate:

- The linear feet of main and branch fire sprinkler pipe installation provided in the cost estimate by the Plumbing and Fire Protection group will be used in the structural estimate to quantify the vertical hangers and seismic bracing removal and installation.
- The Plumbing and Fire Protection group linear feet of main and branch fire sprinkler pipe removal and installation assumes that all sprinkler pipes in each building need to be replaced. This means that the quantity of vertical hangers and seismic bracing provided by the Structural group are based on worst case conditions.
- The structural estimate assumes a production rate of 6 vertical hanger or seismic brace removal or installation per hour. The estimate also assumes that the tenant will assist in relocation of their merchandise to accommodate contractors' access to roof section where vertical hangers and seismic braces need to be removed or installed.

Evaluation

- Structural task leader reviewed available field photos of the existing vertical hanger and seismic braces to evaluate their conditions and reviewed the Quality Assurance Division condition survey reports for any structural roof priority repairs that might affect the sprinkler pipes attachment to the roof structure.
- Available field photos and Quality Assurance Division condition survey reports review showed no significant structural issues that would compromise the feasibility of the sprinkler system attachment to the roof member.
- Scope of the structural evaluation was limited to the existing roof members, and their availability of supporting the additional load from the proposed sprinkler system.

Recommendations

- Replace all vertical hangers in kind, as directed by the Plumbing and Fire Protection group. Install seismic braces for main pipe (diameters equal to or greater than 3 inches in diameter).
- No structural as-built drawings were found in stage 1 review; additional Stage 3 research of available data and / or site survey will be required to determine existing structural member sizes and layout. This will require a scissor lift.
- Site specific structural analysis will be required on Stage 3 design, based on the final sprinkler layout.

BUILDING 263

Architecture

Existing Conditions

Building 263 is a warehouse structure located at the intersection of Distribution and Marlin Streets. For Building 263, the architectural team conducted a walkthrough visual field survey of the building interior to verify the layout of existing building spaces. Subsequently, a review of the provided Port Authority Quality Assurance Building Condition Inspection Report was undertaken. Building 263 is a single-story steel frame warehouse which measures approximately 161 ft by 634 ft for a total of approximately 104,000 SF. The framing consists of steel girders which support steel roof purlins which support the corrugated metal roof decking. The building's height varies from approximately a minimum of 26 ft at the north and south sides to 40 ft at the ridge. The side and end walls consist of a concrete knee foundation wall at the base with corrugated metal siding above supported by metal girts. A concrete masonry fire wall divides the building into west and east portions (Area 1 and Area 2). There are roll-up doors around the perimeter with truck loading dock along the north side of the building. The floor appears to be bituminous concrete throughout most of the structure.

The west side of the warehouse (Area 1) is separated into three areas by full height corrugated metal partitions. The northwest quadrant of Area 1 has an office suite constructed within the space that totals approximately 5,000 SF. We presume from earlier information if this is a wood framed structure which may be permitted in certain circumstances in Type IIB buildings and will remain. Partial height gypsum board partitions support the office area's suspended gypsum and acoustical ceiling systems beneath the warehouse roof. The top of the office suite is accessed by a stair and has an exposed wood framed mezzanine floor/ceiling. Duct runs and sprinkler piping servicing the office suite are visible from this mezzanine level. The southeast quadrant of Area 1 contains a small toilet room with partial height CMU walls and a trailer office structure. The CMU walls at the toilet support a concrete plank roof/ceiling and the trailer office has a suspended ceiling. Neither of these spaces appear to be sprinklered. The balance of the space contains several storage racks and a storage trailer and appears to be in use as a garage. The east side of Area 1 contains a partial height CMU bathroom block and a fenced storage area. The top of the CMU walls and concrete plank roof/ceiling of the Area 1 sprinkler room are also visible from this space. The sprinkler room is accessed from the exterior and sits at grade approximately 4 feet below the level of the warehouse space. There are four vents located in the Area 1 roof visible from the north quadrant.

The east side of the building (Area 2) is undivided space which connects to the west side via two large rolling shutters and a man door. There is a CMU bathroom block with concrete plank ceiling/roof and a sprinkler room like that described above. Area 2 also connects to an adjacent building via a connector structure accessed thru a rollup door at the southwest corner. The space contains a draft curtain and four roof vents.

Reference the code analysis drawings in Appendix G for information related to the building occupancy classification, construction type and fire resistance ratings.

Assumptions

- Although a comprehensive condition survey was not performed, existing conditions visually identified from the building interior which appeared to compromise the ability of the exterior envelope to maintain a habitable interior environment are noted in the evaluation section. The building envelope should be maintained, repaired, or upgraded as required to maintain an interior environment which sustains the long-term operational state of fire protection equipment. This includes prevention from premature corrosion or damage to systems from flooding events.

- In accordance with the flood protection elevation determinations by the Port Authority and the designation of the fire protection valves as critical infrastructure one or a combination of the options indicated in the current Port Authority Climate Resilience Design Guidelines are recommended.
- We presume that wood framed structures, where they exist in non-bearing partition walls, are permitted by the current codes in buildings of Type IIB construction when materials are fire retardant treated. A review of these interior constructions should be undertaken in future stages to verify their continued use.

Evaluation

Visible deterioration to the building envelope was noted during the walkthrough. Examples observed in the warehouse interior include multiple small penetrations and impact damage in the corrugated metal exterior wall panels. At the sprinkler room, the exterior metal door shows signs of deterioration including rust at its bottom and edges. The continued deterioration of the existing exterior envelope could compromise the interior environment and long-term life expectancies of new and existing equipment and utilities.

The design team has proposed that the sprinkler piping above the offices in the northeast is accessible from the partial mezzanine/low roof area above and sprinkler system replacement therefore does not require removal of suspended ceilings in the offices located at northwest.

Where Building 263 connects to an adjacent structure via an opening in its south wall a rated separation is required as indicated in recommendations and the code analysis in Appendix G.

It should be noted that wood constructions such as storage lofts or partition walls should be of fire retardant treated materials in accordance with the designated non-combustible construction type. The office suite in the northeast corner of the building has wood roof/ceiling construction which should be investigated to determine if it is constructed from fire retardant treated material.

Recommendations

- Provide replacement exterior doors and frame at sprinkler rooms:
 - At two locations, provide exterior insulated hollow metal doors and frames with associated hardware and labeling indicating sprinkler valve room.
- Provide replacement insulation at exterior wall of sprinkler rooms:
 - At two locations, remove existing damaged insulation at interior side of sprinkler room exterior wall and replace with new rigid insulation, fiberglass mat faced gypsum panel attached to galvanized metal furring.
- Fire rated wall construction and opening protection at connection to adjacent building (Between column lines 17 & 18 and E):
 - 2-hour fire resistant rated block wall construction: 30 linear feet (20' AFF).
 - 1½ hour rated rollup door with approved automatic closing device (20'Wx10'H).
- Furnish and install 1x1 ceiling tile replacement due to sprinkler heads replacement in office areas in northwest.
- Patch and repair wall at two new fire department connection in concrete wall.
- Recommended repair work not under the scope of the Fire Sprinkler Rehabilitation Project includes the following:
 - Provide complete exterior envelope survey and repair penetrations and impact damage to existing metal siding and roofing which compromise envelope integrity around building perimeter.

- In accordance with the flood protection elevation determinations and the designation of the fire protection valves as critical infrastructure one or a combination of the following options as indicated in the current Climate Resilience Design Guidelines are recommended:
 - Elevation of fire protection valves and other relevant critical infrastructure above the DFE
 - Dry floodproofing the sprinkler valve room perimeter by placing permanent, deployable, or temporary mitigation measures (e.g., flood walls, sealing openings and or deployable protection measures like stop logs to prevent floodwater intrusion).
 - Installing pumps to prevent build-up of incidental leakage in a dry floodproofed sprinkler room.

Civil

No Civil related scope of work identified on Building 263 that is required by the sprinkler system at this point. The cost associated with the 8" backflow preventers is included in the fire protection work.

Electrical

Existing Conditions

Building 263 is split into two main areas: Area 1 contains a warehouse area split up into (3) main areas with an office constructed within the space along with bathrooms and sprinkler room whereas Area 2 is a single open area which also contains bathrooms and sprinkler room. There are electrical as-built drawings PN-110.052 dated 1990 which seem to indicate a Keltron fire alarm system which has power fed from the life/safety panel 263-PA circuit #15 (says "24V Back-Up Battery" which appears to be for the fire alarm system) in the Sprinkler Valve room #2. As per the as-built drawings the system is connected to the central alarm station. This does not seem to reflect existing conditions since existing fire alarm panel in sprinkler valve room only contains module devices and there is a new Honeywell fire alarm panel installed in the building.

In Area 1, there were manual pull boxes and horn/strobe devices noted at the exit doorways in areas seen during site visit. There are (2) horn/strobe devices located on the exterior of the office structure. Inside the office area there were smoke detectors, pull boxes, and horn/strobe devices installed. There are also horn/strobe devices located throughout the warehouse area. Many of these pull station boxes, and horn/strobe devices appear to be aged and experiencing signs of degradation. In the warehouse area for the exit doorway at Column D/E-1, there was a Honeywell panel which appeared to be a remote annunciator. This was in fairly, poor condition. Going up the stairs next to the office area, on the 2nd floor, there is a Fire-Lite Alarms MS-10UD fire alarm control panel manufactured by Honeywell. According to the sticker label on the panel, the power feed is from Panel A circuit #4 which is in the office structure. During Stage 3, will need to verify if primary power disconnecting means is appropriately marked. In addition, fire alarm panel needs to be opened to verify battery backup power. There was no smoke detector observed above fire alarm panel. There was no visible communicator panel seen near fire alarm panel. Outside the sprinkler room on the building exterior there was a silver Viking sprinkler alarm bell and older pull hook station with AFA sticker installed. Opening the pull hook station there is a manual pull box which appears to be connected to the fire alarm system and is in fair condition. It is unverified whether the sprinkler bell is currently in use. Inside the sprinkler room there is an ASCO break glass pull box which is aged and unverified whether currently operational. There are also several sprinkler switches and signaling devices which appear to be a bit aged but in generally fair condition. There is an AFA fire alarm panel which seems very aged and is showing signs of degradation. There is an electronic device on top of the fire alarm panel with no cover, so wires are exposed. Opening the fire alarm panel, some of the module devices and circuit board are loosely mounted and in general the equipment appears to be aged and possibly obsolete. It is unverified whether this panel is connected to the Fire-Lite panel on top of the office structure.

In Area 2, there were manual pull boxes noted at the exit doorways and horn/strobe devices scattered throughout warehouse area in areas seen during site visit. All areas are sprinklered.

Assumptions

- The base building fire alarm system is operating normally, and the existing sequence of operations provides appropriate notification and signaling. This project scope only evaluates required additional or replacement signaling as per other discipline recommendations in this report. All new fire alarm related equipment added will require testing and verification by AFA and witness testing by QAD.
- Any existing sprinkler system devices not being replaced as per recommendations in this report shall be functionally tested against the requirements of NFPA 72 and transmit supervisory and alarm signals in compliance with NFPA 101. This should be verified with AFA.
- The existing fire alarm system, initiating devices, and notification devices outside the scope of this project meet the design criteria as per NFPA 72.
- The existing lighting system, including emergency, has not been evaluated as this is outside the project scope. Any lighting modifications pertain to Architectural recommendations for ceiling replacement in coordination with replacement of sprinkler piping system.
- The existing electrical distribution equipment in the building is outside the project scope requirements. Only condition of electrical equipment directly correlated with fire alarm system has been considered.

Evaluation

Occupancy group classification for building is primarily S-1 with a secondary occupancy of B as per code analysis drawings in Appendix G. As per NFPA 101 section 6.1.14.1.3, where incidental to another occupancy, the storage (S-1) occupancy is permitted as the predominant occupancy and is subject to provisions of the code for said occupancy. Therefore, this building is evaluated under criteria of S-1 occupancy. The area is provided with sprinkler protection as per NFPA 101 section 42.3.4.2(3) with a minimum of one manual fire alarm box. There also appears to be a manual pull box located all exit doorways seen during site visit as per NFPA 17.15.9.4. The adequacy of the existing sprinkler coverage is as per the assessment of the Plumbing and Fire Protection section. Per visual inspection, occupant notification system coverage seems acceptable as per NFPA 101 section 42.3.4.3. During Stage 3, the existing power supply to the fire alarm control panel needs to be verified and evaluated as to whether it meets appropriate criteria as per NFPA 72 section 10.6. A smoke detector must be installed near the existing fire alarm control panel to meet criteria as per NFPA 72 section 10.4.5 and should be installed within 15 feet horizontally as per PANYNJ Electrical Design Guidelines. Confirm supervisory and alarm signal supervision complies with NFPA 101 section 9.7.2 for automatic sprinkler system.

Recommendations

It is recommended to replace all fire alarm I/O in kind that are affected by sprinkler system work as noted in Plumbing and Fire Protection recommendations. Horn/strobe and pull station boxes seem fairly, aged so each should be tested and verified for proper operation during Stage 3. The power feed for fire alarm panel in the sprinkler room needs to be traced and verified. The fire alarm panel in the sprinkler valve room is in poor condition and should be replaced in kind. Pull station and bell outside of sprinkler valve room should be tested and verified, however, it is recommended to replace with new. Although it appears to be operating normally, it is recommended to replace annunciator panel located near column D/E-1 due to observed degradation of panel. During Stage 3, verify with AFA whether existing main fire alarm control panel has sufficient spare I/O points for new devices or if an auxiliary panel needs to be added. Verify functionality of all new and existing initiating and notification devices related to fire protection system and update programming of fire alarm control panels accordingly. A smoke detector needs to be installed near existing fire alarm control panel as per NFPA 72 section 10.4.5 within 15 feet horizontally as per PANYNJ Electrical Design Guidelines. Verify if the primary power disconnecting means for fire alarm panel is marked appropriately as per NFPA 72 section 10.6. Battery backup must be verified as well. According to 1990 as-built drawings the system is connected to the central alarm station, however, the configuration has changed since the original design so would need to verify with AFA during Stage 3 if this is still accurate. If current system does not

communicate with central station, then signals must be sent to approved alarm receiving facility as per NFPA 101 9.7.2.2.1.

Environmental

Existing Conditions

An Environmental survey with sample collection and testing was completed on the sprinkler system and adjacent areas in March 2021. After the 50% submission, an additional survey was completed in November 2021 to include all the areas impacted by the scope of other disciplines. The intent of the survey was to locate and identify all Asbestos Containing Materials (ACM), Lead Paint, Polychlorinated Biphenyls (PCBs), and Universal Wastes that could be impacted by the renovation of the sprinkler system.

The following twelve (12) homogeneous materials were inspected and sampled for ACM:

Table 41: ACM Testing Matrix

Suspect Material	Location
1' X 1' Ceiling Tile	1 st Floor – Office Space
Gypsum Board	1 st Floor – Office Space & Kitchen
CMU Wall Mortar	1 st Floor – Office Space Women’s Bathroom
Aircel Pipe Insulation (3” OD)	1 st Floor – Office Space & Kitchen
Elbow Insulation associated with Aircel Pipe Insulation	1 st Floor – Office Space Kitchen
Wrapped Cardboard Pipe Insulation (3” OD)	1 st Floor – Bathroom in Warehouse Area (Open Building Space)
Mudded Joint Fitting Insulation associated with Wrapped Cardboard Pipe Insulation	1 st Floor – Bathroom in Warehouse Area (Open Building Space)
CMU Wall Mortar	1 st Floor Sprinkler Room East Side
Packing Insulation at Ceiling Penetration around 8” OD Pipes	1 st Floor East Side Sprinkler Room Ceiling
Packing Insulation at Ceiling Penetration around 8” OD Pipes	1 st Floor West Side Sprinkler Room Ceiling
Tectum Ceiling Board	1 st Floor - Warehouse Bathroom
Wall Blanket Insulation	1 st Floor - Warehouse Dividing Wall

Based upon visual inspection and analytical results of bulk samples collected, the following materials are asbestos-containing (> 1%):

Table 42: ACM Schedule

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
10-12	air cell Pipe Insulation (3” OD)	33% Chrysotile	20 LF	ACM001
13-15	Elbow Insulation associated with air cell Pipe Insulation	50% Chrysotile	10 LF	ACM001
16-18	Wrapped Cardboard Pipe Insulation (3” OD)	12% Chrysotile	12 LF	ACM001
19-21	Mudded Joint Fitting Insulation associated with Wrapped Cardboard Pipe Insulation *	*	6 LF	ACM001

25-27	Packing Insulation at Ceiling Penetration around 8" OD Pipes	67% Chrysotile	3 SF	ACM001
28-30	Packing Insulation at Ceiling Penetration around 8" OD Pipes	67% Chrysotile	3 SF	ACM002
37-39	Interior Door Caulking – East Side Sprinkler Room Door	3.6% Chrysotile	18 lf	N/A
40-42	Caulking on Interior Wall Perimeter- East Side Sprinkler Room Exterior Wall Interior Side	4.5% Chrysotile	60lf	N/A
43-45	Packing Insulation at Wall Pipe Penetration – East Side Sprinkler Room Interior Wall	80.0% Chrysotile	2sf	N/A
49-51	Interior Door Caulking – West Side Sprinkler Room Door	3.0% Chrysotile	18lf	N/A
52-54	Caulking on Interior Wall Perimeter West Side Sprinkler Room Exterior Wall Interior Side	2.1% Chrysotile	60lf	N/A
55-57	Packing Insulation at Wall Pipe Penetration around 4" OD and Floor Pipe Penetration around 8" OD – West Side Sprinkler Room Interior Wall and Floor	67.0% Chrysotile	6sf	N/A
58-60	Exterior Door Caulking Remnants – West Side Sprinkler Room Door	4.0% Chrysotile	12lf	N/A

Assumptions

- Gaskets inside the sprinkler pipes could not be tested but are assumed to be asbestos containing. A total of 50 gaskets are assumed to be asbestos containing.
- The existing sprinkler system pipes are painted. The paint was not tested but is assumed to be lead-containing.

Recommendations

The confirmed asbestos materials shall be abated as part of the sprinkler system renovation.

Pipe insulation materials that are found to be asbestos would require abatement/ removal due to their proximity to the sprinkler pipe system during renovation.

The assumed 50 asbestos gaskets will require abatement/removal with the sprinkler system renovation.

The assumed lead paint on the sprinkler system does not have to be completely abated/removed, but an estimated 10% of the paint on the sprinkler system will be impacted, and thus will require incidental abatement/removal. The 10% of the existing sprinkler system to be impacted is estimated to be 1150 linear feet.

MechanicalExisting Conditions

Building 263 spaces are consist of 2 areas:

- Area-1 includes an office suite, toilet room, trailer office room, lounge room and man's bathroom. There are two (2) rooftop AC units (RTU) serving the Area-1. The supply air distribution is provided through two

separate ductworks connecting to each RTU. There is one (1) makeup air unit heater (MAU) serving the open warehouse space, and one (1) indirect gas-fired unit heater.

- Area-2 is used as a vehicle repair space. There is one (1) unit heater and one (1) wall mounted MAU serving the space for heating needs.

There are 2 fire sprinkler riser rooms. Each valve room has a 5.0 kW electric space unit heater.

Assumptions

- As confirmed with the design team, fire sprinkler piping replacement work will be performed from the accessible roof above the office suite. Existing ceiling supply air diffusers and return registers in the office suite area do not need to be removed since they do not impede the fire sprinkler replacement work on the office suite roof.

Evaluation

The fire valve room is provided with adequate heating. Existing 5.0 kW electric unit heaters EUH-1 and EUH-2 provide adequate heating to the valve room and maintain the space temperature above the 40°F as per NFPA 13 Chapter 16.4.1.3 requirement. This heating output is sufficient given that the heating load for this space is 13,691 BTU/hr. or approximately 4.0 kW. The fire sprinkler in the building is a dry pipe system and does not require heating as per NFPA 13 Chapter 16.4.1.1.

There is no HVAC equipment obstruction in the garage and warehouse spaces for the replacement of fire sprinkler work.

Recommendations

There is no HVAC recommendation.

Plumbing and Fire ProtectionExisting Conditions

Building 263 was built approximately in late 1950's and has roughly an area of 51,200 sq. ft. The incoming 8" fire service, has four (4) 6" dry valves and 4" OS&Y valve for the fire draft curtain appear to be original to the building. There are two (2) existing air compressors serving the dry sprinkler system with a manufacture date of 1/26/2010. The existing sprinkler heads and piping also appear to be original to the building. In the break room it was observed that one sprinkler heads had "1967" stamped on link, the rest of the sprinklers were the same style as the one observed.

Assumptions

Based on the current condition of the building, the sprinkler system is very old and is beyond its useful life.

Evaluation

The incoming 8" fire service, two 6" dry valves and 4" OS&Y valve for the fire draft curtain is original to the building with signs of corrosion and near the end of useful life. The underground fire service should be inspected and test in the Stage II effort to confirm if it needs to be replaced. The existing sprinkler heads and piping are also original to the building and it's near the end of useful life. There are signs the sprinkler system is having trouble with leaks, it was observed, in the south end of the building, there is a branch line that has been disconnected and has not been reconnected for some reason that could not be determined during the survey. This is an considered an immediate action item.

Recommendations

The entire sprinkler system has reached the end of its useful life and requires replacement. This includes, check valves, shut off valves, dry pipe valves, tamper switches, air compressor systems, sprinkler piping and sprinkler heads. Install two new 8" backflow preventers.

Structural

Existing Conditions

For Building 263, the structural task lead performed a review over the as-built drawings, the latest Port Authority Quality Assurance Division condition inspection report (P05-925.103, March 2012), field photos of other disciplines and a visual inspection from ground level to determine the condition of the fire sprinkler system vertical hangers, seismic braces, and roof framing that the sprinkler pipes are attached to. A hands-on inspection of the vertical hangers, seismic braces and roof framing with a scissor lift would not have been possible to perform given the volume of space occupied by tenant products within the facility and the volume of tenant forklift activities. Building 263 is a single-story, gable roof warehouse, with five rows of steel columns supporting steel girders spaced at 20ft on center, which support steel roof purlins, which support the corrugated metal roof decking. The fire sprinkler system spans between the steel roof purlins and is supported off each roof purlin (spaced 5'-6" O.C.) with c-clamps, threaded rods, and swivel rings. The main line is not supported by seismic braces.

Assumptions

The following are the assumptions used to develop the structural cost estimate:

- The linear feet of main and branch fire sprinkler pipe installation provided in the cost estimate by the Plumbing and Fire Protection group will be used in the structural estimate to quantify the vertical hangers and seismic bracing removal and installation.
- The Plumbing and Fire Protection group linear feet of main and branch fire sprinkler pipe removal and installation assumes that all sprinkler pipes in each building need to be replaced. This means that the quantity of vertical hangers and seismic bracing provided by the Structural group are based on worst case conditions.
- The structural estimate assumes a production rate of 6 vertical hanger or seismic brace removal or installation per hour. The estimate also assumes that the tenant will assist in relocation of their merchandise to accommodate contractors' access to roof section where vertical hangers and seismic braces need to be removed or installed.

Evaluation

- Structural task leader reviewed available field photos of the existing vertical hanger and seismic braces to evaluate their conditions and reviewed the Quality Assurance Division condition survey reports for any structural roof priority repairs that might affect the sprinkler pipes attachment to the roof structure.
- Available field photos and Quality Assurance Division condition survey reports review showed no significant structural issues that would compromise the feasibility of the sprinkler system attachment to the roof member.
- Scope of the structural evaluation was limited to the existing roof members, and their availability of supporting the additional load from the proposed sprinkler system.

Recommendations

- Replace all vertical hangers in kind, as directed by the Plumbing and Fire Protection group. Install seismic braces for main pipe (diameters equal to or greater than 3 inches in diameter).
- No structural as-built drawings were found in stage 1 review; additional Stage 3 research of available data and / or site survey will be required to determine existing structural member sizes and layout. This will require a scissor lift.

- Site specific structural analysis will be required on Stage 3 design, based on the final sprinkler layout.

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BUILDING 301

Architecture

Existing Conditions

Building 301 is located on the west side of Craneway Street, approximately 400 feet south of Port Street. The building is utilized primarily as a warehouse. For Building 301, the architectural team conducted a walkthrough visual field survey of the building interior to verify the layout of existing building spaces. Subsequently, a review of the latest provided Port Authority Quality Assurance Building Condition Inspection Report was also undertaken. Building 301 is in the northeast area of the Port Newark Marine Terminal and is accessible via Navy Street. The building is a one-story steel framed warehouse structure, measuring 255 ft by 528 ft in plan with two office annexes at the south side. There is a total of approximately 151,500 SF of floor area across the facility. The building height varies from 38'-7" at the eave to 40'-9" at the ridge. The steel framing consists of cross beams and roof purlins which in turn support the gypsum roof panel covered with rubber roofing in a single gable shape. The exterior wall consists of concrete grade beam supported brick walls with corrugated metal siding or Plexiglas window panels above. The east end of the warehouse roll-up doors for truck loading. The ground floor is bituminous concrete pavement on grade.

At the east side of the warehouse, adjacent to the loading docks, an enclosed structure contains a small suite of rooms used as a breakroom and storage. The partial height walls appear to be wood framed with plywood exterior sheathing and gypsum board interior sheathing. We presume from earlier information if this is a wood framed structure which may be permitted in certain circumstances in Type IIB buildings and will remain. One of the breakroom spaces has suspended acoustical ceilings with 2' x 4' panels and the other gypsum board ceiling. The storage space attached to this suite has exposed wood framed walls and ceiling/roof and plywood sheathing. At the north side of the warehouse, an office trailer located outside of the building perimeter is accessed from within the warehouse space at the northeast corner. The north side of the open warehouse space has fenced areas which run parallel to the length of the building. At the south side of the warehouse space, roll up doors provide access to the yard and provide access to the annexes discussed below.

At the south side of the structure two wings, the southeast and southwest annexes extend from the footprint of the main warehouse space. The southeast annex is currently occupied as an office suite on two levels. The space includes an entrance vestibule and central stair with open office areas, restrooms, enclosed offices, and support spaces on both levels. These spaces have gypsum board partitions, suspended acoustical ceilings and gypsum wallboard soffits. The floors are primarily a vinyl tile finish. The southwest annex is partially occupied and appears to be undergoing renovation. The second level of the southwest annex was not accessible at the time of the field survey. The first level is partially occupied and contains a locker room space, breakrooms, and storage areas. The partitions in the accessible areas are primarily CMU. However, the breakroom areas include partitions with plywood sheathing. The ceilings are exposed to the structure and the floors are concrete.

Outside of the primary building footprint on the south side are two sheds which house the sprinkler valves. These structures include steel frames with corrugated metal sheathing on the walls and roof. A foil faced acoustical batt is attached to the upper half of the walls and the underside of the roof. Both sheds are in a deteriorated condition and have impact damage, penetrations in the walls and rusting at their base. Doors to both sheds are also in a deteriorated condition.

Reference the code analysis drawings in Appendix G for information related to the building occupancy classification, construction type and fire resistance ratings.

Assumptions

- Although a comprehensive condition survey was not performed, existing conditions visually identified from the building interior which appeared to compromise the ability of the exterior envelope to maintain a habitable interior environment are noted in the evaluation section. The building envelope should be maintained, repaired, or upgraded as required to maintain an interior environment which sustains the long-term operational state of fire protection equipment. This includes prevention from premature corrosion or damage to systems from flooding events.
- In accordance with the flood protection elevation determinations by the Port Authority and the designation of the fire protection valves as critical infrastructure one or a combination of the options indicated in the current Port Authority Climate Resilience Design Guidelines are recommended.
- We presume that wood framed structures, where they exist in non-bearing partition walls, are permitted by the current codes in buildings of Type IIB construction when materials are fire retardant treated. A review of these interior constructions should be undertaken in future stages to verify their continued use.
- Due to the access afforded by the arrangement of stored merchandise during the field survey, it is assumed the layout of fencing and openings are as indicated in provided information.

Evaluation

No significant visible deterioration to the warehouse building and southeast annex envelope was noted during the interior walkthrough. However, several of the Plexiglass panels installed at the upper wall show signs of bowing or displacement from frames. In addition, exterior doors also show signs of deterioration. The southwest annex building is in a deteriorated condition that will require rehabilitation. There is ongoing construction whose scope is undetermined. The sprinkler sheds' exterior wall envelopes and doors are in an advanced state of deterioration with impact damage and rusting. The slabs in these sheds also showed signs of spalling and deterioration. The current state of deterioration at the sheds' exterior envelopes could compromise the life expectancies of new and existing equipment and utilities.

It should be noted that wood constructions such as storage lofts or partition walls should be of fire retardant treated materials in accordance with designated non-combustible construction type. The small storage shed at the east side the building has exposed wood which does not appear to be constructed of fire retardant treated wood and should be replaced with non-combustible construction.

Replacement of the sprinkler system is indicated by the Plumbing and Fire Protection design and will require replacement of suspended ceiling systems as indicated in recommendations.

Recommendations

- Rehabilitation of two sprinkler valve sheds in accordance with NJ Rehabilitation Subcode:
 - Remove two existing shed structures to include corrugated metal exterior wall with steel framing, corrugated metal roof construction with steel framing, existing concrete slab on grade.
 - Provide new 12" thick concrete pad.
 - Provide 8" CMU walls with core insulation; painted and in accordance with energy code minimums.
 - Provide 3'-0" by 7'-0" insulated hollow metal exterior door and frame with associated hardware and labeling and in accordance with energy code minimums.
 - Provide 2" insulated metal panel roof (R10) over cold formed galvanized metal framed roof/ceiling assembly.
- To accommodate fire protection system upgrade, remove and replace suspended ceiling systems throughout both floors of southeast annex.
 - Remove suspended ceiling systems (4,585 SF)

- Provide suspended ceiling system and 2' x 4' acoustical ceiling tiles (4,585 SF)
- To accommodate fire protection system removals, remove and replace suspended ceiling systems and drywall ceilings in breakroom at east side.
 - Remove suspended ceiling systems (375 SF) and gypsum wall board ceiling (175 SF).
 - Replace suspended ceiling systems and 2' x 4' acoustical ceiling tiles (375 SF) and glass mat gypsum wall board ceiling (175 SF).
- Rebuild attached storage shed in non-combustible construction.
 - Provide storage shed constructed with 8" CMU walls, painted. (43 linear feet @ 10'-0"); 3'-0" by 7'-0" hollow metal interior door and frame with associated hardware. Cold formed galvanized metal framed ceiling 5/8" gypsum wall board ceiling; painted. (110 SF)
- Recommended repair work not under the scope of the Fire Sprinkler Rehabilitation Project includes the following:
 - Provide complete exterior envelope survey and repair penetrations and impact damage to existing metal siding above brick base wall which could compromise envelope integrity around building perimeter. Survey should include inspections of doors and Plexiglass panels.
 - Completion of ongoing construction at southwest annex.
 - The existing arrangement of fenced partitions in the warehouse creates exit access travel distances and exit separations which exceed code required maximums. Verification of fencing and openings was not possible due to stockpiles. If arrangement is as indicated on provided documentation, then additional openings are required in the fencing to meet required maximum distances for exit access travel distance and minimum separations. In addition, designated egress paths should be established with exit signage indicating egress paths. Refer to code analysis in Appendix G for additional information.
 - In accordance with the flood protection elevation determinations and the designation of the fire protection valves as critical infrastructure one or a combination of the following options as indicated in the current Climate Resilience Design Guidelines are recommended:
 - Elevation of fire protection valves and other relevant critical infrastructure above the DFE
 - Dry floodproofing the sprinkler valve room perimeter by placing permanent, deployable, or temporary mitigation measures (e.g., flood walls, sealing openings and or deployable protection measures like stop logs to prevent floodwater intrusion).
 - Installing pumps to prevent build-up of incidental leakage in a dry floodproofed sprinkler room.

Civil

No Civil related scope of work identified on Building 301 that is required by the sprinkler system at this point. The cost associated with the 8" backflow preventers is included in the fire protection work.

Electrical

Existing Conditions

Building 301 is primarily a warehouse area with (2) office annexes affixed to the building and (2) sprinkler sheds and electric room outside the main building footprint. There is a 1966 electrical as-built drawing PN-710.013 which shows the fire alarm system is fed via 30A (10A fuse) disconnect switch which is tapped downstream of PA Meter. The meter is fed directly from a 1600A/1200A, 120/208V main circuit breaker in the distribution board in the Electrical Service Room. The distribution board is fed from the Public Service transformer.

The office areas could not be surveyed at the time of the site visit. The sprinkler shed near the southeast side of the building has a Grinnell automatic sprinkler fire alarm bell affixed to its exterior. This bell is showing significant signs of corrosion. Inside this shed, there is a Radionics fire alarm control/communicator panel and annunciator panel that appear to be relatively new and connected to the active system. This is maintained by AFA Protective Systems. There was no visible communicator panel seen near fire alarm panel, but there was a degraded red enclosure stating "Central Station Signals Inc. - New York Model No. DT3" with an AFA label on the front cover. It is believed this is no longer in use, but this would need to be verified with AFA during Stage 3. There were also (2) unidentified red enclosures and (1) red disconnect switch which also appear to be inactive, but this would need to be verified. There was a disconnect switch shown in the 1966 as-built drawings so this could be from the original installation. There were sprinkler switches and signaling devices which appeared to be connected to the fire alarm system. The devices look slightly aged, but the condition is fair. The red conduit covers were observed to be worn and some were loose hanging/not secured. Inside this room, there is also an unnamed electrical panel which is connected to an outlet which has a plug stating, "fire alarm does not unplug". The panel schedule does not specifically list anything regarding fire alarm but does show circuit #2 for red fire lights. This panel is 208/120V, 3-phase, 100A. There was no visible marking on fire panel indicating primary power feed location. During Stage 3, will need to verify whether power is fed from this panel, the electrical room on the opposite side of the building, or a different location. The fire alarm control panel should be marked along with its primary disconnecting means as per code. In addition, fire alarm panel needs to be opened to verify battery backup power. There was no smoke detector observed above fire alarm panel.

On the exterior of warehouse near column M-21 and inside the warehouse near column A-6 there are pull hook station enclosures installed. Inside the warehouse near column A-19 there is a manual pull box installed. All these manual stations are in poor condition. No other fire alarm devices were observed in the warehouse.

Inside the sprinkler shed outside the southwest side of the building there is a fire alarm panel maintained by AFA Protective Systems. The panel seems aged and is showing signs of corrosion. There are only individual modules inside the enclosure, so it is assumed the primary fire alarm control panel is in the SE Annex sprinkler valve room. The cabling and modules inside the enclosure appear to be in generally fair condition. There are also sprinkler switches and signaling devices which appear to be connected to the fire alarm system. These appear to be in generally fair condition. There is an unnamed electrical panel with the text "Heat #3" written in black marker on the front cover inside this room which appears to feed the fire alarm panel. The panel schedule shows circuit #2 supplying fire lights, like what was seen in the southeast sprinkler shed. This panel is 208/120V, 3-phase, 100A.

All the areas are sprinklered.

Assumptions

- The base building fire alarm system is operating normally, and the existing sequence of operations provides appropriate notification and signaling. This project scope only evaluates required additional or replacement signaling as per other discipline recommendations in this report. All new fire alarm related equipment added will require testing and verification by AFA and witness testing by QAD.
- Any existing sprinkler system devices not being replaced as per recommendations in this report shall be functionally tested against the requirements of NFPA 72 and transmit supervisory and alarm signals in compliance with NFPA 101. This should be verified with AFA.
- The existing fire alarm system, initiating devices, and notification devices outside the scope of this project meet the design criteria as per NFPA 72.
- The existing lighting system, including emergency, has not been evaluated as this is outside the project scope. Any lighting modifications pertain to Architectural recommendations for ceiling replacement in coordination with replacement of sprinkler piping system.

- The existing electrical distribution equipment in the building is outside the project scope requirements. Only condition of electrical equipment directly correlated with fire alarm system has been considered.

Evaluation

Occupancy group classification for building is primarily S-1 with accessory occupancies of B and U as per code analysis drawings in Appendix G. As per NFPA 101 section 6.1.14.1.3, where incidental to another occupancy, the storage (S-1) occupancy is permitted as the predominant occupancy and is subject to provisions of the code for said occupancy. Therefore, this building is evaluated under criteria of S-1 occupancy. The area is provided with sprinkler protection as per NFPA 101 section 42.3.4.2(3) with a minimum of one manual fire alarm box. However, there is not a manual pull box located at each exit doorway seen during site visit as per NFPA 72 section 17.15.9.4. In addition, the existing pull stations were noted to be in poor condition. The adequacy of the existing sprinkler coverage is as per the assessment of the Plumbing and Fire Protection section. No horn/strobe devices installed throughout warehouse area. New horn/strobe devices should be installed to meet audible and visible coverage requirements as per NFPA 72. The existing power supply to the fire alarm control panel needs to be verified and evaluated as to whether it meets appropriate criteria as per NFPA 72 section 10.6. A smoke detector must be installed near the existing fire alarm control panel to meet criteria as per NFPA 72 section 10.4.5 and should be installed within 15 feet horizontally as per PANYNJ Electrical Design Guidelines. Confirm supervisory and alarm signal supervision complies with NFPA 101 section 9.7.2 for automatic sprinkler system.

Recommendations

It is recommended to replace all fire alarm I/O in kind that are affected by sprinkler system work as noted in Plumbing and Fire Protection recommendations. In addition, missing/loose conduit covers for sprinkler devices should be replaced with new. Pull station boxes are in poor condition so it is recommended to replace all devices with new. Install pull stations which are missing at exit doorways as per NFPA 72 requirements. Install new horn/strobe devices and test notification system to verify proper audible and visible coverage as per NFPA 72 section 18 requirements. The fire alarm panel in the southwest sprinkler shed should be cleaned and tested. Test functionality of equipment and verify whether replacement is required. During Stage 3, verify with AFA whether existing main fire alarm control panel has sufficient spare I/O points for new devices or if an auxiliary panel needs to be added. Verify functionality of all new and existing initiating and notification devices related to fire protection system and update programming of fire alarm control panels accordingly. A smoke detector needs to be installed near existing fire alarm control panel as per NFPA 72 section 10.4.5 within 15 feet horizontally as per PANYNJ Electrical Design Guidelines. Verify primary power disconnecting means and battery backup power for fire alarm panels complies with code. If current system does not communicate with central station, then signals must be sent to approved alarm receiving facility as per NFPA 101 9.7.2.2.1. As per Architecture recommendations to renovate the sprinkler valve rooms, the electrical and fire alarm equipment will need to be removed. Due to age of equipment, although not directly related to fire protection systems work, electrical panels and accessories may require replacement. In coordination with Architecture recommendations for renovations of ceiling areas, lighting in all associated areas will need to be replaced with new. In coordination with Mechanical-HVAC recommendations to install new 3kW electrical unit heaters in each sprinkler valve room, a new 208V, 30A, 1ph disconnect switch will need to be installed with new conduit and cable to existing panel. As per site visit, the heater for the SE Annex valve room appears to be supplied from unnamed panel inside the room via circuit #11 labeled "heater". The heater for the SW Annex valve room appears to be supplied from unnamed panel in the room via circuit #11 labeled "ILG heater". The power feed for the HVAC equipment and lighting should be traced and verified during Stage 3.

Environmental

Existing Conditions

An Environmental survey with sample collection and testing was completed on the sprinkler system and adjacent areas in March 2021. After the 50% submission, an additional survey was completed in November 2021 to include all the areas impacted by the scope of other disciplines. The intent of the survey was to locate and identify all

Asbestos Containing Materials (ACM), Lead Paint, Polychlorinated Biphenyls (PCBs), and Universal Wastes that could be impacted by the renovation of the sprinkler system.

The following twenty-two (22) homogeneous materials were inspected and sampled for ACM:

Table 45: ACM Testing Matrix

Suspect Material	Location
2'X4' Ceiling Tile Type I	1 st Floor – Warehouse Area, Lunchroom 1
Paper Backing on Ceiling Fiberglass Insulation	1 st Floor – Warehouse Area, Lunchroom 1
Textured Plaster (One Coat) on Plywood Ceiling	1 st Floor – Warehouse Area, Lunchroom 1, Gym Room
Brick Wall Mortar	1 st Floor – Warehouse Area Northeast Corner
2' X 2' & 2' X 4' Ceiling Tile - Fissured	1 st Floor – Office space
Gypsum Board Paper - Wall	1 st Floor – Office space
Gypsum Board - Wall	1 st Floor – Office space
Joint Compound – Wall	1 st Floor – Office space
HVAC Duct Insulation Cover	1 st Floor – Office space
Fiberglass Pipe Insulation Cover 3" OD	1 st Floor – Office space
CMU Mortar Wall	1 st Floor – Office space Electric Room
2' X 4' Ceiling Tile Type I - Fissured	2 nd Floor – Office space
Gypsum Board Paper - Wall	2 nd Floor – Office space
Gypsum Board - Wall	2 nd Floor – Office space
Joint Compound – Wall	2 nd Floor – Office space
HVAC Duct Insulation Cover	2 nd Floor – Office space
2' X 4' Ceiling Tile Type II	2 nd Floor – By Entrance to Office space
CMU Wall Mortar	1 st Floor – (Abandoned Building) – Locker Room & Lunchroom
Gypsum Board Paper - Wall	1 st Floor – (Abandoned Building) – Lobby
Gypsum Board - Wall	1 st Floor – (Abandoned Building) – Lobby
Joint Compound - Wall	1 st Floor – (Abandoned Building) – Lobby
Fiberglass Pipe Insulation Cover 3" OD	1 st Floor – (Abandoned Building) – Men's & Women's Bathrooms
Pipe Fitting Insulation associated with F/G Pipe Insulation	1 st Floor – (Abandoned Building) – Men's & Women's Bathrooms

Based upon visual inspection and analytical results of bulk samples collected, the following materials are asbestos-containing (> 1%):

Table 46: ACM Schedule

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
67-69	Pipe Fitting Insulation associated with F/G Pipe Insulation	10% Chrysotile	25 LF	ACM001

Assumptions

The following materials are presumed to be asbestos-containing material (PACM):

The Southeast & West sprinkler shed entrance doors are assumed to contain asbestos fireproofing material inside.

Table 47: ACM Assumptions

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
N/A	Pipe and Pipe Fitting Insulation - Warehouse Area	PACM	2,200 L.F.	ACM001
N/A	Flange & Valve Gaskets - 2 Sprinkler Rooms	PACM	50 Units	ACM001

The existing sprinkler system pipes are painted. The paint was not tested but is assumed to be lead-containing.

Recommendations

The confirmed asbestos materials shall be abated as part of the sprinkler system renovation.

The presumed asbestos pipe and pipe fitting insulation and gaskets will require abatement/removal with the sprinkler system renovation.

The assumed lead paint on the sprinkler system does not have to be completely abated/removed, but an estimated 10% of the paint on the sprinkler system will be impacted, and thus will require incidental abatement/removal. The 10% of the existing sprinkler system to be impacted is estimated to be 1197 linear feet.

Mechanical

Existing Conditions

Building 301 consist of warehouse area, locker, break room, kitchen, men and women bathrooms and occupied office spaces. The warehouse provides a management of freight services for equipment and materials such as wires, conduits, plastics, or emergency power generators, etc. There are two (2) valve rooms on the Southwest and Southeast end of the building. Each valve room has a 5.0 kW electric unit heater.

Southeast Annex has two (2) rooftop AC units (RTU-1 and RTU-2) serving the first and second floor office areas and breakrooms. Southwest Annex 1st floor is used a locker room and the 2nd floor is an unoccupied space.

Assumptions

- RTU-1 and RTU-2 (Manufacturers: York) and supply distribution ductwork serving the first and second floor areas do not require modifications or upgrade.

Evaluation

Valve rooms' metal corrugated walls are partly deteriorated allowing for air infiltration during winter. To account for infiltration, 4 air changes per hour (ACH) is incorporated into the heating load calculation. The 4 ACH results in additional 4,557 BTU/hr. heating load resulting in total required heating load to be 18,543 BTU/hr. or approximately 5.5 kW. Existing 5.0 kW electric unit heaters are not sufficient since the required heating load is a minimum of 5.5 kW. Existing valve rooms shall be provided with adequate heating and maintained at the required indoor space temperature above 40°F as per NFPA 13 Chapter 16.4.1.3. As per the Architectural recommendation for the

rehabilitation of two sprinkler valve rooms with new insulated shed envelope and roof, the required heating load reduces to 5,026 BTU/hr. or approximately 1.5 kW.

The Southwest Annex is comprised of lockers, break room, kitchen space, storage, and corridor. The second floor is not occupied. There is no HVAC equipment obstruction in the Southeast Annex for the replacement of fire sprinkler piping work.

The Southeast Annex is comprised of ten (10) offices including:

- 1st floor: 4 offices, 1 break room, 2 men’s bathroom, 1 women’s bathroom.
- 2nd floor: 6 offices, 2 bathrooms, 1 conference room.

The two (2) existing rooftop AC units (RTU-1 and RTU-2) serve the Southeast Annex for the cooling and heating loads, and the required outdoor ventilation airflow rates through the existing air distribution ductwork. There are supply air diffusers and return air registers on the existing suspended ceilings. Existing supply air diffusers and return registers in the Southeast Annex offices impede the rehabilitation of fire protection work and require removal and replacement. The fire sprinkler in the building and warehouse area is a dry pipe system and does not require heating as per NFPA 13 Chapter 16.4.1.1.

Recommendations

Replace existing supply air diffusers and return air registers in the Southwest Annex first and second floor office spaces. Replace existing electric valve room unit heaters in Valve Room-1 and Valve Room-2.

- It will be required to perform air quantity readings from the existing supply air distribution, return air ductwork and air inlets and outlets prior to removal and after installation.
- Testing, adjusting, and balancing of new air inlets and outlets will be required.

Table 48: Unit Heater Schedule

BLDG No.	Unit Location	Unit Type	Quantity	Location	Model	kW
301	Valve & Riser Shed-1	Electric Unit Heater	1	Ceiling	QMARK MUH0381-PRO	3.0
301	Valve & Riser Shed-2	Electric Unit Heater	1	Ceiling	QMARK MUH0381-PRO	3.0

Plumbing and Fire Protection

Existing Conditions

Building 301 is approximately 255’ by 528’ in plan with an area of 151,500 sq. ft. The building is used as warehouse for cargo. There are two valve rooms on the southwest and southeast end of the building and are sheds attached to the main building. The southeast valve room 8” incoming fire service is original to the building, as well as the three (3) 6” dry valves which have their shut off control valves shut. The air compressors are in the southeast valve room and serve the dry valves in the southeast and southwest valve rooms appear to have been replaced at some point. The southwest valve room has an 8” incoming fire service, with two (2) 6” dry valves. The two (2) dry valves appear to have been replaced at some point. The dry sprinkler system is a tree type configuration, and the piping seems to be in decent condition however, there are locations throughout the system that show signs of corrosion. The sprinkler heads appear to be original to the installation.

Assumptions

The existing sprinkler system has reached the end of its useful life and requires complete replacement.

Evaluation

The valve room southeast 8” incoming fire service is original to the building, as well as the three (3) 6” dry valves and have reached the end of useful life. At the time of survey all three (3) 6” dry valves control valves were shut off. This could be a sign of air leaks within the sprinkler system. The air compressors that serve the dry valves appear to have been replaced at some point. The southwest valve room piping is original to the building and show signs of corrosion. The two (2) dry valves have been replaced at some point in time and during the survey were active. The dry sprinkler piping seems to be in good condition however, there are locations throughout the system that show signs of corrosion, considering the age it has reached close to end of life and will require replacing. The sprinkler heads appear to be original to the installation and due to age have reached their end of useful life.

Recommendations

The sprinkler system will be replaced in kind with new sprinkler heads, piping, dry pipe valves, check valves, OS&Y valves, tamper switches, and two air compressor systems for the dry valves. Install two new 8” backflow preventers.

Structural

Existing Conditions

For Building 301, the structural task lead performed a review over the as-built drawings, the latest Port Authority Quality Assurance Division condition inspection report (P05-925.650, January 2018), field photos of other disciplines and a visual inspection from ground level to determine the condition of the fire sprinkler system vertical hangers, seismic braces, and roof framing that the sprinkler pipes are attached to. Building 301 is a single-story, flat roof warehouse with two annex structures along the south side of the building. The building framing is structural steel consisting of wide flange columns and roof girders, which support steel roof purlins, which supports a rubber membrane over gypsum panels roof system. The fire sprinkler system spans between the steel roof purlins and is supported off each roof purlin (spaced 7’-7” O.C.) with c-clamps, threaded rods, and swivel rings. The main line is not supported by seismic braces.

Assumptions

The following are the assumptions used to develop the structural cost estimate:

- The linear feet of main and branch fire sprinkler pipe installation provided in the cost estimate by the Plumbing and Fire Protection group will be used in the structural estimate to quantify the vertical hangers and seismic bracing removal and installation.
- The Plumbing and Fire Protection group linear feet of main and branch fire sprinkler pipe removal and installation assumes that all sprinkler pipes in each building need to be replaced. This means that the quantity of vertical hangers and seismic bracing provided by the Structural group are based on worst case conditions.
- The structural estimate assumes a production rate of 6 vertical hanger or seismic brace removal or installation per hour. The estimate also assumes that the tenant will assist in relocation of their merchandise to accommodate contractors’ access to roof section where vertical hangers and seismic braces need to be removed or installed.

Evaluation

- Structural task leader reviewed available field photos of the existing vertical hanger and seismic braces to evaluate their conditions and reviewed the Quality Assurance Division condition survey reports for any structural roof priority repairs that might affect the sprinkler pipes attachment to the roof structure.

- Available field photos and Quality Assurance Division condition survey reports review showed no significant structural issues that would compromise the feasibility of the sprinkler system attachment to the roof member.
- A hands-on inspection of the vertical hangers, seismic braces and roof framing with a scissor lift would not have been possible to perform given the volume of space occupied by tenant products within the facility and the volume of tenant forklift activities.
- Scope of the structural evaluation was limited to the existing roof members, and their availability of supporting the additional load from the proposed sprinkler system.

[REDACTED]

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Recommendations

- Replace all vertical hangers in kind, as directed by the Plumbing and Fire Protection group. Install seismic braces for main pipe (diameters equal to or greater than 3 inches in diameter).
- No structural as-built drawings were found in stage 1 review; additional Stage 3 research of available data and / or site survey will be required to determine existing structural member sizes and layout. This will require a scissor lift.
- Site specific structural analysis will be required on Stage 3 design, based on the final sprinkler layout.

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SUMMARY OF RECOMMENDATIONS



Table 61: Summary of Recommendations Matrix

Building No.	Building Description	Recommendations
Port Newark		
111	<p>Building 111 is occupied by Port Authority personnel and serves as a pump station for the Port Newark domestic and fire protection water systems. Most of the space consists of a large, open, and full height mechanical space. There are isolated areas of office space along the interiors northeast portion of the building.</p>	<p>The sprinkler heads have reached the end of its useful life and require replacement. Replace the existing sprinkler heads, branch piping, and all associated hangers and seismic braces.</p> <p>Replace all fire alarm I/O in kind that are affected by sprinkler system work. Verify smoke detector near existing fire alarm panels is within 15 feet horizontally. Primary power disconnecting means for fire alarm panels must be marked appropriately. Communicator panel must be configured so that signals are sent to approved alarm receiving facility if it does not currently do so. During Stage 3, work with AFA to verify functionality of all new and existing initiating and notification devices related to fire protection system and update programming of existing fire alarm control panels accordingly. There is no mechanical recommendation since there is no HVAC system or equipment changes required.</p> <p>Provide for wall patch repairs. The asbestos gaskets will require abatement/removal with the sprinkler system renovation. The assumed lead paint on the sprinkler system does not have to be completely abated/removed, but an estimated 10% of the paint on the sprinkler system will be impacted, and thus will require incidental abatement/removal. The 10% of the existing sprinkler system to be impacted is estimated to be 1024 linear feet.</p>
█	<p>[REDACTED]</p>	<p>[REDACTED]</p>
█	<p>[REDACTED]</p>	<p>[REDACTED]</p>

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		<p>[REDACTED]</p>

	<p>[REDACTED]</p>	<p>[REDACTED]</p>
<p>255</p>	<p>The New Jersey Port Newark Building 255, date of construction unknown, is located on Port Street west of the intersection of Port and Marlin Streets. The building is an approximately 25 ft. tall one-story building with no basement, has a rectangular footprint of approximately 110 ft. wide by 158 ft. long in plan, with a total of 17,380 square feet of floor area.</p> <p>The building is being occupied by the Port Authority Port Newark Sign shop for fabricating signs. The building serves as an office space on the southeast corner of the building and as a garage along the north side of the building. The ceiling system is made of suspended lightweight acoustical tile and lightweight perforated metal ceilings.</p>	<p>The existing sprinkler piping appears to be in good condition, the sprinkler heads and related piping have reached the end of their useful life and require replacement. The incoming fire service check valve, OS&Y valve and 6" alarm valve will require replacement due to age. The 6" alarm valve manufactured by Star Sprinkler Corp. is no longer manufactured therefore, replacement parts will be difficult to find so for easy of servicing and testing it should be replaced. Install a 6" backflow preventer. Replace all vertical hangers in kind. Install seismic braces for main pipe. To accommodate fire protection system upgrades, remove and replace suspended ceiling system throughout. Replace suspended ceiling system and 2x2 acoustical ceiling tiles: Provide wall patch repair at new fire department connection in concrete wall and Install spray curtains in open spraying spaces to comply with requirements in Section 416 of the NJ Building Code and the Fire Code of NJ. In accordance with the flood protection elevation requirements and the designation of the fire protection valves as critical infrastructure one or a combination of the following options as indicated in the current Climate Resilience Design Guidelines are recommended: Elevate fire protection valves and other relevant critical infrastructure above the DFE or Dry floodproofing the sprinkler valve room perimeter by placing permanent, deployable, or temporary mitigation measures (e.g., flood walls, sealing openings and or deployable protection measures like stop logs to prevent floodwater intrusion). Installing pumps to prevent build-up of incidental leakage in a dry floodproofed sprinkler room. Replace all fire alarm I/O in kind that are affected by sprinkler system work. A manual pull box shall be installed at every exit doorway. Horn/strobe devices shall be installed throughout building. The power feed for the main fire alarm panel needs to be field traced and verified during Stage 3. Confirm primary disconnecting means is code compliant. During Stage 3, verify with AFA whether existing main fire alarm control panel has sufficient spare I/O points for new devices or if an auxiliary panel needs to be added. Verify functionality of all new and existing initiating and notification devices related to fire protection system and update programming of fire alarm control panels accordingly. A smoke detector needs to be installed near existing fire alarm control panel within 15 feet horizontally. If current system does not communicate with central station, then signals must be sent to approved alarm receiving facility. As per Architecture recommendations for renovations of ceiling areas, lighting in all associated areas will need to be replaced with new. The power feed for the lighting shall be traced and verified during Stage 3. Replace existing supply air diffusers and return air registers in office spaces, bathrooms, and locker area.</p>
<p>260</p>	<p>The building consists of a three-story office building and a double height garage structure. The office building measures 129 ft long by 46 ft wide and is approximately 36 ft. tall. The double-height garage has a rectangular footprint of 121 ft. wide by 216 ft. long and is approximately 24 ft. tall. The building is</p>	<p>The sprinkler system in the Maintenance garage area has reached the end of its useful life. Replace the sprinkler heads and related sprinkler and standpipe piping system in the Maintenance garage area and adjacent offices and toilets/ locker space at the north section of Bldg. 260, 6" OS&Y and check valves, 6" alarm valve and tamper switches, and water flow indicator. The sprinkler system serving the first, second, and third floor office space at the south section of Bldg. 260 is existing to remain. Install a 6" backflow preventer. Replace all hangers in kind and install seismic braces for main pipe.</p>

	<p>being used as the Administrative Building for the Port Authority's New Jersey Marine Terminals, office for the Port Authority police and a service garage for Port Authority vehicles. The overall area is a total of 32,890 sf, 6,670sf at the office building and 26,200 sf for the garage.</p>	<p>Replace suspended ceiling systems at first floor toilet rooms, locker rooms, low roof offices constructed in the garage area, two rooms beneath storage mezzanine, and locker/breakroom adjacent to auto repair space. Provide 2x2 ceiling tile replacement due to sprinkler heads replacement in office areas on first, second and third floor.</p> <p>In accordance with the flood protection elevation determinations and the designation of the fire protection valves as critical infrastructure one or a combination of the following options as indicated in the current Climate Resilience Design Guidelines are recommended: Elevation of fire protection valves and other relevant critical infrastructure above the DFE or Dry floodproofing the sprinkler valve room perimeter by placing permanent, deployable or temporary mitigation measures (e.g., flood walls, sealing openings and or deployable protection measures like stop logs to prevent floodwater intrusion). Installing pumps to prevent build-up of incidental leakage in a dry floodproofed sprinkler room.</p> <p>Replace all fire alarm I/O in kind that are affected by sprinkler system work. A manual pull box shall be installed at exit doorway near column D-3 and any other exit doorways missing a manual pull station. Verify with AFA whether a positive alarm sequence, pre-signal system, or voice communication/public address system is installed. The primary power source shall be labeled on fire alarm control panel in sprinkler valve room. During Stage 3, the power feed for the clean agent system installed on the 2nd floor shall be field traced and verified, however, it is believed this is connected to panel LPLX circuit #1 based on the panel schedule. During Stage 3, verify with AFA whether existing main fire alarm control panel has sufficient spare I/O points for new devices or if an auxiliary panel needs to be added. Verify functionality of all new and existing initiating and notification devices related to fire protection system and update programming of fire alarm control panels accordingly. As per Architecture recommendations for renovations of ceiling areas, lighting in all associated areas will need to be replaced with new. The power feed for the lighting should be traced and verified during Stage 3.</p> <p>Replace existing supply air diffusers and return air registers in office spaces, bathrooms, and locker room areas on the first floor.</p>
<p>263</p>	<p>Building 263 is a single-story steel frame warehouse which measures approximately 161 ft by 634 ft. Most of the building is being used as a general cargo warehouse and sustain heavy forklift traffic. A portion of the building is used as a factory for light manufacturing. The floor in the warehouse is bituminous concrete and in the factory area the floor is plywood. The building's height varies from approximately a minimum of 26 ft at the north and south sides to 40 ft at the ridge. A concrete masonry fire wall divides the building into east and west portions. Several modular office structures exist in the building and are occupied by various tenants.</p>	<p>The entire sprinkler system has reached the end of its useful life and requires replacement; This includes, check valves, shut off valves, dry valves, sprinkler piping and sprinkler heads. The air compressors should be replaced. Install two 8" backflow preventers. Replace all vertical hangers in kind and install seismic braces for the main piping system.</p> <p>Provide replacement exterior doors and frame at sprinkler rooms and insulation at exterior wall of sprinkler rooms:</p> <p>Repair Fire rated wall construction at the connection to adjacent building. Provide 1x1 ceiling tile replacement due to sprinkler heads replacement in office areas and patch wall near fire department connection. Recommended repair work complete exterior envelope survey and repair penetrations and impact damage to existing metal siding and roofing which compromise envelope integrity around building perimeter.</p> <p>Climate Resilience Design Guidelines recommends Elevation of fire protection valves and other relevant critical infrastructure above the DFE or Dry floodproofing by the sprinkler valve room perimeter by placing permanent, deployable, or temporary mitigation measures and Installing pumps to prevent build-up of incidental leakage in a dry floodproofed sprinkler room.</p> <p>Replace all fire alarm I/O in kind that are affected by sprinkler system work as noted in Plumbing and Fire Protection recommendations. Horn/strobe and pull station boxes seem aged so each should be tested and verified for proper operation during Stage 3. The power feed for fire alarm panel in the sprinkler room needs to be traced and verified. The fire alarm panel in the sprinkler valve room is in poor condition and shall be replaced in kind. Pull station and bell outside of sprinkler valve room shall be tested and verified, however, it is recommended to replace with new. Although it appears to be operating normally, it is recommended to replace annunciator panel located near column D/E-1 since it seems to have exceeded its useful life. During Stage 3, verify with AFA whether existing main fire alarm control panel has sufficient spare I/O points for new devices or if an auxiliary panel needs to be added. Verify functionality of all new and existing initiating and notification devices related to fire protection system and update programming of fire alarm control panels accordingly. A smoke detector needs to be installed near existing fire alarm control panel within 15 feet horizontally. Verify if the primary power disconnecting means for fire alarm panel is marked appropriately as per code. Battery backup inside fire alarm panel must be verified as well. Verify with AFA during Stage 3 if system is still in communication with central station as originally indicated in 1990 as-built drawings.</p>
<p>268</p>	<p>[REDACTED]</p>	<p>[REDACTED]</p>

		
<p>301</p>	<p>Building 301 is currently occupied by Harbor Freight Transport and used for storage of general cargo. The building is a one-story steel framed structure, measuring 255 ft by 528 ft, (135,000square feet). The building height varies from 38'-7" at the eave to 40'-9" at the ridge. The exterior wall consists of concrete grade beam supported CMU wall brick wall with corrugated metal siding or Plexiglas window panels on top. There is an office located in the middle of the east side of the building and two office annexes along south side of building. The suspended acoustical ceilings are present at both office annexes.</p>	<p>The entire sprinkler system has reached the end of its useful life and requires replacement. Replace the sprinkler heads and related sprinkler and standpipe piping system. Replace valves and pipe in two fire sprinkler riser rooms serving the east and west area of Bldg. 301. Replace five - 6" OS&Y / Dry pipe valves and related apparatus, two air compressor motors and one tank, seven tamper switches, two 8" check and 8" OS&Y valves. Install two 8" backflow preventers. Replace hangers and install seismic braces for main pipe.</p> <p>Rehabilitation of two sprinkler valve sheds in accordance with NJ Rehabilitation Subcode. Also, remove and replace suspended ceiling systems throughout both floors of southeast annex. Also, remove and replace suspended ceiling systems and drywall ceilings in breakroom at the east side. Rebuild attached storage shed in non-combustible construction. Recommended repair work includes complete exterior envelope survey and repair penetrations and impact damage to existing metal siding above brick base wall which compromise envelope integrity around building perimeter. Survey should include inspections of doors and Plexiglass panels.</p> <p>Climate Resilience Design Guidelines recommends Elevation of fire protection valves and other relevant critical infrastructure above the DFE or Dry floodproofing by the sprinkler valve room perimeter by placing permanent, deployable, or temporary mitigation measures and Installing pumps to prevent build-up of incidental leakage in a dry floodproofed sprinkler room.</p> <p>Replace all fire alarm I/O in kind that are affected by sprinkler system work. In addition, missing/loose conduit covers for sprinkler devices shall be replaced with new. Pull station boxes are in poor condition so it is recommended to replace all devices with new. Install pull stations which are missing at exit doorways. Install new horn/strobe devices and test notification system to verify proper audible and visible coverage as per code. The fire alarm panel in the southwest sprinkler shed should be cleaned and tested. Test functionality of equipment and verify whether replacement is required. During Stage 3, verify with AFA whether existing main fire alarm control panel has sufficient spare I/O points for new devices or if an auxiliary panel needs to be added. Verify functionality of all new and existing initiating and notification devices related to fire protection system and update programming of fire alarm control panels accordingly. A smoke detector needs to be installed near existing fire alarm control panel within 15 feet horizontally. Verify primary power disconnecting means and battery backup power for fire alarm panels complies with code. If current system does not communicate with central station, then signals must be sent to approved alarm receiving facility. The electrical and fire alarm equipment will need to be removed and reinstalled in coordination with sprinkler valve rooms renovations. Due to age of equipment, although not directly related to fire protection systems work, electrical panels and accessories may require replacement. In coordination with Architecture recommendations for renovations of ceiling areas, lighting in all associated areas will need to be replaced with new. Each new 3kW electrical unit heater in each sprinkler valve room will require a new 208V, 30A, 1ph disconnect switch will need to be installed with new conduit and cable to existing panel. As per site visit, the heater for the SE Annex valve room appears to be supplied from unnamed panel inside the room via circuit #11 labeled "heater". The heater for the SW Annex valve room appears to be supplied from unnamed panel in the room via circuit #11 labeled "ILG heater". The power feed for the HVAC equipment and lighting should be traced and verified during Stage 3.</p>

		<p>[REDACTED]</p>
■	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>
■	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>

		[REDACTED]
■	[REDACTED]	[REDACTED]
■	[REDACTED]	[REDACTED]
■	[REDACTED]	[REDACTED]

	<p>[REDACTED]</p>	<p>[REDACTED]</p>
■	<p>[REDACTED]</p>	<p>[REDACTED]</p>
■	<p>[REDACTED]</p>	<p>[REDACTED]</p>

		[REDACTED]
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	[REDACTED]	[REDACTED]

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**REHABILITATION OF FIRE PROTECTION SYSTEMS AT PORT NEWARK,
ELIZABETH PORT AUTHORITY MARINE TERMINAL, AND PORT JERSEY –
STAGE I REPORT**

APPENDIX

Port Newark

Building 111

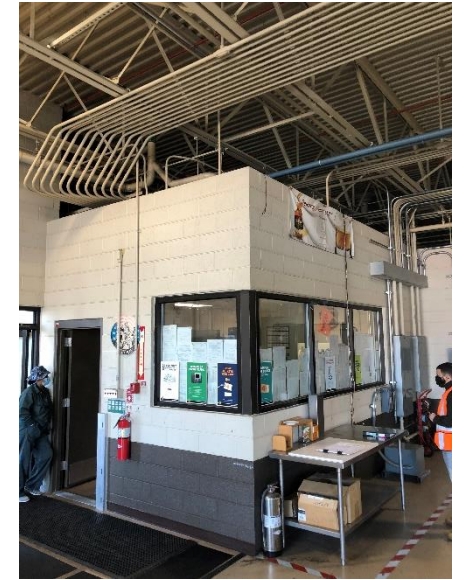
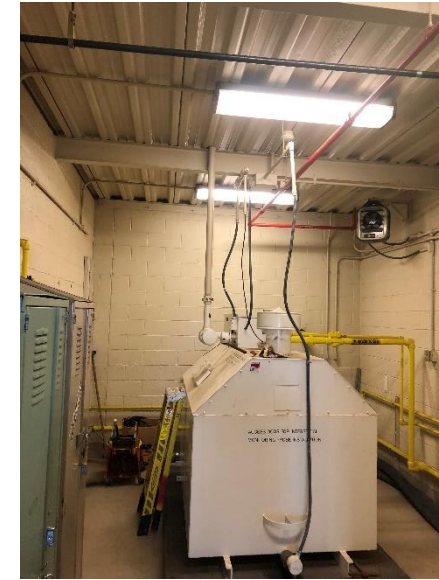
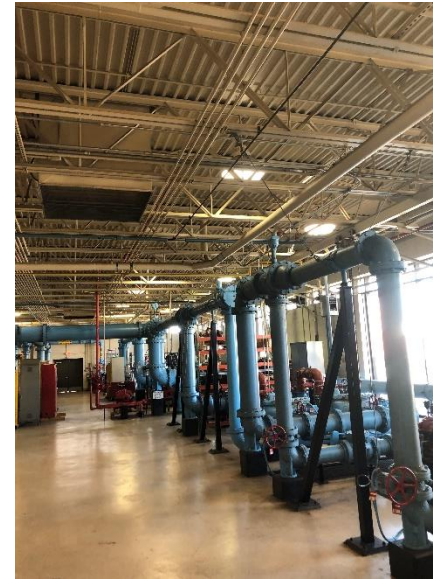
Architecture Fig 01 – Aerial View



Architecture Fig 02 – Street View



Architecture Figs 03 –05 Pump Room, Fuel Storage, Office Block-Control Room



Architecture Fig-06 Control Room Interior



Photo 1 – Mechanical HVAC – Ceiling Mounted Unit Heaters



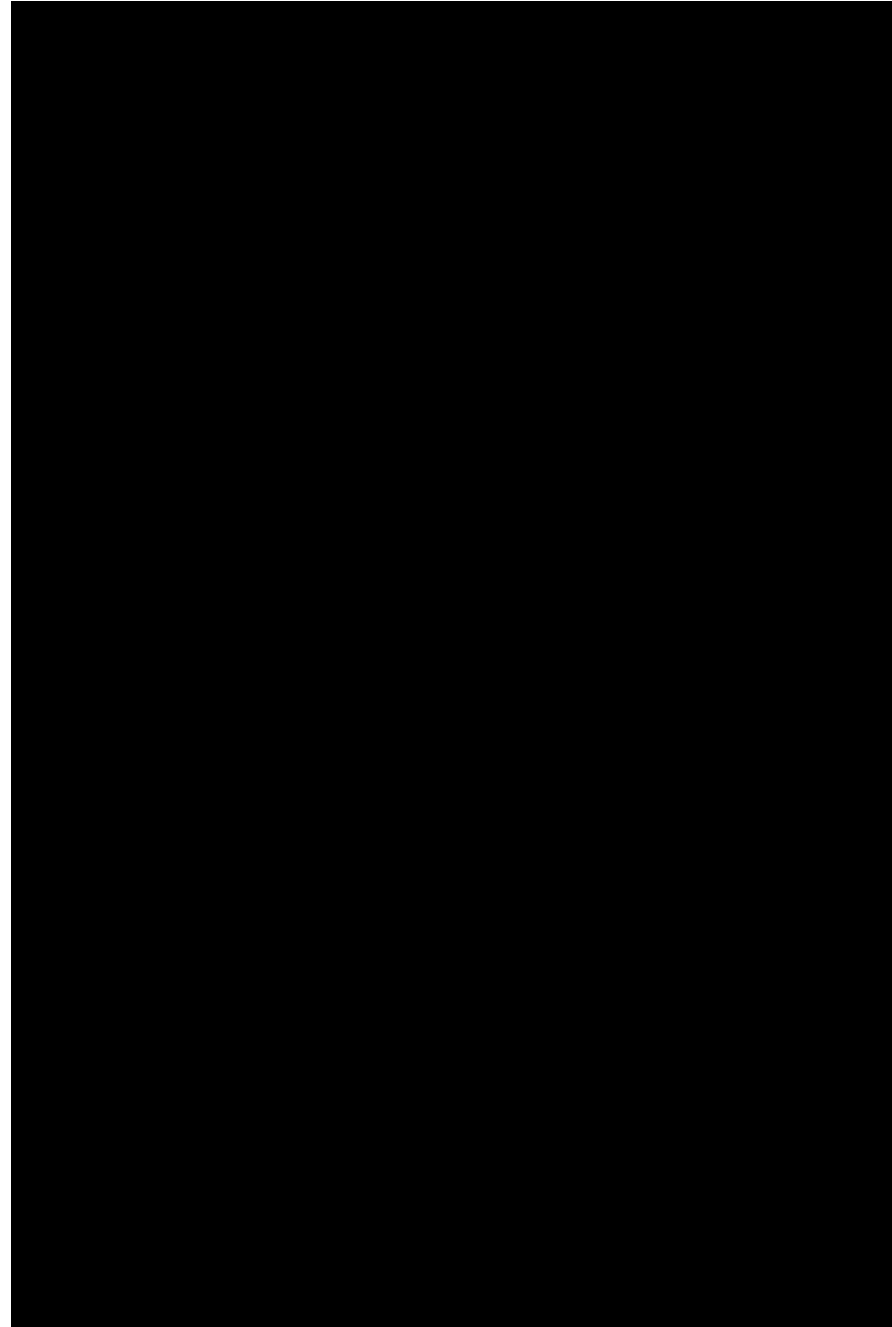
Photo 1 – Mechanical Fire Protection



Photo 2 – Mechanical Fire Protection

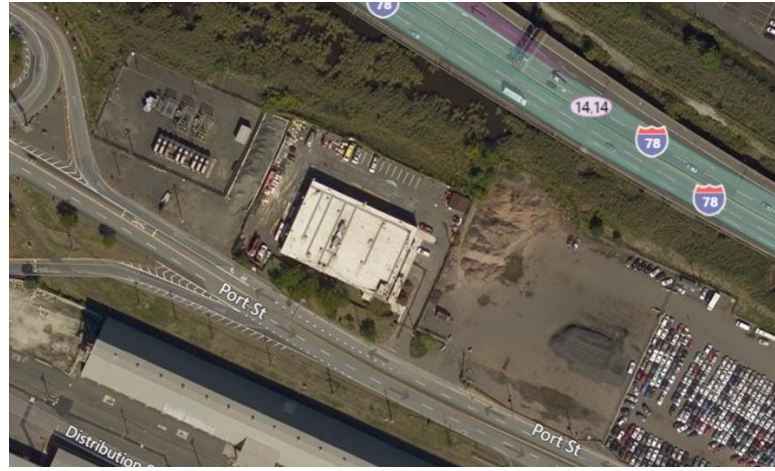


Photo3 – Mechanical Fire Protection – Alarm Check Valve Serving Sprinkler System



Building 255

Architecture Fig 01 – Aerial View



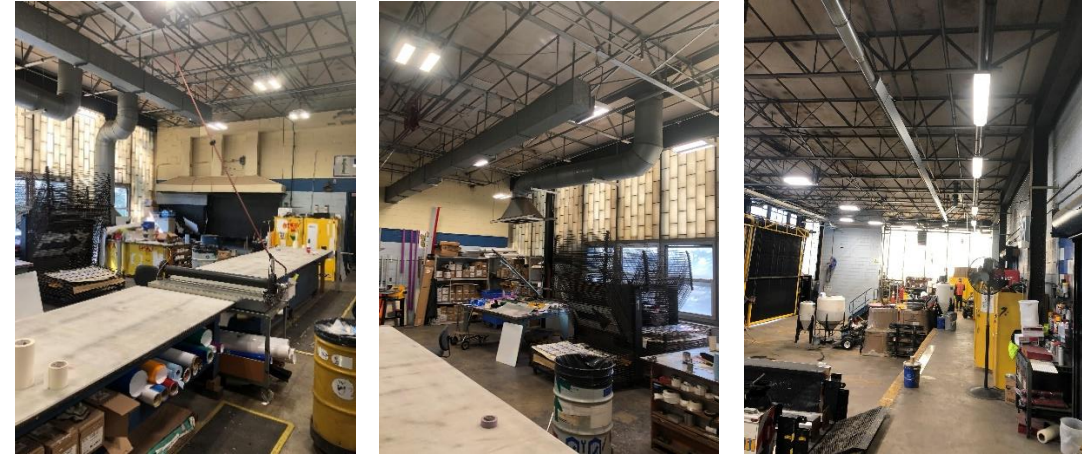
Architecture Fig 02 – Street View



Architecture Figs 03 –04 Open Work Area, Office/Work Room



Architecture Figs 05 –07 Open Spray Room 1, Open Spray Room 2, Garage/Loading



Architecture Figs 08 –09 Open Work Area, Office



Mechanical Fire Protection Figs 01



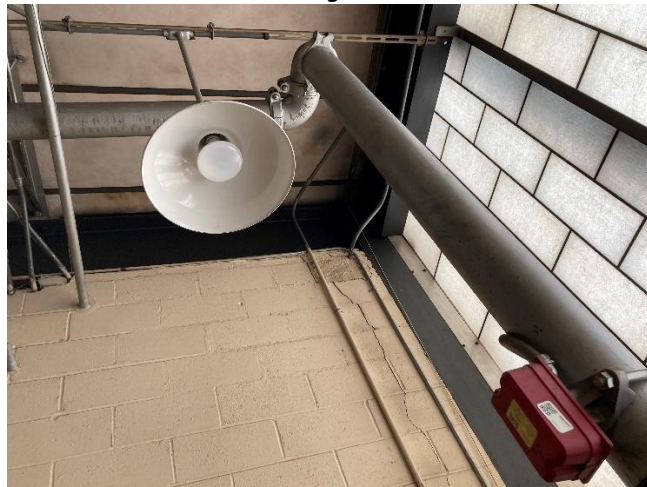
Mechanical Fire Protection Figs 02



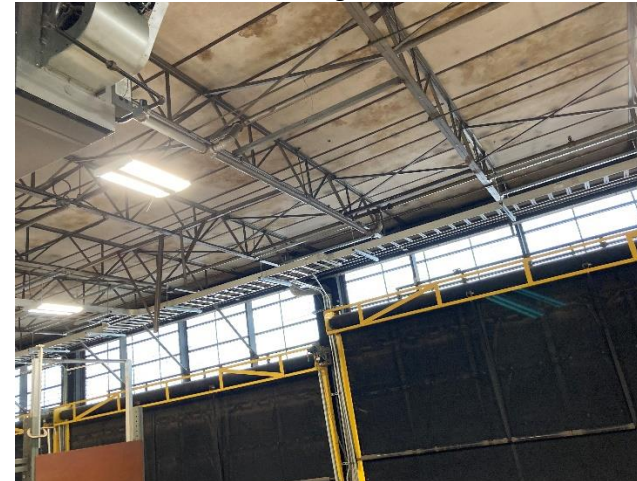
Mechanical Fire Protection Figs 04



Mechanical Fire Protection Figs 03

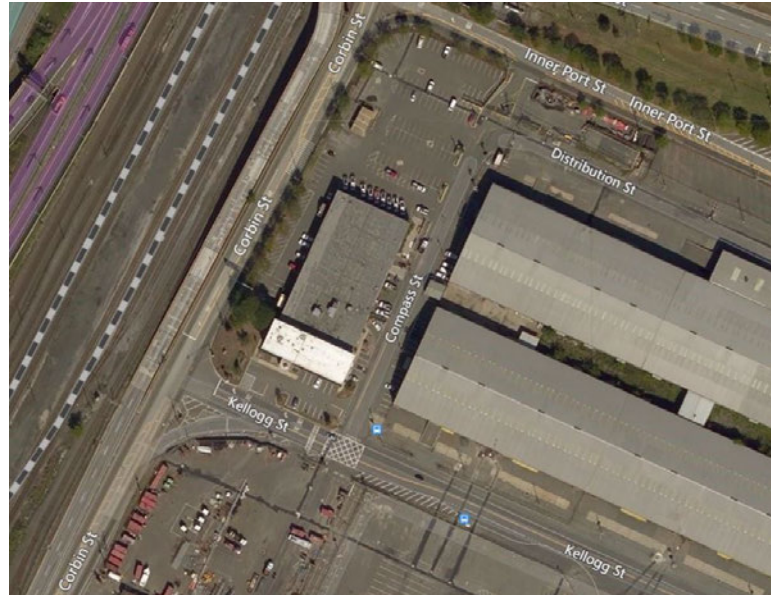


Mechanical Fire Protection Figs 05

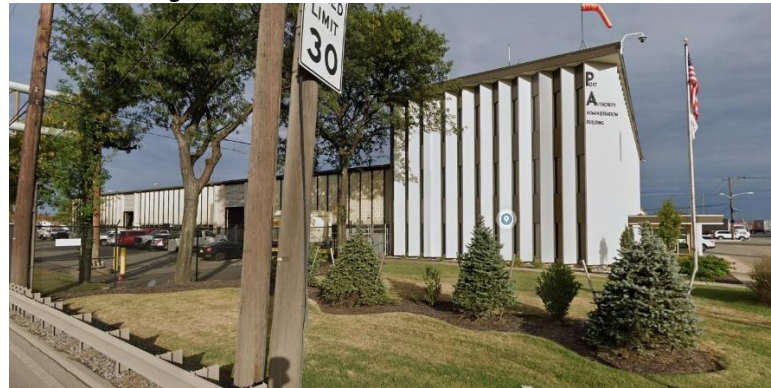


Building 260

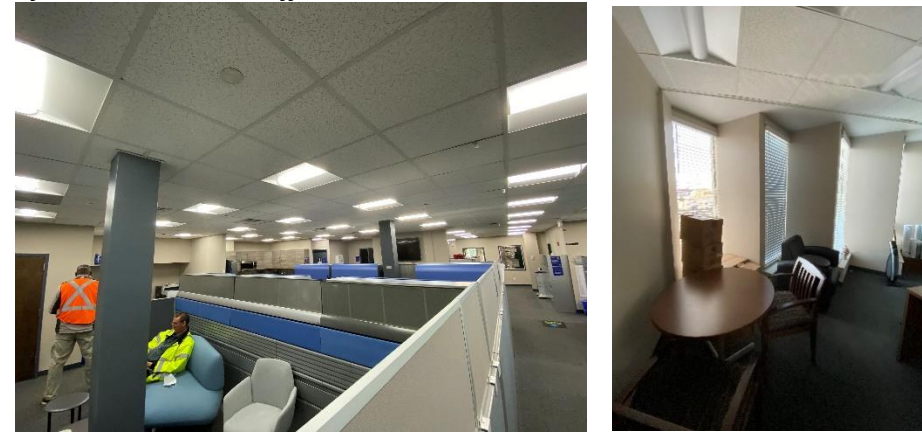
Architecture Fig 01 – Aerial View



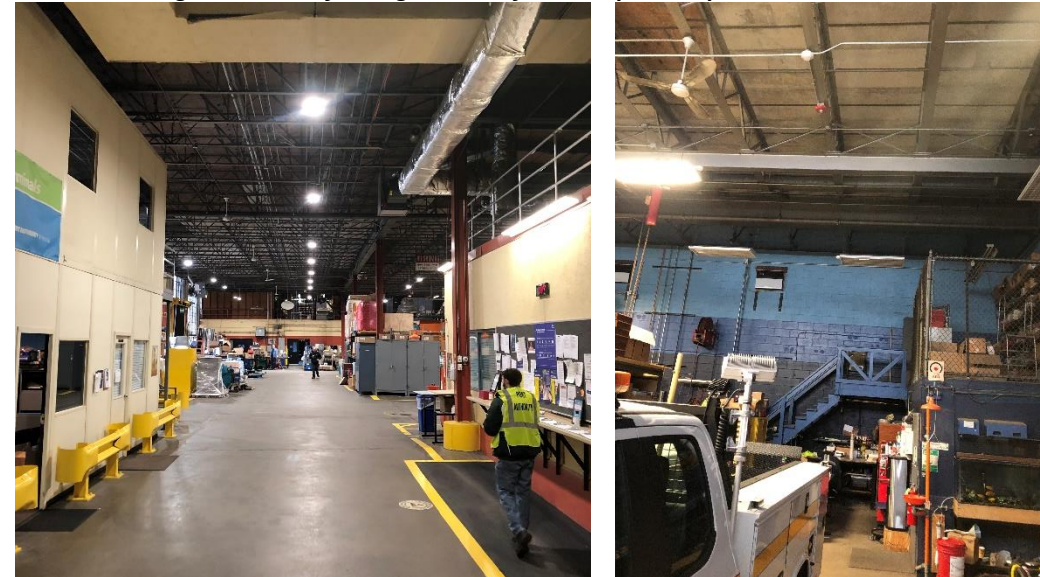
Architecture Fig 02 – Street View



View Of Garage, Typical View Of Upper Floor Open Office Area, Typical View Of Enclosed Perimeter Offices



Architecture Fig 03 – View Of Garage, View Of Auto Repair Shop



View Of Renovated Open Area, View Of Mezzanine From Garage



Mechanical Fire Protection Fig 01



Mechanical Fire Protection Fig 02



Mechanical Fire Protection Fig 03



Mechanical Fire Protection Fig 04



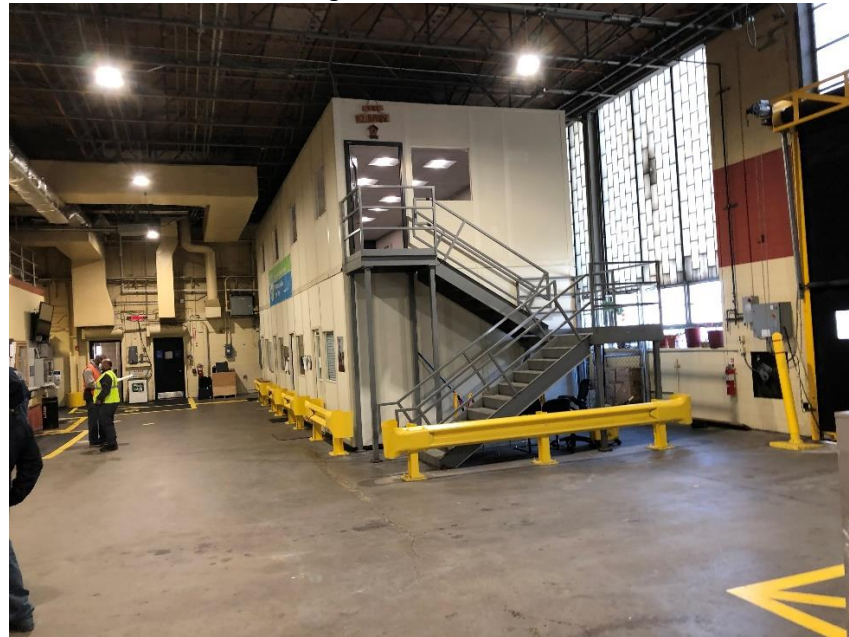
Mechanical Fire Protection Fig 05



Mechanical Fire Protection Fig 07



Mechanical Fire Protection Fig 06

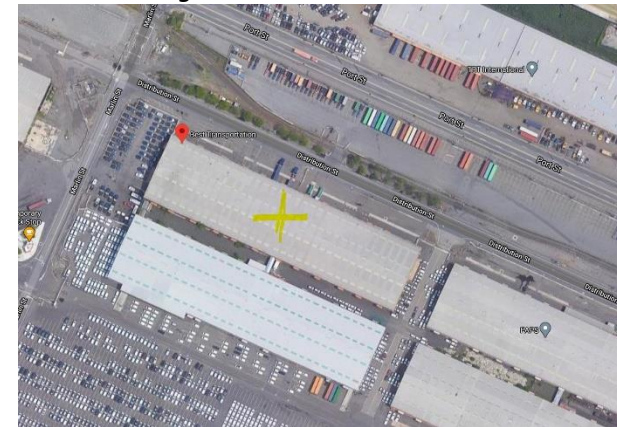


Mechanical Fire Protection Fig 08



Building 263

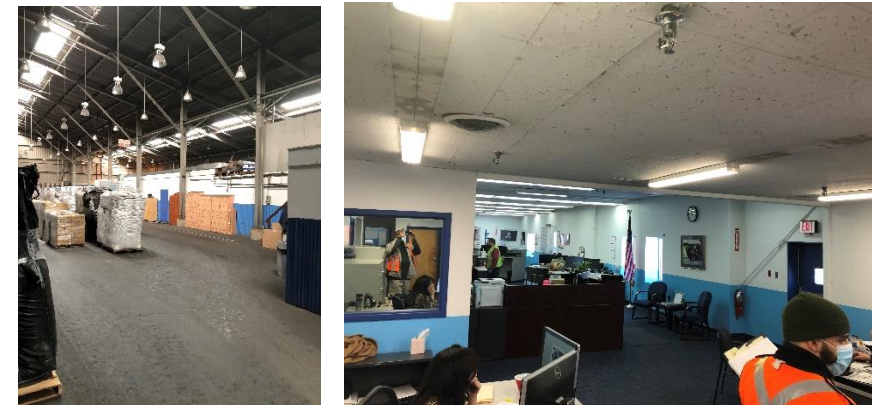
Architecture Fig 01 – Aerial View



Architecture Fig 02 – Street View



Architecture Fig 03-04 Nw Warehouse Area With Office Block, Interior View Of Offices



Architecture Fig 05-07 – Views In East Side Warehouse



Mechanical Fire Protection Fig 01



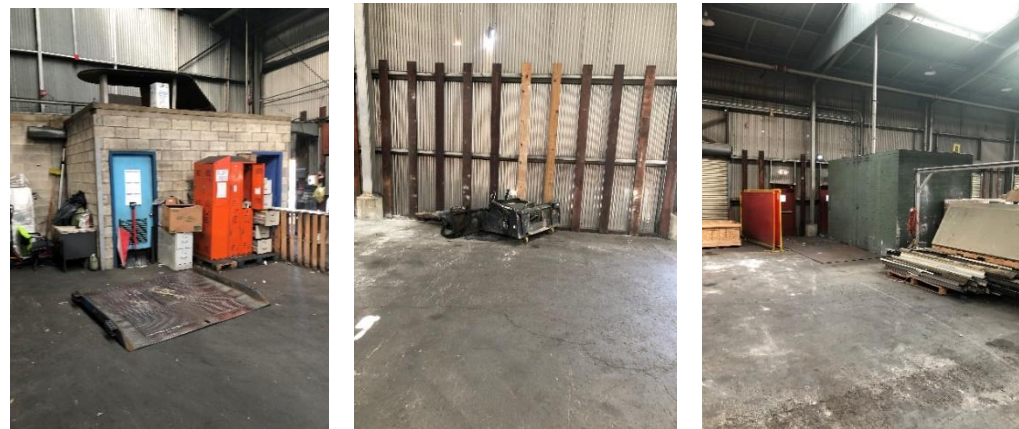
Architecture Fig 05-07 – West Side Warehouse, Partial Mezzanine, West Side Warehouse



Mechanical Fire Protection Fig 02



Architecture Fig 08-10 – West Side Warehouse Bathroom, Exterior Wall, East Side Warehouse Bathroom Block



Mechanical Fire Protection Fig 03



Mechanical Fire Protection Fig 04



Mechanical Fire Protection Fig 05



Mechanical Fire Protection Fig 06

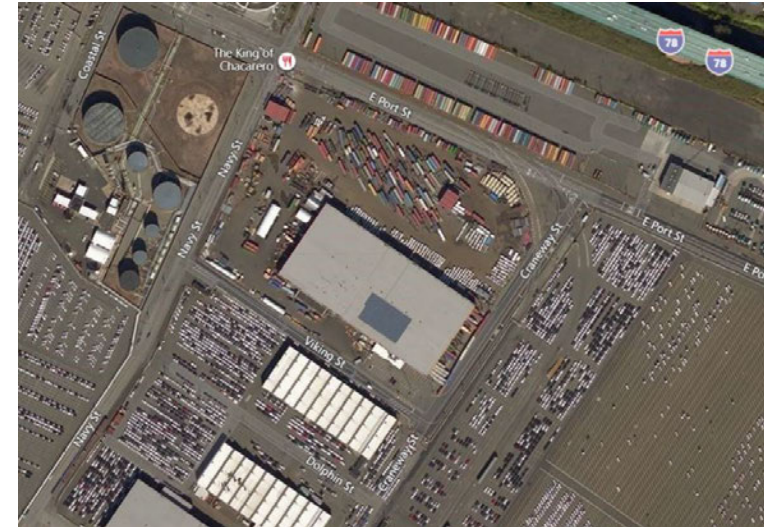


Mechanical Fire Protection Fig 07



Building 301

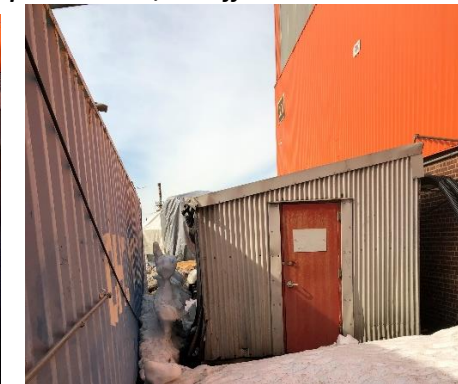
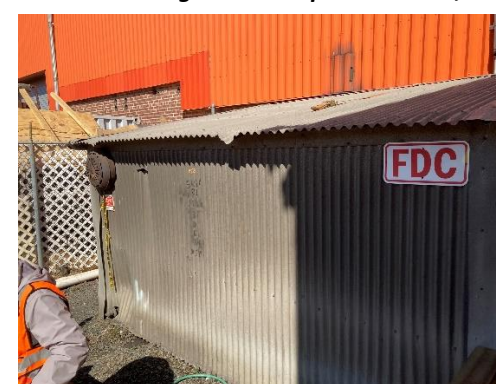
Architecture Fig 01 – Aerial View



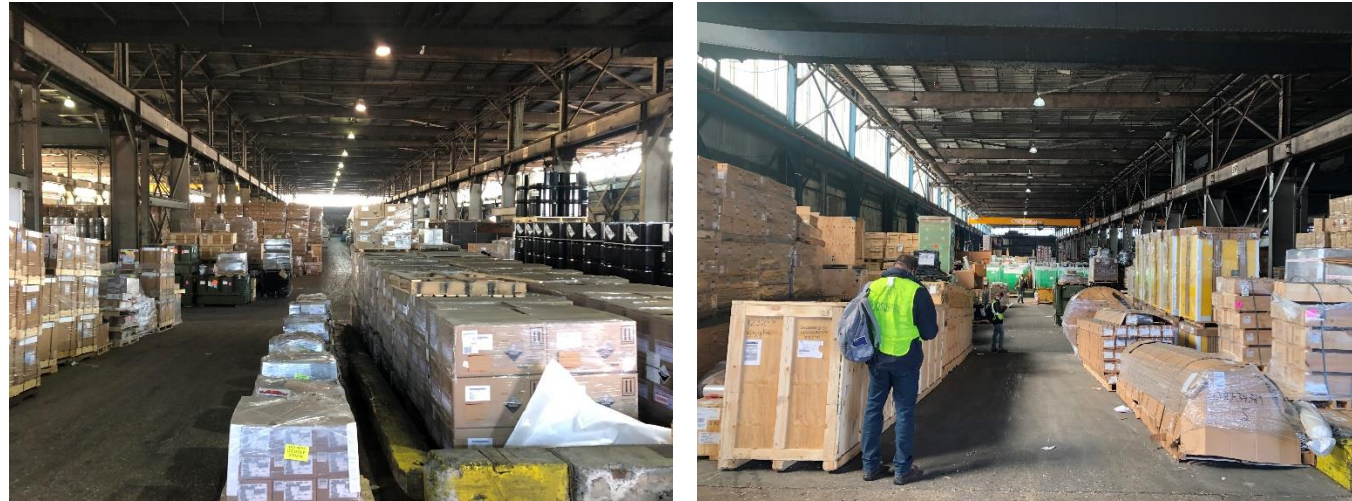
Architecture Fig 02 – Street View



Architecture Fig 03-05 Se Sprinkler Shed, Nw Sprinkler Shed, Sw Office Annex



Architecture Fig 06-07 Warehouse Views



Architecture Fig 08-10 Se Office Annex, Sw Locker Room, Warehouse Beekroom



Mechanical Fire Protection Fig 01



Mechanical Fire Protection Fig 04



Mechanical Fire Protection Fig 02



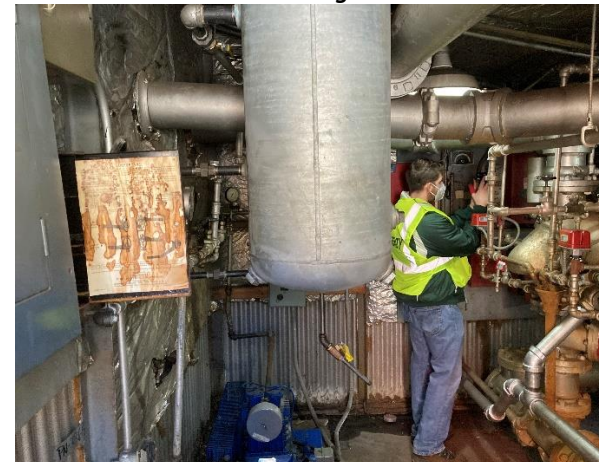
Mechanical Fire Protection Fig 05



Mechanical Fire Protection Fig 03



Mechanical Fire Protection Fig 06



Mechanical Fire Protection Fig 07



Mechanical Fire Protection Fig 09



Mechanical Fire Protection Fig 08



Mechanical Fire Protection Fig 10



Mechanical Fire Protection Fig 11



CATALOG AND EQUIPMENT CUT SHEETS



FLOOD PROOF SECURITY DOORS

DESIGN

Our new range of flood proof security doors are flood proof whenever they are locked and due to their steel frame and construction, they are able to operate simultaneously as security doors. Full height flood depths are achievable, depending on the locking mechanism chosen.

The use of these doors ensures that when a door is locked it is watertight - this removes the need to check if barriers are installed when a flood alert is received.

Available as single or double leaf doors, these systems are ideal for use in unmanned locations, such as utility sites, especially where security measures are required. Double leaf doors incorporate a removable center mullion. The door leaves utilize 0.08" zinc-coated steel and come with a range of locking mechanisms. Doors are supplied insulated and can be 60 minute fire rated if required.

Doors and frames are manufactured as standard using galvanized steel and are powder-coated to client's color specification. Door manufacture using stainless steel is available where requested, for the harshest environments. The doors utilize adjustable gaskets that are adjusted upon installation to ensure the correct level of compression is applied to the gaskets.

Doors can incorporate windows or ventilation grilles.

Permanent Flood Protection and Security – single or double leaf – flood depths up to full height.



USES

- Existing or new building openings up to 8.2 ft wide.
- Emergency access / escape routes.
- Where flood protection required alongside security or fire resistance.
- Secure sites such as utility sites or commercial premises.

BENEFITS

- Flood proof / security / 60 minute door all in one. No need for separate protection measures.
- Single or double leaf flood door.
- Permanent protection.
- No operational difficulties – operates just like a normal door.
- Suitable for constant daily use.
- Flood-proof to full height.
- Openings to 8 ft high and 8.2 ft wide as standard.

DESIGN

SIZES

- Single flood doors available to 3.6 ft width and 8 ft height as standard.
- Double flood doors are available with demountable center mullion to 8.2 ft width and 8 ft height.
- Removable or liftable overpanels available where increased heights are required.

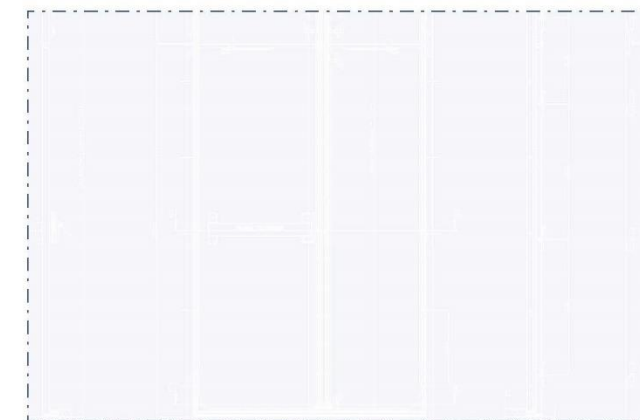
CONFIGURATIONS

- Low profile threshold for situations where doors and frames are installed in existing accesses.
- Face mounted frames enable unrestricted accesses.
- Inward or outward opening doors available.

INSTALLATION

- Doors and frames require adequate walls either side and a flat surface to seal against. Doors and frames provided with all sealants and fixings required.

BESPOKE CAD DRAWINGS



Mechanical Room Flood Door

Model: PD-525

The PD-525 is a normal use pedestrian door that also acts as a flood protection door specifically for your mechanical room. As long as your door is closed and latched, your mechanical room is protected from dangerous flooding.

24-HOUR FLOOD PROTECTION

- Passive flood protection: door is always in place
- Compression gasket: no compressed air required for activation
- Available in single or paired configuration

CONVENIENT INSTALLATION

- Ships ready to install
- Structurally welded door frame

MATERIAL & FINISHES

- Available in mild steel or stainless steel type 304 or 316L
 - Mild steel finish: industrial enamel
 - Stainless steel finishes: 2b mill finish and no. 4 brushed finish

OPTIONS

- Louver: Max. 24" x 24"
- Kick plates
- Deadbolt lock
- Vision Lite: 5" x 20" or 1.0" x 1.0" security glass

APPLICATION USE:

- Electrical rooms
- Broiler rooms
- Wastewater pump stations
- Treatment plants
- Fire pump rooms
- Emergency generator or backup generator rooms



PS Flood Barriers[®]
Solutions That Hold Water

PS DOORS

1150 South 48th Street
Grand Forks, ND 58201
Phone: 701.746.4519
Toll Free: 877.446.1519
Email: 4psinfo@psdoors.com

Rev. Date: 09/16/16

877.446.1519
flooddoors.com

Reliable

NEW

REL-BFG-300

Grooved End Butterfly Valves

New from Reliable are high quality fire protection control Butterfly Valves in both Grooved End and Wafer Style options. These valves are UL, ULC listed and FM approved and are available in sizes from 2 1/2" up to 8". They are supplied from stock with factory installed UL listed double tamper switch for indoor and outdoor use.

Grooved End 2-1/2" - 8" (65mm up to 200mm)

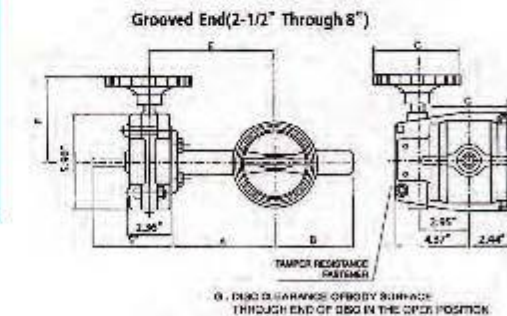
Working Pressure and Temperature

Working Pressure	300 PSI (21.4Bars)
Max. Test Pressure	600 PSI (42.8Bars)
Max. Working Temperature	250°F (120°C)



Materials List

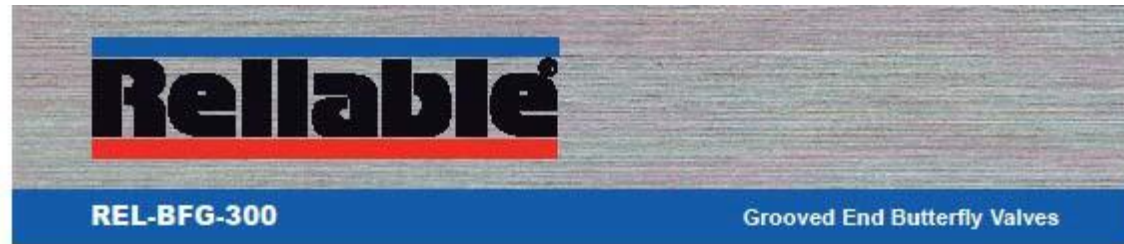
Component	Material
Body	ASTM A-536 Nylon-11 Coated
Disc	ASTM A-536 EPDM Encapsulated
Upper & Lower Stems	AISI 420-55
Housing	ASTM A-536
Hand Wheel	ASTM A-536
Flag indicator	ASTM A-536
Shear Pin	ASTM A-510
Segment Gear	ASTM B-148 or B-584
Housing Gasket	EPDM Grade E
O-Rings (All)	EPDM Grade E



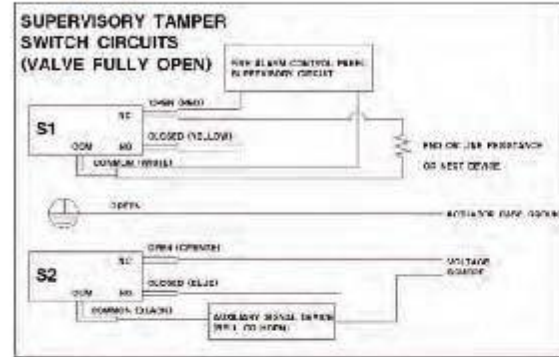
SIZE	A	B	C	D	E	F	G	H
2-1/2"	4.13 (105)	3.30 (85)	3.80 (96.4)	2.87 (73.0)	5.31 (135)	5.04 (128)	5.04 (128)	
3"	4.41 (112)	3.80 (92)	3.80 (96.4)	3.50 (88.9)	5.59 (142)	5.04 (128)	5.04 (128)	
4"	5.71 (145)	4.30 (108)	4.54 (115.4)	4.50 (114.3)	6.89 (175)	5.04 (128)	5.04 (128)	
6"	7.05 (179)	5.71 (145)	5.21 (132.4)	6.83 (166.3)	8.23 (209)	8.86 (220)	8.86 (220)	0.28 (7.10)
8"	8.03 (204)	6.70 (170)	5.80 (147.4)	8.83 (219.1)	9.21 (234)	8.86 (220)	8.86 (220)	0.95 (24.2)



RELIABLE AUTOMATIC SPRINKLER CO INC TECHNOLOGY • QUALITY • SERVICE
1470 Smith Grove Road, Liberty, South Carolina 29857 USA
www.reliablesprinkler.com



Wiring Diagram

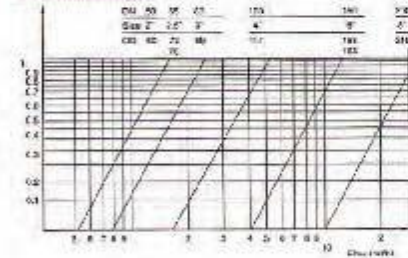


Test Data

Butterfly Valve

GROOVED END

Flow characteristics



Flow coefficient: Kv

Flow coefficient: Kv

DN (mm) 50 65 80 100 125 150 200

DN (mm)	50	65	80	100	125	150	200
50	12	13	27.4	53.1	95	138	163
65	12	12	27.4	53.1	95	138	163
80	12	12	27.4	53.1	95	138	163
100	12	12	27.4	53.1	95	138	163
125	12	12	27.4	53.1	95	138	163
150	12	12	27.4	53.1	95	138	163
200	12	12	27.4	53.1	95	138	163

$$Kv = \frac{Q}{\sqrt{\Delta P}}$$

$$Q = \text{flow in m}^3/\text{h}$$

$$\Delta P = \text{pressure loss in bar}$$

$$Q = 31.6 Kv \sqrt{\frac{\Delta P}{\rho}}$$

$$\rho = \text{density in kg/m}^3$$

WAFFER TYPE

Flow characteristics

DN	65	80	100	125	150
Size	2-1/2"	3"	4"	5"	6"
Kv	210	330	610	1520	3100
Cv	240	385	712	1750	3150

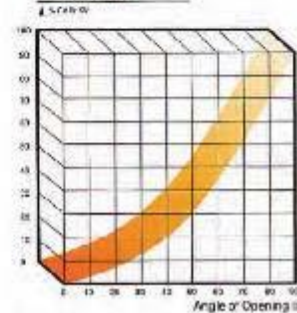
Kv = m³/h of water at 5 bar pressure and 5°C (50°F) at 1 bar pressure loss.
Cv = gpm of water at 1 psi differential pressure and 60°F (15.6°C) at 1 psi pressure loss.

Flow Coefficients

The flow coefficient Kv is the flow in m³/h of water at an average temperature of 20°C, crossing the valve with creating a headloss of 1 bar. The relation between Cv and Kv is:

$$Cv = \frac{1.36}{Kv}$$

Cv vs Disc Angle



RELIABLE AUTOMATIC SPRINKLER CO INC TECHNOLOGY • QUALITY • SERVICE
 1470 Smith Grove Road, Liberty, South Carolina 29657 USA
 www.reliablesprinkler.com



Model G4A
Quick Response
Adjustable Concealed
Automatic Sprinkler

Bulletin 154 Rev. I

Bulletin 154 Rev. I

The Concealer®
UL Quick Response
FM Standard Response
Concealed Sprinkler With 1 1/2" (38mm)
Adjustment Model G4A, K4.2 and K5.6
Sprinkler types

For non adjustable K5.6 and K4.2 type sprinklers refer to Bulletin 034 for Technical Specification and Approvals

Features

1. Cover plate attachment (Plain or Perforated) with 1/2" (13mm) assembly adjustment.
2. Smooth aesthetic ceiling profile.
3. Factory installed protective cap.
4. Available in brass, chrome or black plated and white painted finishes.
5. Ordinary temperature rating.
6. Multiple orifices for design flexibility.

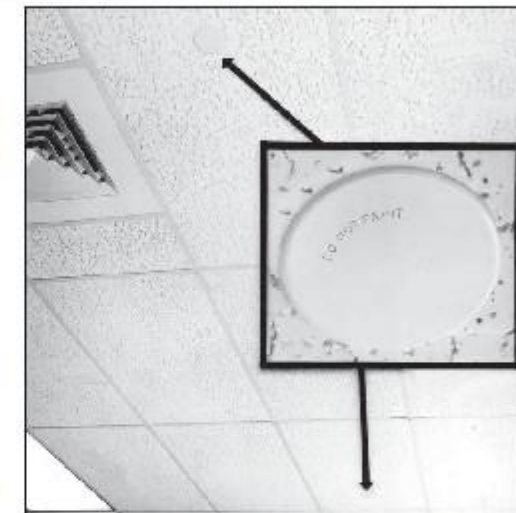
Approvals & Listings

1. Underwriters Laboratories, Inc. (UL) - Quick Response
2. Underwriters Laboratories of Canada (ULC) - Quick Response
3. Factory Mutual Research Corp. (FM) - Standard Response
 - Light Hazard Occupancies - No Limitations
 - Ordinary Hazard Occupancies Groups 1 & 2 Wet Systems Only
4. NYC MEA 258-93-E - Quick Response

U.S. Patent number 4,880,063.

Application

The Reliable Model G4A Adjustable Concealer® is the most versatile quick response concealed sprinkler available. It provides the best form of fire protection while offering an attractive appearance and 1/2" (13mm) of cover adjustment in addition to 1 1/2" inlet Adjustable for ease of installation. The small diameter cover plate assembly is easily attached and blends into the ceiling, concealing the most dependable fire protection available, an automatic sprinkler system.



The Model G4A Adjustable Concealer® is designed for use where aesthetic appearance is important. Offices, hospitals, motels and restaurants are but a few of the applications where it can be used. It is available in different orifice sizes allowing the designer to optimize system performance, thereby achieving a very efficient installation.

The Model G4A Adjustable Concealer® is a UL Listed Quick Response Concealed sprinkler intended for use in accordance with NFPA 13. FM Approves this sprinkler as a standard response concealed sprinkler intended for use in accordance with FM Loss Prevention Data Sheet 2.0.

Product Description

The Reliable Model G4A Adjustable Concealer® uses a proven quick response fusible element in a standard style sprinkler frame with a drop-down deflector. This assembly is recessed into the ceiling and concealed by a flat cover plate assembly. The threaded engagement provides 1/2" (13mm) of cover adjustment. The flat cover plate is attached to the skirt using either 135°F (57°C) or 165°F (74°C) ordinary temperature classification solder.

When the ceiling temperature rises, the solder holding the flat cover plate melts, the flat cover plate released thus exposing the sprinkler inside to the rising ambient temperature.

The subsequent fusing of the element opens the waterway and causes the deflector to distribute the water. Any secure engagement between the cover plate and cup will assure that the drop-down deflector is properly located below the ceiling.

The Reliable Automatic Sprinkler Co., Inc., 103 Fairview Park Drive, Elmsford, New York 10523



**Model GFR
Model GFR Recessed
Quick Response
Sprinklers**

Bulletin 131 Rev. K
Bulletin 131 Rev. K

Model GFR Sprinkler Types

- Standard Upright
- Standard Pendent
- Horizontal Sidewall
HSW1 Deflector
- Intermediate Level Upright
- Intermediate Level Pendent
- Conventional

**Model GFR Recessed
Sprinkler Types**

- Recessed Pendent
- Recessed Horizontal Sidewall
HSW1 Deflector

Approvals

1. Underwriters Laboratories, Inc. (UL)
2. Underwriters' Laboratories of Canada (ULC)
3. NYC BS&A No. 587-75-SA
4.
5.
6. MIL-S-901C and MIL-STD-167-1
7. NYC MEA 258-93-E

UL Listing Category

Sprinklers, Automatic & Open
Quick Response Sprinkler

UL Guide Number

VNIV

Product Description

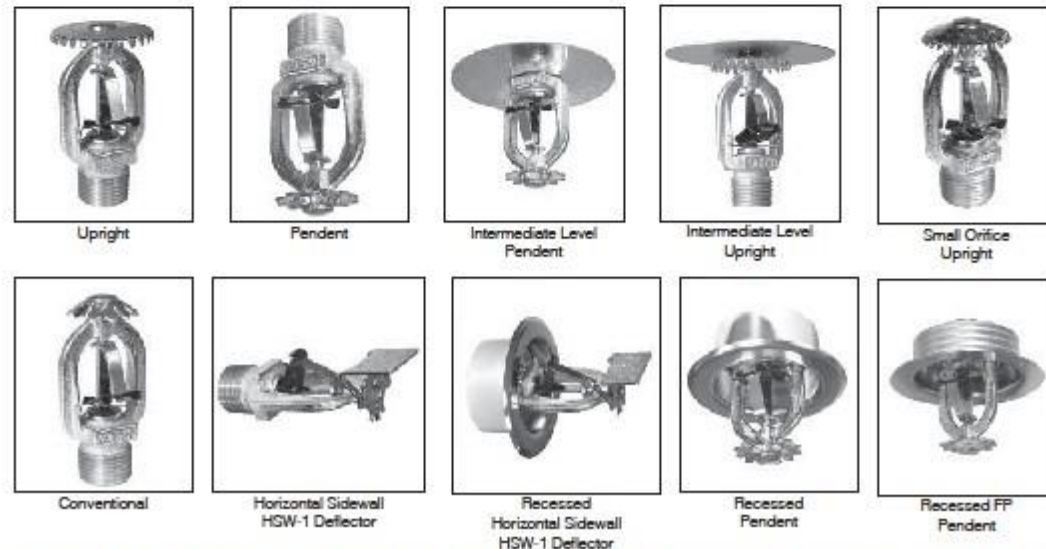
Reliable Models GFR and GFR Recessed Sprinklers are Quick Response fusible solder type automatic sprinklers.

These sprinklers have demonstrated response times in laboratory tests which are five times faster than standard response sprinklers.

This quick response enables the Models GFR and GFR Recessed Sprinklers to apply water to a fire much faster than standard response sprinklers of the same temperature rating.

Application

Quick response sprinklers are used in fixed fire protection systems: Wet, Dry, Deluge or Preaction. Care must be exercised that the orifice size, temperature rating, deflector style and sprinkler spacing are in accordance with the latest published standards of the National Fire Protection Association or the approving Authority Having Jurisdiction. Quick response sprinklers are intended for standard area coverage and standard water densities as specified in NFPA 13. Quick response sprinklers and standard response sprinklers should not be intermixed.



The Reliable Automatic Sprinkler Co., Inc., 103 Fairview Park Drive, Elmsford, New York 10523

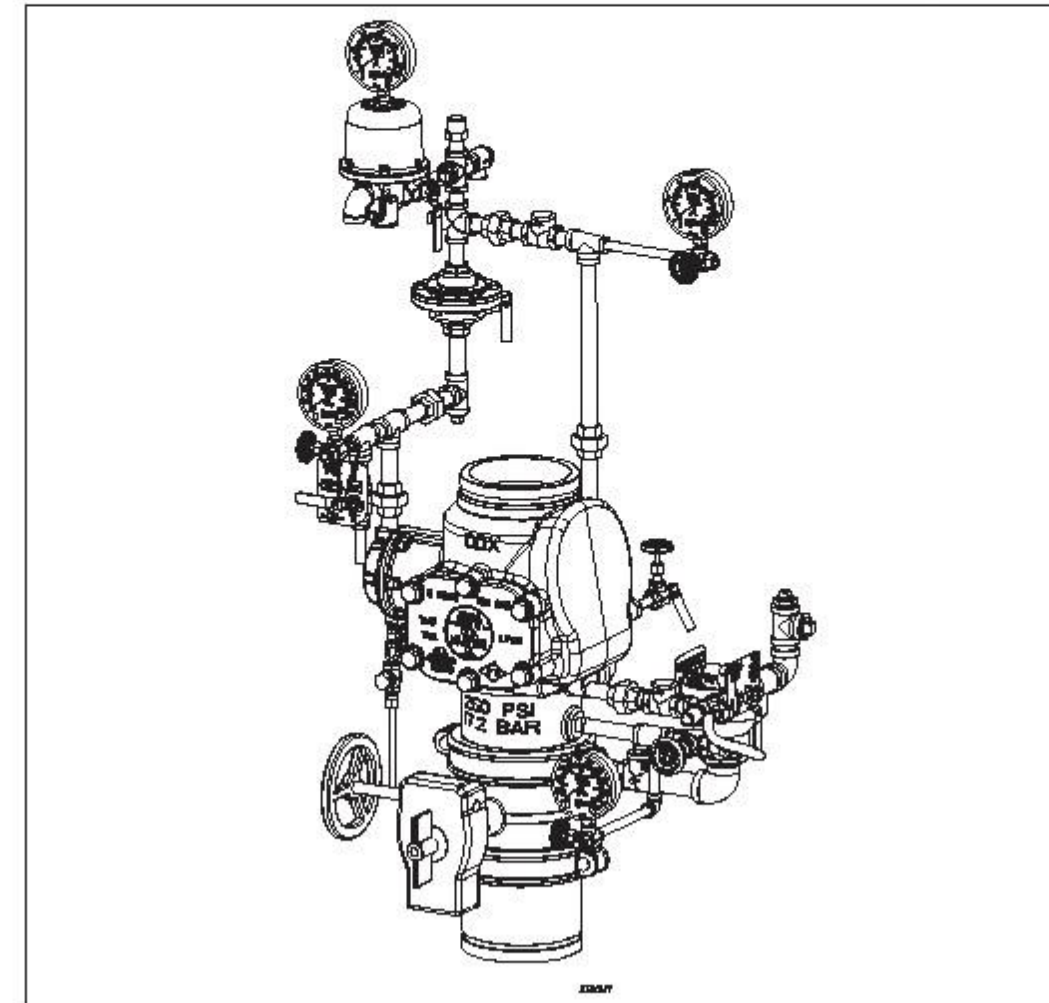


**Model DDX-LP
Dry Pipe Valve System**
2" (50 mm), 2½" (65 mm),
3" (80 mm), 76 mm, 4" (100 mm),
6" (150 mm), 165 mm & 8" (200mm)

Bulletin 338
Bulletin 338

**Instructions for
Installation, Operation,
Care and Maintenance**

- 8 to 28 PSI (0,6 to 1,9 bar) Pneumatic Pressure
- Externally Resettable Clapper
- One Main Drain
- No Priming Water Requirement



The Reliable Automatic Sprinkler Co., Inc., 103 Fairview Park Drive, Elmsford, New York 10523

General

The Reliable Model DDX-LP Dry Pipe Valve is a hydraulically operated, differential latching clapper-type valve (see Fig. 1.) designed for use as a primary control valve in a low pressure dry pipe system. The trim set used with the Model DDX-LP Dry Pipe Valve contains the Reliable Model LP Dry Valve Actuator releasing device. This Actuator allows the system's air or nitrogen pressure requirement to be considerably less than the available water supply pressure (see Table A). The following benefits are a direct result of lower air pressure:

1. In refrigerated area systems, lower air pressure decreases the possibility of ice plugs, which could impede or prevent the flow of water to sprinkler heads in the event of fire.
2. Lower air pressure (volume) will enable smaller capacity, lower cost dehydration equipment when it is required.
3. Lower air or nitrogen pressure can reduce water delivery time when the system actuates, and in some cases, may eliminate the need for an accelerator.
4. Low pressure requirements make the use of dry nitrogen gas, instead of air, practical even on larger systems. Resulting benefits include a lower-than-air dew point, which minimizes ice plugging of system lines, and enhances "user friendliness" during installation and operation.
5. System maintenance is simplified since priming water is not required and the Dry Pipe Valve can be reset externally without cover removal. This is accomplished by pushing in and turning the external reset knob at the rear of the Dry Pipe Valve (see Fig. 1). This feature provides a significant system-restoration time advantage.

The Model DDX-LP Dry Pipe Valve's trim set (see Fig. 2 and Fig. 3) provides all of the necessary equipment for connections to the pushrod chamber's inlet and outlet ports, the 1/4" (30mm) or 2" (50mm) main drain, alarm devices, air supply, water supply, and required pressure gauges. This trim set is available in individual parts, in time-saving, segmentally assembled kit forms, or fully assembled to the Model DDX-LP Dry Pipe Valve (with or without a control valve).

All the sizes of the Model DDX-LP Dry Pipe Valve trim sets may be equipped with the optional Reliable Model B1 Accelerator trim kit P/N 651600003, (see Figs. 2, 3 & 4). This device acts as an exhaustor which will hasten the operation of the Model LDX Dry Valve Actuator and minimize the water delivery time for the entire system.

Listings & Approvals

Reliable Model DDX-LP Dry Pipe Valves, complete with trim that includes a Model LP Dry Valve Actuator, and only when used as the valve manufacturer's complete system are:

1. Listed by Underwriters Laboratories, Inc. and UL certified for Canada (cULus).
2. Certified by Factory Mutual Approvals (FM).
3. NYC MEA 258-93-E
4. LPCB (4" (100mm), 165mm, 6" (150mm) & 8" (200mm) only)
5. CE
6. VdS Schadenverhütung GmbH

System Operation

The Reliable Model DDX-LP Dry Pipe Valve is shown in both closed and open positions in Fig. 1. In the closed position, the supply pressure acts on the underside of the clapper and also on the pushrod through the pushrod chamber's inlet restriction. The resultant force due to the supply pressure acting on the push rod is multiplied by the mechanical advantage of the lever and is more than sufficient to hold the clapper closed against normal supply pressure surges.

When a sprinkler operates, there will be a loss of air or nitrogen pressure in the sprinkler system's piping which will cause the Model LP Dry Valve Actuator to open. The opening of this device allows a releasing discharge of water from the pushrod chamber's outlet connection. Since the pressure cannot be replenished through the inlet restriction as rapidly as it is vented, the pushrod chamber pressure falls instantaneously. When the push rod chamber pressure approaches approximately one-third of the supply pressure, the upward force of the supply pressure acting beneath the clapper overcomes the lever applied force thereby opening the clapper.

Once the clapper has opened, the lever acts as a latch, preventing the clapper from returning to the closed position. Water from the supply flows through the Dry Pipe Valve into the system piping. Water also flows through the Dry Pipe Valve's alarm outlet to the alarm devices.

After system shutdown, resetting the Model DDX-LP Dry Pipe Valve is quite simple. Doing so only requires pushing in and turning the reset knob at the rear of the valve (see Fig. 1). The external reset feature of the Model DDX-LP Dry Pipe Valve provides a means for simple, economical system testing, which is one essential facet of a good maintenance program. The external reset feature does not, however, eliminate another important facet of good maintenance, namely, periodic cleaning and inspection of the internal valve parts.

In the event that water builds up inside the valve due to condensate from the air supply system or water left inside from valve system testing, a drain is available for venting. After closing the main supply valve, a small valve over the drain cup can be opened slightly until the water inside the valve body and the main pipe column has drained. See the section titled "Draining Excess/Condensate Water From System" in this bulletin for the detailed procedure.

The Model B Hydraulic Manual Emergency Station (see Fig. 5) is also included in the Model DDX-LP Dry Pipe Valve trim set. It consists of an aluminum nameplate mechanically attached to a ball valve. The valve handle in its OFF position is guarded against accidental turning to the ON position (and system discharge) by a nylon cable tie provided with each trim kit. The cable tie is inserted, as shown in Fig. 5, after the system has been restored for operation. The nylon cable tie is designed to allow, in case of an emergency, forceful turning of the valve handle to the ON position. As an alternative to the Model B Hydraulic Manual Emergency Station, the Model A Hydraulic Manual Emergency Pull Box (see Reliable Bulletin 506) is also available and can be provided as an option.

Whenever ambient temperature conditions are high, the water temperature in the Model DDX-LP Dry Pipe Valve's pushrod chamber could possibly increase, thereby increasing the pressure in the chamber to values exceeding the rated pressure of the system. In an indoor installation where standard room temperatures are exceeded, a pressure relief kit may be needed. Pressure relief kit, P/N 6503050001, can be installed into the pushrod chamber's releasing line to limit the pressure to 250 psi (17.2 bar).

Hydrostatic Testing of DDX Valves and DDX Systems

As required by NFPA 13, fire sprinkler systems with working pressures up to and including 150 psi are to be hydrostatically tested at a water pressure of 200 psi and maintain that pressure without loss for two hours. Fire sprinkler systems with working pressures above 150 psi are required to be hydrostatically tested at 50 psi above the system working pressure and maintain that pressure without loss for two hours. In addition to the hydrostatic tests described above, dry pipe and double interlock

preaction systems require an additional low pressure air test.

In some cases, hydrostatic testing (in accordance with the NFPA 13 requirements noted above) will result in pressures that exceed the working pressure of the valve and trim kit for the two-hour test period. The valve and applicable trim kit have been tested, approved and listed under these conditions and as such, hydrostatic testing in accordance with NFPA 13 is acceptable. In addition, the clapper can remain in the closed position and the trim kit need not be isolated, as each has been designed to withstand hydrostatic testing as required by NFPA 13.

Hydrostatically testing the valve and trim to pressures higher than their rating is limited to the hydrostatic test as referenced by NFPA 13. It does not address the occurrence(s) of a "water hammer" effect, which can indeed damage the valve. A "water hammer" in the water supply piping of the valve can create pressures in excess of the rated pressure and should be avoided by all necessary means. This condition may be created from improper fire pump settings, underground construction work, or an improper venting of trapped air in the water supply piping.

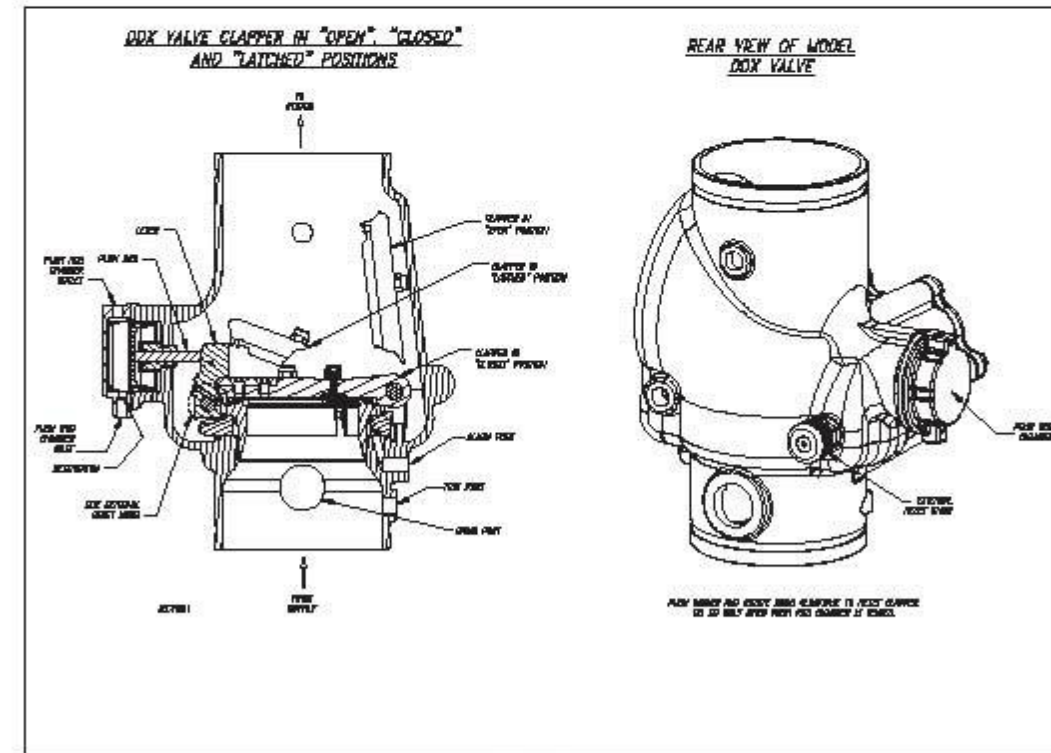


Fig. 1

2.

3.

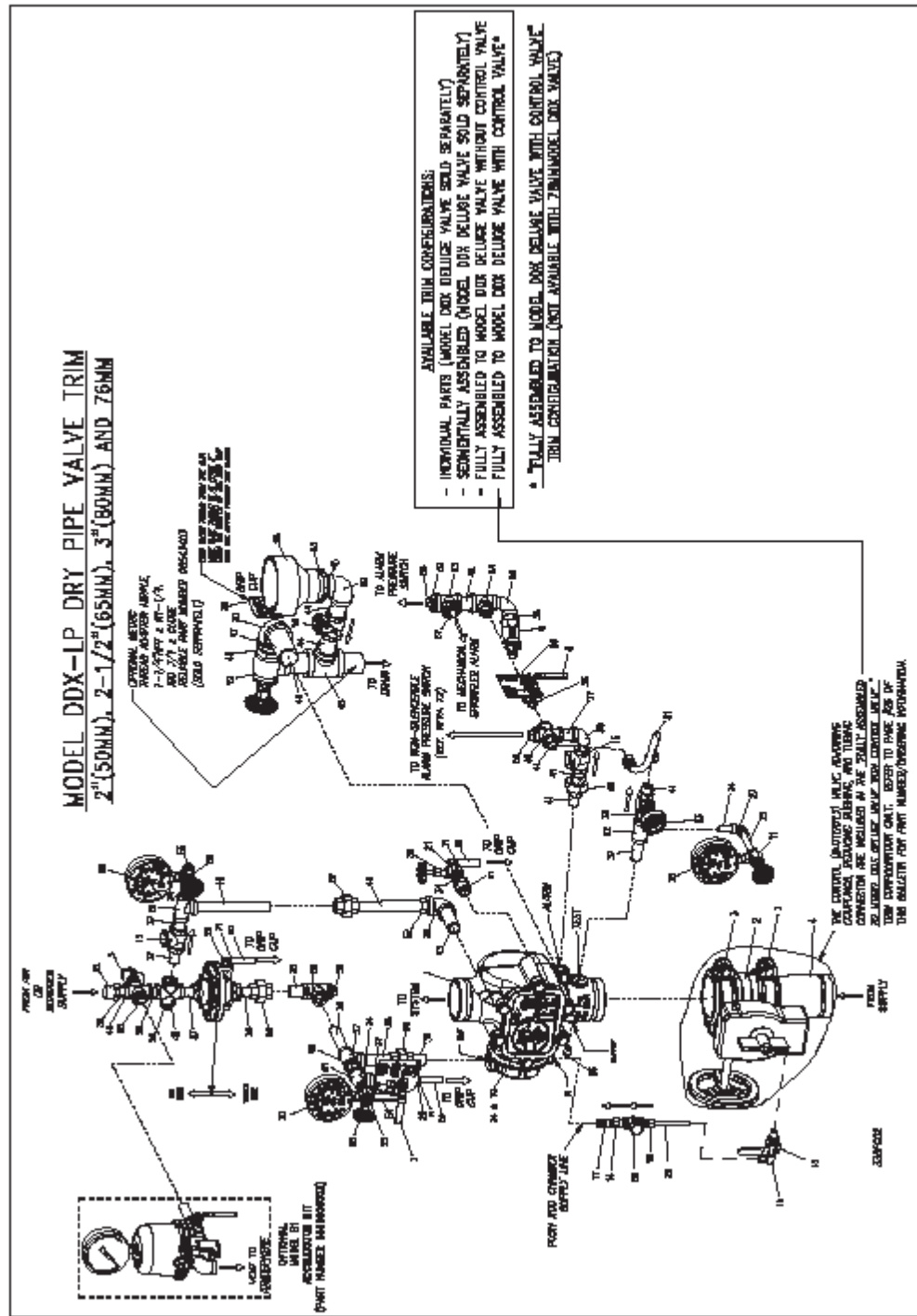


Fig. 2

- AVAILABLE TRIM CONFIGURATIONS:
- INDIVIDUAL PARTS (MODEL DDX DELUGE VALVE SOLD SEPARATELY)
 - SEMI-TRIM ASSEMBLY (MODEL DDX DELUGE VALVE SOLD SEPARATELY)
 - FULLY ASSEMBLED TO MODEL DDX DELUGE VALVE WITHOUT CONTROL VALVE
 - FULLY ASSEMBLED TO MODEL DDX DELUGE VALVE WITH CONTROL VALVE*
- * FULLY ASSEMBLED TO MODEL DDX DELUGE VALVE WITH CONTROL VALVE TRIM CONFIGURATION (NOT AVAILABLE WITH 78MM MODEL DDX VALVE)

4.

Small DDX-LP Dry Pipe Valve System Parts List (Refer to Fig. 2)

Item No.	Part No.		Description	QTY.
	Galvanized	Black Pipe		
1	6103022000	6103022000	Valve Assembly, 2" (50mm) - For 2" Assembly Only	1
	6103022500	6103022500	Valve Assembly, 2½" (65mm) - For 2½" Assembly Only	
	6103027800	6103027800	Valve Assembly, 78mm - For 78mm Assembly Only	
	6103030000	6103030000	Valve Assembly, 3" (80mm) - For 3" Assembly Only	
2	6990003549	6990003549	Butterfly Valve, 2" - For 2" Assembly Only	1
	6215051000	6215051000	Butterfly Valve, 2½" - For 2½" Assembly Only	
	6215051200	6215051200	Butterfly Valve, 3" - For 3" Assembly Only	
3	7G05080800	7G05080800	Rigid Coupling, 2" - For 2" Assembly Only	2
	7G05101000	7G05101000	Rigid Coupling, 2½" - For 2½" Assembly Only	
	7G05121200	7G05121200	Rigid Coupling, 3" - For 3" Assembly Only	
4	91004002	91004002	Outlet Spool, 2" - For 2" Assembly Only	1
	91004001	91004001	Outlet Spool, 2½" - For 2½" Assembly Only	
	91004003	91004003	Outlet Spool, 3" - For 3" Assembly Only	
5	98840195	98840195	Pressure Relief Valve (33 psi)	1
6	71030010	71030010	Model LP Pilot Line Actuator	1
7	78653000	78653000	Manual Emergency Station Assembly	1
8	78653004	78653004	Valve Caution Station Assembly	1
9	78653100	78653100	Ball Drip Valve, ½"	1
10	99080002	99080002	Adhesive Pad	1
11	98840101	98840101	Angle Valve, ½"	1
12	98840106	98840106	Angle Valve, 1½"	1
13	98840117	98840117	Ball Valve, ½" NPTF x ½" NPTM	1
14	98840188	98840188	Check Valve, ½" NPTM x ½" NPTF	1
15	98840181	98840181	Check Valve, Horizontal Swing, ½" NPT	2
16	98840145	98840145	Check Valve, Horizontal Swing, 1" NPT	1
17	98840147	98840147	Check Valve, Inline Poppet, ½"	1
18	92056702	92056702	Compression Connector, ½" ID Tube x ½" NPT	1
19	92056703	92056703	Compression Connector, Elbow, ½" ID Tube x ½" NPT	1
20	92056810	92056810	Connector, ½" ID Tube x ½" NPT	1
21	92056705	92056705	Connector, Elbow, ½" ID Tube x ½" NPT	1
22	92056704	92056704	Connector, Elbow, ½" ID Tube x ½" NPT	1
23	96686722	96686722	Copper Tubing, ¾" OD x 2 ft.	1
24	94618916	94618916	Model LP Dry Pipe Valve Nameplate	1

Item No.	Part No.		Description	QTY.
	Galvanized	Black Pipe		
25	98050004	98050004	Drain Cup, PVC	1
26	95306270	95306270	Drain Hose Clip	1
27	98174404	98164402	Elbow, ½"	1
28	98174401	98814401	Elbow, ½"	1
29	98174402	98164400	Elbow, ¾"	1
30	98174403	98164404	Elbow, 1"	1
31	98174414	98164407	Elbow, 1½"	1
32	98920912	98920912	Flex Line, ½"	1
33	98840172	98840172	Globe Valve, ½"	1
34	98840171	98840171	Globe Valve, ½"	1
35	98543226	98523213	Nipple ½" x 1½"	4
36	98543243	98529522	Nipple ½" x 4"	1
37	98543223	98523210	Nipple ½" x 1½"	9
38	98543209	98523209	Nipple ½" x 2"	7
39	98543230	98523230	Nipple ½" x 3"	1
40	98543228	98523234	Nipple ½" x 4½"	1
41	98543211	98523239	Nipple ½" x 6½"	2
42	98543212	98523221	Nipple ½" x Close	4
43	98543232	98523242	Nipple ¾" x 2"	1
44	98543231	98523240	Nipple ¾" x 3"	1
45	98543263	98523261	Nipple 1" x 3"	2
46	98543213	98523222	Nipple 1" x Close	1
47	98543239	98523256	Nipple 1½" x 3"	1
48	98543250	98523264	Nipple 1½" x 4"	1
49	98543285	98523274	Nipple 1½" x Close	1
50	98750003	98750013	Pipe Cross, ½"	3
51	98886756	98886756	PVC Tubing, ¾" ID x 6 ft.	1
52	98048025	98048011	Reducer Bushing, ¾" x ½"	1
53	98048022	98048012	Reducer Bushing, ¾" x ½"	3
54	98048015	98048015	Reducer Bushing, 2" Spigot x 1" NPTF, PVC	1
55	89141112	89141112	Retaining Tie	9
56	98814403	98804403	Square Head Plug, ½"	3
57	98804406	98804402	Square Head Plug, ½"	5
58	98814401	98804401	Square Head Plug, ¾"	1
59	98727807	98727807	Strainer, ½"	1
60	98174400	98164409	Street Elbow, ½"	2
61	98761851	98761803	Tee, ½"	2
62	98761849	98761804	Tee, ½" x ½" x ½"	2
63	98806807	98761805	Tee, ½" x ½" x ½"	1
64	98806801	98768521	Tee, ¾"	1
65	98806812	98761814	Tee, ¾" x ½" x ½"	1
66	98806803	98761821	Tee, 1½" x 1½" x 1"	1
67	98815200	98805200	Union, ½"	3
68	98815204	98845204	Union, ½", O-ring Seal	1
69	98840160	98840160	Valve, 3-way, ½"	2
70	98248000	98248000	Air Pressure Gauge (0-80 psi)	1
71	98248001	98248001	Water Pressure Gauge (0-300 psi)	2
72	95306255	95306255	Hose Clamp	3

5.

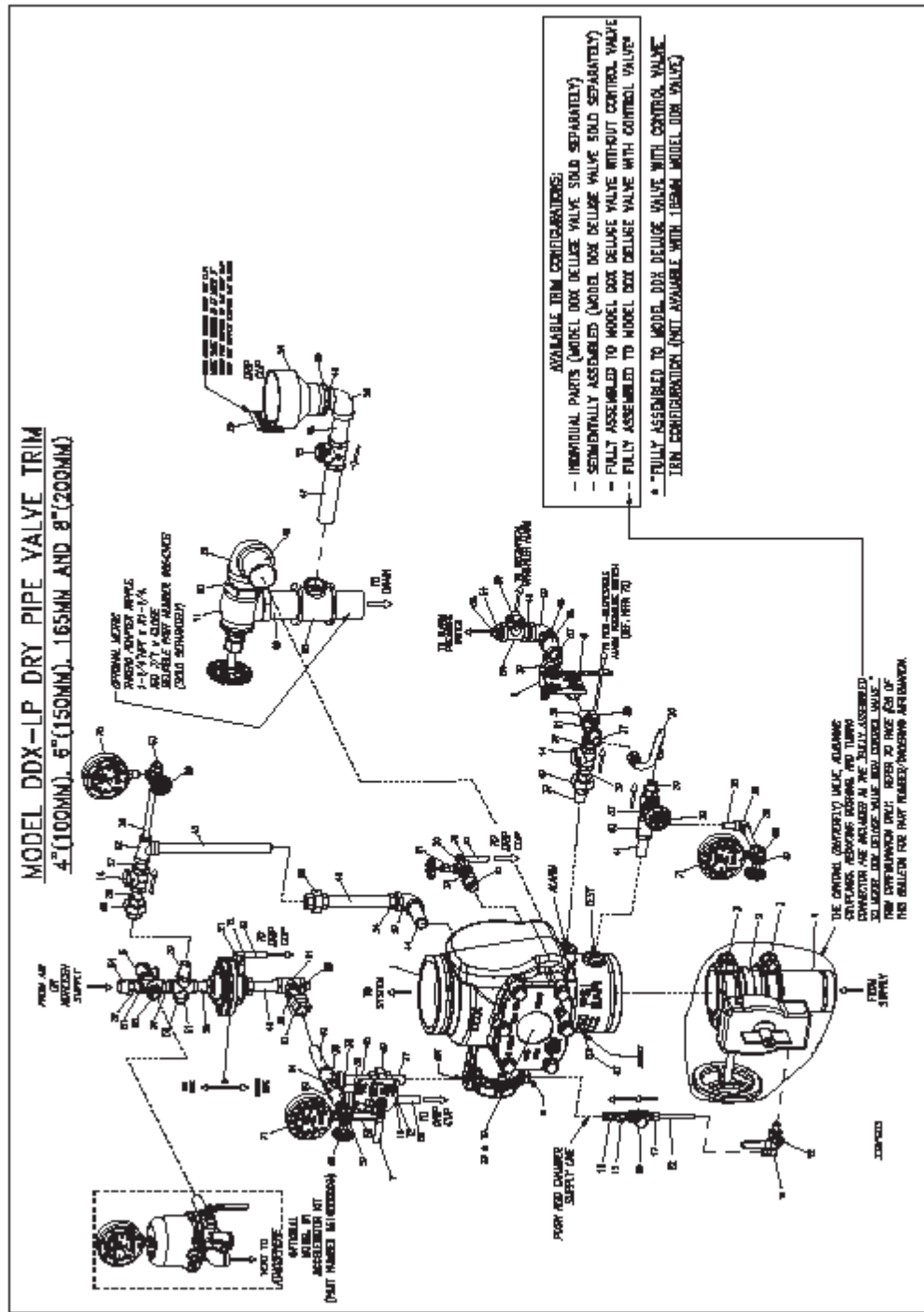


Fig. 3

Large DDX-LP Dry Pipe System Parts List (Refer to Fig 3.)

Item No.	Part No.		Description	QTY.
	Galvanized	Black Pipe		
1	8103080024	8103080024	Valve Assembly, 4" (100mm) - For 4" Assembly Only	1
	8103040028	8103040028	Valve Assembly, 6" (150mm) - For 6" Assembly Only	
	8103080028	8103080028	Valve Assembly, 165mm - For 165mm Assembly Only	
	8103080001	8103080001	Valve Assembly, 8" (200mm) - For 8" Assembly Only	
2	8215051800	8215051800	Butterfly Valve, 4" - For 4" Assembly Only	1
	8215052400	8215052400	Butterfly Valve, 6" - For 6" Assembly Only	
	8215053200	8215053200	Butterfly Valve, 8" - For 8" Assembly Only	
3	7905161800	7905161800	Rigid Coupling, 4" - For 4" Assembly Only	2
	7905242400	7905242400	Rigid Coupling, 6" - For 6" Assembly Only	
	7905323200	7905323200	Rigid Coupling, 8" - For 8" Assembly Only	
	91004004	91004004	Outlet Spool, 4" - For 4" Assembly Only	
4	91004008	91004008	Outlet Spool, 6" - For 6" Assembly Only	1
	91004008	91004008	Outlet Spool, 8" - For 8" Assembly Only	
	91004008	91004008	Outlet Spool, 8" - For 8" Assembly Only	
5	98840195	98840195	Pressure Relief Valve (33 psi)	1
6	71030010	71030010	Model LP Pilot Line Actuator	1
7	78653000	78653000	Manual Emergency Station Assembly	1
8	78653004	78653004	Valve Caution Station Assembly	1
9	78653100	78653100	Ball Drip Valve, 1/2"	1
10	99080002	99080002	Adhesive Pad	1
11	98840100	98840100	Angle Valve, 2"	1
12	98840117	98840117	Ball Valve, 1/2" NPTF x 1/2" NPTM	1
13	98840188	98840188	Check Valve, 1/2" NPTM x 1/2" NPTF	1
14	98840181	98840181	Check Valve, Horizontal Swing, 1/2" NPT	2
15	98840145	98840145	Check Valve, Horizontal Swing, 1" NPT	1
16	98840147	98840147	Check Valve, Inline Poppet, 1/2"	1
17	92056702	92056702	Compression Connector, 1/2" ID Tube x 1/2" NPT	1
18	92056703	92056703	Compression Connector, Elbow, 1/2" ID Tube x 1/2" NPT	1
19	92056810	92056810	Connector, 1/2" ID Tube x 1/2" NPT	1
20	92056705	92056705	Connector, Elbow, 1/2" ID Tube x 1/2" NPT	1
21	92056704	92056704	Connector, Elbow, 1/2" ID Tube x 1/2" NPT	1
22	96686722	96686722	Copper Tubing, 3/4" OD x 2 ft.	1
23	94618916	94618916	Model LP Dry Pipe Valve Nameplate	1
24	98050004	98050004	Drain Cup, PVC	1
25	95308270	95308270	Drain Hose Clip	1
26	98174404	98164402	Elbow, 1/2"	1
27	98174402	98164400	Elbow, 3/4"	2
28	98174403	98164404	Elbow, 1"	1
29	98174405	98164405	Elbow, 2"	1
30	98920912	98920912	Flex Line, 1/2"	1
31	98840172	98840172	Globe Valve, 1/2"	1
32	98840171	98840171	Globe Valve, 1/2"	1
33	98543228	98523213	Nipple 1/2" x 1 1/2"	1
34	98543225	98573220	Nipple 1/2" x 2 1/2"	1
35	98543220	98523219	Nipple 1/2" x 3"	1
36	98543217	98523217	Nipple 1/2" x 6"	2
37	98543223	98523210	Nipple 1/2" x 1 1/2"	13
38	98543223	98523210	Nipple 1/2" x 1 1/2" (For 4" and 6" Valve Sizes Only)	1
	98543209	98523209	Nipple 1/2" x 2" (For 8" Valve Size Only)	
39	98543209	98523209	Nipple 1/2" x 2"	5
40	98543230	98523230	Nipple 1/2" x 3"	3
41	98543218	98523218	Nipple 1/2" x 3 1/2"	1
42	98543228	98523234	Nipple 1/2" x 4 1/2"	1
43	98543228	98523234	Nipple 1/2" x 4 1/2" (For 8" Valve Size Only)	1
	98543252	98523232	Nipple 1/2" x 10 1/2" (For 4" and 6" Valve Sizes Only)	
44	98543234	98523247	Nipple 3/4" x 3 1/2" (For 6" and 8" Valve Sizes Only)	1
	98543282	98523253	Nipple 3/4" x 4" (For 4" Valve Size Only)	
45	98543279	98523241	Nipple 3/4" x 4"	2
46	98543222	98523224	Nipple 1" x 3 1/2"	1
47	98543266	98523228	Nipple 1" x 6"	1
48	98543213	98523222	Nipple 1" x Close	1
49	98543262	98523262	Nipple 2" x 3 1/2"	2
50	98543238	98523254	Nipple 2" x Close	1
51	98750003	98750013	Pipe Cross, 1/2"	3
52	98886756	98886756	PVC Tubing, 3/4" ID x 6 ft.	1
53	98048025	98048011	Reducer Bushing, 3/4" x 1/2"	1
54	98048022	98048012	Reducer Bushing, 3/4" x 1/2"	3
55	98048015	98048015	Reducer Bushing, 2" Spigot x 1" NPTF PVC	1
56	89141112	89141112	Retaining Tie	9
57	98614403	98604403	Square Head Plug, 1/2"	4
58	98604406	98604402	Square Head Plug, 1/2"	5
59	98614401	98604401	Square Head Plug, 3/4"	1
60	98727607	98727607	Strainer, 1/2"	1
61	98761851	98761803	Tee, 1/2"	2
62	98761849	98761804	Tee, 1/2" x 1/2" x 1/2"	2
63	98606807	98761805	Tee, 1/2" x 1/2" x 1/2"	1
64	98606801	98766521	Tee, 3/4"	1
65	98606812	98761814	Tee, 3/4" x 1/2" x 1/2"	1
66	98606827	98761818	Tee, 2" x 2" x 1"	1
67	98815200	98805200	Union, 1/2"	3
68	98815204	98845204	Union, 1/2", O-ring Seal	2
69	98840180	98840180	Valve, 3-way, 1/2"	3
70	98348000	98248000	Air Pressure Gauge (0-80 psi)	1
71	98348001	98248001	Water Pressure Gauge (0-300 psi)	2
72	95308255	95308255	Hose Clamp	3

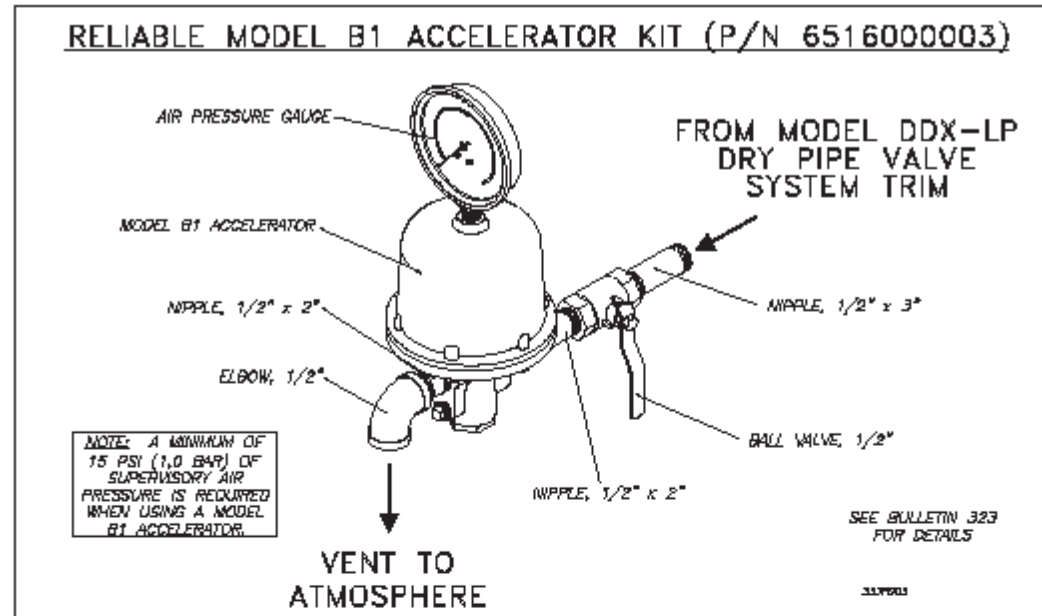


Fig. 4

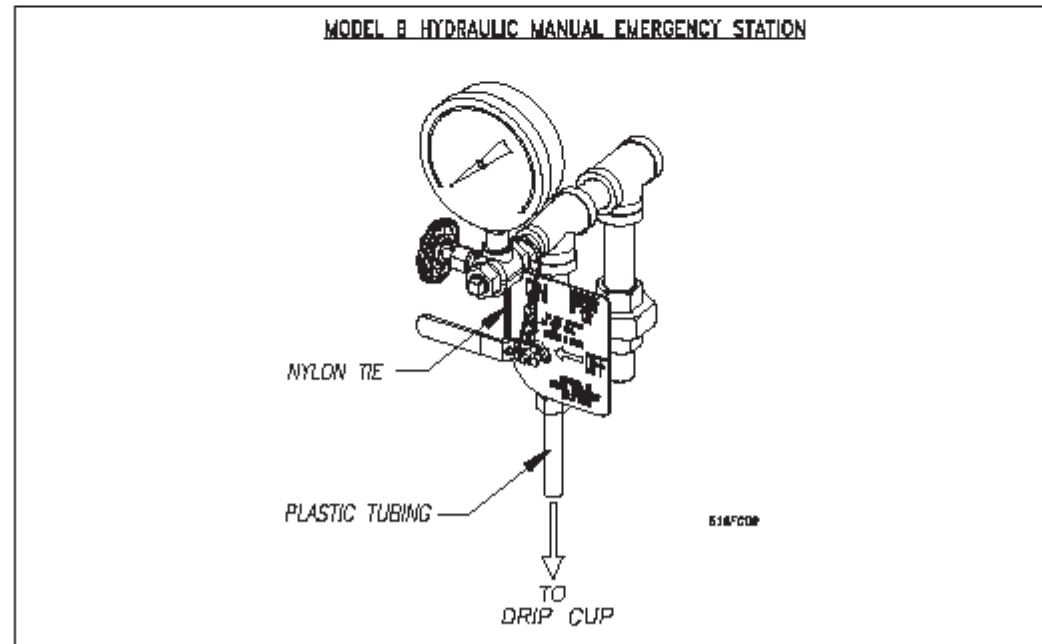


Fig. 5

8.

Pressurizing Line Connection

The water supply for the push-rod chamber must be provided by connection of its inlet pressurizing line to the water supply piping. Pressurizing lines for multiple Model DDX-LP Dry Pipe Valve push-rod chambers must never be manifolded together, having only a single tap on the water supply piping.

Each Model DDX-LP Dry Pipe Valve must have its own push-rod chamber pressurizing line connection. This connection must be made on the supply side of the main water supply control valve. This can be accomplished by:

- a. Using a tapped connection directly below or next to the main water supply control valve using a welded outlet or the appropriate mechanical fittings. A grooved-end outlet coupling is one way to achieve this (see Fig. 2 OR Fig. 3); or
- b. Using a water supply control valve that has an available threaded (NPT) supply-side tap design to allow for a direct water supply connection to the Model DDX-LP Dry Pipe Valve's push-rod chamber.

Caution: Reliable's DDX valve is designed with an inlet restriction built into the pushrod chamber. It is important not to introduce additional restrictions into the direct water supply connection or the discharge from the pushrod chamber by installing additional valves or improperly installing the copper lines used in the trim of the valve.

Model DDX-LP Dry Pipe Valve System

Engineering Specifications

General Description

Dry pipe sprinkler system shall be a [cULus Listed] [FM Approved] low-pressure dry pipe valve system capable of providing a 14:1 water-to-air force differential. Dry pipe valve shall consist of a lightweight, ductile-iron construction with either a "screw in" stainless steel seat and clapper assembly or drop in bronze seat and clapper assembly, both utilizing an intermediate chamber design. Clapper facing shall be pressure-actuated, providing a limited compression seat for the sealing force between the clapper rubber facing and the valve seat. Push-rod chamber shall be of a piston/push-rod design with diaphragm seal and have a 1/4" vent hole for air/water leakage indication. Valve end connections shall be grooved outlets per ANSI/AWWA C806 or flanged per ASME B16.5 or ISO 7005. Pneumatic actuation trim shall consist of either all galvanized and brass trim or black pipe and brass trim, including associated pressure gauges, main drain valve, emergency release valve, and a low-pressure pneumatic actuator valve. The pneumatic actuator shall be cULus Listed/FM Approved for use with the dry pipe valve system. Dry pipe valve system air pressure shall only require between 8 and 28 psi (0,6 to 1,9 bar) for proper setting of the pneumatic actuator in accordance with the manufacturer's instructions. Dry pipe valve shall be of the straight-through design to minimize friction loss, and be capable of being reset without having to remove the valve cover plate through the use of an external reset knob. Dry pipe valve shall actuate through the operation of the pneumatic actuator valve as a result of the loss of system air pressure caused by sprinkler activation. The low-pressure, pneumatic actuator shall be of cast iron construction utilizing a diaphragm and compression spring design to separate the push-rod chamber water pressure from the system piping's

pneumatic supervisory pressure. The low-pressure actuator shall only require between 8 and 28 psi (0,6 to 1,9 bar) supervisory pressure for proper setting in accordance with the manufacturer's instructions. Low-pressure actuator shall be Reliable Model LP Dry Valve Actuator.

Dry pipe valve system shall have a rated working pressure of 250 psi (17,2 bar) for 2" (50mm) 2 1/2" (65mm), 3" (80mm), 76mm and 8" (200mm) valve sizes and 300 psi (20,7 bar) for 4" (100mm), 6" (150mm) and 165mm valve sizes. Low-pressure dry pipe valve system shall be Reliable [2" (50 mm)][2 1/2" (65 mm)][76 mm][3" (80 mm)][4" (100 mm)][165 mm][6" (150 mm)][8" (200 mm)] Bulletin 338.

Pneumatic Pressure Supply Options

Owner's Air supply

Dry pipe valve system air pressure shall only require between 8 and 28 psi (0,6 to 1,9 bar) for proper setting of the pneumatic actuator in accordance with the manufacturer's instructions. Air supply shall be provided by an owner supplied air system in conjunction with a [cULus Listed] [FM Approved] automatic pressure maintenance device, capable of maintaining a constant system pressure regardless of pressure fluctuations in the compressed air source. The pressure maintenance device shall consist of galvanized trim and brass parts, including a strainer and a field adjustable air pressure regulator, and have a working pressure rating of 175 psi (12,1 bar). The pressure regulator shall have an adjustable outlet pressure range of 5 to 100 psi (0,34 to 6,8 bar). Pressure maintenance device shall be Reliable Model A-2.

Compressed Air Supply

Air supply shall be provided by an automatic tank-mounted air compressor sized for the capacity (volume) of the dry pipe system piping, and be capable of restoring normal air pressure in the system within 30 minutes.

Dry pipe valve system air pressure shall only require between 8 and 28 psi (0,6 to 1,9 bar) for proper setting of the pneumatic actuator in accordance with the manufacturer's instructions. Air supply shall be equipped with an automatic pressure maintenance device capable of maintaining a constant system pressure regardless of pressure fluctuations in the compressed air (or nitrogen) source. The pressure maintenance device shall consist of galvanized trim and brass parts, including a strainer and a field adjustable air pressure regulator, and have a working pressure rating of 175 psi (12,1 bar). The pressure regulator shall have an adjustable outlet pressure range of 5 to 100 psi (0,34 to 6,8 bar). Pressure maintenance device shall be Reliable Model A-2.

Nitrogen

Nitrogen cylinders provided by an approved source shall provide the nitrogen supply. The nitrogen cylinder pressure shall be regulated and supervised through the use of a nitrogen regulating device and low-pressure trim kit. This device shall consist of a brass, single stage pressure regulator, equipped with high pressure inlet and low pressure outlet gauges, and 1/4" copper connection tubing with galvanized 3/8" x 1/4" reducer bushing. Optional:

Low-pressure trim kit shall be included to monitor the regulated nitrogen supply pressure to provide a low-pressure supervisory alarm. This kit shall include a low-pressure switch with

9.

Table A

Water Pressure psi (bar)	Pneumatic Pressure to be Pumped into Sprinkler System psi (bar)	
	Maximum	Not Less Than Not More Than
20 (1.4)	8 (0.6)	10 (0.7)
30 (2.1)	10 (0.7)	14 (1.0)
50 (3.4)	12 (0.8)	16 (1.1)
75 (5.2)	13 (0.9)	17 (1.2)
100 (6.9)	15 (1.0)	19 (1.3)
125 (8.6)	16 (1.1)	20 (1.4)
150 (10.3)	17 (1.2)	21 (1.4)
175 (12.1)	18 (1.2)	22 (1.5)
200 (13.8)	19 (1.3)	23 (1.6)
225 (15.5)	21 (1.4)	25 (1.7)
250 (17.2)	22 (1.5)	26 (1.8)
275 (19.0)	23 (1.6)	27 (1.9)
300 (20.7)	24 (1.7)	28 (1.9)

Note: During system set-up, a higher pneumatic pressure may be required in order to properly set the Model LP Dry Valve Actuator. The dew point of the air supply must be maintained below the lowest ambient temperature to which the dry pipe system will be exposed. Otherwise, accumulation of water (condensate) on the air side of the Actuator can lower the air pressure at which the Actuator opens, and possibly prevent proper system operation. Also, introduction of moisture into the system piping exposed to freezing temperatures can create ice blockage, which could prevent proper system operation. As a minimum, the supply of air should be taken from the area of lowest temperature within the protected area. The air supply system must be carefully designed to prevent plugging by frost deposits. Special requirements, such as those in FME&R's "Installation Guidelines for Refrigerated Storage" may need to be incorporated.

Nitrogen used in refrigerated area systems minimizes a possibility of ice build-up and blockage inside the system piping that could inhibit proper system operation. The dew point of nitrogen compressed to 20psig (1.4bar) pressure is -46°F (-43.3°C), and -52°F (-46.7°C) when compressed to 10 psig (0.7 bar). High-pressure nitrogen cylinders can typically be rented from a local source, with rental fees varying by supplier and cylinder sizes. Typical cylinders are described in Table B. The calculated nitrogen supply in lbs (kg) to pressurize various system capacities to 10 psi (0.7 bar) at different freezer temperatures is shown in Table C.

Table B

Cylinder Size	"Q"	"S"	"K"	"T"
Nitrogen Weight lbs (kg)	5.50 (2.49)	10.28 (4.66)	16.51 (7.49)	22.01 (9.98)
Nitrogen Volume ft ³ (m ³)	78 (2.2)	142 (4.0)	228 (6.5)	304 (8.6)
Pressurized at psi (bar)*	2200 (151.7)	2200 (151.7)	2200 (151.7)	2460 (169.6)

Note: Initial pressure and thus nitrogen weight and volume can vary slightly. Check with your local supplier.

Table C

System Capacity Gal. (L)	Freezer Temperature, °F (°C)					Approx Fill Time (min*)
	20 (-6.7)	0 (-18)	-20 (-29)	-40 (-40)	-60 (-51)	
250 (946)	1.90 (0.86)	1.90 (0.86)	2.00 (0.91)	2.10 (0.95)	2.20 (1.00)	1
500 (1893)	3.64 (1.65)	2.80 (1.27)	4.00 (1.81)	4.20 (1.91)	4.40 (2.00)	2
750 (2839)	5.50 (2.49)	5.70 (2.59)	6.00 (2.72)	6.30 (2.86)	6.60 (2.99)	3
1000 (3785)	7.30 (3.31)	7.60 (3.45)	8.00 (3.63)	8.33 (3.78)	8.80 (3.99)	4

Note: To obtain required nitrogen supply (lbs.) for 15 psi (1.0 bar) or 22 psi (1.5 bar), multiply the tabulated values by a factor of 1.5 or 2.2 respectively

(1 bar = 100 kPa)

* When filled with the Reliable Model A-2 Pressure Maintenance Device having the bypass valve open

Maintenance

Reliable Model DDX-LP Dry Pipe Valve and associated equipment shall periodically be given a thorough inspection and test. NFPA 25, Inspection, Testing and Maintenance of Water Based Fire Protection Systems, provides minimum maintenance requirements. System components shall be tested, operated, cleaned, and inspected at least annually, and parts replaced as required. Particular attention should be given to the rubber components in the Model B1 Accelerator, Model LP Dry Valve Actuator, and the Model DDX-LP Dry Pipe Valve.

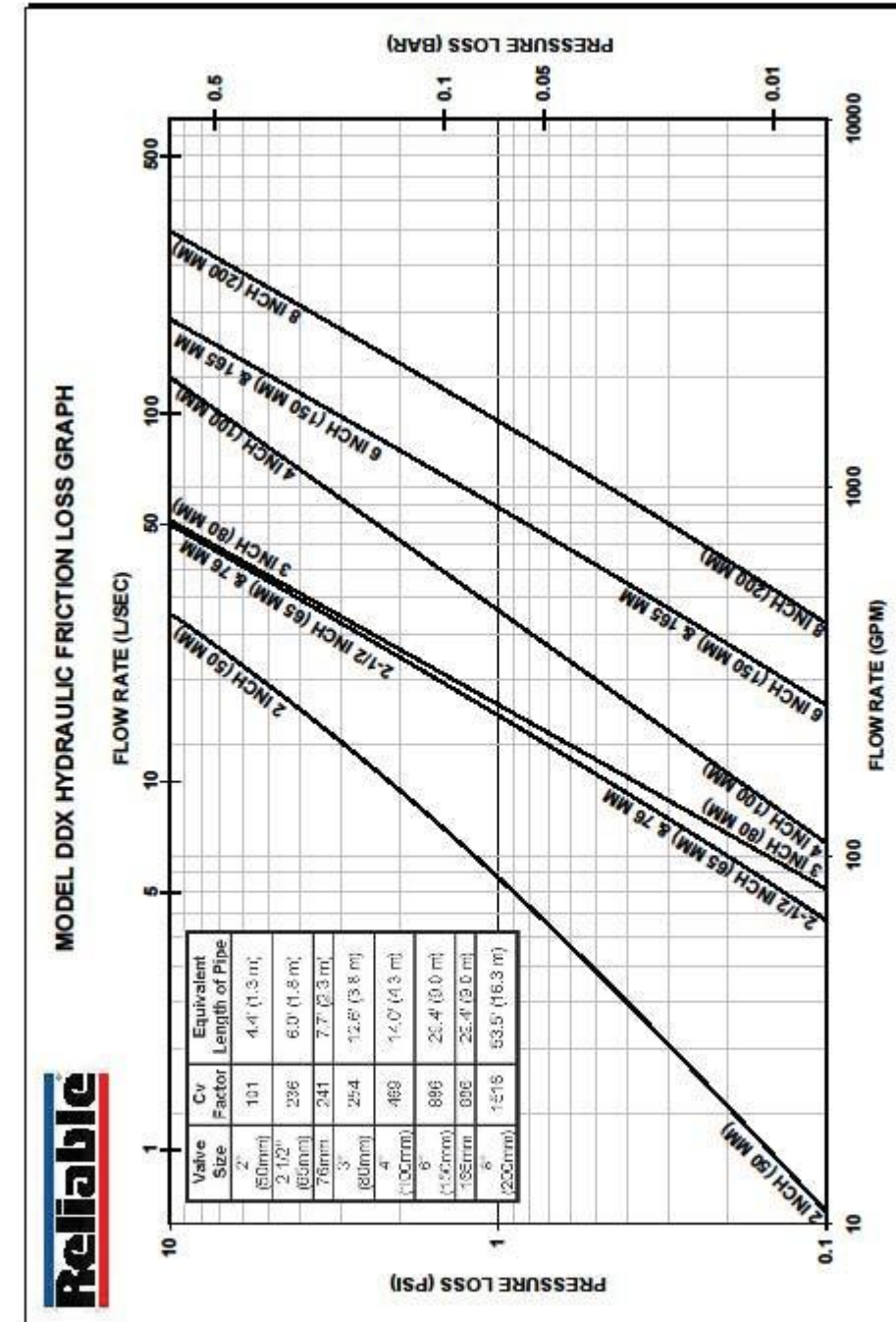


Fig. 6

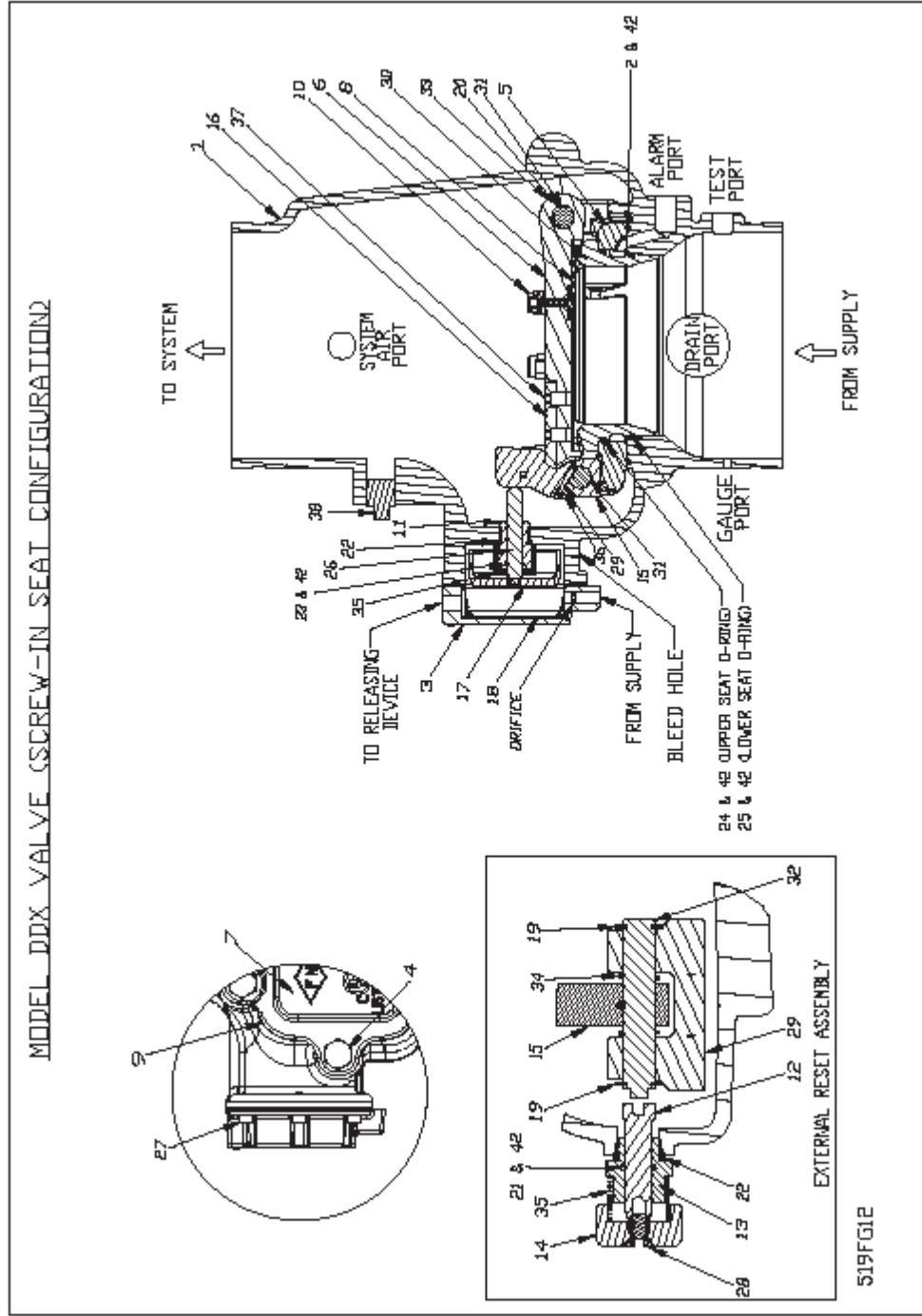


Fig. 7

Model DDX 2" (50mm), 2 1/2" (65mm), 3" (80mm), 4" (100mm), 6" (150mm) & 8" (200mm) with Screw-in Seat Configuration Only
Deluge Valve Parts List (Ref. to Fig. 7)

Item No.	Part No.							Part Description	QTY.	Material
	2" (50mm)	2 1/2" (65mm)	3" (80mm)	4" (100mm)	6" (150mm)	8" (200mm)				
1	9100011	9100012	9100013	9100015	9100027	9100028	9100028	Valve Body Groove/Groove	1	Ductile Iron 65-45-12
	N/A	N/A	N/A	9100045	N/A	N/A	N/A	Valve Body Flange/Groove		
2	N/A	N/A	N/A	9100035	N/A	9100037	9100039	Valve Body Flange/Flange	1	Buna-N
	N/A	N/A	N/A	N/A	N/A	N/A	9500414	O-ring (Mounting Ring)	1	
3	91100123				N/A	N/A		Pushrod Cover Assembly	1	Ductile Iron 65-45-12 & Brass C360000
	N/A				N/A	N/A		Hex Bolt 1/2" x 1 1/2"	6	Zinc Plated Steel
	N/A				N/A	N/A		Hex Bolt 1/2" x 1 1/2"	6	Zinc Plated Steel
	N/A				9110008	N/A		Hex Bolt 1/2" x 1 1/2"	6	Zinc Plated Steel
	N/A				N/A	N/A		Hex Bolt 1/2" x 1 1/2"	8	Zinc Plated Steel
5	9130013				9130016	9130018	9130018	Mounting Ring	1	Stainless Steel CFR or CF8M
6	9191013				9191014	9191016	9191018	Clapper	1	Stainless Steel CFR or CF8M
7	9211003				9211004	9211006	9211008	Access Cover	1	Ductile Iron 65-45-12
8	9341003				9341014	9341016	9341028	Seat Assembly	1	Stainless Steel 304 & EPDM
9	9570003				9570004	9570006	9570008	Access Cover Gasket	1	Buna-N or Neoprene
	9572000				9572001	N/A	N/A	Bumpstop Assembly	1	
10	N/A				9572000	N/A	N/A	Pushrod Guide	1	Acetal
	N/A				N/A	N/A	9572000	Reset Shaft	1	Brass UNS C36000
11	9391006							Reset Housing	1	Brass UNS C36000
12	9391006							Reset Knob	1	Aluminum 6061
13	9410006							Lever	1	Stainless Steel UNS S17400
14	9435006							Stylar	1	Aluminum Bronze C95400
15	9450003				9450004	9450016	9450028	Piston	1	Stainless Steel CF8M
16	9600414				9600412	9600410	9600410	Diaphragm	1	EPDM & Polyester
17					9510006			Retaining Ring, 1/2" Shaft, Lever Pin	1	
18	95300267							Retaining Ring, 1/2" Shaft, Lever Pin	2	Stainless Steel 15-7 or 17-7
	N/A							Retaining Ring, 1/2" Shaft, Lever Pin		
	N/A							Retaining Ring, 1/2" Shaft, Lever Pin		
	N/A							Retaining Ring, 1/2" Shaft, Lever Pin		
	N/A							Retaining Ring, 1/2" Shaft, Hinge Pin		
	N/A							Retaining Ring, 1/2" Shaft, Hinge Pin		
20	N/A							Retaining Ring, 1/2" Shaft, Hinge Pin	2	Stainless Steel 15-7 or 17-7

Model DDX 2" (50mm), 2½" (65mm), 76mm, 3" (80mm), 8" (200mm) and 4" (100mm), 6" (150mm) & 165mm with Screw-In Seat Configuration Only
 Deluge Valve Parts List (Ref. to Fig. 7) (Continued)

Item No.	Part No.						Part Description	QTY.	Material
	2" (50mm)	2½" (65mm)	76mm	3" (80mm)	4" (100mm)	6" (150mm)			
21							1	Bronze	
22							2	Bronze	
23							1	Bronze	
24							1	Bronze	
25							1	Bronze	
26							6	Steel	
27							1	Steel	
28							1	Stainless Steel 18-8	
29							1	Stainless Steel UNS S31600	
30							1	Stainless Steel UNS S30400	
31							1	Stainless Steel UNS S21800	
32							1	Stainless Steel UNS S17400	
33							2	Teflon or Acetal	
34							1	Stainless Steel UNS S30400	
35							2	Stainless Steel UNS S31600	
36							1	Stainless Steel 18-8	
37							2	Stainless Steel UNS S31600	
38							1	Steel	
39							1	Polystyrene	
40							6	Nickel Plated Brass	
41							1	Nickel Plated Brass	
42							AR	Krytox®	

16.

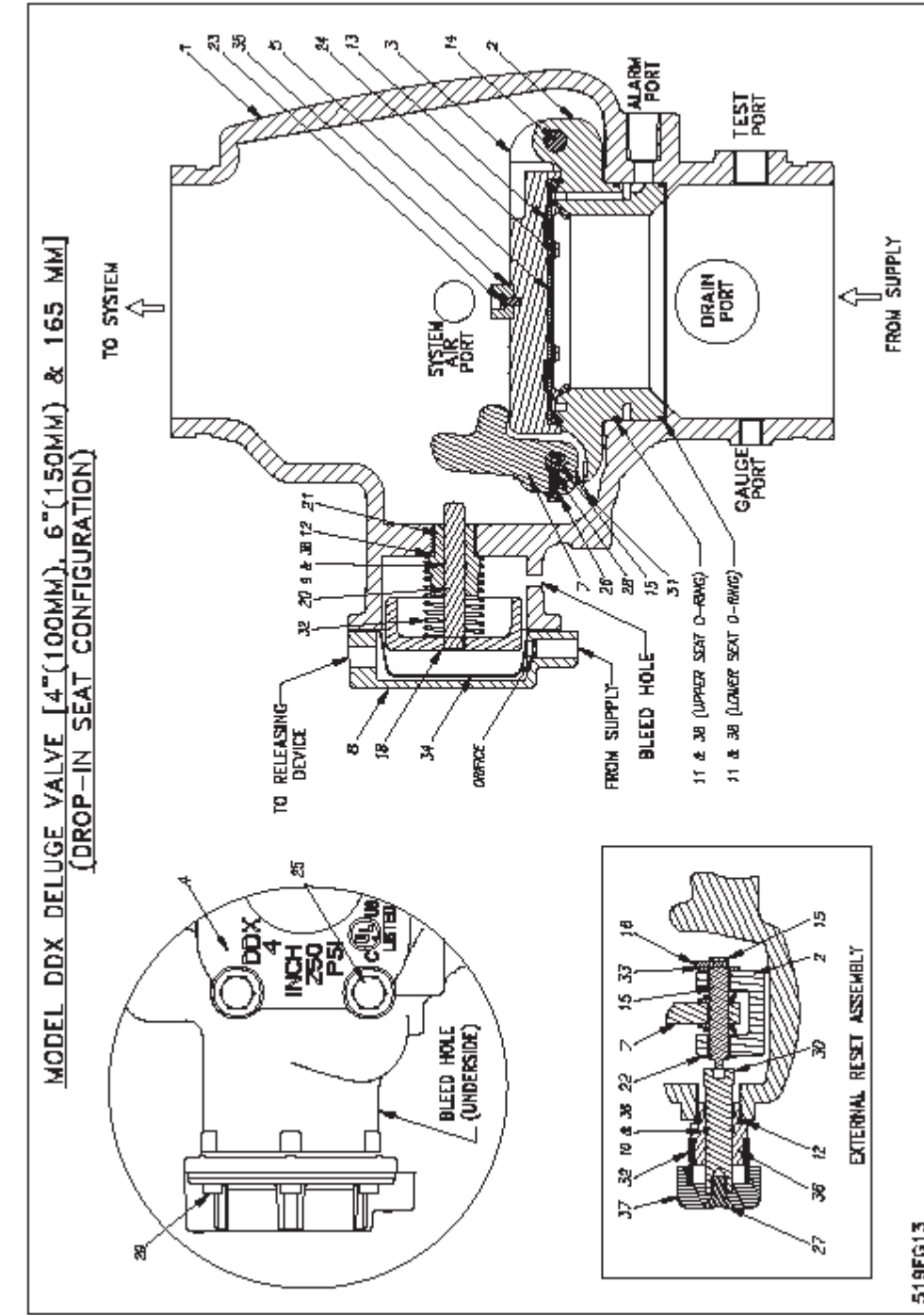


Fig. 8

17.

Drop In DDX Valve Parts List: 4" (100mm), 165mm, 6" (150mm) with Drop-In Seat Configuration Only (Ref. to Fig. 8)

Item No.	Part No.			Part Description	QTY.	Material
	4" (100mm)	165mm	6" (150mm)			
1	91008005	91008027	91008007	Valve Body	1	Ductile Iron 65-45-12
2	96018004	96018006		Seat	1	Brass UNS C86300
3	91918004	91918006		Clapper	1	Brass UNS C86300
4	92118064	92118065	92118066	Access Cover	1	Ductile Iron 65-45-12
5	93418004	93418006		Seal Assembly	1	Stainless Steel 304 & EPDM
6	93708004	93708006		Access Cover Gasket	1	Buna-N or Neoprene
7	94508004	94508006		Lever	1	Stainless Steel UNS S17400
8		71040416		Pushrod Cover Assembly	1	Ductile Iron 65-45-12 & Brass UNS C36000
9		95406407		O-Ring, Pushrod Guide ID	1	Buna-N
10		95406007		O-Ring, Reset Housing ID	1	Buna-N
11	95408006	95406016	O-Ring, Upper Seat	2	Buna-N	
			O-Ring, Lower Seat	2	Buna-N	
12		95406024	O-Ring, Reset Housing OD	2	Buna-N	
13	93708001	93708002	Clapper Gasket	1	Buna-N or Neoprene	
14		96218066	Hinge Pin	1	Stainless Steel UNS S21800	
15		96218046	Lever Pin	1	Stainless Steel UNS S44000	
16		95606131	Threaded Stud, #10-32 x ¾"	1	Stainless Steel 18-8	
17		96218066	Locking Pin (not shown)	2	Stainless Steel UNS S44000	
18		95108006	Piston	1	Stainless Steel CF8M	
19		95200038	Socket Plug ¾" - 18 NPT (not shown)	2	Steel	
20		95506006	Pushrod	1	Stainless Steel UNS S30300	
21		93918006	Pushrod Guide	1	Acetal	
22		95306267	Retaining Ring, 1/2" Shaft	3	Stainless Steel 15-7 or 17-7	
23		95606126	Button Head Screw #10-32 x ¾"	1	Stainless Steel 18-8	
24		95606129	Hex Washer Head Screw #10-32 x ¾"	4	Stainless Steel 18-8	
25	95606107	N/A	Hex Cap Screw ½"-13 x 1½"	6	Zinc Plated Steel	
	N/A	91106006	Hex Cap Screw ½"-11 x 1¾"			
26		96906111	Spring Lock Washer, #10	1	Stainless Steel UNS S31600	
27		95606127	Flat Head Socket Cap Screw ¾"-16 x ¾"	1	Steel	
28		95606130	Socket Head Screw #10-32 x 1"	1	Stainless Steel UNS S31600	
29		95606136	Socket Head Screw, ½"-20 x ¾"	6	Steel	
30		93918066	Reset Shaft	1	Brass UNS C36000	
31		96406004	Lever Spring	1	Stainless Steel UNS S30400	
32		96406906	Piston/Reset Spring	2	Stainless Steel UNS S31600	
33		96906904	Clapper Spacer	3	Teflon	
34		95276006	Diaphragm	1	EPDM & Polyester	
35		92306006	Bumper Disc	1	SBR Rubber	
36		94106066	Reset Housing	1	Brass UNS C36000	
37		94356006	Reset Knob	1	Aluminum 6061	
38		85000050	O-Ring Grease, Dupont™ Krytox® GFL-201	A/R	Krytox®	
39		94616921	Knob Caution Label (Not Shown)	1	Polystyrene	
40		91556922	Ball Chain, 1/8" (Not Shown) (Length is in inches)	6	Nickel Plated Brass	
41		91556923	Clamping Link, Ball Chain (Not Shown)	1	Nickel Plated Brass	

Resetting the Model DDX-LP Dry Pipe Valve System

Refer to Figs. 2, 3, 7, 8 and 9.

1. Close the main valve controlling water supply (Fig. 9) to the Dry Pipe Valve and close off the air/nitrogen supply to the sprinkler system.
2. Close the pushrod chamber supply valve; valve A (Fig. 9).
3. Open the main drain valve, valve B (Fig. 9), and drain system.
4. Open all drain valves and vents at low points throughout the system, closing them when flow of water has stopped.
Note: The above steps accomplish the relieving of pressure in the pushrod chamber of the Dry Pipe Valve.
5. With valve F (Fig. 9) open, push in the plunger of ball drip valve, valve G (Fig. 9), to force the ball from its seat, and drain any water in the alarm line.
6. With the Model B Manual Emergency Station, Valve D (Fig. 9), open, push in and rotate the Model DDX-LP's reset knob (#14, Fig. 7 OR #38 Fig. 8) clockwise until you hear a distinct clicking noise, indicating that the clapper has closed. **Note:** The reset knob can be rotated only while the pushrod chamber is vented to atmospheric conditions (0 psig).
7. Inspect and replace any portion of the sprinkler system subjected to fire conditions.
8. Open valve A (Fig. 9) and allow water to fill the Dry Pipe Valve's pushrod chamber.
9. Bleed all air from the actuation piping by allowing a steady stream of water to flow through the Model B Manual Emergency Station, valve D (Fig. 9). After all trapped air is released; close valve D. Water should still be coming out of the Model LP Dry Valve Actuator (Fig. 9).
10. Close valve F (Fig. 9). Rapidly apply compressed air or nitrogen into the Model LP Dry Valve Actuator and the system until the pressure conforms to Table A levels, as indicated on the system air pressure gauge (Fig. 9). **Note:** It may be necessary to temporarily close the main drain valve B (Fig. 9) in order to build sufficient air pressure to "set up" the Model LP Actuator. Once the Model LP Actuator is "set up", the main drain valve B (Fig. 6) should be reopened and the remaining procedure followed. The Model LP Dry Valve Actuator will close during this pressurizing process and the water will stop flowing into the drip cup. At this point, the pressure gauge which indicates push-rod chamber pressure (Fig. 9) will equalize to the available water supply pressure. **Note:** It may be necessary to isolate the system pressure gauge (Fig. 9) in the supply line to the Model LP Dry Valve Actuator during system set-up by closing the ½" 3-way valve (#69, Fig. 2 or #69 Fig. 3). During set-up, pressure fluctuations can occur that are potentially damaging to the gauge. Once the Model LP Dry Valve Actuator is reset accordingly, the air pressure gauge's 3-way valve (#69, Fig. 2 or #69 Fig. 3) may be re-opened.

11. If it is being used, reset the Model B1 Accelerator per Reliable Bulletin 323. **Note:** The Model B1 Accelerator requires a minimum of 15 psi (1.0 bar) for proper operation.
12. Open Valve F (Fig. 9). Open slightly the main valve controlling water supply (Fig. 9) to the Model DDX-LP Dry Pipe Valve, closing main drain valve B (Fig. 9) when water flows. Observe if water leaks through the ball drip valve, valve G (Fig. 9), into the drip cup, H (Fig. 9). If no leak occurs, the Dry Pipe Valve's clapper is sealed. Open slowly, and verify that the main valve controlling water supply is fully open and properly monitored.
13. Verify that valve A (Fig. 9) and valve F (Fig. 9) are open.
14. Secure the handle of the Model B Manual Emergency Station, valve D (Fig. 9), in the OFF position with a nylon tie (#55, Fig. 2 or #56 Fig. 3).

Inspection and Testing

Refer to Figs. 2, 3, 7, 8 and 9.

1. **Water supply** — be sure the valves controlling water supply to the Dry Pipe Valve are open fully and properly monitored.
2. **Alarm line** — be sure that valve F (Fig. 9) is opened and remains in this position.
3. **Other trimming valves** — check that valve A (Fig. 9) is open as well as all of the pressure gauge's ½" 3-way valves. Valves D, E, and J (Fig. 9) should be closed.
4. **Ball drip valve G (Fig. 9)** — make sure valve F (Fig. 9) is open. Push in on the plunger to be sure the ball check is off its seat. If no water appears, the Dry Pipe Valve's water seat is tight. Inspect the bleed hole (see Fig. 7 or Fig. 8) on the underside of the push rod chamber for leakage.
5. **System pneumatic pressure** — check air pressure gauge (Fig. 9) and water supply pressure gauge (Fig. 9) for conformance to Table A.
6. **Model LP Dry Valve Actuator (Fig. 9)** — Verify that the outlet is not leaking water. Check the air pressure gauge (Fig. 9) for proper pressure setting. Verify that the tubing line from the Actuator is not pinched or crushed, which could prevent proper operation of the Dry Pipe Valve.
7. **Testing alarms** — make sure valve F (Fig. 9) is open. Open valve J (Fig. 9) permitting water from the supply to flow to the electric sprinkler alarm switch and to the mechanical sprinkler alarm (water motor). After testing, close this valve securely. Push in on the plunger of ball drip valve G (Fig. 9) until all of the water has drained from the alarm line.
8. **Operational test** — Open the Model B Manual Emergency Station, valve D (Fig. 9). **Note:** An operational test will cause the Dry Pipe Valve to open and flow water into the sprinkler system.
9. Secure Model B Manual Emergency Station, valve D (Fig. 9), in the OFF position with a nylon tie (#55, Fig. 2 or #56, Fig. 3) after the Dry Pipe Valve is reset.

Testing Model DDX-LP Dry Pipe Valve Without Flowing Water

Refer to Fig. 9

1. Close the main valve controlling water supply to the Dry Pipe Valve.
2. Verify that valve A is open, allowing water to enter the push rod chamber.
3. Close off the air/nitrogen supply to the sprinkler system.
4. Decrease pneumatic pressure in the system by opening the 1/4" globe valve, valve E, until the Model LP Dry Valve Actuator operates. This will be indicated by a sudden drop of water pressure on the Dry Pipe Valve's gauges. The operation of the Actuator will vent the push-rod chamber of the Dry Pipe Valve and cause the Valve's clapper to open.
5. To reset the system, close the 1/4" globe valve, valve E, and proceed according to the directions listed in the "Resetting Model DDX-LP Dry Pipe Valve System" section of this bulletin.

Draining Excess/Condensate Water From System

Refer to Fig. 9

1. Close the main valve controlling water supply to Dry Pipe Valve. Also close valve A and open main drain valve, valve B.
2. Open condensate drain valve E until all water has drained. Close valve E when the flow of water (if any) has stopped. **Note: Be sure not to keep valve E open for an extended period of time because that will cause enough system air to bleed off thereby actuating the Model LP Dry Valve Actuator (see Table A for pneumatic pressure values required to maintain the Model LP Dry Valve Actuator closed for a given supply pressure). If the Actuator does happen to actuate, proceed according to the directions listed in the "Resetting Model DDX-LP Dry Pipe Valve System" section of this bulletin.**
3. Close the main drain valve, valve B. If system contains pressurized air or nitrogen, allow pneumatic pressure to come back up to specification according to Table A. Open valve A first, and then open the main valve controlling water supply to the Dry Pipe Valve.

Maintenance Procedures – Model DDX-LP Dry Pipe Valve

Refer to Figs. 2, 3, 7, 8, & 9.

1. **Mechanical sprinkler alarm (water motor—not shown) not operating:**
This is most likely caused by a clogged screen in the strainer of the water motor. Proceed as follows: Remove plug from the strainer. Remove and clean the screen. Replace the screen and the plug, and then tighten securely (Ref. Bulletin 613).
2. **Leakage out of the ball drip valve G (Fig. 9).**
 - a. **Water leakage due to a water column above the Dry Pipe Valve's clapper:**
This condition can be caused by leakage past the system side of the Model DDX-LP Dry Pipe Valve's

seal assembly (#8, Fig. 7 or #5, Fig. 8). Be sure that this surface is free of any type of debris. To eliminate leakage due to a water column, refer to the section in this bulletin marked "Draining Excess/Condensate Water From System". If the problem continues proceed to the following section.

b. **Leakage, air or water from the ball drip valve, E (Fig. 9):**

If system air is leaking out the ball drip valve, the problem is either damage to the airside of the Model DDX-LP Dry Pipe Valve's seal assembly (#8, Fig. 7 or #5, Fig. 8), seat (#29, Fig. 7 or #2, Fig. 8), the upper seat o-ring (#23, Fig. 7 or #11, Fig. 8) or, on the 8" (200mm) valve size only, the mounting ring o-ring (#2, Fig. 7). If supply water is leaking out the ball drip valve, the problem could be caused by damage to the Model DDX-LP Dry Pipe Valve's seal assembly (#8, Fig. 7 or #5, Fig. 8), seat (#29, Fig. 7 or #2, Fig. 8), or lower seat O-ring (#24, Fig. 7 or #11, Fig. 8). The following section provides instructions to correct both conditions:

- A. Shut down the valve controlling the water supply to the Deluge Valve and open the 1/4" main drain valve on the 2" (50mm), 2 1/2" (65mm), 76mm and 3" (80mm) valve sizes or the 2" main drain valve on the 4" (100mm), 165mm, 6" (150mm) and 8" (200mm) valve sizes, valve B (Fig. 9). Open the water column drain valve E (Fig. 9). Close the pushrod chamber supply valve A (Fig. 9) and open the Model B Manual Emergency Station, valve D (Fig. 9).
- B. Remove the Deluge Valve's front (handhold) cover (#7, Fig. 7 or #4, Fig. 8) and inspect the seat (#29, Fig. 7 or #2, Fig. 8), clapper (#6, Fig. 7 or #3, Fig. 8), and seal assembly (#8, Fig. 7 or #5, Fig. 8) for damage. If inspection indicates damage to the seal assembly (#8, Fig. 7 or #5, Fig. 8), replace as follows:
For Valve Sizes: 2" (50mm), 2 1/2" (65mm), 76mm, 3" (80mm), 8" (200mm) and 4" (100mm), 6" (150mm) & 165mm with Screw-In Seat only, Refer to Fig. 2, Fig. 3 & Fig. 7:
Remove the bumpstop nuts (#10, Fig. 7) and remove the seal assembly (#8, Fig. 7). Install a new seal assembly (#8, Fig. 7) and thread the bumpstop nuts (#10, Fig. 7) onto the threaded studs of the seal assembly (#8, Fig. 7) and tighten finger tight plus 1/4 to 1/2 turn. If inspection indicates damage to the clapper (#6, Fig. 7) only, then the clapper subassembly can be removed as follows:
At the rear of the valve, disconnect the water column drain trim section starting with the elbow connector (#21, Fig. 2 or #20, Fig.

3). Then remove the 1/4" globe valve (#33, Fig. 2 or #31, Fig. 3), followed by the 1/4"x1/4" reducing bushing (#52, Fig. 2 or #53, Fig. 3). Remove the retaining ring (condensate drain side for 2" (50mm), 2 1/2" (65mm), 3" (80mm), 76mm and 8" (200mm) valve sizes or hand hole cover side for 4" (100mm), 6" (150mm) and 165mm valve sizes) from the clapper hinge pin (#19, Fig. 7) and push this pin through the hand hole opening for 2" (50mm), 2 1/2" (65mm), 3" (80mm), 76mm and 8" (200mm) valve sizes or condensate drain side for 4" (100mm), 6" (150mm) and 165mm valve sizes) and remove the clapper subassembly. Replace the seal assembly as described previously. Inspect the clapper (#6, Fig. 7) visually before reinstalling. Reinstall in the reverse order making sure the clapper spacers are in their proper position. If the seat (#29, Fig. 7) is damaged or it is suspected that the leakage is through the lower O-ring (#24, Fig. 7), the seat-clapper subassembly is easily removed as a unit as follows:

Using Reliable P/N 6881603000 Seat Wrench for 2" (50mm), 2 1/2" (65mm), 76mm and 3" (80mm) valve sizes, Reliable P/N 6881604000 for 4" (100mm) valve size, Reliable P/N 6881606000 for the 6" (150mm) and 165mm valve sizes or Reliable P/N 6881608000 Seat Wrench for 8" (200mm) valve size, remove the seat by unscrewing. This will loosen the seat-clapper-mounting ring subassembly. Reach into the valve and grasp the seat and remove it from the valve. Then remove the clapper-mounting ring subassembly from the valve. Visually examine all components of the seat-clapper-mounting ring subassembly replacing any component that appears damaged. New O-rings (#23 & #24, Fig. 7 and #2, Fig. 7 (for 8" valve size only)) should always be used for reassembly. **For Valve Sizes: 4" (100mm), 165mm, 6" (150mm) with Drop-In Seat Configuration only, Refer to Fig. 3 and Fig. 8:**

At the rear of the valve, disconnect the water column drain trim section starting with the elbow connector (#20, Fig. 3). Then remove the 1/4" globe valve (#31, Fig. 3), followed by the 1/4"x1/4" reducing bushing (#53, Fig. 3). Remove the retaining ring (hand hole cover side) from the clapper hinge pin (#14, Fig. 8) and push this pin through the condensate drain trim port and remove the clapper subassembly. Remove the four retaining screws (#24, Fig. 8) holding the seal faceplate assembly (#5, Fig. 8). Inspect the clapper (#3, Fig. 8) visually before installing. Apply a small amount of silicone based lubricant

to the four retaining screws. Install a new seal faceplate assembly. Torque the retaining screws to approximately 40 inch-pounds and reassemble. If the seat (#2, Fig. 8) is damaged or it is suspected that the leakage is through the lower o-ring (#11, Fig. 8), the seat-clapper subassembly is easily removed as a unit as follows:

Using a 5/16" Allen wrench, remove the two 3/8" NPT pipe plugs (#19, (not shown) Fig. 8) located on the side chamber side of the Model DDX deluge valve. The seat-clapper subassembly is retained by two locking pins (#17, (not shown) Fig. 8). The centers of these pins have a 1/4"-20 threaded hole. Remove the two locking pins by engaging them with a 1/4"-20 screw and pulling them out (the two locking pins are not externally threaded, so turning them with the attached 1/4"-20 screw or threaded rod is not recommended. A proven method is to use 1/4"-20 threaded rod with a locknut on the unassembled end. Grab hold of the locknut with a pliers or vise-grips and tap the pliers or vise-grips in the direction away from the Deluge Valve. Doing so should pull the locking pins out of the Deluge Valve. With the clapper (#3, Fig. 8) in the closed position (not latched), dislodge the clapper-seat subassembly from the valve body by inserting two slotted screwdrivers under the lever and clapper mounting ears and pry up until the clapper-seat subassembly is free from its bore. Reach into the valve and grasp the clapper-seat subassembly from the sides. Making sure the clapper is in the closed position (see Fig. 1), lift up and rotate the clapper-seat sub assembly clockwise 90 degrees so that the lever side of the assembly is facing up towards the outlet of the deluge valve. Next, rotate the clapper-seat sub assembly 90 degrees about the centerline of the valve so that the clapper is facing the hand hole opening and the lever is still facing the outlet of the deluge valve. Then rotate the clapper-seat sub assembly 90 degrees, so that the clapper is now facing the outlet of the deluge valve and the lever is now facing the back of the valve. Pull the clapper-seat sub assembly out through the hand hole opening by the hinge pin side. Rotating the seat-clapper subassembly up as it is being removed will help it slide out more easily since the lever will prohibit it from sliding straight out. Visually examine all components of the clapper-seat subassembly replacing any component that appears damaged. New o-rings (#11, Fig. 8) should always be used for reassembly.

Reassembly:

For Valve Sizes: 2" (50mm), 2½" (65mm), 76mm, 3" (80mm), 8" (200mm) and 4" (100mm), 6" (150mm) & 165mm with Screw-In Seat Configuration only, Refer to Fig. 12:

Clean the bore of the valve body. Lubricate the bore with O-ring grease. Lubricate and install the O-rings (#23 & #24, Fig. 7) onto the seat. Lubricate and install the mounting ring o-ring (#2, Fig. 7) into the body (8" (200mm) valve size only). Insert the clapper-mounting ring subassembly into the handhold opening of the Deluge Valve using caution to not damage or dislodge the mounting ring o-ring (#2, Fig. 7) (8" (200mm) valve size only). Align the mounting ring so that the Lever (#15, Fig. 7) is near the pushrod (#25, Fig. 7) and the mounting ring (#5, Fig. 7) "ears" are between the tabs of the valve body (#1, Fig. 7). Insert the seat (#29, Fig. 7) into the valve body (#1, Fig. 7) and through the clapper-mounting ring subassembly. Start to tread the seat (#29, Fig. 7) into the body by hand, then tighten the seat (#29, Fig. 7) with Reliable P/N 6881603000 Seat Wrench for 2" (50mm), 2½" (65mm), 76mm and 3" (80mm) valve sizes, Reliable P/N 6881604000 Seat Wrench for 4" (100mm) valve size, Reliable P/N 688106000 Seat Wrench for 6" (150mm and 165mm valve sizes or Reliable P/N 6881608000 Seat Wrench for 8" (200mm) valve size until it bottoms out on the mounting ring (#5, Fig. 7). Verify that the seat-clapper-mounting ring subassembly is in the fully down position between the tabs of the body, and check to see that the lever (#15, Fig. 7) lines up with the push rod (#25, Fig. 7). Loosen and reassemble if necessary. Reassemble the handhold cover (#7, Fig. 7) and set up the Model DDX-LP Dry Pipe Valve as per the section "Resetting Model DDX-LP Dry Pipe Valve Systems."

For Valve Sizes: 4" (100mm), 165mm, 6" (150mm) with Drop-In Seat Configuration only, Refer to Fig. 8:

It is likely that the lower seat o-ring (#11, Fig. 8) has remained at the bottom of the Deluge Valve body's bore. Discard this o-ring and clean the bore. Lubricate the bore with o-ring grease and place the lower o-ring on the step at the bottom of the bore, verifying that it is in full contact with the bore. Lubricate the bottom step and upper o-ring (#11, Fig. 8) of the refurbished clapper-seat subassembly. Insert the clapper-seat sub assembly into the hand hole opening, lever (#7, Fig. 8) first and rotating the clapper-seat subassembly until the lever faces the outlet of the deluge valve. Next rotate the clapper-seat sub-

assembly 90 degrees about the center axis of the valve until the bottom of the clapper-seat sub assembly faces the pushrod (#20, Fig. 8). Then rotate the clapper-seat subassembly 90 degrees counterclockwise so that the clapper (#3, Fig. 8) is facing the outlet of the deluge valve and the lever (#7, Fig. 8) is facing the pushrod (#20, Fig. 8). Once the clapper seat subassembly is in this position simply slide the assembly into the bore of the valve, making sure it is straight to avoid binding of the seat in the bore. Slightly twisting the assembly will assist in getting the clapper-seat subassembly properly seated. Once it is verified that the clapper-seat sub assembly is in the fully down position and the lever (#7, Fig. 8) is aligned with the pushrod (#20, Fig. 8), clean and lubricate the two locking pins (#17, (not shown) Fig. 8) with o-ring lubricant. Slide the two locking pins into the deluge valve body to lock the seat in place. Slightly twisting and pressing down on the clapper-seat subassembly will help the pins to slide in more easily. Then reinstall the 3/8" NPT pipe plugs (#19, (not shown) Fig. 8). Reassemble the hand hole cover (#4, Fig. 8) and set up the Model DDX-LP Dry Pipe Valve as per the section "Resetting Model DDX-LP Dry Pipe Valve Systems".

3. Leakage out of the push rod chamber vent hole:

A small bleed hole is located on the underside of the push rod chamber (see Fig. 7 or Fig. 8). If there is air or water leakage coming out of this hole, do the following:

- a) Shut down the valve controlling water supply to the Deluge Valve. Relieve the inlet pressure by opening the 1/4" main drain valve on the 2" (50mm), 2½" (65mm), 76mm and 3" (80mm) valve sizes or the 2" main drain valve on the 4" (100mm), 165mm, 6" (150mm) and 8" (200mm) valve sizes, valve B (Fig. 9). Close the valve A (Fig. 9) that supplies water to the push rod chamber, and open the Model B Manual Emergency Station, valve D (Fig. 9).
- b) Remove the trim at the unions nearest to the push rod chamber cover (#3, Fig. 9).
- c) Take the push rod chamber cover (#3, Fig. 7 or #8, Fig. 8) off by removing the six retaining screws (#26, Fig. 7 or #29, Fig. 8).

CONDITION ONE (Water coming out of the bleed hole):

Water coming out of the bleed hole is caused by a leaking diaphragm (#18, Fig. 7 or #34, Fig. 8). Visually inspect the push rod chamber cover (#3, Fig. 7 or #8, Fig. 8), piston (#17, Fig. 7 or #18, Fig. 8) and bore of the body (#1, Fig. 7 or #1, Fig. 8) to determine what could have damaged the diaphragm and correct. Install a new diaphragm. **NOTE: The diaphragm has two different surfaces: it is not bi-directional. It will fail if installed backwards!** Roll the diaphragm so that

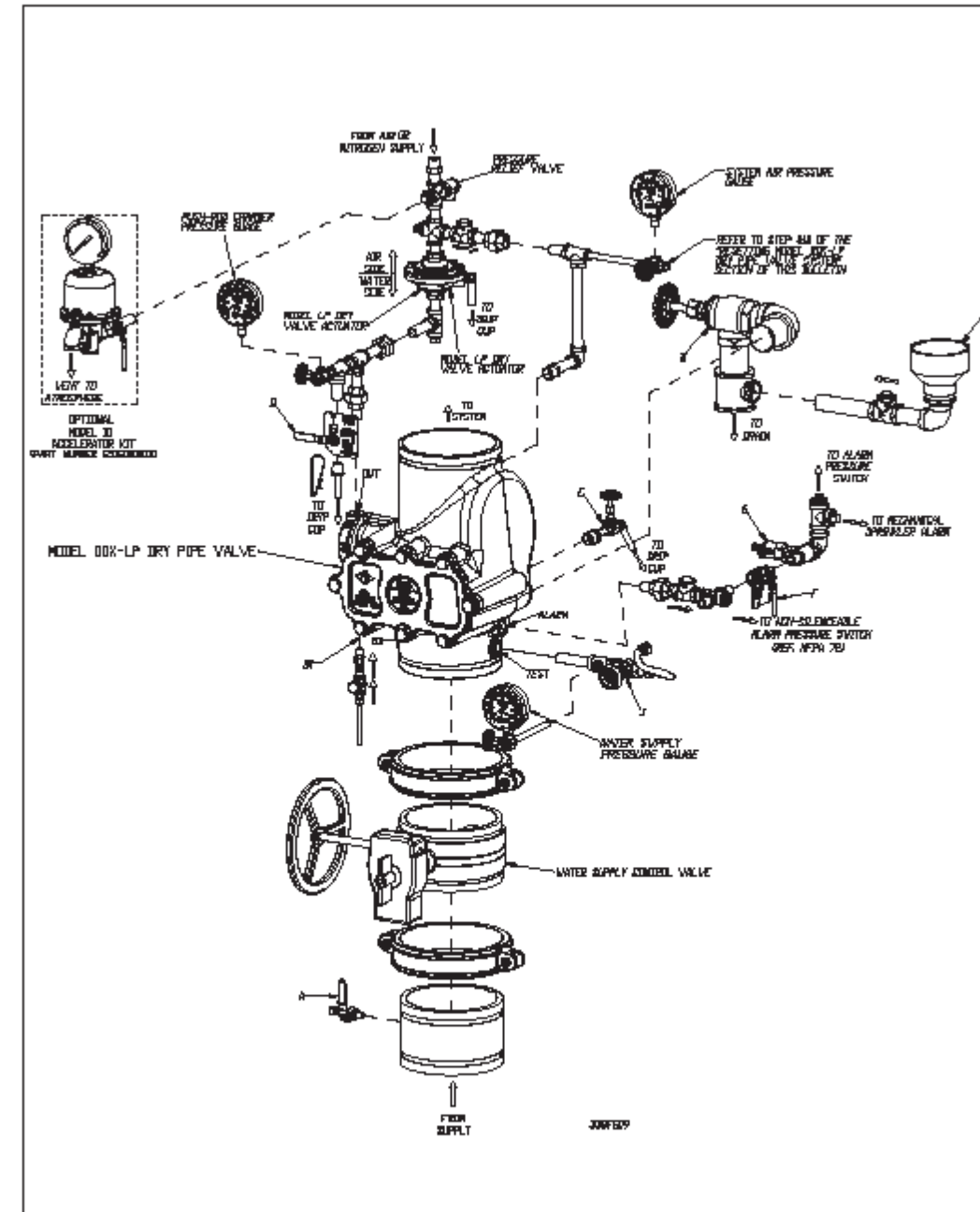


Fig. 9

the smooth surface (the pressure side) conforms to the inside of the push rod chamber cover and reassemble the six retaining screws (#26, Fig. 7 or #29, Fig. 8) with an installation torque of 15 foot-pounds. Set up the Model DDX-LP Dry Pipe Valve as per the section "Resetting Model DDX-LP Dry Pipe Valve Systems."

CONDITION TWO (System Air coming out of the bleed hole):

System air coming out of the bleed hole is caused by a defective O-ring assembled to the push rod guide (#11, Fig. 7 or #21, Fig. 8). Remove the piston-push rod subassembly, push rod spring (#34, Fig. 7 or #32, Fig. 8), and push rod guide (#11, Fig. 7 or #21, Fig. 8). Verify by hand turning, that the push rod cannot be unscrewed from the piston. Replace all O-rings and the push rod guide (#21, #22 and #11, Fig. 7 or #9, #12 and #21, Fig. 8). The correct installation torque for the pushrod guide is 35 inch-pounds. **CAUTION: Do not over tighten the push rod guide.** Reassemble

the components that were initially removed. Reinstall the diaphragm (#18, Fig. 7 or #34, Fig. 8) if it appears to be in good shape, otherwise, replace it also. **NOTE: The diaphragm has two different surfaces: it is not bi-directional. It will fail if installed backwards!** Roll the diaphragm so that the smooth surface (the pressure side) conforms to the inside of the push rod chamber cover and reassemble the six retaining screws (#26, Fig. 7 or #29, Fig. 8) with an installation torque of 15 foot-pounds. Set up the Model DDX-LP Dry Pipe Valve as per the section "Resetting Model DDX-LP Dry Pipe Valve Systems."

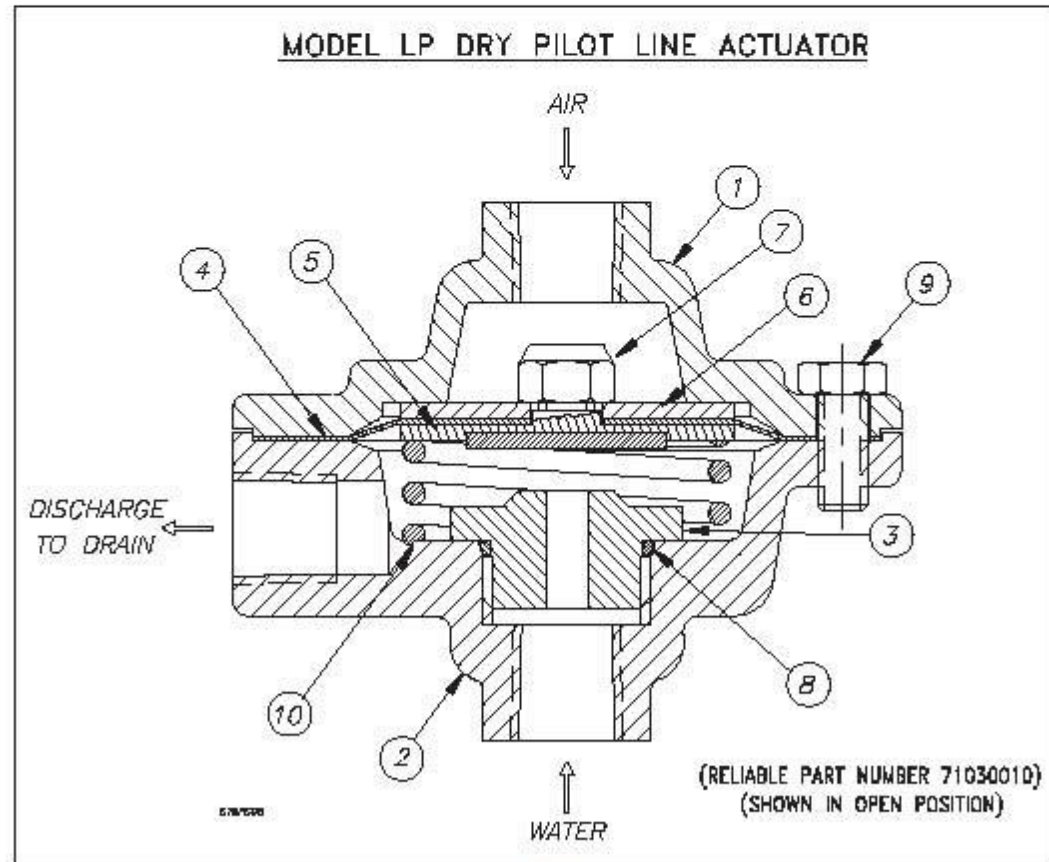


Fig. 10
24.

**Model LP Actuator Valve Parts List
P/N 71030010**

Item No.	Part No.	Description	Qty. Required
1	94108936	Lower Housing	1
2	94108935	Upper Housing	1
3	98008905	Seat	1
4	92206311	Diaphragm	1
5	95108911	Facing Plate Assembly	1
6	98906311	Diaphragm Washer	1
7	94906406	Facing Plate Nut	1
8	95408901	Seat O-Ring	1
9	95606305	Bolt	6
10	98408902	Compression Spring	1

Ordering Information

Specify:

- Valve Model & Size

Valve Size & End Connection	Valve Part Numbers		
	Flange Type	Color	Reliable Part Number
2" (50mm) Grv/Grv	N/A	Black	6103022000
		Red	6103022001
2½" (65mm) Grv/Grv	N/A	Black	6103022500
		Red	6103022501
3" (80mm) Grv/Grv	N/A	Black	6103030000
		Red	6103030001
76mm Grv/Grv	N/A	Red	6103027600
4" (100mm) Grv/Grv	N/A	Black	6103040026
		Red	6103040030
4" (100mm) Fig/Grv	ASME Class 150	Black	6103040044
	ASME Class 150	Red	6103040046
	ISO PN16	Red	6103040048
4" (100mm) Fig/Fig	ASME Class 150	Black	6103040045
	ASME Class 150	Red	6103040047
	ISO PN16	Red	6103040049
6" (168mm) Grv/Grv	N/A	Black	6103060024
		Red	6103060030
6" (168mm) Fig/Grv	ASME Class 150	Black	6103060045
	ASME Class 150	Red	6103060047
	ISO PN16	Red	6103060049
6" (168mm) Fig/Fig	ASME Class 150	Black	6103060046
	ASME Class 150	Red	6103060048
	ISO PN16	Red	6103060050
165mm Grv/Grv	N/A	Red	6103060028
165mm Fig/Grv	ASME Class 150	Red	6103060051
	ISO PN16	Red	6103060052
8" (200mm) Grv/Grv	N/A	Black	6103080001
		Red	6103080003
8" (200mm) Fig/Fig	ASME Class 150	Black	6103080016
	ASME Class 150	Red	6103080018
	ISO PN16	Red	6103080020

25.

Maintenance – Model LP Dry Valve Actuator

Refer to Figs. 9 and 10

If water constantly flows through the Model LP Dry Valve Actuator and into the drain, there is a leak in the seal of the Actuator's seat.

1. Close the main valve controlling water supply (Fig. 9) to the Dry Pipe Valve and close off the air/nitrogen supply to the sprinkler system. Close valve A (Fig. 9).
2. Drop pressure in the system by opening the ¼" globe valve, valve E (Fig. 9), and remove the Actuator from the system.
3. Remove all six bolts (#9, Fig. 10) holding the Actuator together. Clean or replace the facing plate assembly (#5, Fig. 10), seat (#3, Fig. 10) and o-ring (#8, Fig. 10).
4. Reassemble the Actuator, using a torque of 8 ft-lbs on the facing plate nut (#7, Fig. 10) and 12 ft-lbs on the six bolts (#9, Fig. 10). Use a cross-tightening pattern. Reinstall the Actuator. Set up the Model DDX-LP Dry Pipe Valve as per the section "Resetting Model DDX-LP Dry Pipe Valve System."

- **Trim** — The trim set is available in individual parts, in time-saving segmentally assembled kit forms, or fully assembled to the Model DDX-LP Dry Pipe Valve (with or without a control valve).

Trim Part Numbers								
Valve Size & End Connection	Trim Configurations							
	Flange Type	Color	Individual Parts (Model DDX Valve Sold Separately)	Segmentally Assembled (Model DDX Valve Sold Separately)	Fully Assembled to Model DDX Valve w/o Control Valve	Fully Assembled to Model DDX Valve w/ Control Valve		
2" (50mm) Grv/Grv	N/A	Black	6505040503	6505040504	6505020021	6505020020		
		Red			6505A20021	6505A20020		
2½" (65mm) Grv/Grv	N/A	Black			6505022521	6505022520		
		Red			6505A22521	6505A22520		
3" (80mm) Grv/Grv	N/A	Black			6505030021	6505030020		
		Red			6505A30021	6505A30020		
76mm Grv/Grv	N/A	Red					6505A27621	N/A
4" (100mm) Grv/Grv	N/A	Black			6505041002	6505041003	6505040221	6505040220
		Red					6505A40221	6505A40220
4" (100mm) Fig/Grv	ASME Class 150	Black					6505043221	
	ASME Class 150	Red					6505A43221	N/A
	ISO PN16	Red					6505A44221	
4" (100mm) Fig/Fig	ASME Class 150	Black	6505047221					
	ASME Class 150	Red	6505A47221	N/A				
	ISO PN16	Red	6505A48221					
6" (168mm) Grv/Grv	N/A	Black	6505060221	6505060220				
		Red	6505A60221	6505A60220				
6" (168mm) Fig/Grv	ASME Class 150	Black	6505063221					
	ASME Class 150	Red	6505A63221	N/A				
	ISO PN16	Red	6505A64221					
6" (168mm) Fig/Fig	ASME Class 150	Black	6505067221					
	ASME Class 150	Red	6505A67221	N/A				
	ISO PN16	Red	6505A68221					
165mm Grv/Grv	N/A	Red	6505A66221	N/A				
165mm Fig/Grv	ASME Class 150	Red	6505A68221	N/A				
	ISO PN16	Red	6505A69221					
6" (200mm) Grv/Grv	N/A	Black	6505060221	6505060220				
		Red	6505A60221	6505A60220				
6" (200mm) Fig/Fig	ASME Class 150	Black	6505067221					
	ASME Class 150	Red	6505A67221	N/A				
	ISO PN16	Red	6505A68221					

Note: For metric installations, a 2" NPT x R2. ISO 7/1 x Close Nipple (Reliable P/N 98543401) is sold separately as an adapter for the single drain outlet of the trims.

- **Additional equipment**

	Component Part	Mfgr.	Description	Technical Bulletin
1	Water Supply Control Valve	Select	OS&Y	-
			Butterfly	-
	Tamper Switch (Optional) for OS&Y Valve	B	Model OS&Y2	System Sensor A05-0196
			Model P1BV2	System Sensor A05-0197
2	Deluge/Dry Valve	A	Model DDX-LP	Reliable 518/519
3	Dry Pipe Valve System	A	Refer to Parts in this Bulletin	Reliable 337/338
4	Waterflow Alarm Pressure Switch	B	Model EPS10-2 (DPDT UL, FM)	System Sensor A05-0176
			Model EPSA10-2 (DPDT ULC)	
5	Low Air Alarm Pressure Switch	B	Model EPS40-2 (DPDT UL, FM)	System Sensor A05-0177
			Model EPSA40-2 (DPDT ULC)	
6	Mechanical Alarm (Optional)	A	Model C	Reliable 612/613
7	Manual Emergency Station	A	Model A Hydraulic (Pilot Line) Type	Reliable 506
8	Sprinklers	A	Closed Type	Reliable 110, 117, 131, 136, etc.
9	Air Compressor	C	Tank Mounted	Gast H-10-0801
10	Pressure Maintenance Device	A	Model A-2	Reliable 254
11	Accelerator Kit*	A	Model B1	Reliable 323
12	Nitrogen Regulating Device	A	Regulator with Optional Low Air Pressure Switch	Reliable 254

*If the optional Model B1 Accelerator is used, a tank-mounted air compressor and an A-2 pressure maintenance device must be provided. Additionally the use of a tank-mounted air compressor helps to eliminate on/off compressor cycling that may occur as a result of small leakage in the system piping, as well as due to ambient temperature changes in the system piping.

System Equipment Manufacturers

- (A) The Reliable Automatic Sprinkler Co., Inc.
- (B) System Sensor
- (C) Gast Manufacturing Corp.

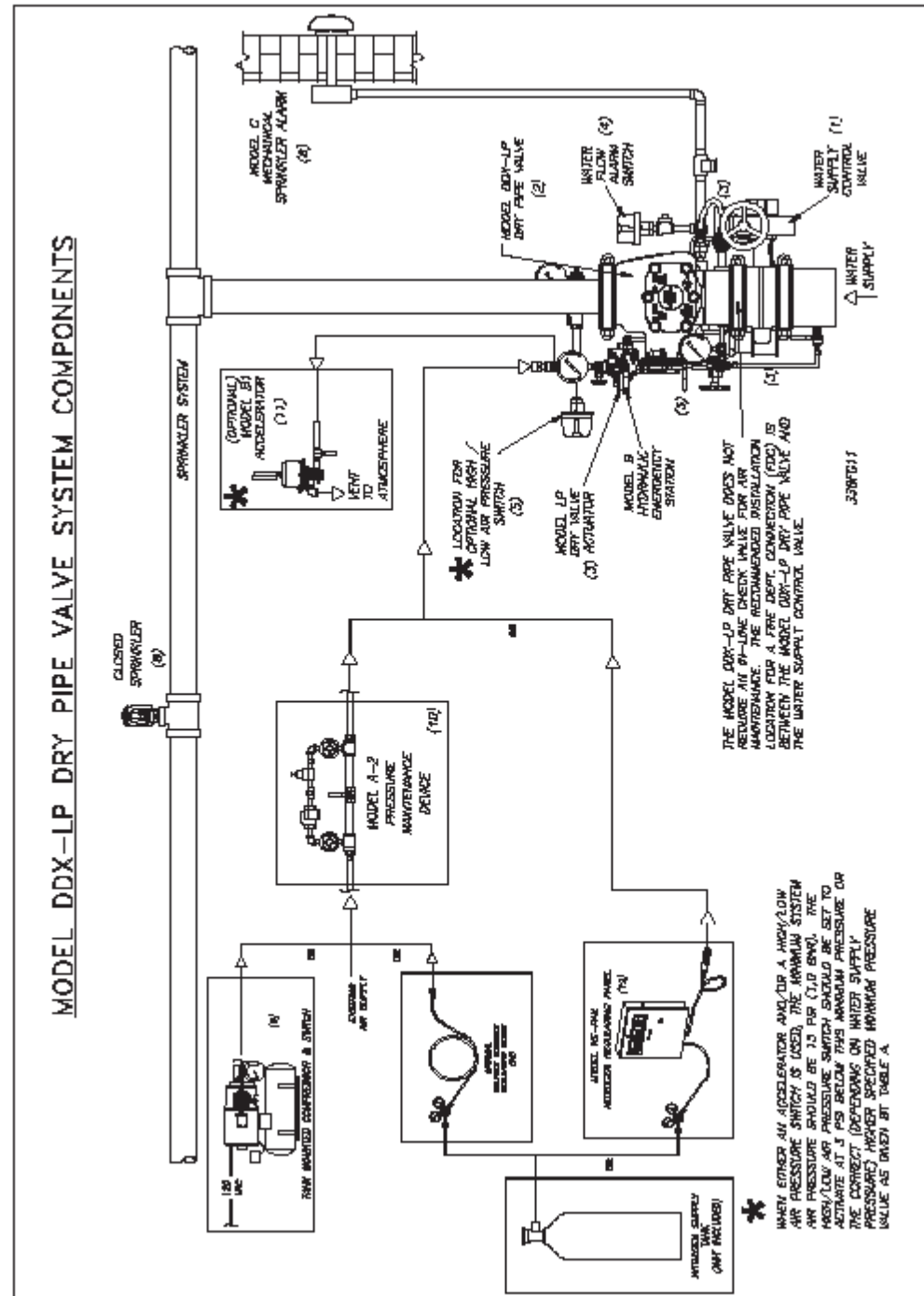
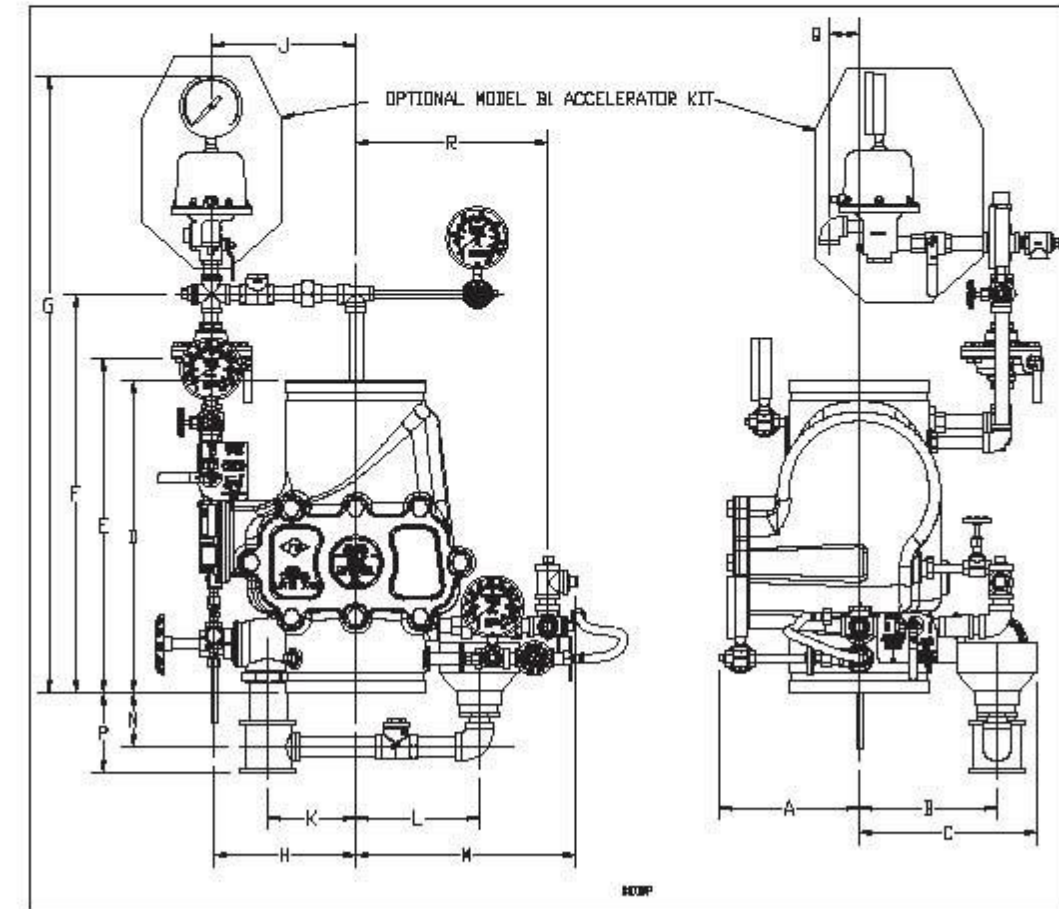


Fig 11

Nominal Pipe Size	Installation Dimensions in Inches (mm)																		
	A	B	C	D*	D**	D***	D****	E	F	G	H	J	K	L	M	N	P	Q	R
2" (50 mm)	8 (203)	7 (178)	9 1/4 (241)	12 1/4 (318)	21 1/4 (540)	N/A	N/A	21 1/4 (548)	25 (635)	38 1/4 (972)	8 (152)	6 1/4 (159)	4 1/4 (108)	5 1/4 (140)	11 (279)	3 (76)	4 1/4 (114)	6 (152)	9 1/4 (235)
2 1/2" (80 mm), 3" (80 mm) & 76 mm	8 (203)	7 (178)	9 1/4 (241)	12 1/4 (318)	22 (559)	N/A	N/A	21 1/4 (548)	25 (635)	38 1/4 (972)	8 (152)	6 1/4 (159)	4 1/4 (108)	5 1/4 (140)	11 (279)	3 (76)	4 1/4 (114)	6 (152)	9 1/4 (235)
4" (100 mm)	7 1/4 (184)	7 1/4 (191)	10 (254)	14 (358)	24 1/4 (618)	18 (406)	18 (406)	21 1/4 (548)	25 (635)	38 1/4 (972)	7 1/4 (191)	7 1/4 (197)	5 1/4 (140)	8 1/4 (210)	13 1/4 (343)	5 (127)	6 1/4 (171)	4 1/4 (108)	11 1/4 (298)
6" (150 mm) & 165 mm	7 1/4 (184)	8 1/4 (215)	11 (280)	16 (406)	27 1/4 (699)	19 (483)	19 (483)	23 (584)	27 1/4 (699)	40 1/4 (1035)	8 (203)	8 1/4 (210)	5 1/4 (140)	8 1/4 (210)	13 1/4 (349)	4 1/4 (121)	6 1/4 (165)	4 1/4 (108)	12 (305)
8" (200 mm)	7 1/4 (184)	9 1/4 (235)	11 1/4 (292)	19 1/4 (492)	30 1/4 (768)	N/A	N/A	21 1/4 (540)	23 1/4 (591)	27 1/4 (705)	41 (1041)	9 (229)	9 1/4 (235)	8 1/4 (210)	14 1/4 (368)	3 1/4 (89)	5 1/4 (133)	4 1/4 (108)	12 1/4 (324)

D* is total takeout for Fully Assembled to Grv/Grv DDX Valve w/o Control Valve Configurations
 D** is total takeout for Fully Assembled to Grv/Grv DDX Valve w/ Control Valve Configurations
 D*** is total takeout for Fully Assembled to Fig/Grv DDX Valve w/o Control Valve Configurations
 D**** is total takeout for Fully Assembled to Fig/Fig DDX Valve w/o Control Valve Configurations



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- Open sprinklers
- Spray nozzles
- Alarm valves
- Retarding chambers
- Dry pipe valves
- Accelerators for dry pipe valves
- Mechanical sprinkler alarms
- Electrical sprinkler alarm switches
- Water flow detectors
- Deluge valves
- Detector check valves
- Check valves
- Electrical system
- Sprinkler emergency cabinets
- Sprinkler wrenches
- Sprinkler escutcheons and guards
- Inspectors test connections
- Sight drains
- Ball drips and drum drips
- Control valve seals
- Air maintenance devices
- Air compressors
- Pressure gauges
- Identification signs
- Fire department connection

The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable. Products manufactured and distributed by Reliable have been protecting life and property for over 90 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and foreign countries.

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July 31, 2013

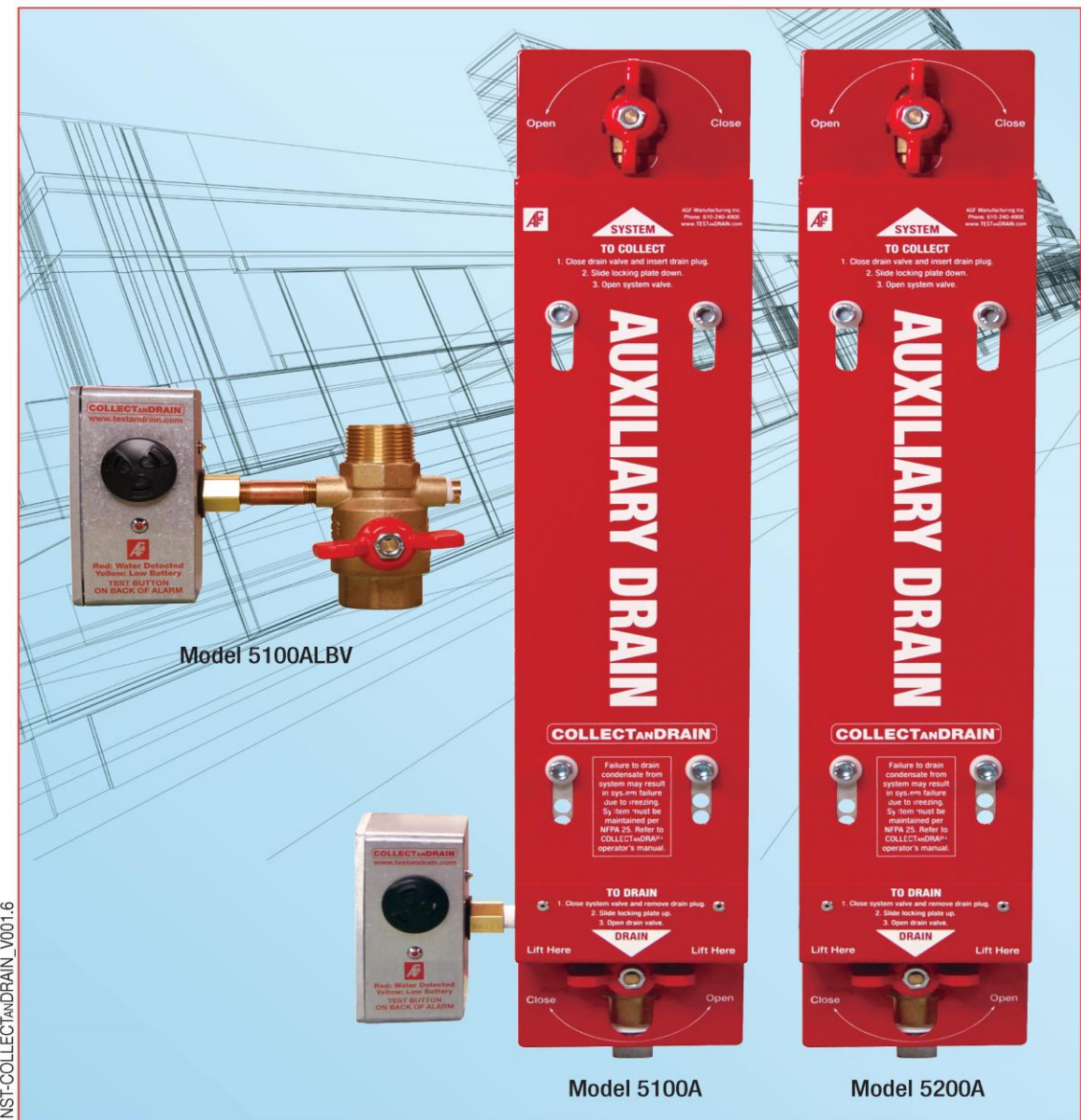
VIKING®	BULLETIN	SPRINKLER CORROSION RESISTANT FINISHES	
The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com			
Corrosion resistant sprinklers are designed to resist exterior elements that attack a standard brass sprinkler. Corrosion resistant sprinklers may have a coating or may be constructed of a corrosion resistant material. The level of corrosion resistance required is determined by the conditions that a sprinkler would experience during its installed lifetime in a corrosive environment.			
SPRINKLER IMAGE	DESCRIPTION	CORROSION RESISTANT COATED PARTS	CORROSION RESISTANCE SPECTRUM
	Brass Finish – Provides the least corrosion resistance of any sprinkler finish. Subject to oxidation, (turning green), when exposed to moisture.	No Coated Parts	Corrosive Environment* Brass versus other coatings or materials
	Chrome Finish – An ornamental finish that provides minimally more corrosion resistance than brass only.	Frame Deflector	
	White/Black Polyester Finish – A ornamental finish that provides higher corrosion resistance than chrome or brass. The waterway is not coated.	eULus Frame Deflector	
	Black PTFE** Finish – A finish is applied to sprinkler and pip cap. PTFE has a higher corrosion resistance than a polyester finish. Waterway is only coated in open sprinklers.	eULus Frame Deflector Pip Cap	
	Wax Coated Finish – A brass sprinkler is dipped in wax. The entire sprinkler is coated with the protective covering (except for glass bulb). Waterway is not coated.	eULus Whole Assembly	
	Wax over Polyester Coated Finish – A polyester finished sprinkler is dipped in wax. The entire sprinkler is coated with the protective covering (except for glass bulb). The waterway is not coated.	eULus Whole Assembly	
	Electroless Nickel PTFE** (ENT) – Coating is applied using a non-electric, auto-catalytic process that maximizes the coating's durability and anti-adhesion properties. The sprinkler is thoroughly coated including the water way, screw, and pip cap. The spring is PTFE** coated on both sides.	eULus Whole Assembly Belleville Spring PTFE Coated	
	Stainless Steel – Designed for corrosive environments that cause brass sprinklers to deteriorate. The frame, deflector, screw, and pip cap are made from solid stainless steel. The spring is made from Nickel Alloy, and PTFE** on both sides.	eULus Whole Assembly constructed from Stainless Steel	
Note: Corrosion resistance does not mean corrosion proof. A sprinkler's data page indicates its materials of construction. *Appropriate finish and parts choice for an environment is the responsibility of the customer. ** PTFE is often better known by the common brand name Teflon®, which is a registered trademark of DuPont. Refer inquiries about corrosion resistance of a sprinkler to Viking Technical Services.			

Form No. F_012513

Replaces sprinkler bulletin dated January 25, 2013.
(Added FM Corrosion-Resistant Approval to ENT)



AGF Manufacturing Inc.
COLLECTANDRAIN™
Model 5100A, 5200A,
and 5100ALBV
Owner's Manual



INST-COLLECTANDRAIN_V001.6

Model 5100A, 5200A and 5100ALBV Owner's Manual

COLLECT_{AND}DRAIN™ Anti-Trip Auxiliary Drains for Dry Pipe and Pre-Action Fire Sprinkler Systems

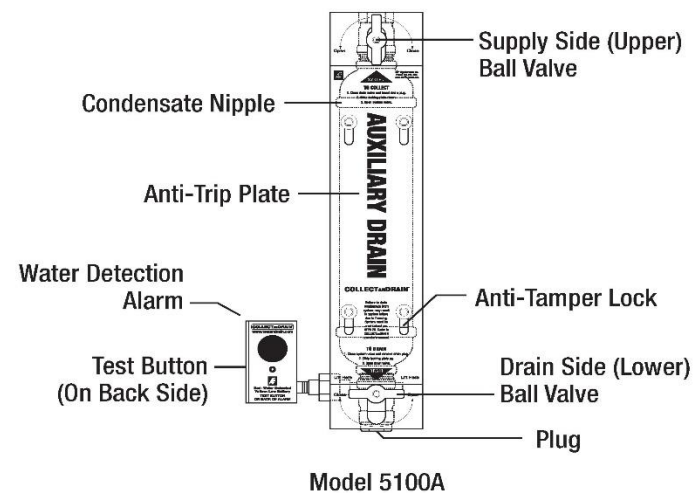


Table of Contents

Installation Instructions

Model 5100A/5200A.....	3
Model 5100ALBV	3-4

Operation Instructions

Model 5100A/5200A.....	4
Model 5100ALBV	5-7

WARNING: The COLLECT_{AND}DRAIN™ Anti-Trip Plate is designed to make sure that the auxiliary drain is operated in the proper manner and correct sequence as per NPFA guidelines to avoid accidental tripping, improper maintenance, and acts of vandalism. The M5100ALBV Water Detection Alarm detects the presence of water in the COLLECT_{AND}DRAIN™ and alerts personnel when maintenance is needed. COLLECT_{AND}DRAIN™ Model 5100A and 5200A are not designed to prevent freezing or automatically drain condensation from the system. **Failure to drain condensation from system may result in catastrophic system failure due to freezing. System must be maintained per NPFA 25 4.6, 4.6A and 4.1.**

Model 5100A/5200A Installation Instructions

Retro-fitting into an Existing System

1. Isolate branch line or zone where the COLLECT_{AND}DRAIN™ is to be installed.
2. Relieve air pressure from the branch line.
3. Remove existing auxiliary drain/condensation collection assembly.
4. Install the COLLECT_{AND}DRAIN™ by attaching the supply valve (upper) to the sprinkler system pipe in accordance with NFPA 13 (2013 edition) 8.16.2.5 and 8.16.2.5.3 with regards to low-point drains (auxiliary drains).
5. Confirm that the supply valve (upper) is in the open position and ready to collect condensation, the drain valve (lower) is closed, and the plug is tight.
6. Return system back to normal operating conditions.

Installation into a New System

1. Install the COLLECT_{AND}DRAIN™ by attaching the supply valve (upper) to the sprinkler system pipe in accordance with NFPA 13 (2013 edition) 8.16.2.5 and 8.16.2.5.3 with regards to low-point drains (auxiliary drains).
2. Confirm that the supply valve (upper) is in the open position and ready to collect condensation, the drain valve (lower) is closed, and the plug is tight.
3. Activate system for normal operating conditions.

Note: The presence of even a *small amount* of water in the COLLECT_{AND}DRAIN™ Model 5100A will activate the Model 5100ALBV Alarm's visual and audible alerts signaling the need for attention. The COLLECT_{AND}DRAIN™ must be drained completely to silence the alarm. Please call 610-240-4900 for instructions on how to locally silence the audible alert if directly wired to a Fire Control Panel or BMS.

Model 5100A/5200A Operating Instructions

To Collect Condensate per NFPA 25 (2011 edition) A.13.4.4.3.2, 13.4.4.3.2*

1. Close the drain valve (lower) by making sure the valve handle is perpendicular to the collection assembly.
2. Apply Teflon® tape to the plug and make sure the plug is tightly threaded into the bottom of the drain valve.
3. Slide the Anti-Trip Plate to its lowest position.
4. Open the supply valve (upper) by making sure the valve handle is in line with the collection assembly.
5. If equipped, install the anti-tamper lock.

Model 5100A, 5200A and 5100ALBV Owner's Manual

To Drain Condensate per NFPA 25 (2011 edition) A.13.4.4.3.2, 13.4.4.3.2*

1. Close the supply valve (upper) and remove plug.
2. Slide the Anti-Trip Plate to its highest position and open the drain valve (lower) to drain the accumulated water.
3. Once the water has been drained, close the drain valve (lower) and slide the Anti-Trip Plate to its lowest position.
4. Open the supply valve (upper) and allow time for any remaining water in the system to accumulate. Repeat steps 1-3 until all of the water has been drained from the system.
5. Once all water has been drained apply new Teflon® tape to the plug and make sure it is tightly threaded into the bottom of the drain valve.
6. Close the drain valve (lower) and slide the Anti-Trip plate down into its lowest possible position.
7. Open the supply valve (upper).
8. If equipped, install the anti-tamper lock.

Model 5100ALBV Installation Instructions

The alarm module operates on the principle of conductivity. The alarm contains a probe that is attached to the piping system. When condensate collects in the piping and reaches the probe, the electrical circuit is completed and the unit sounds an audible alarm, flashes a visual red LED, and changes the state of the output relay. The module will reset itself when the condensate is completely drained.

Retro-fitting onto an Existing Auxiliary Drain

1. Isolate the auxiliary drain that the COLLECTANDRAIN™ Model 5100ALBV is to be installed on.
2. Remove the plug and open the drain valve (lower) to empty the condensate from the auxiliary drain and relieve the air pressure.
3. Remove the existing drain valve (lower) from the auxiliary drain.
4. Apply PTFE tape or appropriate sealant to the Model 5100ALBV.
5. Install the Model 5100ALBV by threading the valve into the appropriate fitting.
6. Confirm that the drain valve (lower) is closed and the plug is tight. Open the supply valve (upper) and the auxiliary drain is ready to collect condensate.
7. Return system back to normal operating conditions.
8. See Page 5-7 for Wiring Instructions.

Model 5100ALBV Operating Instructions

Power is supplied to the Model 5100ALBV by a 9V Battery (default) or by installing a 12-24VDC external hardwire (See Page 6).

Battery Operation:

1. Remove four screws on the alarm box and take off the cover.
2. For battery operation, check to make sure the **Voltage Jumper** is on the front two pins as shown in Image 1 (Fig. A).

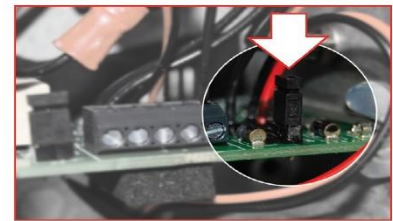
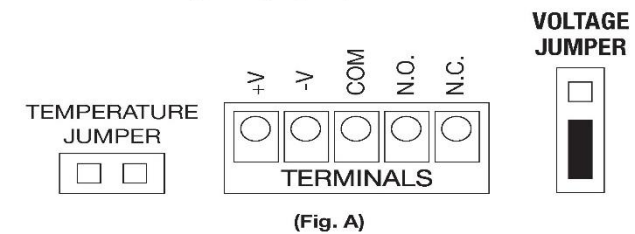


Image 1



Image 2

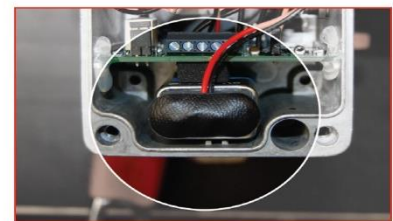


Image 3

3. Install a 9V battery as shown in Image 2.
Note: When the battery begins to run low the alarm will chirp and flash a yellow LED.
4. Place 9V battery under the circuitboard as shown in Image 3.
5. Install cover with the four screws.

Model 5100A, 5200A and 5100ALBV Owner's Manual

External Hardwire Operation:

1. Remove four screws on the alarm box and take off the cover.
2. For external power operation, place the **Voltage Jumper** on the rear two pins as shown in Image 4 (Fig. B).

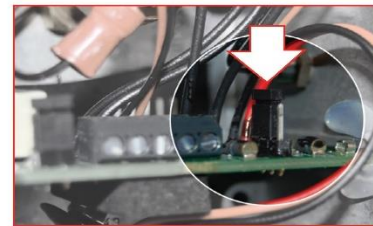
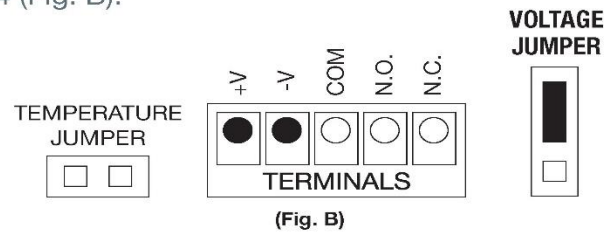


Image 4



(Fig. B)

3. While supporting the bottom of the alarm enclosure, remove the knockout using a slotted screwdriver and a hammer (Place a clean rag underneath the knockout to prevent debris from falling onto the circuit board).



Image 5

4. Install 1/2" liquid-tight conduit fitting or cord grip into the knockout opening and run the external power source into the alarm housing as shown in Image 5.

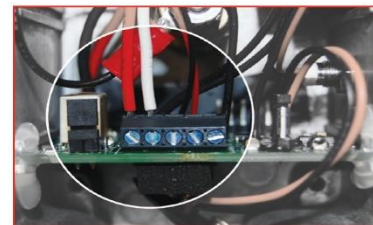


Image 6

5. Connect external power source to V+ and V- terminals as shown in Image 6 (Fig. B). Ensure DC is from a clean power supply and not full-wave rectified without a capacitor.

6. Install cover with the four screws.

Temperature Sensing Function

When the Temperature Sensing Function is enabled and water is present in the auxiliary drain the Model 5100ALBV will not activate the audible and visual alerts if the ambient temperature is above 45° F. When water is present and the ambient temperature falls below 45° F, the Model 5100ALBV will activate the audible and visual alerts. The Temperature Sensing Function helps extend battery life and eliminates unwanted alarm conditions when the threat of freezing is not present. **By default the Temperature Sensing Function is not enabled when shipped, meaning the alarm senses water regardless of ambient temperature.** See page 7 for Setup Instructions.

Temperature Sensing Function Setup:

1. Remove four screws on the alarm box and take off the cover.
2. Remove **Temperature Jumper** from both pins and reinstall on one pin only as shown in Image 7 (Fig. C).

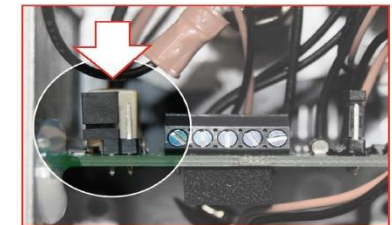
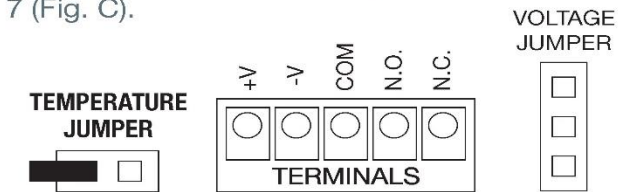


Image 7



(Fig. C)

NOTE:
 • Both pins covered: Alarm functions at all times
 • One pin covered: Alarm functions at < 45° F

3. Install cover with the four screws.

Remote Operation Function

The Model 5100ALBV Water Detection Alarm also features a Remote Operation Function. This function allows you to connect the unit directly to the Fire Control Panel or BSM so when water is detected in the auxiliary drain you will be notified remotely.

Remote Operation Setup:

1. Remove four screws on the alarm box and take off the cover.
2. Connect wiring to the **Common Terminal** and either the N.O. or N.C. terminal as shown in Image 8 (Fig. D). Contact is rated for 2.0A @ 30VDC.

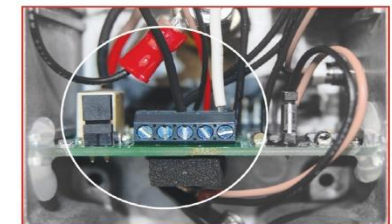
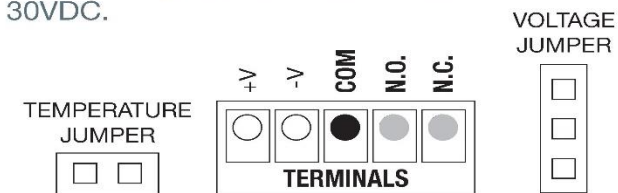


Image 8



(Fig. D)

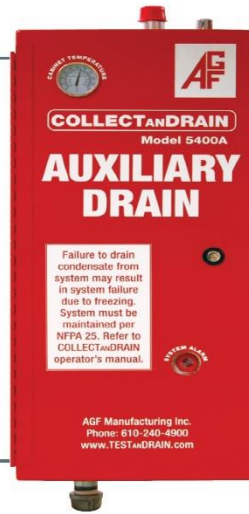
3. Install cover with the four screws.

Note: Please call 610-240-4900 for instructions on how to locally silence the audible alert if directly wired to a Fire Control Panel or BMS.

Thank You For Using Our Products!
 For our complete family of products, visit us online at www.testandrain.com

Freeze Protection

The Model 5400A goes beyond the prevention features of the Model 5100A and 5200A by providing a temperature controlled environment to deter system failures due to freezing condensation. The heated and insulated cabinet contains an auxiliary drain with a float switch to monitor condensation levels. When condensation reaches a level where maintenance is needed the float switch activates an audible alarm and an LED warning light. The Model 5400A also features Fire Control Panel notification capabilities. Visit www.testandrain.com for more information.



AGF Manufacturing Inc.
100 Quaker Lane • Malvern, PA 19355

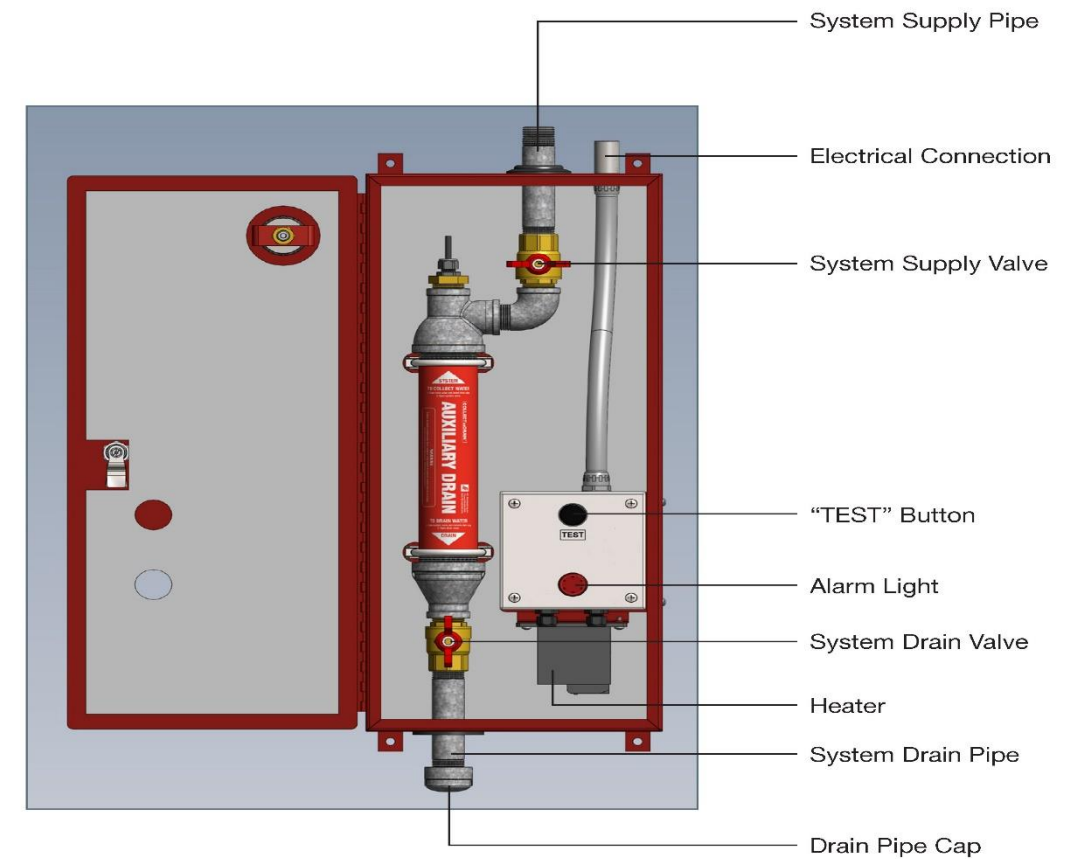
Phone: 610-240-4900
Fax: 610-240-4906

www.testandrain.com

Model 5400 COLLECTANDRAIN® Owner's Manual

Model 5400 COLLECTANDRAIN®

The COLLECTANDRAIN® Model 5400 is a heated and insulated auxiliary drain (condensate collector/drum drip) with float switch and alarm for dry pipe sprinkler systems. The M5400 is designed for installation in climates where freezing or below freezing temperatures are present and result in the failure of typical collectors. The M5400 maintains a comfortable temperature above freezing while minimizing power consumption.

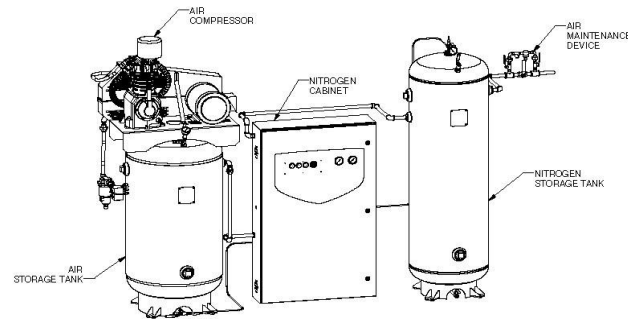




NGP-2200D-M2 Nitrogen Generator

Features

- 7.5 HP lubricated air compressor needed for NFPA 13 required 30 minutes fill for 2200 gallon system at 40 PSI
- Handles up to 3000 gallons of total sprinkler system capacity (based on NFPA 13 allowable leak rates for a new sprinkler system)
- Premium nitrogen membrane
- UL 508A listed industrial control panel
- Built-in Programmable Logic Controller for leak detection and air bypass alarm systems
- Form C dry contacts for Building Management System (BMS) notification
- 80 gallon air tank and 30 gallon nitrogen tank
- Includes all filters, relief valves, automatic drains and gauges



Description

The Potter Nitrogen Generator, NGP-2200D-M2, is specifically designed to provide on-site, high purity nitrogen for use in fire protection sprinkler systems. When used as a supervisory gas in fire sprinkler systems, nitrogen slows corrosion, improves the life of your system, and lowers maintenance costs. The NGP-2200D-M2 includes a tank mounted air compressor, nitrogen cabinet, and a nitrogen storage tank. These systems include all air filtration equipment, an air compressor, nitrogen membrane, as well as tanks required to keep the generator operating at peak efficiency. Potter Nitrogen Generator Systems provide a low cost, reliable, and efficient method of producing a minimum of 98% nitrogen at the point of usage.

The NGP-2200D-M2 utilizes nitrogen membrane technology for gas separation. Nitrogen membranes are highly effective and a cost conscious way of producing on-site nitrogen. Acting as a filter, the smaller oxygen and water vapor molecules can pass through the membrane quickly. The larger nitrogen molecules are less likely to diffuse through the separator tubes; therefore, they continue downstream to the separator outlet, through the air maintenance device and into the fire protection system. As the system fills with nitrogen, the remaining oxygen molecules in the fire protection system are exhausted by using the Potter IntelliPurge® Nitrogen Purge Valve. The Potter IntelliPurge® Nitrogen Purge Valve will periodically monitor the fire protection system to ensure high purity nitrogen is consistent throughout the sprinkler system.

Installation

The Potter NGP-2200D-M2 should be installed in a dry, clean, and well-ventilated room with ambient temperatures above 50°F at all times. Allow access to the front of the nitrogen cabinet for service and place the

unit in a location that is conveniently located near fire sprinkler system connections and a drain.

The Potter Nitrogen Generator should always be installed in an adequately ventilated room. Nitrogen is nontoxic and largely inert. Rapid release of nitrogen gas into an enclosed space displaces the oxygen and can cause an asphyxiation hazard. Inhalation of nitrogen in excessive concentrations can result in unconsciousness without any warning symptoms.

For detailed installation and operation instructions please refer to the Potter Nitrogen Generator Manual #5401550.

Technical Specifications

Compressor Package Size (HxWxD)	75" x 34" x 29"
Nitrogen Cabinet Size (HxWxD)	48" x 30" x 11"
Nitrogen Tank Size (HxØ)	45" x 16"
Compressor Package Weight	500 lbs
Nitrogen Cabinet Weight	200 lbs
Nitrogen Tank Weight	125 lbs
Power Supply	Available in 208V (13.3A), 230V (12.4A), 460V (6.2A) three phase
Max Operating Pressure	175 PSI
Temperature Range	50°F (10°C) to 110°F (43°C)
Air Purity	ISO Class 1.4.1 or better: Free of water 38°F (3°C) Dew Point, compressor oil (0.008 PPM or .01 mg/m3), hydrocarbons, and particles (<0.01 µm microns)

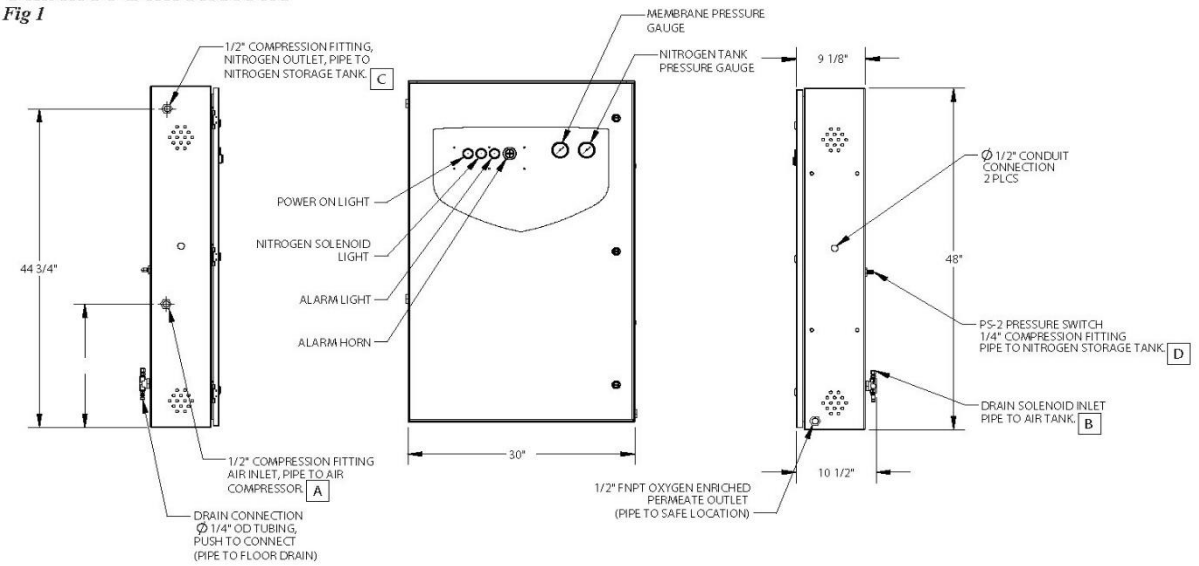
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NGP-2200D-M2 Nitrogen Generator

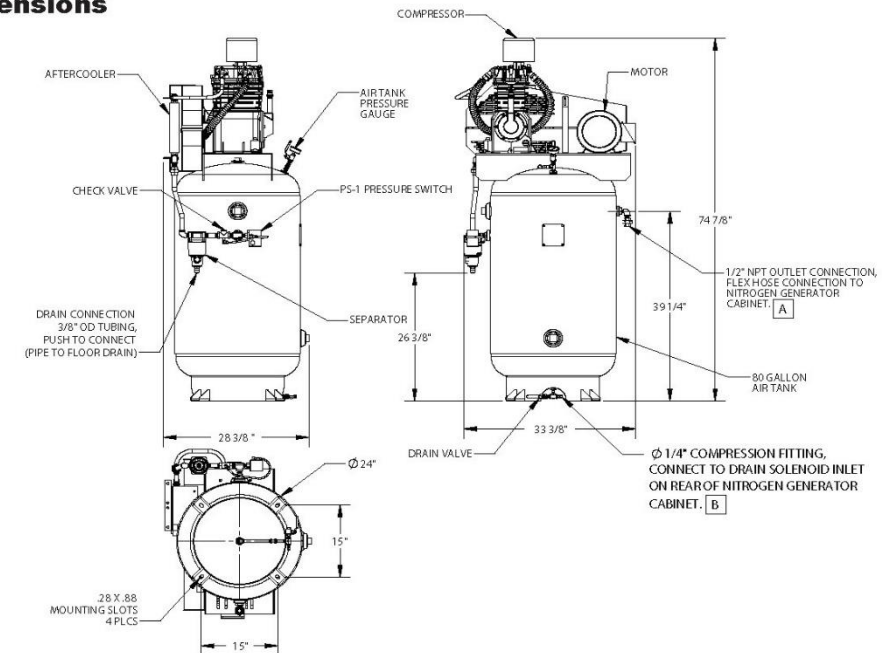
Cabinet Dimensions

Fig 1



Tank Dimensions

Fig 2



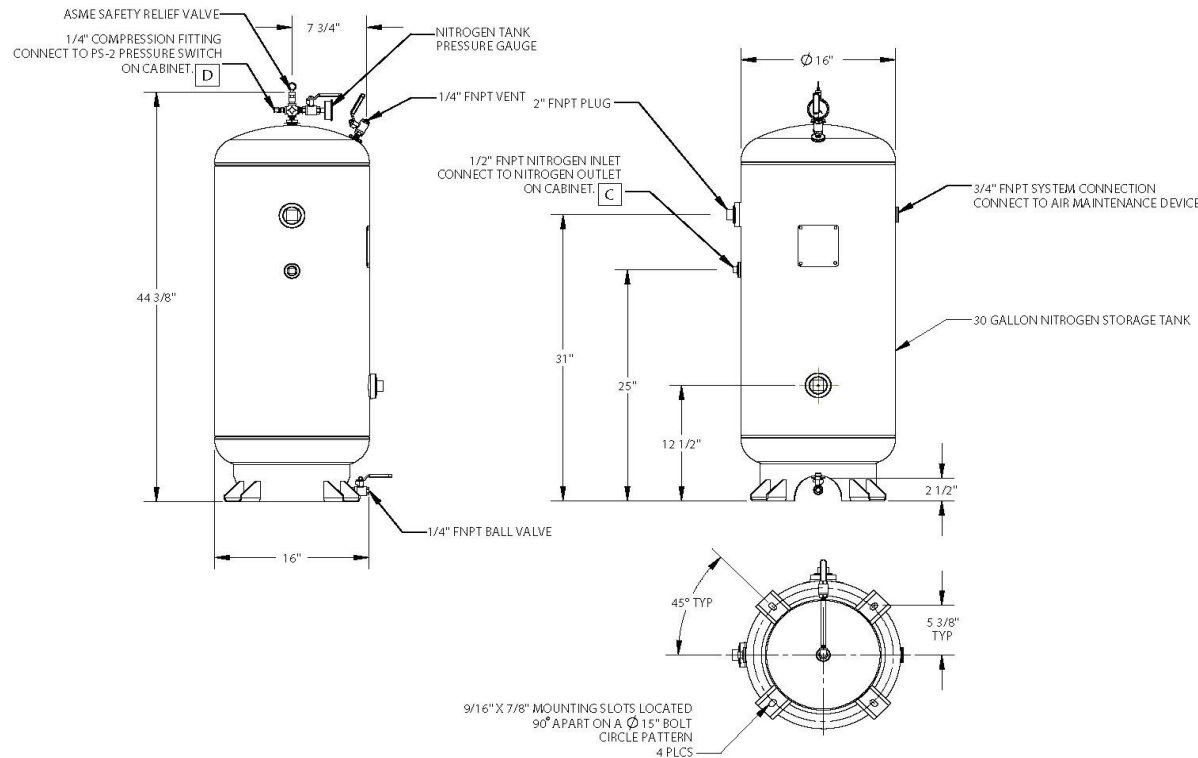
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NGP-2200D-M2 Nitrogen Generator

Storage Tank Dimensions

Fig 3



Ordering Information

Model	Description	Stock No.
NGP 2200D-M2-2B	THREE PHASE 208V	1119531
NGP 2200D-M2-3B	THREE PHASE 230V	1119532
NGP 2200D-M2-4B	THREE PHASE 460V	1119533

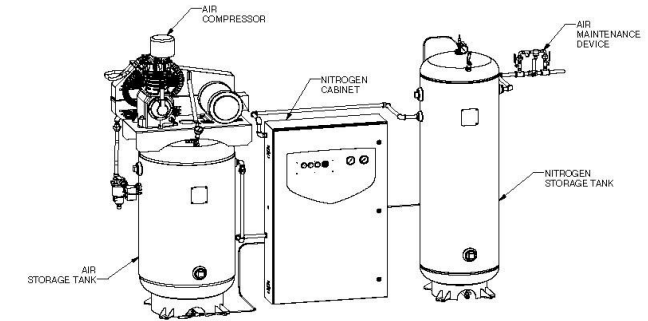
Model	Description	Stock No.
NGP-MK	Maintenance Kit NGP-M2-M5	1119785
INS-PV	Potter IntelliPurge® Nitrogen Purge Valve	1119478
NGP-SPV	Potter Purge Valve	1119784
NGP-AMD-1	Potter Air Maintenance Device	1119787



NGP-2200D-M3 Nitrogen Generator

Features

- 7.5 HP lubricated air compressor needed for NFPA 13 required 30 minutes fill for 2200 gallon system at 40 PSI
- Handles up to 5000 gallons of total sprinkler system capacity (based on NFPA 13 allowable leak rates for a new sprinkler system)
- Premium nitrogen membrane
- UL 508A listed industrial control panel
- Built-in Programmable Logic Controller for leak detection and air bypass alarm systems
- Form C dry contacts for Building Management System (BMS) notification
- 80 gallon air tank and 30 gallon nitrogen tank
- Includes all filters, relief valves, automatic drains and gauges



Description

The Potter Nitrogen Generator, NGP-2200D-M3, is specifically designed to provide on-site, high purity nitrogen for use in fire protection sprinkler systems. When used as a supervisory gas in fire sprinkler systems, nitrogen slows corrosion, improves the life of your system, and lowers maintenance costs. The NGP-2200D-M3 includes a tank mounted air compressor, nitrogen cabinet, and a nitrogen storage tank. These systems include all air filtration equipment, an air compressor, nitrogen membrane, as well as tanks required to keep the generator operating at peak efficiency. Potter Nitrogen Generator Systems provide a low cost, reliable, and efficient method of producing a minimum of 98% nitrogen at the point of usage.

The NGP-2200D-M3 utilizes nitrogen membrane technology for gas separation. Nitrogen membranes are highly effective and a cost conscious way of producing on-site nitrogen. Acting as a filter, the smaller oxygen and water vapor molecules can pass through the membrane quickly. The larger nitrogen molecules are less likely to diffuse through the separator tubes; therefore, they continue downstream to the separator outlet, through the air maintenance device and into the fire protection system. As the system fills with nitrogen, the remaining oxygen molecules in the fire protection system are exhausted by using the Potter IntelliPurge® Nitrogen Purge Valve. The Potter IntelliPurge® Nitrogen Purge Valve will periodically monitor the fire protection system to ensure high purity nitrogen is consistent throughout the sprinkler system.

Installation

The Potter NGP-2200D-M3 should be installed in a dry, clean, and well-ventilated room with ambient temperatures above 50°F at all times. Allow access to the front of the nitrogen cabinet for service and place the

unit in a location that is conveniently located near fire sprinkler system connections and a drain.

The Potter Nitrogen Generator should always be installed in an adequately ventilated room. Nitrogen is nontoxic and largely inert. Rapid release of nitrogen gas into an enclosed space displaces the oxygen and can cause an asphyxiation hazard. Inhalation of nitrogen in excessive concentrations can result in unconsciousness without any warning symptoms.

For detailed installation and operation instructions please refer to the Potter Nitrogen Generator Manual #5401550.

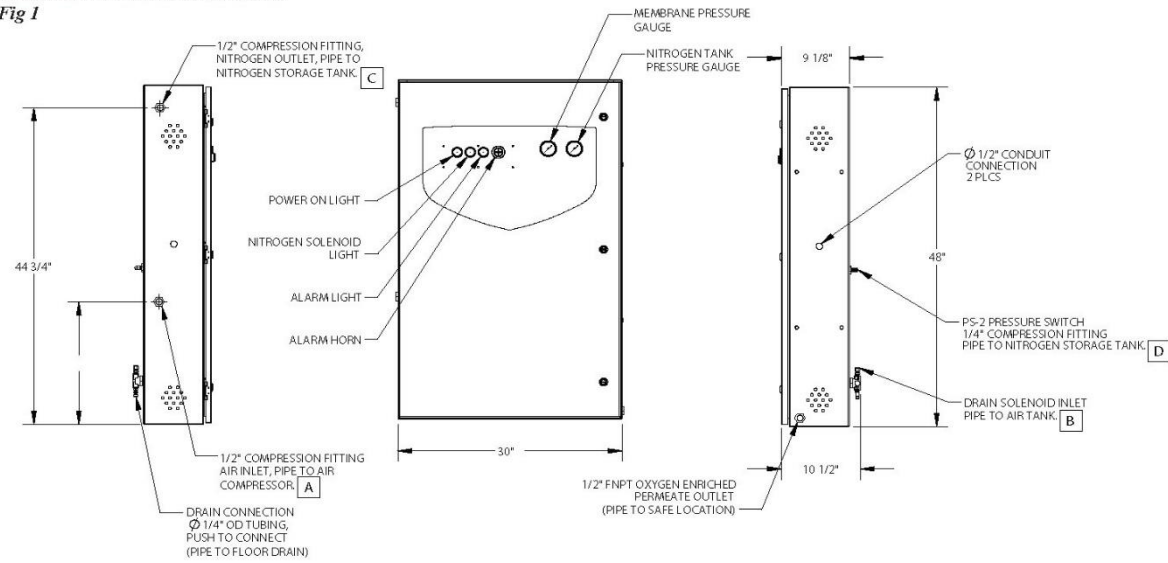
Technical Specifications

Compressor Package Size (HxWxD)	75" x 34" x 29"
Nitrogen Cabinet Size (HxWxD)	48" x 30" x 11"
Nitrogen Tank Size (HxØ)	45" x 16"
Compressor Package Weight	500 lbs
Nitrogen Cabinet Weight	200 lbs
Nitrogen Tank Weight	125 lbs
Power Supply	Available in 208V (13.3A), 230V (12.4A), 460V (6.2A) three phase
Max Operating Pressure	175 PSI
Temperature Range	50°F (10°C) to 110°F (43°C)
Air Purity	ISO Class 1.4.1 or better: Free of water 38°F (3°C) Dew Point, compressor oil (0.008 PPM or .01 mg/m3), hydrocarbons, and particles (<0.01 µm microns)

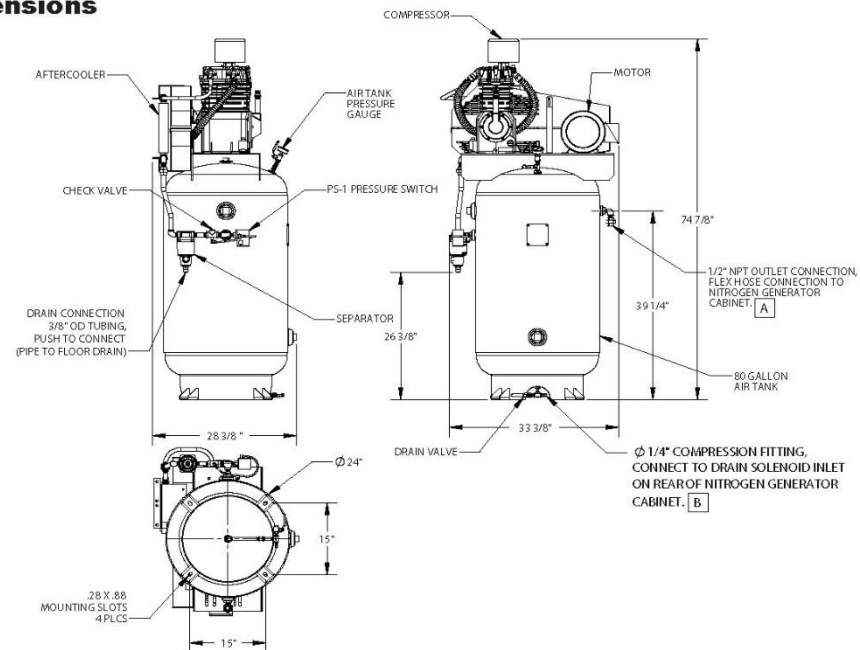


NGP-2200D-M3 Nitrogen Generator

Cabinet Dimensions Fig 1

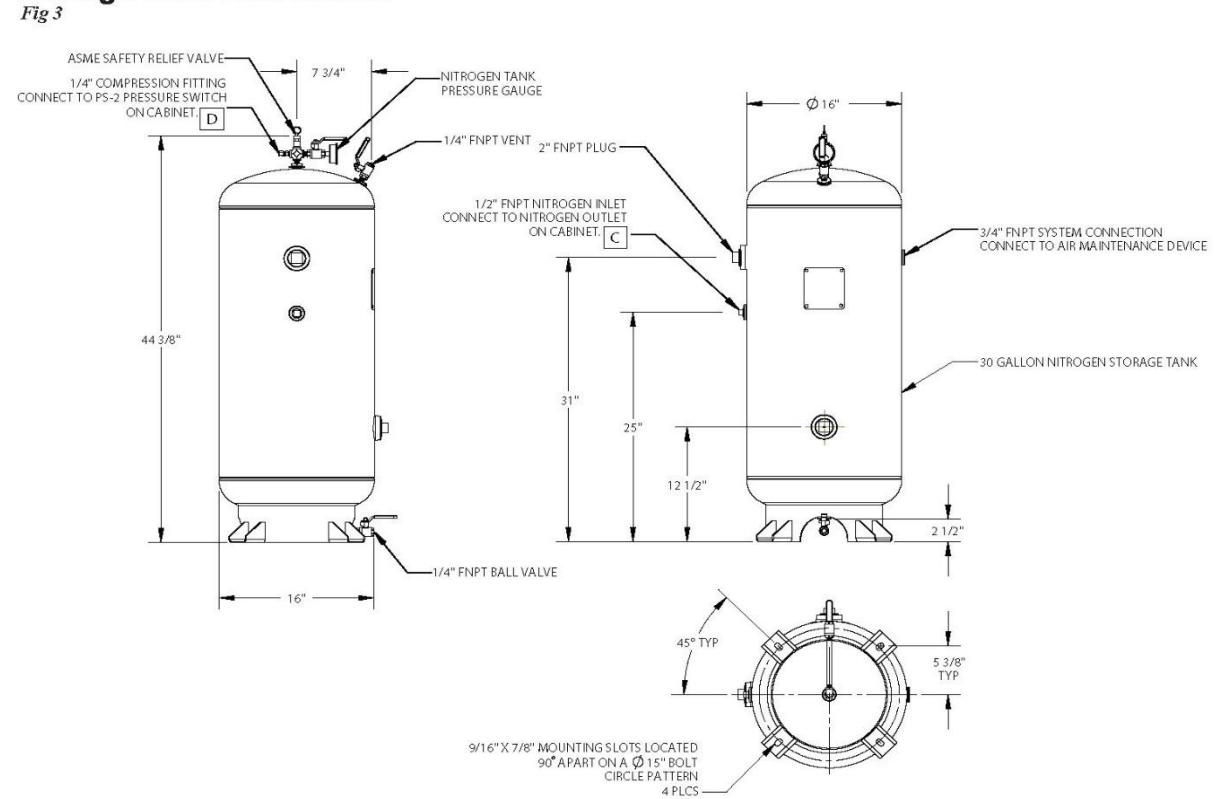


Tank Dimensions Fig 2



NGP-2200D-M3 Nitrogen Generator

Storage Tank Dimensions Fig 3



Ordering Information

Model	Description	Stock No.
NGP-2200D-M3-2B	THREE PHASE 208V	1119534
NGP-2200D-M3-3B	THREE PHASE 230V	1119535
NGP-2200D-M3-4B	THREE PHASE 460V	1119536

Model	Description	Stock No.
NGP-MK	Maintenance Kit NGP-M2-M5	1119785
INS-PV	Potter IntelliPurge® Nitrogen Purge Valve	1119478
NGP-SPV	Potter Purge Valve	1119784
NGP-AMD-1	Potter Air Maintenance Device	1119787

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PAGE 2 OF 3

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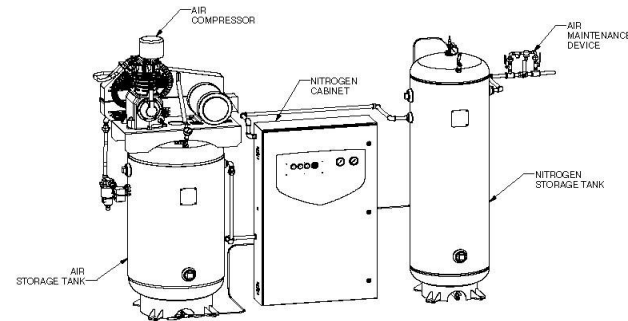
PAGE 3 OF 3



NGP-2200D-M4 Nitrogen Generator

Features

- 7.5 HP lubricated air compressor needed for NFPA 13 required 30 minutes fill for 2200 gallon system at 40 PSI
- Handles up to 9500 gallons of total sprinkler system capacity (based on NFPA 13 allowable leak rates for a new sprinkler system)
- Premium nitrogen membrane
- UL 508A listed industrial control panel
- Built-in Programmable Logic Controller for leak detection and air bypass alarm systems
- Form C dry contacts for Building Management System (BMS) notification
- 80 gallon air tank and 80 gallon nitrogen tank
- Includes all filters, relief valves, automatic drains and gauges



Description

The Potter Nitrogen Generator, NGP-2200D-M4, is specifically designed to provide on-site, high purity nitrogen for use in fire protection sprinkler systems. When used as a supervisory gas in fire sprinkler systems, nitrogen slows corrosion, improves the life of your system, and lowers maintenance costs. The NGP-2200D-M4 includes a tank mounted air compressor, nitrogen cabinet, and a nitrogen storage tank. These systems include all air filtration equipment, an air compressor, nitrogen membrane, as well as tanks required to keep the generator operating at peak efficiency. Potter Nitrogen Generator Systems provide a low cost, reliable, and efficient method of producing a minimum of 98% nitrogen at the point of usage.

The NGP-2200D-M4 utilizes nitrogen membrane technology for gas separation. Nitrogen membranes are highly effective and a cost conscious way of producing on-site nitrogen. Acting as a filter, the smaller oxygen and water vapor molecules can pass through the membrane quickly. The larger nitrogen molecules are less likely to diffuse through the separator tubes; therefore, they continue downstream to the separator outlet, through the air maintenance device and into the fire protection system. As the system fills with nitrogen, the remaining oxygen molecules in the fire protection system are exhausted by using the Potter IntelliPurge® Nitrogen Purge Valve. The Potter IntelliPurge® Nitrogen Purge Valve will periodically monitor the fire protection system to ensure high purity nitrogen is consistent throughout the sprinkler system.

Installation

The Potter NGP-2200D-M4 should be installed in a dry, clean, and well-ventilated room with ambient temperatures above 50°F at all times. Allow access to the front of the nitrogen cabinet for service and place the

unit in a location that is conveniently located near fire sprinkler system connections and a drain.

The Potter Nitrogen Generator should always be installed in an adequately ventilated room. Nitrogen is nontoxic and largely inert. Rapid release of nitrogen gas into an enclosed space displaces the oxygen and can cause an asphyxiation hazard. Inhalation of nitrogen in excessive concentrations can result in unconsciousness without any warning symptoms.

For detailed installation and operation instructions please refer to the Potter Nitrogen Generator Manual #5401550.

Technical Specifications

Compressor Package Size (HxWxD)	75" x 34" x 29"
Nitrogen Cabinet Size (HxWxD)	48" x 30" x 11"
Nitrogen Tank Size (HxØ)	70" x 20"
Compressor Package Weight	500 lbs
Nitrogen Cabinet Weight	200 lbs
Nitrogen Tank Weight	200 lbs
Power Supply	Available in 208V (13.3A), 230V (12.4A), 460V (6.2A) three phase
Max Operating Pressure	175 PSI
Temperature Range	50°F (10°C) to 110°F (43°C)
Air Purity	ISO Class 1.4.1 or better: Free of water 38°F (3°C) Dew Point, compressor oil (0.008 PPM or .01 mg/m ³), hydrocarbons, and particles (<0.01 µm microns)

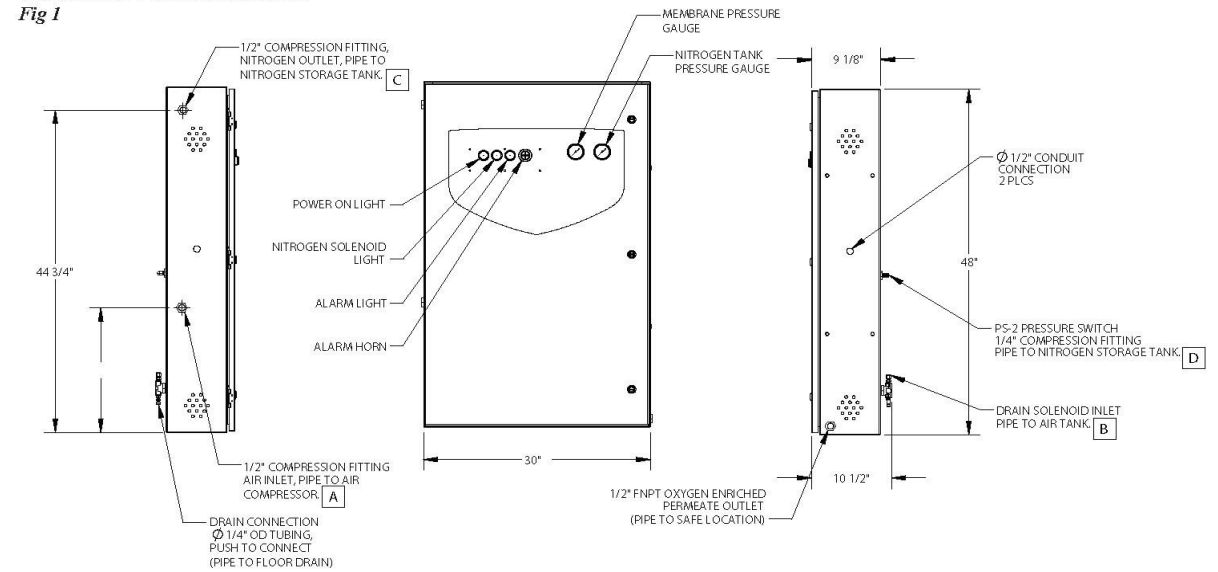
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NGP-2200D-M4 Nitrogen Generator

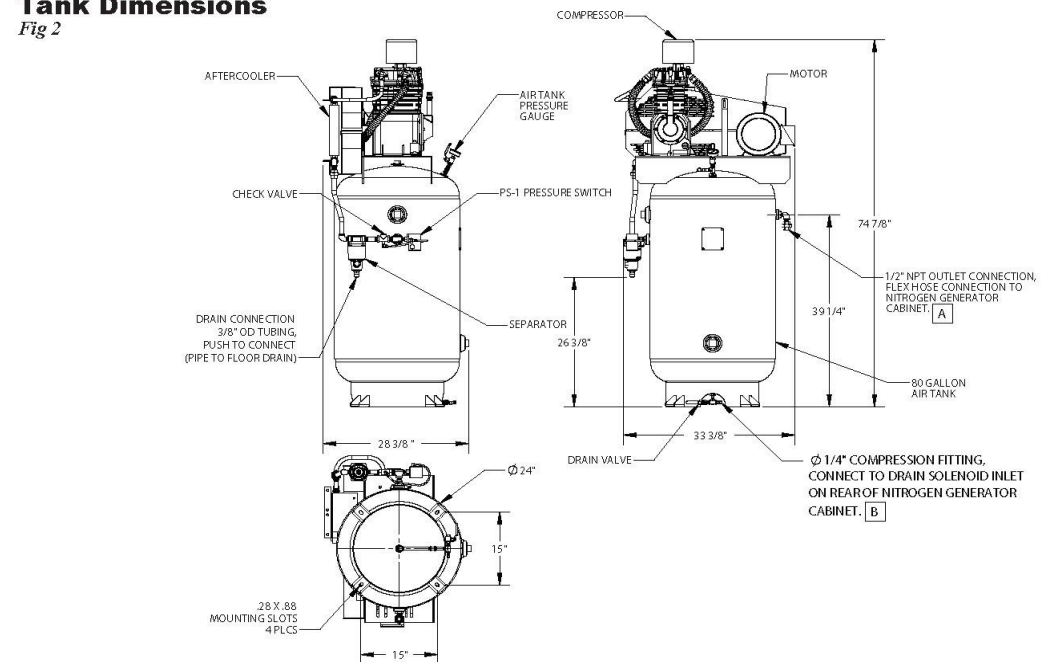
Cabinet Dimensions

Fig 1



Tank Dimensions

Fig 2

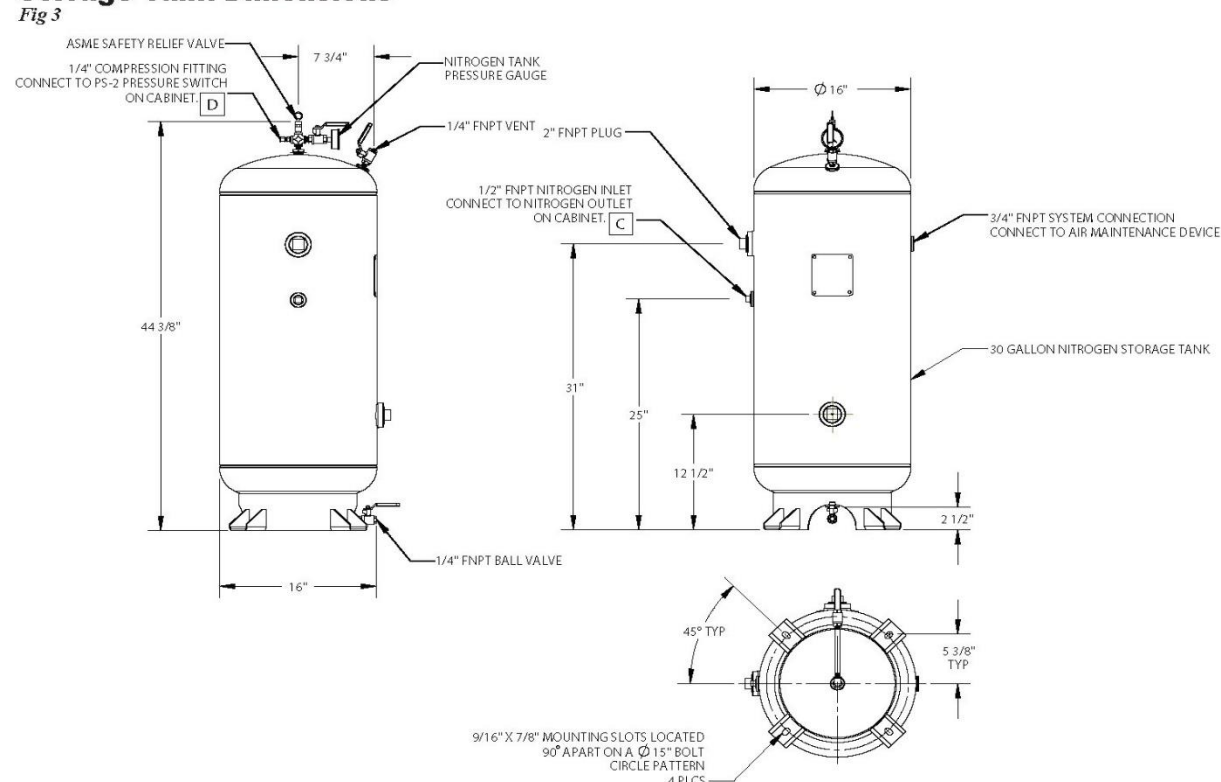


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NGP-2200D-M4 Nitrogen Generator

Storage Tank Dimensions



Ordering Information

Model	Description	Stock No.
NGP-2200D-M4-2B	THREE PHASE 208V	1119537
NGP-2200D-M4-3B	THREE PHASE 230V	1119538
NGP-2200D-M4-4B	THREE PHASE 460V	1119539

Model	Description	Stock No.
NGP-MK	Maintenance Kit NGP-M2-M5	1119785
INS-PV	Potter IntelliPurge® Nitrogen Purge Valve	1119478
NGP-SPV	Potter Purge Valve	1119784
NGP-AMD-1	Potter Air Maintenance Device	1119787

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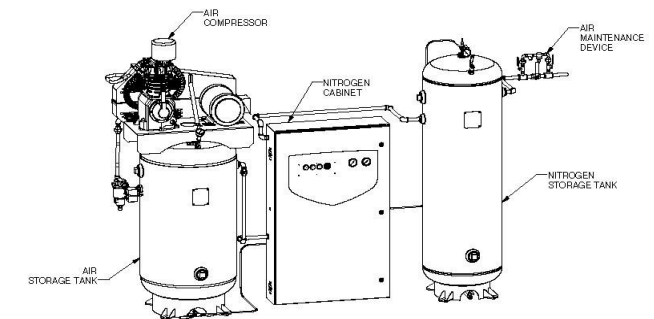
PAGE 3 OF 3



NGP-2200D-M5 Nitrogen Generator

Features

- 7.5 HP lubricated air compressor needed for NFPA 13 required 30 minutes fill for 2200 gallon system at 40 PSI
- Handles up to 16,000 gallons of total sprinkler system capacity (based on NFPA 13 allowable leak rates for a new sprinkler system)
- Premium nitrogen membrane
- UL 508A listed industrial control panel
- Built-in Programmable Logic Controller for leak detection and air bypass alarm systems
- Form C dry contacts for Building Management System (BMS) notification
- 80 gallon air tank and 80 gallon nitrogen tank
- Includes all filters, relief valves, automatic drains and gauges



Description

The Potter Nitrogen Generator, NGP-2200D-M5, is specifically designed to provide on-site, high purity nitrogen for use in fire protection sprinkler systems. When used as a supervisory gas in fire sprinkler systems, nitrogen slows corrosion, improves the life of your system, and lowers maintenance costs. The NGP-2200D-M5 includes a tank mounted air compressor, nitrogen cabinet, and a nitrogen storage tank. These systems include all air filtration equipment, an air compressor, nitrogen membrane, as well as tanks required to keep the generator operating at peak efficiency. Potter Nitrogen Generator Systems provide a low cost, reliable, and efficient method of producing a minimum of 98% nitrogen at the point of usage.

The NGP-2200D-M5 utilizes nitrogen membrane technology for gas separation. Nitrogen membranes are highly effective and a cost conscious way of producing on-site nitrogen. Acting as a filter, the smaller oxygen and water vapor molecules can pass through the membrane quickly. The larger nitrogen molecules are less likely to diffuse through the separator tubes; therefore, they continue downstream to the separator outlet, through the air maintenance device and into the fire protection system. As the system fills with nitrogen, the remaining oxygen molecules in the fire protection system are exhausted by using the Potter IntelliPurge® Nitrogen Purge Valve. The Potter IntelliPurge® Nitrogen Purge Valve will periodically monitor the fire protection system to ensure high purity nitrogen is consistent throughout the sprinkler system.

Installation

The Potter NGP-2200D-M5 should be installed in a dry, clean, and well-ventilated room with ambient temperatures above 50°F at all times. Allow access to the front of the nitrogen cabinet for service and place the

unit in a location that is conveniently located near fire sprinkler system connections and a drain.

The Potter Nitrogen Generator should always be installed in an adequately ventilated room. Nitrogen is nontoxic and largely inert. Rapid release of nitrogen gas into an enclosed space displaces the oxygen and can cause an asphyxiation hazard. Inhalation of nitrogen in excessive concentrations can result in unconsciousness without any warning symptoms.

For detailed installation and operation instructions please refer to the Potter Nitrogen Generator Manual #5401550.

Technical Specifications

Compressor Package Size (HxWxD)	75" x 34" x 29"
Nitrogen Cabinet Size (HxWxD)	72" x 30" x 15"
Nitrogen Tank Size (HxØ)	70" x 20"
Compressor Package Weight	500 lbs
Nitrogen Cabinet Weight	250 lbs
Nitrogen Tank Weight	200 lbs
Power Supply	Available in 208V (13.3A), 230V (12.4A), 460V (6.2A) three phase
Max Operating Pressure	175 PSI
Temperature Range	50°F (10°C) to 110°F (43°C)
Air Purity	ISO Class 1.4.1 or better: Free of water 38°F (3°C) Dew Point, compressor oil (0.008 PPM or .01 mg/m ³), hydrocarbons, and particles (<0.01 µm microns)

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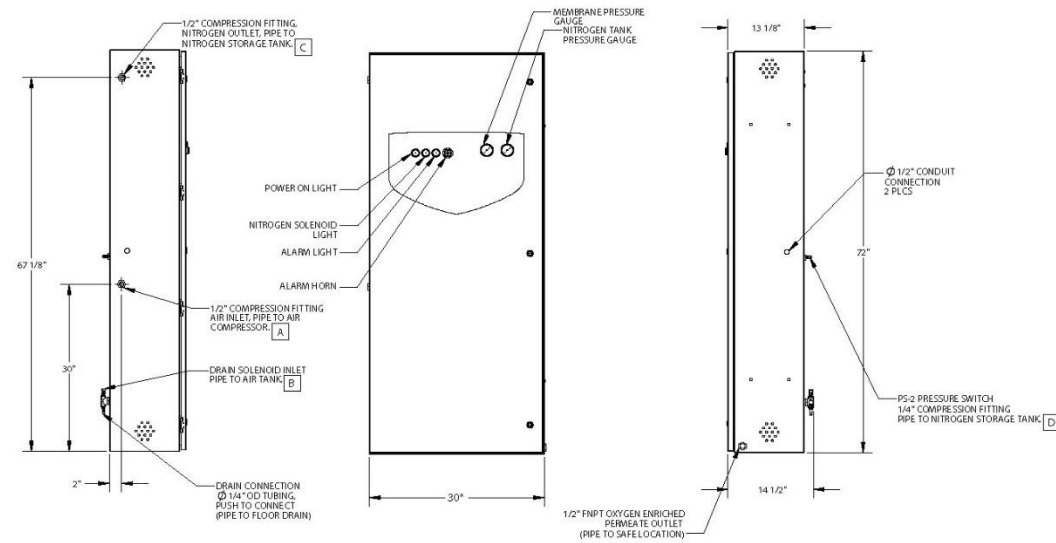
PAGE 1 OF 3



NGP-2200D-M5 Nitrogen Generator

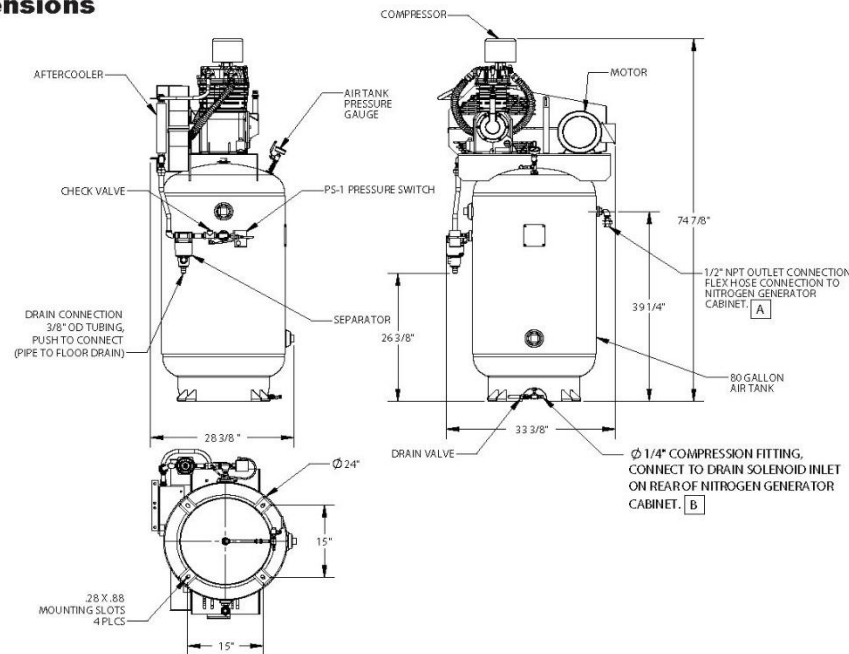
Cabinet Dimensions

Fig 1



Tank Dimensions

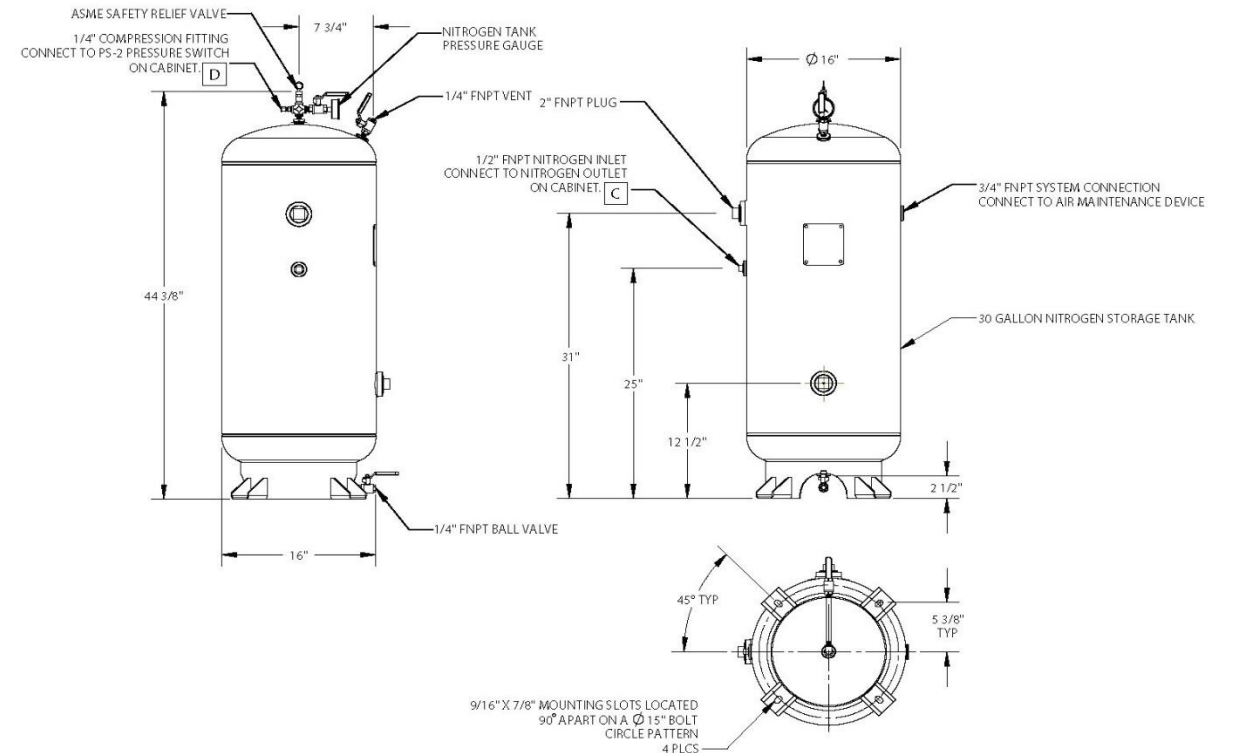
Fig 2



NGP-2200D-M5 Nitrogen Generator

Storage Tank Dimensions

Fig 3



Ordering Information

Model	Description	Stock No.
NGP-2200D-M5-2B	THREE PHASE 208V	1119540
NGP-2200D-M5-3B	THREE PHASE 230V	1119541
NGP-2200D-M5-4B	THREE PHASE 460V	1119542

Model	Description	Stock No.
NGP-MK	Maintenance Kit NGP-M2-M5	1119785
INS-PV	Potter IntelliPurge® Nitrogen Purge Valve	1119478
NGP-SPV	Potter Purge Valve	1119784
NGP-AMD-1	Potter Air Maintenance Device	1119787



DUPONT™ FM-200® CLEAN AGENT

FM-200 is also known by its ASHRAE designation HFC-227ea

APPLICATION/DESCRIPTION

FM-200 provides superior fire protection in a wide range of applications from sensitive electrical equipment to industrial applications using flammable liquids. FM-200 is ideal for applications where clean-up of other media presents a problem, where weight versus suppression potential is a factor, where an electrically non-conductive medium is needed and where people compatibility is an overriding factor. When environmental impact is a consideration, FM-200 is particularly useful. It has zero ozone-depleting potential, low global warming potential and a short atmospheric lifetime. These characteristics make it suitable not only for new installations using Fike's total flooding systems, but also for Halon 1301 replacement applications.

FM-200 is an odorless, colorless, liquefied compressed gas. (See Physical Properties) Table for additional information). It is stored as a liquid and dispensed into the hazard as a colorless, electrically non-conductive vapor that is clear and does not obscure vision. It leaves no residue and has acceptable toxicity for use in occupied spaces at design concentration. FM-200 extinguishes a fire by a combination of chemical and physical mechanisms. FM-200 does not displace oxygen and therefore is safe for use in occupied spaces without fear of oxygen deprivation.

PERFORMANCE

FM-200 is an effective fire extinguishing agent that can be used on many types of fires. It is effective for many surface fires, such as flammable liquids, and most solid combustible materials.

On a weight-of-agent basis, FM-200 is a very effective gaseous extinguishing agent. The FM-200 extinguishing concentration for normal Class A combustibles is 6.25 by volume. The minimum design concentration for total flood applications should be in accordance with NFPA 2001.

SPECIFICATIONS

FM-200 is manufactured to these specifications:

- Mole%: 99.0 Minimum
- Acidity, ppm by weight: 3.0 Maximum
- Water content, % by weight: 0.001 Maximum
- Non-volatile residues, gram/100mL: 0.05 Maximum

TOXICITY

The toxicology of FM-200 compares favorably with other suppression agents. The LC50 of FM-200 is greater than 600,000 ppm. FM-200 has been evaluated for cardiac sensitization via test protocols approved by the United States Environmental Protection Agency. Test results show that cardiac tolerance to FM-200 is higher than that of other suppression agents and is acceptable for safe use in occupied spaces. FM-200 will decompose to form halogen acids when exposed to open flames. The formation of these acids is minimized by using Fike early warning detection systems and proper system installation. When properly applied and installed, the generation of these by-products of FM-200 should be minimal.

APPROVALS

FM-200 complies with NFPA Standard 2001.

- UL Listed - Ex4623
- FM Approved - 3014476
- USCG 162.161/2/0

Data Sheet

PHYSICAL PROPERTIES

Chemical Name	Heptafluoropropane (CF ₃ CHFCF ₃)
Molecular Weight	170.03
Boiling Point @ 760 mm Hg	3.9°F (-15.8°C)
Freezing Point	-204°F (-131.1°C)
Critical Temperature	215°F (101.7°C)
Critical Pressure (psia)	422 psia (2912 kPa)
Critical Volume (ft ³ /lbm) (cc/mole)	0.0258 (274)
Critical Density (lbm/ft ³)	38.8 (621 kg/m ³)
Specific Heat, Liquid (BTU/lb-F) @ 77°F (25°C)	0.283 (1.184 kJ/kg°C)
Specific Heat, Vapor (BTU/lb-F) @ constant pressure of 1 ATM @ 77°F (25°C)	0.1932 (0.808 kJ/kg°C)
Heat of Vaporization (BTU/lb) at Boiling Point	57.0 (132.6 kJ/kg)
Thermal Conductivity (BTU/h ft-F) of Liquid @ 77°F (25°C)	0.040 (0.089 w/m°C)
Viscosity, Liquid (lb/ft hr) @ 77°F (25°C)	0.443 (0.184 centipoise)
Vapor Pressure (psia) @ 77°F (25°C)	66.4 (457.7 kPa)
Ozone Depletion Potential	0
Estimated Atmospheric Lifetime (years)	31-42
LC50 (Rats; 4hrs - ppm)	>788,000

Form No. IV.1.02.01

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Form No. IV.1.02.01 April, 2010 Specifications are subject to change without notice.

U.S. and Foreign Patents Pending



DUPONT™ FM-200® AGENT STORAGE CONTAINERS

FM-200 is also known by its ASHRAE designation HFC-227ea

DESCRIPTION

Fike Clean Agent Containers are used in fire extinguishing systems to store the Clean Agent until a fire develops and the agent must be released. The Clean Agent is retained in the container by a impulse valve assembly which contains a fast-acting rupture disc. The disc will be ruptured, and the Clean Agent released, through the operation of an actuator by an electric signal that is automatically or manually controlled.

Fike Clean Agent Containers have passed extensive testing by Factory Mutual and Underwriters Laboratory and are used in installations where 12 to 1045 pounds (5.5 to 474 kg) of FM-200 agent is required. Clean Agent containers can be filled in 1 pound (0.5 kg) increments to their maximum capacity.

Each container for FM-200 Clean Agent Systems is super pressurized with dry nitrogen to 360 psig (25 bar), at 70°F (21°C), to provide a quick and effective discharge in 10 seconds or less.

Fike Clean Agent Containers are supplied with a mounting bracket and pressure gauge that permits a quick visual inspection of container pressure. Containers with a 3" (80mm) discharge valve, 150-lb (61 L) and up, are equipped with a Liquid Level Indicator that allows a convenient method for determining the container agent weight without removing it from the installed location. An optional Low Pressure Supervisory Switch is available to provide constant monitoring of the internal pressure of the container. In the event of a decrease in container pressure below 288 psi (18.8 bar), the Supervisory Switch will change states, causing a supervisory trouble at the control panel.

Fike Clean Agent Containers are available for installation in the upright, inverted or horizontal positions, depending upon the user's particular needs and the type and size container specified. The mounting location of the container is flexible. It can be mounted at the point of discharge or at a remote location by adding distribution piping.

RELIABILITY

Fike Clean Agent Containers are manufactured in strict accordance with Department of Transportation (D.O.T.) regulations. The Fike Clean Agent Containers have successfully passed testing by Factory Mutual and Underwriters Laboratories, Inc. Before leaving the factory, each container must pass extensive leakage testing, and pressure testing to 1000 psig (69 bar). The containers are constructed from carbon steel alloys and painted with a durable, baked enamel finish.

APPROVALS

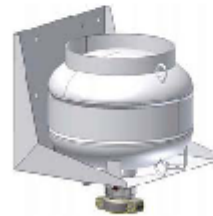
- UL Listed - Ex 4623
- FM Approved - 3014476



1" Impulse Container



3" Impulse Container



Inverted 150 lb. Impulse Container

Data Sheet

CONTAINER DATA/SPECIFICATIONS

Container Size Lb. (L)	P/N	Fill range		Valve Size in. (mm)	Tare Weight lbs. (kg)	Dimensions (approximate)		Mounting Position
		Minimum lbs. (kg)	Maximum in. (mm)			Diameter in. (mm)	Height in. (mm)	
20* (8)	70-263	12 (5.5)	21 (9.5)	1 (25)	21 (9.5)	7.0 (178)	22.375 (568.3)	Upright - Horizontal
35* (15)	70-264	22 (10.0)	38 (17.0)	1 (25)	31 (14.5)	7.0 (178)	32.5 (825.5)	Upright - Horizontal
60 (27)	70-265	39 (18.0)	68 (30.5)	1 (25)	52 (23.6)	10.75 (273)	28 (711.2)	Upright - Horizontal
100 (44)	70-266	63 (28.5)	108 (49.0)	1 (25)	77 (34.9)	10.75 (273)	38.75 (984.3)	Upright (Valve Up)
150/150i (61)	70-267	87 (39.5)	150 (68.0)	3 (80)	150 (68.0)	20.0 (508)	23.63 (600.1)	Upright/Inverted
215 (88)	70-268	124 (56.5)	216 (98.0)	3 (80)	155 (70.3)	20.0 (508)	28.87 (733.3)	Upright (Valve Up)
375 (153)	70-269	217 (98.5)	378 (171.5)	3 (80)	225 (102.1)	20.0 (508)	42.5 (1079.5)	Upright (Valve Up)
650 (287)	70-270	378 (171.5)	660 (299.0)	3 (80)	385 (174.8)	24.0 (610)	50.625 (1286)	Upright (Valve Up)
1000 (423)	70-271	598 (271.5)	1045 (474.0)	3 (80)	550 (249.5)	24.0 (610)	70 (1778)	Upright (Valve Up)
Fill Range		40 to 70 lbs/ft³			630 to 1121 kg/m³			
Fill Increments		1.0 lbs			0.5 kg			
Container Super - Pressurization Level				360 psig at 70°F (24.8 bar at 21°C) after filling with dry nitrogen				
Container Storage Temperature Limitation				32°F (0°C) - minimum		130°F (54.4°C) - maximum		
Container Rating				DOT 4BW500		TC 4BWM534		

Note:

- * The 20 lb. (8 L) containers and 35 lb. (15 L) containers filled to less than 25 lb. (11.5 kg) are **only** approved by FM Approvals.

Form No. IV.1.01.01

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ITEMS SUPPLIED WITH CONTAINER

Along with a name plate and siphon tube, all Fike clean agent containers are supplied with the following:

Impulse Valve

This valve is a rupture disc (metal diaphragm), pressure operated device that allows the agent to be released from the container and into the protected via the associated piping network and discharge nozzle(s).

The discharge valve also fulfills the pressure relief valve requirements in accordance with DOT regulations.

Victaulic Nipple and Coupling

Used to connect container to the discharge piping network.

For shipping purposes, a baffle plate is inserted into the Grooved Coupling as a safety device.

Discharge Valve Size	Replacement P/N	Description
1" Discharge Valve	02-9964	1" diameter (25 mm) Victaulic Coupling
	02-10042	1" diameter (25 mm) x 3" (76 mm) long Nipple
3" Discharge Valve	02-1987	3" diameter (80 mm) Victaulic Coupling
	02-2106	3" diameter (80 mm) x 4.5" (114 mm) long Nipple



Impulse Valve



Victaulic Nipple and Coupling

ARCHITECT AND ENGINEERING SPECIFICATIONS

The Clean Agent shall be stored in Fike Clean Agent Storage Containers. The containers shall be capable of being filled, in one-pound (0.5kg) increments, to their listed maximum capacity. The Clean Agent container shall be activated by a signal from the control panel which is processed by the Agent Release Module. This module shall store the power required to operate the actuator. The valve shall contain a scored, non-fragmenting, rupture disc to provide an immediate, total discharge of all the agent. FM-200 Clean Agent is stored in the container as a liquid, having a natural vapor pressure of 200 psig at 77°F (13 barg at 25°C). To aid in discharge, the container shall be super-pressurized to 360 psig at 70°F (25 bar at 21°C) with dry nitrogen. Agent discharge shall be completed in 10 seconds or less.

Clean Agent Storage Containers shall be actuated by an electrical signal that is automatically or manually controlled. Normal operating temperature shall be +32° to +130°F (0° to 54°C) in any installation.

Clean Agent Storage Containers shall be equipped with a pressure gauge to display internal pressure. This gauge shall be an integral part of the container and color coded for fast referencing of pressure readings. A Low Pressure Supervisory Switch shall be made available, as an option. A decrease in internal container pressure from 360 to 288 psig (24.8 to 18.8 bar) shall cause the normally opened/closed Supervisory Switch contacts to close/open, indicating a trouble or supervisory condition, at the control panel.

Clean Agent Storage Containers shall be fastened to a wall, or other secure surface, using an optional mounting bracket that is designed for the most effective and versatile installation of each container.



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 Form No. IV.1.01.01 April, 2010 Specifications are subject to change without notice.

U.S. and Foreign Patents Pending



CONTROL ACCESSORIES

MANUAL RELEASE SWITCH - 10-1638

DESCRIPTION

The Manual Release Switch is a dual actuation device which provides a means of manually discharging the automatic fire extinguishing system when used in conjunction with the Fike Control Panel.

To operate the Manual Release Switch pull the spring clip safety pin (breaking the seal) and depress the button. The switch will remain engaged until released by unlocking the button with a key. A single normally open contact block is provided. The front housing of the Release Switch is constructed of stainless steel with the keyed red plastic release button centered and bordered in black trim. The dimensions of this component are 4-1/2" wide, 4-9/16" high and 2-3/8" deep, and it may be mounted to a standard 4" electrical box or others. (Reference Data Sheet P.1.71.01).

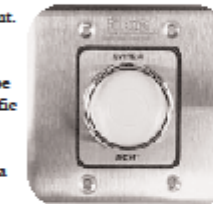


SYSTEM ABORT SWITCH - 10-1639

DESCRIPTION

The System Abort Switch is designed to be used in conjunction with other system equipment. It provides a temporary manual means by which the system actuation circuit may be interrupted, when operated prior to the circuit actuation. The unit employs a momentary contact push button switch. While depressed, the switch causes the agent release circuit to be manually delayed. Upon release of the Abort Switch, the release circuit will follow the specific configuration of the system control panel.

The Abort Switch may be mounted to a standard 4" electrical box or others (Reference Data Sheet P.1.71.01).



MAIN-RESERVE SWITCH - 10-1640

DESCRIPTION

The "Main" to "Reserve" switch is used with systems that incorporate main and reserve (back-up) agent storage. The switch may utilize 1 or 2 Form "C" Contact blocks which will provide an electrical path to either the "Main" or "Reserve" releasing modules.

Following a system discharge, reset any field devices. Once all devices are in a stand-by status the Main-Reserve Switch may be moved to the "Reserve" position. The Control Panel may then be reset to a normal mode for uninterrupted Fike protection. The empty "main" containers can be removed for recharge. After the containers in the "Main" system have been recharged, the switch may be returned to the "Main" position.

The switch may be mounted to a standard 4" electrical box or others (Reference Data Sheet P.1.71.01).

APPROVALS

- UL Listed
- FM Approved
- CSFM Approved
- BSA



Data Sheet

Form No. P.1.72.01-1

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CHEETAH XI 50 INTELLIGENT SUPPRESSION CONTROL SYSTEM

DESCRIPTION

Fike's Cheetah Xi 50 (P/N 10-071) is a state-of-the-art true intelligent digital peer-to-peer modular suppression control system. It is ideal for all life safety and property protection applications, and is intended for both commercial and industrial use. It is designed with extensive programmability that allows the almost-instantaneous relay of information and the ability to perform process management tasks with ease including HVAC shutdowns, Emergency Voice Evacuation Systems, damper control, door closure, elevator recall, security, and CCTV/Building Management Awareness.

This cost-effective panel comes standard with one Signaling Line Circuit (SLC) that support 50 devices, with any mix and match of sensors and modules. The Cheetah Xi 50 utilizes extreme intelligence via its Eclipse based sensors including photoelectric, photoelectric with heat, ionization, photoelectric duct, and heat detectors. It also utilizes Eclipse based modules such as the monitor, mini-monitor, relay, intelligent pull station, releasing and control modules. With Cheetah Xi 50, every device communicates as a peer on the signaling line circuit. These peers not only communicate up-to-the-second information to the control panel, but also communicate with each other. Each device is capable of generating accurate and highly detailed information. Conventional suppression alarm systems give a general idea of the fire's location, while the Cheetah Xi 50's intelligent sensors indicate precisely which device is in an alarm state. This intelligence provides incredible speed with response times as little as one-quarter second between manual pull station and notification appliance. It's flexibility allows you to attach the intelligent devices that are required for your specific application.

The System is programmed with either the Windows based field configuration software C-LINX™ or through a comprehensive password protected front-panel keypad programming option. This option allows you to quickly update and adapt to any future requirements or changes in the system such as changes in occupancy or remodeling. The sophisticated control panel circuitry coupled with the software allows you to read specific information and sensitivity levels of the different eclipse devices. The sensors also compensate for any changes due to age, contamination, or other environmental factors.

SYSTEM OPERATION

The Cheetah Xi 50 Control system operates on a "Zone and State" relationship. In this design, all input and output devices must be assigned to at least one zone or to all zones (254 are available), each one defining an area to be protected. Input devices can be assigned up to 253 zones (one zone is typical) and output devices may be configured for up to 254 zones.

These devices use the SLC signaling line circuit to exchange status information with other devices as well as with the control panel. When an input is activated, it is configured to cause its associated zone to enter into an operational state. Any detection device will cause the associated zone to enter into an alarm state. The output devices are configured to activate to protect and evaluate the endangered zone. This system is completely modular, allowing you the flexibility to design a system that is just right for your application. A typical configuration is shown on page 2 that illustrates the communications of a Cheetah Xi 50 system.



Fike Cheetah Xi 50

APPROVALS

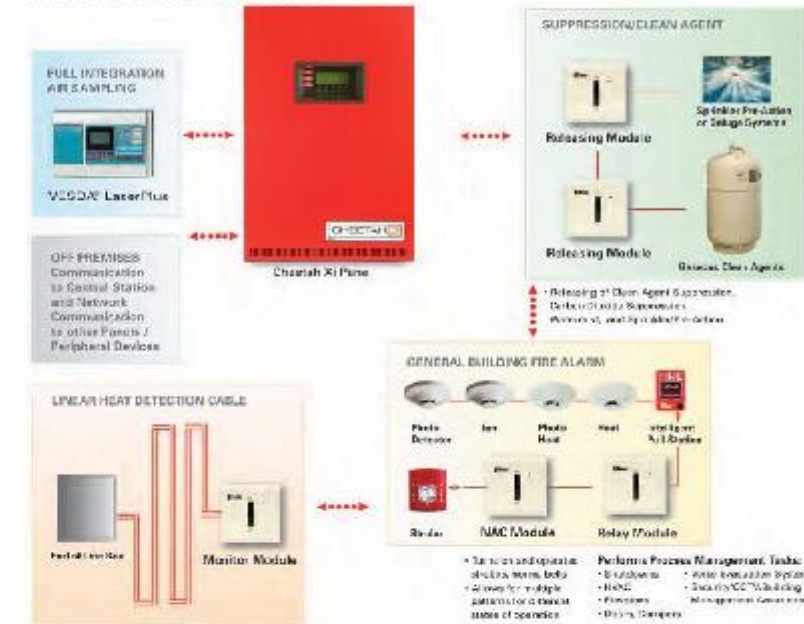
- UL - 52203
- FM - 3029134
- CSFM - 7165-0900:149
- MEA - 307-05-E Vol. 2
- City of Denver

Data Sheet

Form No. D.1.20.01-1

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TYPICAL CONFIGURATION



STANDARD FEATURES

The Cheetah Xi 50 features are designed to save lives and protect your valuable capital investments through unprecedented speed, intelligence and flexibility. These features include:

General

- All Cheetah Xi 50 panels come standard with a controller, transformer and enclosure (see ordering information for details)
- 254 user defined zones
- 80 character, backlit LCD display
- Real time clock
- 3200 event history buffer
- Critical process monitoring
- One-person Walktest capability
- Disable by zone, device or circuit
- Drill function at panel and remote
- Provides solenoid releasing operation
- Alarm verification capability
- Easy to add/remove devices
- Diagnostic menus
- Local piezo with distinct event tones
- 10 Status LEDs to easily identify system status
- Optional point ID DACT Module available
- Supports up to 31 peripheral devices such as Remote Display, LED Graphic and Zone Annunciators, Ethernet Module and Multi-Interface Module
- USB Port for programming

CHEETAH XI 50 CONTROLLER SPECIFICATIONS

The Controller contains the power supply, microprocessor, hardware interface, display and keypad.

Enclosure

- Steel Enclosure 22.5" H x 14.5" W x 3.25" D (Back-box dimensions)
- Flush or surface mounting
- Removable door for ease of installation
- Available in red or grey
- Dead Front option available to isolate panel's internal electronics and wiring

Power

- 5.25 amps useable alarm power, (2 A standby)
- Operation from 120VAC/60 Hz or 240 VAC/50 Hz transformer
- Two 24V DC, 1.75A continuous auxiliary power outputs
- Supports up to 75AH of batteries
- Controller consumes 0.116A @ 24VDC in normal standby mode and 0.176 @ 24 VDC in alarm

Signaling Line Circuit

- Address devices with Infrared (IR) tool, similar to remote control device
- One SLC loop, NFPA style 4, 6 or 7
- 50 devices on loop
- True peer-to-peer digital protocol for extremely fast and reliable communications
- Auto-learn function
- Automatic day/night sensitivity adjustment
- Automatic holiday sensitivity adjustment
- Acclimate operation for sensors
- IR Tool provides ability to read sensitivity levels or perform remote test of device
- Devices contain multi-color LED for quick reference of device status
- Sensors provide early warning pre-alarm detection and can also provide a summing feature. (up to eight sensors)
- Maximum Resistance: 70 ohms
- Maximum Capacitance: .60 uf
- 12,000 ft. maximum distance total from panel to last device.

NAC Circuit

- Two NAC circuits standard
- Rated at 24VDC, 1.75 Amps maximum Class A or B
- Built-in synch protocol for both System Sensor® and Gentex® devices

Operating Environment

- 32-120°F (0-49°C)
- 93% relative humidity, non-condensing

OPTIONAL MODULES AND PERIPHERAL DEVICES**Point ID Dact (Digital Alarm Communicator Transmitter) Module (P/N 10-2528)***

The DACT provides interface with Central Station monitoring systems. It is available with 5 contact zones of connection OR the intelligent serial interface which provides point ID information. The Contact ID form is the preferred reporting format. It provides a four digit account code followed by a three digit event code, a two-digit group number, and a three digit contact number, all of which are used to provide specific point identification. This DACT can also provide an SIA or 4/2 Pulse reporting format. Note: 10-2476 is the same as 10-2528 with enclosure for external mounting.

14 Button Remote Display Unit (P/N 10-2646)*

The Fike fourteen button remote display (FRD), provides remote annunciation of Fike's intelligent control panels. The FRD is provided with a 80 character, backlit display which performs two display functions. First, it duplicates information provided by the control panel. Additionally the FRD has the capability of viewing system conditions such as alarm, trouble, supervisory, etc. The FRD also includes six buttons (Enter, Escape, +/-, left/right arrow) that are used for navigation through events as well as configuration of the device. Additionally it has eight programmable buttons that can be configured for things such as reset, silence, acknowledge, drill, or process. A key lock is included for additional security access.

10 Button Remote Display Unit (P/N 10-2631)*

The Fike ten button remote display (FRD), provides remote annunciation of Fike's intelligent control panels. The FRD is provided with a 80 character, backlit display which performs two display functions. First, it duplicates information provided by the control panel. Additionally the FRD has the capability of viewing system conditions such as alarm, trouble, supervisory, etc. The FRD also includes six buttons (Enter, Escape, +/-, left/right arrow) that are used for navigation through events as well as configuration of the device. Additionally it has four dedicated buttons that perform the following functions: drill, silence, acknowledge, and reset. A key lock is included for additional security access.

2 Button Remote Display Unit (P/N 10-2630)*

The Fike two button remote display (FRD), provides remote annunciation of Fike's intelligent control panels. The FRD is provided with an 80 character, backlit display which performs two display functions. First, it duplicates information provided on the main control panel. Additionally, the FRD has the capability of viewing system conditions such as alarm, trouble, supervisory, etc.

Fike Zone Annunciator (P/N 10-2667)*

The Fike twenty zone remote annunciator is used with Fike's intelligent control systems to provide remote annunciation for up to twenty zones at a location remote from the control panel. The module provides a tabular display that incorporates 20 red alarm and 20 yellow trouble/supervisory LEDs. Each LED is programmable and can provide visual indication of alarm, trouble/supervisory conditions for zones or individual points. Communication between the intelligent control panels and remote annunciator is via the RS485 peripheral bus. When an event from the control panel is received the appropriate LED will illuminate based on the annunciator's configuration.

Fike Ethernet Module (P/N 10-2627)*

This Module provides the ability to remote monitoring of multiple Cheetah Xi 50 panels via Ethernet/IP. This module is connected to the Cheetah Xi 50 via the peripheral connections at P6 and will be configured as a peripheral device. In order to utilize the remote monitoring capability, a network ID must be assigned to each panel for identification purposes. This module connects to the Panel at P6 per ± and also requires 24 volts DC from the panel to P6 24A ±. See the 06-388 Ethernet Module manual for more details.

Fike Multi-Interface (P/N 10-2583)*

The primary function of the multi-interface module is that it is used as a printer interface for the Cheetah Xi 50 control panels. It provides specific event and point information to be communicated from the panel to the printer. It is compatible with either a Epson FX-890 or equivalent IEEE 1284 standard printer or for UL required applications, the Kelttron 90 series UL listed fire alarm printer.

PROGRAMMING CONFIGURATION

Software

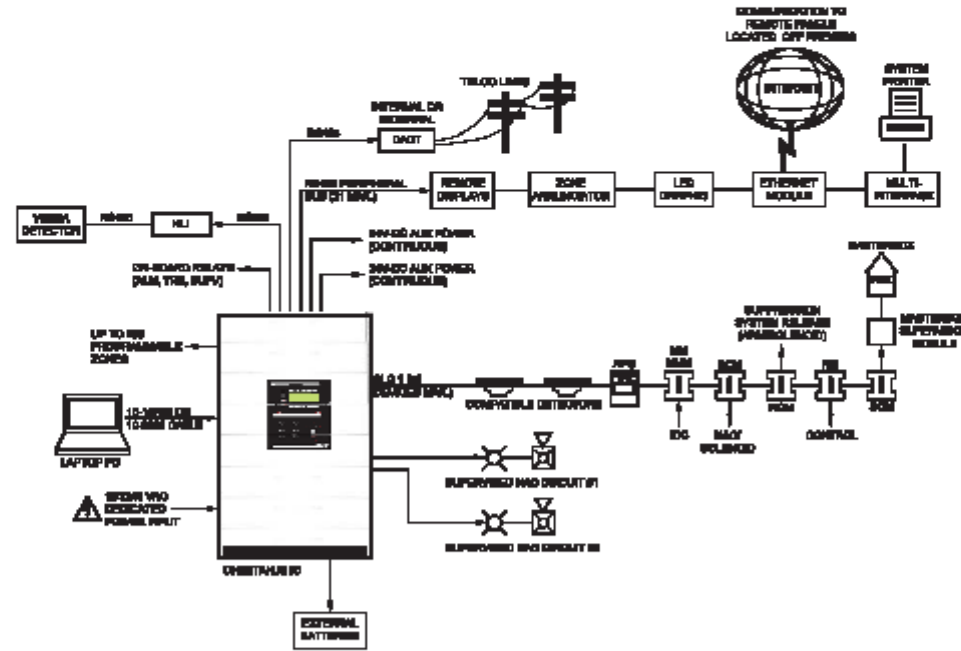
All configuration variables can be assigned using C-LINK software. This software provides the designer the capability to provide a pre-engineered design. The user can review the construction plans to assign the zones. The configuration can also be set to identify the exact device circuit operation desired along with the custom message information.

IR Configuration Tool (P/N 55-051)*

This optional hand-held infrared remote control is available on the Cheetah Xi 50 system. This small device can be used in the field to simplify installation, testing and service. It operates with 2 AA batteries and can read device information such as loop, address, branch and service dates and initiate device test. This tool:

- Communicates bi-directionally with any Cheetah Xi 50 device
- Easily addresses devices by setting the loop and address
- Quickly reads sensitivity levels, date serviced, device type, loop and address, manufacture date
- Immediately records the date serviced
- Instantly initiates walk test of any sensor or module
- Accesses and tests hard-to-reach sensor or module (such as duct detector) through any other device on loop

FIELD WIRING DIAGRAM



* See ordering information for individual data sheet that gives additional specifications

ORDERING INFORMATION

FIKE P/N	Description	Individual Datasheet #
10-071-c-p or 10-071-c-p-d	Cheetah Xi 50 System, includes Controller, Enclosure, and Transformer c: (R=Red, G=Grey) p: (1=120V, 2= 240V) d=Deadfront	D.1.20.01
10-2622	Cheetah Xi 50 System Controller (Included with 10-071-c-p and -L)	D.1.20.01
10-2628-c	Dead Front Option c: (R=Red, G=Grey)	
Peripheral Devices		
10-2630	2 Button Expanded Protocol Remote Display	P.1.103.01
10-2631	10 Button Expanded Protocol Remote Display	P.1.107.01
10-2646	14 Button Expanded Protocol Remote Display	P.1.108.01
10-2667	Zone Annunciator	P.1.118.01
10-2627	Ethernet Module	D.1.22.01
10-2583	Multi-Interface Module	P.1.85.01
10-2528	Point ID DACT (Internal Mounting)	D.1.16.01
Intelligent Sensors		
63-1052	Photoelectric Smoke Sensor Non-Isolator Version	P.1.88.01
63-1058	Photoelectric Smoke Sensor Isolator Version	P.1.88.01
63-1053	Photo/Heat Combination Sensor Non-Isolator Version	P.1.89.01
63-1059	Photo/Heat Combination Sensor Isolator Version	P.1.89.01
60-1039	Thermal Sensor Non-Isolator Version	P.1.90.01
60-1040	Thermal Sensor Isolator Version	P.1.90.01
67-033	Ion Sensor Non-Isolator Version	P.1.91.01
67-034	Ion Sensor Isolator Version	P.1.91.01
63-1057	Duct Sensor Non-Isolator Version	P.1.06.01
63-1062	Duct Sensor Isolator Version	P.1.06.01
63-1056	Duct Housing	P.1.06.01
Intelligent Sensor Bases		
63-1054	6" Sensor Base Non-Isolator Version	P.1.98.01
63-1060	6" Sensor Base Isolator Version	P.1.98.01
63-1055	4" Sensor Base Non-Isolator Version	P.1.99.01
63-1061	4" Sensor Base Isolator Version	P.1.99.01
63-1064	Sounder Base	P.1.01.01
63-1063	Relay Base	P.1.01.01
Intelligent Modules		
55-045	Mini-Monitor Module Non-Isolator Version	P.1.93.01
55-050	Mini-Monitor Module Isolator Version	P.1.93.01
55-041	4" Monitor Module Non-Isolator Version	P.1.92.01
55-046	4" Monitor Module Isolator Version	P.1.92.01
20-1063	Intelligent Pull Station Non-Isolator Version (Fire)	P.1.65.01
20-1064	Intelligent Pull Station Isolator Version (Fire)	P.1.65.01
20-1343	Intelligent Pull Station Non-Isolator Version (Agent)	P.1.104.01
55-042	Supervised Control Module Non-Isolator Version	P.1.94.01
55-047	Supervised Control Module Isolator Version	P.1.94.01
10-2360	Series Solenoid Diode/Resistor (Needed for solenoids)	
10-2413	Masterbox Interface	
55-043	Relay Module Non-Isolator Version	P.1.95.01
55-048	Relay Module Isolator Version	P.1.95.01
55-052	Releasing Control Module Non-Isolator Version	P.1.96.01
55-053	Releasing Control Module Isolator Version	P.1.96.01
10-1832	ARM III Agent Release Module	C.1.04.01
Programming Parts		
55-051	Infrared (IR) Remote Control Tool	P.1.97.01
06-327	C-LINK Software	
10-2629	Interface cable, USB/A Male to USB/B Male	
10-2477	DACT Programmer	

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INTELLIGENT PHOTOELECTRIC SENSOR

DESCRIPTION

The Fike Intelligent Photoelectric, spot-type smoke sensors (P/N 63-1052 & 63-1058) have sensing chambers that utilize the light scattering principle to detect smoke. The sensing chamber employs features that minimize the effect of settled dust on performance. The sensor is designed with tri-color LEDs to indicate detector status. The detector can be programmed to make the LEDs blink or be steady green, amber or red. A remote LED annunciator (P/N 02-3868) is available as an accessory. It can be configured to follow the sensor LED operation or be independently controlled. The isolator version (P/N 63-1058) provides complete short circuit isolation for NFPA 72, Style 7 wiring if used with an isolator base.



The detector is compatible with Fike's CyberCat and Cheetah Xi intelligent control panels. Its operating parameters are configured using the panel's programming software and are stored within non-volatile RAM in the detector. This on-board intelligence allows each detector to communicate its status directly to other devices connected to the panel. This peer-to-peer digital protocol results in less information that needs to be sent between the detector and the host control panel, resulting in faster, more reliable communication.

SPECIFICATIONS

Normal Operating Voltage: 15 to 30 VDC
 Standby Current: 481µA max. @ 24 VDC (continuous broadcasts)
 Alarm Current: 2 mA max. @ 24 VDC (LEDs on)
 Humidity Range: 10% to 93% Relative Humidity, non-condensing
 Temperature Range: 32°F to 120°F (0°C to 49°C); 63-1052/63-1058 32°F to 100°F (0°C to 38°C)
 Height: 2.1 inches (51 mm) installed in 63-1054 Base
 Diameter: 6.1 inches (155 mm) installed in 63-1054 Base
 4.1 inches (104 mm) installed in 63-1055 Base
 Weight: 5.2 oz. (147 g)
 Detector Spacing: 30 ft. (9.1 m) maximum

APPROVALS

- UL - 5911
- FM - 3021590 (isolator) 3023166 (non-isolator)
- MEA - 7-05-E
- CSFM - 7272-0900:139

Data Sheet

ORDERING INFORMATION

Fike P/N	Manf. Model No.	Description
63-1052		Photoelectric Smoke Detector - Non-Isolator
63-1058		Photoelectric Smoke Detector - Isolator
Mounting Bases		
63-1054		6" Flanged Mounting Base - Non-Isolator
63-1060		6" Flanged Mounting Base - Isolator
63-1055		4" Flangeless Mounting Base - Non-Isolator
63-1061		4" Flangeless Mounting Base - Isolator
02-10373	RMK400	Recessed Mounting Kit
20-1083	SMK400E	4" Flangeless Surface Mounting Kit
20-1084	A10-29-400	6" Flanged Surface Mounting Kit
63-1063		Relay Base
63-1064		Sounder Base
Accessories		
20-1085	F110	Retrofit Flange
20-1405	RA100Z	Remote LED Annunciator
20-1087	XR2B	Detector Removal Tool (20-1089 included)
02-4986	XP-4	Extension for 02-4985 (5-15 ft)
20-1089	T55-127-000	Detector Removal Head
20-1090	BCK-200B	Black Detector Kit
55-051		Configuration IR Tool

Form No. P.1.88.01-2

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INTELLIGENT ION SENSOR

DESCRIPTION

The Fike Intelligent Ionization, spot-type smoke sensors (P/N 67-033 & 67-034) utilize a state-of-the-art sensing chamber that is designed to respond rapidly to a broad range of fires. The sensing chamber employs features that minimize the effect of settled dust on performance. The sensor is designed with tri-color LEDs to indicate detector status. The detector can be programmed to make the LEDs blink or be steady green, amber or red. A remote LED annunciator (P/N 02-3868) is available as an accessory. It can be configured to follow the sensor LED operation or be independently controlled. The isolator version (P/N 67-034) provides complete short circuit isolation for NFPA 72, Style 7 wiring if used with an isolator base.



The detector is compatible with Fike's CyberCat and Cheetah Xi intelligent control panels. Its operating parameters are configured using the panel's programming software and are stored within non-volatile RAM in the detector. This on-board intelligence allows each detector to communicate its status directly to other devices connected to the panel. This peer-to-peer digital protocol results in less information that needs to be sent between the detector and the host control panel, resulting in faster, more reliable communication.

SPECIFICATIONS

Operating Voltage Range: 15 to 30 VDC
 Max. Avg. Standby Current: 481 μ A @ 24 VDC (continuous broadcasts)
 Max. Alarm Current (LED on): 2 mA @ 24 VDC (LEDs On)
 Operating Humidity Range: 10% to 93% Relative Humidity, non condensing
 Operating Temperature Range: 0° to 49°C (32° to 120°F)
 Height: 2.1 inches (51 mm) installed in EBF Base
 Diameter: 6.1 inches (155 mm) installed in EBF Base
 4.1 inches (104 mm) installed in EB Base
 Weight: 5.2 oz. (147 g)
 Detector Spacing: 30 ft. (9.1 m) maximum

APPROVALS

- UL - 54021
- FM - 3022679

Data Sheet

ORDERING INFORMATION

Fike P/N	Manf. Model No.	Description
67-033		Ion Sensor - Non-isolator
67-034		Ion Sensor - Isolator
Mounting Bases		
63-1054		6" Flanged Mounting Base - Non-isolator
63-1060		6" Flanged Mounting Base - Isolator
63-1055		4" Flangeless Mounting Base - Non-isolator
63-1061		4" Flangeless Mounting Base - Isolator
02-10373	RMK400	Recessed Mounting Kit
20-1083	SMK400E	4" Flangeless Surface Mounting Kit
20-1084	A10-28-400	6" Flanged Surface Mounting Kit
63-1063		Relay Base
63-1064		Sounder Base
Accessories		
20-1085	F110	Retrofit Flange
20-1405	RA100Z	Remote LED Annunciator
20-1087	XR2B	Detector Removal Tool (20-1089 included)
02-4986	XP-4	Extension for 02-4985 (5-15 ft)
20-1089	T55-127-000	Detector Removal Head
20-1090	BCK-200B	Black Detector Kit
55-051		Configuration IR Tool

Form No. P.1.91.01-2

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INTELLIGENT MANUAL PULL STATION

DESCRIPTION

The Fike Intelligent Manual Pull Station (P/N 20-1063/20-1064) is a state-of-the-art, dual-action (i.e., requires two motions to activate the station) pull station that includes an addressable interface (mounted inside) for Fike's intelligent CyberCat and Cheetah Xi fire alarm control panels. Because the pull station is addressable, the control panel can display the exact location of the activated device. This leads fire service personnel quickly to the location of the alarm. The isolator version (P/N 20-1064) provides complete short circuit isolation for NFPA 72, Style 7 wiring.

FEATURES

- Aesthetically pleasing, highly visible, dual-action design.
- Meets ADA 5 lb. maximum pull force.
- Easily operated (dual-action).
- Attractive shape and textured finish.
- Mounts, semi-flush, to a standard single-gang (2.125" [5.398 cm] minimum depth), double-gang, or 4.0" (10.16 cm) square electrical box.
- When the handle latches in down position, the word "ACTIVATED" appears at the top of the handle in bright yellow to clearly indicate the station has been operated.
- Key/lock reset; needs only a 1/4-turn to lock/unlock.
- Includes Braille text on station handle.
- Captive screw terminals wire-ready for easy connection to SLC loop (accepts up to 12 AWG/3.1 mm² wire).
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Maintenance personnel can open station (for inspection and testing) without causing an alarm condition.
- Built-in multi color LED, which is visible through the handle of the station, flashes green in normal operation and latches on steady red when in alarm.

ENGINEERING SPECIFICATIONS

Manual Fire Alarm Stations shall be non-coded, with a keyoperated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red-colored LEXAN® (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface mounting or semi-flush mounting on a standard single-gang, double-gang, or 4.0" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements.

Manual Stations shall be Underwriters Laboratories listed. Manual stations shall connect with two wires to one of the control panel SLC loops. The manual station shall, on command from the control panel, send data to the panel representing the state of the manual switch. Manual stations shall provide address setting by use of IR Tool.



- APPROVALS**
- UL - S2203
 - FM - 3020297
 - CSFM - 7150-0900:144

Data Sheet

ELECTRICAL SPECIFICATIONS

Normal Operating Voltage:	24VDC.
Standby Current:	370 µA. max. Average (continuous broadcasts)
Maximum Alarm Current:	2 mA (red Led on)
Temperature Range:	32°F - 120°F (0°C - 49°C).
Relative Humidity Range:	10% - 93% non-condensing.
Maximum SLC loop voltage:	28.0 VDC.

INSTALLATION

The 20-1063/20-1064 can be semi-flush mounted into a single-gang, double-gang, or standard 4.0" (10.16 cm) square electrical outlet box, or surface mounted.

CONSTRUCTION

Shell, door, and handle are molded of durable LEXAN® (or polycarbonate equivalent) with a textured finish.

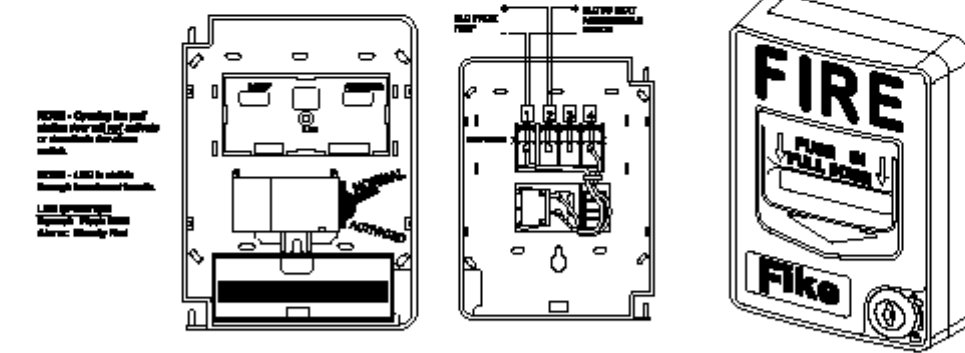
OPERATION

Pushing in, then pulling down on the handle causes it to latch in the down/activated position. Once latched, the word "ACTIVATED" (in bright yellow) appears at the top of the handle, while a portion of the handle protrudes from the bottom of the station. To reset the station, simply unlock the station with the key and pull the door open. This action resets the handle; closing the door automatically resets the switch.

Manual stations connect with two wires to one of the control panel SLC loops. Each manual station, on command from the control panel, sends data to the panel representing the state of the pull station switch. IR tool allows address setting (01-254).

PRODUCT LINE INFORMATION

20-1063/20-1064 Dual-action addressable pull station. Includes key lock/reset feature.



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FIKE ENGINEERED NOZZLES FOR FM-200® CLEAN AGENT SYSTEMS

FM-200 is also known by its ASHRAE designation HFC-227es

DESCRIPTION

The function of the Fike Engineered Discharge Nozzle in a fire extinguishing system is to distribute the Clean Agent in a uniform, predetermined pattern and concentration. The nozzles are designed to complete the discharge of Clean Agent in 10 seconds or less when installed within the design limitations of the Fike Design, Installation and Maintenance Manual, P/N 06-202 or 06-215 and the Fike Flow Calculation computer program.

Fike Engineered Discharge Nozzles are available in sizes of 3/8" (10mm) through 2" (50mm). Each nozzle is available in 180 and 360 degree discharge patterns.

The Discharge Nozzle size refers to the size of Schedule 40 or 80 steel pipe to which it can be connected. The nozzle discharge orifices are drilled perpendicular to the center line of the threads. The nozzles are mounted to allow the agent to be discharged on a horizontal axis.

Nozzle orifices are available in a wide range of sizes to provide accurate Clean Agent flow results. All nozzles have been tested for their ability to discharge the Clean Agent under extreme conditions.

Nozzle orifice drilling must be done at the Fike factory, or other UL listed nozzle drill station, only after "As-Built" calculations of the installed piping system(s) have been performed, using the Fike Flow Calculation computer program.

The Fike Discharge Nozzle used shall be Factory Mutual (FM) approved and Underwriters Laboratories (UL) listed.

ARCHITECT AND ENGINEERING SPECIFICATIONS

The nozzle used to disperse Clean Agent shall be a Fike Series 80. The nozzle shall be available in 3/8" (10mm) thru 2" (50mm) sizes. Each size shall be available in both 180 and 360 degree dispersion patterns. The nozzle used shall have pipe threads that correspond to the nozzle size. All nozzles shall have an orifice size determined by a UL listed and FM approved flow calculation program. All nozzle orifice drilling shall be performed by the manufacturer or a UL listed nozzle drilling facility.



APPROVALS

- UL Listed - Ex4623
- ULC Listed - CEx1136
- FM Approved - 0Y4A8.AF

Data Sheet

Form No. C.1.08.01-4

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SECTION 10 | APPENDIX F: SEISMIC REQUIREMENTS TABLES REHABILITATION OF FIRE PROTECTION SYSTEMS AT PORT NEWARK, ELIZABETH PORT AUTHORITY MARINE TERMINAL AND PORT JERSEY

TABLES

Facility Bldg	Roof Framing Type & Spacing	Existing Fires Sprinkler Vertical Hanger and Seismic Brace Inspection Findings								
		Yes/No/Partial	Type of Vertical Hanger	Spacing of Vertical Hangers	Yes/No/Partial	Type of Seismic Brace	Spacing of Seismic Braces	Fire Protection on Roof Framing	Inspection Type	
PH Bldg 111	Transverse steel joist have 40 in, 40-100, 40-110, 40-115, 50 in, 50 in, 50 in and 50 in on-center spacing per loaded CAD drawings and dimension call outs on as-built drawings.	Yes	Main & Branch Lines hung from steel joist by an adjustable swivel ring and c-type clamp.	Existing vertical hangers located at every other joist.	Yes	Field photos show lateral brace attached to joist.	Unknown	None	Field Photos and As-Built Drawing Review	
PH Bldg 122	Main Building: Transverse steel rafters 208-On on-center. Longitudinal steel joists have 50 in and 40 in on-center spacing per renovation drawings. Outfitting: wood rafters.	Yes	Main Building: hung from steel joists by an adjustable swivel ring and c-type clamp.	Existing vertical hangers located at every other joist.	None	None	None	None	Field Photos and As-Built Drawing Review	
PH Bldg 142	Original Warehouse Area: Transverse 21 WFS2 steel rafter 208 on-center spacing per as-built drawings. Longitudinal 800-D steel joists 16 in, 8, 40-7-21 in (at top of gable) on-center spacing per as-built drawings. Additional Warehouse Area: Structural as-built drawings are not available. Details unknown. Tanker: Structural as-built drawings are not available. Details unknown.	Yes	Original Warehouse Area: Structural as-built drawings are not available. Details unknown. Field photos show fire sprinkler pipes hung from bottom flange of main beam by an adjustable swivel ring and c-type clamp. Additional Warehouse Area: Structural as-built drawings are not available. Details unknown. Field photos show fire sprinkler pipes hung from bottom flange of main beam by an adjustable swivel ring and c-type clamp.	Original Warehouse Area: existing vertical hanger located at every joist. Additional Warehouse Area: existing vertical hanger located at every joist.	None	None	None	None	Field Photos and As-Built Drawing Review	
PH Bldg 175	Main Building: Transverse timber truss and steel beams 208 on-center spacing per as-built drawings. Field photos showed deep timber beams and not timber trusses. Longitudinal steel joist 9-1246 60 in on-center spacing per as-built drawings. Field photos showed steel joist. Tank Room: 1004-MMSL steel joist at 50 in on-center spacing per as-built drawings. Field photos show steel joist. Office Area: 10-125, 50-126 steel joist at 20 in on-center supported on concrete concrete walls. Trusses per as-built drawings. Field photos showed steel joist. Annex Building: Structural as-built drawings are not available. Details unknown. Field photos show joist spanning between steel beams supported on steel columns. Prefabricated Building: 80-light pipe steel joist at 12 in on-center spacing per as-built drawings.	Yes	Main Building: Fire sprinkler pipes are hung from timber truss by lag bolt, knee angle and roof with sleeve hanger and hung from joist by beam clamp and steel hanger rod with sleeve hanger per as-built drawings. Tank Room: Structural as-built drawings are not available. Details unknown. Office Area: Structural as-built drawings are not available. Details unknown. Field photos show fire sprinkler heads with spacing through gypsom board ceiling and fire sprinkler pipes hung from ceiling by an adjustable swivel ring and rod. Annex Building: Structural as-built drawings are not available. Details unknown. Field photos show fire sprinkler pipes hung by prefabricated building. Prefabricated Building: Structural as-built drawings are not available. Details unknown.	Main Building: Structural as-built drawings are not available. Details unknown. Tank Room: Structural as-built drawings are not available. Details unknown. Office Area: Structural as-built drawings are not available. Details unknown. Annex Building: Structural as-built drawings are not available. Details unknown. Prefabricated Building: Structural as-built drawings are not available. Details unknown.	None	None	None	None	None	Field Photos and As-Built Drawing Review
PH Bldg 182	Main forced concrete floor with reinforced concrete beams.	Yes	Details shown in as-built drawing, but field photos show fire sprinkler pipes hung by an adjustable swivel ring with anchor.	Structural as-built drawings are not available. Details unknown.	None	None	None	None	Field Photos and As-Built Drawing Review	
PH Bldg 215	Structural as-built drawings are not available. Details unknown. Field photos show an office, bathrooms and cafeteria area with low hung ceiling panels and steel joists in the main work shop area.	Yes	Structural as-built drawings are not available. Details unknown. Main Warehouse: Field photos show fire sprinkler pipes hung from top flange of joist by an adjustable swivel ring and c-type clamp.	Structural as-built drawings are not available. Details unknown. Main Warehouse: existing vertical hanger located at every other joist per field photos.	None	None	None	None	Field Photos and As-Built Drawing Review	
PH Bldg 240	Three Store Office Building: Reinforced concrete floor slab on metal deck supported on steel joist that span between steel beams per CAD drawings. Structural as-built drawings are not available. Details unknown. Warehouse: Structural as-built drawings are not available. Details unknown.	Yes	Three Store Office Building: as-built drawings show fire sprinkler system hung from roof joist of miscellaneous steel spanning between roof joist with a 1/2 in diameter parallel rod sleeve hanger and c-type clamp. Warehouse: Structural as-built drawings are not available. Details unknown. Field photos show fire sprinkler pipes hung from joist and beam flanges with adjustable swivel ring and c-type clamp.	Three Store Office Building: Structural as-built drawings are not available. Details unknown. Warehouse: Structural as-built drawings are not available. Details unknown. Existing vertical hangers located at every other joist per field photos.	None	None	None	None	Field Photos and As-Built Drawing Review	
PH Bldg 245	Main Warehouse: Transverse 12838 steel rafters per as-built drawings. Longitudinal 12456 steel beams at 50 in on-center spacing per as-built drawings. Field photos show built up longitudinal beams with holes in web and floor angles making up the top and bottom flanges. Office Area: low hung ceiling as framing not exposed. Structural as-built drawings are not available. Details unknown.	Yes	Main Warehouse: Field photos show fire sprinkler pipes hung from bottom flange of beam or from ceiling by an adjustable swivel ring and c-type clamp. As-built drawings show a 240-C clamp hangers and an 1/2 in x 1/2 in x 5/8 in long angle non-spanning between roof beams with 2-1/2 in C clamp attached to it. Office Area: Structural as-built drawings are not available. Details unknown.	Main Warehouse: existing vertical hanger located at every other beam per field photos. Office Area: Structural as-built drawings are not available. Details unknown.	None	None	None	None	On-Site Visual, Field Photos and As-Built Drawing Review	

Facility Bldg	Existing Fires Sprinkler Vertical Hanger and Seismic Brace Inspection Findings								
	Roof Framing Type & Spacing	Yes Vertical Hanger	Type of Vertical Hanger	Spacing of Vertical Hangers	Yes Seismic Brace	Type of Seismic Brace	Spacing of Seismic Braces	Fire Protection on Roof Framing	Inspection Type
PN Bldg 248	Transverse I2W127 & I8W120 steel rafters 20ft on-center spacing per scaled drawings. Longitudinal I8W 3 and I8W10 joists 5ft-3in, 5ft-0in, 5ft-0in, 5ft-0in and 5ft-7in (at top of gable) on-center spacing per scaled QAD drawings and as-builts.	Yes	Field photos show fire sprinkler pipes hung from joists by an adjustable swivel ring and c-type clamp.	Existing vertical hangers located at every other joist.	None	None	None	None	On-site Visual, Field Photos and As-Built Drawing Review
PN Bldg 301	Main Warehouse: Longitudinal steel beam 6ft-3.5in, 6ft-11.5in, 7ft-0in, 7ft-2.5in, 7ft-7in on-center spacing per scaled QAD drawings. Details unknown due to no structural as-built drawings. Office Area: low hung ceilings with sprinkler system. Details unknown due to no structural as-built drawings.	Yes	Main Warehouse: Field photos show fire sprinkler pipes hung from bottom flange of beam by an adjustable swivel ring and c-type clamp. Details unknown due to no as-built drawings. Office Area: low hung ceilings with sprinkler system. Details unknown due to no as-built drawings.	Main Warehouse: Existing vertical hangers located at each beam. Details unknown due to no as-built drawings.	None	None	None	None	On-site Visual, Field Photos and As-Built Drawing Review
PN Bldg 318	Two Story Office: Field photos show low hung ceiling panels with fire sprinkler heads. Structural as-built drawings are not available. Details unknown. Main Warehouse: Field photos show transverse rigid frame columns with longitudinal joists. Structural as-built drawings are not available. Details unknown. Additional Building: Field photos show steel beams. Structural as-built drawings are not available. Details unknown.	Yes	Two Story Office: Field photos show low hung ceiling panels with fire sprinkler heads. Structural as-built drawings are not available. Details unknown. Main Warehouse: Field photos show fire sprinkler pipes hung from bottom flange of beam by an adjustable swivel ring and c-type clamp. Structural as-built drawings are not available. Details unknown. Additional Building: Field photos show fire sprinkler pipes hung from bottom flange of beam by an adjustable swivel ring and c-type clamp. Structural as-built drawings are not available. Details unknown.	Two Story Office: Unknown due to low hung ceiling panels. Structural as-built drawings are not available. Details unknown. Main Warehouse: Existing vertical hangers located at each beam. Additional Building: Unknown due to not enough field photos.	None	None	None	None	Field Photos and As-Built Drawing Review
EP Bldg 1100	Warehouse: Transverse steel joist 30ft on-center spacing per scaled QAD drawing. QAD report list steel joist as 18 to 4ft deep. Details unknown due to no structural as-built drawings. Office Area: Field photos show low hung ceiling panels with fire sprinkler heads. Details unknown due to no structural as-built drawings.	Yes	Warehouse: Field photos show fire sprinkler pipes hung from bottom flange of joist and beams by an adjustable swivel ring and c-type clamp. Details unknown due to no as-built drawings. Office Area: Field photos show low hung ceiling panels with fire sprinkler heads. Details unknown due to no as-built drawings.	Warehouse: Existing vertical hangers located at each beam. Office Area: Unknown due to low hung ceiling panels.	None	None	None	None	Field Photos and As-Built Drawing Review
EP Bldg 1140	Warehouse: Transverse I9-100, I10-100, I2-100 and I5-100 steel joist at 20ft on-center spacing and I10 steel joist at 18ft on-center spacing per scaled QAD drawings. Details unknown due to no structural as-built drawings. Office Area: Field photos show low hung ceiling panels with fire sprinkler heads. Details unknown due to no structural as-built drawings.	Yes	Warehouse: As-built drawings show a swivel ring with beam all thread rod attached to steel beam or bar joist with a model 300 michigan top beam c-clamp or attached to a concrete slab with a bolt swivel driver and nut and coupling to all back thread rod. Other detail that are not scanned well to read. Additional joist hanger, but details are not scanned well and are hard to read. Office Area: Details unknown due to no as-built drawings.	Existing vertical hangers located at each joist. Field photos do not show any seismic braces.	Yes	As-built drawings show lateral and transverse sway braces, but details are not scanned well and are hard to read.	Unknown	None	Field Photos and As-Built Drawing Review
EP Bldg 1150	Warehouse: Transverse I20 frames at 4ft-6in, 4ft-4.5in and 5ft-0in on-center spacing scaled from QAD report. Structural as-built drawings are not available. Details unknown. Office Area: Field photos show low hung ceiling panels with fire sprinkler heads. Structural as-built drawings are not available. Details unknown.	Yes	Warehouse: Field photos show fire sprinkler pipes hung from flange of beam by an adjustable swivel ring and c-type clamp and concrete slab by anchor that is not shown. Structural as-built drawings are not available. Details unknown. Office Area: Structural as-built drawings are not available. Details unknown.	Existing vertical hangers located at each beam or in concrete slab.	None	None	None	None	Field Photos and As-Built Drawing Review
EP Bldg 1160	Warehouse: Transverse I28 steel joist at 6ft-3in on-center spacing per scaled QAD drawings. Wood beam in storage room. Structural as-built drawings are not available. Details unknown. Office Area: Field photos show low hung ceiling panels with fire sprinkler heads. Structural as-built drawings are not available. Details unknown.	Yes	Warehouse: Field photos show fire sprinkler pipes hung from top flange of joist by an adjustable swivel ring and c-type clamp. Field photos show fire sprinkler pipes in storage room hung from bottom of wood beams with T shaped plate with two wood bolts, a threaded rod and an adjustable swivel ring. Structural as-built drawings are not available. Details unknown. Office Area: Structural as-built drawings are not available. Details unknown.	Existing vertical hangers located at each joist. Existing vertical hanger spacing for wood beams are unknown. Structural as-built drawings are not available. Details unknown.	None	None	None	None	Field Photos and As-Built Drawing Review

SECTION 10 | APPENDIX F: SEISMIC REQUIREMENTS TABLES REHABILITATION OF FIRE PROTECTION SYSTEMS AT PORT NEWARK, ELIZABETH PORT AUTHORITY MARINE TERMINAL AND PORT JERSEY

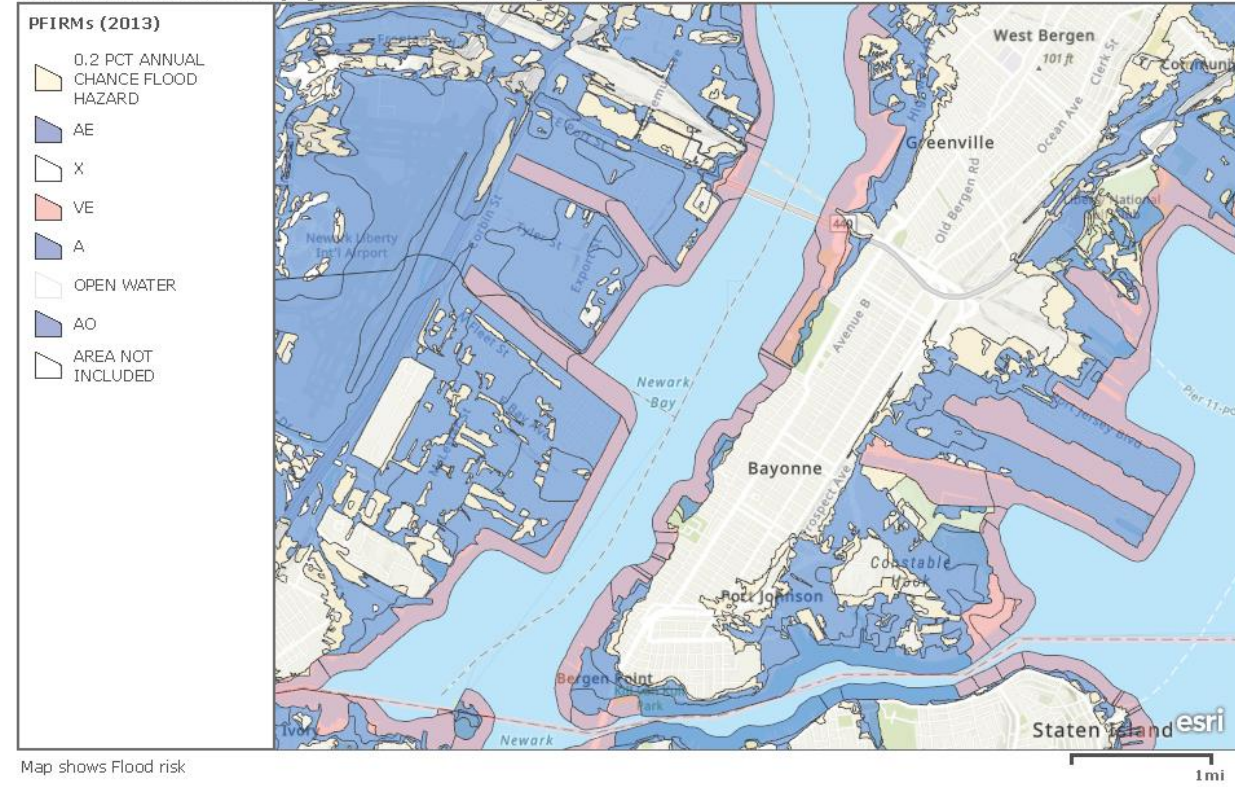
Existing Fires Sprinkler Vertical Hanger and Seismic Brace Inspection Findings									
Facility Bldg	Roof Framing Type & Spacing	Has Vertical Hanger	Type of Vertical Hanger	Spacing of Vertical Hangers	Has Seismic Brace	Type of Seismic Brace	Spacing of Seismic Braces	Fire Protection on Roof Framing	Inspection Type
EP Bldg 1170	Warehouse: Transverse J28 steel joist at 6ft-3in on-center spacing per scaled QAD drawings. Structural as-built drawings are not available. Details unknown. Office Area: Field photos show low hung ceiling panels with fire sprinkler heads. Structural as-built drawings are not available. Details unknown.	Yes	Warehouse: Fire sprinkler pipes attached with band hanger with rod to top or bottom flange of beam with c-type clamp or attached to trapeze bar with band hanger per as-built drawings and field photos Office Area: Structural as-built drawings are not available. Details unknown.	Existing vertical hangers located at each joist.	None	None	None	None	Field Photo and As-built Drawing Review
EP Bldg 1180	Warehouse: Transverse J28 steel joist at 6ft-3in on-center spacing per scaled QAD drawings. 28in to 16in deep bar joist per as-built drawings. Office Space: Structural as-built drawings are not available. Details unknown.	Yes	Warehouse: As-built drawing vertical hanger design criteria called for clevis hanger, rod and clevis clamps hung from top or bottom chord of bar joists. Hangers spacing specified as 12ft on-center for 1in & 1.25in diameter pipe or 15ft on-center for 1.5in or larger diameter pipe. Hangers sized to support twice the weight of water filled pipe plus 250 lbs. Field photos show fire sprinkler pipes hung from top flange of joist an adjustable swivel ring and c-type clamp. Office Area: Structural as-built drawings are not available. Details unknown.	Existing vertical hangers located at each joist.	Yes	Warehouse: As-built drawings seismic hanger design criteria called for all pipes requiring seismic restraint hangers to be supported with a seismic approved clevis hanger. Hanger shall be suspended from structural steel members with a threaded rod. The threaded rod shall be reinforced with a 1/2in x 1/2in angle iron. The threaded rod shall be attached to the steel members by an approved spring isolator. Each clevis hanger shall be anchored on both sides with a 1/4in diameter wire rope. Rope shall have loops to prevent bending across sharp edges. Attach wire ropes at 45 degree angles to steel beam, with a bracket welded to the web of the beam. Field photos do not show any seismic braces. Office Area: Structural as-built drawings are not available. Details unknown.	Unknown	None	Field Photo and As-built Drawing Review
PJ Bldg 51	Ground floor and second floor are made of 8in concrete plank. Roof floor is made of 2in x 6in wood joists at 24in on-center with steel bridging at 6ft-6in intervals and 5.8in gypsum board. The gable roof is made of 2in x 6in wood rafters spaced at 12in on-center supported on prefabricated roof truss. Field photos show low hung ceiling panels with fire sprinkler heads.	Yes	Field photos show low hung ceiling panels with fire sprinkler heads in lobby, first floor corridor and second floor corridor. Field photos show concrete planks in guest rooms with no fire sprinkler heads.	Unknown. Structural as-built drawings are not available. Details unknown.	None	None	None	None	Field Photo and As-built Drawing Review
PJ Bldg 100	Third Floor Warehouse: Reinforced concrete slab spanning on reinforced concrete beams spaced 6ft-3in, 8ft-6in and 8ft-8in on-center spacing scaled per QAD drawings. Roof Warehouse: Office Area: Field photos show low hung ceiling panels with fire sprinkler heads. Structural as-built drawings are not available. Details unknown.	Yes and No	Third Floor Warehouse: None. Roof Warehouse: None. Office Area: Fire sprinkler pipes are hung from concrete slab with Hilti DI Anchor or steel beam bottom flange with c-type clamp. Both have a rod and an adjustable swivel ring. Field photos show low hung ceiling panels with fire sprinkler heads hung by an adjustable swivel ring and anchor to concrete floor slab.	Third Floor Warehouse: Structural as-built drawings are not available. Details unknown. Roof Warehouse: Structural as-built drawings are not available. Details unknown. Office Area: Structural as-built drawings are not available. Details unknown.	None	None	None	None	On-site Visual, Field Photos and As-built Drawing Review

Notes:
 1) PA Structural performed a field visit to Port Newark buildings 263, 268 and 301 and Port Jersey building 100 and performed a visual inspection from the ground floor. A fork lift for hands on inspection was not provided and would not have been practice given the tenant volume of products in the warehouses and fork lift traffic.
 2) All other buildings hangers and braces were inspected through field photos.
 3) Spacing of vertical hangers and seismic braces are based on as-built drawings of roof joist spacing.

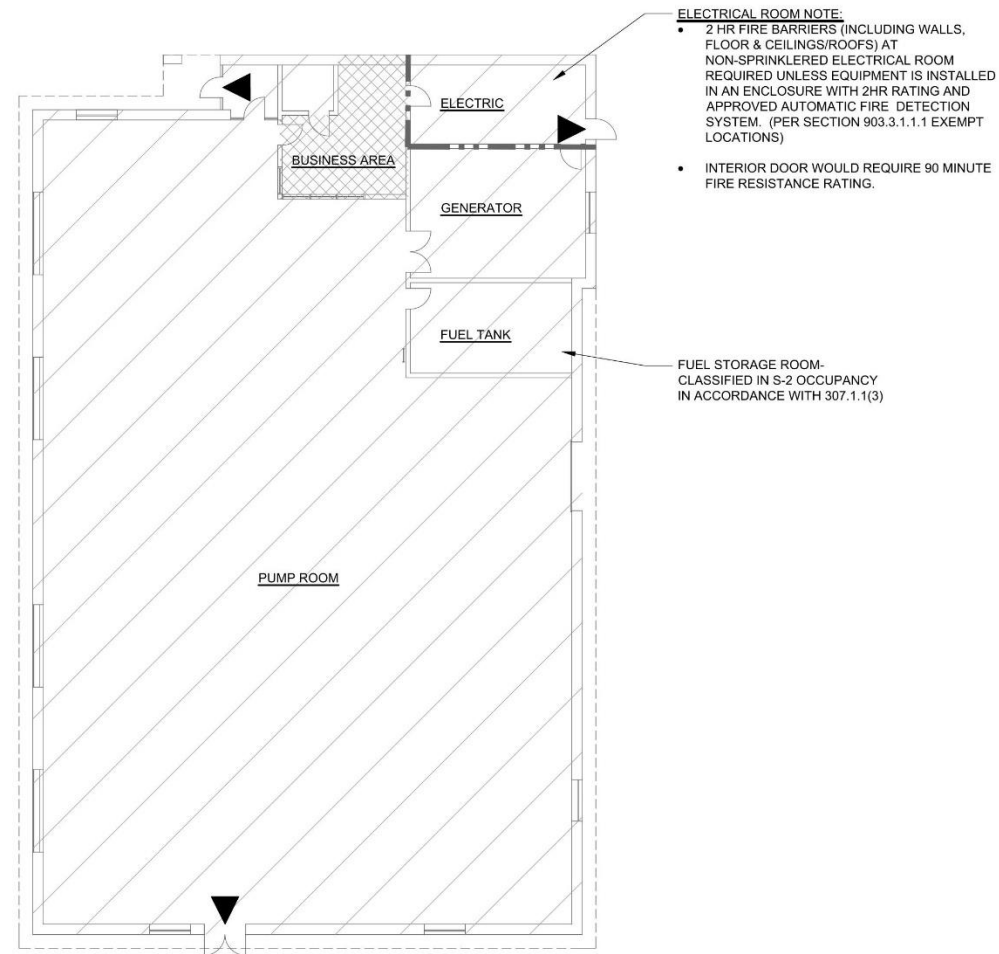
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FIGURES

PANYNJ Flood Risk Map (Current and Future)



Esri, NASA, NGA, USGS, FEMA | NYC OpenData, New Jersey Office of GIS, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA



EXISTING BUILDING INFORMATION	
BUILDING 111: 111 CORBIN ST. NEWARK, NJ 07410	
BUILDING AREA PER STORY (SF)	10,089
NUMBER OF STORIES	1
BUILDING HEIGHT (FT)	17'-0"
TOTAL BUILDING AREA (SF)	10,089

NOTE 1: NO SEPARATIONS REQUIRED EXCEPT AS NOTED ABOVE AT ELECTRICAL ROOM

BUILDING CODE DATA	
APPLICABLE CODES (FOR ANALYSIS)	
INTERNATIONAL BUILDING CODE/2018 NJ EDITION	
CONSTRUCTION TYPE	IIB - NONCOMBUSTIBLE
SPRINKLERED	YES
BUILDING OCCUPANCY GROUP	S-2 - STORAGE
PRIMARY OCCUPANCY	S-2 - STORAGE
ACCESSORY OCCUPANCY(S)	B - BUSINESS
ALLOWABLE AREA PER STORY (SF)	104,000
ALLOWABLE HEIGHT ABOVE GRADE (FT)	55'
ALLOWABLE STORIES ABOVE GRADE	4

NOTE 1: ASSUMES FULLY SPRINKLERED BUILDING PER CURRENT CODE REQUIREMENTS
 NOTE 2: ALLOWABLE AREA, HEIGHT AND STORIES LISTED ABOVE INDICATE TABULAR VALUES FOR FULLY SPRINKLERED BUILDINGS. INCREASES FOR FRONTAGE ALLOWANCES ARE NOT CONSIDERED

FIRE RESISTANCE RATING REQS.		
BUILDING ELEMENT	REQ'D. (HRS)	PROV. (HRS)
PRIMARY STRUCTURAL FRAME	0	0
BEARING WALLS & PARTITIONS (EXTERIOR)	0	0
NON BEARING WALLS & PARTITIONS (EXTERIOR)	0	0
BEARING WALLS & PARTITIONS (INTERIOR)	0	0
NON BEARING WALLS & PARTITIONS (INTERIOR)	0	0
FLOOR CONSTRUCTION	0	0
ROOF CONSTRUCTION	0	0

NOTE 1: EXTERIOR WALL RATINGS IN ACCORDANCE WITH MINIMUM FIRE SEPARATION DISTANCE REQUIREMENTS

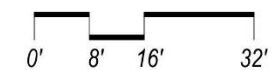
OCCUPANT LOAD & NUMBER OF EXITS			
BUILDING AREA	AREA	SF/OCCUP.	OCCUP. LOAD
STORAGE (S2)	9,762	300	33
BUSINESS (B)	327	100	4
TOTAL # OF EXITS REQ'D	2		

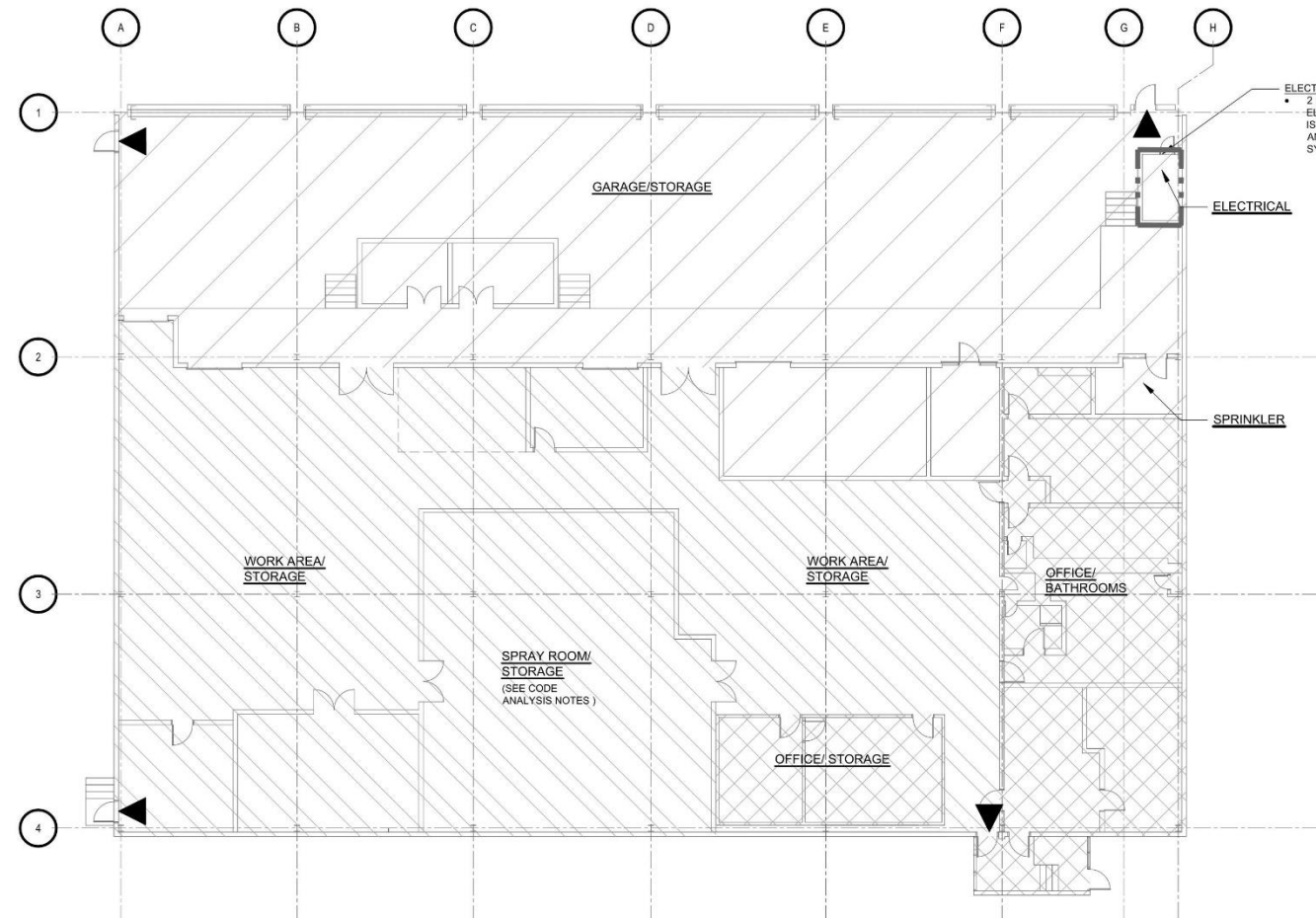
LEGEND	
	2 HR SEPARATION
	EXIT DOOR
	B OCCUPANCY
	S-2 OCCUPANCY

Building 111 - Code Analysis



ARCHITECTURE
A-111-001





CODE ANALYSIS NOTES:

- IT APPEARS THE APPLICATION OF FLAMMABLE FINISHES IN A SPRAY AREA OCCUR IN AREA INDICATED IN ACCORDANCE WITH SECTION 307.1.1(1). AREAS OF THE BUILDING SHOULD CONFORM TO THE REQUIREMENTS IN SECTION 416 AND THE FIRE CODE OF NEW JERSEY (IFC 2015).
- AREAS USED IN SPRAY APPLICATIONS SHOULD COMPLY WITH REQUIREMENTS IN IFC CHAPTER 2404. SPRAYING SPACES OR LIMITED SPRAYING SPACES SHALL BE OPERATED AND VENTILATED ACCORDINGLY. NONCOMBUSTIBLE SPRAY CURTAINS SHOULD BE PROVIDED TO RESTRICT THE SPREAD OF FLAMMABLE VAPORS IN SPRAYING SPACES.
- MAXIMUM QUANTITIES OF HAZARDOUS MATERIALS SHALL BE IN ACCORDANCE WITH TABLES 307.1(1) & 307.1(2) AND APPLICABLE PROVISIONS OF SECTION 414. SHALL APPLY TO STORAGE AND USAGE.
- OTHER FABRICATION OR APPLICATION SPACES OR ENCLOSED ROOMS SHOULD BE IDENTIFIED AND CLASSIFIED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE NJ CODES

EXISTING BUILDING INFORMATION	
BUILDING 255: 255 E. PORT ST. NEWARK, NJ 07114	
BUILDING AREA PER STORY (SF)	17,075 SF
NUMBER OF STORIES	1
BUILDING HEIGHT (FT)	25' ±
TOTAL BUILDING AREA (SF)	17,075 SF
BUILDING AREA (B OCCUPANCY)	2,585 SF
BUILDING AREA 1 (F-1 OCCUPANCY)	7,998 SF
BUILDING AREA 1 (S-1 OCCUPANCY)	6,542 SF

BUILDING CODE DATA	
APPLICABLE CODES (FOR ANALYSIS)	
INTERNATIONAL BUILDING CODE/2018 NJ EDITION	
CONSTRUCTION TYPE	IIIB -NONCOMBUSTIBLE
SPRINKLERED	YES
BUILDING OCCUPANCY GROUPS	
UNSEPARATED MIXED OCCUPANCIES	B BUSINESS F-1 MODERATE HAZARD S-1 STORAGE
ALLOWABLE AREA PER STORY (SF)	UNLIMITED
ALLOWABLE HEIGHT ABOVE GRADE (FT)	75
ALLOWABLE STORIES ABOVE GRADE	2

FIRE RESISTANCE RATING REQS.		
BUILDING ELEMENT	REQ'D. (HRS)	PROV. (HRS)
PRIMARY STRUCTURAL FRAME	0	0
BEARING WALLS & PARTITIONS (EXTERIOR)	0	0
NON BEARING WALLS & PARTITIONS (EXTERIOR)	0	0
BEARING WALLS & PARTITIONS (INTERIOR)	0	0
NON BEARING WALLS & PARTITIONS (INTERIOR)	0	0
FLOOR CONSTRUCTION	0	0
ROOF CONSTRUCTION	0	0

NOTE 1: EXTERIOR WALL RATINGS IN ACCORDANCE WITH MINIMUM FIRE SEPARATION DISTANCE REQUIREMENTS

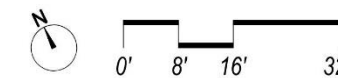
OCCUPANT LOAD & NUMBER OF EXITS			
BUILDING AREA 1	AREA	SF/OCCUP.	OCCUP. LOAD
BUSINESS (B OCCUPANCY)	2,585	150	18
BUSINESS (F-1 OCCUPANCY)	7,998	300	27
BUSINESS (S-1 OCCUPANCY)	6,542	300	22
TOTAL OCCUPANTS			67
TOTAL NUMBER OF EXITS REQ'D			2

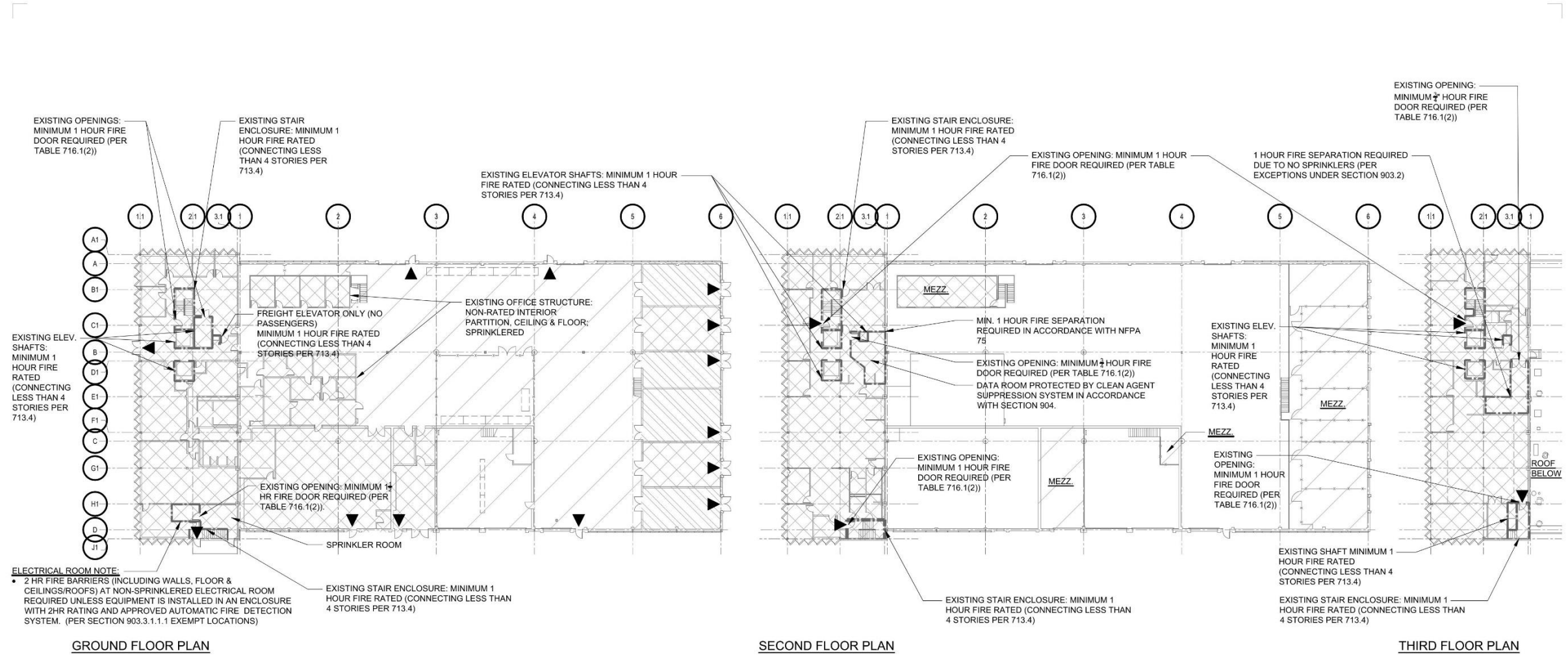
LEGEND	
	2-HR SEPARATION
	EXIT DOOR
	S-1 OCCUPANCY
	F-1 OCCUPANCY
	B OCCUPANCY

NOTE 1: ASSUMES FULLY SPRINKLERED BUILDING PER CURRENT CODE REQUIREMENTS
 NOTE 2: UNLIMITED AREA BUILDING ACCORDING TO SECTION 507.5. SPRINKLERED ONE STORY BUILDING (SURROUNDED & ADJOINED BY YARDS/PUBLIC WAYS NOT LESS THAN 60' IN WIDTH)

Building 255 - Code Analysis

ARCHITECTURE
A-255-001





ELECTRICAL ROOM NOTE:
 • 2 HR FIRE BARRIERS (INCLUDING WALLS, FLOOR & CEILINGS/ROOFS) AT NON-SPRINKLERED ELECTRICAL ROOM REQUIRED UNLESS EQUIPMENT IS INSTALLED IN AN ENCLOSURE WITH 2HR RATING AND APPROVED AUTOMATIC FIRE DETECTION SYSTEM. (PER SECTION 903.3.1.1.1 EXEMPT LOCATIONS)

GROUND FLOOR PLAN

SECOND FLOOR PLAN

THIRD FLOOR PLAN

EXISTING BUILDING INFORMATION	
BUILDING 260: 260 KELLOG ST. NEWARK, NJ 07410	
NUMBER OF STORIES	3
BUILDING HEIGHT (FT)	36' OFFICE/ 24' GARAGE
GROUND FLOOR TOTAL AREA (GROSS)	32,130 SF
GROUND FLOOR AREA (B OCCUPANCY)	13,756 SF
GROUND FLOOR AREA (S-1 OCCUPANCY)	16,934 SF
GROUND FLOOR AREA (F-1 OCCUPANCY)	1,440 SF
SECOND FLOOR TOTAL AREA (B OCCUPANCY)	5,933 SF (SEE NOTE 1)
MEZZANINE AREA (B OCCUPANCY)	653 SF
MEZZANINE AREA (S-1 OCCUPANCY)	5,149 SF
THIRD FLOOR TOTAL AREA (B OCCUPANCY)	5,933 SF
TOTAL BUILDING AREA GROSS (SF)	49,996 SF (SEE NOTE 1)

NOTE 1: MEZZANINES NOT INCLUDED IN BUILDING AREA PER 505.2

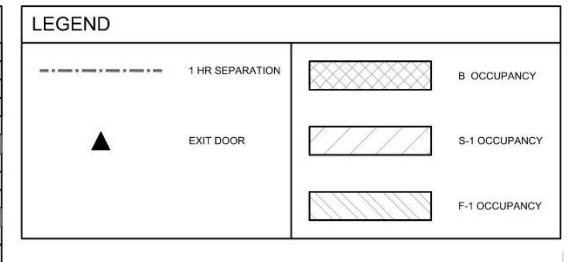
BUILDING CODE DATA:	
APPLICABLE CODES (FOR ANALYSIS)	
INTERNATIONAL BUILDING CODE/2018 NJ EDITION	
CONSTRUCTION TYPE	IIB - NON-COMBUSTIBLE
SPRINKLERED	YES
BUILDING OCCUPANCY GROUP	
UNSEPERATED MIXED OCCUPANCY	S-1 - STORAGE, B-BUSINESS, F-1 FACTORY
ALLOWABLE AREA PER STORY (SF)	46,500
ALLOWABLE HEIGHT ABOVE GRADE (FT)	75
ALLOWABLE STORIES ABOVE GRADE	3

NOTE 1: ASSUMES FULLY SPRINKLERED BUILDING PER CURRENT CODE REQUIREMENTS
 NOTE 2: ALL FIGURES INDICATE LISTED TABULAR AREAS

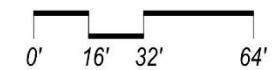
FIRE RESISTANCE RATING REQS.		
BUILDING ELEMENT	REQ'D. (HRS)	PROV. (HRS)
PRIMARY STRUCTURAL FRAME	0	0
BEARING WALLS & PARTITIONS (EXTERIOR)	0	0
NON BEARING WALLS & PARTITIONS (EXTERIOR)	0	0
BEARING WALLS & PARTITIONS (INTERIOR)	0	0
NON BEARING WALLS & PARTITIONS (INTERIOR)	0	0
FLOOR CONSTRUCTION	0	0
ROOF CONSTRUCTION	0	0

NOTE 1: EXTERIOR WALL RATINGS IN ACCORDANCE WITH MINIMUM FIRE SEPARATION DISTANCE REQUIREMENTS

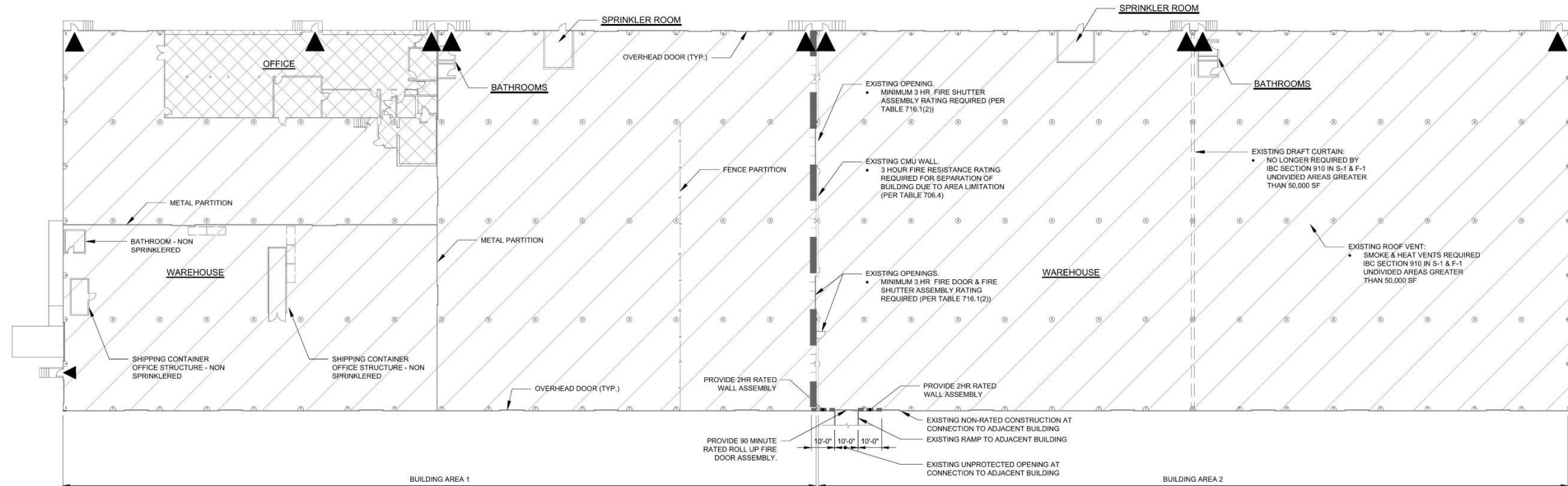
OCCUPANT LOAD & NUMBER OF EXITS			
BUILDING AREA - GROUND FL.	AREA	SF/OCCUP.	OCCUP. LOAD
BUSINESS (B)	13,756	150	91
STORAGE (S-1)	16,934	500	33
FACTORY (F-1)	1,440	100	14
TOTAL # OF EXITS REQ'D	2		
2ND FLOOR			
BUSINESS (B)	6,586	150	43
STORAGE (S-1)	5,149	500	10
TOTAL # OF EXITS REQ'D	2		
3RD FLOOR			
BUSINESS (B)	5,933	150	39
TOTAL # OF EXITS REQ'D	2		



ARCHITECTURE
 A-260-001



Building 260 - Code Analysis



EXISTING BUILDING INFORMATION	
BUILDING 263: 263 MARLIN ST. NEWARK, NJ 07114	
BUILDING AREA PER STORY (SF)	103,977
NUMBER OF STORIES	1
BUILDING HEIGHT (FT)	37'
TOTAL AREA (SF)	103,977 SF
BUILDING AREA 1 (S-1 OCCUPANCY)	47,006 SF
BUILDING AREA 1 (B OCCUPANCY)	4,926 SF
BUILDING AREA 2 (S-1 OCCUPANCY)	51,976 SF

NOTE 1: AREAS IN EXCESS OF 50,000 SF REQUIRE FIRE WALL SEPARATING STRUCTURE INTO TWO SEPARATE BUILDINGS.

BUILDING CODE DATA	
APPLICABLE CODES (FOR ANALYSIS)	
INTERNATIONAL BUILDING CODE/2018 NJ EDITION	
CONSTRUCTION TYPE	IIB - NONCOMBUSTIBLE
SPRINKLERED	YES
BUILDING OCCUPANCY GROUP	
PRIMARY OCCUPANCY	S-1 - STORAGE
ACCESSORY OCCUPANCY(S)	B - BUSINESS
ALLOWABLE AREA PER STORY (SF)	70,000
ALLOWABLE HEIGHT ABOVE GRADE (FT)	75
ALLOWABLE STORIES ABOVE GRADE	3

NOTE 1: ASSUMES FULLY SPRINKLERED BUILDING PER CURRENT CODE REQUIREMENTS
 NOTE 2: ALLOWABLE AREA, HEIGHT AND STORIES LISTED ABOVE INDICATE TABULAR VALUES FOR FULLY SPRINKLERED BUILDINGS. INCREASES FOR FRONTAGE ALLOWANCES ARE NOT CONSIDERED
 NOTE 3: ALL NON BEARING WOOD INTERIOR PARTITIONS OR OTHER CONSTRUCTION ARE REQUIRED TO BE OF FIRE RETARDANT TREATED WOOD.

FIRE RESISTANCE RATING REQ.		
BUILDING ELEMENT	REQ'D. (HRS)	PROV. (HRS)
PRIMARY STRUCTURAL FRAME	0	0
BEARING WALLS & PARTITIONS (EXTERIOR)	0	0
NON BEARING WALLS & PARTITIONS (EXTERIOR)	0	0
BEARING WALLS & PARTITIONS (INTERIOR)	0	0
NON BEARING WALLS & PARTITIONS (INTERIOR)	0	0
FLOOR CONSTRUCTION	0	0
ROOF CONSTRUCTION	0	0

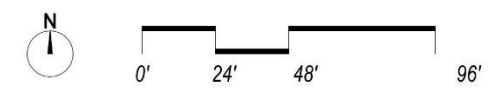
NOTE 1: EXTERIOR WALL RATINGS IN ACCORDANCE WITH MINIMUM FIRE SEPARATION DISTANCE REQUIREMENTS

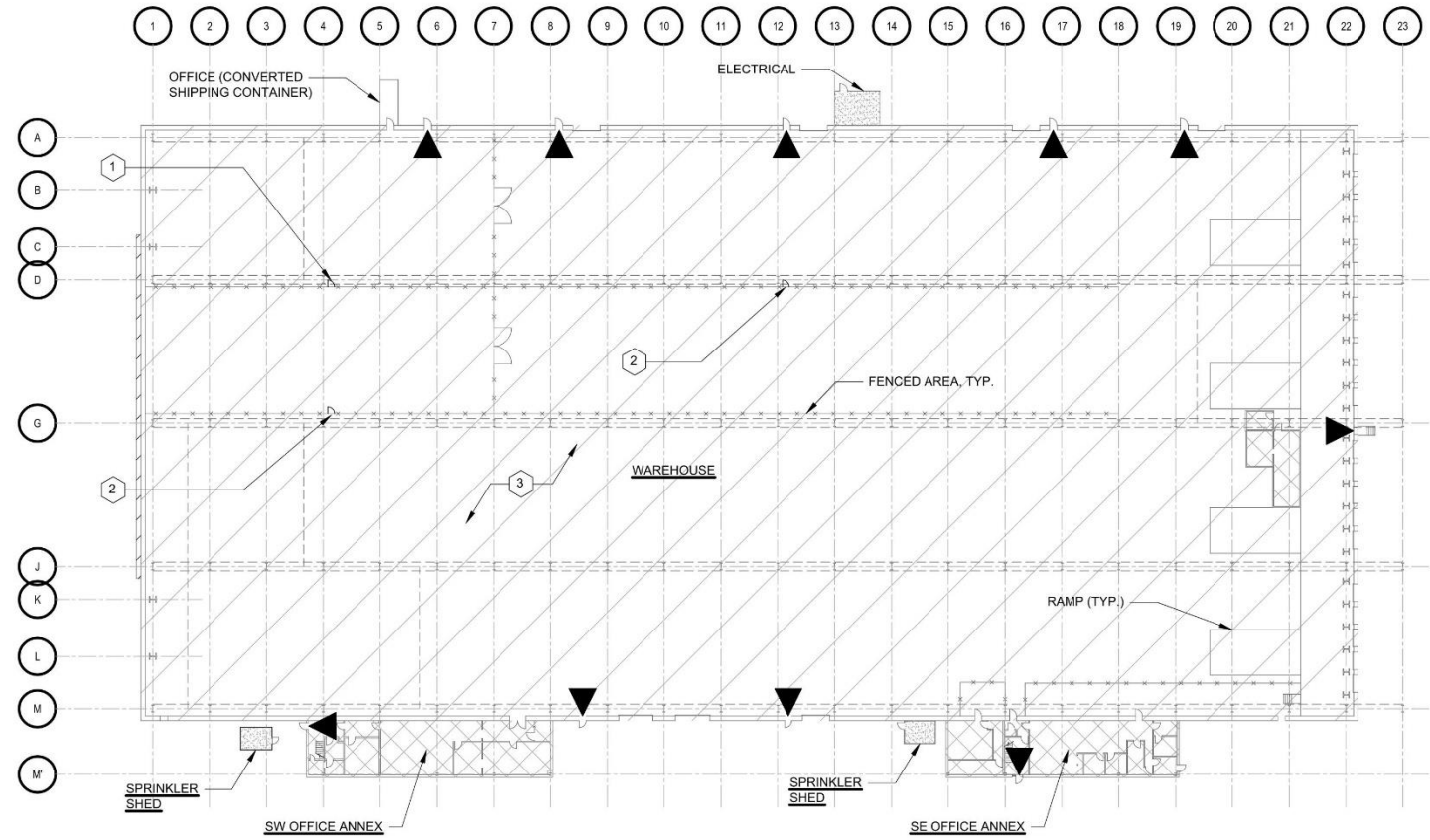
OCCUPANT LOAD & NUMBER OF EXITS			
BUILDING AREA 1	AREA	SF/OCCUP.	OCCUP. LOAD
STORAGE (S1)	47,006	500	95
BUSINESS (B)	4,926	150	33
TOTAL # OF EXITS REQ'D	2		
BUILDING AREA 2	AREA	SF/OCCUP.	OCCUP. LOAD
STORAGE (S1)	51,976	500	104
TOTAL # OF EXITS REQ'D	2		

LEGEND	
	2-HR SEPARATION
	3-HR SEPARATION
	EXIT DOOR
	B OCCUPANCY
	S-1 OCCUPANCY

Building 263 - Code Analysis

ARCHITECTURE
A-263-001

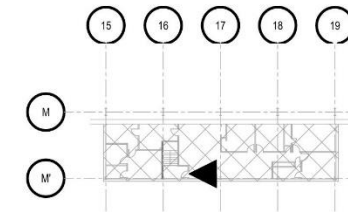




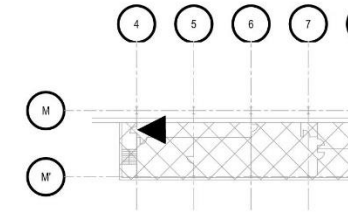
FIRST FLOOR PLAN

KEYNOTES

- 1 PROVIDE SECOND MEANS OF EGRESS THRU ADJACENT AREA LOCATED A MINIMUM DISTANCE OF 1/3 OVERALL SPACE LENGTH FROM EXISTING EGRESS ELEMENTS. (PER 1007.1.1(2). CURRENT EXITS DO NOT MEET 1/3RD SEPARATION REQUIREMENTS.
- 2 PROVIDE SECOND MEANS OF EGRESS THRU ADJACENT SPACES. SECOND MEANS OF EGRESS REQUIRED FOR REMOTE LOCATION B/C EXIT ACCESS TRAVEL DISTANCE EXCEEDS TABULAR VALUES IN 1017.2(250')
- 3 IN ALL FENCED AREAS MAINTAIN CLEAR PATH OF EGRESS TRAVEL AND MARK PATH OF TRAVEL WITH READILY VISIBLE EXIT SIGNS TO CLEARLY INDICATE THE DIRECTION OF EGRESS TRAVEL IN CASES WHERE THE EXIT OR THE PATH OF EGRESS TRAVEL IS NOT IMMEDIATELY VISIBLE TO THE OCCUPANTS.



SE SECOND FLOOR OFFICE ANNEX PLAN



SW SECOND FLOOR OFFICE ANNEX PLAN

EXISTING BUILDING INFORMATION	
BUILDING 301: 301 CRANEWAY ST. NEWARK, NJ 07114	
NUMBER OF STORIES	2
BUILDING HEIGHT (FT)	40'-0"
TOTAL BUILDING AREA (SF)	151,518
FIRST FLOOR TOTAL AREA (SF)	146,040
FIRST FLOOR S-1 OCCUPANCY	139,382
FIRST FLOOR B OCCUPANCY	5,478
FIRST FLOOR U OCCUPANCY	280
SECOND FLOOR TOTAL AREA (SF)	5,478
SECOND FLOOR AREA (SF)	5,478

BUILDING CODE DATA	
APPLICABLE CODES (FOR ANALYSIS)	
INTERNATIONAL BUILDING CODE/2018 NJ EDITION	
CONSTRUCTION TYPE	IIB -NONCOMBUSTIBLE
SPRINKLERED	YES
BUILDING OCCUPANCY GROUP	
PRIMARY OCCUPANCY	S-1 - STORAGE
ACCESSORY OCCUPANCY(S)	B - BUSINESS; U -UTILITY
ALLOWABLE AREA PER STORY (SF)	UNLIMITED
ALLOWABLE HEIGHT ABOVE GRADE (FT)	75
ALLOWABLE STORIES ABOVE GRADE	2

NOTE 1: ASSUMES FULLY SPRINKLERED BUILDING PER CURRENT CODE REQUIREMENTS
 NOTE 2: UNLIMITED AREA BUILDING ACCORDING TO SECTION 507.5. SPRINKLERED ONE STORY BUILDING (SURROUNDED & ADJOINED BY YARDS/PUBLIC WAYS NOT LESS THAN 60' IN WIDTH).
 NOTE 3: ALL NON-BEARING WOOD INTERIOR PARTITIONS ARE REQUIRED TO BE CONSTRUCTED WITH FIRE RETARDANT TREATED WOOD.
 NOTE 4: UNLIMITED AREA PER SECTION 507.
 NOTE 5: SMOKE AND HEAT VENTS REQUIRED IN UNDIVIDED AREAS GREATER THAN 50,000 SF

FIRE RESISTANCE RATING REQS.		
BUILDING ELEMENT	REQ'D. (HRS)	PROV. (HRS)
PRIMARY STRUCTURAL FRAME	0	0
BEARING WALLS & PARTITIONS (EXTERIOR)	0	0
NON BEARING WALLS & PARTITIONS (EXTERIOR)	0	0
BEARING WALLS & PARTITIONS (INTERIOR)	0	0
NON BEARING WALLS & PARTITIONS (INTERIOR)	0	0
FLOOR CONSTRUCTION	0	0
ROOF CONSTRUCTION	0	0

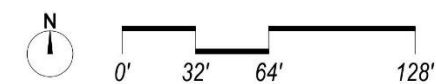
NOTE 1: EXTERIOR WALL RATINGS IN ACCORDANCE WITH MINIMUM FIRE SEPARATION DISTANCE REQUIREMENTS

OCCUPANT LOAD & NUMBER OF EXITS			
FLOOR	AREA	SF/OCCUP.	OCCUP. LOAD
1ST FLOOR STORAGE (S1)	139,382	500	279
TOTAL # OF EXITS REQ'D			2
SE 1ST FLOOR BUSINESS (B)	2,661	150	18
TOTAL # OF EXITS REQ'D			1
SW 1ST FLOOR BUSINESS (B)	2,817	150	19
TOTAL # OF EXITS REQ'D			1
SE 2ND FLOOR BUSINESS (B)	2,661	150	18
TOTAL # OF EXITS REQ'D			1
SW 2ND FLOOR BUSINESS (B)	2,817	150	19
TOTAL # OF EXITS REQ'D			1

LEGEND	
	EXIT DOOR
	B OCCUPANCY
	S-1 OCCUPANCY
	U OCCUPANCY

Building 301 - Code Analysis

ARCHITECTURE
A-301-001

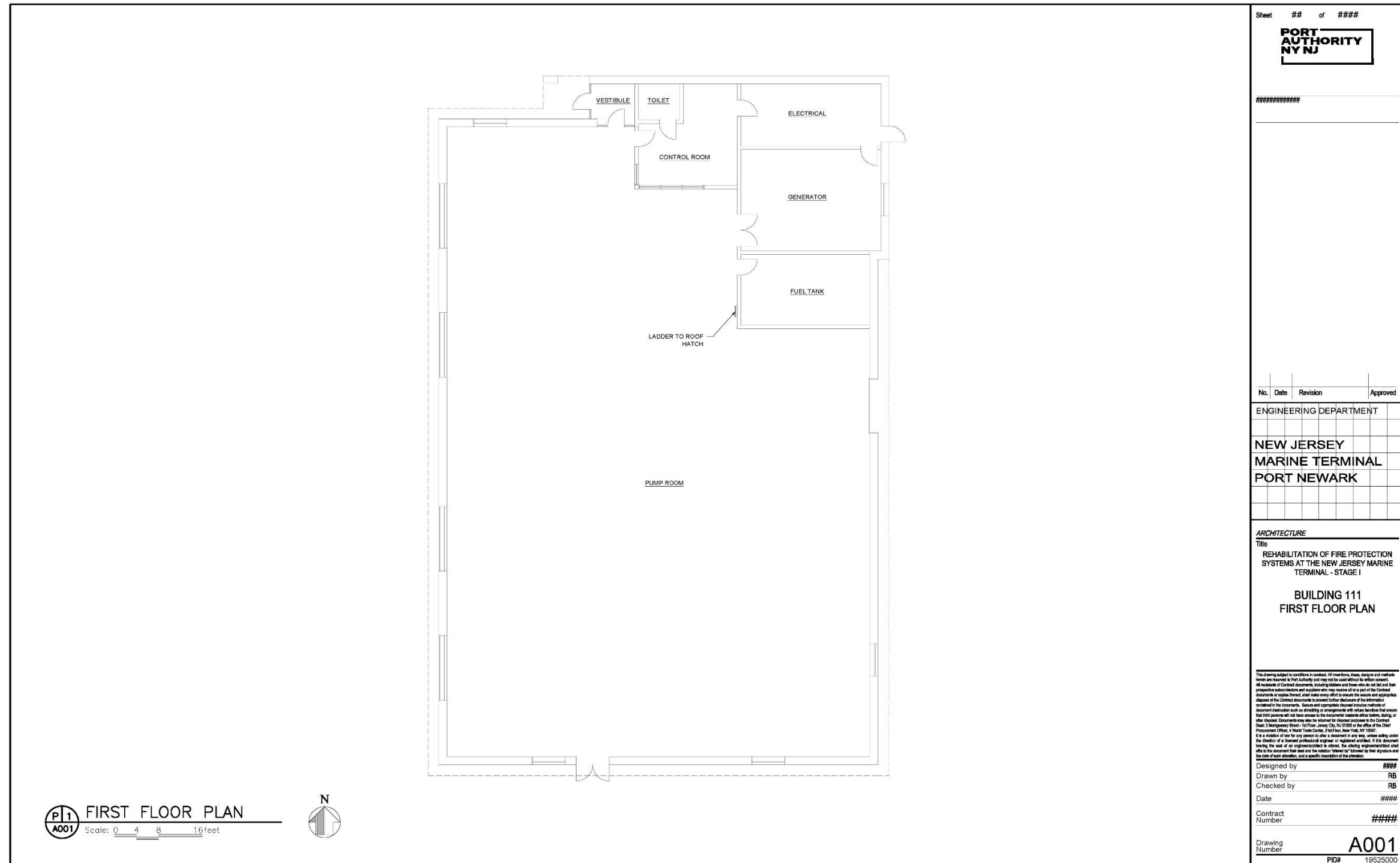


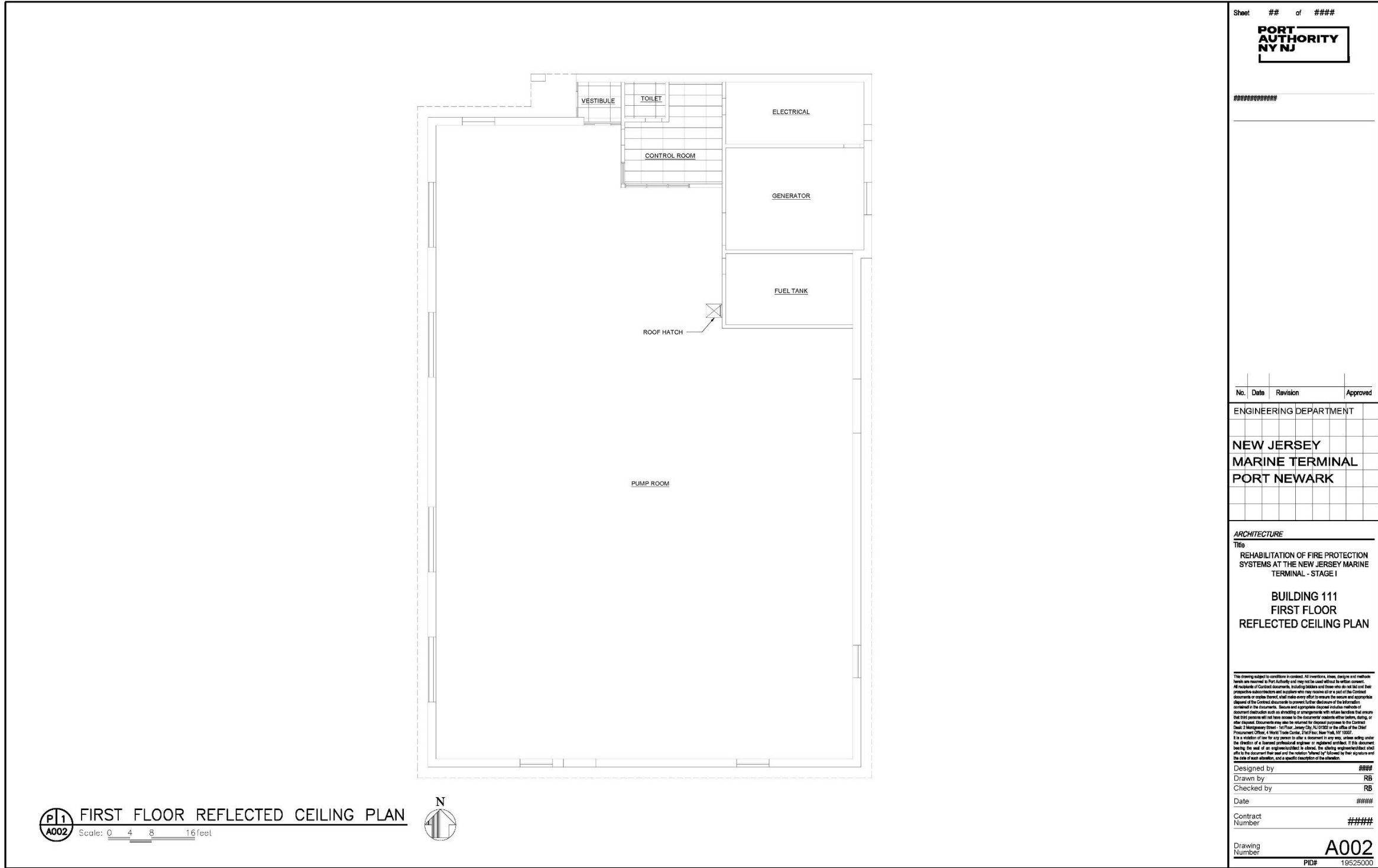
SUPPLEMENTAL REPORTS

Refer to attached Environmental Survey Reports, Resilience Flood Protection Elevation, and QAD Inspection Reports.

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REFERENCE DRAWINGS





Sheet ## of ###

PORT AUTHORITY NY NJ

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY MARINE TERMINAL PORT NEWARK

ARCHITECTURE

Title

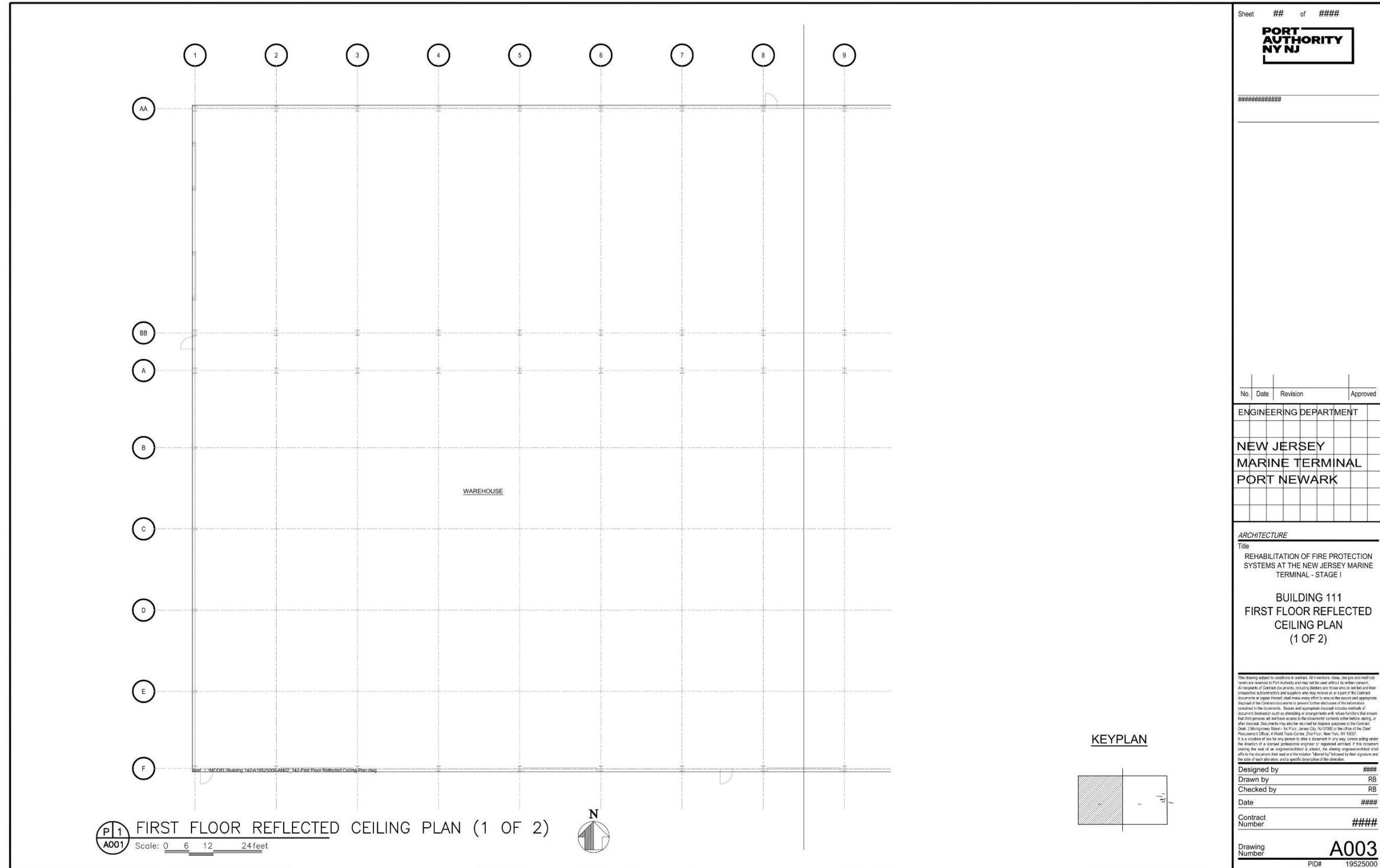
REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

BUILDING 111 FIRST FLOOR REFLECTED CEILING PLAN

The drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and have provided submissions and inquiries with the review of a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents in accordance with the provisions of the Administrative Contract in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with reliable facilities that ensure that this process will not be accessible to the document's contents either before, during or after disposal. Documents may also be returned for disposal purposes to the Contract Chief of Management Group, 1st Floor, Jersey City, NJ 07310 or the Office of the Chief Procurement Officer, 4 World Trade Center, 2nd Floor, New York, NY 10027.

It is a condition of use for any person to enter a document in any way, unless and only under the direction of a licensed professional engineer or registered architect. If this document being the work of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of each alteration, and a specific description of the alteration.

Designed by: ###
 Drawn by: RB
 Checked by: RB
 Date: ###
 Contract Number: ###
 Drawing Number: **A002**
 PID# 19525000



Sheet ## of ####

PORT AUTHORITY NY NJ

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY MARINE TERMINAL PORT NEWARK

ARCHITECTURE

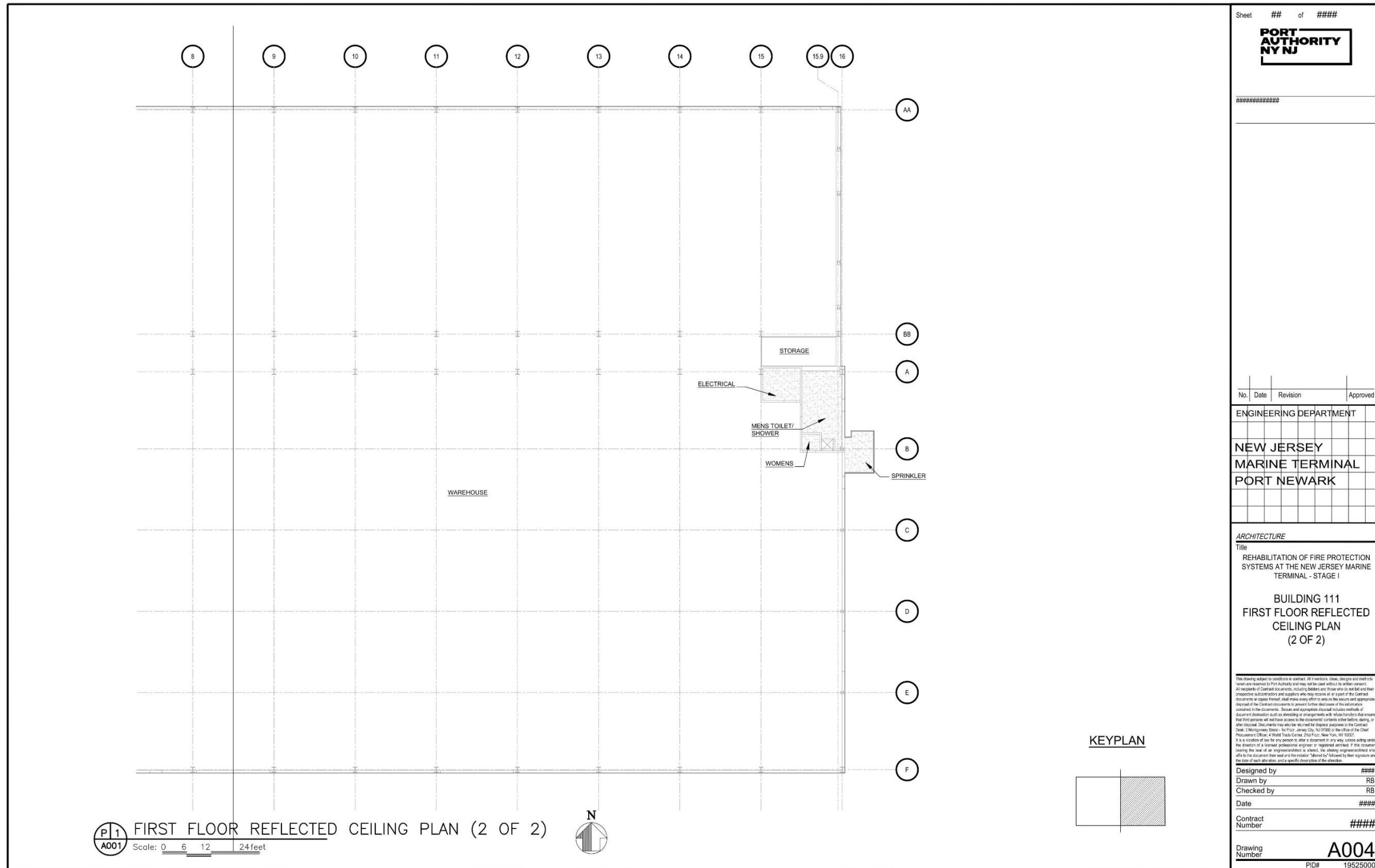
Title
 REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

**BUILDING 111
 FIRST FLOOR REFLECTED CEILING PLAN
 (1 OF 2)**

This drawing is subject to specifications in contract. All dimensions shown, design and methods herein are intended for Port Authority and may not be used without written consent. All recipients of Contract Documents, including bidders and those who do not bid and their respective subcontractors and suppliers who may receive all or part of the Contract Documents or copies thereof, shall make every effort to see to the secure and appropriate disposal of the Contract Documents to prevent further disclosure of the information contained in the documents. Success and appropriate disposal includes methods of document destruction such as shredding or arrangements with other factors that ensure that third parties will not have access to the documents' contents either before, during, or after disposal. Documents may also be retained for dispute purposes to the Contract. Shaw, 2 Montgomery Street, 10th Floor, Jersey City, NJ 07310 or the Office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10037.

It is a condition of bid for any person to offer a document to any party, unless acting under the direction of a licensed professional engineer or registered architect. If this document leaving the seal of an engineer/architect is altered, the altering engineer/architect shall file to the documents their seal and the notator "altered" followed by their signature and the date of such alteration, with a specific description of the alteration.

Designed by: ####
 Drawn by: RB
 Checked by: RB
 Date: ####
 Contract Number: ####
 Drawing Number: **A003**
 PID# 19525000



Sheet ## of ####

PORT AUTHORITY NY NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY MARINE TERMINAL PORT NEWARK

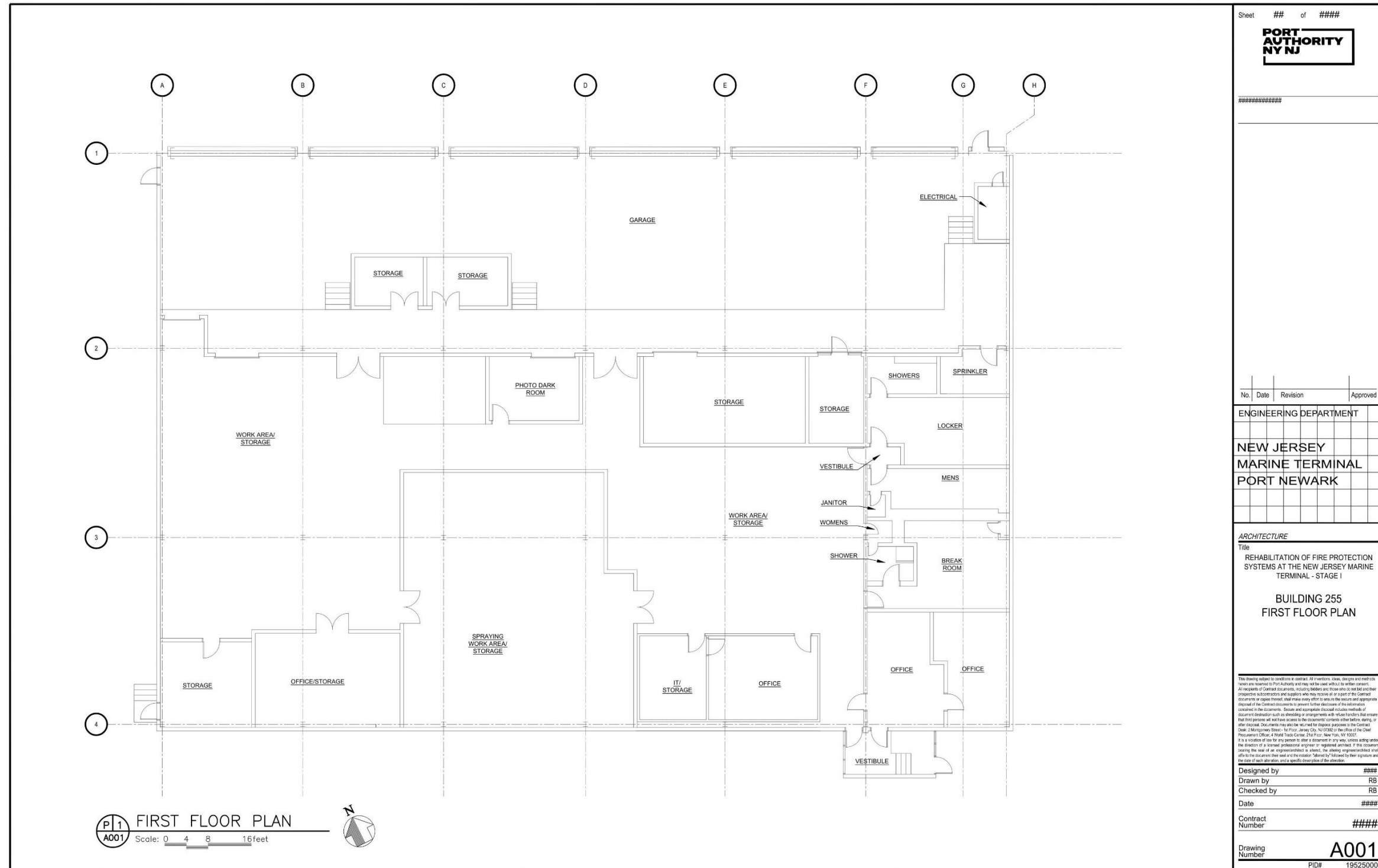
ARCHITECTURE

Title
 REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

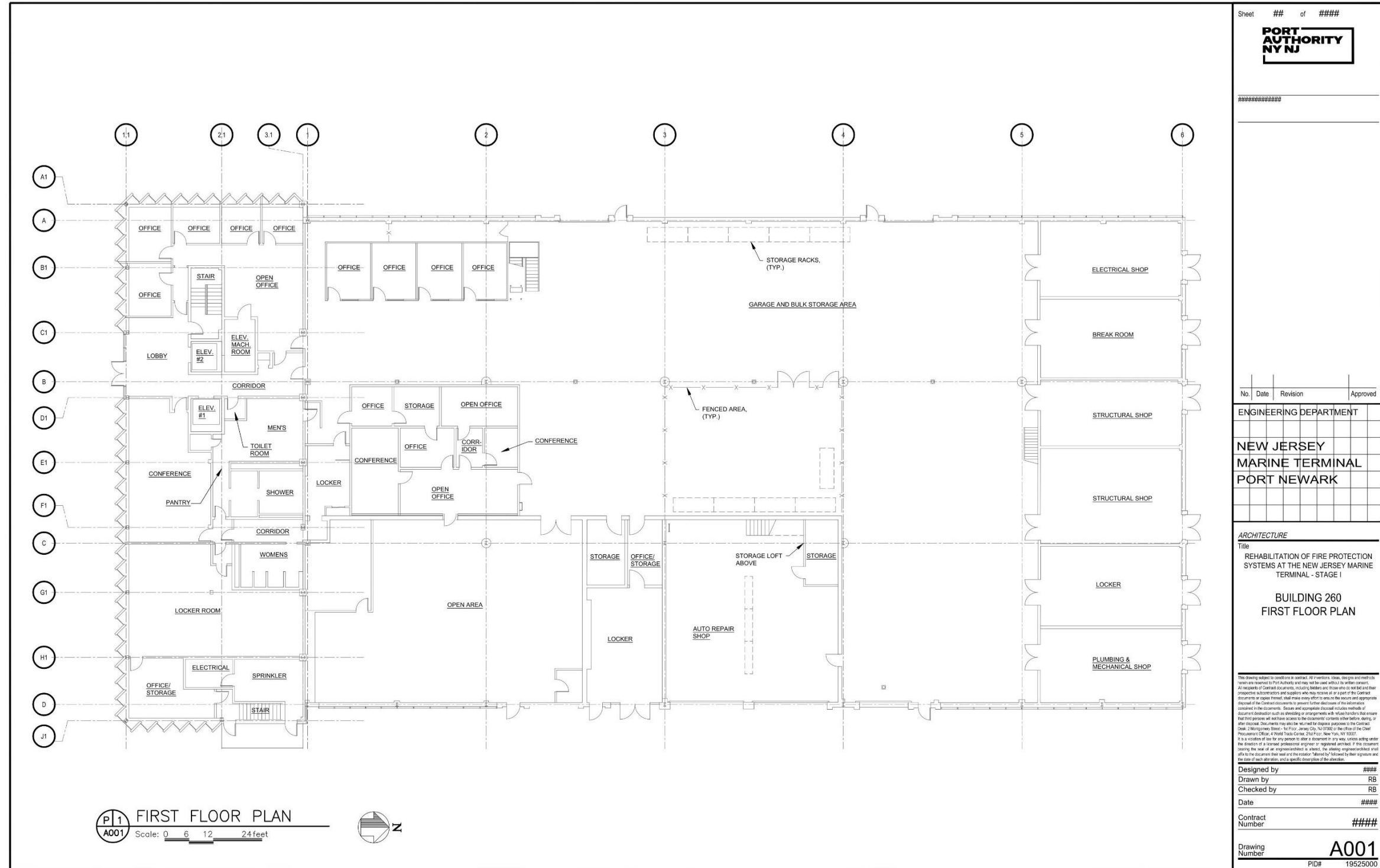
**BUILDING 111
 FIRST FLOOR REFLECTED CEILING PLAN
 (2 OF 2)**

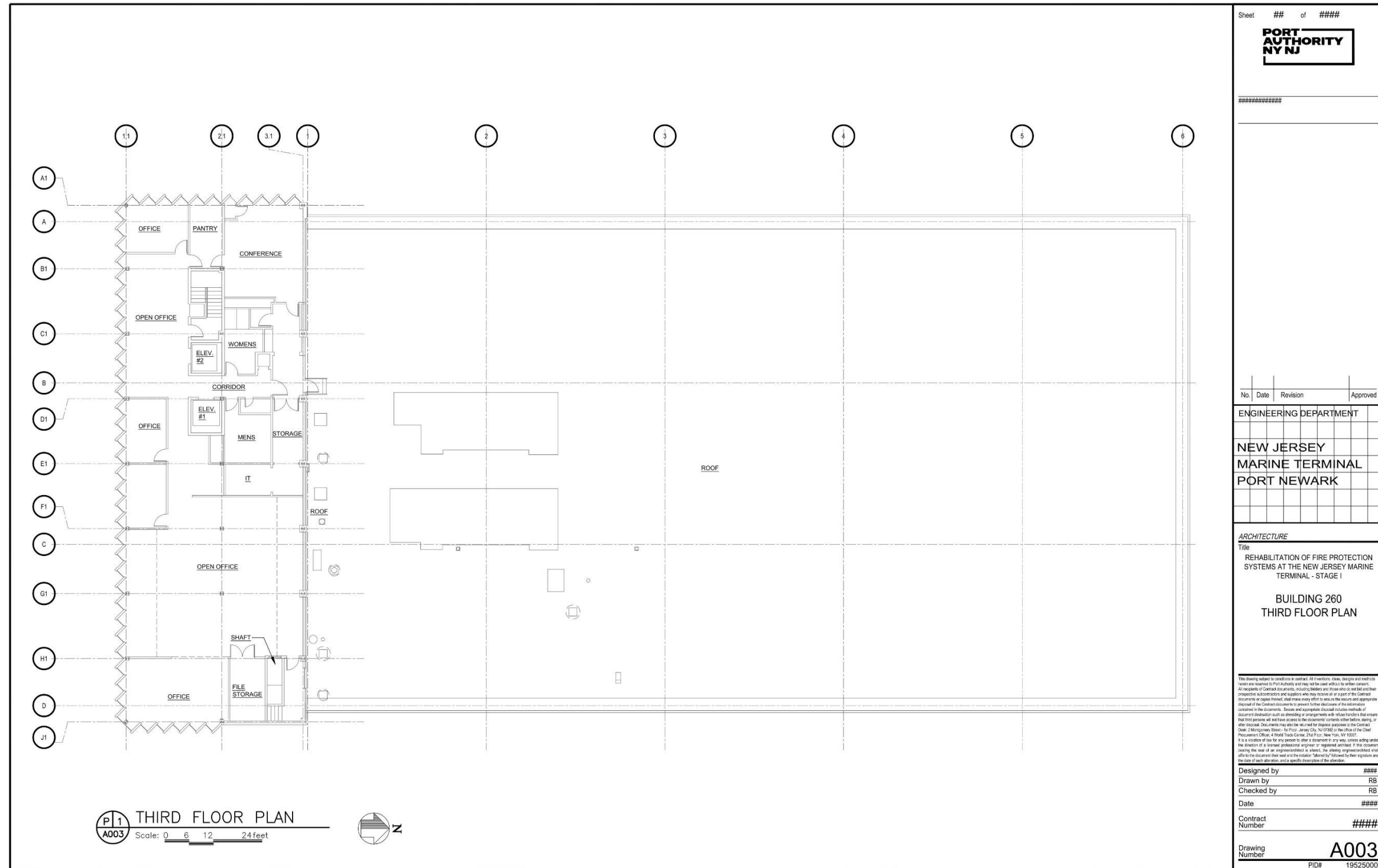
This drawing is subject to conditions of contract. All dimensions, sizes, weights and materials shall be as shown on this drawing and may be used without further comment. All requests for clarification, including bills and those who do not bid and their respective subcontractors and suppliers who may receive it, or a part of the Contract documents or copies thereof, shall make every effort to see to the secure and appropriate receipt of the Contract documents to permit the full execution of the obligations contained in the documents. Secure and appropriate receipt includes methods of document distribution such as sending or arranging with reliable carriers that ensure that the person will not have access to the documents, contents thereof, being, or other records. Documents may not be used for dispute purposes to the Contract. Chief of Management, Port Authority of New York and New Jersey, 100 West Street, New York, NY 10037. It is a condition of use for any person to their agreement to any terms setting under the direction of a licensed professional engineer or registered architect. If the recipient copies the use of an engineering or architectural drawing, the drawing reproduced shall not be used for any other purpose without the express written consent of the creator. The creator shall not be held responsible for any errors and the user of such drawings shall be held responsible for the accuracy of the drawings.

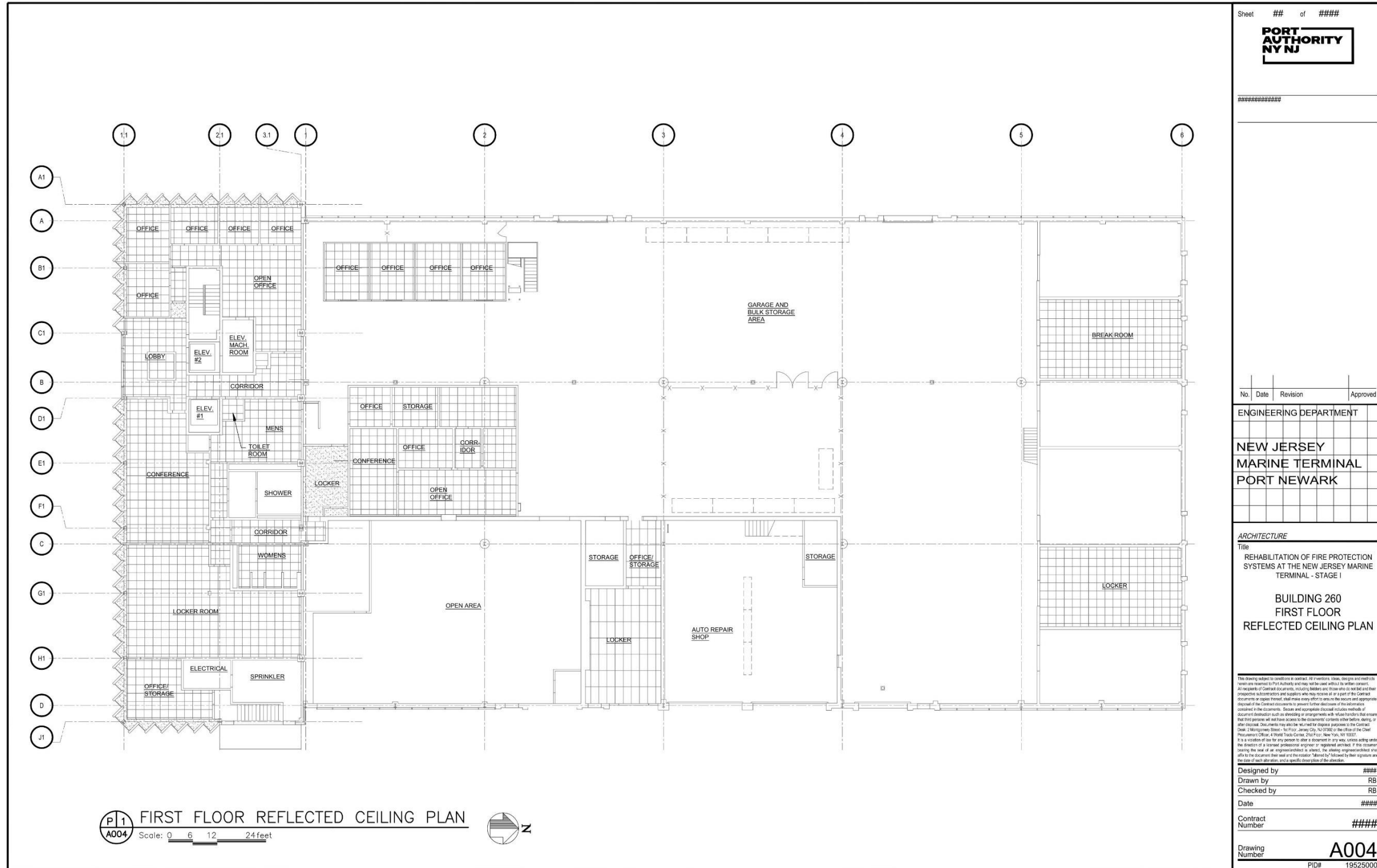
Designed by: ####
 Drawn by: RB
 Checked by: RB
 Date: ###
 Contract Number: ####
 Drawing Number: **A004**
 PID# 19525000

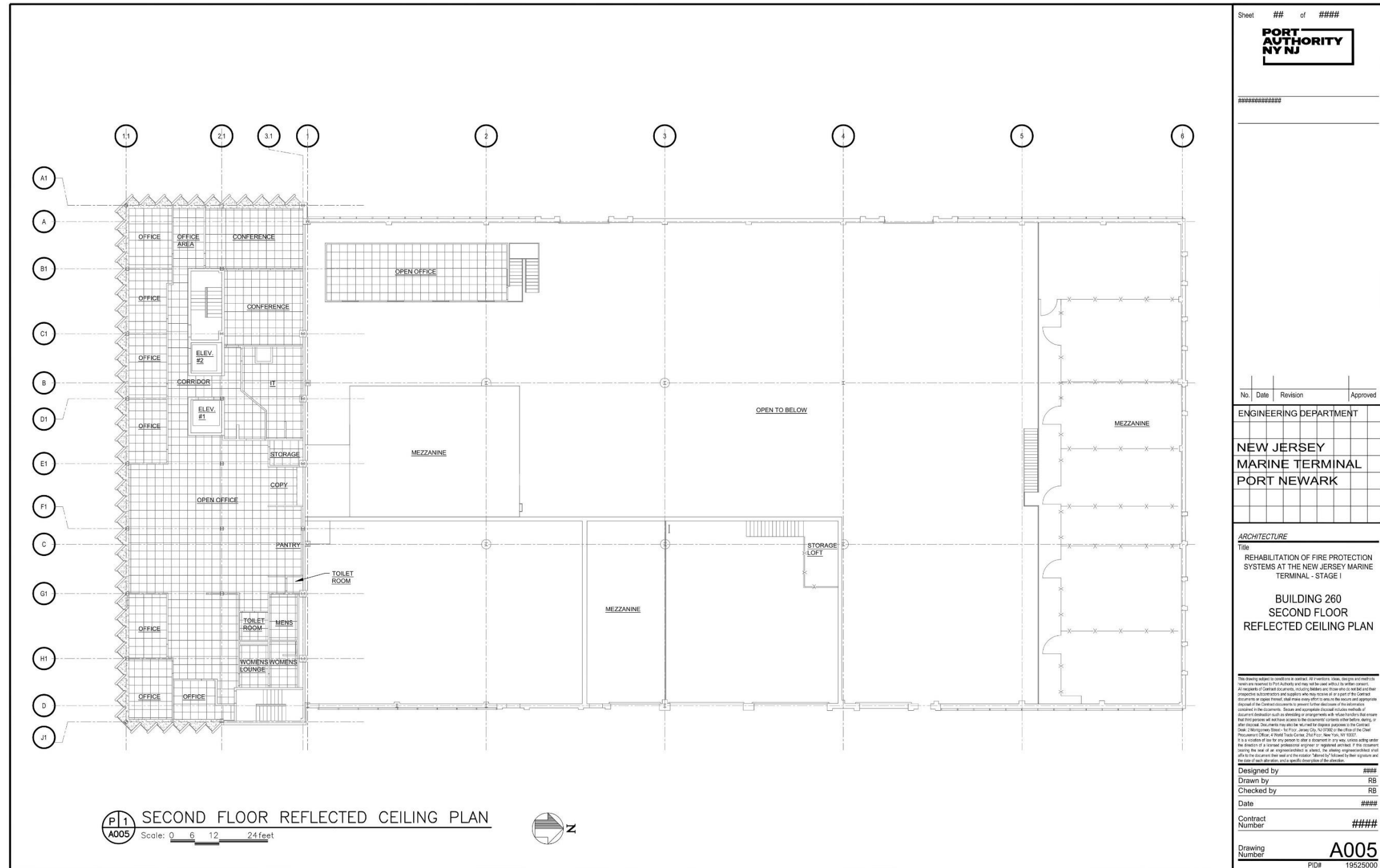


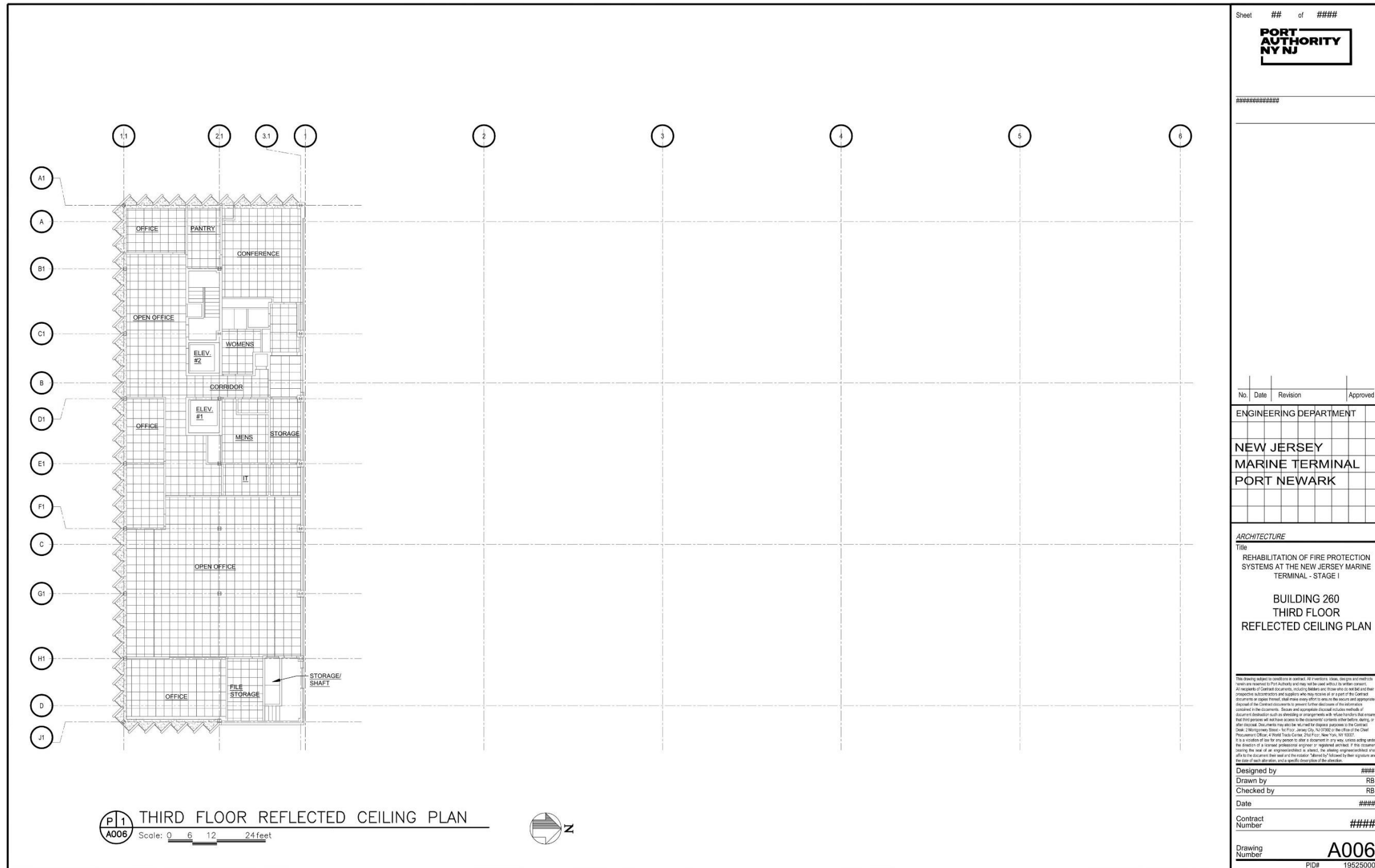












Sheet ## of ####

PORT AUTHORITY NY NJ

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

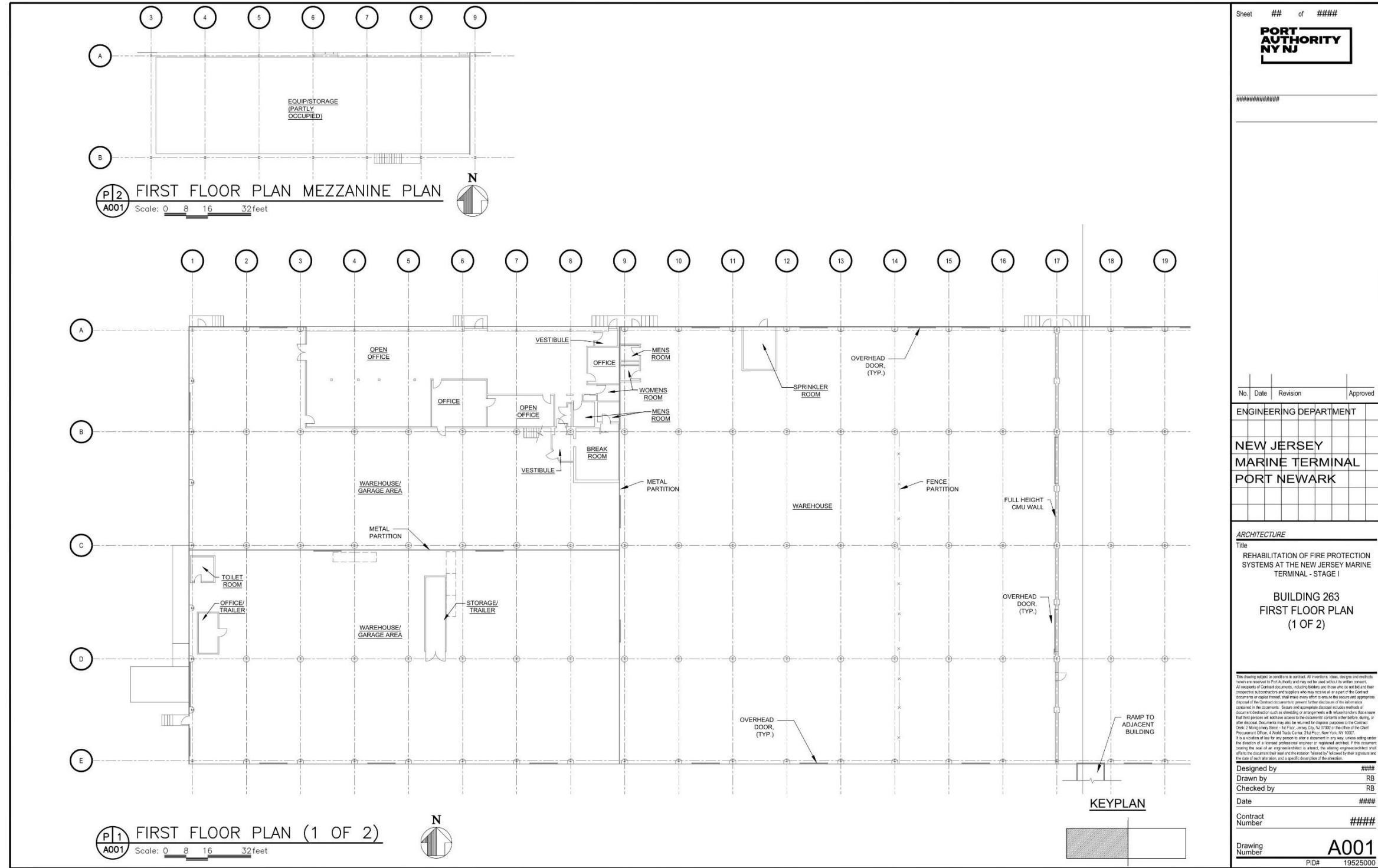
ARCHITECTURE

Title
REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

BUILDING 260
THIRD FLOOR
REFLECTED CEILING PLAN

This drawing is subject to conditions of contract. All dimensions, sizes, weights and materials shown are based on Port Authority and may be used without further comment. All recipients of Contract documents, including bidders and those who do not bid and their respective subcontractors and suppliers who rely on this or any part of the Contract documents or copies thereof, shall make every effort to verify the accuracy and appropriateness of the Contract documents to project for their intended use. If there are any discrepancies or omissions in the documents, the user shall be responsible for resolving them. It is a condition of use for any person to whom a document is provided, whether acting under the direction of a licensed professional engineer or registered architect, that the recipient verify the use of an engineering or architectural drawing, including any amendments and addenda to the document, their use and the creator's liability, followed by their signature and the date of each alteration, in a specific, identifiable manner.

Designed by: ####
 Drawn by: RB
 Checked by: RB
 Date: ####
 Contract Number: ####
 Drawing Number: **A006**
 PID# 19525000



Sheet ## of ####

PORT AUTHORITY NY NJ

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY MARINE TERMINAL PORT NEWARK

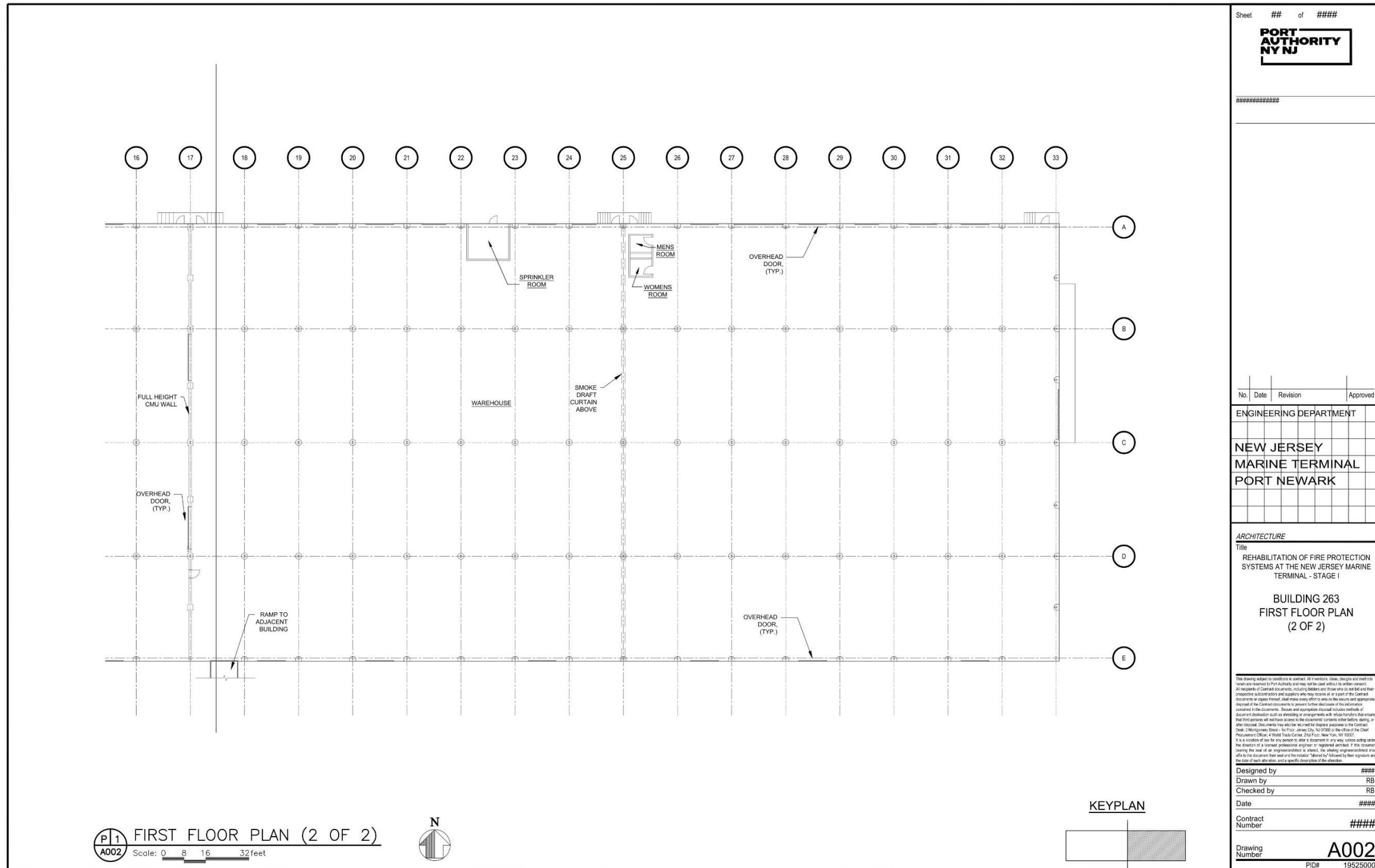
ARCHITECTURE

Title
REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

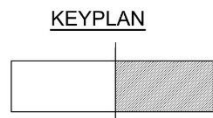
**BUILDING 263
FIRST FLOOR PLAN
(1 OF 2)**

This drawing is subject to specifications in contract. All dimensions shown, design and methods herein are intended for the contractor and may be revised without notice. All requirements of Contract Documents, including Addenda and those who do not and their respective subcontractors and suppliers who may receive as part of the Contract Documents or copies thereof, shall make every effort to verify the accuracy and appropriateness of the Contract Documents to prevent further delay or cost of the project. It is the contractor's responsibility to verify the accuracy of the information contained in the documents. Success and appropriate disposal methods of documents distributed with no shredding or arrangements with other factors that ensure that third parties will not have access to the documents, contract, other before, during, or after disposal. Documents may include but not limited to design problems in the Contract, Schedule Management System, for Port Authority, NY NJ, or the Office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10038. It is a condition of use for any person to alter or document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineering or architectural professional is altered, the engineering or architectural seal affix to the document shall be void and the contractor "deemed" by following their signature and the date of such alteration, which is specific description of the alteration.

Designed by: ####
 Drawn by: RB
 Checked by: RB
 Date: ####
 Contract Number: ####
 Drawing Number: **A001**
 PID# 19525000



P1
A002 FIRST FLOOR PLAN (2 OF 2)
Scale: 0 8 16 32 feet



Sheet ## of ####

PORT AUTHORITY NY NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY MARINE TERMINAL PORT NEWARK

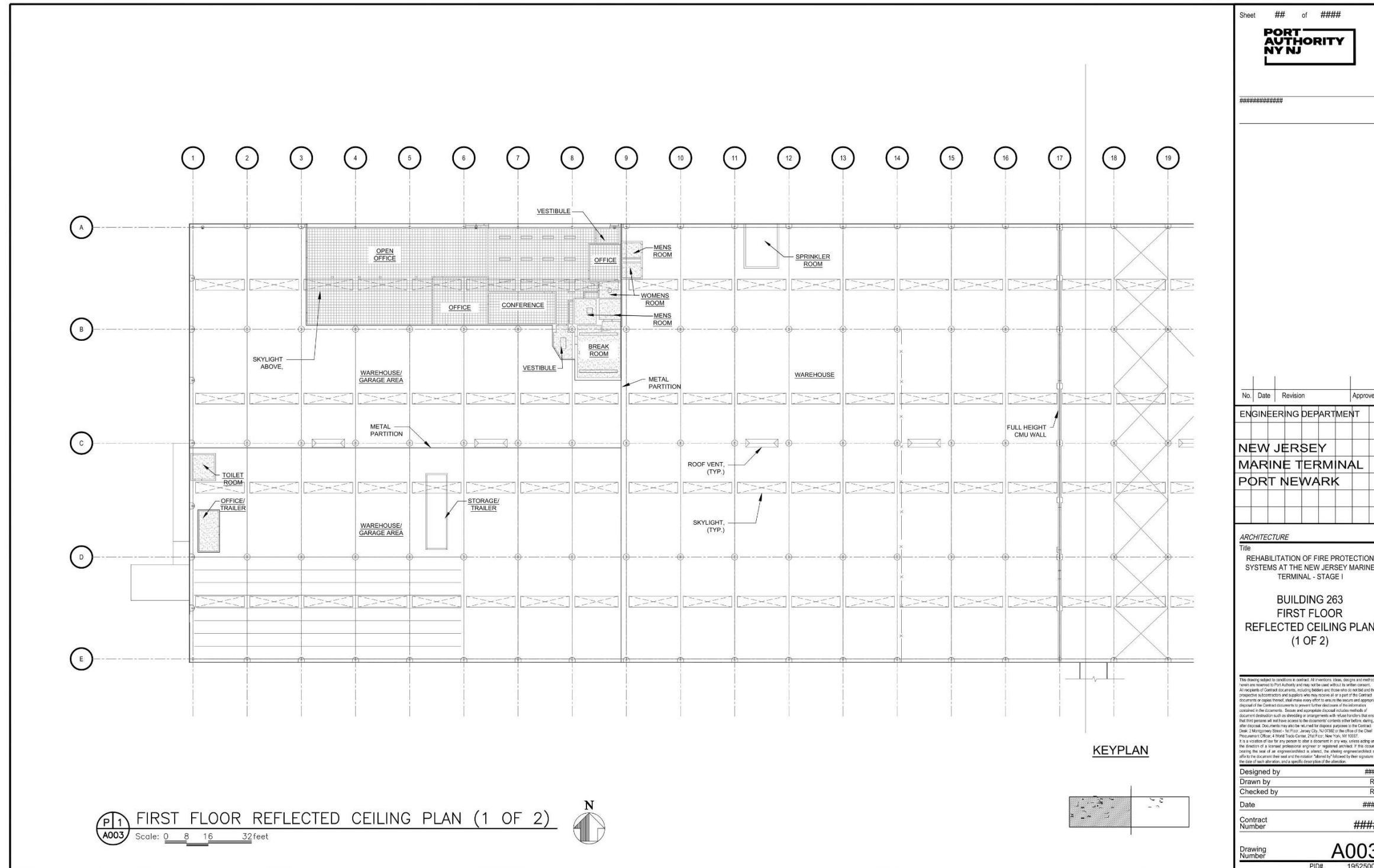
ARCHITECTURE

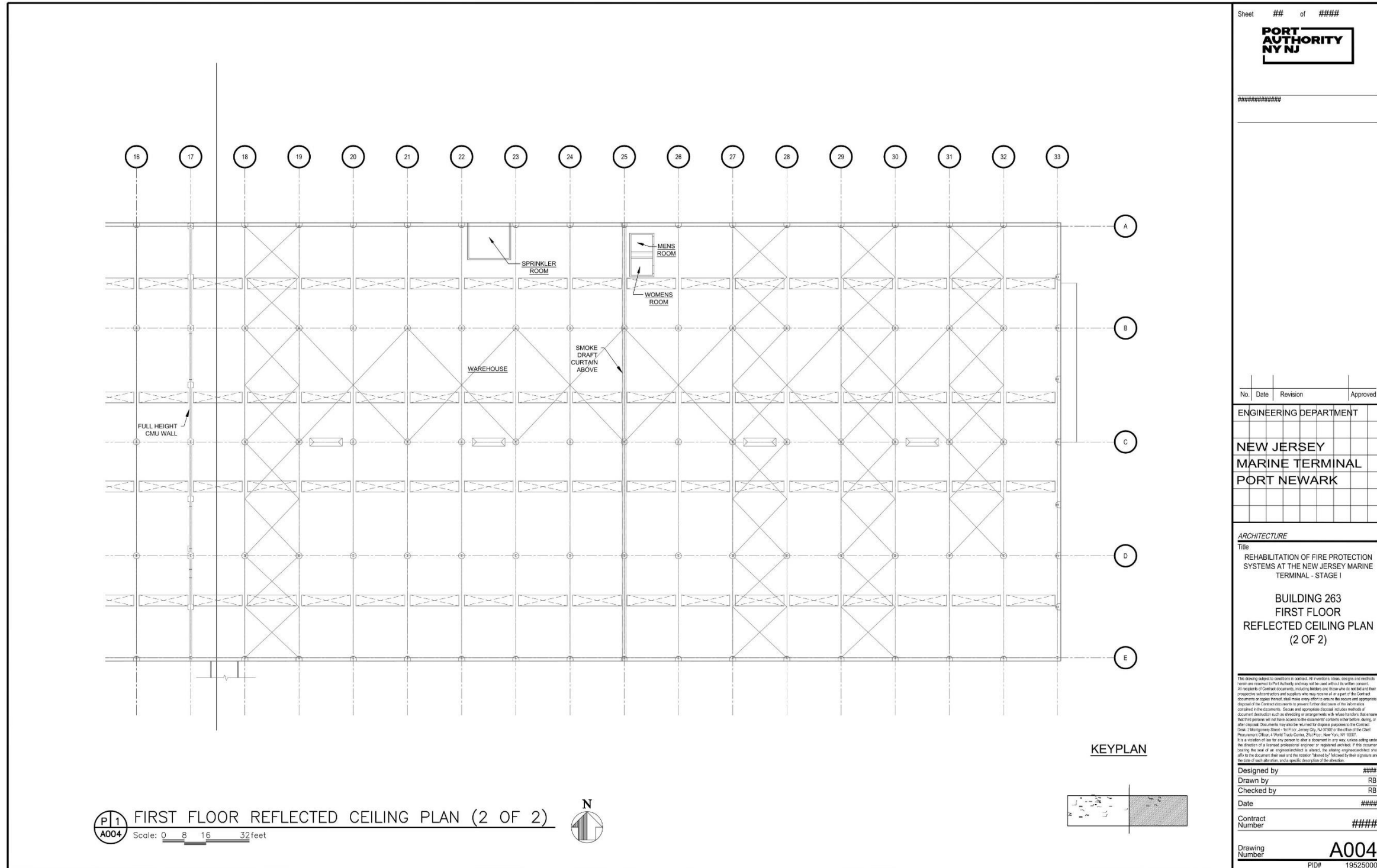
Title
REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

BUILDING 263 FIRST FLOOR PLAN (2 OF 2)

This drawing is subject to conditions in contract. All dimensions, sizes, weights and materials shall be verified by the architect and shall be used without further comment. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who rely on this or any part of the Contract documents or copies thereof, shall make every effort to verify the accuracy and appropriateness of the Contract documents to prevent their reliance on the documents if the documents contain in the documents. Secure and appropriate disclosure includes methods of disclosure decisions such as identifying or arrangements with related parties that ensure that this project will not have adverse to the documents, contracts, other before, during, or after issuance. Documents may not be used for dispute purposes to the Contract. One: 2 Montgomery Street, 10th Floor, Jersey City, NJ 07310 or the Office of the Chief Procurement Officer, 4 World Trade Center, 29th Floor, New York, NY 10037. It is a condition of use for any person to their agreement to any terms setting under the direction of a licensed professional engineer or registered architect. If this document is used by the user of an engineering or architectural, the liability responsibility shall not shift to the document user and the creator "Advised" by their signature and the date of each alteration, such as specific descriptions of the alteration.

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 Checked by: RB
 Date: ###
 Contract Number: ####
 Drawing Number: **A002**
 PID# 19525000





P1
A004 FIRST FLOOR REFLECTED CEILING PLAN (2 OF 2)
Scale: 0 8 16 32 feet

Sheet ## of ###

PORT AUTHORITY NY NJ

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY MARINE TERMINAL PORT NEWARK

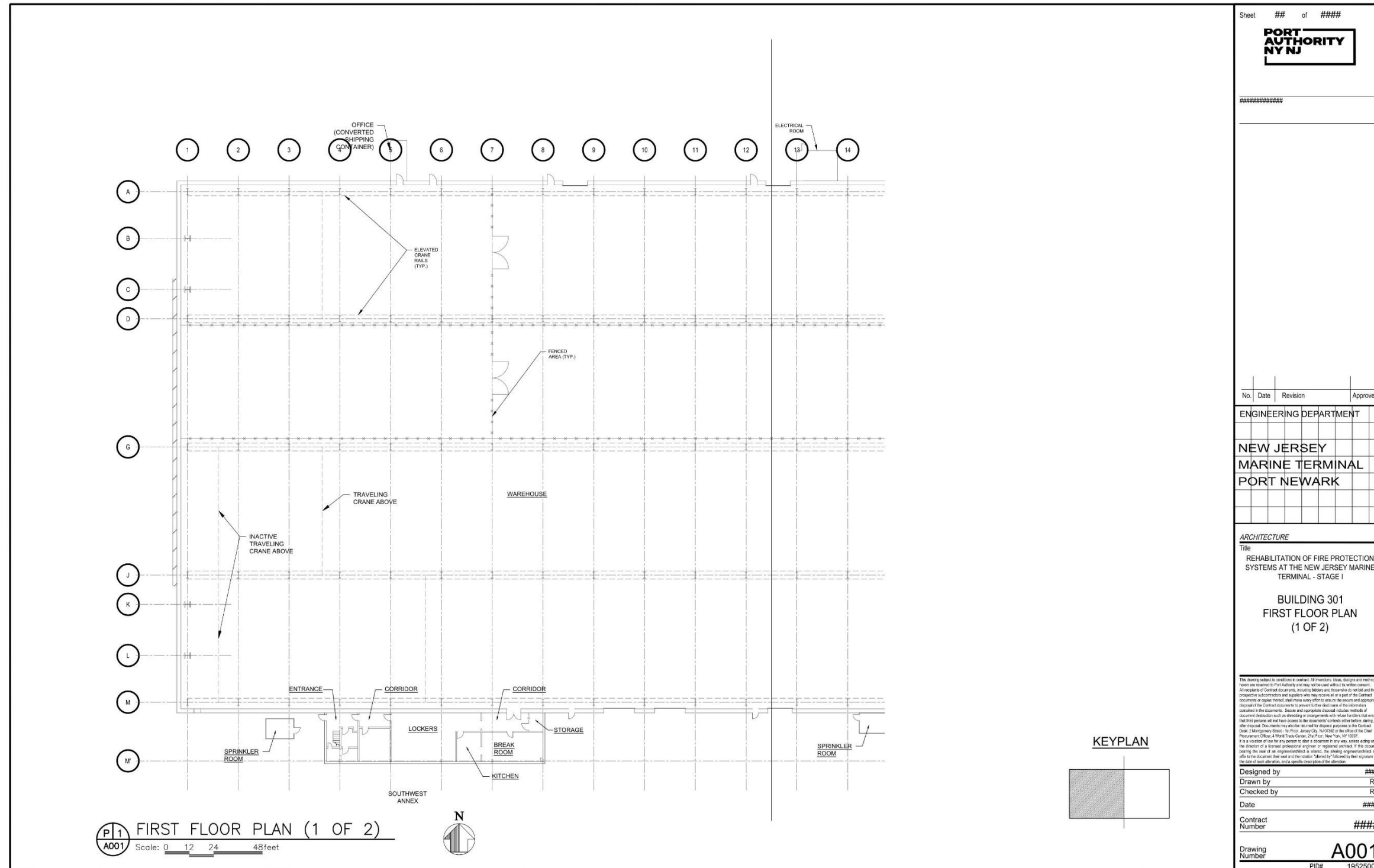
ARCHITECTURE

Title
REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

**BUILDING 263
FIRST FLOOR
REFLECTED CEILING PLAN
(2 OF 2)**

This drawing is subject to conditions of contract. All dimensions, sizes, weights and materials shall be as shown on this drawing and may be used without further consent. All recipients of Contract documents, including bidders and those who do not bid and their respective subcontractors and suppliers who rely on this drawing as part of the Contract documents or copies thereof, shall make every effort to verify the accuracy and appropriateness of the Contract documents to prevent the occurrence of the above-stated conditions in the documents. Secure and appropriate disclosure includes methods of document distribution such as printing or e-mailing with redaction factors that ensure that this project will not be open to their inspection or any other person's access under the provisions of a contract professional engineer or registered architect. If this document is used for any other purpose than that intended by the architect, the user shall be responsible for the accuracy of the information and the user shall be held liable for any and all consequences of such use. The user shall be held liable for any and all consequences of such use.

Designed by: ####
 Drawn by: RB
 Checked by: RB
 Date: ###
 Contract Number: ####
 Drawing Number: **A004**
 PID# 19525000



Sheet ## of ####

PORT AUTHORITY NY NJ

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

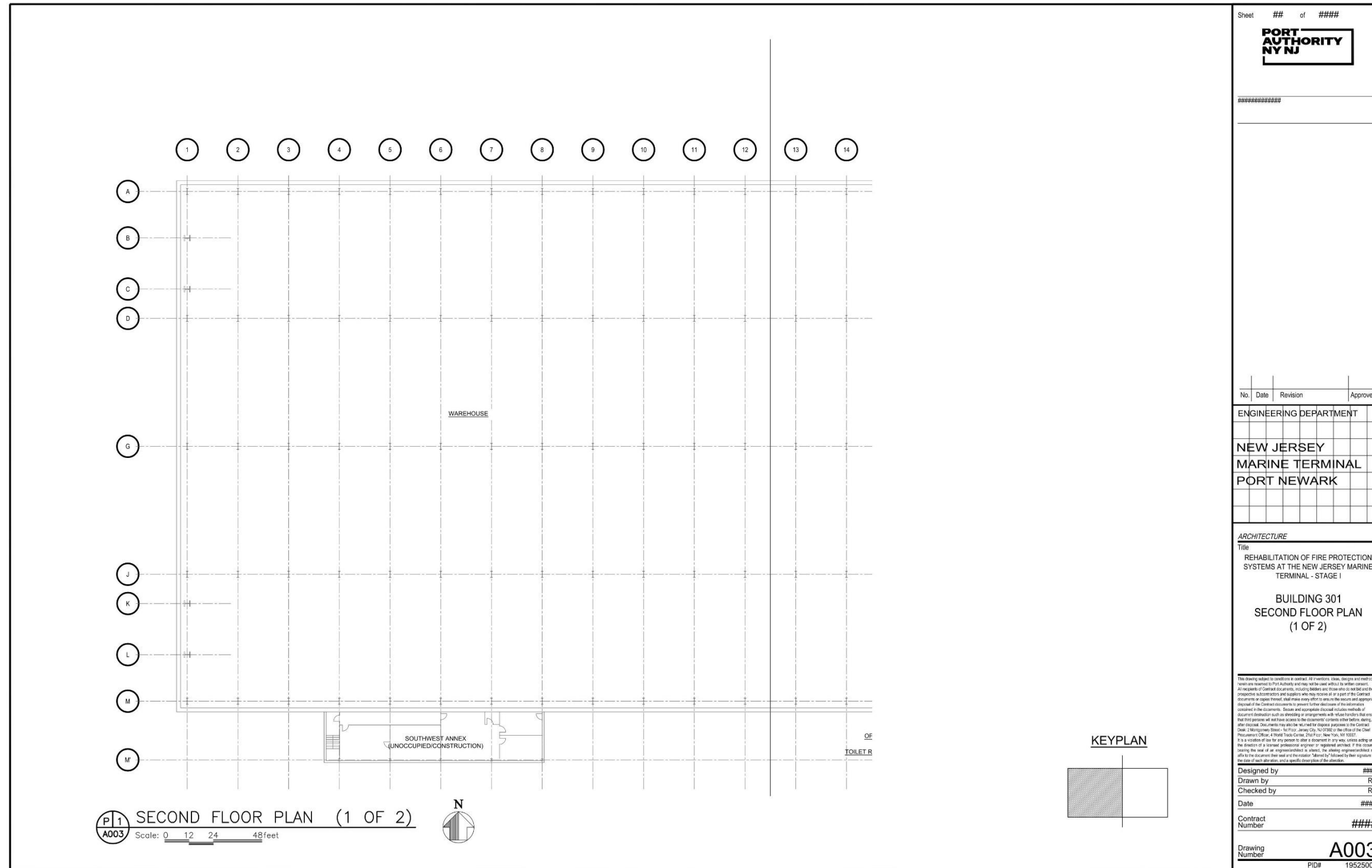
ARCHITECTURE

Title
REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

BUILDING 301
FIRST FLOOR PLAN
(1 OF 2)

This drawing is subject to specifications in contract. All dimensions, sizes, quantities and materials shown are intended for the contractor and may be revised without notice. All requirements of Contract Documents, including Addenda and those who do not meet and their respective subcontractors and suppliers who may receive as part of the Contract Documents or copies thereof, shall make every effort to verify the accuracy and appropriateness of the Contract Documents to prevent further delay or cost. The contractor shall be responsible for the accuracy of the information contained in the documents. Success and appropriate disposal includes methods of document distribution such as printing or arrangements with other factors that ensure that third parties will not be exposed to the contract contents other than during, during, or after the contract. Documents may also be required for design purposes to the Contract. See 2. Management System for Port Authority, NY NJ, or the Office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10037. It is a condition of use for any person to alter or document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document carries the seal of an engineering or architectural professional, the drawing engineer-architect shall file to the documents their seal and the contractor "Advised by" followed by their signature and the date of such alteration, which is a specific description of the alteration.

Designed by: ####
 Drawn by: RB
 Checked by: RB
 Date: ####
 Contract Number: ####
 Drawing Number: **A001**
 PID# 19525000



Sheet ## of ####

PORT AUTHORITY NY NJ

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

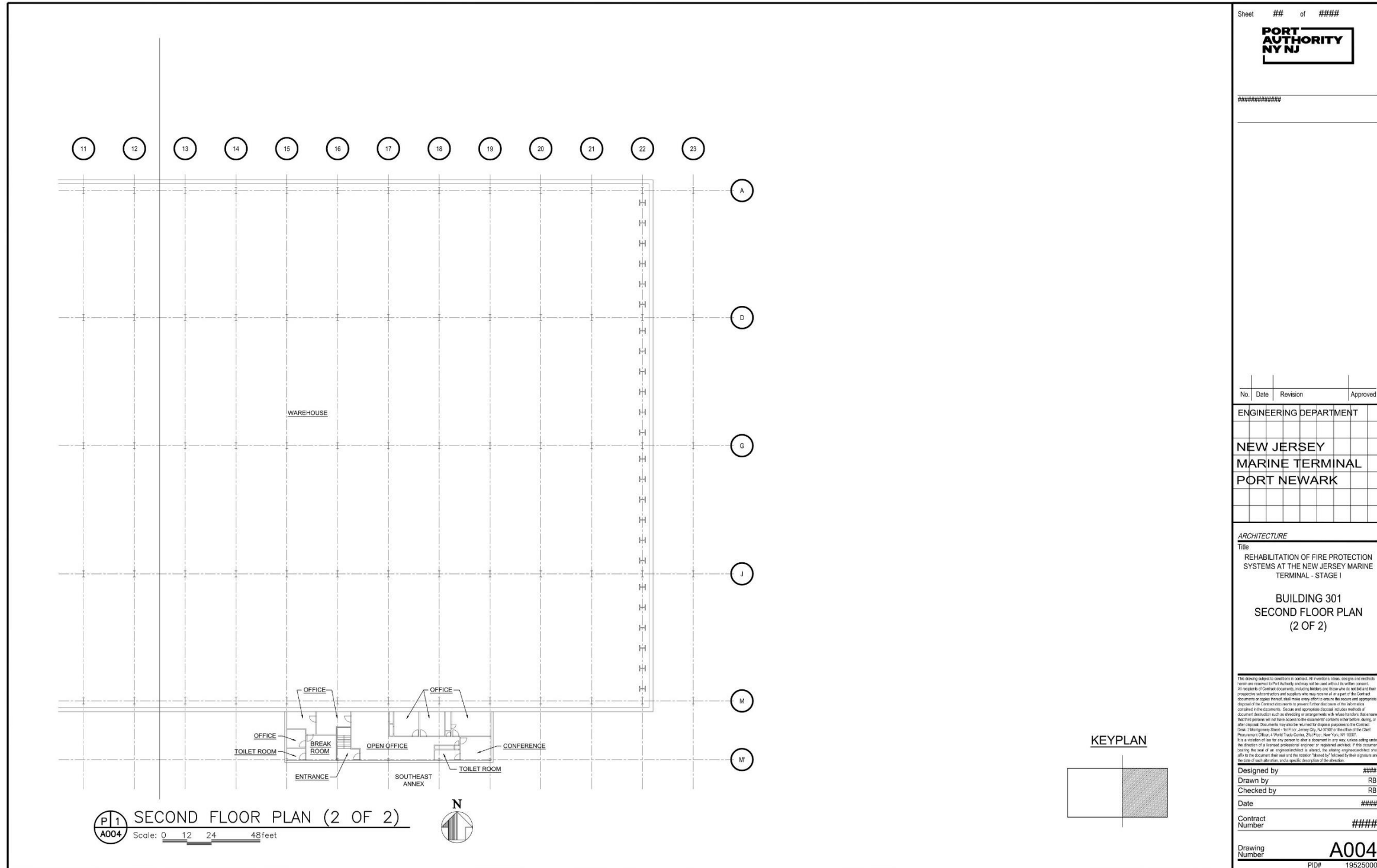
ARCHITECTURE

Title
REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

BUILDING 301
SECOND FLOOR PLAN
(1 OF 2)

This drawing is subject to specifications in contract. All dimensions, sizes, details and methods shown are intended for the contractor and may be revised without notice. All recipients of Contract Documents, including bidders and those who do not bid and their respective subcontractors and suppliers who may receive an e-copy of the Contract Documents or copies thereof, shall make every effort to verify the accuracy and appropriateness of the Contract Documents to prevent further distribution of the documents considered in the documents. Success and appropriate disposal methods of documents distributed such as shredding or arrangements with other factors that ensure that third parties will not have access to the documents, contracts, other before, during, or after issuance. Documents may also be retained for dispute purposes to the Contract. 200-2 Management, Street - 1st Floor, Jersey City, NJ 07310 or the Office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10037. It is a condition of use for any person to alter or document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document carries the seal of an engineering or architectural professional, the drawing, engineering or architectural work shall be the responsibility of the seal and the contractor. All work shall be followed by their signature and the date of each alteration, which is specific description of the alteration.

Designed by: ####
 Drawn by: RB
 Checked by: RB
 Date: ####
 Contract Number: ####
 Drawing Number: **A003**
 PID# 19525000



P1
A004 SECOND FLOOR PLAN (2 OF 2)
Scale: 0 12 24 48 feet

Sheet ## of ###

PORT AUTHORITY NY NJ

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY MARINE TERMINAL PORT NEWARK

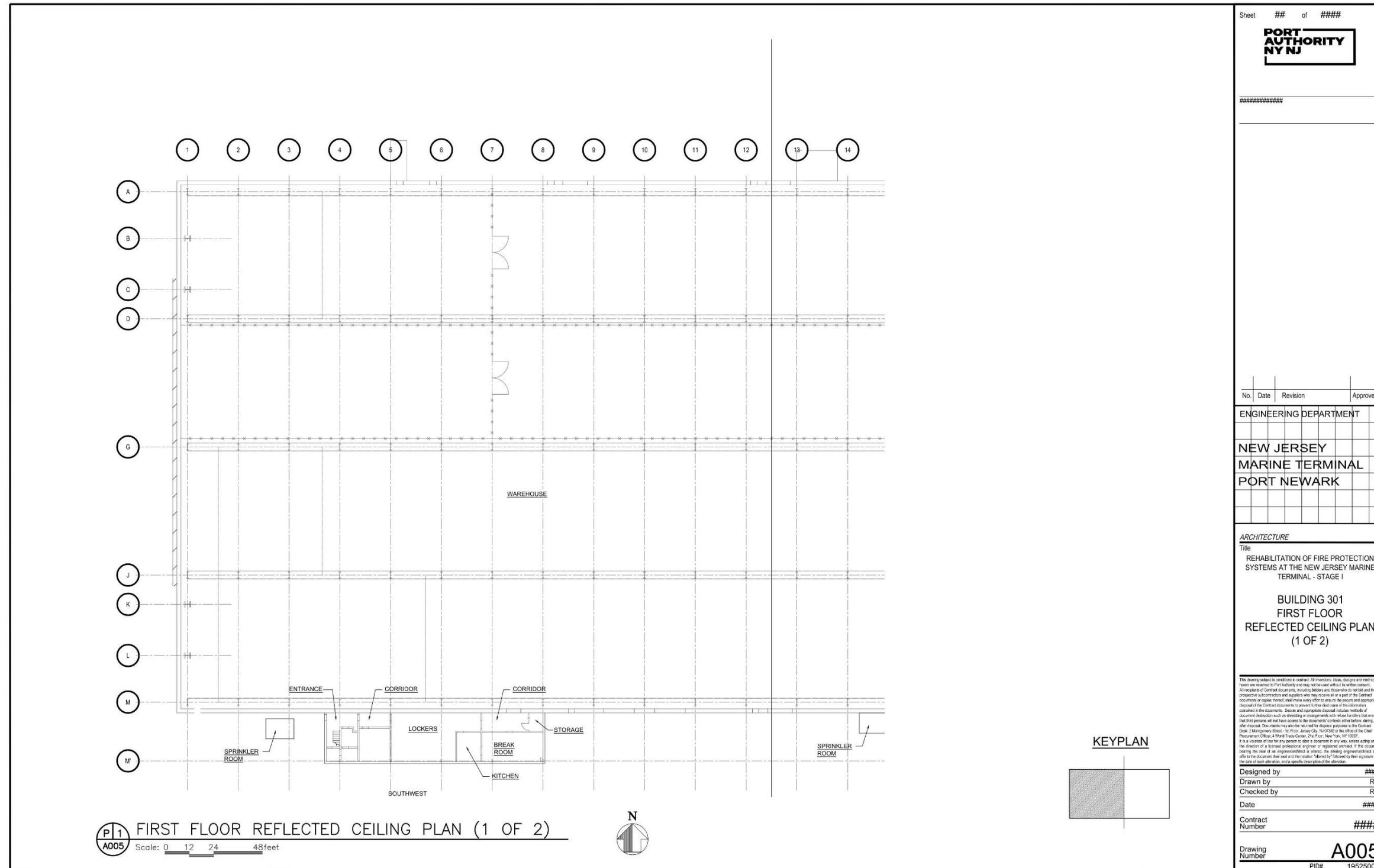
ARCHITECTURE

Title
REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

BUILDING 301 SECOND FLOOR PLAN (2 OF 2)

This drawing is subject to conditions in contract. All dimensions, sizes, weights and materials shown are based on the contract and may be used without further consent. All recipients of Contract documents, including bidders and those who do not bid and their respective successors and assigns who rely on this drawing as part of the Contract documents or copies thereof, shall make every effort to verify the accuracy and appropriateness of the Contract documents to project for their intended use. If the documents contain any discrepancies, the documents shall prevail. It is the responsibility of the recipient to verify the accuracy and appropriateness of the documents. Documents may not be used for any other purpose without the express written consent of the Port Authority of New York and New Jersey. The Port Authority of New York and New Jersey is not responsible for any errors or omissions in this drawing. It is a condition of use for any person to use a document or any other information without the express written consent of the Port Authority of New York and New Jersey. The Port Authority of New York and New Jersey is not responsible for any errors or omissions in this drawing. It is a condition of use for any person to use a document or any other information without the express written consent of the Port Authority of New York and New Jersey.

Designed by: #####
 Drawn by: RB
 Checked by: RB
 Date: ###
 Contract Number: #####
 Drawing Number: **A004**
 PID# 19525000



Sheet ## of ####

PORT AUTHORITY NY NJ

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ARCHITECTURE

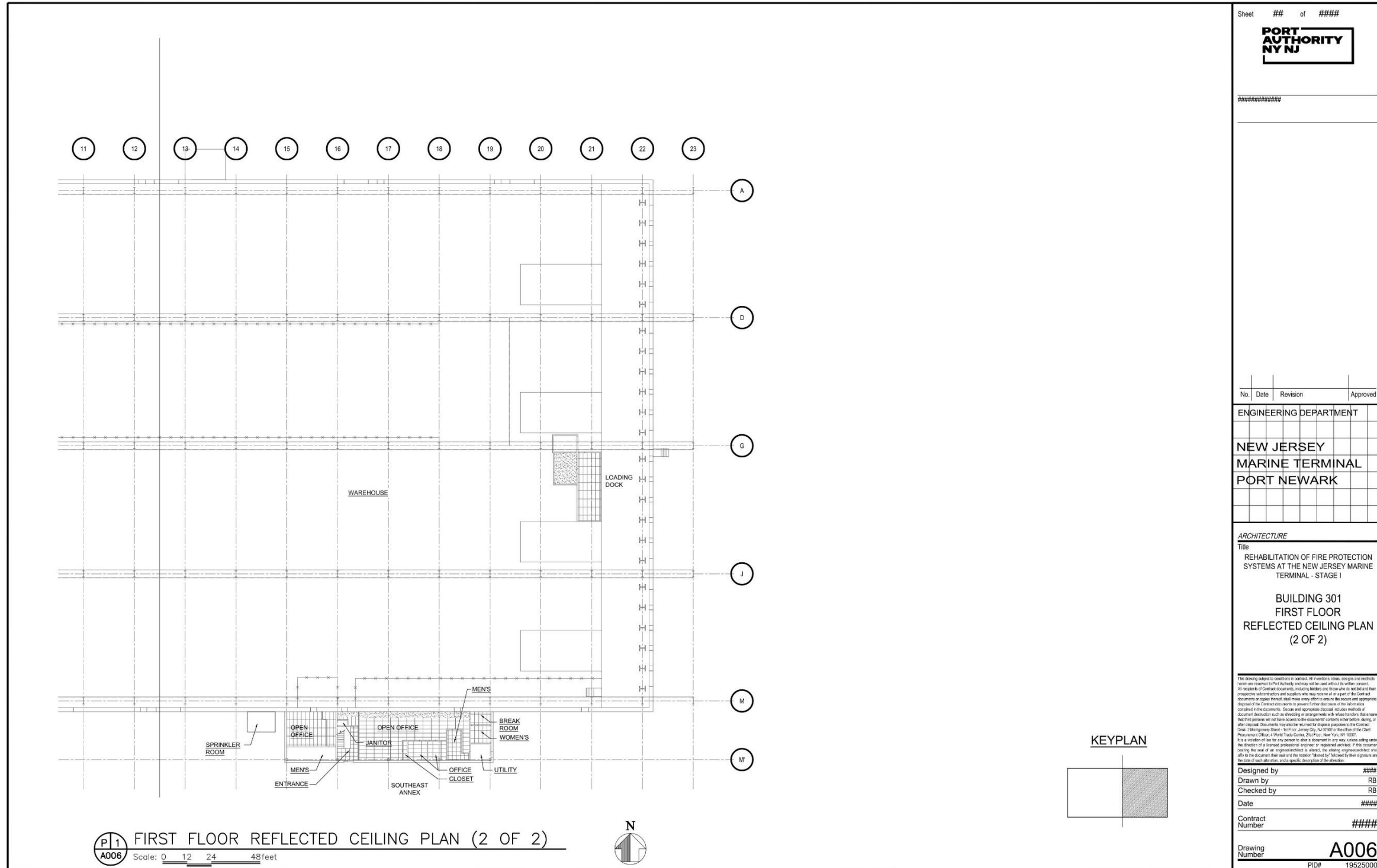
Title
REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

BUILDING 301
FIRST FLOOR
REFLECTED CEILING PLAN
(1 OF 2)

This drawing is subject to specifications in contract. All dimensions, sizes, details and materials shown are intended for the contractor and may be revised without notice. All requirements of Contract Documents, including Addenda and those who do not and their respective subcontractors and suppliers who may receive as part of the Contract Documents or copies thereof, shall make every effort to see to the secure and appropriate disposal of the Contract Documents to prevent further distribution of the information contained in the documents. Success and appropriate disposal includes methods of document destruction such as shredding or arrangements with reliable factors that ensure that third parties will not have access to the information contained therein before, during, or after disposal. Documents may also be retained for dispute purposes to the Contract. One, 2 Montgomery Street, 10th Floor, Jersey City, NJ 07310 or the Office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10037.

It is a condition of use for any person to alter or document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document is used for any purpose other than that intended, the design engineer/architect shall not be responsible for the use and the contractor shall be held responsible for their signature and the date of each alteration, which is a specific description of the alteration.

Designed by: ####
 Drawn by: RB
 Checked by: RB
 Date: ####
 Contract Number: ####
 Drawing Number: **A005**
 PID# 19525000



P1
A006 FIRST FLOOR REFLECTED CEILING PLAN (2 OF 2)
Scale: 0 12 24 48 feet

Sheet ## of ###

PORT AUTHORITY NY NJ

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

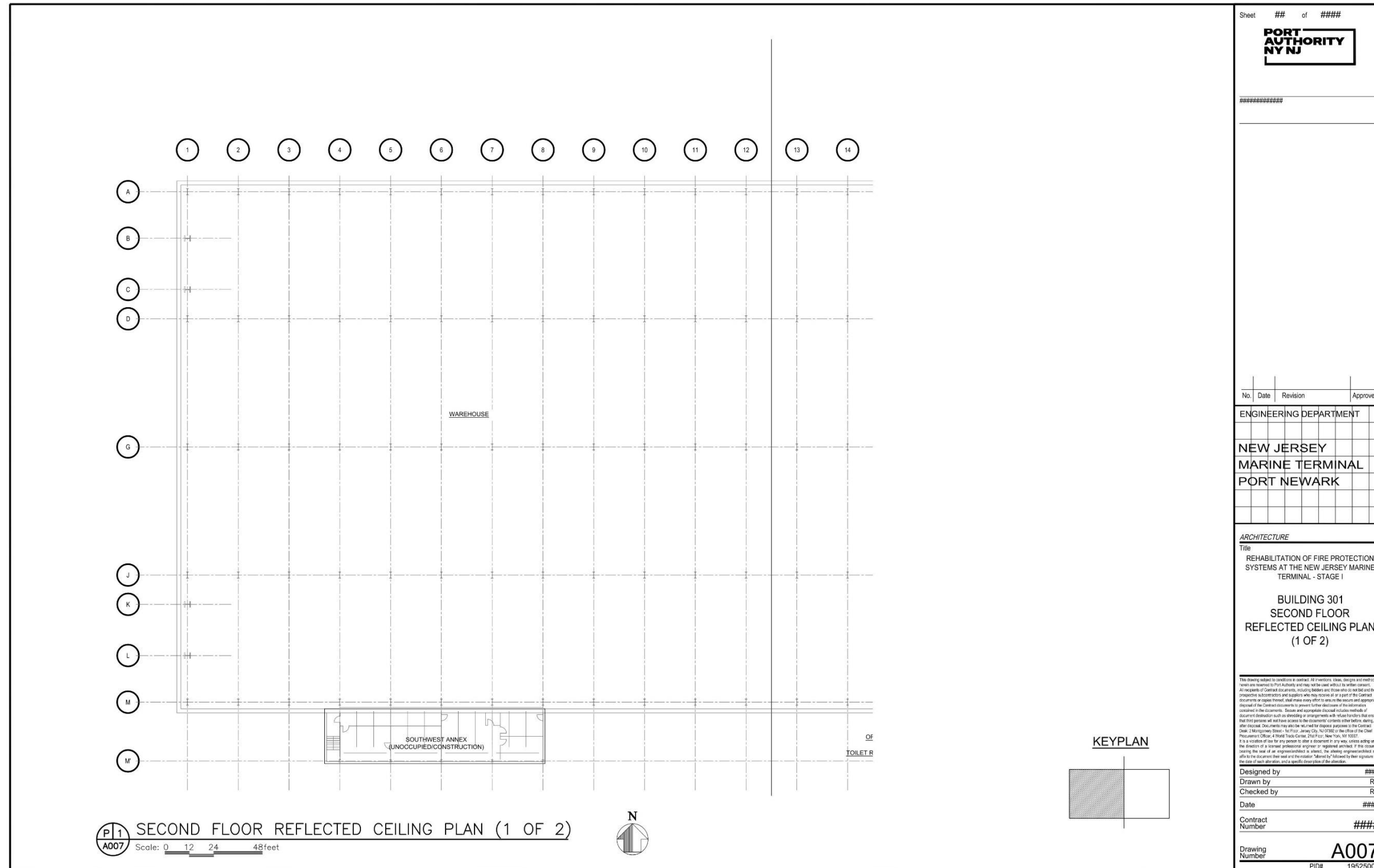
ARCHITECTURE

Title
REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

BUILDING 301
FIRST FLOOR
REFLECTED CEILING PLAN
(2 OF 2)

This drawing is subject to conditions of contract. All dimensions, sizes, weights and materials shall be as shown on this drawing and may be used without further consent. All recipients of Contract documents, including bidders and those who do not bid and their respective successors and assigns who rely on this drawing as part of the Contract documents or copies thereof, shall make every effort to verify the accuracy and appropriateness of the Contract documents to prevent their reliance on the drawings. It is the responsibility of the recipient of the Contract documents to verify the accuracy of the drawings. The drawings are provided for informational purposes only and do not constitute a contract. The drawings are provided for informational purposes only and do not constitute a contract. The drawings are provided for informational purposes only and do not constitute a contract. The drawings are provided for informational purposes only and do not constitute a contract.

Designed by: #####
Drawn by: RB
Checked by: RB
Date: ###
Contract Number: #####
Drawing Number: **A006**
PID# 19525000



Sheet ## of ####

PORT AUTHORITY NY NJ

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

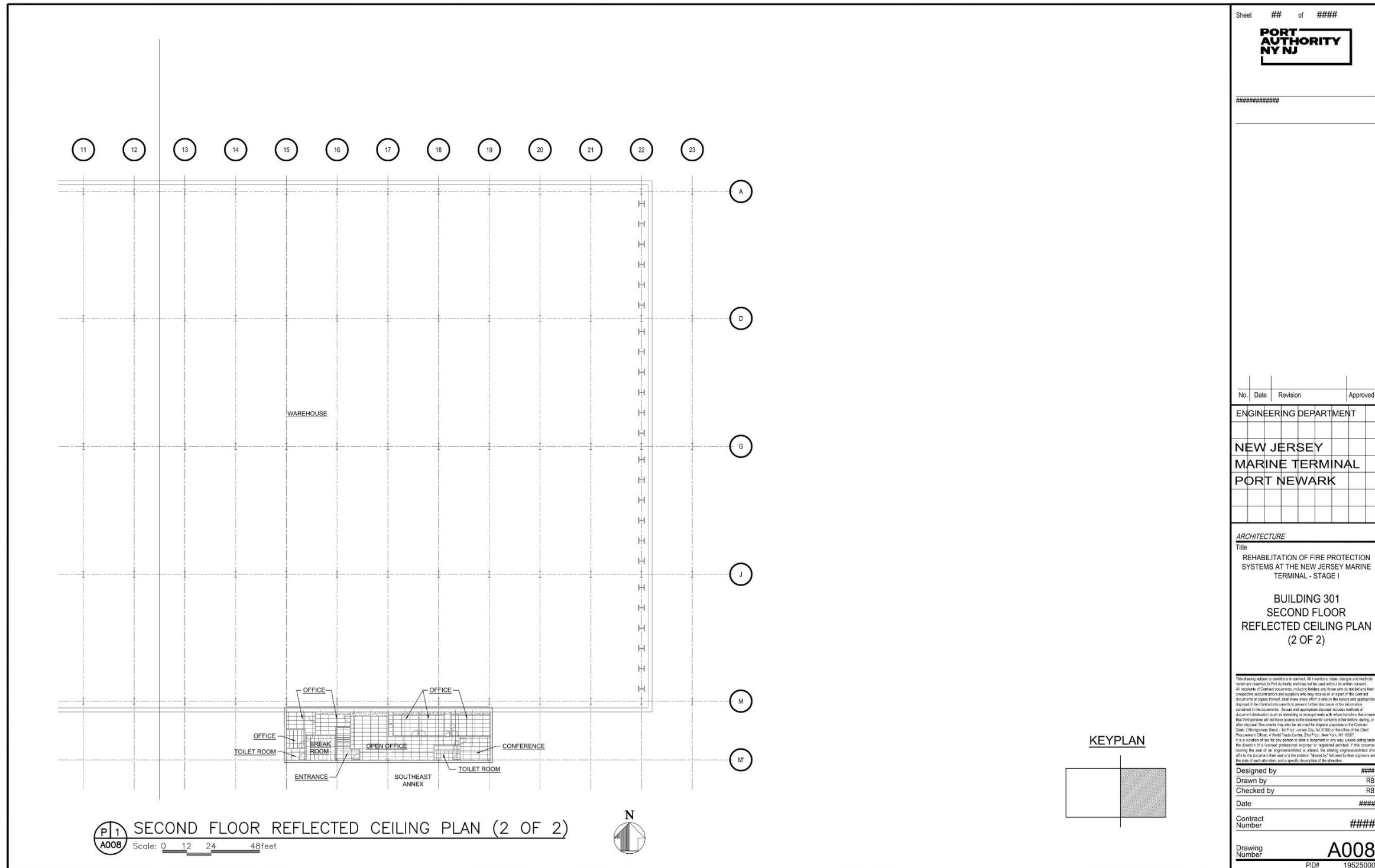
ARCHITECTURE

Title
REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

BUILDING 301
SECOND FLOOR
REFLECTED CEILING PLAN
(1 OF 2)

This drawing is subject to specifications in contract. All dimensions, elevations, and materials shall be as shown on this drawing and may be revised without notice. All requirements of Contract Documents, including Addenda and those who do not bid and their respective subcontractors and suppliers who may provide as a part of the Contract Documents or copies thereof, shall make every effort to see to the secure and appropriate disposal of the Contract Documents to prevent further distribution of the information contained in the documents. Success and appropriate disposal includes methods of document destruction such as shredding or arrangements with other factors that ensure that third parties will not have access to the documents, contents, data, drawings, or other documents. Documents may also be retained for dispute purposes to the Contract. 200-2 Management, Street - 1st Floor, Jersey City, NJ 07310 or the Office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10037. It is a condition of use for any person to alter or document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document carries the seal of an engineering or architectural professional, the drawing, engineering, and cost data in the documents shall not be used or the contractor "deemed" by "followed" by their signature and the date of such alteration, which is specific to the drawing.

Designed by: ####
 Drawn by: RB
 Checked by: RB
 Date: ####
 Contract Number: ####
 Drawing Number: **A007**
 PID# 19525000



P1
A008 SECOND FLOOR REFLECTED CEILING PLAN (2 OF 2)
Scale: 0 12 24 48 feet

Sheet ## of ###

PORT AUTHORITY NY NJ

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

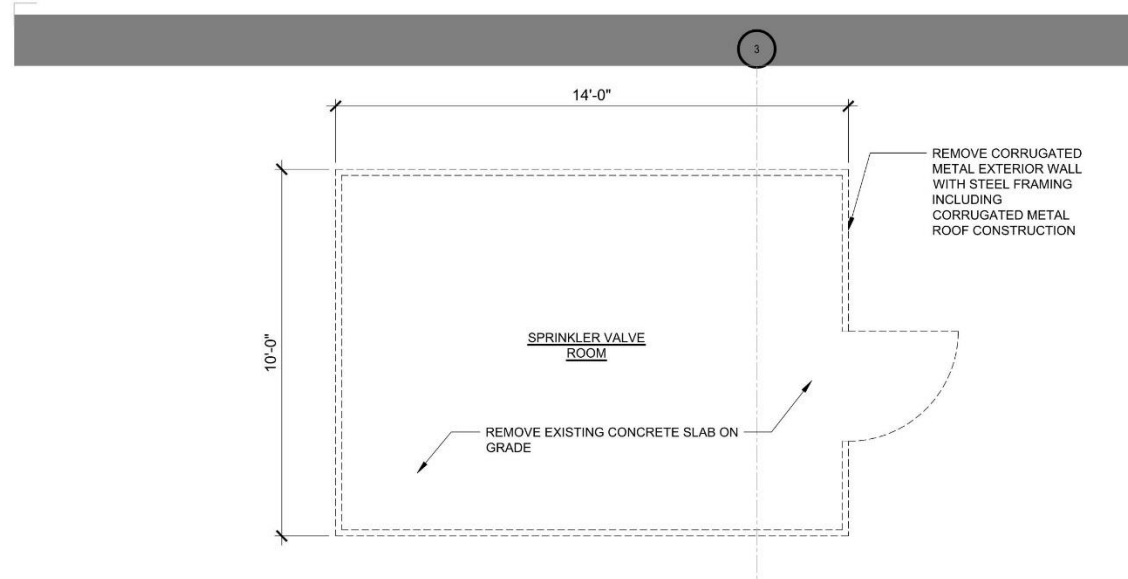
ARCHITECTURE

Title
REHABILITATION OF FIRE PROTECTION SYSTEMS AT THE NEW JERSEY MARINE TERMINAL - STAGE I

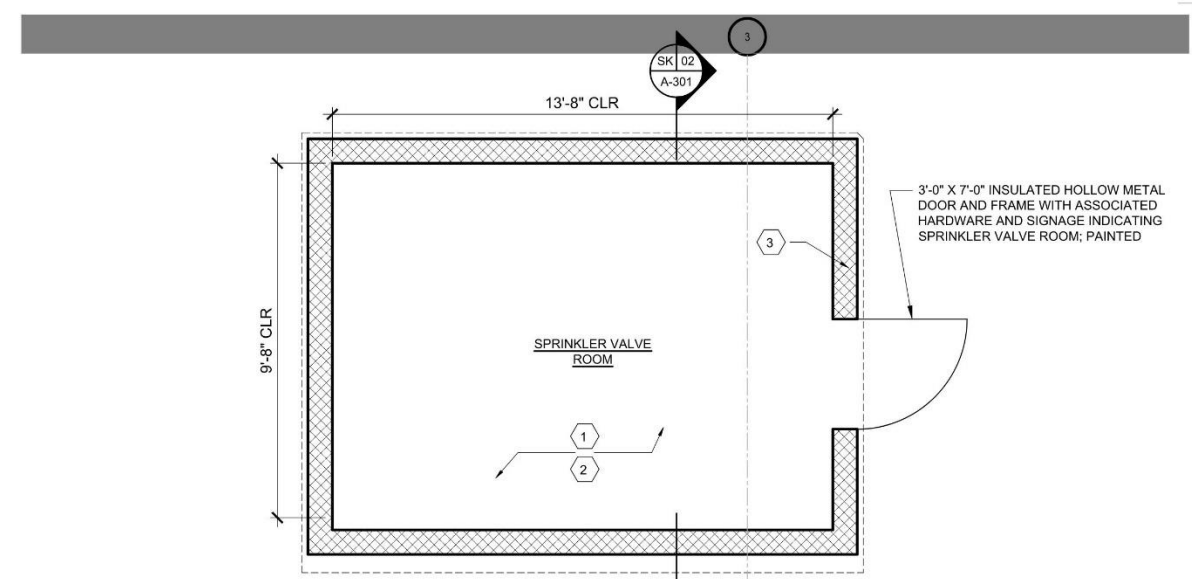
BUILDING 301
SECOND FLOOR
REFLECTED CEILING PLAN
(2 OF 2)

This drawing is subject to conditions in contract. All dimensions, sizes, weights and materials shown are based on Port Authority and may be used without further consent. All recipients of Contract documents, including bidders and those who do not bid and their respective successors and assigns who rely on this drawing as part of the Contract documents or copies thereof, shall make every effort to verify the accuracy and appropriateness of the Contract documents to project for their intended use. If there are any discrepancies or omissions in the documents, the user shall be responsible for resolving them. It is a condition of use for any person to their agreement to any use, express or implied, of this drawing that they shall be held liable for any and all consequences of their use. The user shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The user shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The user shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities.

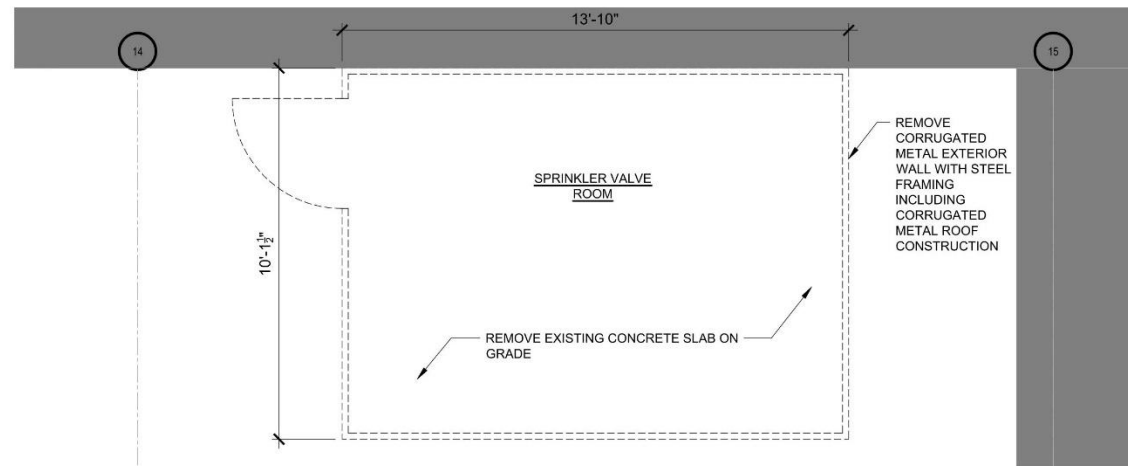
Designed by: #####
Drawn by: RB
Checked by: RB
Date: ###
Contract Number: #####
Drawing Number: **A008**
PID# 19525000



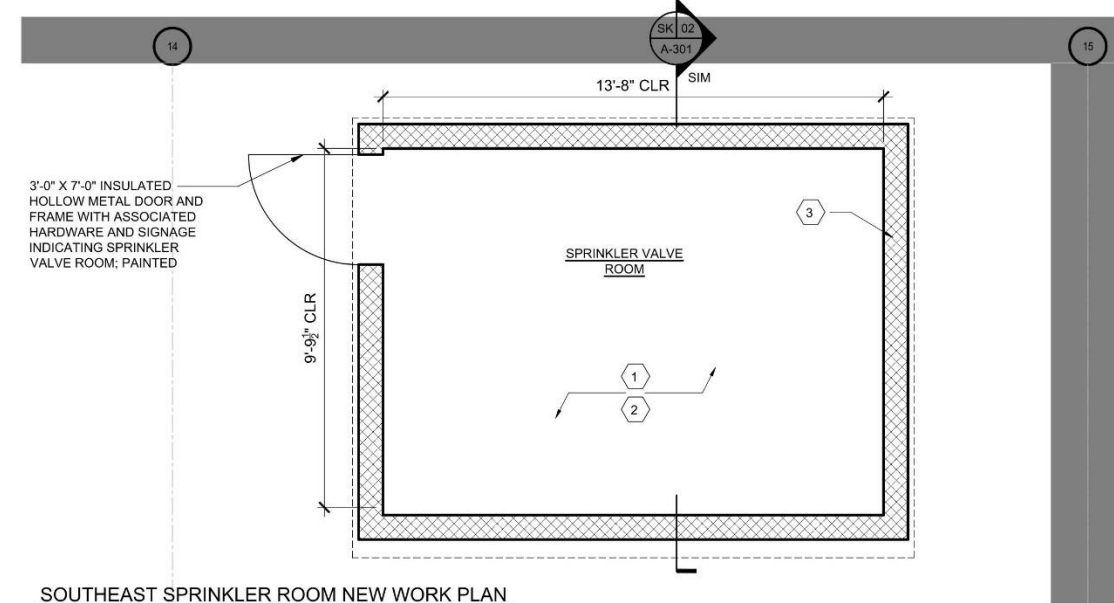
SOUTHWEST SPRINKLER ROOM REMOVALS PLAN



SOUTHWEST SPRINKLER ROOM NEW WORK PLAN



SOUTHEAST SPRINKLER ROOM REMOVALS PLAN



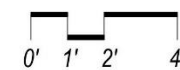
SOUTHEAST SPRINKLER ROOM NEW WORK PLAN

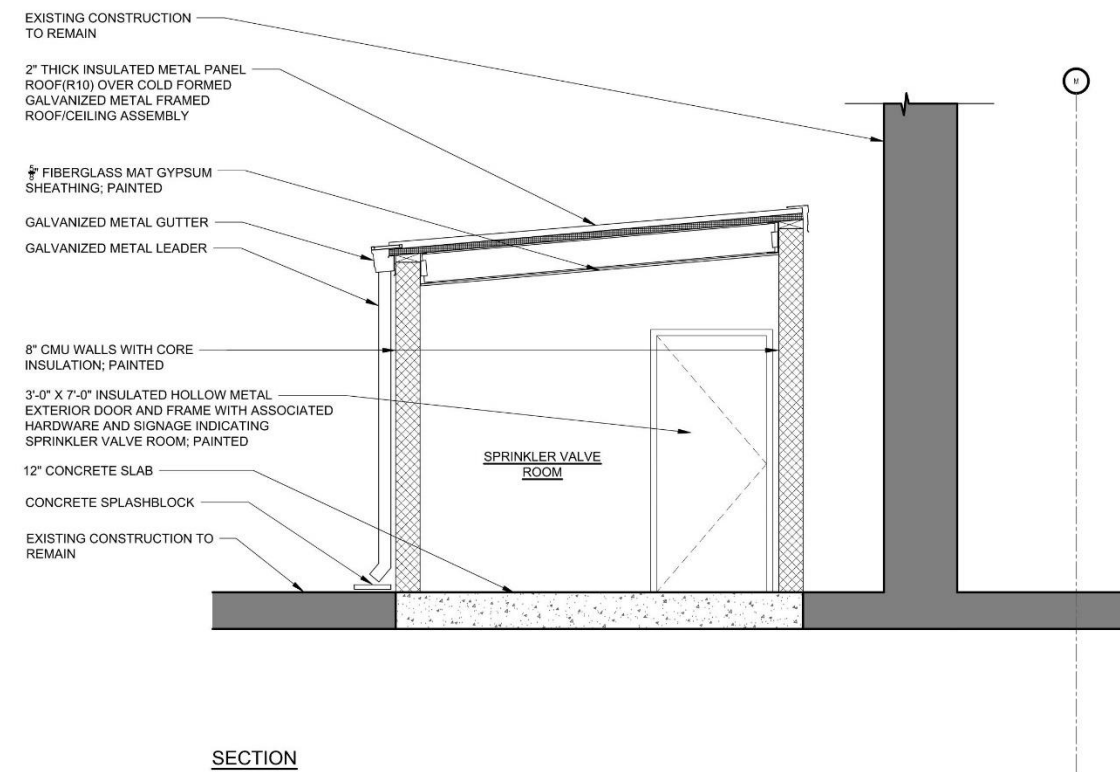
NEW WORK PLAN KEYNOTES:

- 1 2" INSULATED METAL PANEL ROOF (R10) OVER COLD FORMED GALVANIZED METAL FRAMED ROOF/CEILING ASSEMBLY.
- 2 12" CONCRETE PAD
- 3 8" CMU WALLS WITH CORE INSULATION; PAINTED

Building 301 - Sprinkler Room Replacements

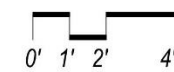
ARCHITECTURE
A-301-SK01





Building 301 - Sprinkler Room Replacements

ARCHITECTURE
A-301-SK02



<p>CODES, STANDARDS AND REFERENCES</p> <ol style="list-style-type: none"> INTERNATIONAL BUILDING CODE (IBC), NEW JERSEY EDITION, 2018. AMERICAN CONCRETE INSTITUTE (ACI), MANUAL OF STEEL CONSTRUCTION, ACI 318-14. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, AISC 360-16. AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE), MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES, ASCE 7-16. AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE), FLOOD RESISTANT DESIGN AND CONSTRUCTION, ASCE 24-2014. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 13, STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS, 2019. THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY, STRUCTURAL DESIGN GUIDELINES, 2018. <p>GENERAL NOTES</p> <ol style="list-style-type: none"> GEOMETRIC INFORMATION SHOWN ON THE CONTRACT DRAWINGS, INCLUDING DIMENSIONS, ELEVATIONS AND COORDINATES, MAY VARY FROM THE ACTUAL CONDITIONS THAT EXIST AT THE CONSTRUCTION SITE. VERIFY BY GEOMETRIC SURVEY ALL DIMENSIONS, ELEVATIONS, COORDINATES AND CURVATURES OF ALL EXISTING ELEMENTS OF THE SITE, INCLUDING EXISTING STRUCTURES, STRUCTURAL AND NON-STRUCTURAL ELEMENTS, GRADES, AND CONSTRUCTION FEATURES, AS NEEDED TO LOCATE, ALIGN, DIMENSION, AND DETAIL THE WORK OF THE CONTRACT. VERIFICATION OF GEOMETRIC INFORMATION SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE WHERE THE WORK IS TO BE PERFORMED, PRIOR TO AND COORDINATED WITH THE PREPARATION OF SHOP DRAWINGS AND PRIOR TO THE MANUFACTURING, FABRICATION, AND INSTALLATION OF ALL ITEMS OF CONSTRUCTION. ALL VARIATIONS OF SUCH INFORMATION FROM THE CONTRACT DRAWINGS AND / OR REFERENCE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER, FOR REVIEW PRIOR TO THE PREPARATION OF SHOP DRAWINGS. DIMENSION BASED ON THE CONTRACTOR'S GEOMETRIC SURVEY SHALL BE CLEARLY MARKED ON THE SHOP DRAWINGS AND ALL OTHER SUBMITTALS. PROPERLY DISPOSE OF ALL REMOVED MATERIALS AND UNUSED MATERIAL NOT INCORPORATED INTO THE WORK, AWAY FROM AUTHORITY PROPERTY. DETAILS SHOWN ON THE CONTRACT DRAWINGS AS TYPICAL ARE APPLICABLE TO ALL SIMILAR LOCATIONS. WORK NOT INDICATED ON ONE PART OF THE CONTRACT DRAWINGS, BUT WHICH MAY BE REASONABLE IMPLIED TO BE SIMILAR TO THAT SHOWN ON A CORRESPONDING LOCATION ON THE CONTRACT DRAWINGS SHALL BE INCLUDED IN THE WORK. INFORM THE ENGINEER OF ALL DISCREPANCIES BETWEEN CONTRACTOR DRAWINGS OF DIFFERENT TRADES PRIOR TO INITIATION OF ANY WORK. PROCEED AS DIRECTED BY ENGINEER. EXERCISE ALL NECESSARY CARE AND PRECAUTIONS TO PREVENT ANY DAMAGE TO THE EXISTING STRUCTURES AS A RESULT OF CONTRACTOR OPERATIONS. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE AUTHORITY. <p>REMOVAL AND DISPOSAL NOTES</p> <ol style="list-style-type: none"> REMOVALS SHALL CONFORM TO THE REMOVAL AREAS SHOWN ON THE CONTRACT DRAWINGS AND SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 024114. EXISTING UTILITIES SHALL BE IDENTIFIED, MARKED, AND REMAIN UNDISTURBED. NOTIFY AND OBTAIN PERMISSION FOR EXCAVATION FROM RELEVANT UTILITY AUTHORITIES. <p>STEEL NOTES</p> <ol style="list-style-type: none"> ALL STRUCTURAL STEEL SHALL CONFORM TO SPECIFICATION SECTION 051200 ENTITLED "STRUCTURAL STEEL" STEEL FABRICATION AND ERECTION SHALL CONFORM TO THE LATEST PROVISIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL OF STEEL CONSTRUCTION. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING, UNLESS OTHERWISE NOTED: ANGLES ASTM A572, GRADE 50 ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123, UNLESS OTHERWISE NOTED. HARDWARE SHALL CONFORM TO THE FOLLOWING STANDARDS, UNLESS OTHERWISE NOTED: BOLTS: ASTM A325 THREADED RODS: ASTM F1554, GRADE 55 NUTS: ASTM A194 GRADE 8 WASHERS: ASTM F436 HARDWARE SPECIFIED TO BE GALVANIZED SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, UNLESS OTHERWISE NOTED. OGEE WASHERS SHALL BE USED WHERE HARDWARE BEARS ON TIMBER. OGEE WASHERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153. FIELD TREAT DAMAGED GALVANIZED FINISHES BY REPAIRING ALL DAMAGED SURFACES FOR PAINTING IN ACCORDANCE WITH SSPC-10 OR SSPC-11 WITH A 1-2 MIL PROFILE. PAINT THE CLEANED DAMAGED AREAS WITH TWO COATS OF COLD GALVANIZING COMPOUND AT 2 MILS DFT EACH COAT IN ACCORDANCE WITH ASTM A780 AND CONTAINING A MINIMUM OF 93% ZINC IN THE DRY FILM. ALL DAMAGED EXPOSED THREADED SURFACES SHALL ALSO BE CLEANED AND PAINTED AFTER INSTALLATION OF UNITS. HILTI DROP IN ANCHORS SHALL BE HDI+ OR HDI-L+ FOR $\frac{3}{8}$ IN AND $\frac{1}{2}$ IN DIAMETER RODS AND HDI FOR $\frac{1}{2}$ IN DIAMETER RODS, GALVANIZED, AS MANUFACTURED BY HILTI INC. 7250 	<p>DALLAS PARKWAY, SUITE 1000, PLANO, TX 75024 OR APPROVED EQUAL.</p> <p>TIMBER NOTES</p> <ol style="list-style-type: none"> ALL HOLES SHALL BE DRILLED FOR TIGHT FIT, UNLESS OTHERWISE NOTED. ALL BOLTS SHALL BE 1" DIAMETER, UNLESS OTHERWISE NOTED. ALL BOLTS SHALL BE FULL SIZE AND HAVE CUT THREADS. ALL BOLTS SHALL HAVE WASHERS (NEW YORK DOCK DEPARTMENT TYPE.) EXPANSION BOLTS SHALL BE "WEJ-HIT" AS MANUFACTURED BY WEJ IT, 215 E 13TH PLACE, TULSA, OK (918)-744-7444, OR APPROVED EQUAL. ADHESIVE BONDED ANCHORS SHALL BE "HVA ADHESIVE ANCHORS SYSTEM" AS MANUFACTURED BY HILTI, P.O. BOX 21148, TULSA, OK 74121, TEL. (800)-879-8000; "KELIBOND / KELIBOND ANCHORS" AS MANUFACTURED BY KELKEN-GOLD, INC. 3005 HADLEY ROAD, SOUTH PLAINFIELD, NJ 07080, TEL. (908)-753-0088; "CHEM-STUD ANCHOR SYSTEM" AS MANUFACTURED BY RAWPLUG COMPANY, INC., NEW ROCHELLE, NY 10802, TEL. (914)-253-6300, OR APPROVED EQUAL. TIMBER SIZES SHOWN ON THE CONTRACT DRAWINGS ARE NOMINAL IN INCHES. FIELD TREAT CUTS, BEVELS, NOTCHES, DAPS, RE-FACING AND ABRASIONS MADE BY THE CONTRACTOR IN TREATED TIMBERS (FURNISHED AS PART OF THE WORK OR IN EXISTING TIMBERS TO REMAIN) IN ACCORDANCE WITH AWPA M4 (AMERICAN WOOD PROTECTION ASSOCIATION STANDARD M4) STANDARD (FOR THE CARE OF PRESERVATIVE - TREATED WOOD PRODUCTS), MSDS (MATERIAL SAFETY DATA SHEET) AND CIS (CONSUMER INFORMATION SHEET), WOOD PRESERVATIVES ARE RESTRICTED USE PESTICIDES AND SHALL BE APPLIED ACCORDING TO AWPA STANDARDS. TRIM CUTS AND ABRASIONS BEFORE FIELD TREATMENT. PAINT DEPRESSIONS OR OPENING AROUND BOLT HOLES, JOINTS OR GAPS INCLUDING RECESSES FORMED BY COUNTER BORING, WITH THE SAME PRESERVATIVE TREATMENT USED FOR TIMBER. <p>DESIGN CRITERIA</p> <ol style="list-style-type: none"> SEISMIC: <ol style="list-style-type: none"> SEISMIC DESIGN CATEGORY: C MAPPED SPECTRAL ACCELERATION AT SHORT PERIODS: SS = 0.286G MAPPED SPECTRAL RESPONSE ACCELERATION AT 1-SECOND PERIODS: S1 = 0.059G SITE CLASS: D RESPONSE MODIFICATION FACTOR: R= 4.5 COMPONENT AMPLIFICATION FACTOR: AP= 2.5 COMPONENT IMPORTANCE FACTOR: 1.5 RISK CATEGORY: IV <p>SPRINKLER HANGER AND SEISMIC BRACE NOTES</p> <ol style="list-style-type: none"> FURNISH AND INSTALL VERTICAL HANGERS FOR ALL SPRINKLER PIPING AND THEIR ASSOCIATED COMPONENTS. VERTICAL HANGERS FOR ALL SPRINKLER PIPING AND THEIR ASSOCIATED COMPONENTS, PERMANENTLY ATTACHED TO THE STRUCTURES INCLUDING SUPPORTING STRUCTURES AND ATTACHMENTS, SHALL BE IN CONFORMANCE WITH THE 2019 NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 13, STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS. FURNISH AND INSTALL SEISMIC PROTECTION FOR ALL SPRINKLER MAIN PIPING AND THEIR ASSOCIATED COMPONENTS. SEISMIC PROTECTION OF SPRINKLER MAIN PIPING SYSTEMS AND THEIR ASSOCIATED COMPONENTS, PERMANENTLY ATTACHED TO STRUCTURES INCLUDING SUPPORTING STRUCTURES AND ATTACHMENTS, SHALL BE IN CONFORMANCE WITH THE 2019 NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 13, STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS. MAIN SPRINKLER PIPING WITH THEIR ASSOCIATED COMPONENTS, AND SEISMIC PROTECTION DEVICES SHALL WITHSTAND SEISMIC FORCES AND SEISMIC DEFORMATIONS WITHOUT DISPLACING PERMANENTLY OR OVERTURNING. ALL SEISMIC PROTECTION DEVICES SHALL BE THE PRODUCT OF ONE MANUFACTURER. THE MANUFACTURER OF SEISMIC PROTECTION OF SPRINKLER PIPING AND THEIR ASSOCIATED COMPONENTS SHALL HAVE A MINIMUM OF FIVE (5) YEARS OF EXPERIENCE ON PROJECTS OF SIMILAR SCOPE AND COMPLEXITY. ALL VERTICAL HANGER AND SEISMIC PROTECTION DEVICES SHALL BE GALVANIZED PER SPECIFICATION SECTION 211314 TITLED "SPRINKLER FIRE PROTECTION-PIPING AND APPURTENANCES." SUBMIT TO THE ENGINEER FOR APPROVAL SEISMIC PROTECTION CALCULATIONS AND SHOP DRAWINGS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY. SHOP DRAWINGS FOR SEISMIC PROTECTION OF SPRINKLER PIPING AND THEIR ASSOCIATED COMPONENTS SHALL INCLUDE, BUT NOT LIMITED TO: <ol style="list-style-type: none"> LOCATIONS PLANS AND ELEVATIONS DIMENSIONALLY INDICATING SPRINKLER PIPING AND THEIR ASSOCIATED COMPONENTS WITH RESPECT TO EXISTING FRAMING, BUILDING COLUMN LINES, WALLS, FINISHED FLOORS AND SUPPORT SPACING. COMPUTED LOADING (NON-SEISMIC AND SEISMIC) AT EACH SUPPORT. DETAILS OF THE SUPPORT ASSEMBLY IDENTIFYING INDIVIDUAL SUPPORT COMPONENTS. SUBMIT TO THE ENGINEER CATALOG CUTS OF SEISMIC PROTECTION DEVICES AND THEIR COMPONENTS FOR APPROVAL. EACH COMPONENT SUBMITTAL SHALL SPECIFICALLY REFERENCE THE SHOP DRAWING DETAIL(S) SHOWING WHERE THE COMPONENTS ARE TO BE INSTALLED. THE CATALOG CUTS SUBMITTAL SHALL INCLUDE, BUT NOT BE LIMITED TO: <ol style="list-style-type: none"> ITEM, TYPE, MODEL, OR CATALOG NUMBER DIAMETER, THICKNESS, LENGTH, AND WIDTH, ETC. MATERIAL (GRADE, TYPE, YIELD STRENGTH, AND ASTM NUMBER, ETC.) AND SURFACE FINISH. 	<p>Sheet ## of ###</p> <p>PORT AUTHORITY NY NJ AIR LAND RAIL SEA</p> <p>#####</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Date</th> <th>Revision</th> <th>Approved</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>ENGINEERING DEPARTMENT</p> <p>NEW JERSEY MARINE TERMINALS</p> <p>STRUCTURAL</p> <p>Title</p> <p>PORT NEWARK MARINE TERMINAL REHABILITATION OF FIRE PROTECTION SYSTEMS</p> <p>STRUCTURAL NOTES</p> <p><small>The drawings are prepared in accordance with contract. All provisions, lines, design and methods herein are subject to change without notice and are not to be construed as a contract. All holders of Contract documents, including bid and those who do not bid and their prospective subcontractors and suppliers who in any way rely on or a part of the Contract, occurrence or copies thereof, shall make every effort to ensure the accuracy and completeness of the Contract documents to prevent further reduction of the information contained in the drawings. Revisions and appropriate details shall be made in accordance with the contract documents and shall be made available to all holders of the contract. All holders of the contract documents shall be notified of any changes to the Contract Documents. (Contract Documents, Title Block, New York, NY 10007)</small></p> <p><small>It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If the document bearing the seal of an engineer/architect is altered, the altering, unprofessional/illegal and will be prosecuted. There are the contract, sealed or otherwise by their signature and the date of such alteration, and a specific description of the alteration.</small></p> <p>Designed by C.BYRNE Drawn by C.BYRNE Checked by ### Date 11/30/2021</p> <p>Contract Number ##### Drawing Number S001 PID# 19525000</p>	No.	Date	Revision	Approved				
No.	Date	Revision	Approved							

D.1 STEEL FRAMING VERTICAL HANGER TYPE 1
SCALE IN FEET
(PIPE RUNNING PARALLEL AND UNDERNEATH EXISTING I-BEAM OR BAR JOIST SHOWN ABOVE)
(FOR PIPE RUNNING PERPENDICULAR TO EXISTING I-BEAM OR BAR JOIST, UTILIZE THE SAME DETAIL ABOVE, BUT PIPE AND BAND HANGER WILL BE ROTATED NINETY DEGREES)

D.2 STEEL FRAMING VERTICAL HANGER TYPE 2
SCALE IN FEET

D.3 CONCRETE SLAB / BEAM VERTICAL HANGER
SCALE IN FEET

D.4 CONCRETE COMPOSITE DECK VERTICAL HANGER
SCALE IN FEET

D.5 TIMBER JOIST VERTICAL HANGER
SCALE IN FEET

D.6 CONCRETE SLAB / BEAM SEISMIC BRACE TYPE 1
SCALE IN FEET

D.7 CONCRETE SLAB / BEAM SEISMIC BRACE TYPE 2
SCALE IN FEET

D.8 STEEL FRAMING SEISMIC BRACE TYPE 1
SCALE IN FEET

D.9 STEEL FRAMING SEISMIC BRACE TYPE 2
SCALE IN FEET

Sheet ## of ###

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

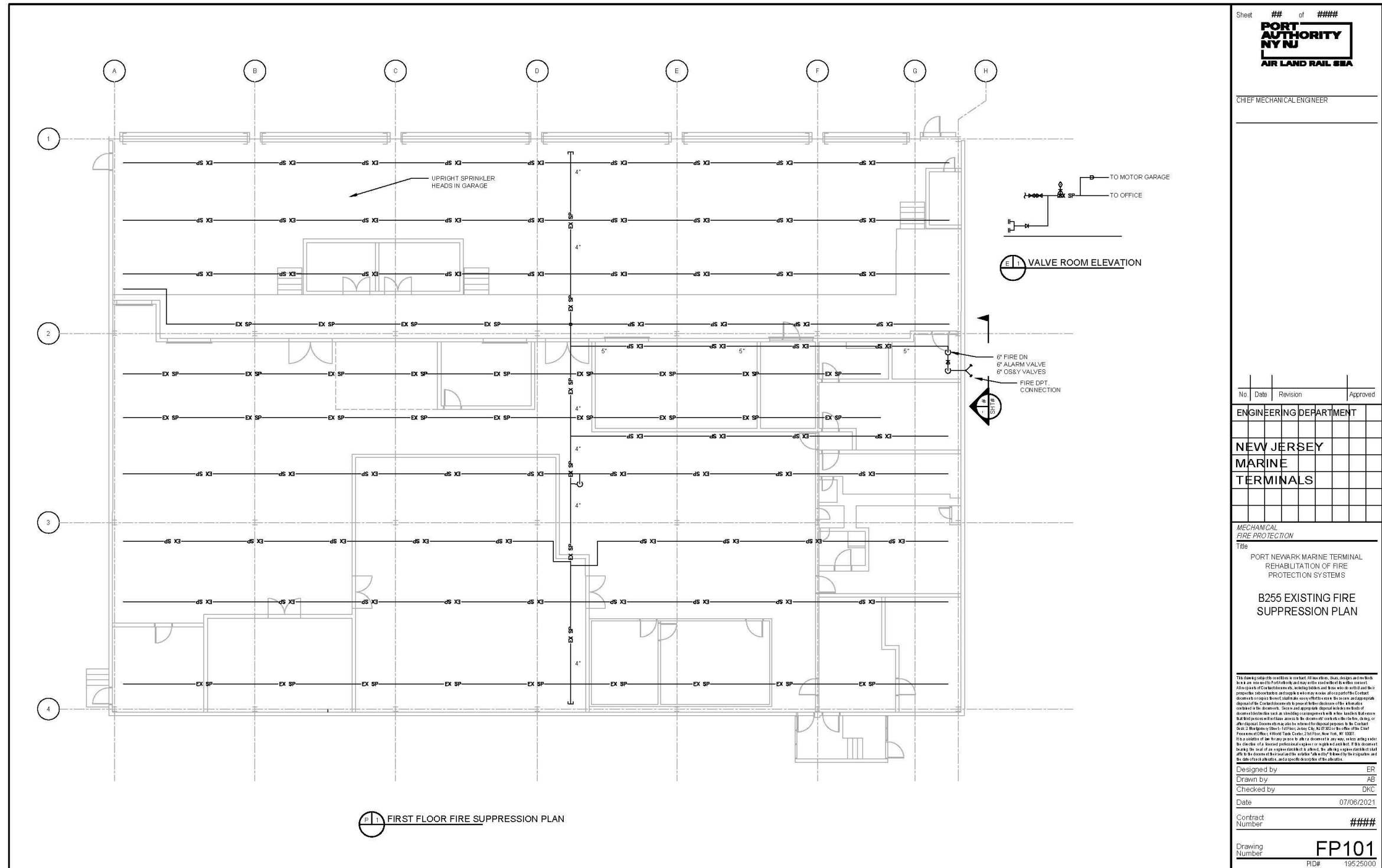
No.	Date	Revision	Approved
ENGINEERING DEPARTMENT			
NEW JERSEY MARINE TERMINALS			
STRUCTURAL			
Title			
PORT NEWARK MARINE TERMINAL REHABILITATION OF FIRE PROTECTION SYSTEMS			
FIRE SPRINKLER VERTICAL HANGER AND SEISMIC BRACE DETAILS			
This drawing is subject to conditions in contract. All provisions, specifications, drawings and methods herein are subject to that authority and may not be used without the written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who are required to accept the terms and conditions of the Contract documents, shall make every effort to ensure the accuracy and completeness of the Contract documents to prevent further development of the documents. Bidders are responsible for obtaining all necessary information and for verifying the accuracy of the information. Bidders are responsible for obtaining all necessary information and for verifying the accuracy of the information. Bidders are responsible for obtaining all necessary information and for verifying the accuracy of the information.			
Designed by	C.BYRNE		
Drawn by	C.BYRNE		
Checked by	###		
Date	11/30/2021		
Contract Number	####		
Drawing Number	S100		
	PID# 19525000		

TABLE OF SPRINKLER PIPE SIZES AND HANGER COMPONENT SIZES

PIPE DIAMETER (IN)	THREADED ROD DIAMETER (IN)	CONCRETE DROP IN ANCHORS DIAMETER (IN)	TIMBER THREADED ROD (IN)	BEAM CLAMP (IN)
8	1/2	NA	NA	ROD SIZE 1/2
6	3/8	1/2	NA	ROD SIZE 3/8
5	1/2	NA	NA	ROD SIZE 1/2
4	1/2	1/2	NA	ROD SIZE 1/2
3	1/2	1/2	1/2	ROD SIZE 1/2
2	3/8	NA	NA	ROD SIZE 3/8
1.5	3/8	3/8	NA	ROD SIZE 3/8
1.25	3/8	3/8	NA	ROD SIZE 3/8

NOTES:

- REFER TO FIRE PROTECTION DRAWINGS FOR LAYOUT OF FIRE SPRINKLER PIPES.
- REFER TO S001 FOR STRUCTURAL NOTES.
- ALL CONCRETE ANCHORS SHALL BE INSTALLED AS FAR AWAY FROM CONCRETE BEAM OR SLAB EDGES AND AS CLOSE TO THE CENTER OF THESE CONCRETE STRUCTURES AS POSSIBLE.
- ALL CONCRETE ANCHORS INSTALLED IN CONCRETE METAL DECK SHALL BE INSTALLED AT THE CENTER OF THE FLUTE OF THE METAL DECK.
- FOR DROP IN ANCHORS USE HILTI HDI+ OR HDI+ FOR 1/2 IN AND 3/4 IN DIAMETER RODS AND HILTI HDI FOR 3/8 IN DIAMETER RODS.

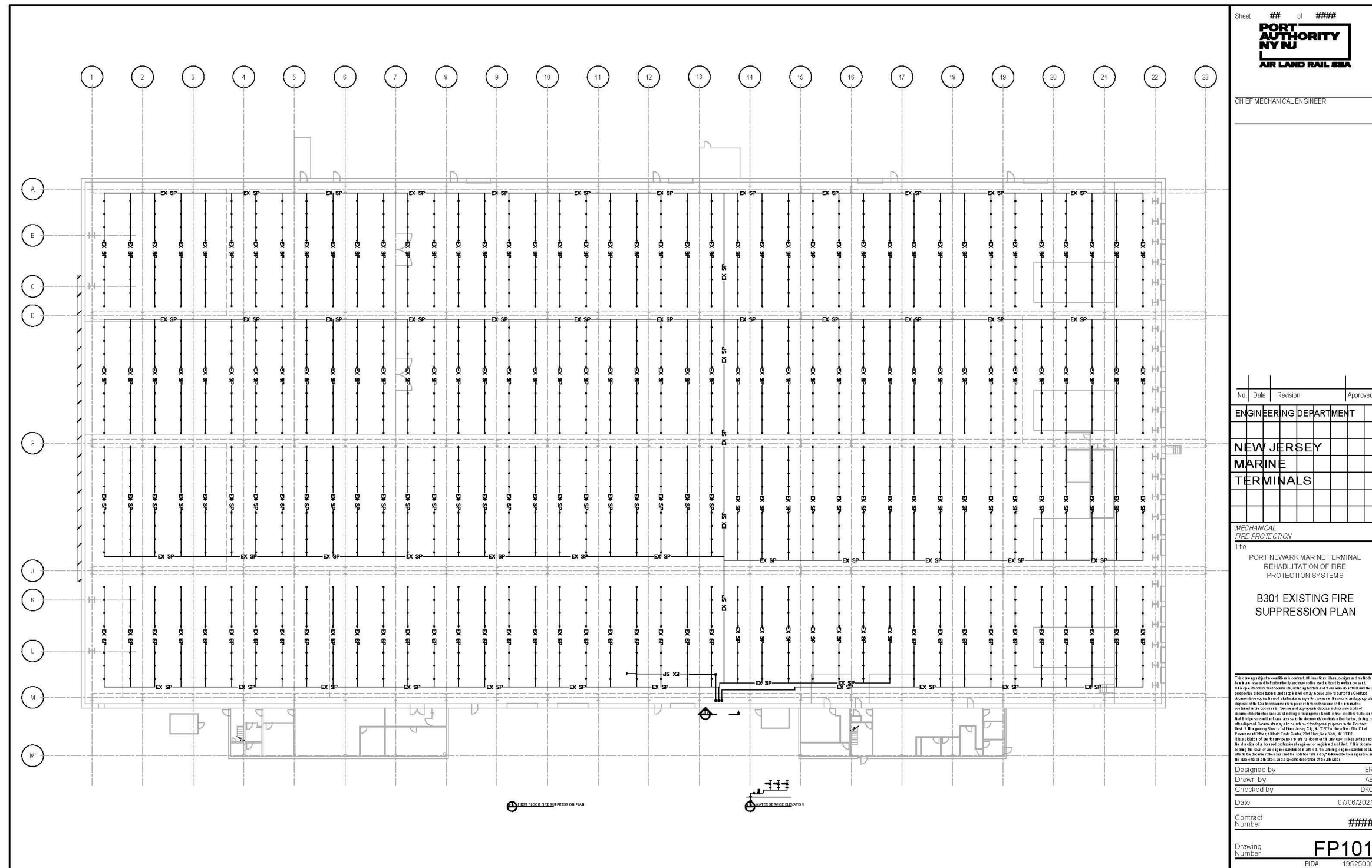


Sheet **##** of **####**

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CHIEF MECHANICAL ENGINEER

No	Date	Revision	Approved
ENGINEERING DEPARTMENT			
NEW JERSEY MARINE TERMINALS			
MECHANICAL FIRE PROTECTION			
Title			
PORT NEWARK MARINE TERMINAL REHABILITATION OF FIRE PROTECTION SYSTEMS			
B255 EXISTING FIRE SUPPRESSION PLAN			
<small>This drawing is the property of the Port Authority of New York and New Jersey. It is to be used only for the project and site for which it was prepared. It is not to be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the Port Authority of New York and New Jersey. The Port Authority of New York and New Jersey is not responsible for any errors or omissions in this drawing. The user of this drawing is advised to verify all dimensions and conditions before construction. The Port Authority of New York and New Jersey is not responsible for any damage or injury resulting from the use of this drawing. The Port Authority of New York and New Jersey is not responsible for any delay or cost increase resulting from the use of this drawing. The Port Authority of New York and New Jersey is not responsible for any other consequences resulting from the use of this drawing.</small>			
Designed by	ER		
Drawn by	AB		
Checked by	DKC		
Date	07/06/2021		
Contract Number	####		
Drawing Number	FP101		
	PID# 19525000		



Sheet **##** of **####**

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CHIEF MECHANICAL ENGINEER

No.	Date	Revision	Approved
ENGINEERING DEPARTMENT			
NEW JERSEY MARINE TERMINALS			
MECHANICAL FIRE PROTECTION			
Title			
PORT NEWARK MARINE TERMINAL REHABILITATION OF FIRE PROTECTION SYSTEMS			
B301 EXISTING FIRE SUPPRESSION PLAN			

This drawing represents a contract. All materials, methods, design and construction shall conform to the contract documents and specifications. The contractor shall be responsible for obtaining all necessary permits and approvals. The contractor shall be responsible for coordinating with all other trades and agencies. The contractor shall be responsible for maintaining accurate records of all work performed. The contractor shall be responsible for ensuring that all work is completed in accordance with the contract documents and specifications. The contractor shall be responsible for ensuring that all work is completed in a timely and efficient manner. The contractor shall be responsible for ensuring that all work is completed in a safe and sound manner. The contractor shall be responsible for ensuring that all work is completed in a professional and courteous manner. The contractor shall be responsible for ensuring that all work is completed in a manner that meets or exceeds the expectations of the client. The contractor shall be responsible for ensuring that all work is completed in a manner that is consistent with the highest standards of the industry. The contractor shall be responsible for ensuring that all work is completed in a manner that is consistent with the highest standards of the profession. The contractor shall be responsible for ensuring that all work is completed in a manner that is consistent with the highest standards of the community. The contractor shall be responsible for ensuring that all work is completed in a manner that is consistent with the highest standards of the nation. The contractor shall be responsible for ensuring that all work is completed in a manner that is consistent with the highest standards of the world.

Designed by: ER
 Drawn by: AB
 Checked by: DKC
 Date: 07/06/2021
 Contract Number: #####
 Drawing Number: **FP101**
 PID#: 19525000

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**REHABILITATION OF FIRE PROTECTION SYSTEMS AT PORT NEWARK,
ELIZABETH PORT AUTHORITY MARINE TERMINAL, AND PORT JERSEY –
STAGE I REPORT**

**NJMT REHABILITATION OF FIRE PROTECTION SYSTEMS
ENVIRONMENTAL SURVEY REPORTS**



**NJMT REHABILITATION OF FIRE PROTECTION
SYSTEMS PN, PE, & PJ**

**ASBESTOS INSPECTION REPORT
PORT NEWARK, BUILDING # 255**

Performed for:

**PORT NEWARK
NEWARK, NEW JERSEY**

Prepared for:

**THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY**

Prepared by:

**ATC GROUP SERVICES LLC
104 EAST 25TH STREET
NEW YORK, NEW YORK 10010
(212) 353-8280**

ATC Project No: 214PNPEPJ1

May 7, 2021



104 East 25th Street
8th Floor
New York, New York 10010
Telephone 212-353-8280
Fax 212-353-8306

May 7, 2021

Robert Pruno, P.E.
Chief Environmental Engineer
Port Authority of New York & New Jersey
Engineering Design Division
4 World Trade Center, Floor 20
New York, NY, 10006

Subject: Inspection Report for Asbestos-Containing Materials

**Re: Port Newark, Building # 255
255 East Port Street
Newark, NJ 07114
NJMT Rehabilitation of Fire Protection Systems**

Dear Mr. Pruno:

ATC Group Services LLC (ATC) has completed the inspection for Asbestos-Containing Materials (ACM) for the proposed work at the above referenced site. The inspection included visual observation, material sampling, laboratory analysis and development of asbestos abatement plans. The attached report presents our inspection procedures, findings, assessments and recommendations along with the pertinent appendices.

ATC appreciates this opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

Roney D. Rivero
Senior Project Manager
for ATC Group Services LLC
Direct Line +1 212 284 0614
Email: roney.rivero@atcgs.com

Attachments

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 BUILDING DESCRIPTION.....	2
3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS	2
4.0 ACM INSPECTION SCOPE.....	3
5.0 ACM INSPECTION RESULTS	4
6.0 PCB-IN-CAULKING INSPECTION FINDINGS	5
7.0 UNIVERSAL WASTE OBSERVATION	5
8.0 CONCLUSIONS AND RECOMMENDATIONS	5
9.0 ASSUMPTIONS AND LIMITATIONS.....	5

APPENDICES

Appendix A: ACM Laboratory Results and Chain of Custodies

Appendix B: Asbestos Sample Location Drawings

Appendix C: ACM Location Drawings (N/A for this Project)

Appendix D: Lab Certifications / Accreditations, Company and Personnel Certifications

EXECUTIVE SUMMARY

On April 9, 2021 ATC completed the inspection for ACM at Port Newark, Building #255 (the Site). The survey was conducted at the request of Port Authority of New York and New Jersey (PANYNJ) in preparation for the Rehabilitation of Fire Protection Systems Project. ATC utilized drawings provided by PANYNJ delineating the areas that will be impacted by the renovation project.

ATC collected fifty-one (51) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, none of the sampled homogeneous areas was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content). These materials are tabulated in Section 4.0.

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

1.0 INTRODUCTION

The intent of this survey was to locate and identify all accessible ACM, and PCBs in caulking within the referenced structure that could potentially be impacted by the Proposed Fire Sprinkler Rehabilitation Project.

The environmental survey was conducted by the following personnel who hold certifications from the New York State Department of Labor as Asbestos Inspectors, and the Environmental Protection Agency as Lead Risk Assessors.

Inspector's Name	Certification Number	ACM
Philip R. Carrington	AH-88-11798	ACM
Nancy Guevara	AH-14-00412	ACM
Roney D. Rivero	AH-88-06348	ACM

2.0 BUILDING DESCRIPTION

The New Jersey Port Newark Building 255, date of construction unknown, is located on Port Street west of the intersection of Port and Marlin Streets. The building is an approximately 25 ft. tall one-story building with no basement, has a rectangular footprint of approximately 110 ft. wide by 158 ft. long in plan, with a total of 17,380 square feet of floor area.

The building is being occupied by the Port Authority Port Newark Sign shop for fabricating signs. The building serves as an office space on the southeast corner of the building and as a garage along the north side of the building. The ceiling system is made of suspended lightweight acoustical tile and lightweight perforated metal ceilings.

3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogeneous area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos.

Bulk samples of suspect ACM were analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Methods 198.1 and 198.6 as specified in the Environmental Laboratory Approval Program (ELAP) Certification Manual. Method 198.1 is used for friable ACM and Method 198.6 is used for non-friable ACM.

For non-friable materials such as mastic, caulking, etc., Method 198.6 requires that any result of 1-percent or less be reanalyzed by Method 198.4. This Method utilizes Transmission Electron Microscopy (TEM) to determine asbestos content. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) Non-friable Organically Bound (NOB) sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

The laboratory performing both these analysis procedures was ATC, located at 104 East 25th Street, New York, New York. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101187-0)
- New York State Environmental Laboratory Approval Program (Lab No. 10879)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 100229)

4.0 ACM INSPECTION SCOPE

ATC conducted the walkthrough of Port Newark building 260 on August 11, 2020 to understand typical building layouts and systems on buildings that are similar in lay out and use. Based on the findings of the walkthrough, ATC conducted an asbestos inspection of the building on April 9, 2021 and collected fifty-one (51) bulk samples from all suspect asbestos-containing material. The areas inspected included only areas that may be impacted by the proposed Fire Sprinkler Rehabilitation Project at this location. The intent of this survey was to locate and identify all accessible ACM.

The following seventeen (17) homogeneous materials inspected and sampled for ACM during the inspections were:

Suspect Material	Location
2' X 2' Ceiling Tile Type I	1 st Floor – Office by the Entrance
2' X 2' Ceiling Tile Type II	1 st Floor – Lunch Room
2' X 2' Ceiling Tile Type III	1 st Floor – Locker Room
Ceiling Blanket Insulation Backing	1 st Floor – Locker Room

Fiberglass Pipe Insulation Paper on Ceiling	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
2' X 2' Ceiling Tile Type IV	1 st Floor – Storage Rooms
Fiberglass HVAC Duct Insulation Cover	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
CMU Wall Mortar	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
Gypsum Board Paper on Wall	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
Gypsum Board on Wall	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
Joint Compound on Wall	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
Fiberglass HVAC Duct Insulation 2 nd Layer	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
2' X 2' Ceiling Tile Type V	Printer Room
Fiberglass Insulation Cover (3" & 4" Pipes)	Sprinkler Room
Mudded Fitting Insulation 3" Pipe	Sprinkler Room
CMU Wall Mortar	Sprinkler Room
2' X 2' Ceiling Tile Type VI	Main Lobby

5.0 ACM INSPECTION RESULTS

Based upon visual inspection and review of the analytical results of bulk samples collected, **none of the materials is asbestos-containing (> 1%)**.

Laboratory results are included in Appendix A. Asbestos Sample Location Plans are included in Appendix B.

The following materials are presumed to be asbestos-containing material (PACM):

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
N/A	Flange & Valve Gaskets - Sprinkler Room	PACM	15 Units	N/A

6.0 PCB-IN-CAULKING INSPECTION FINDINGS

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

7.0 UNIVERSAL WASTE INVENTORY

ATC conducted a visual inspection of the light fixtures at the site to document Universal Waste, defined in Title 40, CFR Part 273. During the inspection, it was observed the presence of fluorescent lamps, high intensity discharge (HID) lamps and ballasts.

It was assumed that lamp ballasts/capacitors contain PCBs and/or Di-Ethylhexyl Phthalate (DEHP); therefore, if removal is necessary it should be disposed of as PCB wastes as per 40 CFR Part 761.

8.0 CONCLUSIONS AND RECOMMENDATIONS

ATC collected fifty-one (51) bulk samples from all suspect asbestos-containing material. Based upon visual inspection and review of the analytical results of bulk samples collected, **none of the materials is asbestos-containing (> 1%)**.

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

Various types of painted surfaces such as sprinkler pipes and CMU walls, have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 255, located in Newark, New Jersey.

Various types of light fixtures (fluorescent lamps, high intensity discharge (HID) lamps and ballasts) have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 255, located in Newark, New Jersey.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted at the time of the inspection. The valve gaskets inside the pipe flanges could not be tested since the sprinkler system is still operational. It is assumed, based on the number of flanges observed, that there are 15 gaskets in the sprinkler room and are presumed to be asbestos containing. This quantity should be verified with destructive sampling if abatement is planned prior to any renovation work.

If questions arise regarding asbestos content in building materials that were not tested by ATC,

additional testing services should be procured to test those areas.

This report is intended for the sole use of the PANYNJ. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations contained herein is at the risk of said user.

END OF REPORT

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APPENDIX A

ACM LABORATORY RESULTS AND CHAIN OF CUSTODIES

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NEW YORK, NY 10010

Fax: (212) 353-3599 **Phone:** (212) 353-8280

Project: PANYNJ / FIRESPRINKLER REHABILITATION

Sample Date: 4/9/2021

Date Received : 4/9/2021

Date Analyzed : 4/12/2021

ATC Batch # 21-626

Methods: ELAP 198.1, 198.6, 198.4

Location: PN / BUILDING #255

Project # 214PNPEPJ1/TASK0001

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
1	1ST FLOOR OFFICE BY ENTRANCE	2' X 2' CEILING TILE TYPE I PIN HOLE	NOB-TEM			25.3% Organic 46.3% Residue 28.4% Carbonate	NONE DETECTED
21-626 -1				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
2	1ST FLOOR OFFICE BY ENTRANCE	2' X 2' CEILING TILE TYPE I PIN HOLE	NOB-TEM			26.1% Organic 51.6% Residue 22.3% Carbonate	NONE DETECTED
21-626 -2				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
3	1ST FLOOR OFFICE BY ENTRANCE	2' X 2' CEILING TILE TYPE I PIN HOLE	NOB-TEM			25.1% Organic 48.9% Residue 26% Carbonate	NONE DETECTED
21-626 -3				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
4	1ST FLOOR LUNCH ROOM	2' X 2' CEILING TILE TYPE II	NOB-TEM			13.2% Organic 74.3% Residue 12.5% Carbonate	NONE DETECTED
21-626 -4				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
5	1ST FLOOR LUNCH ROOM	2' X 2' CEILING TILE TYPE II	NOB-TEM			13% Organic 67.7% Residue 19.3% Carbonate	NONE DETECTED
21-626 -5				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
6	1ST FLOOR LUNCH ROOM	2' X 2' CEILING TILE TYPE II	NOB-TEM			13.2% Organic 37.8% Residue 49% Carbonate	NONE DETECTED
21-626 -6				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
7	1ST FLOOR LOCKER ROOM	2' X 4' CEILING TILE TYPE III	NOB-TEM			24.5% Organic 42.5% Residue 33% Carbonate	NONE DETECTED
21-626 -7				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
8	1ST FLOOR LOCKER ROOM	2' X 4' CEILING TILE TYPE III	NOB-TEM			25.3% Organic 52.6% Residue 22.1% Carbonate	NONE DETECTED
21-626 -8				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
9	1ST FLOOR LOCKER ROOM	2' X 4' CEILING TILE TYPE III	NOB-TEM			24.8% Organic 56.8% Residue 18.4% Carbonate	NONE DETECTED
21-626 -9				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
10	1ST FLOOR LOCKER ROOM	BLANKET INSULATION BACKING CEILING	PLM	50% Cellulose 20% FiberGlass	25% Mineral Filler		NONE DETECTED
21-626 -10				0.0% Vermiculite 5% Foil			
Analyzed By: Mei Wang				Color: Tan		Comments: NOB PLM Inconclusive	
11	1ST FLOOR LOCKER ROOM	BLANKET INSULATION BACKING CEILING	PLM	50% Cellulose 20% FiberGlass	25% Mineral Filler		NONE DETECTED
21-626 -11				0.0% Vermiculite 5% Foil			
Analyzed By: Mei Wang				Color: Tan		Comments: NOB PLM Inconclusive	
12	1ST FLOOR LOCKER ROOM	BLANKET INSULATION BACKING CEILING	PLM	50% Cellulose 20% FiberGlass	25% Mineral Filler		NONE DETECTED
21-626 -12				0.0% Vermiculite 5% Foil			
Analyzed By: Mei Wang				Color: Tan		Comments: NOB PLM Inconclusive	
13	1ST FLOOR OFFICE BY ENTRANCE	F/G PIPE INSULATION PAPER CEILING	PLM	40% Cellulose 30% FiberGlass	20% Mineral Filler		NONE DETECTED
21-626 -13				0.0% Vermiculite 10% Foil			
Analyzed By: Mei Wang				Color: Tan		Comments: NOB PLM Inconclusive	
14	1ST FLOOR LUNCH ROOM	F/G PIPE INSULATION PAPER CEILING	PLM	40% Cellulose 30% FiberGlass	20% Mineral Filler		NONE DETECTED
21-626 -14				0.0% Vermiculite 10% Foil			
Analyzed By: Mei Wang				Color: Tan		Comments: NOB PLM Inconclusive	
15	1ST FLOOR LOCKER ROOM	F/G PIPE INSULATION PAPER CEILING	PLM	40% Cellulose 30% FiberGlass	20% Mineral Filler		NONE DETECTED
21-626 -15				0.0% Vermiculite 10% Foil			
Analyzed By: Mei Wang				Color: Tan		Comments: NOB PLM Inconclusive	
16	1ST FLOOR STORAGE ROOMS	2' X 2' CEILING TILE TYPE IV	NOB-TEM			25.1% Organic 43.5% Residue 31.4% Carbonate	NONE DETECTED
21-626 -16				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
17	1ST FLOOR STORAGE ROOMS	2' X 2' CEILING TILE TYPE IV	NOB-TEM			24.7% Organic 42.9% Residue 32.4% Carbonate	NONE DETECTED
21-626 -17				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
18	1ST FLOOR STORAGE ROOMS	2' X 2' CEILING TILE TYPE IV	NOB-TEM			24.3% Organic 33.2% Residue 42.5% Carbonate	NONE DETECTED
21-626 -18				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
19	1ST FLOOR OFFICE BY ENTRANCE	F/G HVAC DUCT INSULATION COVER	PLM	90% Cellulose	10% Mineral Filler		NONE DETECTED
21-626 -19				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Light Gray					
20	1ST FLOOR LUNCH ROOM	F/G HVAC DUCT INSULATION COVER	PLM	90% Cellulose	10% Mineral Filler		NONE DETECTED
21-626 -20				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Light Gray					
21	1ST FLOOR LOCKER ROOM	F/G HVAC DUCT INSULATION COVER	PLM	90% Cellulose	10% Mineral Filler		NONE DETECTED
21-626 -21				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Light Gray					
22	1ST FLOOR OFFICE BY ENTRANCE	CMU MORTAR WALLS	PLM		100% Mineral Filler		NONE DETECTED
21-626 -22				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Gray					
23	1ST FLOOR LUNCH ROOM	CMU MORTAR WALLS	PLM		100% Mineral Filler		NONE DETECTED
21-626 -23				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Gray					
24	1ST FLOOR LOCKER ROOM	CMU MORTAR WALLS	PLM		100% Mineral Filler		NONE DETECTED
21-626 -24				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Gray					
25	1ST FLOOR OFFICE BY ENTRANCE	GYPSUM BOARD PAPER - WALLS	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-626 -25				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Brown					
26	1ST FLOOR LUNCH ROOM	GYPSUM BOARD PAPER - WALLS	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-626 -26				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Brown					
27	1ST FLOOR LOCKER ROOM	GYPSUM BOARD PAPER - WALLS	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-626 -27				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Brown					



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
28	1ST FLOOR OFFICE BY ENTRANCE	GYPSUM BOARD	PLM	5% Cellulose 10% FiberGlass	85% Mineral Filler		NONE DETECTED
21-626 -28				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Off White					
29	1ST FLOOR LUNCH ROOM	GYPSUM BOARD	PLM	5% Cellulose 10% FiberGlass	85% Mineral Filler		NONE DETECTED
21-626 -29				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Off White					
30	1ST FLOOR LOCKER ROOM	GYPSUM BOARD	PLM	5% Cellulose 10% FiberGlass	85% Mineral Filler		NONE DETECTED
21-626 -30				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Off White					
31	1ST FLOOR OFFICE BY ENTRANCE	JOINT COMPOUND	PLM		100% Mineral Filler		NONE DETECTED
21-626 -31				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: White					
32	1ST FLOOR LUNCH ROOM	JOINT COMPOUND	PLM		100% Mineral Filler		NONE DETECTED
21-626 -32				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: White					
33	1ST FLOOR LOCKER ROOM	JOINT COMPOUND	PLM		100% Mineral Filler		NONE DETECTED
21-626 -33				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: White					
34	1ST FLOOR OFFICE BY ENTRANCE	HVAC DUCT INSULATION 2ND LAYER	PLM	60% Cellulose 10% FiberGlass	20% Mineral Filler		NONE DETECTED
21-626 -34				0.0% Vermiculite 10% Foil			
Analyzed By: Mei Wang		Color: Tan					
35	1ST FLOOR LUNCH ROOM	HVAC DUCT INSULATION 2ND LAYER	PLM	60% Cellulose 10% FiberGlass	20% Mineral Filler		NONE DETECTED
21-626 -35				0.0% Vermiculite 10% Foil			
Analyzed By: Mei Wang		Color: Tan					
36	1ST FLOOR LOCKER ROOM	HVAC DUCT INSULATION 2ND LAYER	PLM	60% Cellulose 10% FiberGlass	20% Mineral Filler		NONE DETECTED
21-626 -36				0.0% Vermiculite 10% Foil			
Analyzed By: Mei Wang		Color: Tan					
37	1ST FLOOR PRINTER ROOM	2 X 2 CEILING TILE TYPE 5	NOB-TEM			12.7% Organic 40.2% Residue 47.1% Carbonate	NONE DETECTED
21-626 -37				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
38	1ST FLOOR PRINTER ROOM	2 X 2 CEILING TILE TYPE 5	NOB-TEM			13.9% Organic 60.7% Residue 25.4% Carbonate	NONE DETECTED
21-626 -38				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
39	1ST FLOOR PRINTER ROOM	2 X 2 CEILING TILE TYPE 5	NOB-TEM			14.5% Organic 65.6% Residue 19.9% Carbonate	NONE DETECTED
21-626 -39				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
40	1ST FLOOR SPRINKLER ROOM	F/G INSULATION OVER 3" & 4" PIPES	PLM	60% Cellulose 20% FiberGlass	15% Mineral Filler		NONE DETECTED
21-626 -40				0.0% Vermiculite 5% Foil			
Analyzed By: Mei Wang		Color: Tan					
41	1ST FLOOR SPRINKLER ROOM	F/G INSULATION OVER 3" & 4" PIPES	PLM	60% Cellulose 20% FiberGlass	15% Mineral Filler		NONE DETECTED
21-626 -41				0.0% Vermiculite 5% Foil			
Analyzed By: Mei Wang		Color: Tan					
42	1ST FLOOR SPRINKLER ROOM	F/G INSULATION OVER 3" & 4" PIPES	PLM	60% Cellulose 20% FiberGlass	15% Mineral Filler		NONE DETECTED
21-626 -42				0.0% Vermiculite 5% Foil			
Analyzed By: Mei Wang		Color: Tan					
43	1ST FLOOR SPRINKLER ROOM	MUDDIED FITTING INSULATION 3" PIPE	PLM	5% Cellulose 25% FiberGlass	70% Mineral Filler		NONE DETECTED
21-626 -43				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Light Gray					
43	1ST FLOOR SPRINKLER ROOM	MUDDIED FITTING INSULATION 3" PIPE	PLM	5% Cellulose 25% FiberGlass	70% Mineral Filler		NONE DETECTED
21-626 -44				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Light Gray					
45	1ST FLOOR SPRINKLER ROOM	MUDDIED FITTING INSULATION 3" PIPE	PLM	5% Cellulose 20% FiberGlass	75% Mineral Filler		NONE DETECTED
21-626 -45				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Light Gray					
46	1ST FLOOR SPRINKLER ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler		NONE DETECTED
21-626 -46				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan					
47	1ST FLOOR SPRINKLER ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler		NONE DETECTED
21-626 -47				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan					



ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
48	1ST FLOOR SPRINKLER ROOM	CMU MORTAR WALL	PLM			100% Mineral Filler	NONE DETECTED
21-626 -48				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan					
49	1ST FLOOR MAIN LOBBY	2 X 2 CEILING TILE TYPE 6 SMOOTH	NOB-TEM			14.6% Organic 75.6% Residue 9.8% Carbonate	NONE DETECTED
21-626 -49				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
50	1ST FLOOR MAIN LOBBY	2 X 2 CEILING TILE TYPE 6 SMOOTH	NOB-TEM			15% Organic 82.7% Residue 2.3% Carbonate	NONE DETECTED
21-626 -50				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
51	1ST FLOOR MAIN LOBBY	2 X 2 CEILING TILE TYPE 6 SMOOTH	NOB-TEM			11.7% Organic 63.5% Residue 24.8% Carbonate	NONE DETECTED
21-626 -51				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				



ATC Group Services LLC

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New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306



ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: _____, Amendment Dates: _____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis.
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Mei Wang

Analyst:

Roman Peysakhov

Analyst:

Mei Wang

Approved by

Quality Manager:

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: 4/9/21	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
6. BUILDING NUMBER: 255	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH_X_		9. Comments (Field) NOB -> TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
1	1	2x2' ceiling tile		OFFICE BY ENTRANCE		
1	2	TYPE I		"		
1	3	pin holes		"		
2	4	2x2' ceiling tile		LUNCH ROOM		
2	5	TYPE II		"		
2	6	"		"		
3	7	2x4' ceiling tile		LOCKER ROOM		
3	8	TYPE III		"		
3	9	"		"		
4	10	BLANKET INSULATION		"		
4	11	BACKING		"		
4	12	CEILING		"		
5	13	F/G pipe insulation		OFFICE BY ENTRANCE		
5	14	PAPER		LUNCH ROOM		
5	15	CEILING		LOCKER ROOM		
6	16	2x2' ceiling tile		STORAGE ROOMS		
6	17	TYPE IV		"		
6	18	"		"		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. Philip Carrington	4/9/21	2:30 pm	Manu...	4/9/2021		Field Walk In
II.					2:46 pm	US Mail
III.						Fed-Ex

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26 Time	27. Comments (Lab)
24a. Analyzed By: MEL...	4/10/21	10:30	33PLM
24b. Analyzed By: R...	4/12/21	10:00	
24c. QC By:			



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: 4/9/21	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
6. BUILDING NUMBER: 255	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH_X_		9. Comments (Field) NOB -> TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
7	19	F/G HVAC DUCT INSULATION		OFFICE BY ENTRANCE		
7	20	COVER		LUNCH ROOM		
7	21	"		LOCKER ROOM		
8	22	CEILING		OFFICE BY ENTRANCE		
8	23	WALLS		LUNCH ROOM		
8	24	"		LOCKER ROOM		
9	25	GYPSUM BOARD		OFFICE BY ENTRANCE		
9	26	PAPER - WALLS		LUNCH ROOM		
9	27	"		LOCKER ROOM		
10	28	GYPSUM BOARD		OFFICE BY ENTRANCE		
10	29	"		LUNCH ROOM		
10	30	"		LOCKER ROOM		
11	31	JOINT COMPOUND		OFFICE BY ENTRANCE		
11	32	"		LUNCH ROOM		
11	33	"		LOCKER ROOM		
12	34	HVAC DUCT INSULATION		OFFICE BY ENTRANCE		
12	35	2ND LAYER		LUNCH ROOM		
12	36	"		LOCKER ROOM		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. Philip Carrington	4/9/21	2:30 pm	Manu...	4/9/2021		Field Walk In
II.					2:46 pm	US Mail
III.						Fed-Ex

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26 Time	27. Comments (Lab)
24a. Analyzed By: MEL...	4/10/21	10:30	
24b. Analyzed By: R...	4/12/21	10:00	
24c. QC By:			



BATCH NO.

Page 3 of 3

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client: PANYNJ; Project Name: FIRESPRINKLER REHABILITATION; 3a. ATC Project No.: 214PNPEPJ1; 4a. Project Manager: R. Rivero; 4b. Inspector: PHILIP CARRINGTON; 5. Date: 4/9/21; 6. BUILDING NUMBER: 255; 7. Sampling Areas: 255; 8. Turnaround Time: STAT; 9. Comments: NOB -> TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

Table with 16 columns: Homogenous Area No., Bulk Sample ID No., Material, Thermal System, Floor, Sample Location, Sample Coordinates, Material Total Qty., Asbestos Content. Rows include samples 13-17 with materials like 2x2 ceiling tiles, type 5, fiberglass insulation, computer, pipes, mudded fittings, insulation, wall, main lobby.

CHAIN OF CUSTODY

Table with 7 columns: Relinquished By, Date, Time, Received By, Date, Time, Method of Submittal. Includes signatures and dates for Philip Carrington and a recipient on 4/9/2021.

LABORATORY INFORMATION

24. Name and Signature: [Signature]; 24a. Analyzed By: [Signature]; 24b. Analyzed By: [Signature]; 24c. QC By: [Signature]; 25. Date: 4/12/21; 26. Time: 10:30 AM; 27. Comments (Lab):



ATC - New York
104 East 25th Street, 8th FL, New York, NY 10010
Phone: (212) 353-8280, Fax: (212) 353-3599 or 8306

Accreditations: NVLAP 101187-0 ELAP 10879; Microscopes: OLYMPUS BH-2 / NIKON OPTIPHOT

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / PA; Project Number: 214PNPEPJ1; Analysis Date: 4/10/2021; Analyst: [Signature]; Batch Number: 21-626; TEMPERATURE: 23

Field 1: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes gravimetric and PLM data for sample 13.

Field 2: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes gravimetric and PLM data for sample 14.

Field 3: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes gravimetric and PLM data for sample 16.

Field 4: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes gravimetric and PLM data for sample 17.

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763; Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite; Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 5	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>[Signature]</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 6	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>[Signature]</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 7	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>[Signature]</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 8	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>[Signature]</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS_DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS BULK FORMS 2020\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 9	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>[Signature]</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 10	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>[Signature]</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 11	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>[Signature]</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 12	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>[Signature]</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

1 13 Field Number Stereoscopic Exam PLM Optical Properties Asbestos Results PLM % Other Fibrous PLM % Non Fibrous PLM %

2 14 Field Number Stereoscopic Exam PLM Optical Properties Asbestos Results PLM % Other Fibrous PLM % Non Fibrous PLM %

3 15 Field Number Stereoscopic Exam PLM Optical Properties Asbestos Results PLM % Other Fibrous PLM % Non Fibrous PLM %

4 16 Field Number Stereoscopic Exam PLM Optical Properties Asbestos Results PLM % Other Fibrous PLM % Non Fibrous PLM %

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
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ELAP Items 198.1, 198.4, 198.6, 198.8

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Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

1 17 Field Number Stereoscopic Exam PLM Optical Properties Asbestos Results PLM % Other Fibrous PLM % Non Fibrous PLM %

2 18 Field Number Stereoscopic Exam PLM Optical Properties Asbestos Results PLM % Other Fibrous PLM % Non Fibrous PLM %

3 19 Field Number Stereoscopic Exam PLM Optical Properties Asbestos Results PLM % Other Fibrous PLM % Non Fibrous PLM %

4 20 Field Number Stereoscopic Exam PLM Optical Properties Asbestos Results PLM % Other Fibrous PLM % Non Fibrous PLM %

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

1 21 Field Number
Stereoscopic Exam: Color [Handwritten] Texture F
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 90 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

2 22 Field Number
Stereoscopic Exam: Color [Handwritten] Texture [Handwritten]
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 90 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

3 23 Field Number
Stereoscopic Exam: Color [Handwritten] Texture [Handwritten]
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 90 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

4 24 Field Number
Stereoscopic Exam: Color [Handwritten] Texture [Handwritten]
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 90 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
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ELAP Items 198.1, 198.4, 198.6, 198.8
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

1 25 Field Number
Stereoscopic Exam: Color [Handwritten] Texture F
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 95 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 5 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

2 26 Field Number
Stereoscopic Exam: Color [Handwritten] Texture F
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 95 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 5 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

3 27 Field Number
Stereoscopic Exam: Color [Handwritten] Texture F
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 95 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 5 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

4 28 Field Number
Stereoscopic Exam: Color [Handwritten] Texture F
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 95 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 5 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
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Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %					
29	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other		
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																				
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																				
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM																					
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																					
Comments:																						
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																						

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %				
30	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other	
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																			
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																			
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
Required <input type="checkbox"/>	PLM																				
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																				
Comments:																					
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																					

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
31	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																		
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																		
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.								
Required <input type="checkbox"/>	PLM																			
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																			
Comments:																				
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																				

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
32	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																		
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																		
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.								
Required <input type="checkbox"/>	PLM																			
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																			
Comments:																				
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																				

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
33	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																		
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																		
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.								
Required <input type="checkbox"/>	PLM																			
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																			
Comments:																				
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																				

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
34	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																		
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																		
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.								
Required <input type="checkbox"/>	PLM																			
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																			
Comments:																				
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																				

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
35	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																		
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																		
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.								
Required <input type="checkbox"/>	PLM																			
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																			
Comments:																				
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																				

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
36	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																		
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																		
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.								
Required <input type="checkbox"/>	PLM																			
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																			
Comments:																				
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																				

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

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Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 37	Color <u>tan</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>-</u> # of Layers <u>2</u> Asbestos <u>-</u> Color of Layer <u>-</u> Detected Yes No	Morph Extinction RI ₁ RI DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>				

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 38	Color <u>tan</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>-</u> # of Layers <u>2</u> Asbestos <u>-</u> Color of Layer <u>-</u> Detected Yes No	Morph Extinction RI ₁ RI DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>				

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 39	Color <u>tan</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>-</u> # of Layers <u>2</u> Asbestos <u>-</u> Color of Layer <u>-</u> Detected Yes No	Morph Extinction RI ₁ RI DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>				

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 40	Color <u>tan</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>-</u> # of Layers <u>2</u> Asbestos <u>-</u> Color of Layer <u>-</u> Detected Yes No	Morph Extinction RI ₁ RI DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>				

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

L:\LAB_FORMS_DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\FORMS 2020\BULK ASBESTOS ANALYSIS SHEET_FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 41	Color <u>tan</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>-</u> # of Layers <u>2</u> Asbestos <u>-</u> Color of Layer <u>-</u> Detected Yes No	Morph Extinction RI ₁ RI DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>				

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 42	Color <u>tan</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>-</u> # of Layers <u>2</u> Asbestos <u>-</u> Color of Layer <u>-</u> Detected Yes No	Morph Extinction RI ₁ RI DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>				

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 43	Color <u>tan</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>-</u> # of Layers <u>2</u> Asbestos <u>-</u> Color of Layer <u>-</u> Detected Yes No	Morph Extinction RI ₁ RI DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>				

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 44	Color <u>tan</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>-</u> # of Layers <u>2</u> Asbestos <u>-</u> Color of Layer <u>-</u> Detected Yes No	Morph Extinction RI ₁ RI DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>				

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

L:\LAB_FORMS_DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\FORMS 2020\BULK ASBESTOS ANALYSIS SHEET_FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626

Accreditations:
NVLAP 101187-0
ELAP 10879

Microscopes:
OLYMPUS BH-2/
NIKON OPTIPHOT

TEMPERATURE °C 23

Form 1 45: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 2 46: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 3 47: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 4 48: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626

Accreditations:
NVLAP 101187-0
ELAP 10879

Microscopes:
OLYMPUS BH-2/
NIKON OPTIPHOT

TEMPERATURE °C 23

Form 1 49: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 2 50: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 3 51: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 4 52: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-626 TEM Batch # 122941 Start Date: 04/10/21
 NOB PLM PREP: JYG/MI NOB PLM Analyst: MW NOB TEM PREP: JD NOB TEM Analyst: RP Date Completed: 04/12/21

Field #	5 % Organic	11 Non Asb Residue % NFr	12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
						NOB PREP	PLM	TEM
1	25.3	46.3	28.4	ND		✓	✓	✓
2	26.1	51.6	22.3	ND		✓	✓	✓
3	25.1	48.9	26.0	ND		✓	✓	✓
4	13.2	74.3	12.5	ND		✓	✓	✓
5	13.0	67.7	19.3	ND		✓	✓	✓
6	13.2	37.8	49.0	ND		✓	✓	✓
7	24.5	42.5	33.0	ND		✓	✓	✓
8	25.3	52.6	22.1	ND		✓	✓	✓
9	24.8	56.8	18.4	ND		✓	✓	✓
16	25.1	43.5	31.4	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-626 TEM Batch # 122941 Start Date: 04/10/21
 NOB PLM PREP: JYG/MI NOB PLM Analyst: MW NOB TEM PREP: JD NOB TEM Analyst: RP Date Completed: 04/12/21

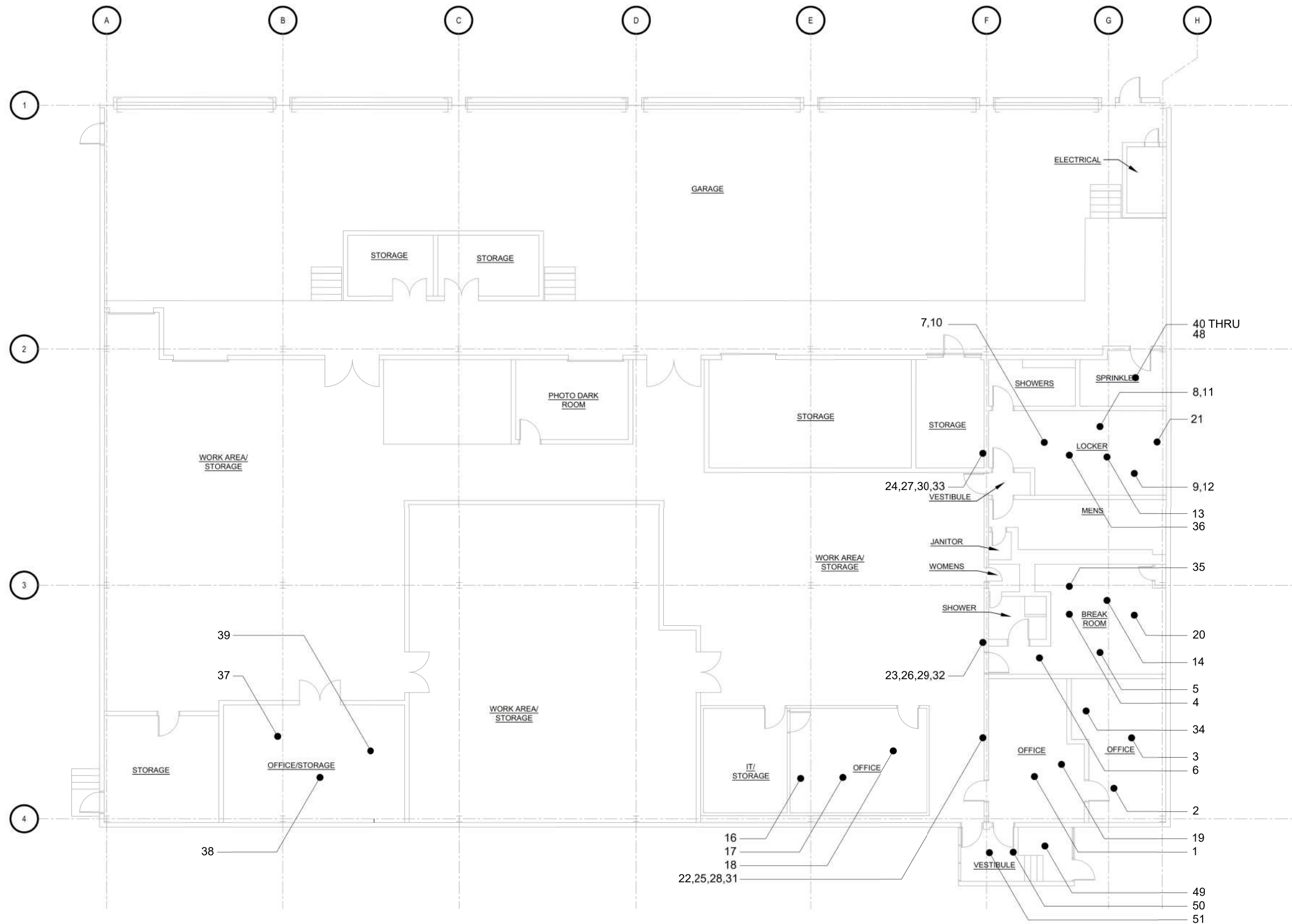
Field #	5 % Organic	11 Non Asb Residue % NFr	12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
						NOB PREP	PLM	TEM
17	24.7	42.9	32.4	ND		✓	✓	✓
18	24.3	33.2	42.5	ND		✓	✓	✓
37	12.7	40.2	47.1	ND		✓	✓	✓
38	13.9	60.7	25.4	ND		✓	✓	✓
39	14.5	65.6	19.9	ND		✓	✓	✓
49	14.6	75.6	9.8	ND		✓	✓	✓
50	15.0	82.7	2.3	ND		✓	✓	✓
51	11.7	63.5	24.8	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.

APPENDIX B

ASBESTOS SAMPLE LOCATION DRAWINGS

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No.	Date	Revision	Approved
ENGINEERING DEPARTMENT			
NEW JERSEY			
MARINE TERMINAL			
PORT ELIZABETH			

ENVIRONMENTAL	
Title	
NEW JERSEY PORTS ASBESTOS SURVEY	
BUILDING 255 FIRST FLOOR SAMPLE LOCATION PLAN	

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street - 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 2nd Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by N.KOGELMAN

Date 05/07/2021

Contract Number

Drawing Number **SL001**

P 1 FIRST FLOOR PLAN
A001 Scale: 0 4 8 16feet



SYMBOL	DESCRIPTION
● — 23	SUSPECT ASBESTOS SAMPLE LOCATION

APPENDIX C

**ASBESTOS LOCATION DRAWINGS
(N/A)**

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New York State – Department of Labor

Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

ATC Group Services LLC
10th Floor
104 East 25th Street
New York, NY 10010

FILE NUMBER: 99-0121
LICENSE NUMBER: 29902
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 03/24/2021
EXPIRATION DATE: 03/31/2022

Duly Authorized Representative – Kevin Hamilton:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

APPENDIX D

**LAB CERTIFICATIONS AND ACCREDITATIONS, COMPANY
AND PERSONNEL CERTIFICATIONS**



Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2003) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos EPA 100.2



Serial No.: 61221

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual



Serial No.: 61222

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos

40 CFR 763 APX A No. III

NIOSH 7402

Fibers

NIOSH 7400 A RULES



Serial No.: 61223

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos

EPA 100.2

Serial No.: 62824

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos in Friable Material Item 198.1 of Manual
EPA 600/M4/82/020
- Asbestos in Non-Friable Material-PLM Item-198.6 of Manual (NOB by PLM)
- Asbestos in Non-Friable Material-TEM Item 198.4 of Manual
- Asbestos-Vermiculite-Containing Material Item 198.8 of Manual

Serial No.: 62825

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos 40 CFR 763 APX A No. III
NIOSH 7402
- Fibers NIOSH 7400 A RULES

Serial No.: 62826

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101187-0

ATC Group Services LLC
New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*



2020-07-01 through 2021-06-30
Effective Dates

For the National Voluntary Laboratory Accreditation Program



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ATC Group Services LLC

104 E. 25th Street 8th Floor
New York, NY 10010
Ms. Milena Bonezzi
Phone: 212-353-8280 x247 Fax: 212-353-8306
Email: milena.bonezzi@atcgs.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101187-0

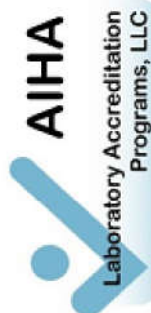
Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR Part 763 Subpart F Appendix A

For the National Voluntary Laboratory Accreditation Program



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS

- INDUSTRIAL HYGIENE Accreditation Expires: November 01, 2021
- ENVIRONMENTAL LEAD Accreditation Expires:
- ENVIRONMENTAL MICROBIOLOGY Accreditation Expires:
- FOOD Accreditation Expires:
- UNIQUE SCOPES Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Elizabeth Bair

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Revision 17: 09/11/2018

Cheryl O. Morton

Cheryl O Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Date Issued: 08/30/2019



AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

Issue Date: 08/30/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.



Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 06/12/1995

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400 Modified	-

A complete listing of currently accredited IHLAP laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>


STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE



PHILIP R CARRINGTON
CLASS(EXPIRES)
C ATEC(11/21) D INSP(11/21)
E MGPL(11/21) H PM (11/21)
I PD (11/21)

CERT# 88-11798
DMV# 148609949

MUST BE CARRIED ON ASBESTOS PROJECTS




STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

NANCY B GUEVARA
CLASS(EXPIRES)
C ATEC(05/21) D INSP(05/21)
H PM (05/21) I PD (05/21)

CERT# 14-00412
DMV# 234032668

MUST BE CARRIED ON ASBESTOS PROJECTS




01213 005585914 40
EYES BRO
HAIR BLK
HGT 5' 09"



IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240





01213 005585171 14
EYES BRO
HAIR BRO
HGT 5' 06"



IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240


STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE



RONEY D RIVERO
CLASS(EXPIRES)
C ATEC(08/21) D INSP(08/21)
E MGPL(08/21) H PM (08/21)
I PD (08/21)

CERT# 88-06348
DMVF# 955602641

MUST BE CARRIED ON ASBESTOS PROJECTS



01213 005581057 61



IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

EYES BRO
HAIR GRY
HGT 5' 11"



NJMT REHABILITATION OF FIRE PROTECTION SYSTEMS PN, EP, & PJ

**ASBESTOS INSPECTION REPORT
PORT NEWARK, BUILDING #111**

Performed for:

**PORT NEWARK
NEWARK, NEW JERSEY**

Prepared for:

**THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY**

Prepared by:

**ATC GROUP SERVICES LLC
104 EAST 25TH STREET
NEW YORK, NEW YORK 10010
(212) 353-8280**

ATC Project No: 214PNPEPJ1

May 14, 2021



104 East 25th Street
8th Floor
New York, New York 10010
Telephone 212-353-8280
Fax 212-353-8306

May 14, 2021

Robert Pruno, P.E.
Chief Environmental Engineer
Port Authority of New York & New Jersey
Engineering Design Division
4 World Trade Center, Floor 20
New York, NY, 10006

Subject: Inspection Report for Asbestos-Containing Materials

**Re: Port Newark, Building #111
111 Corbin Street
Newark, NJ 07114
NJMT Rehabilitation of Fire Protection Systems**

Dear Mr. Pruno:

ATC Group Services LLC (ATC) has completed the inspection for Asbestos-Containing Materials (ACM) for the proposed work at the above referenced site. The inspection included visual observation, material sampling, laboratory analysis and development of asbestos abatement plans. The attached report presents our inspection procedures, findings, assessments and recommendations along with the pertinent appendices.

ATC appreciates this opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

Roney D. Rivero
Senior Project Manager
for ATC Group Services LLC
Direct Line +1 212 284 0614
Email: roney.rivero@atcgs.com

Attachments

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 BUILDING DESCRIPTION.....	2
3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS	2
4.0 ACM INSPECTION SCOPE.....	3
5.0 ACM INSPECTION RESULTS	4
6.0 PCB-IN-CAULKING INSPECTION FINDINGS	4
7.0 UNIVERSAL WASTE OBSERVATION	4
8.0 CONCLUSIONS AND RECOMMENDATIONS	4
9.0 ASSUMPTIONS AND LIMITATIONS.....	5

APPENDICES

Appendix A: ACM Laboratory Results and Chain of Custodies

Appendix B: PCB-in-Caulking Laboratory Results and Chain of Custodies

Appendix C: Asbestos, and PCB Bulk Sample Location Drawings

Appendix D: ACM Location Drawings (N/A for this Project)

Appendix E: Lab Certifications / Accreditations, Company and Personnel Certifications

EXECUTIVE SUMMARY

On March 10, 2021, ATC completed the inspection for ACM at Port Newark, Building #111 (the Site). The survey was conducted at the request of Port Authority of New York and New Jersey (PANYNJ) in preparation for the Rehabilitation of Fire Protection Systems Project. ATC utilized drawings provided by PANYNJ delineating the areas that will be impacted by the renovation project.

ATC collected fifteen (15) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, none of the sampled homogeneous areas was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content). These materials are tabulated in Section 4.0.

ATC collected and analyzed one (1) sample from suspect PCB-containing Caulking. Based upon review of the analytical results of bulk samples collected, the sample was found to be none detect for total PCBs. A tabulation of the laboratory results are summarized in in Section 6.0.

1.0 INTRODUCTION

The intent of this survey was to locate and identify all accessible ACM, and PCBs in caulking within the referenced structure that could potentially be impacted by the proposed Fire Sprinkler Rehabilitation Project.

The environmental survey was conducted by the following personnel who hold certifications from the New York State Department of Labor as Asbestos Inspectors, and the Environmental Protection Agency as Lead Risk Assessors.

Inspector's Name	Certification Number	ACM/LCP
Philip R. Carrington	AH-88-11798	ACM
Roney D. Rivero	AH-88-06348	ACM

2.0 BUILDING DESCRIPTION

The New Jersey Port Newark Building 111, constructed in 1997, is located on the eastern side of Corbin Street. The 21 ft. tall, single story building has a near rectangular footprint, approximately 82 ft. wide by 128 ft. long in plan, with a total of 10,500 square feet of floor area. The building is occupied by Port Authority personnel and serves as a pump station for the Port Newark domestic and fire protection water systems. Most of the space consists of a large, open and full height mechanical space. There are isolated areas of office space along the interiors northeast portion.

3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogeneous area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos.

Bulk samples of suspect ACM were analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Methods 198.1 and 198.6 as specified in the Environmental Laboratory Approval Program (ELAP) Certification Manual. Method 198.1 is used for friable ACM and Method 198.6 is used for non-friable ACM.

For non-friable materials such as mastic, caulking, etc., Method 198.6 requires that any result of 1-percent or less be reanalyzed by Method 198.4. This Method utilizes Transmission Electron Microscopy (TEM) to determine asbestos content. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) Non-friable Organically Bound (NOB) sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

The laboratory performing both these analysis procedures was ATC, located at 104 East 25th Street, New York, New York. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101187-0)
- New York State Environmental Laboratory Approval Program (Lab No. 10879)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 100229)

4.0 ACM INSPECTION SCOPE

ATC conducted the walkthrough of Port Newark building 260 on August 11, 2020 to understand typical building layouts and systems on buildings that are similar in lay out and use. Based on the findings of the walkthrough, ATC conducted an asbestos inspection of Port Newark Building 111 on March 10, 2021 and collected fifteen (15) bulk samples from all suspect asbestos-containing material. The areas inspected included only areas that may be impacted by the proposed Fire Sprinkler Rehabilitation Project at this location. The intent of this survey was to locate and identify all accessible ACM.

The following five (5) homogeneous materials inspected and sampled for ACM during the inspections were:

Suspect Material	Location
2' X 4' Suspended Ceiling Tile	1 st Floor – Office Space, Lobby & Bathroom
Cinder Block Wall Mortar	1 st Floor –Lobby, Bathroom & Generator Room
Soft Concrete Decking	1 st Floor – Above Pump Room, Above Generator Room & Above Electric Room
Expansion Board (Brown) on Decking Wall Perimeter	1 st Floor – at Pump Room & , Generator Room Walls
Vertical Expansion Caulking on CMU Wall	1 st Floor – Generator Room, Pump Room & East wall

5.0 ACM INSPECTION RESULTS

Based upon visual inspection and analytical results of bulk samples collected, **none of the materials are asbestos-containing** (> 1%).

Laboratory results are included in Appendix A. Asbestos Sample Location Plans are included in Appendix C.

6.0 PCB-IN-CAULKING INSPECTION FINDINGS

ATC collected one (1) sample from suspect PCB-containing Caulking and submitted to a third party laboratory for analysis. The suspect PCB-containing Caulking sample collected was based on building component, application type as well as color and texture. Caulking materials with similar characteristics were assumed to be homogenous materials.

ATC submitted the suspect PCB samples to New York Environmental & Analytical Laboratories Inc., for Gas Chromatography with Electron Capture Detection (GC/ECD) analysis utilizing EPA Method 8082.

Based on laboratory analysis and results, the one (1) sample tested “none detect” for total PCBs.

7.0 UNIVERSAL WASTE INVENTORY

ATC conducted a visual inspection of the light fixtures at the site to document Universal Waste, defined in Title 40, CFR Part 273. During the inspection at the site, it was observed the presence of fluorescent lamps, high intensity discharge (HID) lamps and ballasts.

It was assumed that lamp ballasts/capacitors contain PCBs and/or Di-Ethylhexyl Phthalate (DEHP); therefore, if removal is necessary it should be disposed of as PCB wastes as per 40 CFR Part 761.

8.0 CONCLUSIONS AND RECOMMENDATIONS

ATC collected fifteen (15) bulk samples from all suspect asbestos-containing material. Based upon visual inspection and review of the analytical results of bulk samples collected, **none of the materials is asbestos-containing** (> 1%).

ATC collected and analyzed one (1) sample from suspect PCB-containing Caulking. Based on laboratory analysis and results, the one (1) sample tested “none detect” for total PCBs.

Various types of painted surfaces such as sprinkler pipes, CMU walls, and roof decking have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 111, located in Newark, New Jersey.

Various types of light fixtures (fluorescent lamps, high intensity discharge (HID) lamps and ballasts) have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 111 located in Newark, New Jersey.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted at the time of the inspection.

If questions arise regarding asbestos content in building materials that were not tested by ATC, additional testing services should be procured to test those areas.

This report is intended for the sole use of the PANYNJ. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations contained herein is at the risk of said user.

END OF REPORT

APPENDIX A

ACM LABORATORY RESULTS AND CHAIN OF CUSTODIES

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ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Client: ATC - NEW YORK
104 EAST 25TH STREET
NEW YORK, NY 10010
Fax: (212) 353-3599 **Phone:** (212) 353-8280
Project: PANYNJ / FIRESPRINKLER REHABILITATION

Sample Date: 3/10/2021
Date Received : 3/10/2021
Date Analyzed : 3/11/2021
ATC Batch # 21-347
Methods: ELAP 198.1, 198.6, 198.4

Location: PN / Building #111
Project # 214PNPEPJ1/TASK0001

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
1 21-347 -1	1ST FLOOR OFFICE SPACE	2' X 2' SUSPENDED CEILING TILE	NOB-TEM		0.0% Vermiculite	2.4% Organic 70.6% Residue 27% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings		Color: Gray Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive. Ceiling Tile				
2 21-347 -2	1ST FLOOR LOBBY	2' X 2' SUSPENDED CEILING TILE	NOB-TEM		0.0% Vermiculite	1.7% Organic 86.1% Residue 12.2% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings		Color: Gray Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive. Ceiling Tile				
3 21-347 -3	1ST FLOOR LOBBY	2' X 2' SUSPENDED CEILING TILE	NOB-TEM		0.0% Vermiculite	3.2% Organic 83.5% Residue 13.3% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings		Color: Gray Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive. Ceiling Tile				
4 21-347 -4	1ST FLOOR LOBBY	CINDER BLOCK / WALL MORTAR	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Jian Hua Zhou		Color: Beige					
5 21-347 -5	1ST FLOOR BATHROOM	CINDER BLOCK / WALL MORTAR	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Jian Hua Zhou		Color: Gray					
6 21-347 -6	1ST FLOOR GENERATOR ROOM	CINDER BLOCK / WALL MORTAR	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Jian Hua Zhou		Color: Beige					
7 21-347 -7	1ST FLOOR ABOVE PUMP ROOM	SOFT CONCRETE DECKING	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Jian Hua Zhou		Color: Gray					



ATC Group Services LLC

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Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
8 21-347 -8	1ST FLOOR ABOVE GENERATOR ROOM	SOFT CONCRETE DECKING	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Jian Hua Zhou		Color: Gray					
9 21-347 -9	1ST FLOOR ABOVE ELECTRIC ROOM	SOFT CONCRETE DECKING	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Jian Hua Zhou		Color: Gray					
10 21-347 -10	1ST FLOOR @ PUMP ROOM WALL	EXPANSION BOARD ON DECKING WALL PERIMETER (BROWN)	NOB-TEM		0.0% Vermiculite	92.7% Organic 1.3% Residue 6% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings		Color: Black Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
11 21-347 -11	1ST FLOOR @ GENERATOR WALL	EXPANSION BOARD ON DECKING WALL PERIMETER (BROWN)	NOB-TEM		0.0% Vermiculite	90% Organic 1.6% Residue 8.4% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings		Color: Black Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
12 21-347 -12	1ST FLOOR @ GENERATOR WALL	EXPANSION BOARD ON DECKING WALL PERIMETER (BROWN)	NOB-TEM		0.0% Vermiculite	96.7% Organic 2.1% Residue 1.2% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings		Color: Black Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
13 21-347 -13	1ST FLOOR GENERATOR ROOM	VERTICAL EXPANSION CAULKING ON CMU WALL	NOB-TEM		0.0% Vermiculite	30.5% Organic 7.9% Residue 61.6% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings		Color: Light Gray Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
14 21-347 -14	1ST FLOOR PUMP ROOM	VERTICAL EXPANSION CAULKING ON CMU WALL	NOB-TEM		0.0% Vermiculite	31% Organic 3.8% Residue 65.2% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings		Color: Light Gray Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
15 21-347 -15	1ST FLOOR EAST WALL	VERTICAL EXPANSION CAULKING ON CMU WALL	NOB-TEM		0.0% Vermiculite	32.9% Organic 2.1% Residue 65% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings		Color: Light Gray Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				



ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
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ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: _____, Amendment Dates: _____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Jian Hua Zhou

Analyst:

Mei Wang

Approved by
Quality Manager:

Michael Gittings

Analyst:

Feyza Gungor

Analyst:

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: 3/10/21	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
6. BUILDING NUMBER: 111	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH_X		9. Comments (Field) NOB -> TEM Stop @ 1st Positive
7. Sampling Areas:			

BULK SAMPLE LOCATION

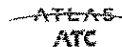
10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
1	1	2'x4' suspended		OFFICE SPACE		
1	2	ceiling tile		LOBBY		
1	3	"		BATHROOM		
2	4	ceiling block		LOBBY		
2	5	wall mortar		BATHROOM		
2	6	" "		GENERATOR ROOM		
3	7	soft concrete		ABOVE PUMP ROOM		
3	8	decking		" GENERATOR ROOM		
3	9	"		" ELECTRIC ROOM		
4	10	EXPANSION BOARD		@ PUMP ROOM WALL		
4	11	ON DECKING WALL		@ GENERATOR WALL		
4	12	PERIMETER (BRICK)		" " "		
5	13	VERTICAL EXPANSION		GENERATOR ROOM		
5	14	CAULKING ON		PUMP ROOM		
5	15	CRU WALL		EAST WALL		
4	16					
4	17					
4	18					

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <i>Philip Carrington</i>	3/10/21	3:00pm	<i>E. Wez L. Key</i>	3/10/2021	15:18	Field
II.						Walk In
III.						US Mail
						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature: <i>Meena Zhou</i>	25. Date: 3/10/21	26. Time: 5:27pm	27. Comments (Lab)
24a. Analyzed By:	3/11/2021	06:00	
24b. Analyzed By:			
24c. QC By: <i>TEM: Feysa Oungar Feysa</i>	3/11/21 @ 14:34		



BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/10/2021 Analyst [Signature] Batch Number 21-347 TEMPERATURE °C 23

1	1	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Field Number	1	Color	Gray	Texture	F	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other			
Gravimetric Required	<input checked="" type="checkbox"/>	Homogeneity	4	Vermiculite	=	# of Layers	1	Asbestos		Color of Layer	Detected	Yes	No																
See gravimetric analysis sheet for results	<input checked="" type="checkbox"/>	Comments: <i>celin file</i>																											
SM-V Required	<input checked="" type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.																
See SM-V analysis sheet for results	<input checked="" type="checkbox"/>	PLM																											
Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA																											

2	2	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Field Number	2	Color	Gray	Texture	F	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other			
Gravimetric Required	<input checked="" type="checkbox"/>	Homogeneity	4	Vermiculite	=	# of Layers	1	Asbestos		Color of Layer	Detected	Yes	No																
See gravimetric analysis sheet for results	<input checked="" type="checkbox"/>	Comments: <i>celin file</i>																											
SM-V Required	<input checked="" type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.																
See SM-V analysis sheet for results	<input checked="" type="checkbox"/>	PLM																											
Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA																											

3	3	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Field Number	3	Color	Gray	Texture	F	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other			
Gravimetric Required	<input checked="" type="checkbox"/>	Homogeneity	4	Vermiculite	=	# of Layers	1	Asbestos		Color of Layer	Detected	Yes	No																
See gravimetric analysis sheet for results	<input checked="" type="checkbox"/>	Comments: <i>celin file</i>																											
SM-V Required	<input checked="" type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.																
See SM-V analysis sheet for results	<input checked="" type="checkbox"/>	PLM																											
Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA																											

4	4	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Field Number	4	Color	White	Texture	G	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other			
Gravimetric Required	<input checked="" type="checkbox"/>	Homogeneity	4	Vermiculite	=	# of Layers	1	Asbestos		Color of Layer	Detected	Yes	No																
See gravimetric analysis sheet for results	<input checked="" type="checkbox"/>	Comments: <i>celin file</i>																											
SM-V Required	<input checked="" type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.																
See SM-V analysis sheet for results	<input checked="" type="checkbox"/>	PLM																											
Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA																											

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/10/2021 Analyst [Signature] Batch Number 21-347 TEMPERATURE °C _____

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %				
1	5	Color <u>Gray</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler					
		Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass		Organic Binders					
		# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other		0	Vermiculite*				
		Color of Layer <u> </u> Detected Yes No																			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>									
	NOB PLM																				
	Comments:																				
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.								

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %				
2	6	Color <u>Beige</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler					
		Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass		Organic Binders					
		# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other		0	Vermiculite*				
		Color of Layer <u> </u> Detected Yes No																			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>									
	NOB PLM																				
	Comments:																				
	Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.								

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %				
3	7	Color <u>Gray</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler					
		Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass		Organic Binders					
		# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other		0	Vermiculite*				
		Color of Layer <u> </u> Detected Yes No																			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>									
	NOB PLM																				
	Comments:																				
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.								

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %				
4	8	Color <u>Gray</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler					
		Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass		Organic Binders					
		# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other		0	Vermiculite*				
		Color of Layer <u> </u> Detected Yes No																			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>									
	NOB PLM																				
	Comments:																				
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.								

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/10/2021 Analyst [Signature] Batch Number 21-347 TEMPERATURE °C _____

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %				
1	9	Color <u>Gray</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler					
		Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass		Organic Binders					
		# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other		0	Vermiculite*				
		Color of Layer <u> </u> Detected Yes No																			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>									
	NOB PLM																				
	Comments:																				
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.								

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %				
2	10	Color <u>Black</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler					
		Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass		Organic Binders					
		# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other		0	Vermiculite*				
		Color of Layer <u> </u> Detected Yes No																			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>									
	NOB PLM																				
	Comments:																				
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.								

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %				
3	11	Color <u>Black</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler					
		Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass		Organic Binders					
		# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other		0	Vermiculite*				
		Color of Layer <u> </u> Detected Yes No																			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>									
	NOB PLM																				
	Comments:																				
	Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.								

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %				
4	12	Color <u>Black</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler					
		Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass		Organic Binders					
		# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other		0	Vermiculite*				
		Color of Layer <u> </u> Detected Yes No																			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>									
	NOB PLM																				
	Comments:																				
	Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.								

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

APPENDIX B

PCB-IN-CAULKING LABORATORY RESULTS AND CHAIN OF CUSTODIES

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Laboratory Report for PCBs in Solid Waste

Report No.: 2211030-17154

Customer: ATC Group Services LLC
104 East 25th Street
New York, NY 10010

Analytical results pertain only to the samples tested in the condition received by the laboratory. This report must not be reproduced except in its entirety, unless with express written permission from the laboratory.

Project: Fire Sprinkler Rehabilitation, Port Newark, NJ

Lab Sample ID: 210311J126	Collected: 3/10/2021
Client ID: 13	Received: 3/11/2021 9:45
Description: Bldg 111, Pump Rm, NE, Vertical Expansion Caulk on CMU Wall	

Parameter	Method	Analysis Date	LOQ	Result	Units	Flag(s)
PCB 1016	EPA 8082A	03/12/21	0.55	<0.55	mg/kg	
PCB 1221	EPA 8082A	03/12/21	0.55	<0.55	mg/kg	
PCB 1232	EPA 8082A	03/12/21	0.55	<0.55	mg/kg	
PCB 1242	EPA 8082A	03/12/21	0.55	<0.55	mg/kg	
PCB 1248	EPA 8082A	03/12/21	0.55	<0.55	mg/kg	
PCB 1254	EPA 8082A	03/12/21	0.55	<0.55	mg/kg	
PCB 1260	EPA 8082A	03/12/21	0.55	<0.55	mg/kg	
Extraction	EPA 3550C	03/11/21				

Comment(s):
LOQ: Limit of Quantitation PCB: Polychlorinated biphenyl
High-level Limit of Quantitation (LOQ) of prep method EPA 3550C is 20 mg/kg; any PCB quantities reported less than 20 mg/kg are estimated.
Samples analyzed on a wet-weight, "as-received" basis.



210311J0126

65069

88 HARBOR ROAD
PORT WASHINGTON, NY 11050
(516) 944-9500 • FAX (516) 944-9507
www.nyenvironmental.com

Client	PANYNJ	Client Proj. #	214PNPEPJ1	Date	3/10/21
Project	FIRE SPRINKLER REHABILITATION PORT NEWARK, PORT ELIZABETH, PORT JERSEY	Address	PN PE PJ - Building # - 111		
Technician	Philip GARRINGTON	Turnaround	48 hrs		
Sample #	Location and/or Sample Description	Material	VERTICAL Expansion Caulk on CMU Wall	PCB ID	NA
				Lab Use Only	Result (mg/kg)
					<0.550
					MDL
					0.550



Relinquished: Philip Carrington Signature: Philip Carrington Date: 3/10/21 Time: 3:00 PM
 Received: C. Adams Signature: Cara Adams Date: 3/11/21 Time: 9:45

Lab Use Only:
NYEA # _____ Analyst Initials AL Analysis Date: 03/12/21

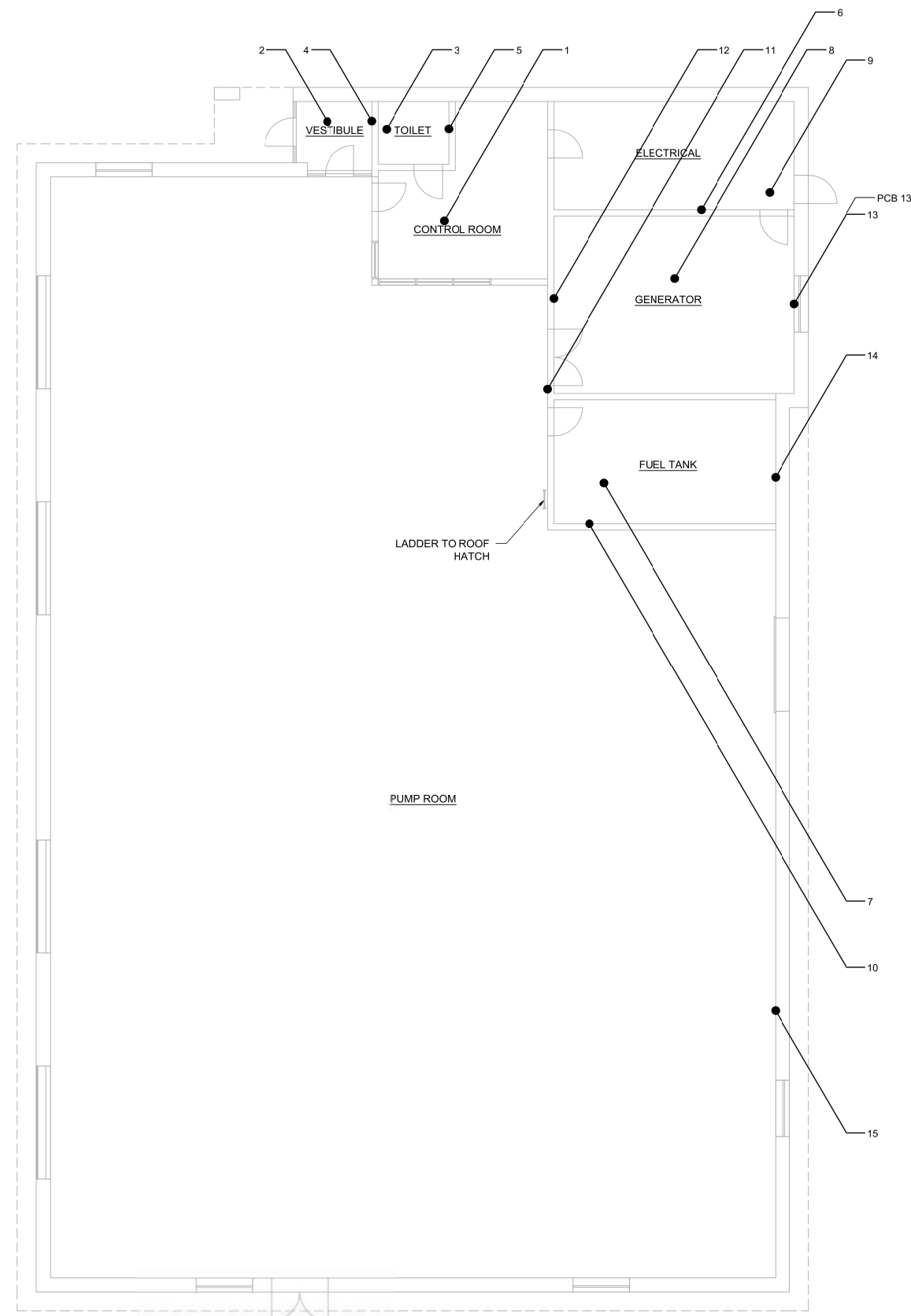
Email Results to: Rosely.Rivera@ATCgs.com

Approved: Li Tsang
Li Tsang, Laboratory Director

APPENDIX C

ASBESTOS AND PCB SAMPLE LOCATION DRAWINGS

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FIRST FLOOR PLAN
SL001
SCALE IN FEET



LEGEND

SYMBOL	DESCRIPTION
●-10	SUSPECT ASBESTOS SAMPLE LOCATION
■-PCB 13	SUSPECT PCB SAMPLE LOCATION

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT			
NEW JERSEY			
MARINE TERMINAL			
PORT NEWARK			

ENVIRONMENTAL	
Title	NEW JERSEY PORTS ASBESTOS SURVEY
	BUILDING 111 FIRST FLOOR SAMPLE LOCATION PLAN SAMPLES 1 TO 15

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by	R.RIVERO
Drawn by	E.MILKIS
Checked by	
Date	05/14/2021
Contract Number	
Drawing Number	SL001

APPENDIX D

**ASBESTOS LOCATION DRAWINGS
(N/A FOR THIS PROJECT)**

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New York State – Department of Labor

Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

ATC Group Services LLC
10th Floor
104 East 25th Street
New York, NY 10010

FILE NUMBER: 99-0121
LICENSE NUMBER: 29902
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 03/24/2021
EXPIRATION DATE: 03/31/2022

Duly Authorized Representative – Kevin Hamilton:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

APPENDIX E

**LAB CERTIFICATIONS AND ACCREDITATIONS, COMPANY
AND PERSONNEL CERTIFICATIONS**



Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2003) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos EPA 100.2



Serial No.: 61221

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual



Serial No.: 61222

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos

40 CFR 763 APX A No. III

NIOSH 7402

Fibers

NIOSH 7400 A RULES



Serial No.: 61223

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

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ATC GROUP SERVICES LLC
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NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos

EPA 100.2

Serial No.: 62824

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



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ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos in Friable Material Item 198.1 of Manual
EPA 600/M4/82/020
- Asbestos in Non-Friable Material-PLM Item-198.6 of Manual (NOB by PLM)
- Asbestos in Non-Friable Material-TEM Item 198.4 of Manual
- Asbestos-Vermiculite-Containing Material Item 198.8 of Manual

Serial No.: 62825

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

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WADSWORTH CENTER



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MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

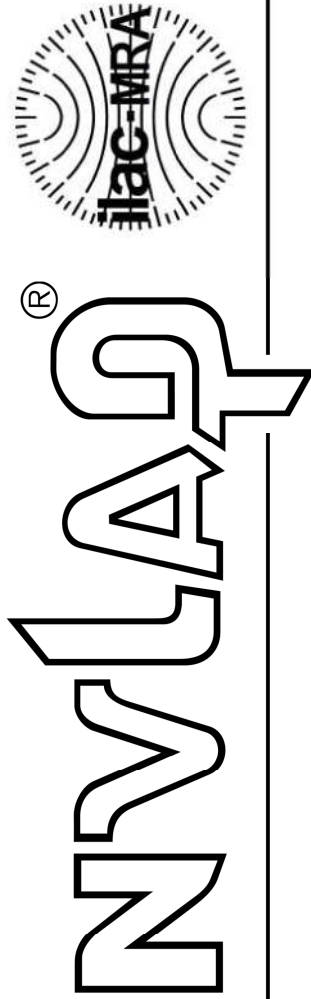
is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos 40 CFR 763 APX A No. III
NIOSH 7402
- Fibers NIOSH 7400 A RULES

Serial No.: 62826

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101187-0

ATC Group Services LLC
New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*



2020-07-01 through 2021-06-30
Effective Dates

For the National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ATC Group Services LLC

104 E. 25th Street 8th Floor
New York, NY 10010
Ms. Milena Bonezzi
Phone: 212-353-8280 x247 Fax: 212-353-8306
Email: milena.bonezzi@atcgs.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101187-0

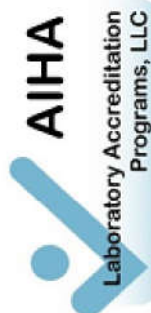
Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR Part 763 Subpart F Appendix A

For the National Voluntary Laboratory Accreditation Program



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS

- INDUSTRIAL HYGIENE Accreditation Expires: November 01, 2021
- ENVIRONMENTAL LEAD Accreditation Expires:
- ENVIRONMENTAL MICROBIOLOGY Accreditation Expires:
- FOOD Accreditation Expires:
- UNIQUE SCOPES Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Elizabeth Bair

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Revision 17: 09/11/2018

Cheryl O. Morton

Cheryl O Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Date Issued: 08/30/2019



AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

Issue Date: 08/30/2019

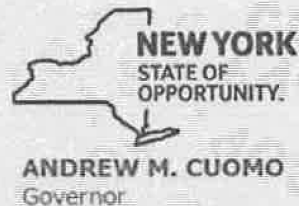
The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 06/12/1995

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400 Modified	-

A complete listing of currently accredited IHLAP laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



Department of Health

ANDREW M. CUOMO Governor

HOWARD A. ZUCKER, M.D., J.D. Commissioner

LISA J. PINO, M.A., J.D. Executive Deputy Commissioner

LAB ID: 11510

April 01, 2021

MR. LI TSANG
NY ENVIRONMENTAL AND ANALYTICAL LABS INC
88 HARBOR ROAD
PORT WASHINGTON, NY 11050

Certificate Expiration Date:
April 01, 2022

Dear Mr. Tsang,

Enclosed are certificate(s) of approval issued to your environmental laboratory for the current permit year. The certificate(s) supersede(s) any previously issued one(s) and is(are) in effect through the expiration date listed. Please carefully examine the certificate(s) to insure that the categories, subcategories, analytes, and methods for which your laboratory is approved are correct. In addition, verify that your laboratory's name, address, lead technical director, and identification number are accurate.

Pursuant to NYCRR Subpart 55-2.2, original certificates must be posted conspicuously in the laboratory and copies shall be made available to any client of the laboratory upon request.

Pursuant to NYCRR Subpart 55-2.6, any misrepresentation of the fields of accreditation (category - method - analyte) for which your laboratory is approved may result in denial, suspension, or revocation of your certification. Any use of the Environmental Laboratory Approval Program (ELAP) or National Environmental Laboratory Accreditation Program (NELAP) name, reference to the laboratory's approval status, and/or using the NELAP logo in any catalogs, advertising, business solicitations, proposals, quotations, laboratory analytical reports, or other materials must include the laboratory's ELAP identification number and distinguish between testing for which the laboratory is approved and testing for which the laboratory is not approved.

If you have any questions, please contact us at the Environmental Laboratory Approval Program, Wadsworth Center, New York State Department of Health, Empire State Plaza, Albany NY, 12237; by phone at (518) 485-5570; by facsimile at (518) 485-5568; and by email at elap@health.ny.gov.

Sincerely,

Victoria Pretti

Victoria Pretti
Director and QA Officer
Environmental Laboratory Approval Program

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

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MR. LI TSANG
NY ENVIRONMENTAL AND ANALYTICAL LABS INC
88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Table with 4 columns: Category, Analyte, Method, and Reference. Rows include Bacteriology (Coliform, Enterococci, Heterotrophic Plate Count), Metals I (Barium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Silver, Zinc), Metals II (Aluminum, Beryllium, Molybdenum, Nickel, Vanadium), Metals III (Boron, Calcium, Magnesium, Potassium), Metals III (Sodium), Miscellaneous (Odor, Turbidity), and Non-Metals (Calcium Hardness, Color, Specific Conductance).

Serial No.: 63011

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



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88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved subcategories and/or analytes are listed below:

Bacteriology

Legionella ISO 11731:2017(E)



Department
of Health

Serial No.: 63012

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WADSWORTH CENTER



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88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

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National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Bacteriology

Enterococci SM 23 9230D (Enterolert)
Heterotrophic Plate Count SimPlate

Metals I

Barium, Total EPA 200.7, Rev. 4.4 (1994)
Cadmium, Total EPA 200.7, Rev. 4.4 (1994)
Calcium, Total EPA 200.7, Rev. 4.4 (1994)
Chromium, Total EPA 200.7, Rev. 4.4 (1994)
Copper, Total EPA 200.7, Rev. 4.4 (1994)
Iron, Total EPA 200.7, Rev. 4.4 (1994)
Lead, Total EPA 200.7, Rev. 4.4 (1994)
Magnesium, Total EPA 200.7, Rev. 4.4 (1994)
Manganese, Total EPA 200.7, Rev. 4.4 (1994)
Nickel, Total EPA 200.7, Rev. 4.4 (1994)
Potassium, Total EPA 200.7, Rev. 4.4 (1994)
Silver, Total EPA 200.7, Rev. 4.4 (1994)
Sodium, Total EPA 200.7, Rev. 4.4 (1994)
Strontium, Total EPA 200.7, Rev. 4.4 (1994)

Metals II

Aluminum, Total EPA 200.7, Rev. 4.4 (1994)
Antimony, Total EPA 200.7, Rev. 4.4 (1994)
Arsenic, Total EPA 200.7, Rev. 4.4 (1994)
Beryllium, Total EPA 200.7, Rev. 4.4 (1994)
Selenium, Total EPA 200.7, Rev. 4.4 (1994)
Vanadium, Total EPA 200.7, Rev. 4.4 (1994)
Zinc, Total EPA 200.7, Rev. 4.4 (1994)

Metals III

Cobalt, Total EPA 200.7, Rev. 4.4 (1994)
Molybdenum, Total EPA 200.7, Rev. 4.4 (1994)
Thallium, Total EPA 200.7, Rev. 4.4 (1994)

Mineral

Calcium Hardness EPA 200.7, Rev. 4.4 (1994)
SM 2340B-2011
Hardness, Total EPA 200.7, Rev. 4.4 (1994)
SM 2340B-2011

Miscellaneous

Turbidity SM 2130 B-2011

Serial No.: 63013

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88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved subcategories and/or analytes are listed below:

Bacteriology

Legionella ISO 11731:2017(E)



Serial No.: 63014

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88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Characteristic Testing

TCLP EPA 1311

Polychlorinated Biphenyls

Aroclor 1016 (PCB-1016)	EPA 8082A
Aroclor 1221 (PCB-1221)	EPA 8082A
Aroclor 1232 (PCB-1232)	EPA 8082A
Aroclor 1242 (PCB-1242)	EPA 8082A
Aroclor 1248 (PCB-1248)	EPA 8082A
Aroclor 1254 (PCB-1254)	EPA 8082A
Aroclor 1260 (PCB-1260)	EPA 8082A



Sample Preparation Methods

EPA 3550C

Serial No.: 63015

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PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

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ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Metals I

Lead, Total EPA 6010D
EPA 7000B

Miscellaneous

Asbestos in Friable Material Item 198.1 of Manual
EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM Item 198.6 of Manual (NOB by PLM)
Asbestos-Vermiculite-Containing Material Item 198.8 of Manual
Lead in Dust Wipes EPA 6010D
EPA 7000B
Lead in Paint EPA 6010D
EPA 7000B

Sample Preparation Methods

EPA 3050B
ASTM E-1979-17

Serial No.: 63016

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



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88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Metals I

Lead, Total NIOSH 7082

Miscellaneous



Fibers NIOSH 7400 A RULES



Serial No.: 63017

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.


STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

PHILIP R CARRINGTON
CLASS(EXPIRES)
C ATEC(11/21) D INSP(11/21)
E MGPL(11/21) H PM (11/21)
I PD (11/21)

CERT# 88-11798
DMV# 148609949

MUST BE CARRIED ON ASBESTOS PROJECTS






01213 005585914 40

EYES BRO
HAIR BLK
HGT 5' 09"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240


STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

RONEY D RIVERO
CLASS(EXPIRES)
C ATEC(08/21) D INSP(08/21)
E MGPL(08/21) H PM (08/21)
I PD (08/21)

CERT# 88-06348
DMV# 955602641

MUST BE CARRIED ON ASBESTOS PROJECTS




01213 005581057 61

EYES BRO
HAIR GRY
HGT 5' 11"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240



**NJMT REHABILITATION OF FIRE PROTECTION
SYSTEMS PN, EP, & PJ**

**ASBESTOS INSPECTION REPORT
PORT NEWARK, BUILDING #260**

Performed for:

**PORT NEWARK
NEWARK, NEW JERSEY**

Prepared for:

**THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY**

Prepared by:

**ATC GROUP SERVICES LLC
104 EAST 25TH STREET
NEW YORK, NEW YORK 10010
(212) 353-8280**

ATC Project No: 214PNPEPJ1

July 1, 2021



104 East 25th Street
8th Floor
New York, New York 10010
Telephone 212-353-8280
Fax 212-353-8306

July 1, 2021

Robert Pruno, P.E.
Chief Environmental Engineer
Port Authority of New York & New Jersey
Engineering Design Division
4 World Trade Center, Floor 20
New York, NY, 10006

Subject: Inspection Report for Asbestos-Containing Materials

**Re: Port Newark, Building #260
260 Kellogg Street
Newark, NJ 07114
NJMT Rehabilitation of Fire Protection Systems**

Dear Mr. Pruno:

ATC Group Services LLC (ATC) has completed the inspection for Asbestos-Containing Materials (ACM) for the proposed work at the above referenced site. The inspection included visual observation, material sampling, laboratory analysis and development of asbestos abatement plans. The attached report presents our inspection procedures, findings, assessments and recommendations along with the pertinent appendices.

ATC appreciates this opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

Roney D. Rivero
Senior Project Manager
for ATC Group Services LLC
Direct Line +1 212 284 0614
Email: roney.rivero@atcgs.com

Attachments

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 BUILDING DESCRIPTION.....	2
3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS	2
4.0 ACM INSPECTION SCOPE.....	3
5.0 ACM INSPECTION RESULTS	5
6.0 PCB-IN-CAULKING INSPECTION FINDINGS	6
7.0 UNIVERSAL WASTE OBSERVATION	6
8.0 CONCLUSIONS AND RECOMMENDATIONS	6
9.0 ASSUMPTIONS AND LIMITATIONS.....	7

APPENDICES

Appendix A: ACM Laboratory Results and Chain of Custodies

Appendix B: Asbestos Sample Location Drawings

Appendix C: ACM Location Drawings

Appendix D: Lab Certifications / Accreditations, Company and Personnel Certifications

EXECUTIVE SUMMARY

On March 15 & April 15, 2021, ATC completed the inspection for ACM at Port Newark, Building #260 (the Site). The survey was conducted at the request of Port Authority of New York and New Jersey (PANYNJ) in preparation for the Rehabilitation of Fire Protection Systems Project. ATC utilized drawings provided by PANYNJ delineating the areas that will be impacted by the renovation project.

ATC collected one hundred twenty-five asbestos bulk samples from all suspect asbestos-containing material on all accessible areas of Building 260. Based upon review of the analytical results of bulk samples collected, one (1) sampled homogeneous area was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content).

The material that tested positive for asbestos is:

- Mudded Joint Packing Pipe Fitting Insulation associated with Fiberglass Pipe Insulation (3" OD)

These materials are tabulated in Section 4.0.

ATC did not observe or sample any suspect PCB-containing Caulking at the time of the inspection.

1.0 INTRODUCTION

The intent of this survey was to locate and identify all accessible ACM, and PCBs in caulking within the referenced structure that could potentially be impacted by the proposed Fire Sprinkler Rehabilitation Project.

The environmental survey was conducted by the following personnel who hold certifications from the New York State Department of Labor as Asbestos Inspectors, and the Environmental Protection Agency as Lead Risk Assessors.

Inspector's Name	Certification Number	ACM/LCP
Philip R. Carrington	AH-88-11798	ACM
Nancy Guevara	AH-14-00412	ACM
Roney D. Rivero	AH-88-06348	ACM

2.0 BUILDING DESCRIPTION

The New Jersey Port Newark Building 260, construction date unknown, is located on the intersection of Kellogg Street and Corbin Street. The building consists of a three-story office building and a double height garage structure. The office building measures 129 ft. long by 46 ft. wide and is approximately 36 ft. tall. The double-height garage has a rectangular footprint of 121 ft. wide by 216 ft. long and is approximately 24 ft. tall. The overall roofs are a total of 32,890 sf., 6,670 sf. at the office building and 26,200 sf. over the garage.

The building is being used as the Administrative Building for the Port Authority's New Jersey Marin Terminals, office for the Port Authority police and a service garage for Port Authority vehicles. The framing system at both buildings consists of steel girders and open web joists supported by steel columns. The roof deck consists of a flat insulated gypsum panel system. The office building's exterior wall system is brick and concrete and the garage is a reinforced translucent panel system that extends to the roof line with roll-up overhead doors at the east elevation

3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogeneous

area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos.

Bulk samples of suspect ACM were analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Methods 198.1 and 198.6 as specified in the Environmental Laboratory Approval Program (ELAP) Certification Manual. Method 198.1 is used for friable ACM and Method 198.6 is used for non-friable ACM.

For non-friable materials such as mastic, caulking, etc., Method 198.6 requires that any result of 1-percent or less be reanalyzed by Method 198.4. This Method utilizes Transmission Electron Microscopy (TEM) to determine asbestos content. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) Non-friable Organically Bound (NOB) sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

The laboratory performing both these analysis procedures was ATC, located at 104 East 25th Street, New York, New York. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101187-0)
- New York State Environmental Laboratory Approval Program (Lab No. 10879)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 100229)

4.0 ACM INSPECTION SCOPE

ATC conducted the walkthrough of Port Newark building 260 on August 11, 2020 to understand typical building layouts and systems on buildings that are similar in lay out and use. Based on the findings of the walkthrough, ATC conducted an asbestos inspection of the building on March 15 & April 15, 2021 and collected one hundred twenty-five bulk samples from all suspect asbestos-containing material. The areas inspected included only areas that may be impacted by the proposed Fire Sprinkler Rehabilitation Project at this location. The intent of this survey was to locate and identify all accessible ACM.

The following thirty-nine (39) homogeneous materials inspected and sampled for ACM during the inspections were:

Suspect Material	Location
CMU Wall Mortar	1 st Floor – Sprinkler Room, Hallway, Warehouse
Cementitious Plaster	1 st Floor – Sprinkler Room

2' X 2' Ceiling Tile Type I	1 st Floor – Lobby, Lunch Room, South Offices
Spray-on Fire Proofing on Ceiling Deck Metal Beams	1 st Floor – Lobby, Lunch Room, South Offices, Men's Locker Room
2' X 4' Ceiling Tile Type II	1 st Floor – Men's Locker Room, Entrance From Lunch Room
2' X 4' Ceiling Tile Type III	1 st Floor – Hallway Men's Room
Spray-on Fire Proofing on Ceiling Deck & Metal Beams	1 st Floor Warehouse – East Offices
Gypsum Board Paper - Wall	1 st Floor Warehouse – East Offices
Gypsum Board - Wall	1 st Floor Warehouse – East Offices
Joint Compound on Gypsum Board Wall	1 st Floor Warehouse – East Offices
HVAC Duct Insulation	1 st Floor Warehouse – East Offices by Main entrance Door, Hallway Restroom
Gypsum Board Paper - Ceiling	1 st Floor - U.S.M. Shop
Gypsum Board - Ceiling	1 st Floor - U.S.M. Shop
Joint Compound on Gypsum Board Ceiling	1 st Floor - U.S.M. Shop
HVAC Duct Insulation Cover Beige	1 st Floor - Warehouse East Office Mezzanine
Fiberglass Ceiling Insulation Blanket	First Floor - Entry Room by U.S.M. Shop
Fiberglass Insulation Metal Jacket Covering	1 st Floor - Locker Room
Mudded Joint Packing Pipe Fitting Insulation associated with Fiberglass Pipe Insulation	1 st Floor - Locker Room
2' X 2' Ceiling Tile Paper	1 st Floor - Hallway Restroom Ceiling
2' X 2' Ceiling Tile Type I	1 st Floor - Lunch Room
HVAC Duct Insulation Cover	1 st Floor - Lunch Room
CMU Wall Mortar	1 st Floor – Electric Shop, Carpenter Shop & Plumbing Shop
2' X 2' Ceiling Tile	2 nd Floor – Office Space
Gypsum Board Paper - Wall	2 nd Floor – Office Space
Gypsum Board - Wall	2 nd Floor – Office Space
Joint Compound on Gypsum Board Wall	2 nd Floor – Office Space
HVAC Duct Insulation Cover	2 nd Floor – Office Space
Spray-on Fire Proofing on Ceiling Deck Metal Beams	2 nd Floor – Office Space
Fire Stop Sealant - Red	2 nd Floor – Office Space @ Deck Level

2' X 2' Ceiling Tile Type II	2 nd Floor – Slope Sink
2' X 2' Ceiling Tile Type I	3 rd Floor – Office Space
HVAC Duct Insulation Cover	3 rd Floor – Office Space
Gypsum Board Paper - Wall	3 rd Floor – Office Space
Gypsum Board - Wall	3 rd Floor – Office Space
Joint Compound on Gypsum Board Wall	3 rd Floor – Office Space
Spray-on Fire Proofing on Ceiling Deck Metal Beams	3 rd Floor – Office Space
Gypsum Board Paper - Ceiling	3 rd Floor –East & West Side Staircases
Gypsum Board - Ceiling	3 rd Floor –East & West Side Staircases
Joint Compound on Gypsum Board Ceiling	3 rd Floor –East & West Side Staircases

5.0 ACM INSPECTION RESULTS

Based upon visual inspection and analytical results of bulk samples collected, **the following materials are asbestos-containing (> 1%)**:

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
56-58	Mudded Joint Packing Pipe Fitting Insulation associated with Fiberglass Pipe Insulation	10% Chrysotile	6 L.F. (See Note 1)	ACM001

Note 1: The ACM Mudded Joint Packing Pipe Fitting Insulation is located approximately 4' to 6' from the ground level and may not be impacted by the Sprinkler System Renovation.

The following materials are presumed to be asbestos-containing material (PACM):

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
N/A	Flange & Valve Gaskets - Sprinkler Room	PACM	25 Units	ACM001

ACM laboratory results are included in Appendix A. Asbestos Sample Location Plans are included in Appendix B. Asbestos Location Plans are included in Appendix C.

6.0 PCB-IN-CAULKING INSPECTION FINDINGS

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

7.0 UNIVERSAL WASTE INVENTORY

ATC conducted a visual inspection of the light fixtures at the site to document Universal Waste, defined in Title 40, CFR Part 273. During the inspection at the site, it was observed the presence of fluorescent lamps, high intensity discharge (HID) lamps and ballasts.

It was assumed that lamp ballasts/capacitors contain PCBs and/or Di-Ethylhexyl Phthalate (DEHP); therefore, if removal is necessary it should be disposed of as PCB wastes as per 40 CFR Part 761.

8.0 CONCLUSIONS AND RECOMMENDATIONS

ATC collected one hundred twenty-five asbestos bulk samples from all suspect asbestos-containing material on all accessible areas of Building 260. Based upon review of the analytical results of bulk samples collected, one (1) sampled homogeneous area located in Building 260 was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content).

The material that tested positive for asbestos in Building 260 is:

- Mudded Joint Packing Pipe Fitting Insulation associated with Fiberglass Pipe Insulation (3" OD)

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

Various types of painted surfaces such as sprinkler pipes, gypsum board ceilings and walls, CMU walls, and roof metal decking have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 260, located in Newark, New Jersey.

Various types of light fixtures (fluorescent lamps, high intensity discharge (HID) lamps and ballasts) have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 260 located in Newark, New Jersey.

The materials reported in Section 5.0 of this report may not require abatement prior to sprinkler system renovation because they are located approximately 4' to 6' from the ground level and may not be impacted due to the distance to the sprinkle pipe system.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted at the time of the inspection. The valve gaskets inside the pipe flanges could not be tested since the sprinkler system is still operational. It is assumed, based on the number of flanges observed, that there are 25 gaskets in the sprinkler room and are presumed to be asbestos containing. This quantity should be verified with destructive sampling if abatement is planned prior to any renovation work.

If questions arise regarding asbestos content in building materials that were not tested by ATC, additional testing services should be procured to test those areas.

This report is intended for the sole use of the PANYNJ. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations contained herein is at the risk of said user.

END OF REPORT

APPENDIX A

ACM LABORATORY RESULTS AND CHAIN OF CUSTODIES

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Client: ATC - NEW YORK
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NEW YORK, NY 10010
Fax: (212) 353-3599 **Phone:** (212) 353-8280
Project: PANYNJ / FIRESPRINKLER REHABILITATION

Sample Date: 3/15/2021
Date Received : 3/15/2021
Date Analyzed : 3/17/2021
ATC Batch # 21-427
Methods: ELAP 198.1, 198.6, 198.4

Location: PN / BUILDING 260 / 1ST FLOOR
Project # 214PNPEPJ1/TASK0001

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
1	SPRINKLER ROOM	CMU MORTAR	PLM	100%	Mineral Filler		
21-427 -1				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes				Color: Gray			
2	1ST FLOOR - HALLWAY	CMU MORTAR	PLM	100%	Mineral Filler		
21-427 -2				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes				Color: Gray			
3	1ST FLOOR - WAREHOUSE	CMU MORTAR	PLM	100%	Mineral Filler		
21-427 -3				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes				Color: Gray			
4	SPRINKLER ROOM	CEMENTITIOUS PLASTER	PLM	100%	Mineral Filler		
21-427 -4				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes				Color: Brown			
5	SPRINKLER ROOM	CEMENTITIOUS PLASTER	PLM	100%	Mineral Filler		
21-427 -5				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes				Color: Brown			
6	SPRINKLER ROOM	CEMENTITIOUS PLASTER	PLM	100%	Mineral Filler		
21-427 -6				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes				Color: Brown			
7	1ST FLOOR LOBBY	2' X 2' CEILING TILE TYPE 1	NOB-TEM	27.2%	Organic Residue	39.4%	Carbonate
21-427 -7				0.0%	Vermiculite	33.4%	Carbonate
Analyzed By: Michael Gittings				Color: White Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive			



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
8	1ST FLOOR - LUNCH ROOM	2' X 2' CEILING TILE TYPE 1	NOB-TEM			27.5% Organic Residue	56.1% Carbonate
21-427 -8				0.0%	Vermiculite	16.4%	Carbonate
Analyzed By: Michael Gittings				Color: White Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive			
9	1ST FLOOR - S. OFFICES	2' X 2' CEILING TILE TYPE 1	NOB-TEM			28.3% Organic Residue	55.8% Carbonate
21-427 -9				0.0%	Vermiculite	15.9%	Carbonate
Analyzed By: Michael Gittings				Color: White Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive			
10	1ST FLOOR LOBBY	SPRAY ON FIRE PROOFING ON CEILING DECK METAL BEAMS	PLM	12%	Cellulose	86%	Mineral Filler
21-427 -10				2%	FiberGlass	0.0%	Vermiculite
Analyzed By: Ivan Reyes				Color: Green			
11	1ST FLOOR LUNCH ROOM	SPRAY ON FIRE PROOFING ON CEILING DECK METAL BEAMS	PLM	15%	Cellulose	83%	Mineral Filler
21-427 -11				2%	FiberGlass	0.0%	Vermiculite
Analyzed By: Ivan Reyes				Color: Green			
12	1ST FLOOR - MEN'S LOCKER ROOM	SPRAY ON FIRE PROOFING ON CEILING DECK METAL BEAMS	PLM	15%	Cellulose	83%	Mineral Filler
21-427 -12				2%	FiberGlass	0.0%	Vermiculite
Analyzed By: Ivan Reyes				Color: Green			
13	1ST FLOOR - SOUTH OFFICES	SPRAY ON FIRE PROOFING ON CEILING DECK METAL BEAMS	PLM	12%	Cellulose	86%	Mineral Filler
21-427 -13				2%	FiberGlass	0.0%	Vermiculite
Analyzed By: Ivan Reyes				Color: Green			
14	1ST FLOOR - SOUTH OFFICES	SPRAY ON FIRE PROOFING ON CEILING DECK METAL BEAMS	PLM	18%	Cellulose	80%	Mineral Filler
21-427 -14				2%	FiberGlass	0.0%	Vermiculite
Analyzed By: Ivan Reyes				Color: Green			
15	1ST FLOOR - MEN'S LOCKER ROOM	2' X 2' CEILING TILE TYPE 2	NOB-TEM			20.5% Organic Residue	44.2% Carbonate
21-427 -15				0.0%	Vermiculite	35.3%	Carbonate
Analyzed By: Michael Gittings				Color: White Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive			
16	ENTRANCE FROM LUNCH ROOM	2' X 2' CEILING TILE TYPE 2	NOB-TEM			21% Organic Residue	37.2% Carbonate
21-427 -16				0.0%	Vermiculite	41.8%	Carbonate
Analyzed By: Michael Gittings				Color: White Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive			
17	ENTRANCE FROM LUNCH ROOM	2' X 2' CEILING TILE TYPE 2	NOB-TEM			23.9% Organic Residue	52.2% Carbonate
21-427 -17				0.0%	Vermiculite	23.9%	Carbonate
Analyzed By: Michael Gittings				Color: White Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive			



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
18	1ST FLOOR - HALLWAY MEN'S ROOM	2' X 2' CEILING TILE TYPE 3	NOB-TEM			19.1% Organic 63.9% Residue 17% Carbonate	NONE DETECTED
21-427 -18				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: White Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
19	1ST FLOOR - HALLWAY MEN'S ROOM	2' X 2' CEILING TILE TYPE 3	NOB-TEM			20.1% Organic 54.6% Residue 25.3% Carbonate	NONE DETECTED
21-427 -19				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: White Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
20	1ST FLOOR - HALLWAY MEN'S ROOM	2' X 2' CEILING TILE TYPE 3	NOB-TEM			18.8% Organic 53.5% Residue 27.7% Carbonate	NONE DETECTED
21-427 -20				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: White Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
21	1ST FLOOR WAREHOUSE E. OFFICES	SPRAY ON FIREPROOFING ON CEILING DECK & BEAMS	PLM	Trace% Cellulose 80% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -21							
Analyzed By: Ivan Reyes		Color: Gray					
22	1ST FLOOR WAREHOUSE E. OFFICES	SPRAY ON FIREPROOFING ON CEILING DECK & BEAMS	PLM	Trace% Cellulose 80% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -22							
Analyzed By: Ivan Reyes		Color: Gray					
23	1ST FLOOR WAREHOUSE E. OFFICES	SPRAY ON FIREPROOFING ON CEILING DECK & BEAMS	PLM	Trace% Cellulose 85% FiberGlass	15% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -23							
Analyzed By: Ivan Reyes		Color: Gray					
24	1ST FLOOR WAREHOUSE E. OFFICES	SPRAY ON FIREPROOFING ON CEILING DECK & BEAMS	PLM	Trace% Cellulose 80% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -24							
Analyzed By: Ivan Reyes		Color: Gray					
25	1ST FLOOR WAREHOUSE E. OFFICES	SPRAY ON FIREPROOFING ON CEILING DECK & BEAMS	PLM	Trace% Cellulose 85% FiberGlass	15% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -25							
Analyzed By: Ivan Reyes		Color: Gray					
26	1ST FLOOR WAREHOUSE	GYPSUM WALL PAPER	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -26							
Analyzed By: Ivan Reyes		Color: Brown					
27	E. OFFICES	GYPSUM WALL PAPER	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -27							
Analyzed By: Ivan Reyes		Color: Brown					



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
28	E. OFFICES	GYPSUM WALL PAPER	PLM	95% Cellulose	5% Mineral Filler		
21-427 -28					0.0% Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes		Color: Brown					
29	1ST FLOOR - WAREHOUSE	GYPSUM WALL BOARD	PLM	2% Cellulose 2% FiberGlass	96% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -29							
Analyzed By: Ivan Reyes		Color: Gray					
30	E. OFFICES	GYPSUM WALL BOARD	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -30							
Analyzed By: Ivan Reyes		Color: Gray					
31	E. OFFICES	GYPSUM WALL BOARD	PLM	2% Cellulose 2% FiberGlass	96% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -31							
Analyzed By: Ivan Reyes		Color: Gray					
32	1ST FLOOR WAREHOUSE	JOINT COMPOUND ON GWB	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -32							
Analyzed By: Ivan Reyes		Color: White					
33	E. OFFICES	JOINT COMPOUND ON GWB	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -33							
Analyzed By: Ivan Reyes		Color: White					
34	E. OFFICES	JOINT COMPOUND ON GWB	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -34							
Analyzed By: Ivan Reyes		Color: White					
35	1ST FLOOR WAREHOUSE	HVAC DUCT INSULATION LEVELING	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -35							
Analyzed By: Ivan Reyes		Color: Brown/Silver					
36	E. OFFICES BY MAIN ENTRANCE DOOR	HVAC DUCT INSULATION LEVELING	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -36							
Analyzed By: Ivan Reyes		Color: Brown/Silver					
37	1ST FLOOR HALLWAY RESTROOM	HVAC DUCT INSULATION LEVELING	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -37							
Analyzed By: Ivan Reyes		Color: Brown/Silver					



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
38	1ST FLOOR USM SHOP CEILING	GYPSUM CEILING PAPER	PLM	95% Cellulose	5% Mineral Filler		
21-427 -38					0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
39	1ST FLOOR USM SHOP CEILING	GYPSUM CEILING PAPER	PLM	95% Cellulose	5% Mineral Filler		
21-427 -39					0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
40	1ST FLOOR USM SHOP CEILING	GYPSUM CEILING PAPER	PLM	95% Cellulose	5% Mineral Filler		
21-427 -40					0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
41	1ST FLOOR USM SHOP CEILING	GYPSUM CEILING BOARD	PLM	2% Cellulose	96% Mineral Filler		
21-427 -41				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Gray					
Analyzed By: Ivan Reyes							
42	1ST FLOOR USM SHOP CEILING	GYPSUM CEILING BOARD	PLM	2% Cellulose	96% Mineral Filler		
21-427 -42				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Gray					
Analyzed By: Ivan Reyes							
43	1ST FLOOR USM SHOP CEILING	GYPSUM CEILING BOARD	PLM	3% Cellulose	95% Mineral Filler		
21-427 -43				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Gray					
Analyzed By: Ivan Reyes							
44	1ST FLOOR USM SHOP CEILING	CEILING JOINT COMPOUND ON GWB	PLM	Trace% Cellulose	100% Mineral Filler		
21-427 -44					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
45	1ST FLOOR USM SHOP CEILING	CEILING JOINT COMPOUND ON GWB	PLM	Trace% Cellulose	100% Mineral Filler		
21-427 -45					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
46	1ST FLOOR USM SHOP CEILING	CEILING JOINT COMPOUND ON GWB	PLM	Trace% Cellulose	100% Mineral Filler		
21-427 -46					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
47	1ST FLOOR WAREHOUSE E. OFFICE MEZZANINE	HVAC DUCT INSULATION COVER BEIGE	NOB-TEM			50.5% Organic 42.1% Residue 7.4% Carbonate	
21-427 -47					0.0% Vermiculite		NONE DETECTED
		Color: Beige					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
48	1ST FLOOR WAREHOUSE E. OFFICE MEZZANINE	HVAC DUCT INSULATION COVER BEIGE	NOB-TEM			53% Organic 41.1% Residue 5.9% Carbonate	
21-427 -48					0.0% Vermiculite		NONE DETECTED
		Color: Beige					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
49	1ST FLOOR WAREHOUSE E. OFFICE MEZZANINE	HVAC DUCT INSULATION COVER BEIGE	NOB-TEM			56.7% Organic 39.7% Residue 3.6% Carbonate	
21-427 -49					0.0% Vermiculite		NONE DETECTED
		Color: Beige					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
50	1ST FLOOR ENTRY ROOM BY USM SHOP	FIBERGLASS CEILING INSULATION BLANKET	NOB-TEM			66.4% Organic 20.3% Residue 13.3% Carbonate	
21-427 -50					0.0% Vermiculite		NONE DETECTED
		Color: Black/Brown					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
51	1ST FLOOR ENTRY ROOM BY USM SHOP	FIBERGLASS CEILING INSULATION BLANKET	NOB-TEM			74.3% Organic 20.5% Residue 5.2% Carbonate	
21-427 -51					0.0% Vermiculite		NONE DETECTED
		Color: Black/Brown					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
52	1ST FLOOR ENTRY ROOM BY USM SHOP	FIBERGLASS CEILING INSULATION BLANKET	NOB-TEM			64.2% Organic 7.9% Residue 27.9% Carbonate	
21-427 -52					0.0% Vermiculite		NONE DETECTED
		Color: Black/Brown					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
53	1ST FLOOR - LOCKER ROOM	FIBERGLASS PIPE INSULATION METAL JACKET COVERING	NOB-TEM			42.3% Organic 26.2% Residue 31.5% Carbonate	
21-427 -53					0.0% Vermiculite		NONE DETECTED
		Color: White/Black					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
54	1ST FLOOR - LOCKER ROOM	FIBERGLASS PIPE INSULATION METAL JACKET COVERING	NOB-TEM			75.5% Organic 8.9% Residue 15.6% Carbonate	
21-427 -54					0.0% Vermiculite		NONE DETECTED
		Color: White/Black					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
55	1ST FLOOR - LOCKER ROOM	FIBERGLASS PIPE INSULATION METAL JACKET COVERING	NOB-TEM			69.7% Organic 13.1% Residue 17.2% Carbonate	
21-427 -55					0.0% Vermiculite		NONE DETECTED
		Color: White/Black					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
56	1ST FLOOR - LOCKER ROOM	MUDDIED JOINT PACKING ASSOCIATED WITH FIBERGLASS	PLM	Trace% Cellulose	35% Mineral Filler		10% Chrysotile
21-427 -56				55% FiberGlass	0.0% Vermiculite		
		Color: Off White					
Analyzed By: Ivan Reyes		Total Asbestos: 10 %					
57	1ST FLOOR - LOCKER ROOM	MUDDIED JOINT PACKING ASSOCIATED WITH FIBERGLASS					NOT ANALYZED
21-427 -57							
							Comments: Positive stop, see #56



ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
58 21-427 -58	1ST FLOOR - LOCKER ROOM	MUDDERED JOINT PACKING ASSOCIATED WITH FIBERGLASS					NOT ANALYZED
Comments: Positive stop, see #56							
59 21-427 -59	1ST FLOOR HALLWAY RESTROOM CEILING	2' X 2' CEILING TILE PAPER	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
60 21-427 -60	1ST FLOOR HALLWAY RESTROOM CEILING	2' X 2' CEILING TILE PAPER	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
61 21-427 -61	1ST FLOOR HALLWAY RESTROOM CEILING	2' X 2' CEILING TILE PAPER	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							



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Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: ____, Amendment Dates: ____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Ivan Reyes

Analyst:

Mei Wang

Approved by
Quality Manager:

Michael Gittings

Analyst:

Feyza Gungor

Analyst:



**ELAP
BULK ASBESTOS ANALYSIS RESULTS**

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

- ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
5. Date: 3/15/21	6. BUILDING NUMBER: 260	7. Sampling Area: 1st Floor	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL RUSH_X
			9. Comments (Field) NOB → TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
1	1	CMU mortar		1st Floor - Sprinkler Room		
1	2	↓		1st Floor - Hallway		
1	3	↓		1st Floor - Warehouse		
2	4	Cementitious Plaster		Sprinkler Room		
2	5	↓		↓		
2	6	↓		↓		
3	7	2x2' Ceiling Tile		1st Floor Lobby		
3	8	Type 1		1st Floor - Lunch Room		
3	9	↓		1st Floor - S. offices		
4	10	Spray on fire proofing		1st Floor Lobby		
4	11	on ceiling deck		1st Floor - Conference		
4	12	metal beams		1st Floor - men's locker room		
4	13	↓		1st Floor - South offices		
4	14	↓		1st Floor - South offices		
5	15	Type 2x2' ceiling tile		1st Floor - men's		
5	16	Type 2		1st Floor - locker room		
5	17	↓		entrance from lunch room		
6	18	2x2' Ceiling Tile Type 3		1st Floor - Hallway		
				men's Room		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <i>Phil Carrington</i>	3/15/21	6:15 pm	<i>Michael C...</i>	3/15/21	18:15	Field
II.						Walk In
						US Mail
						Fed-Ex
III.						Other

LABORATORY INFORMATION

24. Name and Signature: <i>[Signature]</i>	25. Date 3/16/21	26. Time 1:46 pm	27. Comments (Lab) TEM: Feiya Gungor
24a. Analyzed By: <i>[Signature]</i>	3/16/21	1:46 pm	Feiya Gungor
24b. Analyzed By: <i>[Signature]</i>	3/17/21	06:45	Feiya Gungor
24c. QC By:			3/17/21

@15-03

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
2a. Project Address: (Circle One) PN <u>PE</u> PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON	
5. Date: 3/15/21	6. BUILDING NUMBER: 260	7. Sampling Areas: 1st Floor	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH <u>X</u>
			9. Comments (Field) NOB → TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
6	19	2x2' Ceiling Tile Type 3		1st Floor - Hallway		
6	20	↓		1st Floor - men's room		
7	21	Spray on Fire proofing on ceiling deck & beams		1st Floor - Warehouse		
7	22	↓		E. offices		
7	23	↓				
7	24	↓				
7	25	↓				
8	26	Gypsum wall paper		1st Floor - Warehouse		
8	27	↓		E. offices		
8	28	↓				
9	29	Gypsum Wall Board		1st Floor - warehouse		
9	30	↓		E. offices		
9	31	↓				
10	32	Joint Compound on JWB		1st Floor Warehouse		
10	33	↓		E. offices		
10	34	↓				
11	35	HVAC Duct Insul. covering		1st Floor warehouse		
11	36	↓		E. offices by main entrance door		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
i. Philip Carrington	3/15/21	6:15pm	Michael C. Gungor	3/15/21	18:15	Field Walk In
ii.						US Mail
iii.						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature: <i>[Signature]</i>	25. Date 3/16/21	26. Time 11:46am	27. Comments (Lab) TEM: Feiza Gungor Feb 9 3/17/21 @ 15:03
24a. Analyzed By: <i>[Signature]</i>	3/16/21	11:46am	
24b. Analyzed By: <i>[Signature]</i>	3/17/21	06:15	
24c. QC By:			

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
2a. Project Address: (Circle One) PN <u>PE</u> PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON	
5. Date: 3/15/21	6. BUILDING NUMBER: 260	7. Sampling Areas: 1st Floor	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH <u>X</u>
			9. Comments (Field) NOB → TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
11	37	HVAC Duct Insul. covering		1st Fl. Hallway Restroom		
12	38	Gypsum ceiling paper		1st Fl. USM Shop		
12	39	↓		ceiling		
12	40	↓				
13	41	Gypsum ceiling board				
13	42	↓				
13	43	↓				
14	44	Ceiling joint compound				
14	45	↓				
14	46	↓				
15	47	HVAC Duct Insul. Cover Gage		1st Fl. Warehouse E. Office		
15	48	↓		mezzanine		
15	49	↓				
16	50	#G7 ceiling, Insul. Blanket		1st Fl - Entry room by USM Shop		
16	51	↓				
16	52	↓				
17	53	#G7 Insul. covering		1st Fl - Locker room		
17	54	↓				

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
i. Philip Carrington	3/15/21	6:15pm	Michael C. Gungor	3/15/21	18:15	Field Walk In
ii.						US Mail
iii.						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature: <i>[Signature]</i>	25. Date 3/16/21	26. Time 11:46am	27. Comments (Lab) TEM: Feiza Gungor Feb 9 3/17/21 @ 15:03
24a. Analyzed By: <i>[Signature]</i>	3/16/21	11:46am	
24b. Analyzed By: <i>[Signature]</i>	3/17/21	06:15	
24c. QC By:			

@ 15:03



BATCH NO. 21-427

Page 4 of 4

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client: PANYNJ; Project Name: FIRESPRINKLER REHABILITATION; 3a. ATC Project No.: 214PNPEPJ1; 4a. Project Manager: R. Rivero; 4b. Inspector: PHILIP CARRINGTON; 5. Date: 3/15/21; 6. BUILDING NUMBER: 260 1st Floor; 8. Turnaround Time: STAT 24 HRS 72 HRS OTHER; 9. Comments: NOB -> TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

Table with 6 columns: Homogenous Area No., Bulk Sample ID No., Material, Thermal System, Sample Location, Material Total Qty. (LF, SF, PCS), Asbestos Content (Type & %). Includes handwritten entries for samples 17-19.

CHAIN OF CUSTODY

Table with 7 columns: Relinquished By, Date, Time, Received By, Date, Time, Method of Submittal. Includes handwritten signatures and dates.

LABORATORY INFORMATION

24. Name and Signature: [Signature]; 24a. Analyzed By: [Signature]; 24b. Analyzed By: [Signature]; 24c. QC By: [Signature]; 25. Date: 3/16/2021; 26 Time: 1:46 PM; 27. Comments (Lab): TEM: Feigza Gungor Feig G 3/17/21 @15:03



ATC - New York, 104 East 25th Street, 8th FL, New York, NY 10010, Phone: (212) 353-8280, Fax: (212) 353-3599 or 8306

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ; Project Number: 214PNPEPJ1; Analysis Date: 3/16/2021; Analyst: [Signature]; Batch Number: 21-427; TEMPERATURE: 25

Field Number 1: Stereoscopic Exam (Color: Grey, Texture: G); PLM Optical Properties (Morph Extinction RI I, RI II, DS Color, Color, Pleo, Biref, Sign, Other, Identity); Asbestos Results PLM % (Chrysotile, Amosite, Other); Other Fibrous PLM % (Cellulose, Fiberglass, Other); Non Fibrous PLM % (Mineral Filler, Organic Binders, Vermiculite, Other); SM-V Point Counts (Slide 1-8, Total PT); %Asb. Or %Ver. (0/100); Method: ELAP, EPA, SCANNING OPTION; Q.C.

Field Number 2: Stereoscopic Exam (Color: Grey, Texture: G); PLM Optical Properties; Asbestos Results PLM %; Other Fibrous PLM %; Non Fibrous PLM %; SM-V Point Counts; %Asb. Or %Ver. (0/100); Method: ELAP, EPA, SCANNING OPTION; Q.C.

Field Number 3: Stereoscopic Exam (Color: Grey, Texture: G); PLM Optical Properties; Asbestos Results PLM %; Other Fibrous PLM %; Non Fibrous PLM %; SM-V Point Counts; %Asb. Or %Ver. (0/100); Method: ELAP, EPA, SCANNING OPTION; Q.C.

Field Number 4: Stereoscopic Exam (Color: Brown, Texture: G); PLM Optical Properties; Asbestos Results PLM %; Other Fibrous PLM %; Non Fibrous PLM %; SM-V Point Counts; %Asb. Or %Ver. (0/200); Method: ELAP, EPA, SCANNING OPTION; Q.C.

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8; Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite; Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

Accreditations: NVLAP 101187-0 ELAP 10879; Microscopes: OLYMPUS BH-2 / NIKON OPTIPHOT

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427 TEMPERATURE °C 25

Accreditations:
NVLAP 101187-0
ELAP 10679
Microscopes:
OLYMPUS BH-2 /
NIKON OPTIPHOT

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %				
1	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Cellulose	Fiberglass	Mineral Filler	Organic Binders	Vermiculite*	Other	
5	Gravimetric	Color <u>Brown</u>	Texture <u>G</u>																				
	Required	Homogeneity	Vermiculite																				
	Recommended	# of Layers	Asbestos																				
	See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
	Required	PLM																					
	See SM-V analysis sheet for results	NOB PLM																					
	Comments:																						
	Method:	<input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																					

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %				
2	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Cellulose	Fiberglass	Mineral Filler	Organic Binders	Vermiculite*	Other	
6	Gravimetric	Color <u>Brown</u>	Texture <u>G</u>																				
	Required	Homogeneity	Vermiculite																				
	Recommended	# of Layers	Asbestos																				
	See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
	Required	PLM																					
	See SM-V analysis sheet for results	NOB PLM																					
	Comments:																						
	Method:	<input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																					

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %				
3	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Cellulose	Fiberglass	Mineral Filler	Organic Binders	Vermiculite*	Other	
7	Gravimetric	Color <u>White</u>	Texture <u>F</u>																				
	Required	Homogeneity	Vermiculite																				
	Recommended	# of Layers	Asbestos																				
	See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
	Required	PLM																					
	See SM-V analysis sheet for results	NOB PLM																					
	Comments:																						
	Method:	<input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																					

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %				
4	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Cellulose	Fiberglass	Mineral Filler	Organic Binders	Vermiculite*	Other	
8	Gravimetric	Color <u>White</u>	Texture <u>F</u>																				
	Required	Homogeneity	Vermiculite																				
	Recommended	# of Layers	Asbestos																				
	See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
	Required	PLM																					
	See SM-V analysis sheet for results	NOB PLM																					
	Comments:																						
	Method:	<input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS,DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS_BULK FORMS 2021\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427 TEMPERATURE °C 25

Accreditations:
NVLAP 101187-0
ELAP 10679
Microscopes:
OLYMPUS BH-2 /
NIKON OPTIPHOT

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %				
1	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Cellulose	Fiberglass	Mineral Filler	Organic Binders	Vermiculite*	Other	
9	Gravimetric	Color <u>White</u>	Texture <u>F</u>																				
	Required	Homogeneity	Vermiculite																				
	Recommended	# of Layers	Asbestos																				
	See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
	Required	PLM																					
	See SM-V analysis sheet for results	NOB PLM																					
	Comments:																						
	Method:	<input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																					

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %				
2	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Cellulose	Fiberglass	Mineral Filler	Organic Binders	Vermiculite*	Other	
10	Gravimetric	Color <u>Green</u>	Texture <u>F</u>																				
	Required	Homogeneity	Vermiculite																				
	Recommended	# of Layers	Asbestos																				
	See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
	Required	PLM																					
	See SM-V analysis sheet for results	NOB PLM																					
	Comments:																						
	Method:	<input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																					

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %				
3	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Cellulose	Fiberglass	Mineral Filler	Organic Binders	Vermiculite*	Other	
11	Gravimetric	Color <u>Green</u>	Texture <u>F</u>																				
	Required	Homogeneity	Vermiculite																				
	Recommended	# of Layers	Asbestos																				
	See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
	Required	PLM																					
	See SM-V analysis sheet for results	NOB PLM																					
	Comments:																						
	Method:	<input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																					

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %				
4	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Cellulose	Fiberglass	Mineral Filler	Organic Binders	Vermiculite*	Other	
12	Gravimetric	Color <u>Green</u>	Texture <u>F</u>																				
	Required	Homogeneity	Vermiculite																				
	Recommended	# of Layers	Asbestos																				
	See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8														

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst SM Batch Number 21-427 TEMPERATURE °C 25

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst SM Batch Number 21-427 TEMPERATURE °C 25

1 Field Number	13		Stereoscopic Exam																PLM Optical Properties																Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>Green</u> Texture <u>F</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotropic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	12	2	0	86	0	0									
SM-V Required <input type="checkbox"/>	See SM-V analysis sheet for results <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	0	200	0	Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION			Q.C. <input type="checkbox"/>																																								

1 Field Number	17		Stereoscopic Exam																PLM Optical Properties																Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>White</u> Texture <u>F</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotropic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	100	0	0	0	0	0									
SM-V Required <input type="checkbox"/>	See SM-V analysis sheet for results <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	0	200	0	Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION			Q.C. <input type="checkbox"/>																																								

2 Field Number	14		Stereoscopic Exam																PLM Optical Properties																Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>Green</u> Texture <u>F</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotropic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	18	2	0	80	0	0									
SM-V Required <input type="checkbox"/>	See SM-V analysis sheet for results <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	0	200	0	Comments:																										
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION			Q.C. <input type="checkbox"/>																																								

2 Field Number	18		Stereoscopic Exam																PLM Optical Properties																Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>White</u> Texture <u>F</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotropic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	100	6	0	0	0	0									
SM-V Required <input type="checkbox"/>	See SM-V analysis sheet for results <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	0	200	0	Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION			Q.C. <input type="checkbox"/>																																								

3 Field Number	15		Stereoscopic Exam																PLM Optical Properties																Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>White</u> Texture <u>F</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotropic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	0	0	0	0	0	0									
SM-V Required <input type="checkbox"/>	See SM-V analysis sheet for results <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	0	200	0	Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION			Q.C. <input type="checkbox"/>																																								

3 Field Number	19		Stereoscopic Exam																PLM Optical Properties																Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>White</u> Texture <u>F</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotropic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	100	0	0	0	0	0									
SM-V Required <input type="checkbox"/>	See SM-V analysis sheet for results <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	0	200	0	Comments:																										
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION			Q.C. <input type="checkbox"/>																																								

4 Field Number	16		Stereoscopic Exam																PLM Optical Properties																Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>White</u> Texture <u>F</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotropic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	100	0	0	0	0	0									
SM-V Required <input type="checkbox"/>	See SM-V analysis sheet for results <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	0	200	0	Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION			Q.C. <input type="checkbox"/>																																								

4 Field Number	20		Stereoscopic Exam																PLM Optical Properties																Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>White</u> Texture <u>F</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotropic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	100	0	0	0	0	0									
SM-V Required <input type="checkbox"/>	See SM-V analysis sheet for results <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	0	200	0	Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION			Q.C. <input type="checkbox"/>																																								

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427 TEMPERATURE °C 28

Form 1: 21 Field Number. Includes Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, and Non Fibrous PLM % sections.

Form 2: 22 Field Number. Includes Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, and Non Fibrous PLM % sections.

Form 3: 23 Field Number. Includes Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, and Non Fibrous PLM % sections.

Form 4: 24 Field Number. Includes Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, and Non Fibrous PLM % sections.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427 TEMPERATURE °C 28

Form 1: 25 Field Number. Includes Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, and Non Fibrous PLM % sections.

Form 2: 26 Field Number. Includes Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, and Non Fibrous PLM % sections.

Form 3: 27 Field Number. Includes Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, and Non Fibrous PLM % sections.

Form 4: 28 Field Number. Includes Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, and Non Fibrous PLM % sections.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427

Accreditations:
NVLAP 101187-0
ELAP 10879

Microscopes:
OLYMPUS BH-2T
NIKON OPTIPHOT

TEMPERATURE °C 25

1 29 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Grey</u> Texture <u>G</u> Homogeneity <u>Y</u> Vermiculite <u>Y</u> # of Layers <u>1</u> Asbestos <u>Y</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other									
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT PLM <u>0 200 0</u> NOB PLM <u> </u>											%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.	
Comments: <u> </u>															
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>															

2 30 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Grey</u> Texture <u>G</u> Homogeneity <u>Y</u> Vermiculite <u>Y</u> # of Layers <u>1</u> Asbestos <u>Y</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other									
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT PLM <u>0 200 0</u> NOB PLM <u> </u>											%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.	
Comments: <u> </u>															
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>															

3 31 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Grey</u> Texture <u>G</u> Homogeneity <u>Y</u> Vermiculite <u>Y</u> # of Layers <u>1</u> Asbestos <u>Y</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other									
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT PLM <u>0 200 0</u> NOB PLM <u> </u>											%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.	
Comments: <u> </u>															
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>															

4 32 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>White</u> Texture <u>G</u> Homogeneity <u>Y</u> Vermiculite <u>Y</u> # of Layers <u>1</u> Asbestos <u>Y</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other									
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT PLM <u>0 200 0</u> NOB PLM <u> </u>											%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.	
Comments: <u> </u>															
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>															

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427

Accreditations:
NVLAP 101187-0
ELAP 10879

Microscopes:
OLYMPUS BH-2T
NIKON OPTIPHOT

TEMPERATURE °C 25

1 33 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>White</u> Texture <u>G</u> Homogeneity <u>Y</u> Vermiculite <u>Y</u> # of Layers <u>1</u> Asbestos <u>Y</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other									
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT PLM <u>0 200 0</u> NOB PLM <u> </u>											%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.	
Comments: <u> </u>															
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>															

2 34 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>White</u> Texture <u>G</u> Homogeneity <u>Y</u> Vermiculite <u>Y</u> # of Layers <u>1</u> Asbestos <u>Y</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other									
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT PLM <u>0 200 0</u> NOB PLM <u> </u>											%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.	
Comments: <u> </u>															
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>															

3 35 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Brown/Silver</u> Texture <u>F</u> Homogeneity <u>Y</u> Vermiculite <u>Y</u> # of Layers <u>1</u> Asbestos <u>Y</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other									
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT PLM <u>0 200 0</u> NOB PLM <u> </u>											%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.	
Comments: <u> </u>															
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>															

4 36 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Brown/Silver</u> Texture <u>F</u> Homogeneity <u>Y</u> Vermiculite <u>Y</u> # of Layers <u>1</u> Asbestos <u>Y</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other									
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT PLM <u>0 200 0</u> NOB PLM <u> </u>											%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.	
Comments: <u> </u>															
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>															

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ

Project Number 214PNPEPJ1

Analysis Date 3/16/2021 Analyst [Signature]

Batch Number 21-427

TEMPERATURE 25

1 Field Number 37	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Brown</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0/0</u> NOB PLM	Asb./Ver. PT Total PT									%Asb. Or %Ver. <u>0/100 0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Comments:													
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>													

2 Field Number 38	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Brown</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0/0</u> NOB PLM	Asb./Ver. PT Total PT									%Asb. Or %Ver. <u>0/100 0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Comments:													
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>													

3 Field Number 39	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Brown</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0/0</u> NOB PLM	Asb./Ver. PT Total PT									%Asb. Or %Ver. <u>0/100 0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Comments:													
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>													

4 Field Number 40	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Brown</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0/0</u> NOB PLM	Asb./Ver. PT Total PT									%Asb. Or %Ver. <u>0/100 0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Comments:													
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>													

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ

Project Number 214PNPEPJ1

Analysis Date 3/16/2021 Analyst [Signature]

Batch Number 21-427

TEMPERATURE 25

1 Field Number 41	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Grey</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0/0</u> NOB PLM	Asb./Ver. PT Total PT									%Asb. Or %Ver. <u>0/100 0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Comments:													
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>													

2 Field Number 42	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Grey</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0/0</u> NOB PLM	Asb./Ver. PT Total PT									%Asb. Or %Ver. <u>0/100 0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Comments:													
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>													

3 Field Number 43	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Grey</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0/0</u> NOB PLM	Asb./Ver. PT Total PT									%Asb. Or %Ver. <u>0/100 0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Comments:													
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>													

4 Field Number 44	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>White</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0/0</u> NOB PLM	Asb./Ver. PT Total PT									%Asb. Or %Ver. <u>0/100 0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Comments:													
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>													

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427 TEMPERATURE 28

Accreditations:
NVLAP 101187-0
ELAP 10879

Microscopes:
OLYMPUS BH-2/
NIKON OPTIPHOT

1	53	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %									
			Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other							
			Homogeneity	Vermiculite																										
			# of Layers	Asbestos																										
			Color of Layer	Detected	Yes	No																								
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.															
				PLM																										
				NOB PLM																										
				Comments:																										
				Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.												

2	54	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %								
			Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other						
			Homogeneity	Vermiculite																									
			# of Layers	Asbestos																									
			Color of Layer	Detected	Yes	No																							
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
				PLM																									
				NOB PLM																									
				Comments:																									
				Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input checked="" type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.											

3	55	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Homogeneity	Vermiculite																								
			# of Layers	Asbestos																								
			Color of Layer	Detected	Yes	No																						
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
				PLM																								
				NOB PLM																								
				Comments:																								
				Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.										

4	56	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Homogeneity	Vermiculite																								
			# of Layers	Asbestos																								
			Color of Layer	Detected	Yes	No																						
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
				PLM																								
				NOB PLM																								
				Comments:																								
				Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.										

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/11/2021 Analyst [Signature] Batch Number 21-427 TEMPERATURE 28

Accreditations:
NVLAP 101187-0
ELAP 10879

Microscopes:
OLYMPUS BH-2/
NIKON OPTIPHOT

1	57	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Homogeneity	Vermiculite																								
			# of Layers	Asbestos																								
			Color of Layer	Detected	Yes	No																						
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
				PLM																								
				NOB PLM																								
				Comments:																								
				Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.										

2	58	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Homogeneity	Vermiculite																								
			# of Layers	Asbestos																								
			Color of Layer	Detected	Yes	No																						
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
				PLM																								
				NOB PLM																								
				Comments:																								
				Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.										

3	59	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Homogeneity	Vermiculite																								
			# of Layers	Asbestos																								
			Color of Layer	Detected	Yes	No																						
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
				PLM																								
				NOB PLM																								
				Comments:																								
				Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input checked="" type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.										

4	60	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Homogeneity	Vermiculite																								
			# of Layers	Asbestos																								
			Color of Layer	Detected	Yes	No																						
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
				PLM																								
				NOB PLM																								
				Comments:																								
				Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.										

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4,



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
69	1ST FLOOR CARPETERS SHOP	CMU MORTAR	PLM		100% Mineral Filler		
21-668 -8				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Ivan Reyes							
70	1ST FLOOR PLUMBING SHOP	CMU MORTAR	PLM		100% Mineral Filler		
21-668 -9				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Ivan Reyes							
71	2ND FLOOR OFFICE SPACE	2' X 2' CEILING TILE	NOB-TEM			30.5% Organic 48.6% Residue 20.9% Carbonate	
21-668 -10				0.0% Vermiculite			NONE DETECTED
Color: White							
Analyzed By: Ivan Reyes Second Analyst: Roman Peysakhov Comments: NOB PLM Inconclusive							
72	2ND FLOOR OFFICE SPACE	2' X 2' CEILING TILE	NOB-TEM			28.7% Organic 62.5% Residue 8.8% Carbonate	
21-668 -11				0.0% Vermiculite			NONE DETECTED
Color: White							
Analyzed By: Ivan Reyes Second Analyst: Roman Peysakhov Comments: NOB PLM Inconclusive							
73	2ND FLOOR OFFICE SPACE	2' X 2' CEILING TILE	NOB-TEM			29.4% Organic 55.8% Residue 14.8% Carbonate	
21-668 -12				0.0% Vermiculite			NONE DETECTED
Color: White							
Analyzed By: Ivan Reyes Second Analyst: Roman Peysakhov Comments: NOB PLM Inconclusive							
74	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL BOARD	PLM	90% Cellulose	10% Mineral Filler		
21-668 -13				0.0% Vermiculite			NONE DETECTED
Color: Brown							
Analyzed By: Ivan Reyes							
75	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL BOARD	PLM	90% Cellulose	10% Mineral Filler		
21-668 -14				0.0% Vermiculite			NONE DETECTED
Color: Brown							
Analyzed By: Ivan Reyes							
76	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL BOARD	PLM	90% Cellulose	10% Mineral Filler		
21-668 -15				0.0% Vermiculite			NONE DETECTED
Color: Brown							
Analyzed By: Ivan Reyes							
77	2ND FLOOR OFFICE SPACE	GYPSUM BOARD WALL WALL	PLM	8% Cellulose 2% FiberGlass	90% Mineral Filler		
21-668 -16				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Ivan Reyes							
78	2ND FLOOR OFFICE SPACE	GYPSUM BOARD WALL WALL	PLM	10% Cellulose 2% FiberGlass	88% Mineral Filler		
21-668 -17				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
79	2ND FLOOR OFFICE SPACE	GYPSUM BOARD WALL WALL	PLM	10% Cellulose 2% FiberGlass	88% Mineral Filler		
21-668 -18				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Ivan Reyes							
80	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -19				0.0% Vermiculite			NONE DETECTED
Color: White							
Analyzed By: Ivan Reyes							
81	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -20				0.0% Vermiculite			NONE DETECTED
Color: White							
Analyzed By: Ivan Reyes							
82	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -21				0.0% Vermiculite			NONE DETECTED
Color: White							
Analyzed By: Ivan Reyes							
83	2ND FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler		
21-668 -22				0.0% Vermiculite			NONE DETECTED
Color: Tan/Silver							
Analyzed By: Ivan Reyes							
84	2ND FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 7% FiberGlass	18% Mineral Filler		
21-668 -23				0.0% Vermiculite			NONE DETECTED
Color: Tan/silver							
Analyzed By: Ivan Reyes							
85	2ND FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 8% FiberGlass	17% Mineral Filler		
21-668 -24				0.0% Vermiculite			NONE DETECTED
Color: Tan/silver							
Analyzed By: Ivan Reyes							
86	2ND FLOOR OFFICE SPACE	SPRAYED ON FIRE PROOFING	PLM	12% Cellulose 3% FiberGlass	85% Mineral Filler		
21-668 -25				0.0% Vermiculite			NONE DETECTED
Color: Light Green							
Analyzed By: Ivan Reyes							
87	2ND FLOOR OFFICE SPACE	SPRAYED ON FIRE PROOFING	PLM	15% Cellulose 3% FiberGlass	82% Mineral Filler		
21-668 -26				0.0% Vermiculite			NONE DETECTED
Color: Light Green							
Analyzed By: Ivan Reyes							
88	2ND FLOOR OFFICE SPACE	SPRAYED ON FIRE PROOFING	PLM	12% Cellulose 3% FiberGlass	85% Mineral Filler		
21-668 -27				0.0% Vermiculite			NONE DETECTED
Color: Light Green							
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
89	2ND FLOOR OFFICE SPACE	SPRAYED ON FIRE PROOFING PLM	PLM	10% Cellulose 3% FiberGlass	87% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -28							
Analyzed By: Ivan Reyes		Color: Light Green					
90	2ND FLOOR OFFICE SPACE	SPRAYED ON FIRE PROOFING PLM	PLM	12% Cellulose 3% FiberGlass	85% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -29							
Analyzed By: Ivan Reyes		Color: Light Green					
91	2ND FLOOR OFFICE @ DECK LEVEL	FIRE STOP SEALANT RED	NOB-TEM		46.7% Organic 27.5% Residue 25.8% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -30							
Analyzed By: Ivan Reyes		Color: Red Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
92	2ND FLOOR OFFICE @ DECK LEVEL	FIRE STOP SEALANT RED	NOB-TEM		46.8% Organic 25.2% Residue 28% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -31							
Analyzed By: Ivan Reyes		Color: Red Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
93	2ND FLOOR OFFICE @ DECK LEVEL	FIRE STOP SEALANT RED	NOB-TEM		49.5% Organic 22.8% Residue 27.7% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -32							
Analyzed By: Ivan Reyes		Color: Red Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
94	2ND FLOOR OFFICE SPACE SLOPE SINK	2' X 2' CEILING TILES TYPE II	NOB-TEM		26.3% Organic 33.7% Residue 40% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -33							
Analyzed By: Ivan Reyes		Color: White Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
95	2ND FLOOR OFFICE SPACE SLOPE SINK	2' X 2' CEILING TILES TYPE II	NOB-TEM		26.9% Organic 52.4% Residue 20.7% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -34							
Analyzed By: Ivan Reyes		Color: White Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
96	2ND FLOOR OFFICE SPACE SLOPE SINK	2' X 2' CEILING TILES TYPE II	NOB-TEM		27.1% Organic 57.5% Residue 15.4% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -35							
Analyzed By: Ivan Reyes		Color: White Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
97	3RD FLOOR OFFICE SPACE	2' X 2' CEILING TILE	NOB-TEM		30.2% Organic 58.2% Residue 11.6% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -36							
Analyzed By: Ivan Reyes		Color: White Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
98	3RD FLOOR OFFICE SPACE	2' X 2' CEILING TILE TYPE I	NOB-TEM		22.9% Organic 62.3% Residue 14.8% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -37							
Analyzed By: Ivan Reyes		Color: White Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
99	3RD FLOOR OFFICE SPACE	2' X 2' CEILING TILE TYPE I	NOB-TEM			24.8% Organic 65.4% Residue 9.8% Carbonate	NONE DETECTED
21-668 -38					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: White Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
100	3RD FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 7% FiberGlass	18% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -39							
Analyzed By: Ivan Reyes		Color: Tan/Silver					
101	3RD FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 6% FiberGlass	19% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -40							
Analyzed By: Ivan Reyes		Color: Tan/Silver					
102	3RD FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 7% FiberGlass	18% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -41							
Analyzed By: Ivan Reyes		Color: Tan/Silver					
103	3RD FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	90% Cellulose	10% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -42							
Analyzed By: Ivan Reyes		Color: Brown					
104	3RD FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	90% Cellulose	10% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -43							
Analyzed By: Ivan Reyes		Color: Brown					
105	3RD FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	90% Cellulose	10% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -44							
Analyzed By: Ivan Reyes		Color: Brown					
106	3RD FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -45							
Analyzed By: Ivan Reyes		Color: Off white					
107	3RD FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	4% Cellulose 2% FiberGlass	94% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -46							
Analyzed By: Ivan Reyes		Color: Off white					
108	3RD FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	7% Cellulose 2% FiberGlass	91% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -47							
Analyzed By: Ivan Reyes		Color: Off white					



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
109	3RD FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -48					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
110	3RD FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -49					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
111	3RD FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -50					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
112	3RD FLOOR OFFICE SPACE ON BEAMS	SPRAYED ON FIRE PROOFINGS	PLM	18% Cellulose 2% FiberGlass	80% Mineral Filler		
21-668 -51					0.0% Vermiculite		NONE DETECTED
		Color: Light Green					
Analyzed By: Ivan Reyes							
113	3RD FLOOR OFFICE SPACE ON BEAMS	SPRAYED ON FIRE PROOFINGS	PLM	15% Cellulose 2% FiberGlass	83% Mineral Filler		
21-668 -52					0.0% Vermiculite		NONE DETECTED
		Color: Light Green					
Analyzed By: Ivan Reyes							
114	3RD FLOOR OFFICE SPACE ON BEAMS	SPRAYED ON FIRE PROOFINGS	PLM	18% Cellulose 2% FiberGlass	80% Mineral Filler		
21-668 -53					0.0% Vermiculite		NONE DETECTED
		Color: Light Green					
Analyzed By: Ivan Reyes							
115	3RD FLOOR OFFICE SPACE ON BEAMS	SPRAYED ON FIRE PROOFINGS	PLM	20% Cellulose 2% FiberGlass	78% Mineral Filler		
21-668 -54					0.0% Vermiculite		NONE DETECTED
		Color: Light Green					
Analyzed By: Ivan Reyes							
116	3RD FLOOR OFFICE SPACE	SPRAYED ON FIRE PROOFINGS	PLM	15% Cellulose 2% FiberGlass	83% Mineral Filler		
21-668 -55					0.0% Vermiculite		NONE DETECTED
		Color: Light Green					
Analyzed By: Ivan Reyes							
117	3RD FLOOR STAIRCASE EAST	GYPSUM BOARD PAPER CEILING	PLM	90% Cellulose	10% Mineral Filler		
21-668 -56					0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
118	3RD FLOOR STAIRCASE EAST	GYPSUM BOARD PAPER CEILING	PLM	90% Cellulose	10% Mineral Filler		
21-668 -57					0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
119	3RD FLOOR STAIRCASE WEST	GYPSUM BOARD PAPER CEILING	PLM	90% Cellulose	10% Mineral Filler		
21-668 -58					0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
120	3RD FLOOR STAIRCASE EAST	GYPSUM BOARD CEILING	PLM	4% Cellulose 2% FiberGlass	94% Mineral Filler		
21-668 -59					0.0% Vermiculite		NONE DETECTED
		Color: Off White					
Analyzed By: Ivan Reyes							
121	3RD FLOOR STAIRCASE EAST	GYPSUM BOARD CEILING	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler		
21-668 -60					0.0% Vermiculite		NONE DETECTED
		Color: Off White					
Analyzed By: Ivan Reyes							
122	3RD FLOOR STAIRCASE WEST	GYPSUM BOARD CEILING	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler		
21-668 -61					0.0% Vermiculite		NONE DETECTED
		Color: Off White					
Analyzed By: Ivan Reyes							
123	3RD FLOOR STAIRCASE EAST	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -62					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
124	3RD FLOOR STAIRCASE EAST	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -63					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
125	3RD FLOOR STAIRCASE WEST	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -64					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							



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ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____. Amendments: _____. Amendment Dates: _____. Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Ivan Reyes

Analyst:

Roman Peysakhov

Analyst:

Mei Wang

Approved by

Quality Manager:

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained *Trace* or *No* PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ		Project Name: FIRESPRINKLER REHABILITATION		3a. ATC Project No.: 214PNPEPJ1		4a. Project Manager: R. Rivero	
2a. Project Address: (Circle One) PN PE PJ		3b. Task No.: 0001		4b. Inspector: PHILIP CARRINGTON			
5. Date: 4/15/21	6. BUILDING NUMBER: 200		8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X			9. Comments (Field): NOB → TEM Stop @ 1st Positive	
7. Sampling Areas:							

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location		15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
				Floor	Sample Coordinates		
20	62	2x2' CEILING PLG		1	WAREHOUSE LUNCH ROOM		
20	63	TYPE I			"		
20	64	"			"		
21	65	HVAC DUCT INSULATION			LUNCH ROOM		
21	66	COVER			"		
21	67	"			"		
22	68	CRU HODRPAR			FREIGHT SHOP		
22	69	"			CARPENTER'S SHOP		
22	70	"			PLUMBER'S SHOP		
23	71	2x2' CEILING PLG		2	OFFICE SPACE		
23	72	"			"		
23	73	"			"		
24	74	GYPSON BOARD					
24	75	PAPER					
24	76	WALL					
25	77	GYPSON BOARD					
25	78	WALL			OCBY		
25	79	WALL					

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. Philip Carrington	4/15/21	1:30pm	Evelyn Ely	4/15/21	1:35	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
Ivan Reyes	4/15/21	2:37pm	
24a. Analyzed By:	4/16/21	7:42am	
24b. Analyzed By: Phil Neri			
24c. QC By:			

TEM & R. Rivero 4/16/21 10:40

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ		Project Name: FIRESPRINKLER REHABILITATION		3a. ATC Project No.: 214PNPEPJ1		4a. Project Manager: R. Rivero	
2a. Project Address: (Circle One) PN PE PJ		3b. Task No.: 0001		4b. Inspector: PHILIP CARRINGTON			
5. Date: 4/15/21	6. BUILDING NUMBER: 200		8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X			9. Comments (Field): NOB → TEM Stop @ 1st Positive	
7. Sampling Areas:							

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location		15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
				Floor	Sample Coordinates		
26	80	JOINT COMPOUND		2	OFFICE SPACE		
26	81	"			"		
26	82	"			"		
27	83	HVAC DUCT			"		
27	84	INSULATION			"		
27	85	COVER			"		
28	86	SPRAYED ON			"		
28	87	FIRE PROOFING			"		
28	88	"			"		
28	89	"			"		
28	90	"			"		
29	91	FIRE STOP			DECK LEVEL		
29	92	SEALANT			"		
29	93	RED			"		
30	94	2x2' CEILING PLG			SCOPE SINK		
30	95	TYPE II			"		
30	96	"			"		
31	97	2x2' CEILING PLG		3	OFFICE SPACE		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. Philip Carrington	4/15/21	1:30pm	Evelyn Ely	4/15/21	1:35	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
Ivan Reyes	4/15/21	2:37pm	
24a. Analyzed By:	4/16/21	7:42am	
24b. Analyzed By: Phil Neri			
24c. QC By:			

TEM & R. Rivero 4/16/21 10:40

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: <u>4/15/21</u>	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
6. BUILDING NUMBER: <u>260</u>	8. Turnaround Time: <input type="checkbox"/> STAT <input type="checkbox"/> 24 HRS <input type="checkbox"/> 72 HRS <input type="checkbox"/> OTHER <input type="checkbox"/> 6 HRS <input type="checkbox"/> 48 HRS <input type="checkbox"/> NORMAL <input checked="" type="checkbox"/> RUSH_X		9. Comments (Field) NOB → TEM Stop @ 1st Positive
7. Sampling Areas: <u>260</u>			

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
31	98	2x2' CEILING POP		3 OFFICE SPACE		
31	99	TYPE I				
32	100	TNAC DUCT				
32	101	INSULATION				
32	102	COVER				
33	103	GYPSON BOARD				
33	104	PAPER -				
33	105	WALL				
34	106	GYPSON BOARD				
34	107	WALL				
34	108	"				
35	109	JOINT COMPOUND				
35	110	"				
35	111	"				
36	112	SPRAYED ON		ON PLASTER WALL		
36	113	FIREPROOFING		"		
36	114	"		"		
36	115	"		"		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
<u>Philip Carrington</u>	<u>4/15/21</u>	<u>1:30pm</u>	<u>E. Lopez Ely</u>	<u>4/15/2021</u>	<u>1:35</u>	Field
ii.						Walk In
iii.						US Mail
						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
<u>Isaac Reyes</u>	<u>4/15/2021</u>	<u>2:37pm</u>	
24a. Analyzed By: <u>Isaac Reyes</u>	<u>4/16/2021</u>	<u>7:42am</u>	
24b. Analyzed By: <u>PLM NORS: Isaac Reyes</u>			
24c. QC By: <u>TEM & R. Rivero</u>	<u>4/16/21</u>	<u>10:20</u>	

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: <u>4/15/21</u>	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
6. BUILDING NUMBER: <u>260</u>	8. Turnaround Time: <input type="checkbox"/> STAT <input type="checkbox"/> 24 HRS <input type="checkbox"/> 72 HRS <input type="checkbox"/> OTHER <input type="checkbox"/> 6 HRS <input type="checkbox"/> 48 HRS <input type="checkbox"/> NORMAL <input checked="" type="checkbox"/> RUSH_X		9. Comments (Field) NOB → TEM Stop @ 1st Positive
7. Sampling Areas: <u>260</u>			

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
36	116	SPRAYED ON FIREPROOFING		3 OFFICE SPACE		
37	117	GYPSON BOARD		STAIRCASE EAST		
37	118	PAPER CEILING		"		
37	119	"		WEST		
38	120	GYPSON BOARD		EAST		
38	121	CEILING		EAST		
38	122	"		WEST		
39	123	JOINT COMPOUND		EAST		
39	124	"		EAST		
39	125	"		WEST		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
<u>Philip Carrington</u>	<u>4/15/21</u>	<u>1:30pm</u>	<u>E. Lopez Ely</u>	<u>4/15/2021</u>	<u>1:35</u>	Field
ii.						Walk In
iii.						US Mail
						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
<u>Isaac Reyes</u>	<u>4/15/2021</u>	<u>2:37pm</u>	
24a. Analyzed By: <u>Isaac Reyes</u>	<u>4/16/2021</u>	<u>7:42am</u>	
24b. Analyzed By: <u>PLM NORS: Isaac Reyes</u>			
24c. QC By: <u>TEM & R. Rivero</u>	<u>4/16/21</u>	<u>10:20</u>	

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ/ FIRESPRINKLER REHAB Project Number: 214PNPEPJ1
Analysis Date: 4/15/2021 Analyst: [Signature] Batch Number: 21-668 TEMPERATURE: 25

Form 62: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 63: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 64: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 65: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Method: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 820/R-93-116 ELAP Items 198.1, 198.4, 198.6, 198.8
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires method ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
EPA, FORMS, DOCUMENTS AND RECORDS OPTICAL ASBESTOS BULK FORMS 2020/BUK ASBESTOS ANALYSIS SHEET FORM #62 01/16/2021 REV 33 BY MEI WANG FORM #62

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ/ FIRESPRINKLER REHAB Project Number: 214PNPEPJ1
Analysis Date: 4/15/2021 Analyst: [Signature] Batch Number: 21-668 TEMPERATURE: 25

Form 66: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 67: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 68: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 69: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Method: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 820/R-93-116 ELAP Items 198.1, 198.4, 198.6, 198.8
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires method ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
EPA, FORMS, DOCUMENTS AND RECORDS OPTICAL ASBESTOS BULK FORMS 2020/BUK ASBESTOS ANALYSIS SHEET FORM #62 01/16/2021 REV 33 BY MEI WANG FORM #62

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEP11
Analysis Date 4/15/2021 Analyst [Signature] Batch Number 21-668 TEMPERATURE 25

Field Number 70
Stereoscopic Exam: Color Grey, Texture G
PLM Optical Properties: Morph, Extinction, RI1, RI2, DS Color, Color, Pleo, Biref, Sign, Other, Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite, Other
SM-V Point Counts: Slide 1-8, %Asb. Or %Ver. 0/200 0
Method: ELAP EPA SCANNING OPTION Q.C.

Field Number 71
Stereoscopic Exam: Color White, Texture F
PLM Optical Properties: Morph, Extinction, RI1, RI2, DS Color, Color, Pleo, Biref, Sign, Other, Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite, Other
SM-V Point Counts: Slide 1-8, %Asb. Or %Ver. 0/200 0
Method: ELAP EPA SCANNING OPTION Q.C.

Field Number 72
Stereoscopic Exam: Color White, Texture F
PLM Optical Properties: Morph, Extinction, RI1, RI2, DS Color, Color, Pleo, Biref, Sign, Other, Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite, Other
SM-V Point Counts: Slide 1-8, %Asb. Or %Ver. 0/200 0
Method: ELAP EPA SCANNING OPTION Q.C.

Field Number 73
Stereoscopic Exam: Color White, Texture F
PLM Optical Properties: Morph, Extinction, RI1, RI2, DS Color, Color, Pleo, Biref, Sign, Other, Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite, Other
SM-V Point Counts: Slide 1-8, %Asb. Or %Ver. 0/200 0
Method: ELAP EPA SCANNING OPTION Q.C.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 620/R-93/116
ELAP Items 185.1, 196.4, 196.6, 188.6
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires method ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantization of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 196.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
ELAP FORMS, DOCUMENTS AND RECORDS OPTICAL ASBESTOS BULK ANALYSIS SHEET (FORM 402) BULK FORMS 2020 BULK ASBESTOS ANALYSIS SHEET FORM 402 (REV. 01/15/2021) REVISION 423 BY MEL WANG / CHM VEV

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEP11
Analysis Date 4/15/2021 Analyst [Signature] Batch Number 21-668 TEMPERATURE 25

Field Number 74
Stereoscopic Exam: Color Brown, Texture F
PLM Optical Properties: Morph, Extinction, RI1, RI2, DS Color, Color, Pleo, Biref, Sign, Other, Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite, Other
SM-V Point Counts: Slide 1-8, %Asb. Or %Ver. 0/200 0
Method: ELAP EPA SCANNING OPTION Q.C.

Field Number 75
Stereoscopic Exam: Color Brown, Texture F
PLM Optical Properties: Morph, Extinction, RI1, RI2, DS Color, Color, Pleo, Biref, Sign, Other, Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite, Other
SM-V Point Counts: Slide 1-8, %Asb. Or %Ver. 0/200 0
Method: ELAP EPA SCANNING OPTION Q.C.

Field Number 76
Stereoscopic Exam: Color Brown, Texture F
PLM Optical Properties: Morph, Extinction, RI1, RI2, DS Color, Color, Pleo, Biref, Sign, Other, Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite, Other
SM-V Point Counts: Slide 1-8, %Asb. Or %Ver. 0/200 0
Method: ELAP EPA SCANNING OPTION Q.C.

Field Number 77
Stereoscopic Exam: Color Grey, Texture G
PLM Optical Properties: Morph, Extinction, RI1, RI2, DS Color, Color, Pleo, Biref, Sign, Other, Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite, Other
SM-V Point Counts: Slide 1-8, %Asb. Or %Ver. 0/200 0
Method: ELAP EPA SCANNING OPTION Q.C.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 620/R-93/116
ELAP Items 185.1, 196.4, 196.6, 188.6
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires method ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantization of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 196.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
ELAP FORMS, DOCUMENTS AND RECORDS OPTICAL ASBESTOS BULK ANALYSIS SHEET (FORM 402) BULK FORMS 2020 BULK ASBESTOS ANALYSIS SHEET FORM 402 (REV. 01/15/2021) REVISION 423 BY MEL WANG / CHM VEV

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ/ FIRESPRINKLER REHAB
Project Number: 214PNPEPJ1
Analysis Date: 4/15/2021 Analyst: [Signature]
Batch Number: 21-668

Accreditation:
NVLAP 101187-0
EPA 10879

Microscopes:
OLYMPUS BH-2
NIKON OPTIPHOT

TEMPERATURE: 28

Form 78: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 79: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 80: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 81: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods:
EPA Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 8160-G-11-010
EPA Form 158.1, 158.4, 158.6, 158.8

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ/ FIRESPRINKLER REHAB
Project Number: 214PNPEPJ1
Analysis Date: 4/15/2021 Analyst: [Signature]
Batch Number: 21-668

Accreditation:
NVLAP 101187-0
EPA 10879

Microscopes:
OLYMPUS BH-2
NIKON OPTIPHOT

TEMPERATURE: 28

Form 82: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 83: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 84: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 85: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods:
EPA Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 8160-G-11-010
EPA Form 158.1, 158.4, 158.6, 158.8

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / FIRESPRINKLER REHAB
Project Number: 214PNPEP11
Analysis Date: 4/15/2021 Analyst: [Signature]
Batch Number: 21-668

TEMPERATURE: 28

Form 94: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 95: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 96: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 97: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / FIRESPRINKLER REHAB
Project Number: 214PNPEP11
Analysis Date: 4/15/2021 Analyst: [Signature]
Batch Number: 21-668

TEMPERATURE: 28

Form 98: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 99: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 100: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 101: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Inorganic Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 820/R-03/010 ELAP Forms 101.1, 101.4, 101.5, 101.6

Note #1: ELAP requires method ELAP 199.1 for the analysis of samples containing >10% vermiculite... Note #2: ELAP requires method 189.6 for the analysis of surfacing material containing vermiculite (SM-V) and utilizes a 400 point count method.

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Inorganic Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 820/R-03/010 ELAP forms 101.1, 101.4, 101.5, 101.6

Note #1: ELAP requires method ELAP 199.1 for the analysis of samples containing >10% vermiculite... Note #2: ELAP requires method 189.6 for the analysis of surfacing material containing vermiculite (SM-V) and utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / FIRESPRINKLER REHAB

Project Number: 214PNPEPJ1

Analysis Date: 4/15/2021

Analyst: [Signature]

Batch Number: 21-668

TEMPERATURE: 25

Field 102: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes point counts and analysis sheet references.

Field 103: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes point counts and analysis sheet references.

Field 104: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes point counts and analysis sheet references.

Field 105: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes point counts and analysis sheet references.

Methods: EPA Inform Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 800/R-93/115 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 199.1 for the analysis of samples containing <10% vermiculite... Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / FIRESPRINKLER REHAB

Project Number: 214PNPEPJ1

Analysis Date: 4/15/2021

Analyst: [Signature]

Batch Number: 21-668

TEMPERATURE: 25

Field 106: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes point counts and analysis sheet references.

Field 107: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes point counts and analysis sheet references.

Field 108: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes point counts and analysis sheet references.

Field 109: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes point counts and analysis sheet references.

Methods: EPA Inform Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 800/R-93/115 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 199.1 for the analysis of samples containing <10% vermiculite... Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / FIRESPRINKLER REHAB Project Number: 214PNPEPJ1
Analysis Date: 4/15/2021 Analyst: [Signature] Batch Number: 21-668 TEMPERATURE: 25

Form 110: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 111: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 112: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 113: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods:
-HA Inform Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 800/R-93/116
ELAP Items 198.1, 198.4, 198.5, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.8. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 199.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

ATC FORMS DOCUMENTS AND RECORDS/OPTICAL/ASBESTOS_BULK/ASBESTOS_BULK FORMS/2020/BULK ASBESTOS ANALYSIS BULK FORM #62.dwg
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #62

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / FIRESPRINKLER REHAB Project Number: 214PNPEPJ1
Analysis Date: 4/15/2021 Analyst: [Signature] Batch Number: 21-668 TEMPERATURE: 25

Form 114: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 115: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 116: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 117: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods:
-HA Inform Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 800/R-93/116
ELAP Items 198.1, 198.4, 198.5, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.8. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 199.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

ATC FORMS DOCUMENTS AND RECORDS/OPTICAL/ASBESTOS_BULK/ASBESTOS_BULK FORMS/2020/BULK ASBESTOS ANALYSIS BULK FORM #62.dwg
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #62

BULK ASBESTOS ANALYSIS SHEET

Client / Project **PANYNJ/ FIRESPRINKLER REHAB**

Project Number **214PNPEP11**

Analysis Date **4/15/2021** Analyst **[Signature]**

Batch Number **21-668** TEMPERATURE **28**

1	118	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric	Color	Brown		Morph	Extinction	RI ₁	RI ₂	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Required	Homogeneity	Vermiculite												70			10			95			
Recommended	# of Layers	Asbestos												0			0			0			
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												0			0			0			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
Required	PLM	0/0												0			0			0			
See SM-V analysis sheet for results	NOB PLM													0			0			0			
Comments:																							
Method:	ELAP		EPA		SCANNING OPTION										Q.C.								

2	119	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric	Color	Brown		Morph	Extinction	RI ₁	RI ₂	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Required	Homogeneity	Vermiculite												70			10			95			
Recommended	# of Layers	Asbestos												0			0			0			
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												0			0			0			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
Required	PLM	0/0												0			0			0			
See SM-V analysis sheet for results	NOB PLM													0			0			0			
Comments:																							
Method:	ELAP		EPA		SCANNING OPTION										Q.C.								

3	120	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric	Color	White		Morph	Extinction	RI ₁	RI ₂	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Required	Homogeneity	Vermiculite												4			3			99			
Recommended	# of Layers	Asbestos												0			0			0			
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												0			0			0			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
Required	PLM	0/0												0			0			0			
See SM-V analysis sheet for results	NOB PLM													0			0			0			
Comments:																							
Method:	ELAP		EPA		SCANNING OPTION										Q.C.								

4	121	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric	Color	White		Morph	Extinction	RI ₁	RI ₂	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Required	Homogeneity	Vermiculite												3			2			95			
Recommended	# of Layers	Asbestos												0			0			0			
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												0			0			0			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
Required	PLM	0/0												0			0			0			
See SM-V analysis sheet for results	NOB PLM													0			0			0			
Comments:																							
Method:	ELAP		EPA		SCANNING OPTION										Q.C.								

Methods:
-FA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 800/R-93/115
EPA Form 128.1, 195.4, 199.6, 195.3

Note #1: ELAP requires method ELAP 195.1 for the analysis of samples containing >10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 195.1 followed by ELAP 195.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 195.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
LAB FORMS, DOCUMENTS AND RECORDS OPTICAL ASBESTOS, BULK ASBESTOS ANALYSIS SHEET, FORM #32.doc
ATC EFFECTIVE DATE 01/15/2021 REVISION #33 BY MEI WANG FORM #32

BULK ASBESTOS ANALYSIS SHEET

Client / Project **PANYNJ/ FIRESPRINKLER REHAB**

Project Number **214PNPEP11**

Analysis Date **4/15/2021** Analyst **[Signature]**

Batch Number **21-668** TEMPERATURE **28**

1	122	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric	Color	White		Morph	Extinction	RI ₁	RI ₂	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Required	Homogeneity	Vermiculite												3			2			95			
Recommended	# of Layers	Asbestos												0			0			0			
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												0			0			0			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
Required	PLM	0/0												0			0			0			
See SM-V analysis sheet for results	NOB PLM													0			0			0			
Comments:																							
Method:	ELAP		EPA		SCANNING OPTION										Q.C.								

2	123	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric	Color	White		Morph	Extinction	RI ₁	RI ₂	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Required	Homogeneity	Vermiculite												4			1			100			
Recommended	# of Layers	Asbestos												0			0			0			
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												0			0			0			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
Required	PLM	0/0												0			0			0			
See SM-V analysis sheet for results	NOB PLM													0			0			0			
Comments:																							
Method:	ELAP		EPA		SCANNING OPTION										Q.C.								

3	124	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric	Color	White		Morph	Extinction	RI ₁	RI ₂	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Required	Homogeneity	Vermiculite												4			1			100			
Recommended	# of Layers	Asbestos												0			0			0			
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												0			0			0			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
Required	PLM	0/0												0			0			0			
See SM-V analysis sheet for results	NOB PLM													0			0			0			
Comments:																							
Method:	ELAP		EPA		SCANNING OPTION										Q.C.								

4	125	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric	Color	White		Morph	Extinction	RI ₁	RI ₂	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Required	Homogeneity	Vermiculite												4			1			100			
Recommended	# of Layers	Asbestos												0			0			0			
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												0			0			0			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.											
Required	PLM	0/0												0			0			0			
See SM-V analysis sheet for results	NOB PLM													0			0			0			
Comments:																							
Method:	ELAP		EPA		SCANNING OPTION										Q.C.								

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 800/R-93/115
EPA Form 128.1, 195.4, 199.6, 195.3

Note #1: ELAP requires method ELAP 195.1 for the analysis of samples containing >10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 195.1 followed by ELAP 195.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 195.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
LAB FORMS, DOCUMENTS AND RECORDS OPTICAL ASBESTOS, BULK ASBESTOS ANALYSIS SHEET, FORM #32.doc
ATC EFFECTIVE DATE 01/15/2021 REVISION #33 BY MEI WANG FORM #32



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH NOB PLM Analyst: IR NOB TEM PREP: SH PLM Batch # 21-668 TEM Batch # 122990 Start Date: 04/15/21
 NOB PLM PREP: SAEV NOB PLM Analyst: IR NOB TEM PREP: SH NOB TEM Analyst: RP Date Completed: 04/16/21

Field #	5 % Organic	11 Non-Asb Residue %		12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
		NFR	MFR				PREP	NOB	PLM
62	29.1	60.4		10.5	ND		✓	✓	✓
63	28.6	59.2		12.2	ND		✓	✓	✓
64	26.5	61.7		11.8	ND		✓	✓	✓
71	30.5	48.6		20.9	ND		✓	✓	✓
72	28.7	62.5		8.8	ND		✓	✓	✓
73	29.4	55.8		14.8	ND		✓	✓	✓
91	46.7	27.6		25.8	ND		✓	✓	✓
92	46.8	25.2		28.0	ND		✓	✓	✓
93	49.5	22.8		27.7	ND		✓	✓	✓
94	26.3	33.7		40.0	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

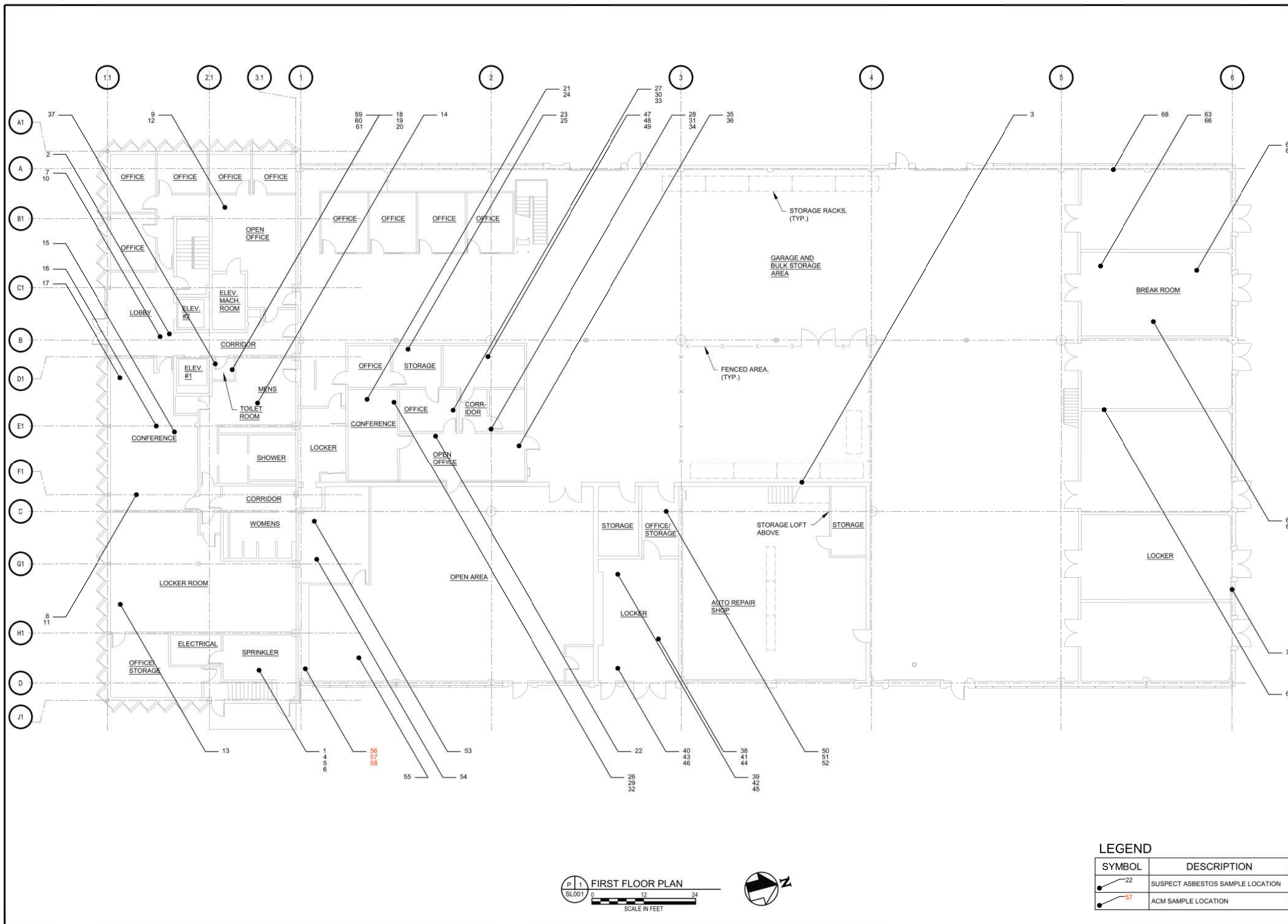
Client/Project: PANYNJ RUSH NOB PLM Analyst: IR NOB TEM PREP: SH PLM Batch # 21-668 TEM Batch # 122990 Start Date: 04/15/21
 NOB PLM PREP: SAEV NOB PLM Analyst: IR NOB TEM PREP: SH NOB TEM Analyst: RP Date Completed: 04/16/21

Field #	5 % Organic	11 Non-Asb Residue %		12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
		NFR	MFR				PREP	NOB	PLM
95	26.9	52.4		20.7	ND		✓	✓	✓
96	27.1	57.5		15.4	ND		✓	✓	✓
97	30.2	58.2		11.6	ND		✓	✓	✓
98	22.9	62.3		14.8	ND		✓	✓	✓
99	24.8	65.4		9.8	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.

APPENDIX B
ASBESTOS SAMPLE LOCATION DRAWINGS

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 260
FIRST FLOOR
SAMPLE LOCATION PLAN
SAMPLES 1 TO 70

This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "Altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by E.MILKIS
Checked by
Date 07/01/2021

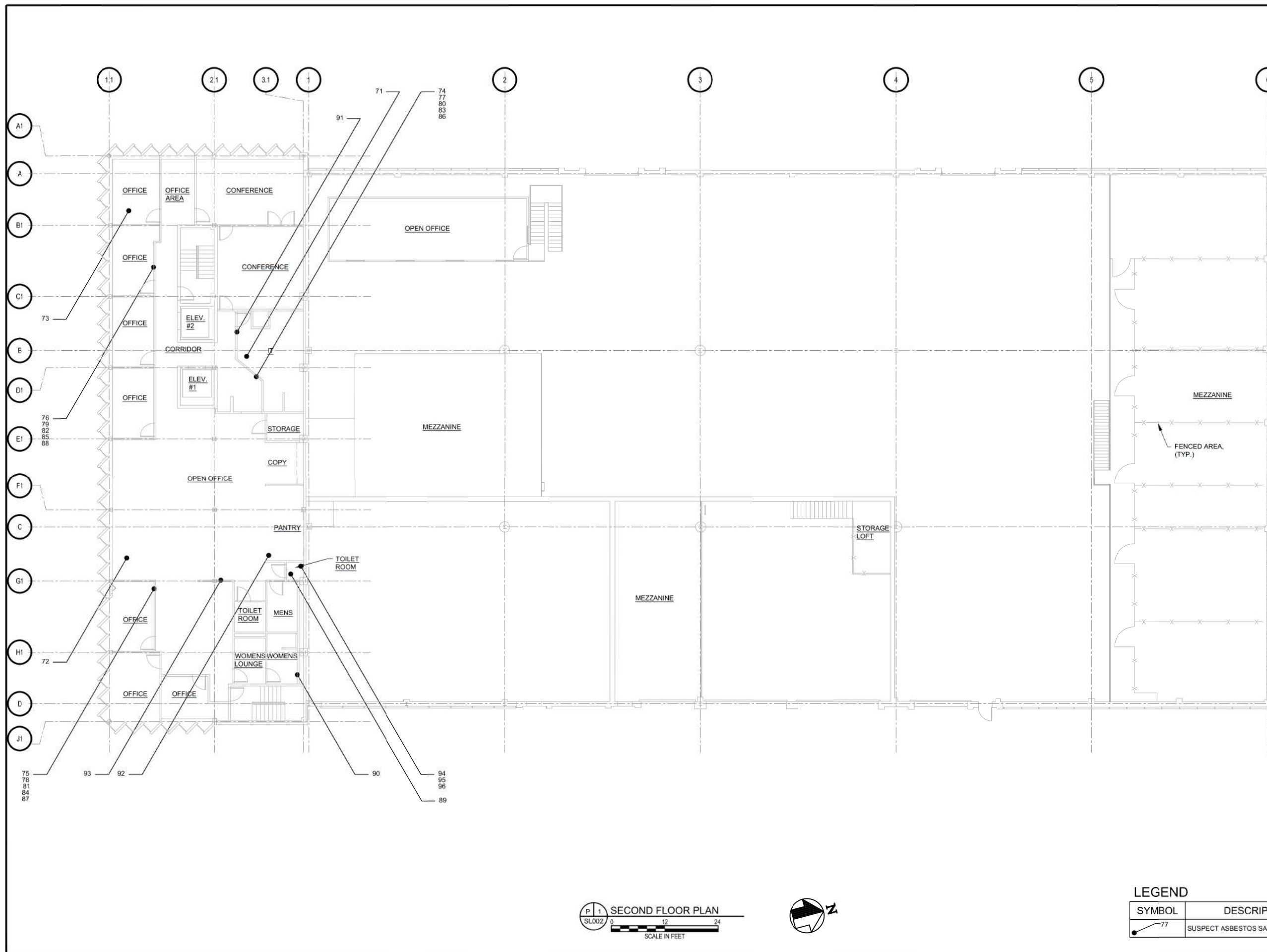
Contract Number

Drawing Number **SL001**

LEGEND

SYMBOL	DESCRIPTION
	22 SUSPECT ASBESTOS SAMPLE LOCATION
	57 ACM SAMPLE LOCATION





No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 260
SECOND FLOOR
SAMPLE LOCATION PLAN
SAMPLES 71 TO 96

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Designed by R.RIVERO
Drawn by E.MILKIS
Checked by
Date 07/01/2021

Contract Number

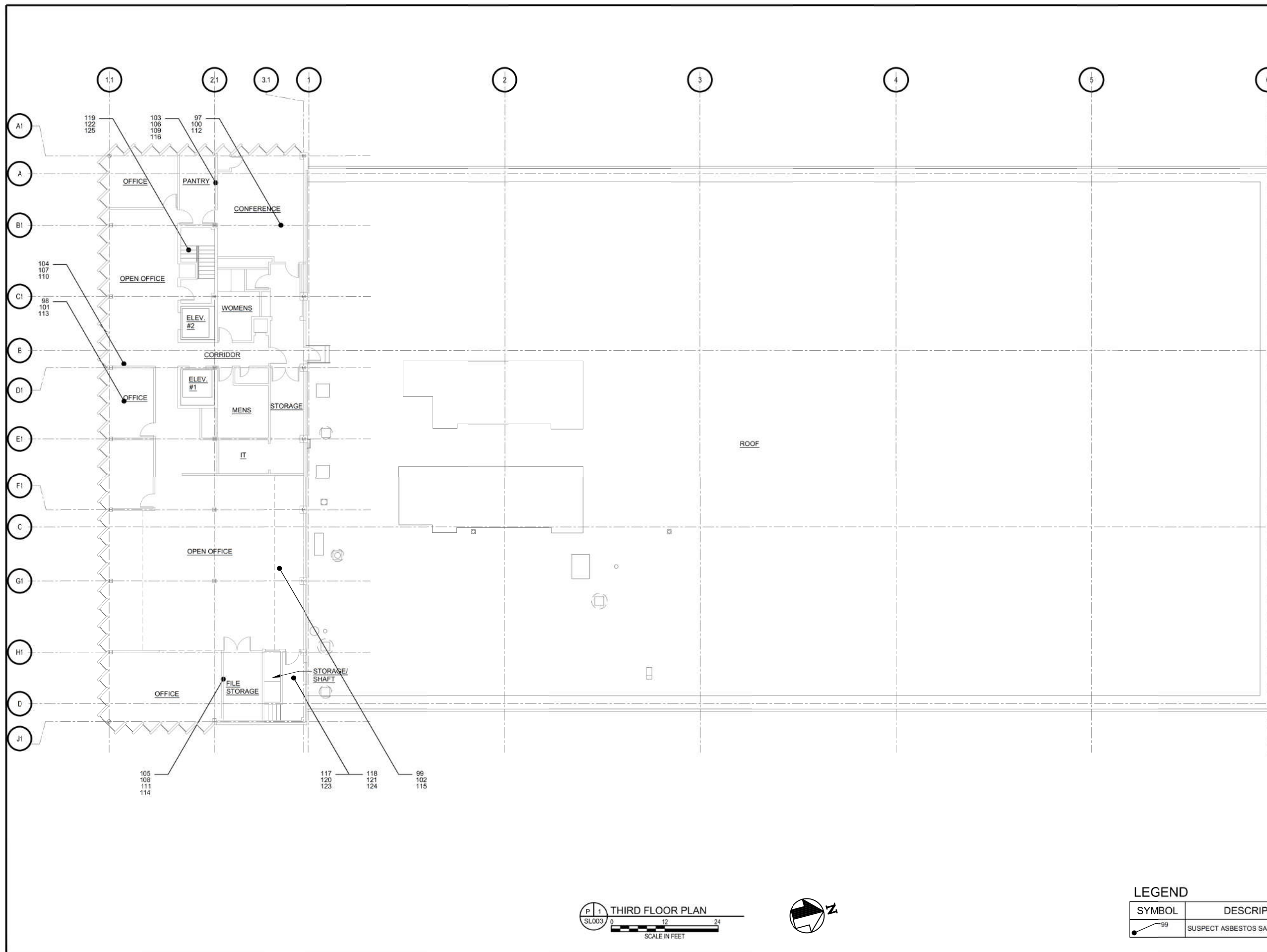
Drawing Number **SL002**

P 1 SECOND FLOOR PLAN
SL002
SCALE IN FEET



LEGEND

SYMBOL	DESCRIPTION
●	SUSPECT ASBESTOS SAMPLE LOCATION



No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 260
THIRD FLOOR
SAMPLE LOCATION PLAN
SAMPLES 97 TO 125

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Designed by R.RIVERO
Drawn by E.MILKIS
Checked by
Date 07/01/2021

Contract Number
Drawing Number **SL003**

P 1 THIRD FLOOR PLAN
SL003
SCALE IN FEET

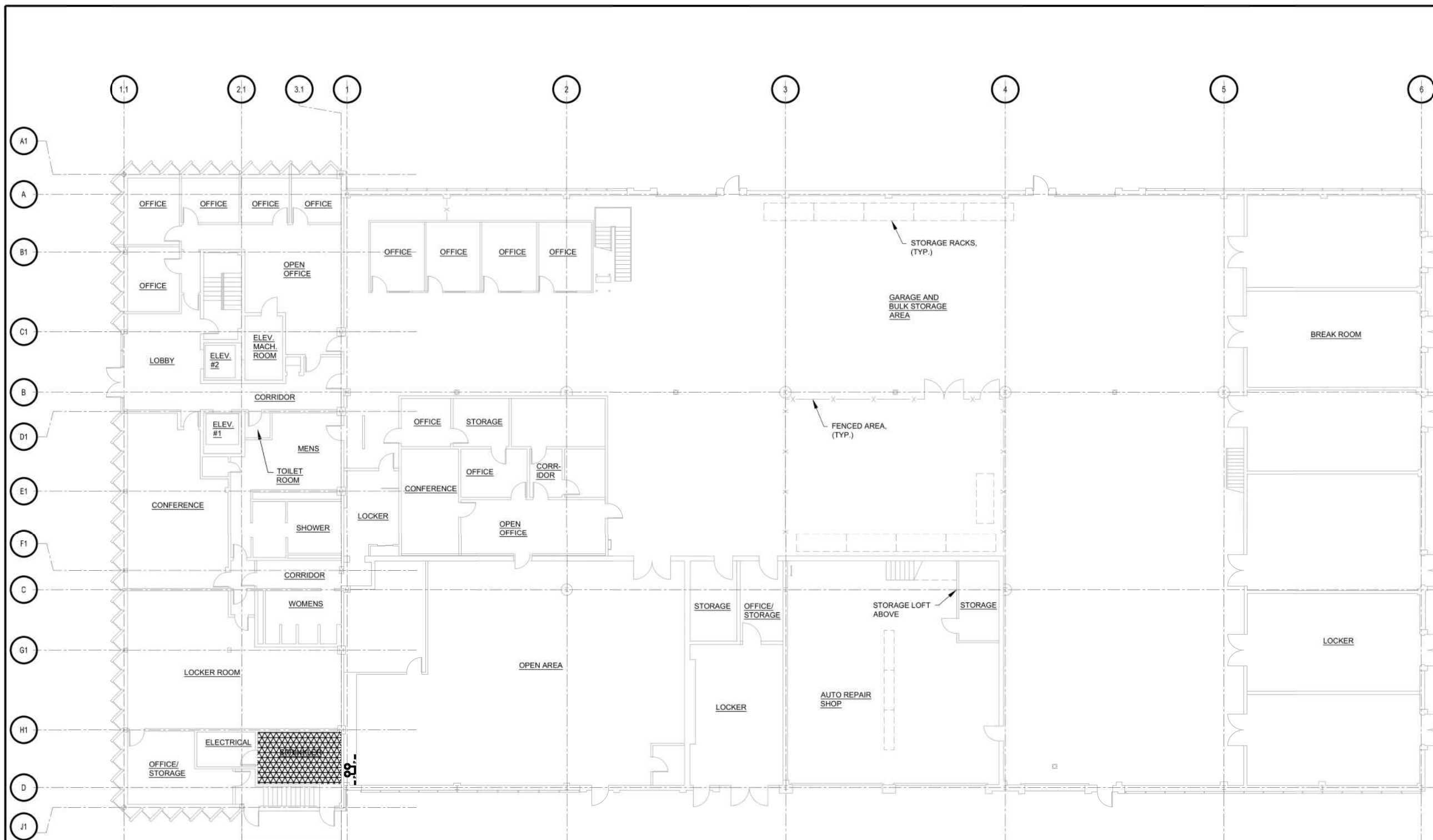


LEGEND

SYMBOL	DESCRIPTION
●	SUSPECT ASBESTOS SAMPLE LOCATION

APPENDIX C
ASBESTOS LOCATION DRAWINGS

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

**NEW JERSEY
MARINE TERMINAL
PORT NEWARK**

ENVIRONMENTAL

Title

NEW JERSEY PORTS
ASBESTOS SURVEY

**BUILDING 260
FIRST FLOOR
ACM LOCATION PLAN**

This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "Altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
 Drawn by E.MILKIS
 Checked by
 Date 07/01/2021

Contract Number
 Drawing Number **ACM001**

LEGEND

SYMBOL	DESCRIPTION
	ASBESTOS CONTAINING PIPE FITTING INSULATION ASSOCIATED WITH FIBERGLASS PIPE INSULATION
	FLANGE & VALVE GASKETS (PACM)



APPENDIX D

**LAB CERTIFICATIONS AND ACCREDITATIONS, COMPANY
AND PERSONNEL CERTIFICATIONS**

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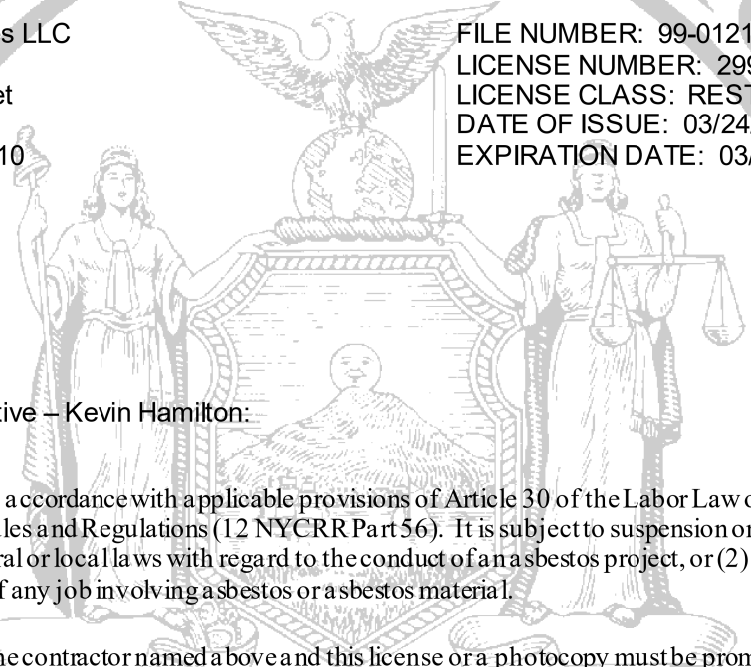
New York State – Department of Labor

Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

ATC Group Services LLC
10th Floor
104 East 25th Street
New York, NY 10010

FILE NUMBER: 99-0121
LICENSE NUMBER: 29902
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 03/24/2021
EXPIRATION DATE: 03/31/2022



Duly Authorized Representative – Kevin Hamilton:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or a asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

SH 432 (8/12)

**NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER**

Expires 12:01 AM April 01, 2021
Issued April 01, 2020



CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2003) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos

EPA 100.2



Serial No.: 61221

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.





Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

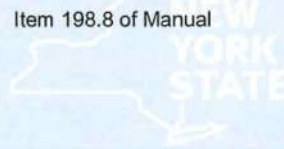
MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos in Friable Material Item 198.1 of Manual
EPA 600/M4/82/020
- Asbestos in Non-Friable Material-PLM Item 198.6 of Manual (NOB by PLM)
- Asbestos in Non-Friable Material-TEM Item 198.4 of Manual
- Asbestos-Vermiculite-Containing Material Item 198.8 of Manual



Department
of Health

Serial No.: 61222

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Expires 12:01 AM April 01, 2021
Issued April 01, 2020

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MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos 40 CFR 763 APX A No. III
NIOSH 7402
- Fibers NIOSH 7400 A RULES



Department
of Health

Serial No.: 61223

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos EPA 100.2

Serial No.: 62824

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual

Serial No.: 62825

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos

40 CFR 763 APX A No. III

NIOSH 7402

Fibers

NIOSH 7400 A RULES

Serial No.: 62826

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

United States Department of Commerce
National Institute of Standards and Technology



NVLAP[®]

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101187-0

ATC Group Services LLC

New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).



2020-07-01 through 2021-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ATC Group Services LLC
 104 E. 25th Street 8th Floor
 New York, NY 10010
 Ms. Milena Bonezzi
 Phone: 212-353-8280 x247 Fax: 212-353-8306
 Email: milena.bonezzi@atcgs.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101187-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR Part 763 Subpart F Appendix A

[Signature]
 For the National Voluntary Laboratory Accreditation Program






AIHA Laboratory Accreditation Programs, LLC
acknowledges that
ATC Group Services LLC
104 East 25th St 8th Flr New York, NY 10010
Laboratory ID: LAP-100229

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS	
<input checked="" type="checkbox"/>	INDUSTRIAL HYGIENE Accreditation Expires: November 01, 2021
<input type="checkbox"/>	ENVIRONMENTAL LEAD Accreditation Expires:
<input type="checkbox"/>	ENVIRONMENTAL MICROBIOLOGY Accreditation Expires:
<input type="checkbox"/>	FOOD Accreditation Expires:
<input type="checkbox"/>	UNIQUE SCOPES Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

[Signature]
 Elizabeth Bair
 Chairperson, Analytical Accreditation Board

[Signature]
 Cheryl O. Morton
 Managing Director, AIHA Laboratory Accreditation Programs, LLC



AIHA Laboratory Accreditation Programs, LLC SCOPE OF ACCREDITATION

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

Issue Date: 08/30/2019

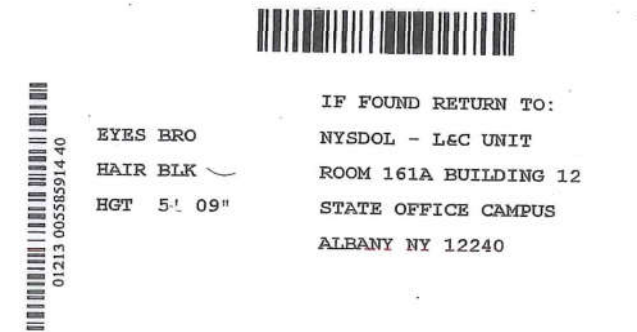
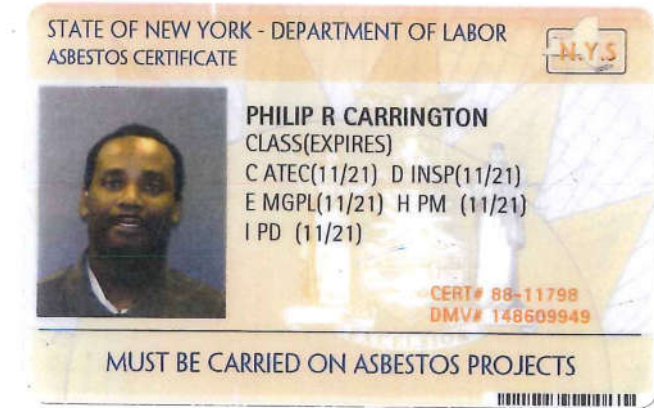
The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)


Initial Accreditation Date: 06/12/1995

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400 Modified	-

A complete listing of currently accredited IHLAP laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

NANCY B GUEVARA
CLASS(EXPIRES)
C ATEC(05/21) D INSP(05/21)
H PM (05/21) I PD (05/21)

CERT# 14-00412
DMV# 234032668

MUST BE CARRIED ON ASBESTOS PROJECTS





01213 005585171 14

EYES BRO
HAIR BRO
HGT 5' 06"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

RONEY D RIVERO
CLASS(EXPIRES)
C ATEC(08/21) D INSP(08/21)
E MGPL(08/21) H PM (08/21)
I PD (08/21)

CERT# 88-06348
DMV# 955602641

MUST BE CARRIED ON ASBESTOS PROJECTS



01213 005581057 61

EYES BRO
HAIR GRY
HGT 5' 11"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240



**NJMT REHABILITATION OF FIRE PROTECTION
SYSTEMS PN, EP, & PJ**

**ASBESTOS INSPECTION REPORT
PORT NEWARK, BUILDING #263**

Performed for:

**PORT NEWARK
NEWARK, NEW JERSEY**

Prepared for:

**THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY**

Prepared by:

**ATC GROUP SERVICES LLC
104 EAST 25TH STREET
NEW YORK, NEW YORK 10010
(212) 353-8280**

ATC Project No: 214PNPEPJ1

July 2, 2021



104 East 25th Street
8th Floor
New York, New York 10010
Telephone 212-353-8280
Fax 212-353-8306

July 2, 2021

Robert Pruno, P.E.
Chief Environmental Engineer
Port Authority of New York & New Jersey
Engineering Design Division
4 World Trade Center, Floor 20
New York, NY, 10006

Subject: Inspection Report for Asbestos-Containing Materials

**Re: Port Newark, Building #263
263 Marlin Street
Newark, NJ 07114
NJMT Rehabilitation of Fire Protection Systems**

Dear Mr. Pruno:

ATC Group Services LLC (ATC) has completed the inspection for Asbestos-Containing Materials (ACM) for the proposed work at the above referenced site. The inspection included visual observation, material sampling, laboratory analysis and development of asbestos abatement plans. The attached report presents our inspection procedures, findings, assessments and recommendations along with the pertinent appendices.

ATC appreciates this opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

Roney D. Rivero
Senior Project Manager
for ATC Group Services LLC
Direct Line +1 212 284 0614
Email: roney.rivero@atcgs.com

Attachments

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 BUILDING DESCRIPTION.....	2
3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS	2
4.0 ACM INSPECTION SCOPE.....	3
5.0 ACM INSPECTION RESULTS	4
6.0 PCB-IN-CAULKING INSPECTION FINDINGS	5
7.0 UNIVERSAL WASTE OBSERVATION	5
8.0 CONCLUSIONS AND RECOMMENDATIONS	5
9.0 ASSUMPTIONS AND LIMITATIONS.....	6

APPENDICES

Appendix A: ACM Laboratory Results and Chain of Custodies

Appendix B: Asbestos Sample Location Drawings

Appendix C: ACM Location Drawings

Appendix D: Lab Certifications / Accreditations, Company and Personnel Certifications

EXECUTIVE SUMMARY

On February 26, 2021 and April 8, 2021, ATC completed the inspection for ACM at Port Newark, Building #263 (the Site). The survey was conducted at the request of Port Authority of New York and New Jersey (PANYNJ) in preparation for the Rehabilitation of Fire Protection Systems Project. ATC utilized drawings provided by PANYNJ delineating the areas that will be impacted by the renovation project.

ATC collected thirty-six (36) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, five (5) sampled homogeneous areas were found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content). In addition, one (1) non-ACM homogeneous area, marked with an asterisk (*), should be treated as ACM due to its association/proximity with ACM within the same location.

The materials that tested positive for asbestos are:

- Aircell Pipe Insulation (3" OD)
- Elbow Insulation associated with Aircell Pipe Insulation
- Wrapped Cardboard Pipe Insulation (3" OD)
- Mudded Joint Fitting Insulation associated with Wrapped Cardboard Pipe Insulation *
- Packing Insulation at Ceiling Penetration for 8" OD Pipes (East Side)
- Packing Insulation at Ceiling Penetration for 8" OD Pipes (West Side)

These materials are tabulated in Section 4.0.

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

1.0 INTRODUCTION

The intent of this survey was to locate and identify all accessible ACM, and PCBs in caulking within the referenced structure that could potentially be impacted by the proposed Fire Sprinkler Rehabilitation Project.

The environmental survey was conducted by the following personnel who hold certifications from the New York State Department of Labor as Asbestos Inspectors, and the Environmental Protection Agency as Lead Risk Assessors.

Inspector's Name	Certification Number	ACM/LCP
Philip R. Carrington	AH-88-11798	ACM
Nancy Guevara	AH-14-00412	ACM
Roney D. Rivero	AH-88-06348	ACM

2.0 BUILDING DESCRIPTION

The New Jersey Port Newark Building 263 is a single-story steel frame warehouse which measures approximately 161 ft. by 634 ft. in plan. Most of the building is being used as a general cargo warehouse and sustain heavy forklift traffic. A portion of the building is used as a factory for light manufacturing. The floor in the warehouse is bituminous concrete and in the factory area the floor is plywood. The girders support steel roof purlins which support the corrugated metal roof decking. The building's height varies from approximately a minimum of 26 ft. at the north and south sides to 40 ft. at the ridge. A concrete masonry firewall divides the building into east and west portions. Several modular office structures exist in the building and are occupied by various tenants.

3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogeneous area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos.

Bulk samples of suspect ACM were analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Methods 198.1 and 198.6 as specified in the Environmental Laboratory Approval Program (ELAP) Certification Manual. Method 198.1 is used for friable ACM and Method 198.6 is used for non-friable ACM.

For non-friable materials such as mastic, caulking, etc., Method 198.6 requires that any result of 1-percent or less be reanalyzed by Method 198.4. This Method utilizes Transmission Electron Microscopy (TEM) to determine asbestos content. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) Non-friable Organically Bound (NOB) sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

The laboratory performing both these analysis procedures was ATC, located at 104 East 25th Street, New York, New York. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101187-0)
- New York State Environmental Laboratory Approval Program (Lab No. 10879)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 100229)

4.0 ACM INSPECTION SCOPE

ATC conducted the walkthrough of Port Newark building 260 on August 11, 2020 to understand typical building layouts and systems on buildings that are similar in lay out and use. Based on the findings of the walkthrough, ATC conducted an asbestos inspection of Port Newark Building 263 on February 26, 2021 and April 8, 2021 and collected thirty-six (36) bulk samples from all suspect asbestos-containing material. The areas inspected included only areas that may be impacted by the proposed Fire Sprinkler Rehabilitation Project at this location. The intent of this survey was to locate and identify all accessible ACM.

The following twelve (12) homogeneous materials inspected and sampled for ACM during the inspections were:

Suspect Material	Location
1' X 1' Ceiling Tile	1 st Floor – Office Space
Gypsum Board	1 st Floor – Office Space & Kitchen
CMU Wall Mortar	1 st Floor – Office Space Women's Bathroom
Aircell Pipe Insulation (3" OD)	1 st Floor – Office Space & Kitchen
Elbow Insulation associated with Aircell Pipe Insulation	1 st Floor – Office Space Kitchen

Wrapped Cardboard Pipe Insulation (3" OD)	1 st Floor – Bathroom in Warehouse Area (Open Building Space)
Mudded Joint Fitting Insulation associated with Wrapped Cardboard Pipe Insulation	1 st Floor – Bathroom in Warehouse Area (Open Building Space)
CMU Wall Mortar	1 st Floor Sprinkler Room East Side
Packing Insulation at Ceiling Penetration around 8" OD Pipes	1 st Floor East Side Sprinkler Room Ceiling
Packing Insulation at Ceiling Penetration around 8" OD Pipes	1 st Floor West Side Sprinkler Room Ceiling
Tectum Ceiling Board	1 st Floor - Warehouse Bathroom
Wall Blanket Insulation	1 st Floor - Warehouse Dividing Wall

5.0 ACM INSPECTION RESULTS

Based upon visual inspection and analytical results of bulk samples collected, **the following materials are asbestos-containing (> 1%)**:

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
10-12	Aircell Pipe Insulation (3" OD)	33% Chrysotile	20 LF	ACM001
13-15	Elbow Insulation associated with Aircell Pipe Insulation	50% Chrysotile	10 LF	ACM001
16-18	Wrapped Cardboard Pipe Insulation (3" OD)	12% Chrysotile	12 LF	ACM001
19-21	Mudded Joint Fitting Insulation associated with Wrapped Cardboard Pipe Insulation *	*	6 LF	ACM001
25-27	Packing Insulation at Ceiling Penetration around 8" OD Pipes	67% Chrysotile	3 SF	ACM001
28-30	Packing Insulation at Ceiling Penetration around 8" OD Pipes	67% Chrysotile	3 SF	ACM002

* This homogeneous area should be treated as ACM due to its association/proximity with ACM within the same location.

The following materials are presumed to be asbestos-containing material (PACM)

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
N/A	Flange & Valve Gaskets - 2 Sprinkler Rooms	PACM	50 Units	ACM001 & ACM02

ACM laboratory results are included in Appendix A. Asbestos Sample Location Plans are included in Appendix B. Asbestos Location Plans are included in Appendix C.

6.0 PCB-IN-CAULKING INSPECTION FINDINGS

ATC did not observe or sample any suspect PCB-containing Caulking at the time of the inspection

7.0 UNIVERSAL WASTE INVENTORY

ATC conducted a visual inspection of the light fixtures at the site to document Universal Waste, defined in Title 40, CFR Part 273. During the inspection at the site, it was observed the presence of fluorescent lamps, high intensity discharge (HID) lamps and ballasts.

It was assumed that lamp ballasts/capacitors contain PCBs and/or Di-Ethylhexyl Phthalate (DEHP); therefore, if removal is necessary it should be disposed of as PCB wastes as per 40 CFR Part 761.

8.0 CONCLUSIONS AND RECOMMENDATIONS

ATC collected thirty-six (36) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, five (5) sampled homogeneous areas were found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content). In addition, one (1) homogeneous area, marked with an asterisk (*), should be treated as ACM due to its association/proximity with ACM within the same location.

The materials that tested positive for asbestos at Building 263 include the following:

- Aircell Pipe Insulation (3" OD)
- Elbow Insulation associated with Aircell Pipe Insulation
- Wrapped Cardboard Pipe Insulation (3" OD)
- Mudded Joint Fitting Insulation Associated with Wrapped Cardboard Pipe Insulation *
- Packing Insulation at Ceiling Penetration around 8" OD Pipes (East Side)
- Packing Insulation at Ceiling Penetration around 8" OD Pipes (West Side)

ATC did not observe or sample any suspect PCB-containing caulking at the time of the inspection.

Various types of painted surfaces such as sprinkler pipes, gypsum board ceilings and walls, CMU walls, and roof decking have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 263, located in Newark, New Jersey.

Various types of light fixtures (fluorescent lamps, high intensity discharge (HID) lamps and ballasts) have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 263 located in Newark, New Jersey.

The materials reported in Section 5.0 of this report would require abatement, removal and disposal prior to sprinkler system renovation due to the proximity to the sprinkler pipe system.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted at the time of the inspection. The valve gaskets inside the pipe flanges could not be tested since the sprinkler system is still operational. It is assumed, based on the number of flanges observed, that there are 25 gaskets in each sprinkler room. There are 2 sprinkler rooms in this building, so it is assumed there are 50 gaskets that are presumed to be asbestos containing. This quantity should be verified with destructive sampling if abatement is planned prior to any renovation work.

If questions arise regarding asbestos content in building materials that were not tested by ATC, additional testing services should be procured to test those areas.

This report is intended for the sole use of the PANYNJ. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations contained herein is at the risk of said user.

END OF REPORT

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ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Client: ATC - NEW YORK
104 EAST 25TH STREET
NEW YORK, NY 10010

Fax: (212) 353-3599 **Phone:** (212) 353-8280

Project: PANYNJ / FIRESPRINKLER REHABILITATION

Sample Date: 2/26/2021

Date Received : 3/1/2021

Date Analyzed : 3/2/2021

ATC Batch # 21-226

Methods: ELAP 198.1, 198.6, 198.4

Location: PN - BUILDING 263

Project # 214PNPEPJ1/TASK0001

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type
1	1ST FLOOR OFFICE SPACE	1" X 1" CEILING TILE	NOB-TEM			31% Organic 52.5% Residue 16.5% Carbonate	NONE DETECTED
21-226 -1					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: Tan Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
2	1ST FLOOR OFFICE SPACE	1" X 1" CEILING TILE	NOB-TEM			29.3% Organic 48.1% Residue 22.6% Carbonate	NONE DETECTED
21-226 -2					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: Tan Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
3	1ST FLOOR OFFICE SPACE	1" X 1" CEILING TILE	NOB-TEM			30.5% Organic 54.8% Residue 14.7% Carbonate	NONE DETECTED
21-226 -3					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: Tan Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
4	1ST FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	5% Cellulose Trace% FiberGlass	95% Mineral Filler		NONE DETECTED
21-226 -4					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: White					
5	1ST FLOOR OFFICE SPACE (KITCHEN)	GYPSUM BOARD	PLM	4% Cellulose Trace% FiberGlass	96% Mineral Filler		NONE DETECTED
21-226 -5					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: White					
6	1ST FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	5% Cellulose Trace% FiberGlass	95% Mineral Filler		NONE DETECTED
21-226 -6					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: White					
7	1ST FLOOR OFFICE WOMEN'S BATHROOM	CMU MORTAR	PLM		100% Mineral Filler		NONE DETECTED
21-226 -7					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: Grey					

APPENDIX A

ACM LABORATORY RESULTS AND CHAIN OF CUSTODIES



ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
8	1ST FLOOR OFFICE WOMEN'S BATHROOM	CMU MORTAR	PLM	100% Mineral Filler			
21-226 -8				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Michael Gittings							
9	1ST FLOOR OFFICE WOMEN'S BATHROOM	CMU MORTAR	PLM	100% Mineral Filler			
21-226 -9				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Michael Gittings							
10	1ST FLOOR OFFICE WOMEN'S BATHROOM	AIR CELL PIPE INSULATION 3"	PLM	20% Cellulose Trace% FiberGlass	47% Mineral Filler 0.0% Vermiculite		33% Chrysotile
21-226 -10							
Color: Tan							
Analyzed By: Michael Gittings							
Total Asbestos: 33 %							
11	1ST FLOOR OFFICE WOMEN'S BATHROOM	AIR CELL PIPE INSULATION 3"					
21-226 -11							NOT ANALYZED
Comments: Positive stop, see #10							
12	1ST FLOOR OFFICE KITCHEN AREA	AIR CELL PIPE INSULATION 3"					
21-226 -12							NOT ANALYZED
Comments: Positive stop, see #10							
13	1ST FLOOR OFFICE WOMEN'S BATHROOM	ELBOW INSULATION ASSOCIATED WITH AIRCELL PIPE INSULATION	PLM	50% Mineral Filler			50% Chrysotile
21-226 -13				0.0% Vermiculite			
Color: Gray							
Analyzed By: Michael Gittings							
Total Asbestos: 50 %							
14	1ST FLOOR OFFICE WOMEN'S BATHROOM	ELBOW INSULATION ASSOCIATED WITH AIRCELL PIPE INSULATION					
21-226 -14							NOT ANALYZED
Comments: Positive stop, see #13							
15	1ST FLOOR OFFICE KITCHEN AREA	ELBOW INSULATION ASSOCIATED WITH AIRCELL PIPE INSULATION					
21-226 -15							NOT ANALYZED
Comments: Positive stop, see #13							
16	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	WRAPPED CARD BOARD PIPE INSULATION	PLM	90% Cellulose	10% Mineral Filler		
21-226 -16				0.0% Vermiculite			NONE DETECTED
Color: Tan							
Analyzed By: Michael Gittings							
17	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	WRAPPED CARD BOARD PIPE INSULATION	PLM	80% Cellulose	8% Mineral Filler		12% Chrysotile
21-226 -17				0.0% Vermiculite			
Color: Tan							
Analyzed By: Michael Gittings							
Comments: POSSIBLE FIELD CONTAMINATION							
Total Asbestos: 12 %							



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Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
18	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	WRAPPED CARD BOARD PIPE INSULATION					
21-226 -18							NOT ANALYZED
Comments: Positive stop, see #17							
19	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	MUDDED JOINT FITTING INSULATION	PLM	Trace% Cellulose 70% FiberGlass	30% Mineral Filler 0.0% Vermiculite		
21-226 -19							NONE DETECTED
Color: Gray							
Analyzed By: Michael Gittings							
20	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	MUDDED JOINT FITTING INSULATION	PLM	Trace% Cellulose 75% FiberGlass	25% Mineral Filler 0.0% Vermiculite		
21-226 -20							NONE DETECTED
Color: Gray							
Analyzed By: Michael Gittings							
21	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	MUDDED JOINT FITTING INSULATION	PLM	Trace% Cellulose 70% FiberGlass	30% Mineral Filler 0.0% Vermiculite		
21-226 -21							NONE DETECTED
Color: Gray							
Analyzed By: Michael Gittings							



ATC Group Services LLC

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ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____. Amendments: _____. Amendment Dates: _____. Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Michael Gittings

Analyst:

Mei Wang

Approved by
Quality Manager:

Feyza Gungor

Analyst:

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MV Batch Number 21-226 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1	Gravimetric Color <u>Tan</u> Texture <u>F</u> Required <input type="checkbox"/> Homogeneity <u>1</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>10</u> Mineral Filler <u>0</u> Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	<u>0</u> <u>70</u> <u>0</u>
Comments: <u> </u> Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2	Gravimetric Color <u>Tan</u> Texture <u>F</u> Required <input type="checkbox"/> Homogeneity <u>1</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>10</u> Mineral Filler <u>0</u> Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	<u>0</u> <u>70</u> <u>0</u>
Comments: <u> </u> Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3	Gravimetric Color <u>Tan</u> Texture <u>F</u> Required <input type="checkbox"/> Homogeneity <u>1</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>10</u> Mineral Filler <u>0</u> Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	<u>0</u> <u>70</u> <u>0</u>
Comments: <u> </u> Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4	Gravimetric Color <u>White</u> Texture <u>F</u> Required <input type="checkbox"/> Homogeneity <u>1</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>95</u> Mineral Filler <u>0</u> Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	<u>0</u> <u>70</u> <u>0</u>
Comments: <u> </u> Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.

Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MC Batch Number 21-226 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1	Gravimetric Color <u>White</u> Texture <u>F</u> Required <input type="checkbox"/> Homogeneity <u>1</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>10</u> Mineral Filler <u>0</u> Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	<u>0</u> <u>70</u> <u>0</u>
Comments: <u> </u> Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2	Gravimetric Color <u>White</u> Texture <u>F</u> Required <input type="checkbox"/> Homogeneity <u>1</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>10</u> Mineral Filler <u>0</u> Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	<u>0</u> <u>70</u> <u>0</u>
Comments: <u> </u> Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3	Gravimetric Color <u>Grey</u> Texture <u>C</u> Required <input type="checkbox"/> Homogeneity <u>1</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>100</u> Mineral Filler <u>0</u> Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	<u>0</u> <u>70</u> <u>0</u>
Comments: <u> </u> Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4	Gravimetric Color <u>Grey</u> Texture <u>C</u> Required <input type="checkbox"/> Homogeneity <u>1</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>10</u> Mineral Filler <u>0</u> Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	<u>0</u> <u>70</u> <u>0</u>
Comments: <u> </u> Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.

Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-226 TEMPERATURE °C 20

17	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color <u>Tan</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	12	Chrysotile	80	Cellulose	8	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>N</u>	Vermiculite <u>1</u>												Amosite		Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u>	Asbestos <u>1</u>												Other				Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver.	PT	Total PT	%Asb. Or %Ver.					
Required <input type="checkbox"/>	PLM	18	19	18	18					4		33	12					
See SM-V analysis sheet for results	NOB PLM																	
	Comments: <u>Possible field contamination?</u>																	
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

18	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile		Cellulose		Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos												Other				Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver.	PT	Total PT	%Asb. Or %Ver.					
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments: <u>see 17</u>																	
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

19	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color <u>Grey</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile	70	Cellulose	30	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>												Amosite	70	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>7</u>	Asbestos <u>1</u>												Other				Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver.	PT	Total PT	%Asb. Or %Ver.					
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

20	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color <u>Grey</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile	75	Cellulose	25	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>												Amosite	75	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>7</u>	Asbestos <u>1</u>												Other				Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver.	PT	Total PT	%Asb. Or %Ver.					
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-226 TEMPERATURE °C 23

21	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color <u>Grey</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile	70	Cellulose	30	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>												Amosite	70	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>7</u>	Asbestos <u>1</u>												Other				Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver.	PT	Total PT	%Asb. Or %Ver.					
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

2	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile		Cellulose		Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos												Other				Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver.	PT	Total PT	%Asb. Or %Ver.					
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

3	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile		Cellulose		Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos												Other				Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver.	PT	Total PT	%Asb. Or %Ver.					
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

4	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile		Cellulose		Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos												Other				Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver.	PT	Total PT	%Asb. Or %Ver.					
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-226 TEM Batch # 122381 Start Date: 03/02/21
 NOB PLM PREP: MG/EV NOB PLM Analyst: MJG NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 03/02/21

Field #	5 % Organic	11 Non Asb Residue % NFr	12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
						NOB PREP	PLM	TEM
Notes								
1	31.0	52.5	16.5	ND		>	>	>
2	29.3	48.1	22.6	ND		>	>	>
3	30.5	54.8	14.7	ND		>	>	>

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.

Client Copy



ATC Group Services LLC
 104 E. 25th Street, 8th Floor
 New York, NY 10010
 Tel. 212-353-8280
 Fax: 212-353-8306

Client: ATC - NEW YORK
 104 EAST 25TH STREET
 NEW YORK , NY 10010
Fax: (212) 353-3599 **Phone:** (212) 353-8280
Project: PANYNJ / FIRESPRINKLER REHABILITATION
Location: PN / BUILDING #263
Project # 214PNPEPJ1/TASK0001

Sample Date: 4/8/2021
Date Received : 4/8/2021
Date Analyzed : 4/9/2021
ATC Batch # 21-618
Methods: ELAP 198.1, 198.6, 198.4

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
22	1ST FLOOR SPRINKLER ROOM EAST	CMU WALL MORTAR	PLM	100% Mineral Filler	0.0% Vermiculite		NONE DETECTED
21-618 -1							
Analyzed By: Ivan Reyes							
23	1ST FLOOR SPRINKLER ROOM EAST	CMU WALL MORTAR	PLM	100% Mineral Filler	0.0% Vermiculite		NONE DETECTED
21-618 -2							
Analyzed By: Ivan Reyes							
24	1ST FLOOR SPRINKLER ROOM EAST	CMU WALL MORTAR	PLM	100% Mineral Filler	0.0% Vermiculite		NONE DETECTED
21-618 -3							
Analyzed By: Ivan Reyes							
25	1ST FLOOR SPRINKLER ROOM EAST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES	PLM	33% Mineral Filler	0.0% Vermiculite		67% Chrysotile
21-618 -4							
Analyzed By: Ivan Reyes							
26	1ST FLOOR SPRINKLER ROOM EAST @ CEILING	PACKING INSULATION PENETRATION 8" PIPES					NOT ANALYZED
21-618 -5							
Comments: Positive stop, see #25							
27	1ST FLOOR SPRINKLER ROOM EAST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES					NOT ANALYZED
21-618 -6							
Comments: Positive stop, see #25							
28	1ST FLOOR SPRINKLER ROOM WEST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES	PLM	33% Mineral Filler	0.0% Vermiculite		67% Chrysotile
21-618 -7							
Analyzed By: Ivan Reyes							
							Total Asbestos: 67 %



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
29	1ST FLOOR SPRINKLER ROOM WEST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES					NOT ANALYZED
21-618 -8							
				Comments: Positive stop, see #28			
30	1ST FLOOR SPRINKLER ROOM WEST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES					NOT ANALYZED
21-618 -9							
				Comments: Positive stop, see #28			
31	1ST FLOOR WAREHOUSE SMALL BATHROOM	TECTUM CEILING BOARD	NOB-TEM			31.4% Organic 11.1% Residue 57.5% Carbonate	NONE DETECTED
21-618 -10				0.0% Vermiculite			
		Color: White/Tan		Comments: NOB PLM Inconclusive			
	Analyzed By: Mei Wang	Second Analyst: Feyza Gungor					
32	1ST FLOOR WAREHOUSE SMALL BATHROOM	TECTUM CEILING BOARD	NOB-TEM			32.4% Organic 16.1% Residue 51.5% Carbonate	NONE DETECTED
21-618 -11				0.0% Vermiculite			
		Color: White/Tan		Comments: NOB PLM Inconclusive			
	Analyzed By: Mei Wang	Second Analyst: Feyza Gungor					
33	1ST FLOOR WAREHOUSE SMALL BATHROOM	TECTUM CEILING BOARD	NOB-TEM			32.9% Organic 14.4% Residue 52.7% Carbonate	NONE DETECTED
21-618 -12				0.0% Vermiculite			
		Color: White/Tan		Comments: NOB PLM Inconclusive			
	Analyzed By: Mei Wang	Second Analyst: Feyza Gungor					
34	1ST FLOOR WAREHOUSE DIVIDING WALL	WALL BLANKET INSULATION	PLM	Trace% Cellulose 95% FiberGlass	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-618 -13							
		Color: Brown		Comments: NOB PLM Inconclusive			
	Analyzed By: Ivan Reyes						
35	1ST FLOOR WAREHOUSE DIVIDING WALL	WALL BLANKET INSULATION	PLM	Trace% Cellulose 95% FiberGlass	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-618 -14							
		Color: Brown		Comments: NOB PLM Inconclusive			
	Analyzed By: Ivan Reyes						
36	1ST FLOOR WAREHOUSE DIVIDING WALL	WALL BLANKET INSULATION	PLM	Trace% Cellulose 95% FiberGlass	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-618 -15							
		Color: Brown		Comments: NOB PLM Inconclusive			
	Analyzed By: Ivan Reyes						



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10379
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: _____, Amendment Dates: _____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis.
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Ivan Reyes

Analyst:

Mei Wang

Approved by

Quality Manager:

Mei Wang

Analyst:

Feyza Gungor

Analyst:



**ELAP
BULK ASBESTOS ANALYSIS RESULTS**

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

- ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
5. Date: 4/8/21	6. BUILDING NUMBER: 263	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL RUSH_X	9. Comments (Field) NOB -> TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
8	22	CHU WALL		1 SPRINKLER ROOM EAST		
8	23	MORRM				
8	24	"				
9	25	PACKING INSULATION		@ CEILING	3 S.F.	
9	26	@ PENETRATIONS				
9	27	8" PIPES				
10	28	PACKING INSULATION		SPRINKLER ROOM WEST	3 S.F.	
10	29	@ PENETRATIONS		@ CEILING		
10	30	8" PIPES				
11	31	TECTUM CEILING		WAREHOUSE SHED		
11	32	BOARD		BARRIUM		
11	33	"				
12	34	WALL BLANKET		WAREHOUSE DIVIDING WALL		
12	35	INSULATION				
12	36	"		"		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <i>Philip Carrington</i>	4/8/21	3:18pm	<i>Euler E</i>	4/8/2021	15:25	Field
II.						Walk In
						US Mail
			QC BY			Fed-Ex
III.						Other

LABORATORY INFORMATION

24. Name and Signature: <i>Ivan Rios</i>	25. Date: 4/9/2021	26. Time: 8:48 am	27. Comments (Lab)
24a. Analyzed By: <i>Milena Bonezzi</i>	4/9/21	13:30	
24b. Analyzed By:			
24c. QC By: <i>TEM: Feiza Gungor Jazg</i>	4/9/21	14:49	

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-618 TEMPERATURE °C 25

1	22	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Brown</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>/</u>											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>/</u>											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM <u>0/0</u>											<u>0 200 0</u>				
See SM-V analysis sheet for results	NOB PLM															
Comments:																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

2	23	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Brown</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>/</u>											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>/</u>											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM <u>0/0</u>											<u>0 200 0</u>				
See SM-V analysis sheet for results	NOB PLM															
Comments:																
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

3	24	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Brown</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>/</u>											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>/</u>											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM <u>0/0</u>											<u>0 200 0</u>				
See SM-V analysis sheet for results	NOB PLM															
Comments:																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

4	25	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Grey</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	67 Chrysotile	Cellulose	33 Mineral Filler		
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>/</u>											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>/</u>											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM <u>1/2 1/1 1/1 1/2</u>											<u>4 6 67% Chr</u>				
See SM-V analysis sheet for results	NOB PLM															
Comments:																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-618 TEMPERATURE °C 25

1	26	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color _____ Texture _____	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity _____ Vermiculite _____											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers _____ Asbestos _____											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer _____ Detected Yes No													Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM _____															
See SM-V analysis sheet for results	NOB PLM _____															
Comments: <u>See #25</u>																
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

2	27	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color _____ Texture _____	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity _____ Vermiculite _____											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers _____ Asbestos _____											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer _____ Detected Yes No													Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM _____															
See SM-V analysis sheet for results	NOB PLM _____															
Comments: <u>See #25</u>																
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

3	28	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Grey</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	67 Chrysotile	Cellulose	33 Mineral Filler		
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>/</u>											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>/</u>											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM <u>1/1 1/2 1/1 1/2</u>											<u>4 6 67% Chr</u>				
See SM-V analysis sheet for results	NOB PLM _____															
Comments:																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

4	29	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color _____ Texture _____	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity _____ Vermiculite _____											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers _____ Asbestos _____											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer _____ Detected Yes No													Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM _____															
See SM-V analysis sheet for results	NOB PLM _____															
Comments: <u>See #28</u>																
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-618 TEMPERATURE 25

1 30 Field Number
Stereoscopic Exam: Color White Texture F
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: See #23
Method: ELAP EPA SCANNING OPTION Q.C.

2 31 Field Number
Stereoscopic Exam: Color White Texture F
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: [Signature]
Method: ELAP EPA SCANNING OPTION Q.C.

3 32 Field Number
Stereoscopic Exam: Color White Texture F
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: [Signature]
Method: ELAP EPA SCANNING OPTION Q.C.

4 33 Field Number
Stereoscopic Exam: Color White Texture F
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: [Signature]
Method: ELAP EPA SCANNING OPTION Q.C.

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS.DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS BULK FORMS 2020\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-618 TEMPERATURE 25

1 34 Field Number
Stereoscopic Exam: Color Brown Texture F
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: [Signature]
Method: ELAP EPA SCANNING OPTION Q.C.

2 35 Field Number
Stereoscopic Exam: Color Brown Texture F
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: [Signature]
Method: ELAP EPA SCANNING OPTION Q.C.

3 36 Field Number
Stereoscopic Exam: Color Brown Texture F
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: [Signature]
Method: ELAP EPA SCANNING OPTION Q.C.

4 37 Field Number
Stereoscopic Exam: Color White Texture F
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: [Signature]
Method: ELAP EPA SCANNING OPTION Q.C.

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS.DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS BULK FORMS 2020\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-618 TEM Batch # 122928 Start Date: 04/09/21
 NOB PLM PREP: MG/EV NOB PLM Analyst: MWV NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 04/09/21

Field #	5 % Organic	11 Non Asb Residue %		12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods					
		NFr					PREP	PLM	NOB	TEM		
31	31.4	11.1	57.5	ND			✓	✓	✓			
32	32.4	16.1	51.5	ND			✓	✓	✓			
33	32.9	14.4	52.7	ND			✓	✓	✓			

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.

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APPENDIX B
ASBESTOS SAMPLE LOCATION DRAWINGS

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No.	Date	Revision	Approved
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ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 263
FIRST FLOOR
SAMPLE LOCATION PLAN
(1 OF 2)
SAMPLES 1 TO 21 &
28 TO 36

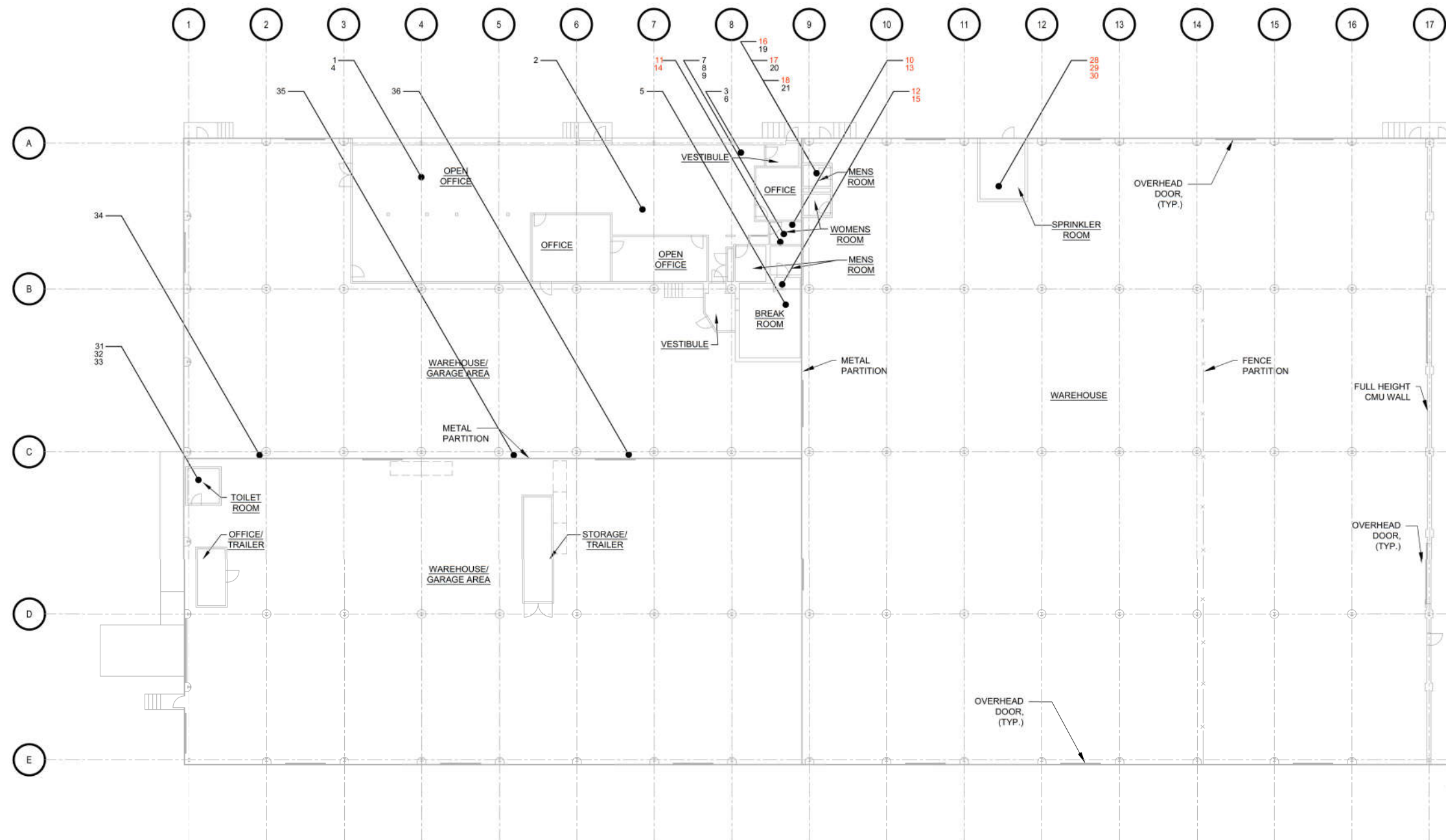
This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by E.MILKIS

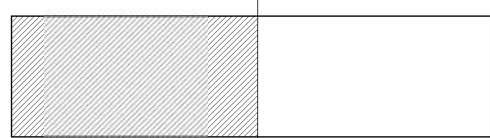
Checked by
Date 07/02/2021

Contract Number

Drawing Number **SL001**



MATCH LINE
FOR CONTINUATION SEE DRAWING SL002



KEY PLAN



LEGEND

SYMBOL	DESCRIPTION
	SUSPECT ASBESTOS SAMPLE LOCATION
	ACM SAMPLE LOCATION

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 263
FIRST FLOOR
SAMPLE LOCATION PLAN
(2 OF 2)
SAMPLES 22 TO 27

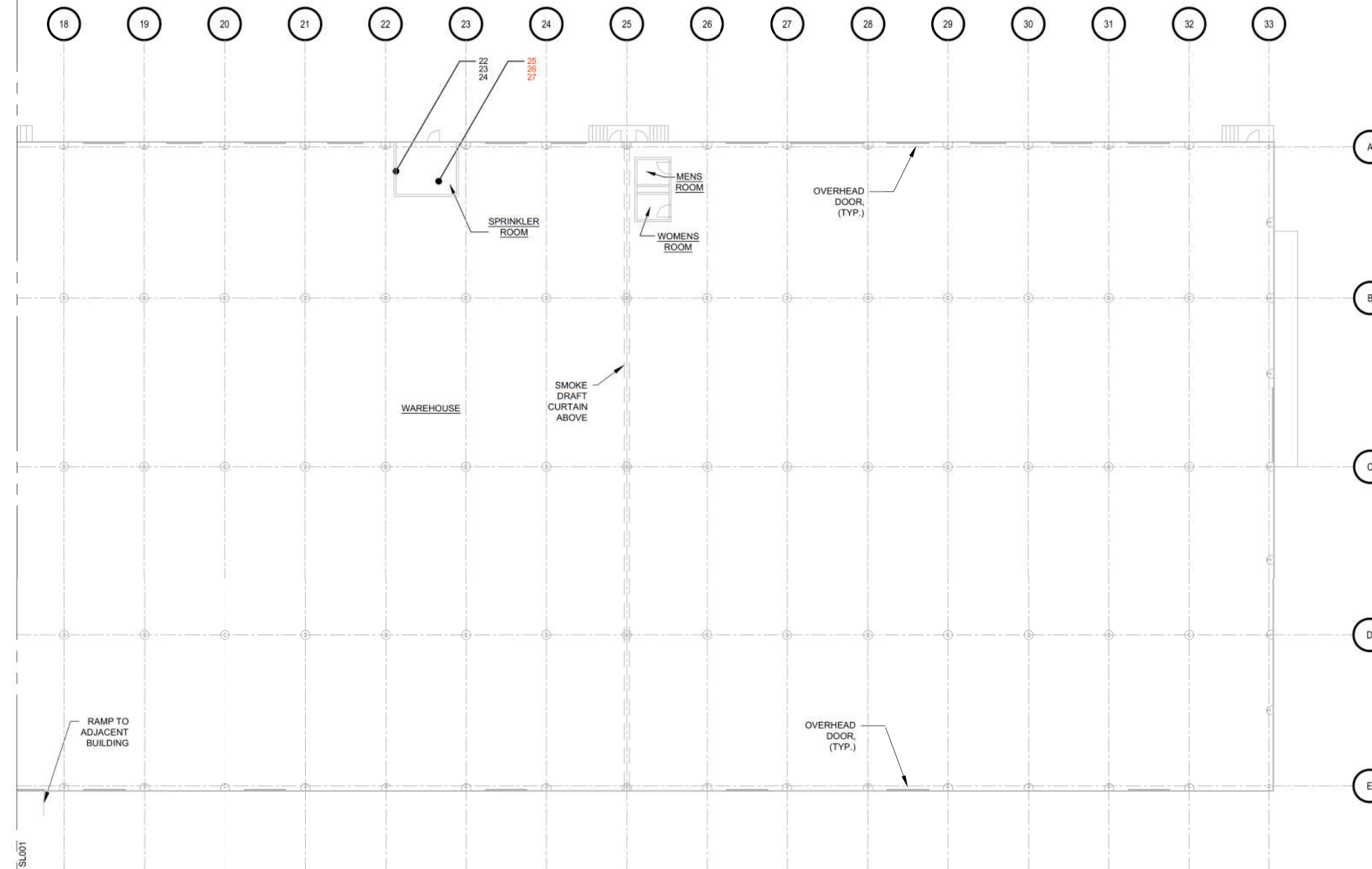
This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "Altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by E.MILKIS

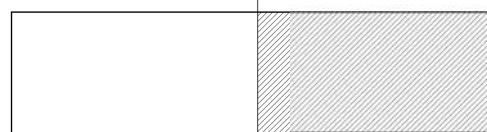
Checked by
Date 07/02/2021

Contract Number

Drawing Number **SL002**



MATCH LINE FOR CONTINUATION SEE DRAWING SL001



KEY PLAN



LEGEND

SYMBOL	DESCRIPTION
	SUSPECT ASBESTOS SAMPLE LOCATION
	ACM SAMPLE LOCATION

APPENDIX C
ASBESTOS LOCATION DRAWINGS

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No.	Date	Revision	Approved
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ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 263
FIRST FLOOR
ACM LOCATION PLAN
(1 OF 2)

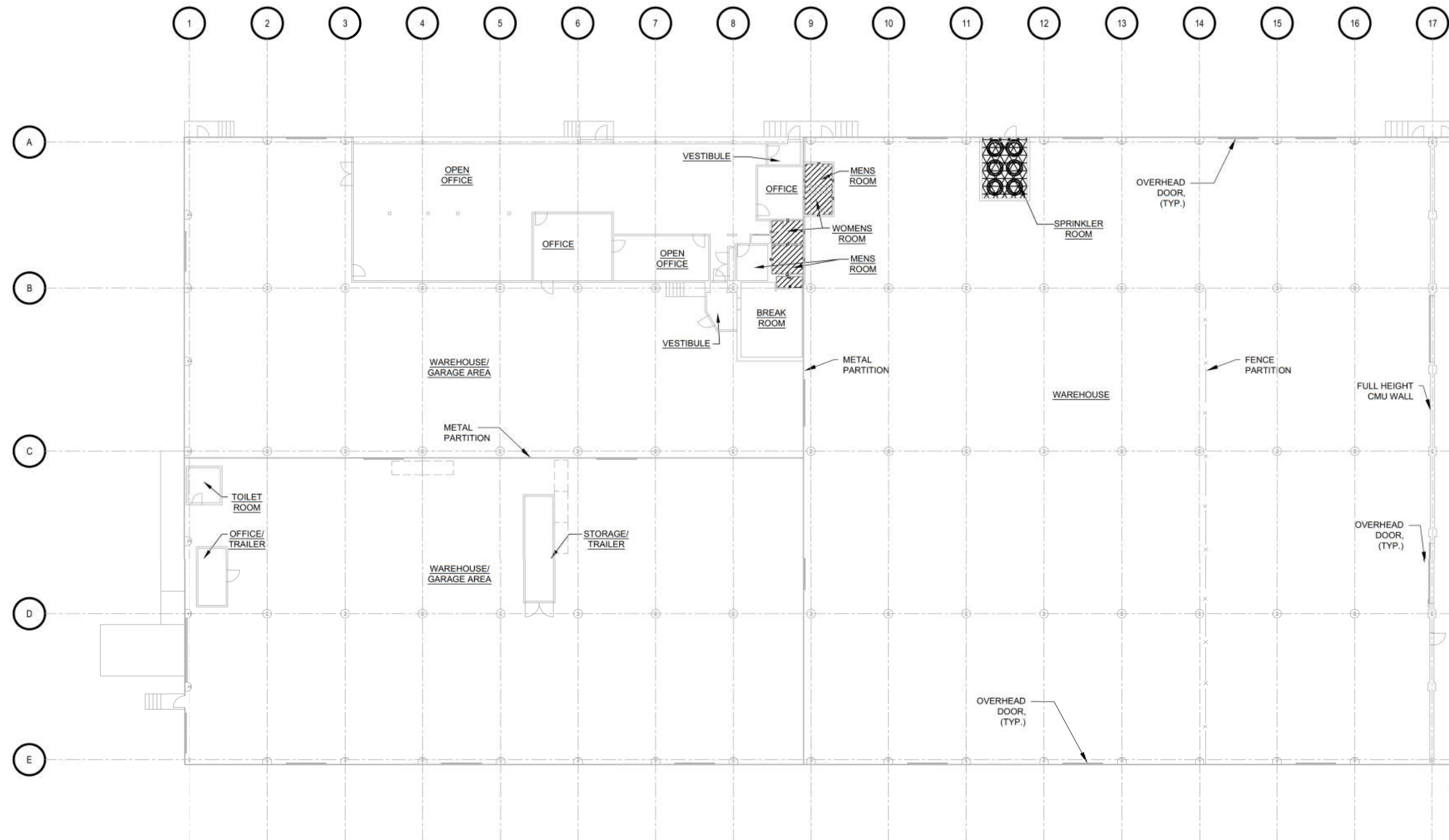
This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by E.MILKIS

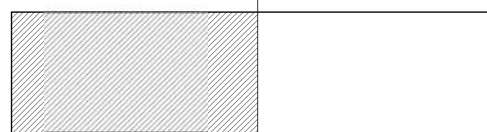
Checked by
Date 07/02/2021

Contract Number

Drawing Number **ACM001**



MATCH LINE
FOR CONTINUATION SEE DRAWING ACM002

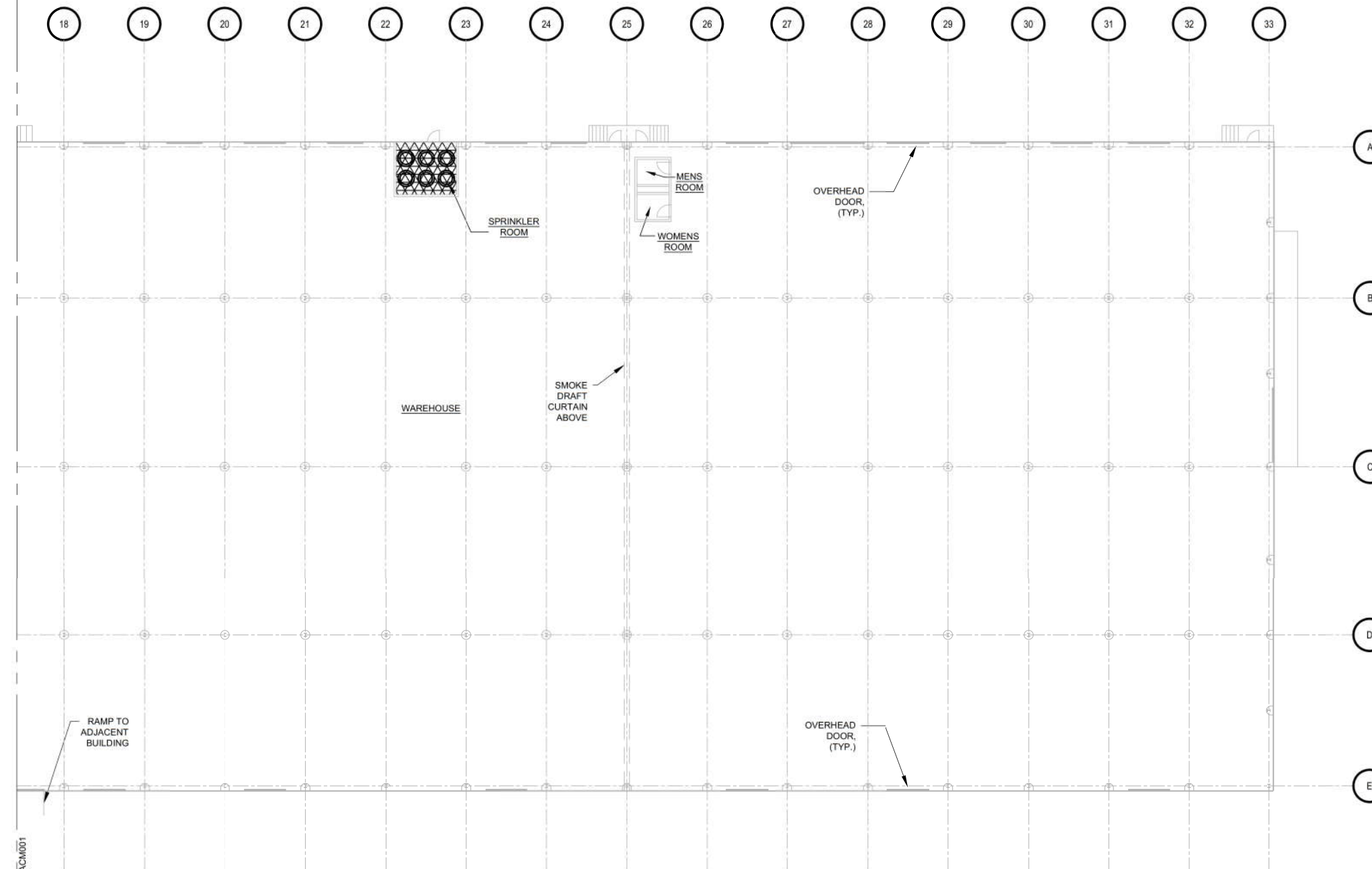


KEY PLAN



LEGEND

SYMBOL	DESCRIPTION
	ASBESTOS CONTAINING PIPE AND PIPE FITTING INSULATION
	ASBESTOS CONTAINING PACKING INSULATION AT CEILING PIPE PENETRATION
	FLANGE & VALVE GASKETS (PACM)



No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

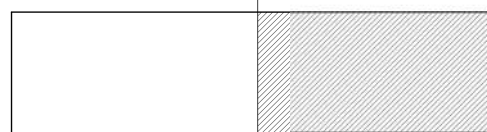
Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 263
FIRST FLOOR
ACM LOCATION PLAN
(2 OF 2)

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Designed by R.RIVERO
Drawn by E.MILKIS
Checked by
Date 07/02/2021

Contract Number
Drawing Number **ACM002**



KEY PLAN



LEGEND

SYMBOL	DESCRIPTION
○○○	ASBESTOS CONTAINING PACKING
—	INSULATION AT CEILING PIPE PENETRATION
XXXXXX	FLANGE & VALVE GASKETS (PACM)

APPENDIX D

**LAB CERTIFICATIONS AND ACCREDITATIONS, COMPANY
AND PERSONNEL CERTIFICATIONS**

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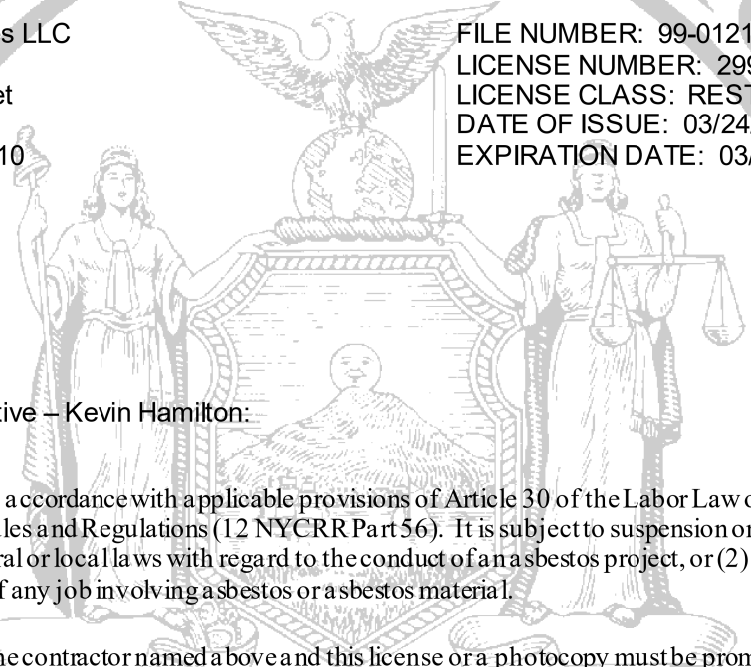
New York State – Department of Labor

Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

ATC Group Services LLC
10th Floor
104 East 25th Street
New York, NY 10010

FILE NUMBER: 99-0121
LICENSE NUMBER: 29902
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 03/24/2021
EXPIRATION DATE: 03/31/2022



Duly Authorized Representative – Kevin Hamilton:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or a asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

SH 432 (8/12)

**NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER**

Expires 12:01 AM April 01, 2021
Issued April 01, 2020



CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2003) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos

EPA 100.2



Serial No.: 61221

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.





Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

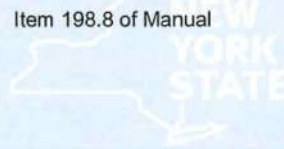
MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos in Friable Material Item 198.1 of Manual
EPA 600/M4/82/020
- Asbestos in Non-Friable Material-PLM Item 198.6 of Manual (NOB by PLM)
- Asbestos in Non-Friable Material-TEM Item 198.4 of Manual
- Asbestos-Vermiculite-Containing Material Item 198.8 of Manual



Department
of Health

Serial No.: 61222

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Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

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MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos 40 CFR 763 APX A No. III
NIOSH 7402
- Fibers NIOSH 7400 A RULES



Department
of Health

Serial No.: 61223

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos

EPA 100.2



Serial No.: 62824

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material

Item 198.1 of Manual

EPA 600/M4/82/020

Asbestos in Non-Friable Material-PLM

Item 198.6 of Manual (NOB by PLM)

Asbestos in Non-Friable Material-TEM

Item 198.4 of Manual

Asbestos-Vermiculite-Containing Material

Item 198.8 of Manual

Serial No.: 62825

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

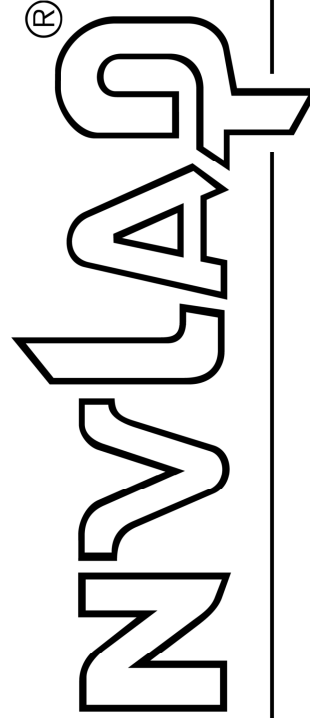
Miscellaneous
Asbestos
Fibers

40 CFR 763 APX A No. III
NIOSH 7402
NIOSH 7400 A RULES

Serial No.: 62826

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101187-0

ATC Group Services LLC
New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).



2020-07-01 through 2021-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ATC Group Services LLC
 104 E. 25th Street 8th Floor
 New York, NY 10010
 Ms. Milena Bonezzi
 Phone: 212-353-8280 x247 Fax: 212-353-8306
 Email: milena.bonezzi@atcgs.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101187-0

Bulk Asbestos Analysis

Code

Description

18/A01 EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples

18/A03 EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

Code

Description

18/A02 U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR Part 763 Subpart F Appendix A

[Signature]
 For the National Voluntary Laboratory Accreditation Program



AIHA
 Laboratory Accreditation Programs, LLC

AIHA Laboratory Accreditation Programs, LLC
acknowledges that
ATC Group Services LLC
 104 East 25th St 8th Flr New York, NY 10010
 Laboratory ID: LAP-100229

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS	
<input checked="" type="checkbox"/> INDUSTRIAL HYGIENE	Accreditation Expires: November 01, 2021
<input type="checkbox"/> ENVIRONMENTAL LEAD	Accreditation Expires:
<input type="checkbox"/> ENVIRONMENTAL MICROBIOLOGY	Accreditation Expires:
<input type="checkbox"/> FOOD	Accreditation Expires:
<input type="checkbox"/> UNIQUE SCOPES	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

[Signature]
 Elizabeth Bair
 Chairperson, Analytical Accreditation Board

[Signature]
 Cheryl O. Morton
 Managing Director, AIHA Laboratory Accreditation Programs, LLC



AIHA Laboratory Accreditation Programs, LLC SCOPE OF ACCREDITATION

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

Issue Date: 08/30/2019

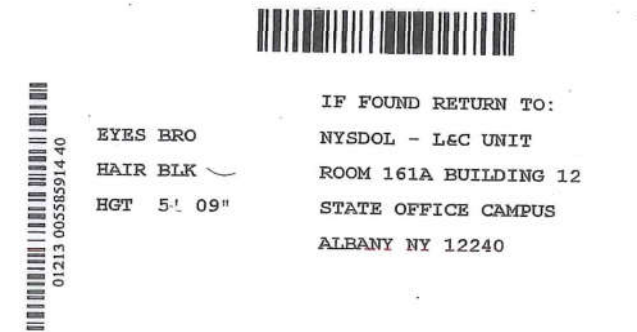
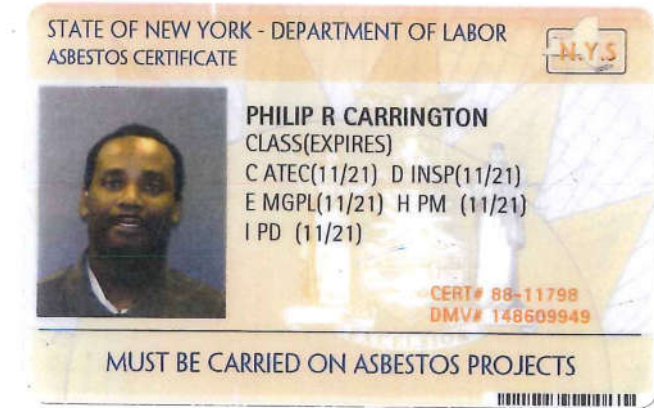
The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)


Initial Accreditation Date: 06/12/1995

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400 Modified	-

A complete listing of currently accredited IHLAP laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

NANCY B GUEVARA
CLASS(EXPIRES)
C ATEC(05/21) D INSP(05/21)
H PM (05/21) I PD (05/21)

CERT# 14-00412
DMV# 234032668

MUST BE CARRIED ON ASBESTOS PROJECTS





01213 005585171 14

EYES BRO
HAIR BRO
HGT 5' 06"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

RONEY D RIVERO
CLASS(EXPIRES)
C ATEC(08/21) D INSP(08/21)
E MGPL(08/21) H PM (08/21)
I PD (08/21)

CERT# 88-06348
DMV# 955602641

MUST BE CARRIED ON ASBESTOS PROJECTS



01213 005581057 61

EYES BRO
HAIR GRY
HGT 5' 11"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240



**NJMT REHABILITATION OF FIRE PROTECTION
SYSTEMS PN, EP, & PJ**

**ASBESTOS INSPECTION REPORT
PORT NEWARK, BUILDING #301**

Performed for:

**PORT NEWARK
NEWARK, NEW JERSEY**

Prepared for:

**THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY**

Prepared by:

**ATC GROUP SERVICES LLC
104 EAST 25TH STREET
NEW YORK, NEW YORK 10010
(212) 353-8280**

ATC Project No: 214PNPEPJ1

July 2, 2021



104 East 25th Street
8th Floor
New York, New York 10010
Telephone 212-353-8280
Fax 212-353-8306

July 2, 2021

Robert Pruno, P.E.
Chief Environmental Engineer
Port Authority of New York & New Jersey
Engineering Design Division
4 World Trade Center, Floor 20
New York, NY, 10006

Subject: Inspection Report for Asbestos-Containing Materials

**Re: Port Newark, Building #301
301 Craneway Street
Newark, NJ 07114
NJMT Rehabilitation of Fire Protection Systems**

Dear Mr. Pruno:

ATC Group Services LLC (ATC) has completed the inspection for Asbestos-Containing Materials (ACM) for the proposed work at the above referenced site. The inspection included visual observation, material sampling, laboratory analysis and development of asbestos abatement plans. The attached report presents our inspection procedures, findings, assessments and recommendations along with the pertinent appendices.

ATC appreciates this opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

Roney D. Rivero
Senior Project Manager
for ATC Group Services LLC
Direct Line +1 212 284 0614
Email: roney.rivero@atcgs.com

Attachments

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 BUILDING DESCRIPTION.....	2
3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS	2
4.0 ACM INSPECTION SCOPE.....	3
5.0 ACM INSPECTION RESULTS	5
6.0 PCB-IN-CAULKING INSPECTION FINDINGS	5
7.0 UNIVERSAL WASTE OBSERVATION	5
8.0 CONCLUSIONS AND RECOMMENDATIONS	6
9.0 ASSUMPTIONS AND LIMITATIONS.....	6

APPENDICES

Appendix A: ACM Laboratory Results and Chain of Custodies

Appendix B: Asbestos Sample Location Drawings

Appendix C: ACM Location Drawings

Appendix D: Lab Certifications / Accreditations, Company and Personnel Certifications

EXECUTIVE SUMMARY

On February 26, 2021 and April 8, 2021, ATC completed the inspection for ACM at Port Newark, Building #301 (the Site). The survey was conducted at the request of Port Authority of New York and New Jersey (PANYNJ) in preparation for the Rehabilitation of Fire Protection Systems Project. ATC utilized drawings provided by PANYNJ delineating the areas that will be impacted by the renovation project.

ATC collected sixty-nine (69) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, one (1) sampled homogeneous area was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content).

The material that tested positive for asbestos is:

- Pipe Fitting Insulation associated with Fiberglass Pipe Insulation

These materials are tabulated in Section 4.0.

ATC did not observe or sample any suspect PCB-containing Caulking at the time of the inspection.

1.0 INTRODUCTION

The intent of this survey was to locate and identify all accessible ACM, and PCBs in caulking within the referenced structure that could potentially be impacted by the proposed Fire Sprinkler Rehabilitation Project.

The environmental survey was conducted by the following personnel who hold certifications from the New York State Department of Labor as Asbestos Inspectors, and the Environmental Protection Agency as Lead Risk Assessors.

Inspector's Name	Certification Number	ACM/LCP
Philip R. Carrington	AH-88-11798	ACM
Nancy Guevara	AH-14-00412	ACM
Roney D. Rivero	AH-88-06348	ACM

2.0 BUILDING DESCRIPTION

The New Jersey Port Newark Building 301, Harbor Freight Transport Building, was constructed within the facility located northeast of the Port Newark Marine Terminal and is accessible via Navy Street. The building is currently occupied by Harbor Freight Transport and used for storage of general cargo. The building is a one-story steel framed structure, measuring 255 ft. by 528 ft. in plan. The building height varies from 38'-7" at the eave to 40'-9" at the ridge. The steel framing consists of five rows of columns with 22 cross beams spaced at 25 ft. The cross beams support 41 roof purlins, which in turn supporting the gypsum roof panel covered with rubber roofing in a single gable shape. The exterior wall consists of concrete grade beam supported CMU wall brick wall with corrugated metal siding or Plexiglas window panels on top. The ground floor is bituminous concrete pavement on grade. There is an office located in the middle of the east side of the building and two office annexes along south side of building. The suspended acoustical ceilings are present at both office annexes.

3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogeneous area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the

same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos.

Bulk samples of suspect ACM were analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Methods 198.1 and 198.6 as specified in the Environmental Laboratory Approval Program (ELAP) Certification Manual. Method 198.1 is used for friable ACM and Method 198.6 is used for non-friable ACM.

For non-friable materials such as mastic, caulking, etc., Method 198.6 requires that any result of 1-percent or less be reanalyzed by Method 198.4. This Method utilizes Transmission Electron Microscopy (TEM) to determine asbestos content. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) Non-friable Organically Bound (NOB) sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

The laboratory performing both these analysis procedures was ATC, located at 104 East 25th Street, New York, New York. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101187-0)
- New York State Environmental Laboratory Approval Program (Lab No. 10879)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 100229)

4.0 ACM INSPECTION SCOPE

ATC conducted the walkthrough of Port Newark building 260 on August 11, 2020 to understand typical building layouts and systems on buildings that are similar in lay out and use. Based on the findings of the walkthrough, ATC conducted an asbestos inspection of Port Newark Building 301 on February 26, 2021 and April 8, 2021 and collected sixty-nine (69) bulk samples from all suspect asbestos-containing material. The areas inspected included only areas that may be impacted by the proposed Fire Sprinkler Rehabilitation Project at this location. The intent of this survey was to locate and identify all accessible ACM.

The following twenty-three (23) homogeneous materials inspected and sampled for ACM during the inspections were:

Suspect Material	Location
2'X4' Ceiling Tile Type I	1 st Floor – Warehouse Area, Lunch Room 1
Paper Backing on Ceiling Fiberglass Insulation	1 st Floor – Warehouse Area, Lunch Room 1
Textured Plaster (One Coat) on Plywood Ceiling	1 st Floor – Warehouse Area, Lunch Room 1, Gym Room

Brick Wall Mortar	1 st Floor – Warehouse Area Northeast Corner
2' X 2' & 2' X 4' Ceiling Tile - Fissured	1 st Floor – Office space
Gypsum Board Paper - Wall	1 st Floor – Office space
Gypsum Board - Wall	1 st Floor – Office space
Joint Compound – Wall	1 st Floor – Office space
HVAC Duct Insulation Cover	1 st Floor – Office space
Fiberglass Pipe Insulation Cover 3" OD	1 st Floor – Office space
CMU Mortar Wall	1 st Floor – Office space Electric Room
2' X 4' Ceiling Tile Type I - Fissured	2 nd Floor – Office space
Gypsum Board Paper - Wall	2 nd Floor – Office space
Gypsum Board - Wall	2 nd Floor – Office space
Joint Compound – Wall	2 nd Floor – Office space
HVAC Duct Insulation Cover	2 nd Floor – Office space
2' X 4' Ceiling Tile Type II	2 nd Floor – By Entrance to Office space
CMU Wall Mortar	1 st Floor – (Abandoned Building) – Locker Room & Lunch Room
Gypsum Board Paper - Wall	1 st Floor – (Abandoned Building) – Lobby
Gypsum Board - Wall	1 st Floor – (Abandoned Building) – Lobby
Joint Compound - Wall	1 st Floor – (Abandoned Building) – Lobby
Fiberglass Pipe Insulation Cover 3" OD	1 st Floor – (Abandoned Building) – Men's & Women's Bathrooms
Pipe Fitting Insulation associated with F/G Pipe Insulation	1 st Floor – (Abandoned Building) – Men's & Women's Bathrooms

5.0 ACM INSPECTION RESULTS

Based upon visual inspection and analytical results of bulk samples collected, **the following material is asbestos-containing (> 1%)**:

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
67-69	Pipe Fitting Insulation associated with F/G Pipe Insulation	10% Chrysotile	25 LF	ACM001

The following materials are presumed to be asbestos-containing material (PACM)

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
N/A	Pipe and Pipe Fitting Insulation - Warehouse Area	PACM	2,200 L.F.	ACM001
N/A	Flange & Valve Gaskets - 2 Sprinkler Rooms	PACM	50 Units	ACM001

ACM laboratory results are included in Appendix A. Asbestos Sample Location Plans are included in Appendix B. Asbestos Location Plans are included in Appendix C.

6.0 PCB-IN-CAULKING INSPECTION FINDINGS

ATC did not observe or sample any suspect PCB-containing Caulking at the time of the inspection

7.0 UNIVERSAL WASTE INVENTORY

ATC conducted a visual inspection of the light fixtures at the site to document Universal Waste, defined in Title 40, CFR Part 273. During the inspection at the site, it was observed the presence of fluorescent lamps, high intensity discharge (HID) lamps and ballasts.

It was assumed that lamp ballasts/capacitors contain PCBs and/or Di-Ethylhexyl Phthalate (DEHP); therefore, if removal is necessary it should be disposed of as PCB wastes as per 40 CFR Part 761.

8.0 CONCLUSIONS AND RECOMMENDATIONS

ATC collected sixty-nine (69) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, one (1) sampled homogeneous area was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content).

The material that tested positive for asbestos at Building 301 include the following:

- Pipe Fitting Insulation associated with F/G Pipe Insulation

ATC did not observe or sample any suspect PCB-containing Caulking at the time of the inspection.

Various types of painted surfaces such as sprinkler pipes, gypsum board ceilings and walls, CMU walls, and roof decking have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 301, located in Newark, New Jersey.

Various types of light fixtures (fluorescent lamps, high intensity discharge (HID) lamps and ballasts) have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 301 located in Newark, New Jersey.

The materials reported in Section 5.0 of this report would require abatement, removal and disposal prior to sprinkler system renovation due to the proximity to the sprinkle pipe system.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted at the time of the inspection. The valve gaskets inside the pipe flanges could not be tested since the sprinkler system is still operational. It is assumed, based on the number of flanges observed, that there are approximately 25 gaskets in each sprinkler room. There are 2 sprinkler rooms in this building, so it is assumed there are 50 gaskets that are presumed to be asbestos containing. The pipes in the warehouse area below the roof deck with suspected asbestos-containing insulation were not sampled due to access restrictions (height and electric hazard) at the time of the survey. Based on visual inspection and assumptions, we estimate 2,200 linear feet of pipe insulation presumed to be asbestos containing. This quantity should be verified with destructive sampling if abatement is planned prior to any renovation work.

If questions arise regarding asbestos content in building materials that were not tested by ATC, additional testing services should be procured to test those areas.

This report is intended for the sole use of the PANYNJ. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations contained herein is at the risk of said user.

END OF REPORT

APPENDIX A

ACM LABORATORY RESULTS AND CHAIN OF CUSTODIES

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ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Client: ATC - NEW YORK
104 EAST 25TH STREET
NEW YORK, NY 10010
Fax: (212) 353-3599 **Phone:** (212) 353-8280
Project: PANYNJ / FIRESPRINKLER REHABILITATION

Sample Date: 2/26/2021
Date Received : 3/1/2021
Date Analyzed : 3/2/2021
ATC Batch # 21-225
Methods: ELAP 198.1, 198.6, 198.4

Location: PN 301
Project # 214PNPEPJ1/TASK0001

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
1 21-225 -1	1ST FLOOR WAREHOUSE AREA LUNCH ROOM 1	2' X 4' CEILING TILE TYPE I	NOB-TEM			21.9% Organic 58.3% Residue 19.8% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings Second Analyst: Feyza Gungor				Color: Tan Comments: NOB PLM Inconclusive			
2 21-225 -2	1ST FLOOR LUNCH ROOM 1	2' X 4' CEILING TILE TYPE I	NOB-TEM			26.3% Organic 48.8% Residue 24.9% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings Second Analyst: Feyza Gungor				Color: Tan Comments: NOB PLM Inconclusive			
3 21-225 -3	1ST FLOOR LUNCH ROOM 1	2' X 4' CEILING TILE TYPE I	NOB-TEM		0.0% Vermiculite	25.8% Organic 38.1% Residue 36.1% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings Second Analyst: Feyza Gungor				Color: Tan Comments: NOB PLM Inconclusive			
4 21-225 -4	1ST FLOOR LUNCH ROOM 1	PAPER BACKING ON CEILING F/G INSULATION	NOB-TEM		0.0% Vermiculite	96.1% Organic 1.1% Residue 2.8% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings Second Analyst: Feyza Gungor				Color: Black Comments: NOB PLM Inconclusive. HAS TAR			
5 21-225 -5	1ST FLOOR LUNCH ROOM 1	PAPER BACKING ON CEILING F/G INSULATION	NOB-TEM		0.0% Vermiculite	92.9% Organic 1.1% Residue 6% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings Second Analyst: Feyza Gungor				Color: Tan/Black Comments: NOB PLM Inconclusive. HAS TAR			
6 21-225 -6	1ST FLOOR LUNCH ROOM 1	PAPER BACKING ON CEILING F/G INSULATION	NOB-TEM		0.0% Vermiculite	98.9% Organic 1% Residue 0.1% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings Second Analyst: Feyza Gungor				Color: Tan/Black Comments: NOB PLM Inconclusive. HAS TAR			
7 21-225 -7	1ST FLOOR LUNCH ROOM 1 (GYM ROOM)	TEXTURED PLASTER (ONE COAT) ON CEILING PLYWOOD	NOB-TEM			43.8% Residue 41.7% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings Second Analyst: Feyza Gungor				Color: Tan Comments: NOB PLM Inconclusive. Paint			



ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
8 21-225 -8	1ST FLOOR LUNCH ROOM 1 (GYM ROOM)	TEXTURED PLASTER (ONE COAT) ON CEILING PLYWOOD	NOB-TEM		0.0% Vermiculite	13.1% Organic 47.6% Residue 39.3% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings Second Analyst: Feyza Gungor				Color: Tan Comments: NOB PLM Inconclusive. Paint			
9 21-225 -9	1ST FLOOR LUNCH ROOM 1 (GYM ROOM)	TEXTURED PLASTER (ONE COAT) ON CEILING PLYWOOD	NOB-TEM		0.0% Vermiculite	13.5% Organic 48.4% Residue 38.1% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings Second Analyst: Feyza Gungor				Color: Tan Comments: NOB PLM Inconclusive. Paint			
10 21-225 -10	1ST FLOOR WAREHOUSE AREA N/E CORNER	BRICK MORTAR	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan			
11 21-225 -11	1ST FLOOR WAREHOUSE AREA N/E CORNER	BRICK MORTAR	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan			
12 21-225 -12	1ST FLOOR WAREHOUSE AREA N/E CORNER	BRICK MORTAR	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan			



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ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____. Amendments: _____. Amendment Dates: _____. Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Michael Gittings

Analyst:

Feyza Gungor

Analyst:

Mei Wang

Approved by

Quality Manager:

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained *Trace* or *No* PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: <u>2/26/21</u>	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
6. BUILDING NUMBER: <u>301</u>	7. Sampling Areas: <u>301</u>	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH_X_	9. Comments (Field) NOB → TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
1	1	2x4' CEILING TILE		1 WAREHOUSE AREA -	400	
1	2	TYPE I		LUNCH ROOM ↓	5F.	
1	3			"		
2	4	PAPER BACKING ON		"	400 SF	
2	5	CEILING FIG		"		
2	6	INSULATION		"		
3	7	TEXTURED PLASTER		"	80 SF	
3	8	(ONE COAT) ON		" (GYM ROOM)		
3	9	CEILING PLYWOOD		"		
4	10	BRICK MORTAR		WAREHOUSE AREA	36 SF	
4	11	"		N/E CORNER		
4	12	"		"		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <u>Philip Carrington</u>	<u>3/1/21</u>	<u>3:40</u>	<u>Evelyn Cruz</u>	<u>3/1/2021</u>	<u>16:00</u>	Field
II.						Walk In
III.						US Mail
						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
24a. Analyzed By: <u>Michael Cruz</u>	<u>3/2/2021</u>	<u>07:10</u>	3 PLM NOB-Prep 9
24b. Analyzed By: <u>Michael Cruz</u>	<u>3/2/2021</u>	<u>13:30</u>	NOB-PLM-9
24c. QC By: <u>TEM: Feiya Ganga Feiya</u>	<u>3/2/2021</u>	<u>16:07</u>	NOB-TEM-9



BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-225 TEMPERATURE °C 21

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1	Gravimetric Required <input checked="" type="checkbox"/> Homogeneity <u>7</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT %Asb. Or %Ver.	Chrysotile Amosite Other	Cellulose Fiberglass Other Cellulose Ondulose Extinction Fiberglass Isotropic Synthetic High Birefringence Horse Hair: Scales, Low to Moderate Birefringence	100 Mineral Filler Organic Binders 0 Vermiculite* Other
SM-V	Point Counts PLM NOB PLM <u>7/1</u>	Comments: Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>			
2	Gravimetric Required <input checked="" type="checkbox"/> Homogeneity <u>7</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT %Asb. Or %Ver.	Chrysotile Amosite Other	Cellulose Fiberglass Other Cellulose Ondulose Extinction Fiberglass Isotropic Synthetic High Birefringence Horse Hair: Scales, Low to Moderate Birefringence	100 Mineral Filler Organic Binders 0 Vermiculite* Other
SM-V	Point Counts PLM NOB PLM <u>7/1</u>	Comments: Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>			
3	Gravimetric Required <input checked="" type="checkbox"/> Homogeneity <u>7</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT %Asb. Or %Ver.	Chrysotile Amosite Other	Cellulose Fiberglass Other Cellulose Ondulose Extinction Fiberglass Isotropic Synthetic High Birefringence Horse Hair: Scales, Low to Moderate Birefringence	100 Mineral Filler Organic Binders 0 Vermiculite* Other
SM-V	Point Counts PLM NOB PLM <u>7/1</u>	Comments: Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>			
4	Gravimetric Required <input checked="" type="checkbox"/> Homogeneity <u>7</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT %Asb. Or %Ver.	Chrysotile Amosite Other	Cellulose Fiberglass Other Cellulose Ondulose Extinction Fiberglass Isotropic Synthetic High Birefringence Horse Hair: Scales, Low to Moderate Birefringence	100 Mineral Filler Organic Binders 0 Vermiculite* Other
SM-V	Point Counts PLM NOB PLM <u>7/1</u>	Comments: Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>			

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-225 TEMPERATURE °C 23

1	5	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM/Black</u>	Texture <u>MF</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input checked="" type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u>	Asbestos <u>1</u>											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>70</u>								<u>0</u>	<u>200</u>	<u>0</u>				
Comments: <u>Hos Tax</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

2	6	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM/Black</u>	Texture <u>MF</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u>	Asbestos <u>1</u>											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>70</u>								<u>0</u>	<u>200</u>	<u>0</u>				
Comments: <u>Hos Tax</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

3	7	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM</u>	Texture <u>MF</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input checked="" type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u>	Asbestos <u>1</u>											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>70</u>								<u>0</u>	<u>200</u>	<u>0</u>				
Comments: <u>Point</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

4	8	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM</u>	Texture <u>MF</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u>	Asbestos <u>1</u>											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>70</u>								<u>0</u>	<u>200</u>	<u>0</u>				
Comments: <u>Point</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-225 TEMPERATURE °C 23

1	9	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM</u>	Texture <u>MF</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input checked="" type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u>	Asbestos <u>1</u>											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>70</u>								<u>0</u>	<u>200</u>	<u>0</u>				
Comments: <u>Point</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

2	10	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM</u>	Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u>	Asbestos <u>1</u>											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>70</u>								<u>0</u>	<u>200</u>	<u>0</u>				
Comments: <u>Point</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

3	11	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM</u>	Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u>	Asbestos <u>1</u>											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>70</u>								<u>0</u>	<u>200</u>	<u>0</u>				
Comments: <u>Point</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

4	12	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TA</u>	Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u>	Asbestos <u>1</u>											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>70</u>								<u>0</u>	<u>200</u>	<u>0</u>				
Comments: <u>Point</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

L:\LAB FORMS, DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS BULK FORMS 2021\BULK ASBESTOS ANALYSIS SHEET_FORM #B2.doc

ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-225 TEM Batch # 122379 Start Date: 03/02/21
 NOB PLM PREP: MG/EV NOB PLM Analyst: MJG NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 03/02/21

Field #	5 % Organic	11 Non Ash Residue % NFR	12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Notes	Methods		
							PREP	PLM	TEM
1	21.9	58.3	19.8	ND			>	>	>
2	26.3	48.8	24.9	ND			>	>	>
3	25.8	38.1	36.1	ND			>	>	>
4	96.1	1.1	2.8	ND			>	>	>
5	92.9	1.1	6.0	ND			>	>	>
6	98.9	1.0	0.1	ND			>	>	>
7	14.5	43.8	41.7	ND			>	>	>
8	13.1	47.6	39.3	ND			>	>	>
9	13.5	48.4	38.1	ND			>	>	>

1. Methods: ELAP 198.6, 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.



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Client: ATC - NEW YORK
 104 EAST 25TH STREET
 NEW YORK, NY 10010
Fax: (212) 353-3599 **Phone:** (212) 353-8280

Sample Date: 4/8/2021
Date Received : 4/8/2021
Date Analyzed : 4/9/2021

Project: PANYNJ / FIRESPRINKLER REHABILITATION

ATC Batch # 21-619

Methods: ELAP 198.1, 198.6, 198.4

Location: PN / BUILDING #301
Project # 214PNPEPJ1/TASK0001

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
13	1ST FLOOR OFFICE SPACE	2' X 2' & 2' X 4" CEILING TILE FISSURED	NOB-TEM			21.8% Organic 52.8% Residue 25.4% Carbonate	NONE DETECTED
21-619 -1					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: White	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive			
14	1ST FLOOR OFFICE SPACE	2' X 2' & 2' X 4" CEILING TILE FISSURED	NOB-TEM			23.5% Organic 44.7% Residue 31.8% Carbonate	NONE DETECTED
21-619 -2					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: White	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive			
15	1ST FLOOR OFFICE SPACE	2' X 2' & 2' X 4" CEILING TILE FISSURED	NOB-TEM			24.9% Organic 42% Residue 33.1% Carbonate	NONE DETECTED
21-619 -3					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: White	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive			
16	1ST FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -4					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: Brown					
17	1ST FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -5					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: Brown					
18	1ST FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -6					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: Brown					
19	1ST FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	4% Cellulose 2% FiberGlass	94% Mineral Filler		NONE DETECTED
21-619 -7					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: Off White					



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
20	1ST FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: OffWhite					
Analyzed By: Ivan Reyes							
21	1ST FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	4% Cellulose 2% FiberGlass	94% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: OffWhite					
Analyzed By: Ivan Reyes							
22	1ST FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
23	1ST FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
24	1ST FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
25	1ST FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 8% FiberGlass	17% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Tan/Silver					
Analyzed By: Ivan Reyes							
26	1ST FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Tan/Silver					
Analyzed By: Ivan Reyes							
27	1ST FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Tan/Silver					
Analyzed By: Ivan Reyes							
28	1ST FLOOR OFFICE SPACE	F/G PIPE INSULATION COVER 3"	PLM	70% Cellulose 5% FiberGlass	25% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White/Silver					
Analyzed By: Ivan Reyes							
29	1ST FLOOR OFFICE SPACE	F/G PIPE INSULATION COVER 3"	PLM	70% Cellulose 5% FiberGlass	25% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White/Silver					
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
30	1ST FLOOR OFFICE SPACE	F/G PIPE INSULATION COVER 3"	PLM	70% Cellulose 5% FiberGlass	25% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White/Silver					
Analyzed By: Ivan Reyes							
31	1ST FLOOR OFFICE SPACE ELEC ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
32	1ST FLOOR OFFICE SPACE ELEC ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
33	1ST FLOOR OFFICE SPACE ELEC ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
34	2ND FLOOR OFFICE SPACE	2' X 4' CEILING TILE TYPE I FISSURED	NOB-TEM		0.0% Vermiculite	28.6% Organic Residue 47.7% Carbonate	NONE DETECTED
		Color: White					
Analyzed By: Mei Wang Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
35	2ND FLOOR OFFICE SPACE	2' X 4' CEILING TILE TYPE I FISSURED	NOB-TEM		0.0% Vermiculite	29.8% Organic Residue 47.4% Carbonate	NONE DETECTED
		Color: White					
Analyzed By: Mei Wang Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
36	2ND FLOOR OFFICE SPACE	2' X 4' CEILING TILE TYPE I FISSURED	NOB-TEM		0.0% Vermiculite	30.6% Organic Residue 45.6% Carbonate	NONE DETECTED
		Color: White					
Analyzed By: Mei Wang Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
37	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
38	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
39	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
40	2ND FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -28			Color: Off White		
Analyzed By: Ivan Reyes							
41	2ND FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	6% Cellulose 2% FiberGlass	92% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -29			Color: Off White		
Analyzed By: Ivan Reyes							
42	2ND FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	4% Cellulose 2% FiberGlass	94% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -30			Color: Off White		
Analyzed By: Ivan Reyes							
43	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -31			Color: White		
Analyzed By: Ivan Reyes							
44	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -32			Color: White		
Analyzed By: Ivan Reyes							
45	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -33			Color: White		
Analyzed By: Ivan Reyes							
46	2ND FLOOR OFFICE SPACE	HVAC DUCT COVER	PLM	75% Cellulose 7% FiberGlass	18% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -34			Color: Tan/Silver		
Analyzed By: Ivan Reyes							
47	2ND FLOOR OFFICE SPACE	HVAC DUCT COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -35			Color: Tan/Silver		
Analyzed By: Ivan Reyes							
48	2ND FLOOR OFFICE SPACE	HVAC DUCT COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -36			Color: Tan/Silver		
Analyzed By: Ivan Reyes							
49	2ND FLOOR BY ENTRANCE TO OFFICE SPACE	2 X 4 CEILING TILE TYPE II	NOB-TEM			24% Organic 31.4% Residue 44.6% Carbonate	NONE DETECTED
		21-619 -37			Color: White	0.0% Vermiculite	
Analyzed By: Mei Wang		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
50	2ND FLOOR BY ENTRANCE TO OFFICE SPACE	2 X 4 CEILING TILE TYPE II	NOB-TEM			20.7% Organic 20.7% Residue 58.6% Carbonate	NONE DETECTED
		21-619 -38			Color: White	0.0% Vermiculite	
Analyzed By: Mei Wang		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
51	2ND FLOOR BY ENTRANCE TO OFFICE SPACE	2 X 4 CEILING TILE TYPE II	NOB-TEM			18.5% Organic 12.6% Residue 68.9% Carbonate	NONE DETECTED
		21-619 -39			Color: White	0.0% Vermiculite	
Analyzed By: Mei Wang		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
52	1ST FLOOR ABANDONED BLDG	CMU WALL MORTAR	PLM		100% Mineral Filler		NONE DETECTED
		21-619 -40			Color: Brown	0.0% Vermiculite	
Analyzed By: Ivan Reyes							
53	1ST FLOOR LOCKER ROOM & LUNCH ROOM	CMU WALL MORTAR	PLM		100% Mineral Filler		NONE DETECTED
		21-619 -41			Color: Brown	0.0% Vermiculite	
Analyzed By: Ivan Reyes							
54	1ST FLOOR LOCKER ROOM & LUNCH ROOM	CMU WALL MORTAR	PLM		100% Mineral Filler		NONE DETECTED
		21-619 -42			Color: Brown	0.0% Vermiculite	
Analyzed By: Ivan Reyes							
55	1ST FLOOR LOBBY	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
		21-619 -43			Color: Brown	0.0% Vermiculite	
Analyzed By: Ivan Reyes							
56	1ST FLOOR LOBBY	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
		21-619 -44			Color: Brown	0.0% Vermiculite	
Analyzed By: Ivan Reyes							
57	1ST FLOOR LOBBY	GYPSUM BOARD PAPER WALL	PLM		100% Mineral Filler		NONE DETECTED
		21-619 -45			Color: Brown	0.0% Vermiculite	
Analyzed By: Ivan Reyes							
58	1ST FLOOR LOBBY	GYPSUM BOARD	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -46			Color: Off White		
Analyzed By: Ivan Reyes							
59	1ST FLOOR LOBBY	GYPSUM BOARD	PLM	2% Cellulose 2% FiberGlass	96% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -47			Color: Off White		
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
60	1ST FLOOR LOBBY	GYPSUM BOARD	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Off White					
Analyzed By: Ivan Reyes							
61	1ST FLOOR LOBBY	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
62	1ST FLOOR LOBBY	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
63	1ST FLOOR LOBBY	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
64	1ST FLOOR BATHROOMS	F/G PIPE INSULATION COVER 3"	NOB-TEM		81.4% Organic 4.7% Residue 13.9% Carbonate		NONE DETECTED
		Color: Black/Brown		Comments: NOB PLM Inconclusive			
		Second Analyst: Feyza Gungor					
65	1ST FLOOR BATHROOMS	F/G PIPE INSULATION COVER 3"	NOB-TEM		78.4% Organic 13.7% Residue 7.9% Carbonate		NONE DETECTED
		Color: Black/Brown		Comments: NOB PLM Inconclusive			
		Second Analyst: Feyza Gungor					
66	1ST FLOOR BATHROOMS	F/G PIPE INSULATION COVER 3"	NOB-TEM		88.9% Organic 10.2% Residue 0.9% Carbonate		NONE DETECTED
		Color: Black/Brown		Comments: NOB PLM Inconclusive			
		Second Analyst: Feyza Gungor					
67	1ST FLOOR ABADONED BLDG BATHROOMS	PIPE FITTINGS INSULATION	PLM	35% FiberGlass	55% Mineral Filler 0.0% Vermiculite	10% Chrysotile	
		Color: Off White					
Analyzed By: Ivan Reyes Total Asbestos: 10 %							
68	1ST FLOOR ABADONED BLDG BATHROOMS	PIPE FITTINGS INSULATION					NOT ANALYZED
		Comments: Positive stp. see #67					
69	1ST FLOOR ABADONED BLDG BATHROOMS	PIPE FITTINGS INSULATION					NOT ANALYZED
		Comments: Positive stp. see #67					



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10379
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: _____, Amendment Dates: _____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis.
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Ivan Reyes

Analyst:

Mei Wang

Approved by
Quality Manager:

Mei Wang

Analyst:

Feyza Gungor

Analyst:



**ELAP
BULK ASBESTOS ANALYSIS RESULTS**

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

- ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services



BATCH NO.

21-619 ✓

Page 1 of 4

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
5. Date: 4/8/21	6. BUILDING NUMBER: 301	7. Sampling Areas:	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input checked="" type="radio"/> NORMAL RUSH_X
			9. Comments (Field) NOB → TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location		15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
				Floor	Sample Coordinates		
51	13	2x2' & 2x4'		1	OFFICE SPACE		
51	14	CEILING PLE					
51	15	FISSURED					
16	16	GYPSUM BOARD					
10	17	PAPER					
16	18	WALL					
17	19	GYPSUM BOARD					
17	20	WALL					
17	21	"					
18	22	JOINT COMPOUND					
18	23	"					
18	24	"					
19	25	HVAC DUCT					
19	26	INSULATION					
19	27	COVER					
10	28	F/G PIPE					
10	29	INSULATION					
10	30	COVER 3"					

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I.	4/8/21	3:20pm	Ebezer Eley	4/8/2021	15:25	Field Walk In
II.						US Mail
III.			QC BY			Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature: 24a. Analyzed By:	25. Date: 4/9/2021	26. Time: 9:58am	27. Comments (Lab)
24b. Analyzed By:	4/9/21	11:00am	
24c. QC By:			

TEM: Feiza Ganga Fez 8 4/9/21 14:47

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON	
5. Date: 4/8/21	6. BUILDING NUMBER: 301	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X_	
7. Sampling Areas:		9. Comments (Field) NOB → TEM Stop @ 1st Positive	

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
11	31	CNU MORTAR		1 OFFICE SPACE		
11	32	WALL		1 ELEC ROOM		
11	33	"		1		
12	34	2x4 CEILING		2 OFFICE SPACE		
12	35	TILE TYPE I				
12	36	FISSURED				
13	37	GYPSUM BOARD				
13	38	PAPER				
13	39	WALL				
14	40	GYPSUM BOARD				
14	41	"				
14	42	"				
15	43	JOINT COMPOUND				
15	44	"				
15	45	"				
16	46	HVAC DUCT				
16	47	COVER				
16	48	"				

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
<i>Philip Carrington</i>	4/8/21	3:20pm	<i>Eleler E</i>	4/8/2021	15:25	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature: 24a. Analyzed By: <i>Ivan Reyes</i>	25. Date: 4/9/2021	26 Time: 9:58am	27. Comments (Lab)
24b. Analyzed By: <i>MEL WHO</i>	4/9/21	14	
24c. QC By: <i>Feiya Gungor</i>	4/9/20	14:47	

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON	
5. Date: 4/8/21	6. BUILDING NUMBER: 301	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X_	
7. Sampling Areas:		9. Comments (Field) NOB → TEM Stop @ 1st Positive	

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
17	49	2x4 CEILING TIE		2 139 ENTRANCE TO		
17	50	TYPE II		1 OFFICE SPACE		
17	51	"		1		
18	52	CNU WALL		1 ABANDONED BUNG		
18	53	MORTAR		1 1st FLOOR LOCKER		
18	54	"		1 ROOM & LOBBY ROOM		
19	55	GYPSUM BOARD		1 1st FLOOR LOBBY		
19	56	PAPER				
19	57	WALL				
20	58	GYPSUM BOARD				
20	59	"				
20	60	"				
21	61	JOINT COMPOUND				
21	62	"				
21	63	"				
22	64	F/G PIPE INSULATION		1 BARR ROOMS		
22	65	COVER 3"				
22	66	"				

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
<i>Philip Carrington</i>	4/8/21	3:20pm	<i>Eleler E</i>	4/8/2021	16:25	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature: 24a. Analyzed By: <i>Ivan Reyes</i>	25. Date: 4/9/2021	26 Time: 9:58am	27. Comments (Lab)
24b. Analyzed By: <i>MEL WHO</i>	4/9/21	14	
24c. QC By: <i>Feiya Gungor</i>	4/9/21	14:47	



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: <u>4/8/21</u>	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
6. BUILDING NUMBER: <u>301</u>	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH_X_		9. Comments (Field) NOB -> TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
<u>23</u>	<u>67</u>	<u>PIPE FITTINGS</u>		<u>1 ABANDONED BLDG</u>		
<u>23</u>	<u>68</u>	<u>INSULATION</u>		<u>BYPASSWAYS</u>		
<u>23</u>	<u>69</u>	<u>1</u>		<u>"</u>		
<u>24</u>						
<u>24</u>						
<u>24</u>						

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
<u>Philipp Carrington</u>	<u>4/8/21</u>	<u>3:20pm</u>	<u>Eleler E</u>	<u>4/8/21</u>	<u>15:25</u>	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature: <u>Iron Reyes</u>	25. Date: <u>4/9/21</u>	26. Time: <u>9:58am</u>	27. Comments (Lab)
24a. Analyzed By: <u>Iron Reyes</u>	<u>4/9/21</u>	<u>9:58am</u>	
24b. Analyzed By: <u>Iron Reyes</u>	<u>4/9/21</u>	<u>6:47</u>	
24c. QC By: <u>Iron Reyes</u>	<u>4/9/21</u>	<u>14:47</u>	



BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst DL Batch Number 21-619 TEMPERATURE 75

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
13	Color: <u>White</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>1</u> # of Layers: <u>1</u> Asbestos: <u>1</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	
Required					
See SM-V analysis sheet for results					
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					
14	Color: <u>White</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>1</u> # of Layers: <u>1</u> Asbestos: <u>1</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	
Required					
See SM-V analysis sheet for results					
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					
15	Color: <u>White</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>1</u> # of Layers: <u>1</u> Asbestos: <u>1</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	
Required					
See SM-V analysis sheet for results					
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					
16	Color: <u>Brown</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>1</u> # of Layers: <u>1</u> Asbestos: <u>1</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	
Required					
See SM-V analysis sheet for results					
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.

Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

L:\LAB_FORMS_DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS BULK FORMS 2020\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1	25	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Tan/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	75	Cellulose	17	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	0	Vermiculite*	0	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

2	26	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Tan/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	75	Cellulose	20	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	0	Vermiculite*	0	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

3	27	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Tan/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	75	Cellulose	20	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	0	Vermiculite*	0	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

4	28	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>White/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	25	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	0	Vermiculite*	0	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS_DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\FORMS_2020\BULK ASBESTOS ANALYSIS SHEET_FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1	29	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>White/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	25	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	0	Vermiculite*	0	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

2	30	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>White/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	25	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	0	Vermiculite*	0	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

3	31	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Brown</u> <u>G</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	10	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	0	Vermiculite*	0	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

4	32	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Brown</u> <u>G</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	10	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	0	Vermiculite*	0	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1																								

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst JA Batch Number 21-619 TEMPERATURE °C 25

1	33	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Brown</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>Y</u>												Amosite	Fiberglass	0	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>Y</u>												Other	Other	0	Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No															Other	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic			
Required <input type="checkbox"/>	PLM <u>0/200</u>											0 200 0	<input type="checkbox"/> Synthetic High Birefringence	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM <u>0/200</u>																
Comments:																	
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																	

2	34	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>White</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	0	Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>Y</u>												Amosite	Fiberglass	0	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>Y</u>												Other	Other	0	Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No															Other	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic			
Required <input type="checkbox"/>	PLM <u>0/200</u>											0 200 0	<input type="checkbox"/> Synthetic High Birefringence	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM <u>0/200</u>																
Comments:																	
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																	

3	35	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>White</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	0	Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>Y</u>												Amosite	Fiberglass	0	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>Y</u>												Other	Other	0	Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No															Other	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic			
Required <input type="checkbox"/>	PLM <u>0/200</u>											0 200 0	<input type="checkbox"/> Synthetic High Birefringence	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM <u>0/200</u>																
Comments:																	
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																	

4	36	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>White</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	0	Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>Y</u>												Amosite	Fiberglass	0	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>Y</u>												Other	Other	0	Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No															Other	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic			
Required <input type="checkbox"/>	PLM <u>0/200</u>											0 200 0	<input type="checkbox"/> Synthetic High Birefringence	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM <u>0/200</u>																
Comments:																	
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																	

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst JA Batch Number 21-619 TEMPERATURE °C 25

1	37	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Brown</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	95	Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>Y</u>												Amosite	Fiberglass	0	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>Y</u>												Other	Other	0	Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No															Other	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic			
Required <input type="checkbox"/>	PLM <u>0/200</u>											0 200 0	<input type="checkbox"/> Synthetic High Birefringence	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM <u>0/200</u>																
Comments:																	
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																	

2	38	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Brown</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	95	Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>Y</u>												Amosite	Fiberglass	0	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>Y</u>												Other	Other	0	Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No															Other	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic			
Required <input type="checkbox"/>	PLM <u>0/200</u>											0 200 0	<input type="checkbox"/> Synthetic High Birefringence	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM <u>0/200</u>																
Comments:																	
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																	

3	39	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Brown</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	95	Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>Y</u>												Amosite	Fiberglass	0	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>Y</u>												Other	Other	0	Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No															Other	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic			
Required <input type="checkbox"/>	PLM <u>0/200</u>											0 200 0	<input type="checkbox"/> Synthetic High Birefringence	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM <u>0/200</u>																
Comments:																	
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																	

4	40	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>White</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	3	Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>Y</u>												Amosite	Fiberglass	2	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>Y</u>												Other	Other	0	Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No															Other	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic			
Required <input type="checkbox"/>	PLM <u>0/200</u>											0 200 0	<input type="checkbox"/> Synthetic High Birefringence	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM <u>0/200</u>																
Comments:																	
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																	

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25 °C

1 Field Number	41		Stereoscopic Exam																PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>White</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotopic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	0	200
SM-V Required <input type="checkbox"/>			See SM-V analysis sheet for results <input type="checkbox"/>			Point Counts			Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	Comments:										Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.												

2 Field Number	42		Stereoscopic Exam																PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>White</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotopic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	0	200
SM-V Required <input type="checkbox"/>			See SM-V analysis sheet for results <input type="checkbox"/>			Point Counts			Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	Comments:										Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.												

3 Field Number	43		Stereoscopic Exam																PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>White</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotopic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	0	200
SM-V Required <input type="checkbox"/>			See SM-V analysis sheet for results <input type="checkbox"/>			Point Counts			Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	Comments:										Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.												

4 Field Number	44		Stereoscopic Exam																PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>White</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotopic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	0	200
SM-V Required <input type="checkbox"/>			See SM-V analysis sheet for results <input type="checkbox"/>			Point Counts			Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	Comments:										Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.												

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25 °C

1 Field Number	45		Stereoscopic Exam																PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>White</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotopic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	0	200
SM-V Required <input type="checkbox"/>			See SM-V analysis sheet for results <input type="checkbox"/>			Point Counts			Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	Comments:										Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.												

2 Field Number	46		Stereoscopic Exam																PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>Tan/Silver</u> Texture <u>R</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotopic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	0	200
SM-V Required <input type="checkbox"/>			See SM-V analysis sheet for results <input type="checkbox"/>			Point Counts			Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	Comments:										Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.												

3 Field Number	47		Stereoscopic Exam																PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>Tan/Silver</u> Texture <u>R</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotopic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	0	200
SM-V Required <input type="checkbox"/>			See SM-V analysis sheet for results <input type="checkbox"/>			Point Counts			Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	Comments:										Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.												

4 Field Number	48		Stereoscopic Exam																PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
	Gravimetric Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>Tan/Silver</u> Texture <u>R</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	Cellulose Ondulose Extinction	Fiberglass Isotopic	Synthetic High Birefringence	Horse Hair: Scales, Low to Moderate Birefringence	%Asb. Or %Ver.	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	0	200
SM-V Required <input type="checkbox"/>			See SM-V analysis sheet for results <input type="checkbox"/>			Point Counts			Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	Comments:										Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.												

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
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Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB FORMS, DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS BULK FORMS 2020\BULK ASBESTOS ANALYSIS SHEET_FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1 57 Field Number
Stereoscopic Exam: Color Brown Texture F
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile / Amosite / Other /
Other Fibrous PLM %: Cellulose 10 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: PLM 0/200 NOB PLM 0
Method: ELAP EPA SCANNING OPTION Q.C.

2 58 Field Number
Stereoscopic Exam: Color White Texture G
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 3 Amosite 2 Other 0
Other Fibrous PLM %: Cellulose 95 Fiberglass 2 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: PLM 0/200 NOB PLM 0
Method: ELAP EPA SCANNING OPTION Q.C.

3 59 Field Number
Stereoscopic Exam: Color White Texture G
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 2 Amosite 2 Other 0
Other Fibrous PLM %: Cellulose 76 Fiberglass 2 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: PLM 0/200 NOB PLM 0
Method: ELAP EPA SCANNING OPTION Q.C.

4 60 Field Number
Stereoscopic Exam: Color White Texture G
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 3 Amosite 2 Other 0
Other Fibrous PLM %: Cellulose 95 Fiberglass 2 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: PLM 0/200 NOB PLM 0
Method: ELAP EPA SCANNING OPTION Q.C.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1 61 Field Number
Stereoscopic Exam: Color White Texture G
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile / Amosite / Other /
Other Fibrous PLM %: Cellulose 10 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: PLM 0/200 NOB PLM 0
Method: ELAP EPA SCANNING OPTION Q.C.

2 62 Field Number
Stereoscopic Exam: Color White Texture G
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 3 Amosite 2 Other 0
Other Fibrous PLM %: Cellulose 95 Fiberglass 2 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: PLM 0/200 NOB PLM 0
Method: ELAP EPA SCANNING OPTION Q.C.

3 63 Field Number
Stereoscopic Exam: Color White Texture G
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 2 Amosite 2 Other 0
Other Fibrous PLM %: Cellulose 76 Fiberglass 2 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: PLM 0/200 NOB PLM 0
Method: ELAP EPA SCANNING OPTION Q.C.

4 64 Field Number
Stereoscopic Exam: Color Black/Brown Texture NP
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 3 Amosite 2 Other 0
Other Fibrous PLM %: Cellulose 95 Fiberglass 2 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: PLM 0/200 NOB PLM 0
Method: ELAP EPA SCANNING OPTION Q.C.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS\DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS BULK FORMS 2020\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS\DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS BULK FORMS 2020\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25

Form 1: 65. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %. Includes fields for Gravimetric, Homogeneity, Vermiculite, Asbestos, and SM-V analysis.

Form 2: 66. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %. Includes fields for Gravimetric, Homogeneity, Vermiculite, Asbestos, and SM-V analysis.

Form 3: 67. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %. Includes fields for Gravimetric, Homogeneity, Vermiculite, Asbestos, and SM-V analysis.

Form 4: 68. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %. Includes fields for Gravimetric, Homogeneity, Vermiculite, Asbestos, and SM-V analysis.

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25

Form 1: 69. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %. Includes fields for Gravimetric, Homogeneity, Vermiculite, Asbestos, and SM-V analysis.

Form 2: 69. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %. Includes fields for Gravimetric, Homogeneity, Vermiculite, Asbestos, and SM-V analysis.

Form 3: 69. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %. Includes fields for Gravimetric, Homogeneity, Vermiculite, Asbestos, and SM-V analysis.

Form 4: 69. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %. Includes fields for Gravimetric, Homogeneity, Vermiculite, Asbestos, and SM-V analysis.

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-619 TEM Batch # 122927 Start Date: 04/09/21
 NOB PLM PREP: MG/EV NOB PLM Analyst: MW 13 NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 04/09/21

Field #	5 % Organic	11 Non Asb Residue % NFR	12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
						NOB PREP	PLM	TEM
13	21.8	52.8	25.4	ND		✓	✓	✓
14	23.5	44.7	31.8	ND		✓	✓	✓
15	24.9	42.0	33.1	ND		✓	✓	✓
34	28.6	47.7	23.7	ND		✓	✓	✓
35	29.8	47.4	22.8	ND		✓	✓	✓
36	30.6	45.6	23.8	ND		✓	✓	✓
49	24.0	31.4	44.6	ND		✓	✓	✓
50	20.7	20.7	58.6	ND		✓	✓	✓
51	18.5	12.6	68.9	ND		✓	✓	✓
64	81.4	4.7	13.9	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-619 TEM Batch # 122927 Start Date: 04/09/21
 NOB PLM PREP: MG/EV NOB PLM Analyst: MW 13 NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 04/09/21

Field #	5 % Organic	11 Non Asb Residue % NFR	12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
						NOB PREP	PLM	TEM
65	78.4	13.7	7.9	ND		✓	✓	✓
66	88.9	10.2	0.9	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.

APPENDIX B
ASBESTOS SAMPLE LOCATION DRAWINGS

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No.	Date	Revision	Approved
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ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

**BUILDING 301
FIRST FLOOR SAMPLE
LOCATION PLAN
SAMPLES 1 TO 33 &
52 TO 69**

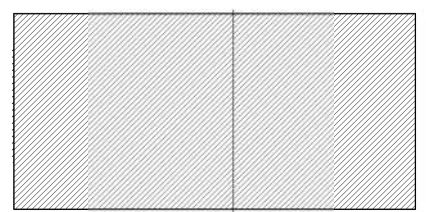
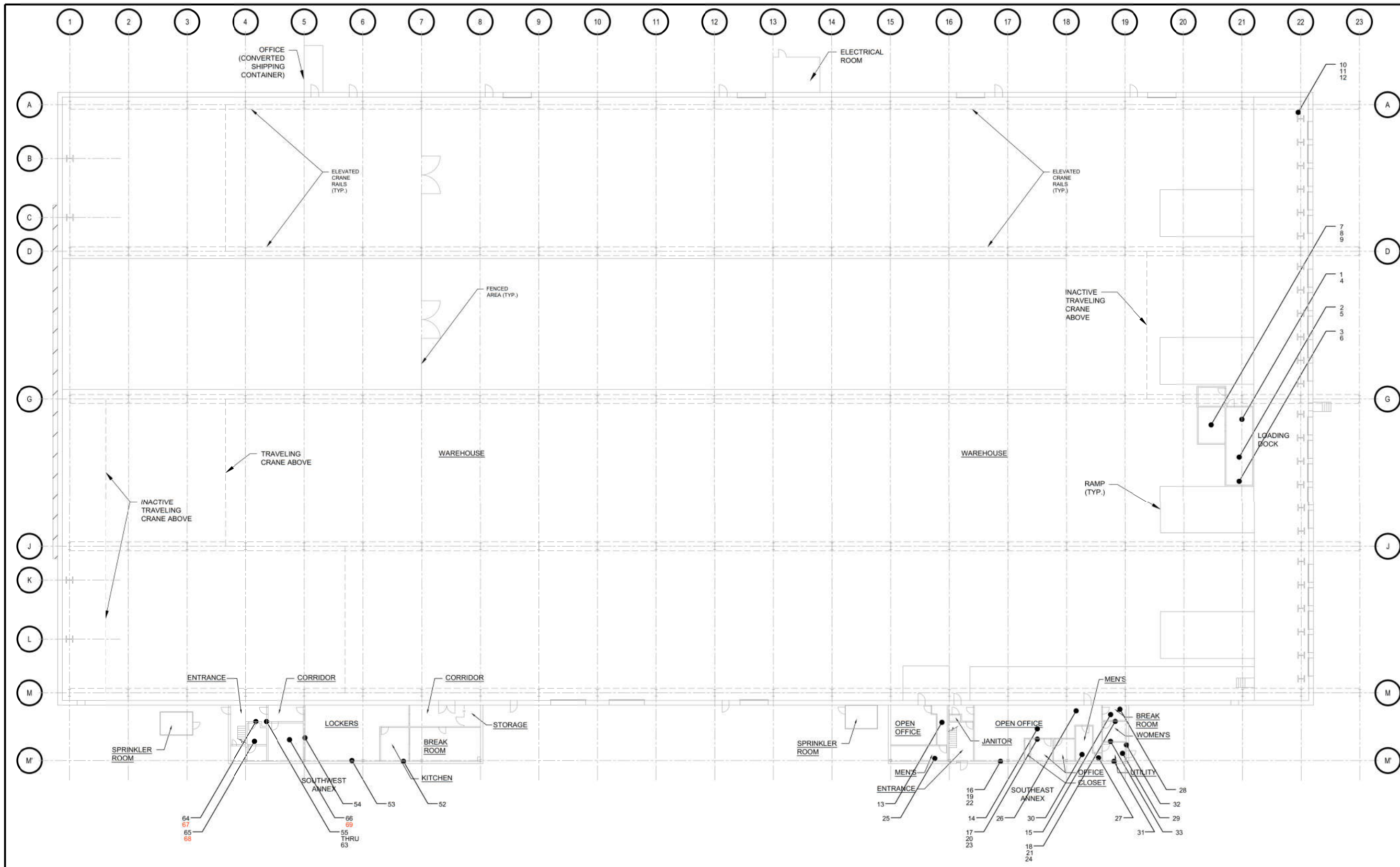
This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "Altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by E.MILKIS

Checked by
Date 07/02/2021

Contract Number

Drawing Number **SL001**



KEY PLAN



LEGEND

SYMBOL	DESCRIPTION
	35 SUSPECT ASBESTOS SAMPLE LOCATION
	69 ACM SAMPLE LOCATION

**THE PORT AUTHORITY
OF NY & NJ**



ATC GROUP SERVICES
104 EAST 25TH STREET, NEW YORK NY 10010

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

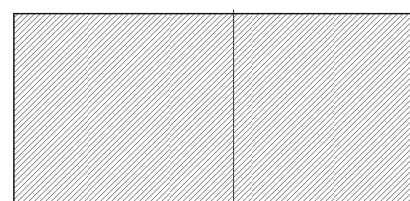
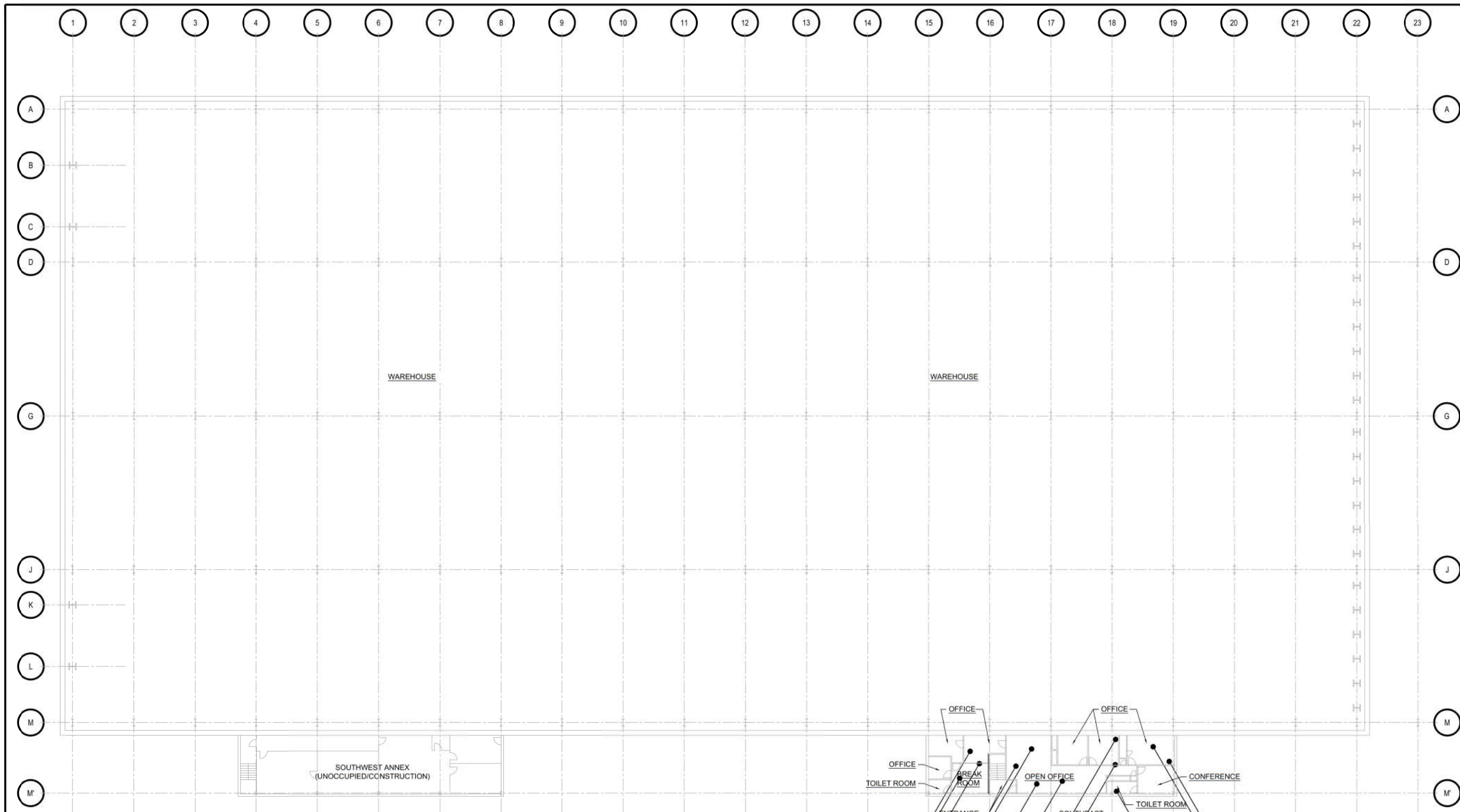
BUILDING 301
SECOND FLOOR
SAMPLE LOCATION PLAN
SAMPLES 34 TO 51

This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by E.MILKIS
Checked by
Date 07/02/2021

Contract Number

Drawing Number **SL002**



KEY PLAN



LEGEND

SYMBOL	DESCRIPTION
	SUSPECT ASBESTOS SAMPLE LOCATION

APPENDIX C
ASBESTOS LOCATION DRAWINGS

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No.	Date	Revision	Approved
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ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 301
FIRST FLOOR
ACM LOCATION PLAN

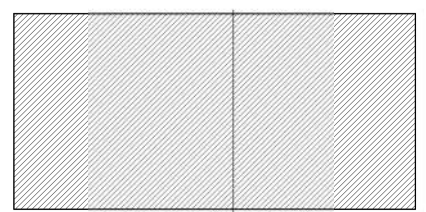
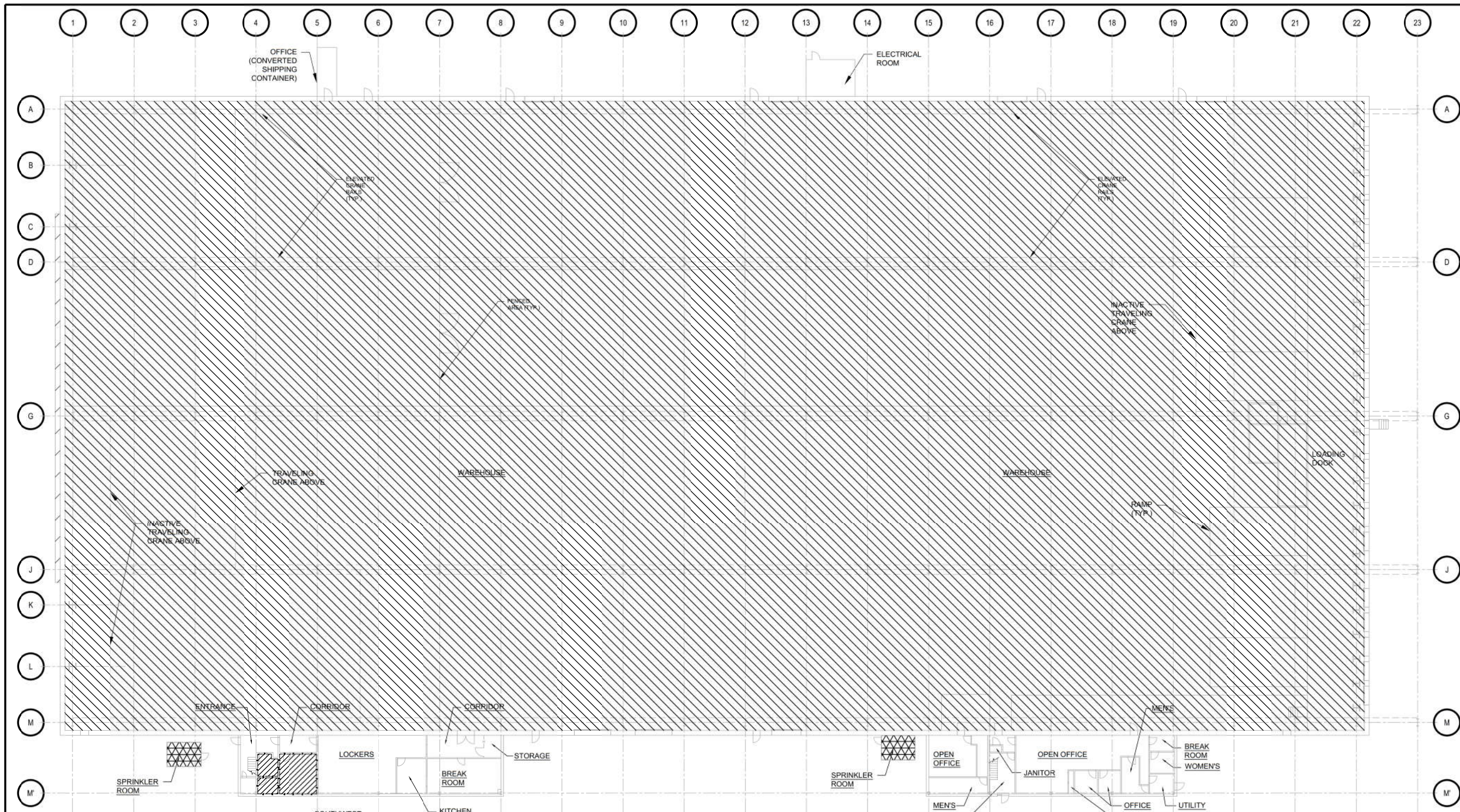
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Designed by R.RIVERO
Drawn by E.MILKIS

Checked by
Date 07/02/2021

Contract Number

Drawing Number **ACM001**



KEY PLAN



LEGEND

SYMBOL	DESCRIPTION
	ASBESTOS CONTAINING PIPE FITTING INSULATION
	PIPE AND PIPE FITTING INSULATION IN WAREHOUSE AREA (PACM), EXACT LOCATION TO BE VERIFIED.
	FLANGE & VALVE GASKETS (PACM)

APPENDIX D

**LAB CERTIFICATIONS AND ACCREDITATIONS, COMPANY
AND PERSONNEL CERTIFICATIONS**

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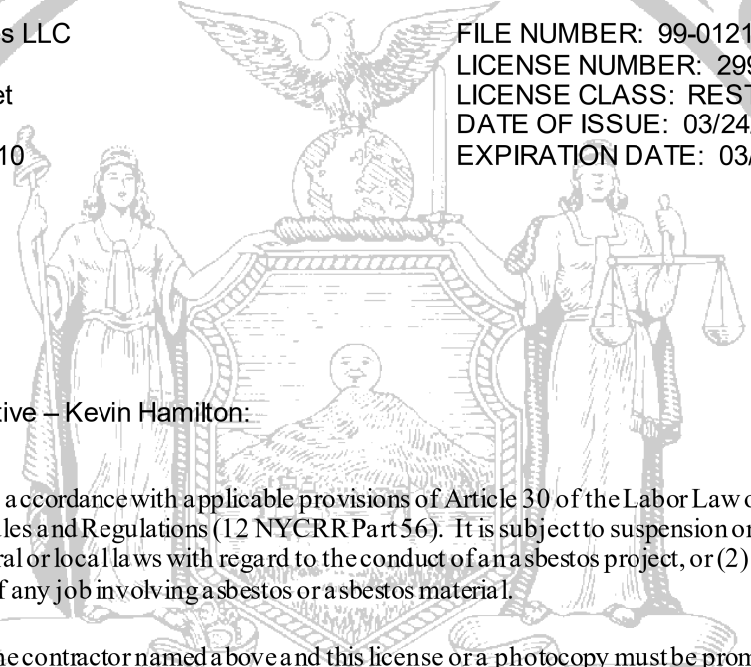
New York State – Department of Labor

Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

ATC Group Services LLC
10th Floor
104 East 25th Street
New York, NY 10010

FILE NUMBER: 99-0121
LICENSE NUMBER: 29902
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 03/24/2021
EXPIRATION DATE: 03/31/2022



Duly Authorized Representative – Kevin Hamilton:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or a asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

SH 432 (8/12)

**NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER**

Expires 12:01 AM April 01, 2021
Issued April 01, 2020



CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2003) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos

EPA 100.2



Department
of Health

Serial No.: 61221

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.





Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

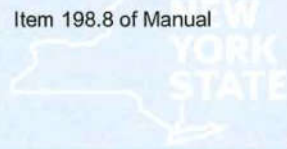
MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos in Friable Material Item 198.1 of Manual
EPA 600/M4/82/020
- Asbestos in Non-Friable Material-PLM Item 198.6 of Manual (NOB by PLM)
- Asbestos in Non-Friable Material-TEM Item 198.4 of Manual
- Asbestos-Vermiculite-Containing Material Item 198.8 of Manual



Department
of Health

Serial No.: 61222

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Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos 40 CFR 763 APX A No. III
NIOSH 7402
- Fibers NIOSH 7400 A RULES



Department
of Health

Serial No.: 61223

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos EPA 100.2

Serial No.: 62824

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual

Serial No.: 62825

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Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

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MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos

40 CFR 763 APX A No. III

NIOSH 7402

Fibers

NIOSH 7400 A RULES

Serial No.: 62826

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

United States Department of Commerce
National Institute of Standards and Technology



NVLAP[®]

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101187-0

ATC Group Services LLC

New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).



2020-07-01 through 2021-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ATC Group Services LLC
 104 E. 25th Street 8th Floor
 New York, NY 10010
 Ms. Milena Bonezzi
 Phone: 212-353-8280 x247 Fax: 212-353-8306
 Email: milena.bonezzi@atcgs.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101187-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR Part 763 Subpart F Appendix A

[Signature]
 For the National Voluntary Laboratory Accreditation Program






AIHA Laboratory Accreditation Programs, LLC
acknowledges that
ATC Group Services LLC
104 East 25th St 8th Flr New York, NY 10010
Laboratory ID: LAP-100229

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS	
<input checked="" type="checkbox"/>	INDUSTRIAL HYGIENE Accreditation Expires: November 01, 2021
<input type="checkbox"/>	ENVIRONMENTAL LEAD Accreditation Expires:
<input type="checkbox"/>	ENVIRONMENTAL MICROBIOLOGY Accreditation Expires:
<input type="checkbox"/>	FOOD Accreditation Expires:
<input type="checkbox"/>	UNIQUE SCOPES Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

[Signature]
 Elizabeth Bair
 Chairperson, Analytical Accreditation Board

[Signature]
 Cheryl O. Morton
 Managing Director, AIHA Laboratory Accreditation Programs, LLC



AIHA Laboratory Accreditation Programs, LLC SCOPE OF ACCREDITATION

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

Issue Date: 08/30/2019

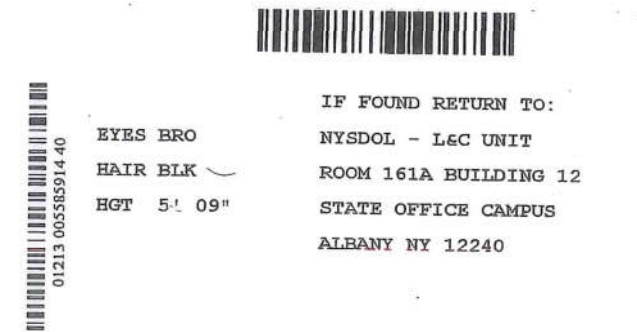
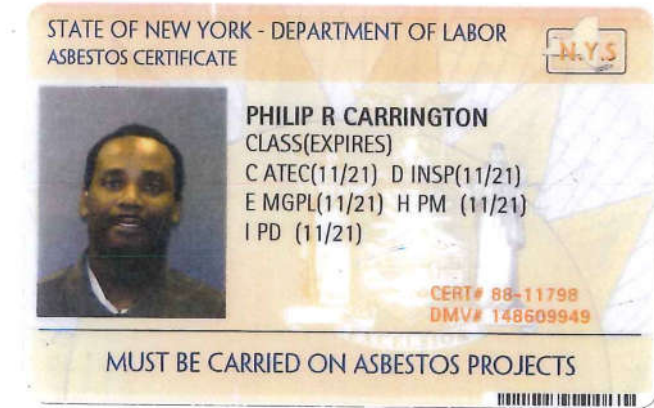
The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)


Initial Accreditation Date: 06/12/1995

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400 Modified	-

A complete listing of currently accredited IHLAP laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

NANCY B GUEVARA
CLASS(EXPIRES)
C ATEC(05/21) D INSP(05/21)
H PM (05/21) I PD (05/21)

CERT# 14-00412
DMV# 234032668

MUST BE CARRIED ON ASBESTOS PROJECTS





01213 005585171 14

EYES BRO
HAIR BRO
HGT 5' 06"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

RONEY D RIVERO
CLASS(EXPIRES)
C ATEC(08/21) D INSP(08/21)
E MGPL(08/21) H PM (08/21)
I PD (08/21)

CERT# 88-06348
DMV# 955602641

MUST BE CARRIED ON ASBESTOS PROJECTS



01213 005581057 61

EYES BRO
HAIR GRY
HGT 5' 11"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

**REHABILITATION OF FIRE PROTECTION SYSTEMS AT PORT NEWARK,
ELIZABETH PORT AUTHORITY MARINE TERMINAL, AND PORT JERSEY –
STAGE I REPORT**

**PN REHABILITATION OF FIRE PROTECTION SYSTEMS
ENVIRONMENTAL REPORTS**



**NJMT REHABILITATION OF FIRE PROTECTION
SYSTEMS PN, PE, & PJ**

**ASBESTOS INSPECTION REPORT
PORT NEWARK, BUILDING # 255**

Performed for:

**PORT NEWARK
NEWARK, NEW JERSEY**

Prepared for:

**THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY**

Prepared by:

**ATC GROUP SERVICES LLC
104 EAST 25TH STREET
NEW YORK, NEW YORK 10010
(212) 353-8280**

ATC Project No: 214PNPEPJ1

May 7, 2021



104 East 25th Street
8th Floor
New York, New York 10010
Telephone 212-353-8280
Fax 212-353-8306

May 7, 2021

Robert Pruno, P.E.
Chief Environmental Engineer
Port Authority of New York & New Jersey
Engineering Design Division
4 World Trade Center, Floor 20
New York, NY, 10006

Subject: Inspection Report for Asbestos-Containing Materials

**Re: Port Newark, Building # 255
255 East Port Street
Newark, NJ 07114
NJMT Rehabilitation of Fire Protection Systems**

Dear Mr. Pruno:

ATC Group Services LLC (ATC) has completed the inspection for Asbestos-Containing Materials (ACM) for the proposed work at the above referenced site. The inspection included visual observation, material sampling, laboratory analysis and development of asbestos abatement plans. The attached report presents our inspection procedures, findings, assessments and recommendations along with the pertinent appendices.

ATC appreciates this opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

Roney D. Rivero
Senior Project Manager
for ATC Group Services LLC
Direct Line +1 212 284 0614
Email: roney.rivero@atcgs.com

Attachments

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 BUILDING DESCRIPTION.....	2
3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS	2
4.0 ACM INSPECTION SCOPE.....	3
5.0 ACM INSPECTION RESULTS	4
6.0 PCB-IN-CAULKING INSPECTION FINDINGS	5
7.0 UNIVERSAL WASTE OBSERVATION	5
8.0 CONCLUSIONS AND RECOMMENDATIONS	5
9.0 ASSUMPTIONS AND LIMITATIONS.....	5

APPENDICES

- Appendix A: ACM Laboratory Results and Chain of Custodies
- Appendix B: Asbestos Sample Location Drawings
- Appendix C: ACM Location Drawings (N/A for this Project)
- Appendix D: Lab Certifications / Accreditations, Company and Personnel Certifications

EXECUTIVE SUMMARY

On April 9, 2021 ATC completed the inspection for ACM at Port Newark, Building #255 (the Site). The survey was conducted at the request of Port Authority of New York and New Jersey (PANYNJ) in preparation for the Rehabilitation of Fire Protection Systems Project. ATC utilized drawings provided by PANYNJ delineating the areas that will be impacted by the renovation project.

ATC collected fifty-one (51) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, none of the sampled homogeneous areas was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content). These materials are tabulated in Section 4.0.

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

1.0 INTRODUCTION

The intent of this survey was to locate and identify all accessible ACM, and PCBs in caulking within the referenced structure that could potentially be impacted by the Proposed Fire Sprinkler Rehabilitation Project.

The environmental survey was conducted by the following personnel who hold certifications from the New York State Department of Labor as Asbestos Inspectors, and the Environmental Protection Agency as Lead Risk Assessors.

Inspector's Name	Certification Number	ACM
Philip R. Carrington	AH-88-11798	ACM
Nancy Guevara	AH-14-00412	ACM
Roney D. Rivero	AH-88-06348	ACM

2.0 BUILDING DESCRIPTION

The New Jersey Port Newark Building 255, date of construction unknown, is located on Port Street west of the intersection of Port and Marlin Streets. The building is an approximately 25 ft. tall one-story building with no basement, has a rectangular footprint of approximately 110 ft. wide by 158 ft. long in plan, with a total of 17,380 square feet of floor area.

The building is being occupied by the Port Authority Port Newark Sign shop for fabricating signs. The building serves as an office space on the southeast corner of the building and as a garage along the north side of the building. The ceiling system is made of suspended lightweight acoustical tile and lightweight perforated metal ceilings.

3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogeneous area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos.

Bulk samples of suspect ACM were analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Methods 198.1 and 198.6 as specified in the Environmental Laboratory Approval Program (ELAP) Certification Manual. Method 198.1 is used for friable ACM and Method 198.6 is used for non-friable ACM.

For non-friable materials such as mastic, caulking, etc., Method 198.6 requires that any result of 1-percent or less be reanalyzed by Method 198.4. This Method utilizes Transmission Electron Microscopy (TEM) to determine asbestos content. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) Non-friable Organically Bound (NOB) sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

The laboratory performing both these analysis procedures was ATC, located at 104 East 25th Street, New York, New York. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101187-0)
- New York State Environmental Laboratory Approval Program (Lab No. 10879)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 100229)

4.0 ACM INSPECTION SCOPE

ATC conducted the walkthrough of Port Newark building 260 on August 11, 2020 to understand typical building layouts and systems on buildings that are similar in lay out and use. Based on the findings of the walkthrough, ATC conducted an asbestos inspection of the building on April 9, 2021 and collected fifty-one (51) bulk samples from all suspect asbestos-containing material. The areas inspected included only areas that may be impacted by the proposed Fire Sprinkler Rehabilitation Project at this location. The intent of this survey was to locate and identify all accessible ACM.

The following seventeen (17) homogeneous materials inspected and sampled for ACM during the inspections were:

Suspect Material	Location
2' X 2' Ceiling Tile Type I	1 st Floor – Office by the Entrance
2' X 2' Ceiling Tile Type II	1 st Floor – Lunch Room
2' X 2' Ceiling Tile Type III	1 st Floor – Locker Room
Ceiling Blanket Insulation Backing	1 st Floor – Locker Room

Fiberglass Pipe Insulation Paper on Ceiling	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
2' X 2' Ceiling Tile Type IV	1 st Floor – Storage Rooms
Fiberglass HVAC Duct Insulation Cover	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
CMU Wall Mortar	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
Gypsum Board Paper on Wall	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
Gypsum Board on Wall	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
Joint Compound on Wall	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
Fiberglass HVAC Duct Insulation 2 nd Layer	1 st Floor – Office by the Entrance, Lunch Room & Locker Room
2' X 2' Ceiling Tile Type V	Printer Room
Fiberglass Insulation Cover (3" & 4" Pipes)	Sprinkler Room
Mudded Fitting Insulation 3" Pipe	Sprinkler Room
CMU Wall Mortar	Sprinkler Room
2' X 2' Ceiling Tile Type VI	Main Lobby

5.0 ACM INSPECTION RESULTS

Based upon visual inspection and review of the analytical results of bulk samples collected, **none of the materials is asbestos-containing (> 1%)**.

Laboratory results are included in Appendix A. Asbestos Sample Location Plans are included in Appendix B.

The following materials are presumed to be asbestos-containing material (PACM):

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
N/A	Flange & Valve Gaskets - Sprinkler Room	PACM	15 Units	N/A

6.0 PCB-IN-CAULKING INSPECTION FINDINGS

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

7.0 UNIVERSAL WASTE INVENTORY

ATC conducted a visual inspection of the light fixtures at the site to document Universal Waste, defined in Title 40, CFR Part 273. During the inspection, it was observed the presence of fluorescent lamps, high intensity discharge (HID) lamps and ballasts.

It was assumed that lamp ballasts/capacitors contain PCBs and/or Di-Ethylhexyl Phthalate (DEHP); therefore, if removal is necessary it should be disposed of as PCB wastes as per 40 CFR Part 761.

8.0 CONCLUSIONS AND RECOMMENDATIONS

ATC collected fifty-one (51) bulk samples from all suspect asbestos-containing material. Based upon visual inspection and review of the analytical results of bulk samples collected, **none of the materials is asbestos-containing (> 1%)**.

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

Various types of painted surfaces such as sprinkler pipes and CMU walls, have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 255, located in Newark, New Jersey.

Various types of light fixtures (fluorescent lamps, high intensity discharge (HID) lamps and ballasts) have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 255, located in Newark, New Jersey.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted at the time of the inspection. The valve gaskets inside the pipe flanges could not be tested since the sprinkler system is still operational. It is assumed, based on the number of flanges observed, that there are 15 gaskets in the sprinkler room and are presumed to be asbestos containing. This quantity should be verified with destructive sampling if abatement is planned prior to any renovation work.

If questions arise regarding asbestos content in building materials that were not tested by ATC,

additional testing services should be procured to test those areas.

This report is intended for the sole use of the PANYNJ. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations contained herein is at the risk of said user.

END OF REPORT

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APPENDIX A

ACM LABORATORY RESULTS AND CHAIN OF CUSTODIES

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ATC Group Services LLC

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Fax: 212-353-8306

Client: ATC - NEW YORK
104 EAST 25TH STREET
NEW YORK, NY 10010

Fax: (212) 353-3599 **Phone:** (212) 353-8280

Project: PANYNJ / FIRESPRINKLER REHABILITATION

Sample Date: 4/9/2021

Date Received : 4/9/2021

Date Analyzed : 4/12/2021

ATC Batch # 21-626

Methods: ELAP 198.1, 198.6, 198.4

Location: PN / BUILDING #255

Project # 214PNPEPJ1/TASK0001

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
1	1ST FLOOR OFFICE BY ENTRANCE	2' X 2' CEILING TILE TYPE I PIN HOLE	NOB-TEM			25.3% Organic 46.3% Residue 28.4% Carbonate	NONE DETECTED
21-626 -1				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
2	1ST FLOOR OFFICE BY ENTRANCE	2' X 2' CEILING TILE TYPE I PIN HOLE	NOB-TEM			26.1% Organic 51.6% Residue 22.3% Carbonate	NONE DETECTED
21-626 -2				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
3	1ST FLOOR OFFICE BY ENTRANCE	2' X 2' CEILING TILE TYPE I PIN HOLE	NOB-TEM			25.1% Organic 48.9% Residue 26% Carbonate	NONE DETECTED
21-626 -3				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
4	1ST FLOOR LUNCH ROOM	2' X 2' CEILING TILE TYPE II	NOB-TEM			13.2% Organic 74.3% Residue 12.5% Carbonate	NONE DETECTED
21-626 -4				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
5	1ST FLOOR LUNCH ROOM	2' X 2' CEILING TILE TYPE II	NOB-TEM			13% Organic 67.7% Residue 19.3% Carbonate	NONE DETECTED
21-626 -5				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
6	1ST FLOOR LUNCH ROOM	2' X 2' CEILING TILE TYPE II	NOB-TEM			13.2% Organic 37.8% Residue 49% Carbonate	NONE DETECTED
21-626 -6				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
7	1ST FLOOR LOCKER ROOM	2' X 4' CEILING TILE TYPE III	NOB-TEM			24.5% Organic 42.5% Residue 33% Carbonate	NONE DETECTED
21-626 -7				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	



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Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
8	1ST FLOOR LOCKER ROOM	2' X 4' CEILING TILE TYPE III	NOB-TEM			25.3% Organic 52.6% Residue 22.1% Carbonate	NONE DETECTED
21-626 -8				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
9	1ST FLOOR LOCKER ROOM	2' X 4' CEILING TILE TYPE III	NOB-TEM			24.8% Organic 56.8% Residue 18.4% Carbonate	NONE DETECTED
21-626 -9				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
10	1ST FLOOR LOCKER ROOM	BLANKET INSULATION BACKING CEILING	PLM	50% Cellulose 20% FiberGlass	25% Mineral Filler		NONE DETECTED
21-626 -10				0.0% Vermiculite 5% Foil			
Analyzed By: Mei Wang				Color: Tan		Comments: NOB PLM Inconclusive	
11	1ST FLOOR LOCKER ROOM	BLANKET INSULATION BACKING CEILING	PLM	50% Cellulose 20% FiberGlass	25% Mineral Filler		NONE DETECTED
21-626 -11				0.0% Vermiculite 5% Foil			
Analyzed By: Mei Wang				Color: Tan		Comments: NOB PLM Inconclusive	
12	1ST FLOOR LOCKER ROOM	BLANKET INSULATION BACKING CEILING	PLM	50% Cellulose 20% FiberGlass	25% Mineral Filler		NONE DETECTED
21-626 -12				0.0% Vermiculite 5% Foil			
Analyzed By: Mei Wang				Color: Tan		Comments: NOB PLM Inconclusive	
13	1ST FLOOR OFFICE BY ENTRANCE	F/G PIPE INSULATION PAPER CEILING	PLM	40% Cellulose 30% FiberGlass	20% Mineral Filler		NONE DETECTED
21-626 -13				0.0% Vermiculite 10% Foil			
Analyzed By: Mei Wang				Color: Tan		Comments: NOB PLM Inconclusive	
14	1ST FLOOR LUNCH ROOM	F/G PIPE INSULATION PAPER CEILING	PLM	40% Cellulose 30% FiberGlass	20% Mineral Filler		NONE DETECTED
21-626 -14				0.0% Vermiculite 10% Foil			
Analyzed By: Mei Wang				Color: Tan		Comments: NOB PLM Inconclusive	
15	1ST FLOOR LOCKER ROOM	F/G PIPE INSULATION PAPER CEILING	PLM	40% Cellulose 30% FiberGlass	20% Mineral Filler		NONE DETECTED
21-626 -15				0.0% Vermiculite 10% Foil			
Analyzed By: Mei Wang				Color: Tan		Comments: NOB PLM Inconclusive	
16	1ST FLOOR STORAGE ROOMS	2' X 2' CEILING TILE TYPE IV	NOB-TEM			25.1% Organic 43.5% Residue 31.4% Carbonate	NONE DETECTED
21-626 -16				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	
17	1ST FLOOR STORAGE ROOMS	2' X 2' CEILING TILE TYPE IV	NOB-TEM			24.7% Organic 42.9% Residue 32.4% Carbonate	NONE DETECTED
21-626 -17				0.0% Vermiculite			
Analyzed By: Mei Wang				Color: Tan Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive	



ATC Group Services LLC

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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
18	1ST FLOOR STORAGE ROOMS	2' X 2' CEILING TILE TYPE IV	NOB-TEM			24.3% Organic 33.2% Residue 42.5% Carbonate	NONE DETECTED
21-626 -18				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
19	1ST FLOOR OFFICE BY ENTRANCE	F/G HVAC DUCT INSULATION COVER	PLM	90% Cellulose	10% Mineral Filler		NONE DETECTED
21-626 -19				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Light Gray					
20	1ST FLOOR LUNCH ROOM	F/G HVAC DUCT INSULATION COVER	PLM	90% Cellulose	10% Mineral Filler		NONE DETECTED
21-626 -20				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Light Gray					
21	1ST FLOOR LOCKER ROOM	F/G HVAC DUCT INSULATION COVER	PLM	90% Cellulose	10% Mineral Filler		NONE DETECTED
21-626 -21				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Light Gray					
22	1ST FLOOR OFFICE BY ENTRANCE	CMU MORTAR WALLS	PLM		100% Mineral Filler		NONE DETECTED
21-626 -22				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Gray					
23	1ST FLOOR LUNCH ROOM	CMU MORTAR WALLS	PLM		100% Mineral Filler		NONE DETECTED
21-626 -23				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Gray					
24	1ST FLOOR LOCKER ROOM	CMU MORTAR WALLS	PLM		100% Mineral Filler		NONE DETECTED
21-626 -24				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Gray					
25	1ST FLOOR OFFICE BY ENTRANCE	GYPSUM BOARD PAPER - WALLS	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-626 -25				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Brown					
26	1ST FLOOR LUNCH ROOM	GYPSUM BOARD PAPER - WALLS	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-626 -26				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Brown					
27	1ST FLOOR LOCKER ROOM	GYPSUM BOARD PAPER - WALLS	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-626 -27				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Brown					



ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
28	1ST FLOOR OFFICE BY ENTRANCE	GYPSUM BOARD	PLM	5% Cellulose 10% FiberGlass	85% Mineral Filler		NONE DETECTED
21-626 -28					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: Off White					
29	1ST FLOOR LUNCH ROOM	GYPSUM BOARD	PLM	5% Cellulose 10% FiberGlass	85% Mineral Filler		NONE DETECTED
21-626 -29					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: Off White					
30	1ST FLOOR LOCKER ROOM	GYPSUM BOARD	PLM	5% Cellulose 10% FiberGlass	85% Mineral Filler		NONE DETECTED
21-626 -30					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: Off White					
31	1ST FLOOR OFFICE BY ENTRANCE	JOINT COMPOUND	PLM		100% Mineral Filler		NONE DETECTED
21-626 -31					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: White					
32	1ST FLOOR LUNCH ROOM	JOINT COMPOUND	PLM		100% Mineral Filler		NONE DETECTED
21-626 -32					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: White					
33	1ST FLOOR LOCKER ROOM	JOINT COMPOUND	PLM		100% Mineral Filler		NONE DETECTED
21-626 -33					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: White					
34	1ST FLOOR OFFICE BY ENTRANCE	HVAC DUCT INSULATION 2ND LAYER	PLM	60% Cellulose 10% FiberGlass	20% Mineral Filler		NONE DETECTED
21-626 -34					0.0% Vermiculite 10% Foil		
Analyzed By: Mei Wang		Color: Tan					
35	1ST FLOOR LUNCH ROOM	HVAC DUCT INSULATION 2ND LAYER	PLM	60% Cellulose 10% FiberGlass	20% Mineral Filler		NONE DETECTED
21-626 -35					0.0% Vermiculite 10% Foil		
Analyzed By: Mei Wang		Color: Tan					
36	1ST FLOOR LOCKER ROOM	HVAC DUCT INSULATION 2ND LAYER	PLM	60% Cellulose 10% FiberGlass	20% Mineral Filler		NONE DETECTED
21-626 -36					0.0% Vermiculite 10% Foil		
Analyzed By: Mei Wang		Color: Tan					
37	1ST FLOOR PRINTER ROOM	2 X 2 CEILING TILE TYPE 5	NOB-TEM			12.7% Organic 40.2% Residue 47.1% Carbonate	NONE DETECTED
21-626 -37					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
38	1ST FLOOR PRINTER ROOM	2 X 2 CEILING TILE TYPE 5	NOB-TEM			13.9% Organic 60.7% Residue 25.4% Carbonate	NONE DETECTED
21-626 -38				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
39	1ST FLOOR PRINTER ROOM	2 X 2 CEILING TILE TYPE 5	NOB-TEM			14.5% Organic 65.6% Residue 19.9% Carbonate	NONE DETECTED
21-626 -39				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
40	1ST FLOOR SPRINKLER ROOM	F/G INSULATION OVER 3" & 4" PIPES	PLM	60% Cellulose 20% FiberGlass	15% Mineral Filler		NONE DETECTED
21-626 -40				0.0% Vermiculite 5% Foil			
Analyzed By: Mei Wang		Color: Tan					
41	1ST FLOOR SPRINKLER ROOM	F/G INSULATION OVER 3" & 4" PIPES	PLM	60% Cellulose 20% FiberGlass	15% Mineral Filler		NONE DETECTED
21-626 -41				0.0% Vermiculite 5% Foil			
Analyzed By: Mei Wang		Color: Tan					
42	1ST FLOOR SPRINKLER ROOM	F/G INSULATION OVER 3" & 4" PIPES	PLM	60% Cellulose 20% FiberGlass	15% Mineral Filler		NONE DETECTED
21-626 -42				0.0% Vermiculite 5% Foil			
Analyzed By: Mei Wang		Color: Tan					
43	1ST FLOOR SPRINKLER ROOM	MUDDIED FITTING INSULATION 3" PIPE	PLM	5% Cellulose 25% FiberGlass	70% Mineral Filler		NONE DETECTED
21-626 -43				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Light Gray					
43	1ST FLOOR SPRINKLER ROOM	MUDDIED FITTING INSULATION 3" PIPE	PLM	5% Cellulose 25% FiberGlass	70% Mineral Filler		NONE DETECTED
21-626 -44				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Light Gray					
45	1ST FLOOR SPRINKLER ROOM	MUDDIED FITTING INSULATION 3" PIPE	PLM	5% Cellulose 20% FiberGlass	75% Mineral Filler		NONE DETECTED
21-626 -45				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Light Gray					
46	1ST FLOOR SPRINKLER ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler		NONE DETECTED
21-626 -46				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan					
47	1ST FLOOR SPRINKLER ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler		NONE DETECTED
21-626 -47				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan					



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
48	1ST FLOOR SPRINKLER ROOM	CMU MORTAR WALL	PLM			100% Mineral Filler	NONE DETECTED
21-626 -48				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan					
49	1ST FLOOR MAIN LOBBY	2 X 2 CEILING TILE TYPE 6 SMOOTH	NOB-TEM			14.6% Organic 75.6% Residue 9.8% Carbonate	NONE DETECTED
21-626 -49				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
50	1ST FLOOR MAIN LOBBY	2 X 2 CEILING TILE TYPE 6 SMOOTH	NOB-TEM			15% Organic 82.7% Residue 2.3% Carbonate	NONE DETECTED
21-626 -50				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
51	1ST FLOOR MAIN LOBBY	2 X 2 CEILING TILE TYPE 6 SMOOTH	NOB-TEM			11.7% Organic 63.5% Residue 24.8% Carbonate	NONE DETECTED
21-626 -51				0.0% Vermiculite			
Analyzed By: Mei Wang		Color: Tan Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				



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ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: _____, Amendment Dates: _____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis.
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Mei Wang

Analyst:

Roman Peysakhov

Analyst:

Mei Wang

Approved by

Quality Manager:

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: 4/9/21	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
6. BUILDING NUMBER: 255	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH_X_		9. Comments (Field) NOB -> TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
1	1	2x2' ceiling tile		OFFICE BY ENTRANCE		
1	2	TYPE I		"		
1	3	pin holes		"		
2	4	2x2' ceiling tile		LUNCH ROOM		
2	5	TYPE II		"		
2	6	"		"		
3	7	2x4' ceiling tile		LOCKER ROOM		
3	8	TYPE III		"		
3	9	"		"		
4	10	BLANKET INSULATION		"		
4	11	BACKING		"		
4	12	CEILING		"		
5	13	F/G PIPE INSULATION		OFFICE BY ENTRANCE		
5	14	PAPER		LUNCH ROOM		
5	15	CEILING		LOCKER ROOM		
6	16	2x2' ceiling tile		STORAGE ROOMS		
6	17	TYPE IV		"		
6	18	"		"		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. Philip Carrington	4/9/21	2:30 pm	Manu...	4/9/2021		Field Walk In
II.					2:46 pm	US Mail
III.						Fed-Ex

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
24a. Analyzed By: MEL W...	4/10/21	10:30	33PLM
24b. Analyzed By: R...	4/12/21	10:00	
24c. QC By:			



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: 4/9/21	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
6. BUILDING NUMBER: 255	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH_X_		9. Comments (Field) NOB -> TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
7	19	F/G HVAC DUCT INSULATION		OFFICE BY ENTRANCE		
7	20	COVER		LUNCH ROOM		
7	21	"		LOCKER ROOM		
8	22	CEILING		OFFICE BY ENTRANCE		
8	23	WALLS		LUNCH ROOM		
8	24	"		LOCKER ROOM		
9	25	GYPSUM BOARD		OFFICE BY ENTRANCE		
9	26	PAPER - WALLS		LUNCH ROOM		
9	27	"		LOCKER ROOM		
10	28	GYPSUM BOARD		OFFICE BY ENTRANCE		
10	29	"		LUNCH ROOM		
10	30	"		LOCKER ROOM		
11	31	JOINT COMPOUND		OFFICE BY ENTRANCE		
11	32	"		LUNCH ROOM		
11	33	"		LOCKER ROOM		
12	34	F/G HVAC DUCT INSULATION		OFFICE BY ENTRANCE		
12	35	2ND LAYER		LUNCH ROOM		
12	36	"		LOCKER ROOM		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. Philip Carrington	4/9/21	2:30 pm	Manu...	4/9/2021		Field Walk In
II.					2:46 pm	US Mail
III.						Fed-Ex

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
24a. Analyzed By: MEL W...	4/10/21	10:30	
24b. Analyzed By: R...	4/12/21	10:00	
24c. QC By:			



BATCH NO.

Page 3 of 3

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client: PANYNJ; Project Name: FIRESPRINKLER REHABILITATION; 3a. ATC Project No.: 214PNPEPJ1; 4a. Project Manager: R. Rivero; 4b. Inspector: PHILIP CARRINGTON; 5. Date: 4/9/21; 6. BUILDING NUMBER: 255; 7. Sampling Areas: 255; 8. Turnaround Time: STAT; 9. Comments: NOB -> TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

Table with 16 columns: Homogenous Area No., Bulk Sample ID No., Material, Thermal System, Floor, Sample Location, Sample Coordinates, Material Total Qty. (LF, SF, PCS), Asbestos Content (Type & %). Rows include samples 13-17 with materials like 2x2 ceiling tiles, type 5, fiberglass insulation, computer, pipes, mudded fittings, insulation, wall, main lobby.

CHAIN OF CUSTODY

Table with 7 columns: 17. Relinquished By, 18. Date, 19. Time, 20. Received By, 21. Date, 22. Time, 23. Method of Submittal (Field Walk In, US Mail, Fed-Ex, Other). Includes signatures and dates for Philip Carrington and a recipient.

LABORATORY INFORMATION

24. Name and Signature: [Signature]; 24a. Analyzed By: [Signature]; 24b. Analyzed By: [Signature]; 24c. QC By: [Signature]; 25. Date: 4/12/21; 26. Time: 10:30 AM; 27. Comments (Lab):



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Accreditations: NVLAP 101187-0 ELAP 10879; Microscopes: OLYMPUS BH-2 / NIKON OPTIPHOT

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / PA; Project Number: 214PNPEPJ1; Analysis Date: 4/10/2021; Analyst: [Signature]; Batch Number: 21-626; TEMPERATURE °C: 23

Field 1: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %. Includes gravimetric and PLM data for sample 13.

Field 2: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %. Includes gravimetric and PLM data for sample 14.

Field 3: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %. Includes gravimetric and PLM data for sample 15.

Field 4: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %. Includes gravimetric and PLM data for sample 16.

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763; Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite; Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 5	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.				

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 6	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.				

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 7	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.				

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 8	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.				

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS_DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS_BULK FORMS 2020\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 9	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.				

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 10	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.				

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 11	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.				

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 12	Color <u>Tan</u> Texture <u>F</u> Homogeneity <u>✓</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.				

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
13	Color <u>Tm</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>2</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile <u>40</u> Amosite <u>30</u> Other <u> </u>	Cellulose <u>40</u> Fiberglass <u>30</u> Other <u> </u>	Mineral Filler <u>20</u> Organic Binders <u> </u> Vermiculite* <u> </u> Other <u> </u>
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0 1 0 0 0 0 0 0</u> NOB PLM <u>0 2 0 0 0 0 0 0</u>	Asb./Ver. PT Total PT %Asb. Or %Ver.	<u>0 2 0 0 0 0 0 0</u> <u>2</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
14	Color <u>Tm</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>2</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile <u>40</u> Amosite <u>30</u> Other <u> </u>	Cellulose <u>40</u> Fiberglass <u>30</u> Other <u> </u>	Mineral Filler <u>20</u> Organic Binders <u> </u> Vermiculite* <u> </u> Other <u> </u>
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0 1 0 0 0 0 0 0</u> NOB PLM <u>0 2 0 0 0 0 0 0</u>	Asb./Ver. PT Total PT %Asb. Or %Ver.	<u>0 2 0 0 0 0 0 0</u> <u>2</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
15	Color <u>Tm</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>2</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile <u>40</u> Amosite <u>30</u> Other <u> </u>	Cellulose <u>40</u> Fiberglass <u>30</u> Other <u> </u>	Mineral Filler <u>20</u> Organic Binders <u> </u> Vermiculite* <u> </u> Other <u> </u>
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0 1 0 0 0 0 0 0</u> NOB PLM <u>0 2 0 0 0 0 0 0</u>	Asb./Ver. PT Total PT %Asb. Or %Ver.	<u>0 2 0 0 0 0 0 0</u> <u>2</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
16	Color <u>Tm</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>2</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile <u>40</u> Amosite <u>30</u> Other <u> </u>	Cellulose <u>40</u> Fiberglass <u>30</u> Other <u> </u>	Mineral Filler <u>20</u> Organic Binders <u> </u> Vermiculite* <u> </u> Other <u> </u>
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0 1 0 0 0 0 0 0</u> NOB PLM <u>0 2 0 0 0 0 0 0</u>	Asb./Ver. PT Total PT %Asb. Or %Ver.	<u>0 2 0 0 0 0 0 0</u> <u>2</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
17	Color <u>Tm</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>2</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile <u>40</u> Amosite <u>30</u> Other <u> </u>	Cellulose <u>40</u> Fiberglass <u>30</u> Other <u> </u>	Mineral Filler <u>20</u> Organic Binders <u> </u> Vermiculite* <u> </u> Other <u> </u>
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0 1 0 0 0 0 0 0</u> NOB PLM <u>0 2 0 0 0 0 0 0</u>	Asb./Ver. PT Total PT %Asb. Or %Ver.	<u>0 2 0 0 0 0 0 0</u> <u>2</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
18	Color <u>Tm</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>2</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile <u>40</u> Amosite <u>30</u> Other <u> </u>	Cellulose <u>40</u> Fiberglass <u>30</u> Other <u> </u>	Mineral Filler <u>20</u> Organic Binders <u> </u> Vermiculite* <u> </u> Other <u> </u>
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0 1 0 0 0 0 0 0</u> NOB PLM <u>0 2 0 0 0 0 0 0</u>	Asb./Ver. PT Total PT %Asb. Or %Ver.	<u>0 2 0 0 0 0 0 0</u> <u>2</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
19	Color <u>Tm</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>2</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile <u>40</u> Amosite <u>30</u> Other <u> </u>	Cellulose <u>40</u> Fiberglass <u>30</u> Other <u> </u>	Mineral Filler <u>20</u> Organic Binders <u> </u> Vermiculite* <u> </u> Other <u> </u>
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0 1 0 0 0 0 0 0</u> NOB PLM <u>0 2 0 0 0 0 0 0</u>	Asb./Ver. PT Total PT %Asb. Or %Ver.	<u>0 2 0 0 0 0 0 0</u> <u>2</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
20	Color <u>Tm</u> Texture <u>F</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>2</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile <u>40</u> Amosite <u>30</u> Other <u> </u>	Cellulose <u>40</u> Fiberglass <u>30</u> Other <u> </u>	Mineral Filler <u>20</u> Organic Binders <u> </u> Vermiculite* <u> </u> Other <u> </u>
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>0 1 0 0 0 0 0 0</u> NOB PLM <u>0 2 0 0 0 0 0 0</u>	Asb./Ver. PT Total PT %Asb. Or %Ver.	<u>0 2 0 0 0 0 0 0</u> <u>2</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

1 21 Field Number
Stereoscopic Exam: Color [Handwritten] Texture F
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 90 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

2 22 Field Number
Stereoscopic Exam: Color [Handwritten] Texture [Handwritten]
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 90 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

3 23 Field Number
Stereoscopic Exam: Color [Handwritten] Texture [Handwritten]
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 90 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

4 24 Field Number
Stereoscopic Exam: Color [Handwritten] Texture [Handwritten]
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 90 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

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Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

1 25 Field Number
Stereoscopic Exam: Color [Handwritten] Texture F
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 95 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 5 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

2 26 Field Number
Stereoscopic Exam: Color [Handwritten] Texture F
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 95 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 5 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

3 27 Field Number
Stereoscopic Exam: Color [Handwritten] Texture F
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 95 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 5 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

4 28 Field Number
Stereoscopic Exam: Color [Handwritten] Texture F
PLM Optical Properties: Morph Extinction RI 1 RI 2 DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile 95 Amosite 0 Other 0
Other Fibrous PLM %: Cellulose 0 Fiberglass 0 Other 0
Non Fibrous PLM %: Mineral Filler 5 Organic Binders 0 Vermiculite* 0 Other 0
SM-V Point Counts: Slide 1 0 Slide 2 0 Slide 3 0 Slide 4 0 Slide 5 0 Slide 6 0 Slide 7 0 Slide 8 0 Asb./Ver. PT 0 Total PT 0 %Asb. Or %Ver. 0
Method: ELAP EPA SCANNING OPTION Q.C.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %					
29	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other		
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																				
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																				
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM	<u>off</u>									<u>0</u>	<u>20</u>										
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																					
Comments:																						
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																						

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %				
30	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other	
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																			
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																			
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
Required <input type="checkbox"/>	PLM	<u>off</u>									<u>0</u>	<u>20</u>									
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																				
Comments:																					
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																					

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
31	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																		
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																		
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.								
Required <input type="checkbox"/>	PLM	<u>off</u>									<u>0</u>	<u>20</u>								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																			
Comments:																				
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																				

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
32	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																		
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																		
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.								
Required <input type="checkbox"/>	PLM	<u>off</u>									<u>0</u>	<u>20</u>								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																			
Comments:																				
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																				

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
33	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																		
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																		
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.								
Required <input type="checkbox"/>	PLM	<u>off</u>									<u>0</u>	<u>20</u>								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																			
Comments:																				
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																				

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
34	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																		
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																		
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.								
Required <input type="checkbox"/>	PLM	<u>off</u>									<u>0</u>	<u>20</u>								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																			
Comments:																				
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																				

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
35	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																		
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																		
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.								
Required <input type="checkbox"/>	PLM	<u>off</u>									<u>0</u>	<u>20</u>								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																			
Comments:																				
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																				

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
36	Color <u>off</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other
Required <input type="checkbox"/>	Homogeneity <u>X</u>	Vermiculite																		
Recommended <input type="checkbox"/>	# of Layers <u>2</u>	Asbestos																		
See gravimetric analysis sheet for results <input type="checkbox"/>	Color of Layer	Detected	Yes	No																
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.								
Required <input type="checkbox"/>	PLM	<u>off</u>									<u>0</u>	<u>20</u>								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																			
Comments:																				
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																				

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
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Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

1 37
Field Number
Stereoscopic Exam: Color tan Texture F Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
PLM Optical Properties: RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: Method: ELAP EPA SCANNING OPTION Q.C.

2 38
Field Number
Stereoscopic Exam: Color tan Texture F Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
PLM Optical Properties: RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: Method: ELAP EPA SCANNING OPTION Q.C.

3 39
Field Number
Stereoscopic Exam: Color tan Texture F Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
PLM Optical Properties: RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: Method: ELAP EPA SCANNING OPTION Q.C.

4 40
Field Number
Stereoscopic Exam: Color tan Texture F Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
PLM Optical Properties: RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: Method: ELAP EPA SCANNING OPTION Q.C.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626 TEMPERATURE °C 23

1 41
Field Number
Stereoscopic Exam: Color tan Texture F Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
PLM Optical Properties: RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: Method: ELAP EPA SCANNING OPTION Q.C.

2 42
Field Number
Stereoscopic Exam: Color tan Texture F Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
PLM Optical Properties: RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: Method: ELAP EPA SCANNING OPTION Q.C.

3 43
Field Number
Stereoscopic Exam: Color tan Texture F Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
PLM Optical Properties: RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: Method: ELAP EPA SCANNING OPTION Q.C.

4 44
Field Number
Stereoscopic Exam: Color tan Texture F Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity
PLM Optical Properties: RI I RI II DS Color Color, Pleo Biref Sign Other Identity
Asbestos Results PLM %: Chrysotile, Amosite, Other
Other Fibrous PLM %: Cellulose, Fiberglass, Other
Non Fibrous PLM %: Mineral Filler, Organic Binders, Vermiculite*, Other
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver.
Comments: Method: ELAP EPA SCANNING OPTION Q.C.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626

Accreditations:
NVLAP 101187-0
ELAP 10879

Microscopes:
OLYMPUS BH-2/
NIKON OPTIPHOT

TEMPERATURE °C 23

Form 1 45: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 2 46: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 3 47: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 4 48: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ PA Project Number 214PNPEPJ1
Analysis Date 4/10/2021 Analyst [Signature] Batch Number 21-626

Accreditations:
NVLAP 101187-0
ELAP 10879

Microscopes:
OLYMPUS BH-2/
NIKON OPTIPHOT

TEMPERATURE °C 23

Form 1 49: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 2 50: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 3 51: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 4 52: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

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**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-626 TEM Batch # 122941 Start Date: 04/10/21
 NOB PLM PREP: JYG/MI NOB PLM Analyst: MW NOB TEM PREP: JD NOB TEM Analyst: RP Date Completed: 04/12/21

Field #	5 % Organic	11 Non Asb Residue % NFr	12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
						NOB PREP	PLM	TEM
1	25.3	46.3	28.4	ND		✓	✓	✓
2	26.1	51.6	22.3	ND		✓	✓	✓
3	25.1	48.9	26.0	ND		✓	✓	✓
4	13.2	74.3	12.5	ND		✓	✓	✓
5	13.0	67.7	19.3	ND		✓	✓	✓
6	13.2	37.8	49.0	ND		✓	✓	✓
7	24.5	42.5	33.0	ND		✓	✓	✓
8	25.3	52.6	22.1	ND		✓	✓	✓
9	24.8	56.8	18.4	ND		✓	✓	✓
16	25.1	43.5	31.4	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-626 TEM Batch # 122941 Start Date: 04/10/21
 NOB PLM PREP: JYG/MI NOB PLM Analyst: MW NOB TEM PREP: JD NOB TEM Analyst: RP Date Completed: 04/12/21

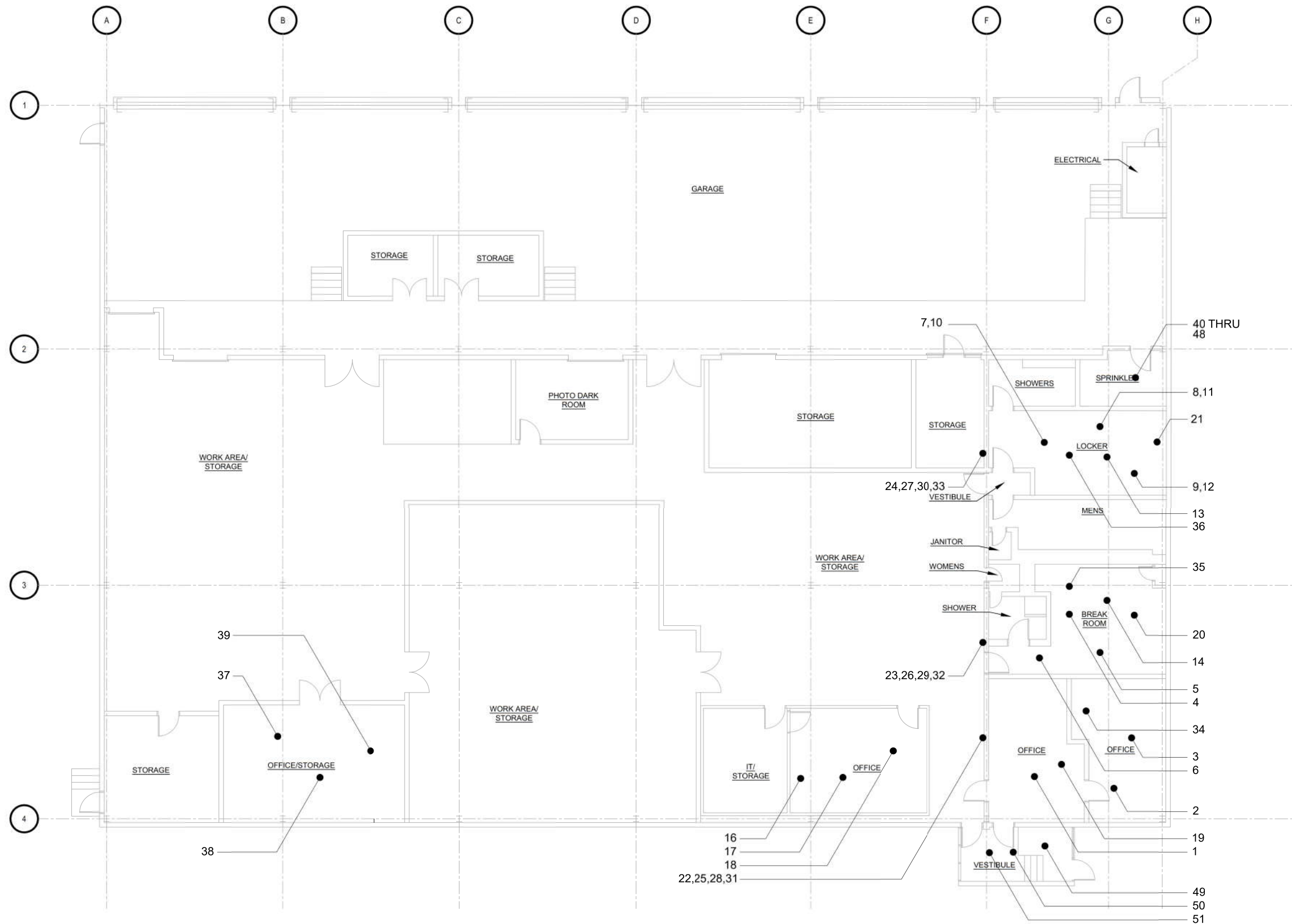
Field #	5 % Organic	11 Non Asb Residue % NFr	12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
						NOB PREP	PLM	TEM
17	24.7	42.9	32.4	ND		✓	✓	✓
18	24.3	33.2	42.5	ND		✓	✓	✓
37	12.7	40.2	47.1	ND		✓	✓	✓
38	13.9	60.7	25.4	ND		✓	✓	✓
39	14.5	65.6	19.9	ND		✓	✓	✓
49	14.6	75.6	9.8	ND		✓	✓	✓
50	15.0	82.7	2.3	ND		✓	✓	✓
51	11.7	63.5	24.8	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.

APPENDIX B

ASBESTOS SAMPLE LOCATION DRAWINGS

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No.	Date	Revision	Approved
ENGINEERING DEPARTMENT			
NEW JERSEY			
MARINE TERMINAL			
PORT ELIZABETH			

ENVIRONMENTAL	
Title	
NEW JERSEY PORTS ASBESTOS SURVEY	
BUILDING 255 FIRST FLOOR SAMPLE LOCATION PLAN	

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street - 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 2nd Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by N.KOGELMAN

Date 05/07/2021

Contract Number

Drawing Number **SL001**

P 1
A001 FIRST FLOOR PLAN
Scale: 0 4 8 16feet



SYMBOL	DESCRIPTION
● — 23	SUSPECT ASBESTOS SAMPLE LOCATION

APPENDIX C

**ASBESTOS LOCATION DRAWINGS
(N/A)**

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New York State – Department of Labor

Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

ATC Group Services LLC
10th Floor
104 East 25th Street
New York, NY 10010

FILE NUMBER: 99-0121
LICENSE NUMBER: 29902
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 03/24/2021
EXPIRATION DATE: 03/31/2022

Duly Authorized Representative – Kevin Hamilton:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

APPENDIX D

**LAB CERTIFICATIONS AND ACCREDITATIONS, COMPANY
AND PERSONNEL CERTIFICATIONS**



Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2003) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos EPA 100.2



Serial No.: 61221

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual



Serial No.: 61222

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos

40 CFR 763 APX A No. III

NIOSH 7402

Fibers

NIOSH 7400 A RULES



Serial No.: 61223

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos

EPA 100.2

Serial No.: 62824

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos in Friable Material Item 198.1 of Manual
EPA 600/M4/82/020
- Asbestos in Non-Friable Material-PLM Item-198.6 of Manual (NOB by PLM)
- Asbestos in Non-Friable Material-TEM Item 198.4 of Manual
- Asbestos-Vermiculite-Containing Material Item 198.8 of Manual

Serial No.: 62825

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

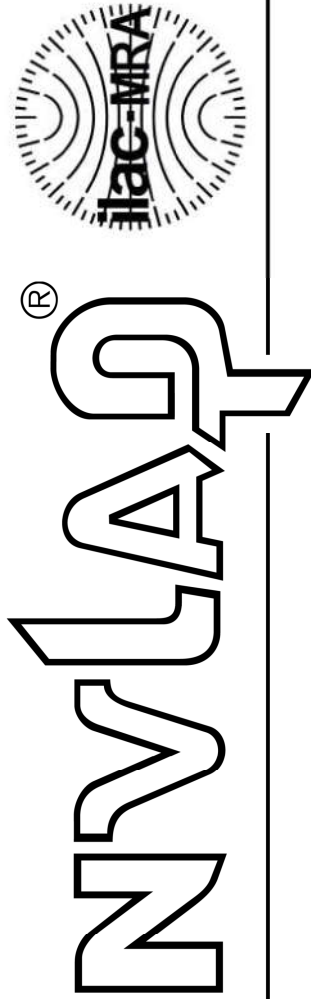
is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos 40 CFR 763 APX A No. III
NIOSH 7402
- Fibers NIOSH 7400 A RULES

Serial No.: 62826

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101187-0

ATC Group Services LLC
New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*



2020-07-01 through 2021-06-30
Effective Dates

For the National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ATC Group Services LLC

104 E. 25th Street 8th Floor
New York, NY 10010
Ms. Milena Bonezzi
Phone: 212-353-8280 x247 Fax: 212-353-8306
Email: milena.bonezzi@atcgs.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101187-0

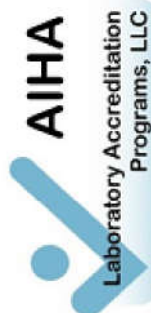
Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR Part 763 Subpart F Appendix A

For the National Voluntary Laboratory Accreditation Program



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS

- INDUSTRIAL HYGIENE Accreditation Expires: November 01, 2021
- ENVIRONMENTAL LEAD Accreditation Expires:
- ENVIRONMENTAL MICROBIOLOGY Accreditation Expires:
- FOOD Accreditation Expires:
- UNIQUE SCOPES Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Elizabeth Bair

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Revision 17: 09/11/2018

Cheryl O. Morton

Cheryl O Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Date Issued: 08/30/2019



AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

Issue Date: 08/30/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.



Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 06/12/1995

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400 Modified	-

A complete listing of currently accredited IHLAP laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>


STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE



PHILIP R CARRINGTON
CLASS(EXPIRES)
C ATEC(11/21) D INSP(11/21)
E MGPL(11/21) H PM (11/21)
I PD (11/21)

CERT# 88-11798
DMV# 148609949

MUST BE CARRIED ON ASBESTOS PROJECTS




STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

NANCY B GUEVARA
CLASS(EXPIRES)
C ATEC(05/21) D INSP(05/21)
H PM (05/21) I PD (05/21)

CERT# 14-00412
DMV# 234032668

MUST BE CARRIED ON ASBESTOS PROJECTS




01213 005585914 40
EYES BRO
HAIR BLK
HGT 5' 09"



IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240





01213 005585171 14
EYES BRO
HAIR BRO
HGT 5' 06"



IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240


STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE



RONEY D RIVERO
CLASS(EXPIRES)
C ATEC(08/21) D INSP(08/21)
E MGPL(08/21) H PM (08/21)
I PD (08/21)

CERT# 88-06348
DMVF# 955602641

MUST BE CARRIED ON ASBESTOS PROJECTS



01213 005581057 61



IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

EYES BRO
HAIR GRY
HGT 5' 11"



NJMT REHABILITATION OF FIRE PROTECTION SYSTEMS PN, EP, & PJ

**ASBESTOS INSPECTION REPORT
PORT NEWARK, BUILDING #111**

Performed for:

**PORT NEWARK
NEWARK, NEW JERSEY**

Prepared for:

**THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY**

Prepared by:

**ATC GROUP SERVICES LLC
104 EAST 25TH STREET
NEW YORK, NEW YORK 10010
(212) 353-8280**

ATC Project No: 214PNPEPJ1

May 14, 2021



104 East 25th Street
8th Floor
New York, New York 10010
Telephone 212-353-8280
Fax 212-353-8306

May 14, 2021

Robert Pruno, P.E.
Chief Environmental Engineer
Port Authority of New York & New Jersey
Engineering Design Division
4 World Trade Center, Floor 20
New York, NY, 10006

Subject: Inspection Report for Asbestos-Containing Materials

**Re: Port Newark, Building #111
111 Corbin Street
Newark, NJ 07114
NJMT Rehabilitation of Fire Protection Systems**

Dear Mr. Pruno:

ATC Group Services LLC (ATC) has completed the inspection for Asbestos-Containing Materials (ACM) for the proposed work at the above referenced site. The inspection included visual observation, material sampling, laboratory analysis and development of asbestos abatement plans. The attached report presents our inspection procedures, findings, assessments and recommendations along with the pertinent appendices.

ATC appreciates this opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

Roney D. Rivero
Senior Project Manager
for ATC Group Services LLC
Direct Line +1 212 284 0614
Email: roney.rivero@atcgs.com

Attachments

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 BUILDING DESCRIPTION.....	2
3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS	2
4.0 ACM INSPECTION SCOPE.....	3
5.0 ACM INSPECTION RESULTS	4
6.0 PCB-IN-CAULKING INSPECTION FINDINGS	4
7.0 UNIVERSAL WASTE OBSERVATION	4
8.0 CONCLUSIONS AND RECOMMENDATIONS	4
9.0 ASSUMPTIONS AND LIMITATIONS.....	5

APPENDICES

Appendix A: ACM Laboratory Results and Chain of Custodies

Appendix B: PCB-in-Caulking Laboratory Results and Chain of Custodies

Appendix C: Asbestos, and PCB Bulk Sample Location Drawings

Appendix D: ACM Location Drawings (N/A for this Project)

Appendix E: Lab Certifications / Accreditations, Company and Personnel Certifications

EXECUTIVE SUMMARY

On March 10, 2021, ATC completed the inspection for ACM at Port Newark, Building #111 (the Site). The survey was conducted at the request of Port Authority of New York and New Jersey (PANYNJ) in preparation for the Rehabilitation of Fire Protection Systems Project. ATC utilized drawings provided by PANYNJ delineating the areas that will be impacted by the renovation project.

ATC collected fifteen (15) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, none of the sampled homogeneous areas was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content). These materials are tabulated in Section 4.0.

ATC collected and analyzed one (1) sample from suspect PCB-containing Caulking. Based upon review of the analytical results of bulk samples collected, the sample was found to be none detect for total PCBs. A tabulation of the laboratory results are summarized in in Section 6.0.

1.0 INTRODUCTION

The intent of this survey was to locate and identify all accessible ACM, and PCBs in caulking within the referenced structure that could potentially be impacted by the proposed Fire Sprinkler Rehabilitation Project.

The environmental survey was conducted by the following personnel who hold certifications from the New York State Department of Labor as Asbestos Inspectors, and the Environmental Protection Agency as Lead Risk Assessors.

Inspector's Name	Certification Number	ACM/LCP
Philip R. Carrington	AH-88-11798	ACM
Roney D. Rivero	AH-88-06348	ACM

2.0 BUILDING DESCRIPTION

The New Jersey Port Newark Building 111, constructed in 1997, is located on the eastern side of Corbin Street. The 21 ft. tall, single story building has a near rectangular footprint, approximately 82 ft. wide by 128 ft. long in plan, with a total of 10,500 square feet of floor area. The building is occupied by Port Authority personnel and serves as a pump station for the Port Newark domestic and fire protection water systems. Most of the space consists of a large, open and full height mechanical space. There are isolated areas of office space along the interiors northeast portion.

3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogeneous area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos.

Bulk samples of suspect ACM were analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Methods 198.1 and 198.6 as specified in the Environmental Laboratory Approval Program (ELAP) Certification Manual. Method 198.1 is used for friable ACM and Method 198.6 is used for non-friable ACM.

For non-friable materials such as mastic, caulking, etc., Method 198.6 requires that any result of 1-percent or less be reanalyzed by Method 198.4. This Method utilizes Transmission Electron Microscopy (TEM) to determine asbestos content. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) Non-friable Organically Bound (NOB) sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

The laboratory performing both these analysis procedures was ATC, located at 104 East 25th Street, New York, New York. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101187-0)
- New York State Environmental Laboratory Approval Program (Lab No. 10879)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 100229)

4.0 ACM INSPECTION SCOPE

ATC conducted the walkthrough of Port Newark building 260 on August 11, 2020 to understand typical building layouts and systems on buildings that are similar in lay out and use. Based on the findings of the walkthrough, ATC conducted an asbestos inspection of Port Newark Building 111 on March 10, 2021 and collected fifteen (15) bulk samples from all suspect asbestos-containing material. The areas inspected included only areas that may be impacted by the proposed Fire Sprinkler Rehabilitation Project at this location. The intent of this survey was to locate and identify all accessible ACM.

The following five (5) homogeneous materials inspected and sampled for ACM during the inspections were:

Suspect Material	Location
2' X 4' Suspended Ceiling Tile	1 st Floor – Office Space, Lobby & Bathroom
Cinder Block Wall Mortar	1 st Floor –Lobby, Bathroom & Generator Room
Soft Concrete Decking	1 st Floor – Above Pump Room, Above Generator Room & Above Electric Room
Expansion Board (Brown) on Decking Wall Perimeter	1 st Floor – at Pump Room & , Generator Room Walls
Vertical Expansion Caulking on CMU Wall	1 st Floor – Generator Room, Pump Room & East wall

5.0 ACM INSPECTION RESULTS

Based upon visual inspection and analytical results of bulk samples collected, **none of the materials are asbestos-containing** (> 1%).

Laboratory results are included in Appendix A. Asbestos Sample Location Plans are included in Appendix C.

6.0 PCB-IN-CAULKING INSPECTION FINDINGS

ATC collected one (1) sample from suspect PCB-containing Caulking and submitted to a third party laboratory for analysis. The suspect PCB-containing Caulking sample collected was based on building component, application type as well as color and texture. Caulking materials with similar characteristics were assumed to be homogenous materials.

ATC submitted the suspect PCB samples to New York Environmental & Analytical Laboratories Inc., for Gas Chromatography with Electron Capture Detection (GC/ECD) analysis utilizing EPA Method 8082.

Based on laboratory analysis and results, the one (1) sample tested “none detect” for total PCBs.

7.0 UNIVERSAL WASTE INVENTORY

ATC conducted a visual inspection of the light fixtures at the site to document Universal Waste, defined in Title 40, CFR Part 273. During the inspection at the site, it was observed the presence of fluorescent lamps, high intensity discharge (HID) lamps and ballasts.

It was assumed that lamp ballasts/capacitors contain PCBs and/or Di-Ethylhexyl Phthalate (DEHP); therefore, if removal is necessary it should be disposed of as PCB wastes as per 40 CFR Part 761.

8.0 CONCLUSIONS AND RECOMMENDATIONS

ATC collected fifteen (15) bulk samples from all suspect asbestos-containing material. Based upon visual inspection and review of the analytical results of bulk samples collected, **none of the materials is asbestos-containing** (> 1%).

ATC collected and analyzed one (1) sample from suspect PCB-containing Caulking. Based on laboratory analysis and results, the one (1) sample tested “none detect” for total PCBs.

Various types of painted surfaces such as sprinkler pipes, CMU walls, and roof decking have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 111, located in Newark, New Jersey.

Various types of light fixtures (fluorescent lamps, high intensity discharge (HID) lamps and ballasts) have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 111 located in Newark, New Jersey.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted at the time of the inspection.

If questions arise regarding asbestos content in building materials that were not tested by ATC, additional testing services should be procured to test those areas.

This report is intended for the sole use of the PANYNJ. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations contained herein is at the risk of said user.

END OF REPORT

APPENDIX A

ACM LABORATORY RESULTS AND CHAIN OF CUSTODIES

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ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Client: ATC - NEW YORK
104 EAST 25TH STREET
NEW YORK, NY 10010
Fax: (212) 353-3599 **Phone:** (212) 353-8280
Project: PANYNJ / FIRESPRINKLER REHABILITATION

Sample Date: 3/10/2021
Date Received : 3/10/2021
Date Analyzed : 3/11/2021
ATC Batch # 21-347

Methods: ELAP 198.1, 198.6, 198.4

Location: PN / Building #111
Project # 214PNPEPJ1/TASK0001

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
1	1ST FLOOR OFFICE SPACE	2' X 2' SUSPENDED CEILING TILE	NOB-TEM			2.4% Organic 70.6% Residue 27% Carbonate	NONE DETECTED
21-347 -1				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Gray Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive. Ceiling Tile				
2	1ST FLOOR LOBBY	2' X 2' SUSPENDED CEILING TILE	NOB-TEM			1.7% Organic 86.1% Residue 12.2% Carbonate	NONE DETECTED
21-347 -2				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Gray Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive. Ceiling Tile				
3	1ST FLOOR LOBBY	2' X 2' SUSPENDED CEILING TILE	NOB-TEM			3.2% Organic 83.5% Residue 13.3% Carbonate	NONE DETECTED
21-347 -3				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Gray Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive. Ceiling Tile				
4	1ST FLOOR LOBBY	CINDER BLOCK / WALL MORTAR	PLM		100% Mineral Filler		NONE DETECTED
21-347 -4				0.0% Vermiculite			
Analyzed By: Jian Hua Zhou		Color: Beige					
5	1ST FLOOR BATHROOM	CINDER BLOCK / WALL MORTAR	PLM		100% Mineral Filler		NONE DETECTED
21-347 -5				0.0% Vermiculite			
Analyzed By: Jian Hua Zhou		Color: Gray					
6	1ST FLOOR GENERATOR ROOM	CINDER BLOCK / WALL MORTAR	PLM		100% Mineral Filler		NONE DETECTED
21-347 -6				0.0% Vermiculite			
Analyzed By: Jian Hua Zhou		Color: Beige					
7	1ST FLOOR ABOVE PUMP ROOM	SOFT CONCRETE DECKING	PLM		100% Mineral Filler		NONE DETECTED
21-347 -7				0.0% Vermiculite			
Analyzed By: Jian Hua Zhou		Color: Gray					



ATC Group Services LLC

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New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
8	1ST FLOOR ABOVE GENERATOR ROOM	SOFT CONCRETE DECKING	PLM		100% Mineral Filler		NONE DETECTED
21-347 -8				0.0% Vermiculite			
Analyzed By: Jian Hua Zhou		Color: Gray					
9	1ST FLOOR ABOVE ELECTRIC ROOM	SOFT CONCRETE DECKING	PLM		100% Mineral Filler		NONE DETECTED
21-347 -9				0.0% Vermiculite			
Analyzed By: Jian Hua Zhou		Color: Gray					
10	1ST FLOOR @ PUMP ROOM WALL	EXPANSION BOARD ON DECKING WALL PERIMETER (BROWN)	NOB-TEM			92.7% Organic 1.3% Residue 6% Carbonate	NONE DETECTED
21-347 -10				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Black Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
11	1ST FLOOR @ GENERATOR WALL	EXPANSION BOARD ON DECKING WALL PERIMETER (BROWN)	NOB-TEM			90% Organic 1.6% Residue 8.4% Carbonate	NONE DETECTED
21-347 -11				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Black Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
12	1ST FLOOR @ GENERATOR WALL	EXPANSION BOARD ON DECKING WALL PERIMETER (BROWN)	NOB-TEM			96.7% Organic 2.1% Residue 1.2% Carbonate	NONE DETECTED
21-347 -12				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Black Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
13	1ST FLOOR GENERATOR ROOM	VERTICAL EXPANSION CAULKING ON CMU WALL	NOB-TEM			30.5% Organic 7.9% Residue 61.6% Carbonate	NONE DETECTED
21-347 -13				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Light Gray Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
14	1ST FLOOR PUMP ROOM	VERTICAL EXPANSION CAULKING ON CMU WALL	NOB-TEM			31% Organic 3.8% Residue 65.2% Carbonate	NONE DETECTED
21-347 -14				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Light Gray Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
15	1ST FLOOR EAST WALL	VERTICAL EXPANSION CAULKING ON CMU WALL	NOB-TEM			32.9% Organic 2.1% Residue 65% Carbonate	NONE DETECTED
21-347 -15				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Light Gray Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				



ATC Group Services LLC

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Fax: 212-353-8306



ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: _____, Amendment Dates: _____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Jian Hua Zhou

Analyst:

Mei Wang

Approved by
Quality Manager:

Michael Gittings

Analyst:

Feyza Gungor

Analyst:

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: 3/10/21	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
6. BUILDING NUMBER: 111	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH_X		9. Comments (Field) NOB -> TEM Stop @ 1st Positive
7. Sampling Areas:			

BULK SAMPLE LOCATION

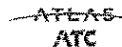
10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
1	1	2'x4' suspended		OFFICE SPACE		
1	2	ceiling tile		LOBBY		
1	3	"		BATHROOM		
2	4	ceiling block		LOBBY		
2	5	wall mortar		BATHROOM		
2	6	" "		GENERATOR ROOM		
3	7	soft concrete		ABOVE PUMP ROOM		
3	8	decking		" GENERATOR ROOM		
3	9	"		" ELECTRIC ROOM		
4	10	EXPANSION BOARD		@ PUMP ROOM WALL		
4	11	ON DECKING WALL		@ GENERATOR WALL		
4	12	PERIMETER (BRICK)		" " "		
5	13	VERTICAL EXPANSION		GENERATOR ROOM		
5	14	CAULKING ON		PUMP ROOM		
5	15	CRU WALL		EAST WALL		
4	16					
4	17					
4	18					

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <i>Philip Carrington</i>	3/10/21	3:00pm	<i>E. Wez L. Key</i>	3/10/2021	15:18	Field
II.						Walk In
III.						US Mail
						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature: <i>Meenal Chouhan</i>	25. Date: 3/10/21	26. Time: 5:27pm	27. Comments (Lab)
24a. Analyzed By: <i>Meenal Chouhan</i>	3/10/21	5:27pm	
24b. Analyzed By: <i>Meenal Chouhan</i>	3/11/2021	06:00	
24c. QC By: <i>TEM: Feyza Gungor Feyza</i>	3/11/21 @ 14:34		



BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/10/2021 Analyst [Signature] Batch Number 21-347 TEMPERATURE °C 23

1 Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1	Gravimetric Required <input checked="" type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/> Color: <u>Gray</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>1</u> # of Layers: <u>1</u> Asbestos: <u>1</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Chrysotile Amosite Other	Cellulose Fiberglass Other <input checked="" type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	<u>100</u> Mineral Filler Organic Binders <u>0</u> Vermiculite* Other
SM-V Point Counts: <u>70</u> %Asb. Or %Ver. <u>0</u> Comments: <u>celin file</u> Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

2 Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2	Gravimetric Required <input checked="" type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/> Color: <u>Gray</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>1</u> # of Layers: <u>1</u> Asbestos: <u>1</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Chrysotile Amosite Other	Cellulose Fiberglass Other <input checked="" type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	<u>100</u> Mineral Filler Organic Binders <u>0</u> Vermiculite* Other
SM-V Point Counts: <u>70</u> %Asb. Or %Ver. <u>0</u> Comments: <u>celin file</u> Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

3 Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3	Gravimetric Required <input checked="" type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/> Color: <u>Gray</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>1</u> # of Layers: <u>1</u> Asbestos: <u>1</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Chrysotile Amosite Other	Cellulose Fiberglass Other <input checked="" type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	<u>100</u> Mineral Filler Organic Binders <u>0</u> Vermiculite* Other
SM-V Point Counts: <u>70</u> %Asb. Or %Ver. <u>0</u> Comments: <u>celin file</u> Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

4 Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4	Gravimetric Required <input checked="" type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/> Color: <u>White</u> Texture: <u>6</u> Homogeneity: <u>4</u> Vermiculite: <u>1</u> # of Layers: <u>1</u> Asbestos: <u>1</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Chrysotile Amosite Other	Cellulose Fiberglass Other <input checked="" type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	<u>100</u> Mineral Filler Organic Binders <u>0</u> Vermiculite* Other
SM-V Point Counts: <u>70</u> %Asb. Or %Ver. <u>0</u> Comments: <u>celin file</u> Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/10/2021 Analyst [Signature] Batch Number 21-347 TEMPERATURE °C _____

Field Number	5	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Gray</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100 Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass	Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other	0 Vermiculite*
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>		
See SM-V analysis sheet for results	NOB PLM													
	Comments:													
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>												

Field Number	6	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Beige</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100 Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass	Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other	0 Vermiculite*
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>		
See SM-V analysis sheet for results	NOB PLM													
	Comments:													
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>												

Field Number	7	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Gray</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100 Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass	Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other	0 Vermiculite*
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>		
See SM-V analysis sheet for results	NOB PLM													
	Comments:													
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>												

Field Number	8	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Gray</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100 Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass	Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other	0 Vermiculite*
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>		
See SM-V analysis sheet for results	NOB PLM													
	Comments:													
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>												

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/10/2021 Analyst [Signature] Batch Number 21-347 TEMPERATURE °C _____

Field Number	9	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Gray</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100 Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass	Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other	0 Vermiculite*
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>		
See SM-V analysis sheet for results	NOB PLM													
	Comments:													
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>												

Field Number	10	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Black</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100 Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass	Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other	0 Vermiculite*
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>		
See SM-V analysis sheet for results	NOB PLM													
	Comments:													
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>												

Field Number	11	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Black</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100 Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass	Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other	0 Vermiculite*
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>		
See SM-V analysis sheet for results	NOB PLM													
	Comments:													
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>												

Field Number	12	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Black</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100 Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>≠</u>											Amosite	Fiberglass	Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>≠</u>											Other	Other	0 Vermiculite*
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No													Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	PLM	<u>0/50</u>									<u>200</u>	<u>0</u>		
See SM-V analysis sheet for results	NOB PLM													
	Comments:													
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>												

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS_DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS_BULK FORMS 2021\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

APPENDIX B

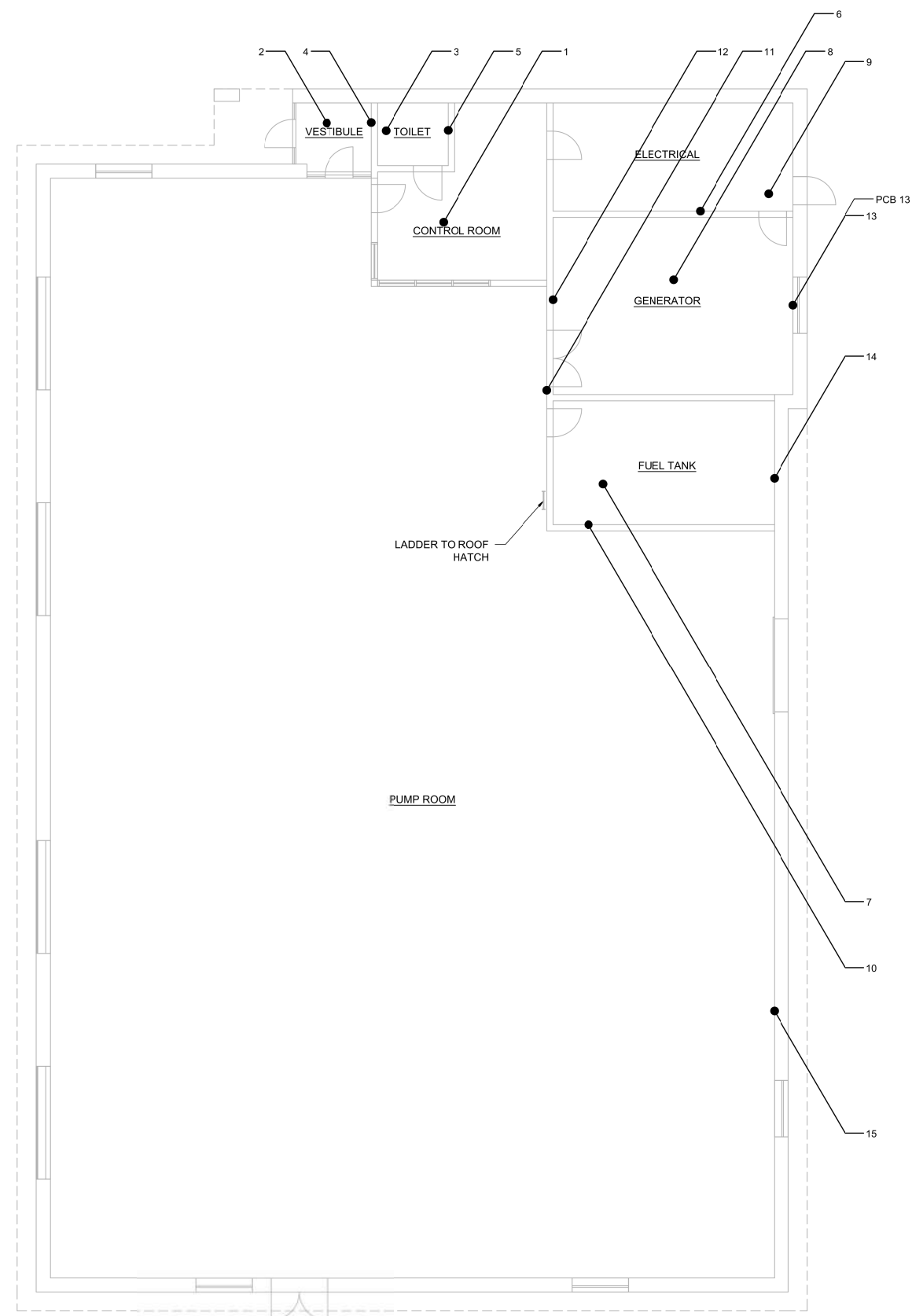
PCB-IN-CAULKING LABORATORY RESULTS AND CHAIN OF CUSTODIES

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APPENDIX C

ASBESTOS AND PCB SAMPLE LOCATION DRAWINGS

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FIRST FLOOR PLAN
SL001
SCALE IN FEET



LEGEND

SYMBOL	DESCRIPTION
10	SUSPECT ASBESTOS SAMPLE LOCATION
PCB 13	SUSPECT PCB SAMPLE LOCATION

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT			
NEW JERSEY			
MARINE TERMINAL			
PORT NEWARK			

ENVIRONMENTAL	
Title	NEW JERSEY PORTS ASBESTOS SURVEY
	BUILDING 111 FIRST FLOOR SAMPLE LOCATION PLAN SAMPLES 1 TO 15

This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by	R.RIVERO
Drawn by	E.MILKIS
Checked by	
Date	05/14/2021
Contract Number	
Drawing Number	SL001

APPENDIX D

**ASBESTOS LOCATION DRAWINGS
(N/A FOR THIS PROJECT)**

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New York State – Department of Labor

Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

ATC Group Services LLC
10th Floor
104 East 25th Street
New York, NY 10010

FILE NUMBER: 99-0121
LICENSE NUMBER: 29902
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 03/24/2021
EXPIRATION DATE: 03/31/2022

Duly Authorized Representative – Kevin Hamilton:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

APPENDIX E

**LAB CERTIFICATIONS AND ACCREDITATIONS, COMPANY
AND PERSONNEL CERTIFICATIONS**



Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2003) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos EPA 100.2



Serial No.: 61221

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



Expires 12:01 AM April 01, 2021
Issued April 01, 2020

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MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual



Serial No.: 61222

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos

40 CFR 763 APX A No. III

NIOSH 7402

Fibers

NIOSH 7400 A RULES



Serial No.: 61223

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos

EPA 100.2

Serial No.: 62824

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos in Friable Material Item 198.1 of Manual
EPA 600/M4/82/020
- Asbestos in Non-Friable Material-PLM Item-198.6 of Manual (NOB by PLM)
- Asbestos in Non-Friable Material-TEM Item 198.4 of Manual
- Asbestos-Vermiculite-Containing Material Item 198.8 of Manual

Serial No.: 62825

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos 40 CFR 763 APX A No. III
NIOSH 7402
- Fibers NIOSH 7400 A RULES

Serial No.: 62826

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101187-0

ATC Group Services LLC
New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*



2020-07-01 through 2021-06-30
Effective Dates

For the National Voluntary Laboratory Accreditation Program



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ATC Group Services LLC

104 E. 25th Street 8th Floor
New York, NY 10010
Ms. Milena Bonezzi
Phone: 212-353-8280 x247 Fax: 212-353-8306
Email: milena.bonezzi@atcgs.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101187-0

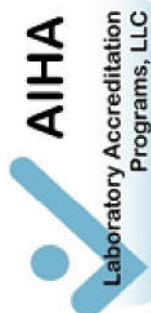
Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR Part 763 Subpart F Appendix A

For the National Voluntary Laboratory Accreditation Program



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS

- INDUSTRIAL HYGIENE Accreditation Expires: November 01, 2021
- ENVIRONMENTAL LEAD Accreditation Expires:
- ENVIRONMENTAL MICROBIOLOGY Accreditation Expires:
- FOOD Accreditation Expires:
- UNIQUE SCOPES Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Elizabeth Bair

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Revision 17: 09/11/2018

Cheryl O. Morton

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Date Issued: 08/30/2019



AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

Issue Date: 08/30/2019

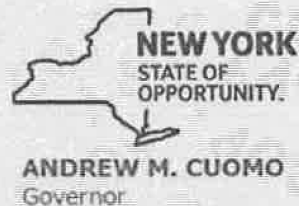
The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 06/12/1995

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400 Modified	-

A complete listing of currently accredited IHLAP laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



Department of Health

ANDREW M. CUOMO Governor

HOWARD A. ZUCKER, M.D., J.D. Commissioner

LISA J. PINO, M.A., J.D. Executive Deputy Commissioner

LAB ID: 11510

April 01, 2021

MR. LI TSANG
NY ENVIRONMENTAL AND ANALYTICAL LABS INC
88 HARBOR ROAD
PORT WASHINGTON, NY 11050

Certificate Expiration Date:
April 01, 2022

Dear Mr. Tsang,

Enclosed are certificate(s) of approval issued to your environmental laboratory for the current permit year. The certificate(s) supersede(s) any previously issued one(s) and is(are) in effect through the expiration date listed. Please carefully examine the certificate(s) to insure that the categories, subcategories, analytes, and methods for which your laboratory is approved are correct. In addition, verify that your laboratory's name, address, lead technical director, and identification number are accurate.

Pursuant to NYCRR Subpart 55-2.2, original certificates must be posted conspicuously in the laboratory and copies shall be made available to any client of the laboratory upon request.

Pursuant to NYCRR Subpart 55-2.6, any misrepresentation of the fields of accreditation (category - method - analyte) for which your laboratory is approved may result in denial, suspension, or revocation of your certification. Any use of the Environmental Laboratory Approval Program (ELAP) or National Environmental Laboratory Accreditation Program (NELAP) name, reference to the laboratory's approval status, and/or using the NELAP logo in any catalogs, advertising, business solicitations, proposals, quotations, laboratory analytical reports, or other materials must include the laboratory's ELAP identification number and distinguish between testing for which the laboratory is approved and testing for which the laboratory is not approved.

If you have any questions, please contact us at the Environmental Laboratory Approval Program, Wadsworth Center, New York State Department of Health, Empire State Plaza, Albany NY, 12237; by phone at (518) 485-5570; by facsimile at (518) 485-5568; and by email at elap@health.ny.gov.

Sincerely,

Victoria Pretti

Victoria Pretti
Director and QA Officer
Environmental Laboratory Approval Program

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. LI TSANG
NY ENVIRONMENTAL AND ANALYTICAL LABS INC
88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Table with 4 columns: Category, Analyte, Method, and Reference. Rows include Bacteriology (Coliform, Enterococci, Heterotrophic Plate Count), Metals I (Barium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Silver, Zinc), Metals II (Aluminum, Beryllium, Molybdenum, Nickel, Vanadium), Metals III (Boron, Calcium, Magnesium, Potassium), Metals III (Sodium), Miscellaneous (Odor, Turbidity), and Non-Metals (Calcium Hardness, Color, Specific Conductance).

Serial No.: 63011

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. LI TSANG
NY ENVIRONMENTAL AND ANALYTICAL LABS INC
88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved subcategories and/or analytes are listed below:

Bacteriology

Legionella ISO 11731:2017(E)



Department
of Health

Serial No.: 63012

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



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Issued April 01, 2021

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Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. LI TSANG
NY ENVIRONMENTAL AND ANALYTICAL LABS INC
88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Bacteriology

Enterococci SM 23 9230D (Enterolert)
Heterotrophic Plate Count SimPlate

Metals I

Barium, Total EPA 200.7, Rev. 4.4 (1994)
Cadmium, Total EPA 200.7, Rev. 4.4 (1994)
Calcium, Total EPA 200.7, Rev. 4.4 (1994)
Chromium, Total EPA 200.7, Rev. 4.4 (1994)
Copper, Total EPA 200.7, Rev. 4.4 (1994)
Iron, Total EPA 200.7, Rev. 4.4 (1994)
Lead, Total EPA 200.7, Rev. 4.4 (1994)
Magnesium, Total EPA 200.7, Rev. 4.4 (1994)
Manganese, Total EPA 200.7, Rev. 4.4 (1994)
Nickel, Total EPA 200.7, Rev. 4.4 (1994)
Potassium, Total EPA 200.7, Rev. 4.4 (1994)
Silver, Total EPA 200.7, Rev. 4.4 (1994)
Sodium, Total EPA 200.7, Rev. 4.4 (1994)
Strontium, Total EPA 200.7, Rev. 4.4 (1994)

Metals II

Aluminum, Total EPA 200.7, Rev. 4.4 (1994)
Antimony, Total EPA 200.7, Rev. 4.4 (1994)
Arsenic, Total EPA 200.7, Rev. 4.4 (1994)
Beryllium, Total EPA 200.7, Rev. 4.4 (1994)
Selenium, Total EPA 200.7, Rev. 4.4 (1994)
Vanadium, Total EPA 200.7, Rev. 4.4 (1994)
Zinc, Total EPA 200.7, Rev. 4.4 (1994)

Metals III

Cobalt, Total EPA 200.7, Rev. 4.4 (1994)
Molybdenum, Total EPA 200.7, Rev. 4.4 (1994)
Thallium, Total EPA 200.7, Rev. 4.4 (1994)

Mineral

Calcium Hardness EPA 200.7, Rev. 4.4 (1994)
SM 2340B-2011
Hardness, Total EPA 200.7, Rev. 4.4 (1994)
SM 2340B-2011

Miscellaneous

Turbidity SM 2130 B-2011

Serial No.: 63013

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.





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Issued April 01, 2021

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MR. LI TSANG
NY ENVIRONMENTAL AND ANALYTICAL LABS INC
88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved subcategories and/or analytes are listed below:

Bacteriology

Legionella ISO 11731:2017(E)



Serial No.: 63014

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



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MR. LI TSANG
NY ENVIRONMENTAL AND ANALYTICAL LABS INC
88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Characteristic Testing

TCLP EPA 1311

Polychlorinated Biphenyls

Aroclor 1016 (PCB-1016)	EPA 8082A
Aroclor 1221 (PCB-1221)	EPA 8082A
Aroclor 1232 (PCB-1232)	EPA 8082A
Aroclor 1242 (PCB-1242)	EPA 8082A
Aroclor 1248 (PCB-1248)	EPA 8082A
Aroclor 1254 (PCB-1254)	EPA 8082A
Aroclor 1260 (PCB-1260)	EPA 8082A



Sample Preparation Methods

EPA 3550C

Serial No.: 63015

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.





Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. LI TSANG
NY ENVIRONMENTAL AND ANALYTICAL LABS INC
88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Metals I

Lead, Total EPA 6010D
EPA 7000B

Miscellaneous

Asbestos in Friable Material Item 198.1 of Manual
EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM Item 198.6 of Manual (NOB by PLM)
Asbestos-Vermiculite-Containing Material Item 198.8 of Manual
Lead in Dust Wipes EPA 6010D
EPA 7000B
Lead in Paint EPA 6010D
EPA 7000B

Sample Preparation Methods

EPA 3050B
ASTM E-1979-17

Serial No.: 63016

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



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MR. LI TSANG
NY ENVIRONMENTAL AND ANALYTICAL LABS INC
88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Metals I

Lead, Total NIOSH 7082

Miscellaneous



Fibers NIOSH 7400 A RULES



Serial No.: 63017

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.


STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

PHILIP R CARRINGTON
CLASS(EXPIRES)
C ATEC(11/21) D INSP(11/21)
E MGPL(11/21) H PM (11/21)
I PD (11/21)

CERT# 88-11798
DMV# 148609949

MUST BE CARRIED ON ASBESTOS PROJECTS






01213 005585914 40

EYES BRO
HAIR BLK
HGT 5' 09"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240


STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

RONEY D RIVERO
CLASS(EXPIRES)
C ATEC(08/21) D INSP(08/21)
E MGPL(08/21) H PM (08/21)
I PD (08/21)

CERT# 88-06348
DMV# 955602641

MUST BE CARRIED ON ASBESTOS PROJECTS




01213 005581057 61

EYES BRO
HAIR GRY
HGT 5' 11"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240



**NJMT REHABILITATION OF FIRE PROTECTION
SYSTEMS PN, EP, & PJ**

**ASBESTOS INSPECTION REPORT
PORT NEWARK, BUILDING #260**

Performed for:

**PORT NEWARK
NEWARK, NEW JERSEY**

Prepared for:

**THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY**

Prepared by:

**ATC GROUP SERVICES LLC
104 EAST 25TH STREET
NEW YORK, NEW YORK 10010
(212) 353-8280**

ATC Project No: 214PNPEPJ1

July 1, 2021



104 East 25th Street
8th Floor
New York, New York 10010
Telephone 212-353-8280
Fax 212-353-8306

July 1, 2021

Robert Pruno, P.E.
Chief Environmental Engineer
Port Authority of New York & New Jersey
Engineering Design Division
4 World Trade Center, Floor 20
New York, NY, 10006

Subject: Inspection Report for Asbestos-Containing Materials

**Re: Port Newark, Building #260
260 Kellogg Street
Newark, NJ 07114
NJMT Rehabilitation of Fire Protection Systems**

Dear Mr. Pruno:

ATC Group Services LLC (ATC) has completed the inspection for Asbestos-Containing Materials (ACM) for the proposed work at the above referenced site. The inspection included visual observation, material sampling, laboratory analysis and development of asbestos abatement plans. The attached report presents our inspection procedures, findings, assessments and recommendations along with the pertinent appendices.

ATC appreciates this opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

Roney D. Rivero
Senior Project Manager
for ATC Group Services LLC
Direct Line +1 212 284 0614
Email: roney.rivero@atcgs.com

Attachments

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 BUILDING DESCRIPTION.....	2
3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS	2
4.0 ACM INSPECTION SCOPE.....	3
5.0 ACM INSPECTION RESULTS	5
6.0 PCB-IN-CAULKING INSPECTION FINDINGS	6
7.0 UNIVERSAL WASTE OBSERVATION	6
8.0 CONCLUSIONS AND RECOMMENDATIONS	6
9.0 ASSUMPTIONS AND LIMITATIONS.....	7

APPENDICES

Appendix A: ACM Laboratory Results and Chain of Custodies

Appendix B: Asbestos Sample Location Drawings

Appendix C: ACM Location Drawings

Appendix D: Lab Certifications / Accreditations, Company and Personnel Certifications

EXECUTIVE SUMMARY

On March 15 & April 15, 2021, ATC completed the inspection for ACM at Port Newark, Building #260 (the Site). The survey was conducted at the request of Port Authority of New York and New Jersey (PANYNJ) in preparation for the Rehabilitation of Fire Protection Systems Project. ATC utilized drawings provided by PANYNJ delineating the areas that will be impacted by the renovation project.

ATC collected one hundred twenty-five asbestos bulk samples from all suspect asbestos-containing material on all accessible areas of Building 260. Based upon review of the analytical results of bulk samples collected, one (1) sampled homogeneous area was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content).

The material that tested positive for asbestos is:

- Mudded Joint Packing Pipe Fitting Insulation associated with Fiberglass Pipe Insulation (3" OD)

These materials are tabulated in Section 4.0.

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

1.0 INTRODUCTION

The intent of this survey was to locate and identify all accessible ACM, and PCBs in caulking within the referenced structure that could potentially be impacted by the proposed Fire Sprinkler Rehabilitation Project.

The environmental survey was conducted by the following personnel who hold certifications from the New York State Department of Labor as Asbestos Inspectors, and the Environmental Protection Agency as Lead Risk Assessors.

Inspector's Name	Certification Number	ACM/LCP
Philip R. Carrington	AH-88-11798	ACM
Nancy Guevara	AH-14-00412	ACM
Roney D. Rivero	AH-88-06348	ACM

2.0 BUILDING DESCRIPTION

The New Jersey Port Newark Building 260, construction date unknown, is located on the intersection of Kellogg Street and Corbin Street. The building consists of a three-story office building and a double height garage structure. The office building measures 129 ft. long by 46 ft. wide and is approximately 36 ft. tall. The double-height garage has a rectangular footprint of 121 ft. wide by 216 ft. long and is approximately 24 ft. tall. The overall roofs are a total of 32,890 sf., 6,670 sf. at the office building and 26,200 sf. over the garage.

The building is being used as the Administrative Building for the Port Authority's New Jersey Marin Terminals, office for the Port Authority police and a service garage for Port Authority vehicles. The framing system at both buildings consists of steel girders and open web joists supported by steel columns. The roof deck consists of a flat insulated gypsum panel system. The office building's exterior wall system is brick and concrete and the garage is a reinforced translucent panel system that extends to the roof line with roll-up overhead doors at the east elevation

3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogeneous

area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos.

Bulk samples of suspect ACM were analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Methods 198.1 and 198.6 as specified in the Environmental Laboratory Approval Program (ELAP) Certification Manual. Method 198.1 is used for friable ACM and Method 198.6 is used for non-friable ACM.

For non-friable materials such as mastic, caulking, etc., Method 198.6 requires that any result of 1-percent or less be reanalyzed by Method 198.4. This Method utilizes Transmission Electron Microscopy (TEM) to determine asbestos content. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) Non-friable Organically Bound (NOB) sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

The laboratory performing both these analysis procedures was ATC, located at 104 East 25th Street, New York, New York. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101187-0)
- New York State Environmental Laboratory Approval Program (Lab No. 10879)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 100229)

4.0 ACM INSPECTION SCOPE

ATC conducted the walkthrough of Port Newark building 260 on August 11, 2020 to understand typical building layouts and systems on buildings that are similar in lay out and use. Based on the findings of the walkthrough, ATC conducted an asbestos inspection of the building on March 15 & April 15, 2021 and collected one hundred twenty-five bulk samples from all suspect asbestos-containing material. The areas inspected included only areas that may be impacted by the proposed Fire Sprinkler Rehabilitation Project at this location. The intent of this survey was to locate and identify all accessible ACM.

The following thirty-nine (39) homogeneous materials inspected and sampled for ACM during the inspections were:

Suspect Material	Location
CMU Wall Mortar	1 st Floor – Sprinkler Room, Hallway, Warehouse
Cementitious Plaster	1 st Floor – Sprinkler Room

2' X 2' Ceiling Tile Type I	1 st Floor – Lobby, Lunch Room, South Offices
Spray-on Fire Proofing on Ceiling Deck Metal Beams	1 st Floor – Lobby, Lunch Room, South Offices, Men's Locker Room
2' X 4' Ceiling Tile Type II	1 st Floor – Men's Locker Room, Entrance From Lunch Room
2' X 4' Ceiling Tile Type III	1 st Floor – Hallway Men's Room
Spray-on Fire Proofing on Ceiling Deck & Metal Beams	1 st Floor Warehouse – East Offices
Gypsum Board Paper - Wall	1 st Floor Warehouse – East Offices
Gypsum Board - Wall	1 st Floor Warehouse – East Offices
Joint Compound on Gypsum Board Wall	1 st Floor Warehouse – East Offices
HVAC Duct Insulation	1 st Floor Warehouse – East Offices by Main entrance Door, Hallway Restroom
Gypsum Board Paper - Ceiling	1 st Floor - U.S.M. Shop
Gypsum Board - Ceiling	1 st Floor - U.S.M. Shop
Joint Compound on Gypsum Board Ceiling	1 st Floor - U.S.M. Shop
HVAC Duct Insulation Cover Beige	1 st Floor - Warehouse East Office Mezzanine
Fiberglass Ceiling Insulation Blanket	First Floor - Entry Room by U.S.M. Shop
Fiberglass Insulation Metal Jacket Covering	1 st Floor - Locker Room
Mudded Joint Packing Pipe Fitting Insulation associated with Fiberglass Pipe Insulation	1 st Floor - Locker Room
2' X 2' Ceiling Tile Paper	1 st Floor - Hallway Restroom Ceiling
2' X 2' Ceiling Tile Type I	1 st Floor - Lunch Room
HVAC Duct Insulation Cover	1 st Floor - Lunch Room
CMU Wall Mortar	1 st Floor – Electric Shop, Carpenter Shop & Plumbing Shop
2' X 2' Ceiling Tile	2 nd Floor – Office Space
Gypsum Board Paper - Wall	2 nd Floor – Office Space
Gypsum Board - Wall	2 nd Floor – Office Space
Joint Compound on Gypsum Board Wall	2 nd Floor – Office Space
HVAC Duct Insulation Cover	2 nd Floor – Office Space
Spray-on Fire Proofing on Ceiling Deck Metal Beams	2 nd Floor – Office Space
Fire Stop Sealant - Red	2 nd Floor – Office Space @ Deck Level

2' X 2' Ceiling Tile Type II	2 nd Floor – Slope Sink
2' X 2' Ceiling Tile Type I	3 rd Floor – Office Space
HVAC Duct Insulation Cover	3 rd Floor – Office Space
Gypsum Board Paper - Wall	3 rd Floor – Office Space
Gypsum Board - Wall	3 rd Floor – Office Space
Joint Compound on Gypsum Board Wall	3 rd Floor – Office Space
Spray-on Fire Proofing on Ceiling Deck Metal Beams	3 rd Floor – Office Space
Gypsum Board Paper - Ceiling	3 rd Floor –East & West Side Staircases
Gypsum Board - Ceiling	3 rd Floor –East & West Side Staircases
Joint Compound on Gypsum Board Ceiling	3 rd Floor –East & West Side Staircases

5.0 ACM INSPECTION RESULTS

Based upon visual inspection and analytical results of bulk samples collected, **the following materials are asbestos-containing (> 1%)**:

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
56-58	Mudded Joint Packing Pipe Fitting Insulation associated with Fiberglass Pipe Insulation	10% Chrysotile	6 L.F. (See Note 1)	ACM001

Note 1: The ACM Mudded Joint Packing Pipe Fitting Insulation is located approximately 4' to 6' from the ground level and may not be impacted by the Sprinkler System Renovation.

The following materials are presumed to be asbestos-containing material (PACM):

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
N/A	Flange & Valve Gaskets - Sprinkler Room	PACM	25 Units	ACM001

ACM laboratory results are included in Appendix A. Asbestos Sample Location Plans are included in Appendix B. Asbestos Location Plans are included in Appendix C.

6.0 PCB-IN-CAULKING INSPECTION FINDINGS

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

7.0 UNIVERSAL WASTE INVENTORY

ATC conducted a visual inspection of the light fixtures at the site to document Universal Waste, defined in Title 40, CFR Part 273. During the inspection at the site, it was observed the presence of fluorescent lamps, high intensity discharge (HID) lamps and ballasts.

It was assumed that lamp ballasts/capacitors contain PCBs and/or Di-Ethylhexyl Phthalate (DEHP); therefore, if removal is necessary it should be disposed of as PCB wastes as per 40 CFR Part 761.

8.0 CONCLUSIONS AND RECOMMENDATIONS

ATC collected one hundred twenty-five asbestos bulk samples from all suspect asbestos-containing material on all accessible areas of Building 260. Based upon review of the analytical results of bulk samples collected, one (1) sampled homogeneous area located in Building 260 was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content).

The material that tested positive for asbestos in Building 260 is:

- Mudded Joint Packing Pipe Fitting Insulation associated with Fiberglass Pipe Insulation (3" OD)

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

Various types of painted surfaces such as sprinkler pipes, gypsum board ceilings and walls, CMU walls, and roof metal decking have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 260, located in Newark, New Jersey.

Various types of light fixtures (fluorescent lamps, high intensity discharge (HID) lamps and ballasts) have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 260 located in Newark, New Jersey.

The materials reported in Section 5.0 of this report may not require abatement prior to sprinkler system renovation because they are located approximately 4' to 6' from the ground level and may not be impacted due to the distance to the sprinkle pipe system.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted at the time of the inspection. The valve gaskets inside the pipe flanges could not be tested since the sprinkler system is still operational. It is assumed, based on the number of flanges observed, that there are 25 gaskets in the sprinkler room and are presumed to be asbestos containing. This quantity should be verified with destructive sampling if abatement is planned prior to any renovation work.

If questions arise regarding asbestos content in building materials that were not tested by ATC, additional testing services should be procured to test those areas.

This report is intended for the sole use of the PANYNJ. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations contained herein is at the risk of said user.

END OF REPORT

APPENDIX A

ACM LABORATORY RESULTS AND CHAIN OF CUSTODIES

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ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Client: ATC - NEW YORK
104 EAST 25TH STREET
NEW YORK, NY 10010
Fax: (212) 353-3599 **Phone:** (212) 353-8280
Project: PANYNJ / FIRESPRINKLER REHABILITATION

Sample Date: 3/15/2021
Date Received : 3/15/2021
Date Analyzed : 3/17/2021
ATC Batch # 21-427
Methods: ELAP 198.1, 198.6, 198.4

Location: PN / BUILDING 260 / 1ST FLOOR
Project # 214PNPEPJ1/TASK0001

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
1	SPRINKLER ROOM	CMU MORTAR	PLM	100%	Mineral Filler		
21-427 -1				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes Color: Gray							
2	1ST FLOOR - HALLWAY	CMU MORTAR	PLM	100%	Mineral Filler		
21-427 -2				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes Color: Gray							
3	1ST FLOOR - WAREHOUSE	CMU MORTAR	PLM	100%	Mineral Filler		
21-427 -3				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes Color: Gray							
4	SPRINKLER ROOM	CEMENTITIOUS PLASTER	PLM	100%	Mineral Filler		
21-427 -4				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes Color: Brown							
5	SPRINKLER ROOM	CEMENTITIOUS PLASTER	PLM	100%	Mineral Filler		
21-427 -5				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes Color: Brown							
6	SPRINKLER ROOM	CEMENTITIOUS PLASTER	PLM	100%	Mineral Filler		
21-427 -6				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes Color: Brown							
7	1ST FLOOR LOBBY	2' X 2' CEILING TILE TYPE 1	NOB-TEM	27.2% Organic 39.4% Residue 33.4% Carbonate			
21-427 -7				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Michael Gittings Color: White Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							



ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
8	1ST FLOOR - LUNCH ROOM	2' X 2' CEILING TILE TYPE 1	NOB-TEM			27.5% Organic 56.1% Residue 16.4% Carbonate	
21-427 -8				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Michael Gittings Color: White Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
9	1ST FLOOR - S. OFFICES	2' X 2' CEILING TILE TYPE 1	NOB-TEM			28.3% Organic 55.8% Residue 15.9% Carbonate	
21-427 -9				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Michael Gittings Color: White Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
10	1ST FLOOR LOBBY	SPRAY ON FIRE PROOFING ON CEILING DECK METAL BEAMS	PLM	12% Cellulose 2% FiberGlass	86% Mineral Filler		
21-427 -10				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes Color: Green							
11	1ST FLOOR LUNCH ROOM	SPRAY ON FIRE PROOFING ON CEILING DECK METAL BEAMS	PLM	15% Cellulose 2% FiberGlass	83% Mineral Filler		
21-427 -11				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes Color: Green							
12	1ST FLOOR - MEN'S LOCKER ROOM	SPRAY ON FIRE PROOFING ON CEILING DECK METAL BEAMS	PLM	15% Cellulose 2% FiberGlass	83% Mineral Filler		
21-427 -12				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes Color: Green							
13	1ST FLOOR - SOUTH OFFICES	SPRAY ON FIRE PROOFING ON CEILING DECK METAL BEAMS	PLM	12% Cellulose 2% FiberGlass	86% Mineral Filler		
21-427 -13				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes Color: Green							
14	1ST FLOOR - SOUTH OFFICES	SPRAY ON FIRE PROOFING ON CEILING DECK METAL BEAMS	PLM	18% Cellulose 2% FiberGlass	80% Mineral Filler		
21-427 -14				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes Color: Green							
15	1ST FLOOR - MEN'S LOCKER ROOM	2' X 2' CEILING TILE TYPE 2	NOB-TEM			20.5% Organic 44.2% Residue 35.3% Carbonate	
21-427 -15				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Michael Gittings Color: White Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
16	ENTRANCE FROM LUNCH ROOM	2' X 2' CEILING TILE TYPE 2	NOB-TEM			21% Organic 37.2% Residue 41.8% Carbonate	
21-427 -16				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Michael Gittings Color: White Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
17	ENTRANCE FROM LUNCH ROOM	2' X 2' CEILING TILE TYPE 2	NOB-TEM			23.9% Organic 52.2% Residue 23.9% Carbonate	
21-427 -17				0.0%	Vermiculite		NONE DETECTED
Analyzed By: Michael Gittings Color: White Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							



ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
18	1ST FLOOR - HALLWAY MEN'S ROOM	2' X 2' CEILING TILE TYPE 3	NOB-TEM			19.1% Organic 63.9% Residue 17% Carbonate	NONE DETECTED
21-427 -18				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: White Second Analyst: FeYZa Gungor	Comments: NOB PLM Inconclusive				
19	1ST FLOOR - HALLWAY MEN'S ROOM	2' X 2' CEILING TILE TYPE 3	NOB-TEM			20.1% Organic 54.6% Residue 25.3% Carbonate	NONE DETECTED
21-427 -19				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: White Second Analyst: FeYZa Gungor	Comments: NOB PLM Inconclusive				
20	1ST FLOOR - HALLWAY MEN'S ROOM	2' X 2' CEILING TILE TYPE 3	NOB-TEM			18.8% Organic 53.5% Residue 27.7% Carbonate	NONE DETECTED
21-427 -20				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: White Second Analyst: FeYZa Gungor	Comments: NOB PLM Inconclusive				
21	1ST FLOOR WAREHOUSE E. OFFICES	SPRAY ON FIREPROOFING ON CEILING DECK & BEAMS	PLM	Trace% Cellulose 80% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -21							
Analyzed By: Ivan Reyes		Color: Gray					
22	1ST FLOOR WAREHOUSE E. OFFICES	SPRAY ON FIREPROOFING ON CEILING DECK & BEAMS	PLM	Trace% Cellulose 80% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -22							
Analyzed By: Ivan Reyes		Color: Gray					
23	1ST FLOOR WAREHOUSE E. OFFICES	SPRAY ON FIREPROOFING ON CEILING DECK & BEAMS	PLM	Trace% Cellulose 85% FiberGlass	15% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -23							
Analyzed By: Ivan Reyes		Color: Gray					
24	1ST FLOOR WAREHOUSE E. OFFICES	SPRAY ON FIREPROOFING ON CEILING DECK & BEAMS	PLM	Trace% Cellulose 80% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -24							
Analyzed By: Ivan Reyes		Color: Gray					
25	1ST FLOOR WAREHOUSE E. OFFICES	SPRAY ON FIREPROOFING ON CEILING DECK & BEAMS	PLM	Trace% Cellulose 85% FiberGlass	15% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -25							
Analyzed By: Ivan Reyes		Color: Gray					
26	1ST FLOOR WAREHOUSE	GYPSUM WALL PAPER	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -26							
Analyzed By: Ivan Reyes		Color: Brown					
27	E. OFFICES	GYPSUM WALL PAPER	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -27							
Analyzed By: Ivan Reyes		Color: Brown					



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Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
28	E. OFFICES	GYPSUM WALL PAPER	PLM	95% Cellulose	5% Mineral Filler		
21-427 -28					0.0% Vermiculite		NONE DETECTED
Analyzed By: Ivan Reyes		Color: Brown					
29	1ST FLOOR - WAREHOUSE	GYPSUM WALL BOARD	PLM	2% Cellulose 2% FiberGlass	96% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -29							
Analyzed By: Ivan Reyes		Color: Gray					
30	E. OFFICES	GYPSUM WALL BOARD	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -30							
Analyzed By: Ivan Reyes		Color: Gray					
31	E. OFFICES	GYPSUM WALL BOARD	PLM	2% Cellulose 2% FiberGlass	96% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -31							
Analyzed By: Ivan Reyes		Color: Gray					
32	1ST FLOOR WAREHOUSE	JOINT COMPOUND ON GWB	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -32							
Analyzed By: Ivan Reyes		Color: White					
33	E. OFFICES	JOINT COMPOUND ON GWB	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -33							
Analyzed By: Ivan Reyes		Color: White					
34	E. OFFICES	JOINT COMPOUND ON GWB	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -34							
Analyzed By: Ivan Reyes		Color: White					
35	1ST FLOOR WAREHOUSE	HVAC DUCT INSULATION LEVELING	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -35							
Analyzed By: Ivan Reyes		Color: Brown/Silver					
36	E. OFFICES BY MAIN ENTRANCE DOOR	HVAC DUCT INSULATION LEVELING	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -36							
Analyzed By: Ivan Reyes		Color: Brown/Silver					
37	1ST FLOOR HALLWAY RESTROOM	HVAC DUCT INSULATION LEVELING	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-427 -37							
Analyzed By: Ivan Reyes		Color: Brown/Silver					



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
38	1ST FLOOR USM SHOP CEILING	GYPSUM CEILING PAPER	PLM	95% Cellulose	5% Mineral Filler		
21-427 -38					0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
39	1ST FLOOR USM SHOP CEILING	GYPSUM CEILING PAPER	PLM	95% Cellulose	5% Mineral Filler		
21-427 -39					0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
40	1ST FLOOR USM SHOP CEILING	GYPSUM CEILING PAPER	PLM	95% Cellulose	5% Mineral Filler		
21-427 -40					0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
41	1ST FLOOR USM SHOP CEILING	GYPSUM CEILING BOARD	PLM	2% Cellulose	96% Mineral Filler		
21-427 -41				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Gray					
Analyzed By: Ivan Reyes							
42	1ST FLOOR USM SHOP CEILING	GYPSUM CEILING BOARD	PLM	2% Cellulose	96% Mineral Filler		
21-427 -42				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Gray					
Analyzed By: Ivan Reyes							
43	1ST FLOOR USM SHOP CEILING	GYPSUM CEILING BOARD	PLM	3% Cellulose	95% Mineral Filler		
21-427 -43				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Gray					
Analyzed By: Ivan Reyes							
44	1ST FLOOR USM SHOP CEILING	CEILING JOINT COMPOUND ON GWB	PLM	Trace% Cellulose	100% Mineral Filler		
21-427 -44					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
45	1ST FLOOR USM SHOP CEILING	CEILING JOINT COMPOUND ON GWB	PLM	Trace% Cellulose	100% Mineral Filler		
21-427 -45					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
46	1ST FLOOR USM SHOP CEILING	CEILING JOINT COMPOUND ON GWB	PLM	Trace% Cellulose	100% Mineral Filler		
21-427 -46					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
47	1ST FLOOR WAREHOUSE E. OFFICE MEZZANINE	HVAC DUCT INSULATION COVER BEIGE	NOB-TEM			50.5% Organic 42.1% Residue 7.4% Carbonate	
21-427 -47					0.0% Vermiculite		NONE DETECTED
		Color: Beige					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
48	1ST FLOOR WAREHOUSE E. OFFICE MEZZANINE	HVAC DUCT INSULATION COVER BEIGE	NOB-TEM			53% Organic 41.1% Residue 5.9% Carbonate	
21-427 -48					0.0% Vermiculite		NONE DETECTED
		Color: Beige					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
49	1ST FLOOR WAREHOUSE E. OFFICE MEZZANINE	HVAC DUCT INSULATION COVER BEIGE	NOB-TEM			56.7% Organic 39.7% Residue 3.6% Carbonate	
21-427 -49					0.0% Vermiculite		NONE DETECTED
		Color: Beige					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
50	1ST FLOOR ENTRY ROOM BY USM SHOP	FIBERGLASS CEILING INSULATION BLANKET	NOB-TEM			66.4% Organic 20.3% Residue 13.3% Carbonate	
21-427 -50					0.0% Vermiculite		NONE DETECTED
		Color: Black/Brown					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
51	1ST FLOOR ENTRY ROOM BY USM SHOP	FIBERGLASS CEILING INSULATION BLANKET	NOB-TEM			74.3% Organic 20.5% Residue 5.2% Carbonate	
21-427 -51					0.0% Vermiculite		NONE DETECTED
		Color: Black/Brown					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
52	1ST FLOOR ENTRY ROOM BY USM SHOP	FIBERGLASS CEILING INSULATION BLANKET	NOB-TEM			64.2% Organic 7.9% Residue 27.9% Carbonate	
21-427 -52					0.0% Vermiculite		NONE DETECTED
		Color: Black/Brown					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
53	1ST FLOOR - LOCKER ROOM	FIBERGLASS PIPE INSULATION METAL JACKET COVERING	NOB-TEM			42.3% Organic 26.2% Residue 31.5% Carbonate	
21-427 -53					0.0% Vermiculite		NONE DETECTED
		Color: White/Black					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
54	1ST FLOOR - LOCKER ROOM	FIBERGLASS PIPE INSULATION METAL JACKET COVERING	NOB-TEM			75.5% Organic 8.9% Residue 15.6% Carbonate	
21-427 -54					0.0% Vermiculite		NONE DETECTED
		Color: White/Black					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
55	1ST FLOOR - LOCKER ROOM	FIBERGLASS PIPE INSULATION METAL JACKET COVERING	NOB-TEM			69.7% Organic 13.1% Residue 17.2% Carbonate	
21-427 -55					0.0% Vermiculite		NONE DETECTED
		Color: White/Black					
Analyzed By: Michael Gittings		Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
56	1ST FLOOR - LOCKER ROOM	MUDDIED JOINT PACKING ASSOCIATED WITH FIBERGLASS	PLM	Trace% Cellulose	35% Mineral Filler		10% Chrysotile
21-427 -56				55% FiberGlass	0.0% Vermiculite		
		Color: Off White					
Analyzed By: Ivan Reyes		Total Asbestos: 10 %					
57	1ST FLOOR - LOCKER ROOM	MUDDIED JOINT PACKING ASSOCIATED WITH FIBERGLASS					NOT ANALYZED
21-427 -57							
		Comments: Positive stop, see #56					



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
58 21-427 -58	1ST FLOOR - LOCKER ROOM	MUDDIED JOINT PACKING ASSOCIATED WITH FIBERGLASS					NOT ANALYZED
Comments: Positive stop, see #56							
59 21-427 -59	1ST FLOOR HALLWAY RESTROOM CEILING	2' X 2' CEILING TILE PAPER	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
Color: Brown Analyzed By: Ivan Reyes							
60 21-427 -60	1ST FLOOR HALLWAY RESTROOM CEILING	2' X 2' CEILING TILE PAPER	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
Color: Brown Analyzed By: Ivan Reyes							
61 21-427 -61	1ST FLOOR HALLWAY RESTROOM CEILING	2' X 2' CEILING TILE PAPER	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
Color: Brown Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: ____, Amendment Dates: ____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Ivan Reyes

Analyst:

Mei Wang

Approved by
Quality Manager:

Michael Gittings

Analyst:

Feyza Gungor

Analyst:



**ELAP
BULK ASBESTOS ANALYSIS RESULTS**

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

- ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
5. Date: 3/15/21	6. BUILDING NUMBER: 260	7. Sampling Area: 1st Floor	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL RUSH_X
			9. Comments (Field) NOB → TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
1	1	CMU mortar		1 st Floor - Sprinkler Room		
1	2	↓		1 st Floor - Hallway		
1	3	↓		1 st Floor - Warehouse		
2	4	Cementitious Plaster		1 st Floor - Sprinkler Room		
2	5	↓		↓		
2	6	↓		↓		
3	7	2x2' Ceiling Tile		1 st Floor - Lobby		
3	8	Type 1		1 st Floor - Lunch Room		
3	9	↓		1 st Floor - S. offices		
4	10	Spray on fire proofing		1 st Floor - Lobby		
4	11	on ceiling deck		1 st Floor - Conference		
4	12	metal beams		1 st Floor - men's locker room		
4	13	↓		1 st Floor - South offices		
4	14	↓		1 st Floor - South offices		
5	15	Type 2x2' ceiling tile		1 st Floor - men's		
5	16	Type 2		1 st Floor - locker room		
5	17	↓		entrance from lunch room		
6	18	2x2' Ceiling Tile Type 3		1 st Floor - Hallway		
				men's Room		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <i>Philip Carrington</i>	3/15/21	6:15 pm	<i>Michael C...</i>	3/15/21	18:15	Field
II.						Walk In
						US Mail
						Fed-Ex
III.						Other

LABORATORY INFORMATION

24. Name and Signature: <i>[Signature]</i>	25. Date 3/16/21	26. Time 1:46 pm	27. Comments (Lab) TEM: Kenya Gungor
24a. Analyzed By: <i>[Signature]</i>	3/16/21	1:46 pm	Feb 9 3/17/21
24b. Analyzed By: <i>[Signature]</i>	3/17/21	06:45	
24c. QC By:			@15-03

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ		Project Name: FIRESPRINKLER REHABILITATION		3a. ATC Project No.: 214PNPEPJ1		4a. Project Manager: R. Rivero	
2a. Project Address: (Circle One) PN <u>PE</u> PJ		3b. Task No.: 0001		4b. Inspector: PHILIP CARRINGTON			
5. Date: 3/15/21	6. BUILDING NUMBER: 260	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X_		9. Comments (Field) NOB → TEM Stop @ 1st Positive			
7. Sampling Areas: 1st Floor							

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
6	19	2x2' Ceiling Tile Type 3		1 st Floor - Hallway		
6	20	↓		1 st Floor - men's room		
7	21	Spray on Fire proofing on ceiling deck & beams		1 st Floor - Warehouse		
7	22	↓		E. offices		
7	23	↓				
7	24	↓				
7	25	↓				
8	26	Gypsum wall paper		1 st Floor - Warehouse		
8	27	↓		E. offices		
8	28	↓				
9	29	Gypsum Wall Board		1 st Floor - warehouse		
9	30	↓		E. offices		
9	31	↓				
10	32	Joint Compound on JWB		1 st Floor - Warehouse		
10	33	↓		E. offices		
10	34	↓				
11	35	HVAC Duct Insul. covering		1 st Floor warehouse		
11	36	↓		E. offices by main entrance door		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
i. Philip Carrington	3/15/21	6:15pm	Michael C. Gungor	3/15/21	18:15	Field Walk In
ii.						US Mail
iii.						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature: <i>[Signature]</i>	25. Date 3/16/21	26. Time 11:46am	27. Comments (Lab) TEM: Feiza Gungor Feb 9 3/17/21 @ 15-03
24a. Analyzed By: <i>[Signature]</i>	3/16/21	11:46am	
24b. Analyzed By: <i>[Signature]</i>	3/17/21	06:15	
24c. QC By:			

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ		Project Name: FIRESPRINKLER REHABILITATION		3a. ATC Project No.: 214PNPEPJ1		4a. Project Manager: R. Rivero	
2a. Project Address: (Circle One) PN <u>PE</u> PJ		3b. Task No.: 0001		4b. Inspector: PHILIP CARRINGTON			
5. Date: 3/15/21	6. BUILDING NUMBER: 260	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X_		9. Comments (Field) NOB → TEM Stop @ 1st Positive			
7. Sampling Areas: 260 1st Floor							

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
11	37	HVAC Duct Insul. covering		1 st Fl. Hallway Restroom		
12	38	Gypsum ceiling paper		1 st Fl. USM Shop		
12	39	↓		ceiling		
12	40	↓				
13	41	Gypsum ceiling board				
13	42	↓				
13	43	↓				
14	44	Ceiling joint compound				
14	45	↓				
14	46	↓				
15	47	HVAC Duct Insul. Cover Gage		1 st Fl. Warehouse E. Office		
15	48	↓		mezzanine		
15	49	↓				
16	50	#G7 ceiling, Insul Blanket		1 st Fl - Entry room by USM Shop		
16	51	↓				
16	52	↓				
17	53	#G7 Insul covering		1 st Fl - Locker room		
17	54	↓				

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
i. Philip Carrington	3/15/21	6:15pm	Michael C. Gungor	3/15/21	18:15	Field Walk In
ii.						US Mail
iii.						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature: <i>[Signature]</i>	25. Date 3/16/21	26. Time 11:46am	27. Comments (Lab) TEM: Feiza Gungor Feb 9 3/17/21 @ 15-03
24a. Analyzed By: <i>[Signature]</i>	3/16/21	11:46am	
24b. Analyzed By: <i>[Signature]</i>	3/17/21	06:15	
24c. QC By:			

@ 15-03



BATCH NO. 21-427

Page 4 of 4

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client: PANYNJ; Project Name: FIRESPRINKLER REHABILITATION; 3a. ATC Project No.: 214PNPEPJ1; 4a. Project Manager: R. Rivero; 4b. Inspector: PHILIP CARRINGTON; 5. Date: 3/15/21; 6. BUILDING NUMBER: 260 1st Floor; 8. Turnaround Time: STAT 24 HRS 72 HRS OTHER; 9. Comments: NOB -> TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

Table with 6 columns: Homogenous Area No., Bulk Sample ID No., Material, Thermal System, Sample Location, Material Total Qty. (LF, SF, PCS), Asbestos Content (Type & %). Includes handwritten entries for samples 17-19.

CHAIN OF CUSTODY

Table with 7 columns: Relinquished By, Date, Time, Received By, Date, Time, Method of Submittal. Includes handwritten signatures and dates.

LABORATORY INFORMATION

24. Name and Signature: [Signature]; 24a. Analyzed By: [Signature]; 24b. Analyzed By: [Signature]; 24c. QC By: [Signature]; 25. Date: 3/16/2021; 26 Time: 1:46 PM; 27. Comments (Lab): TEM: Feig G 3/17/21 @15:03



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BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ; Project Number: 214PNPEPJ1; Analysis Date: 3/16/2021; Analyst: [Signature]; Batch Number: 21-427; TEMPERATURE: 25

Field Number 1: Stereoscopic Exam (Color: Grey, Texture: G); PLM Optical Properties (Morph Extinction RI I, RI II, DS Color, Color, Pleo, Biref, Sign, Other, Identity); Asbestos Results PLM % (Chrysotile, Amosite, Other); Other Fibrous PLM % (Cellulose, Fiberglass, Other); Non Fibrous PLM % (Mineral Filler, Organic Binders, Vermiculite, Other); SM-V Point Counts (Slide 1-8, Total PT); %Asb. Or %Ver. (0/100); Method: ELAP, EPA, SCANNING OPTION; Q.C. []

Field Number 2: Stereoscopic Exam (Color: Grey, Texture: G); PLM Optical Properties; Asbestos Results PLM %; Other Fibrous PLM %; Non Fibrous PLM %; SM-V Point Counts; %Asb. Or %Ver. (0/100); Method: ELAP, EPA, SCANNING OPTION; Q.C. []

Field Number 3: Stereoscopic Exam (Color: Grey, Texture: G); PLM Optical Properties; Asbestos Results PLM %; Other Fibrous PLM %; Non Fibrous PLM %; SM-V Point Counts; %Asb. Or %Ver. (0/100); Method: ELAP, EPA, SCANNING OPTION; Q.C. []

Field Number 4: Stereoscopic Exam (Color: Brown, Texture: G); PLM Optical Properties; Asbestos Results PLM %; Other Fibrous PLM %; Non Fibrous PLM %; SM-V Point Counts; %Asb. Or %Ver. (0/200); Method: ELAP, EPA, SCANNING OPTION; Q.C. []

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8; Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite...; Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

Accreditations: NVLAP 101187-0 ELAP 10879; Microscopes: OLYMPUS BH-2 / NIKON OPTIPHOT

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427 TEMPERATURE °C 28

Accreditations: NVLAP 101187-0 ELAP 10879
Microscopes: OLYMPUS BH-2 / NIKON OPTIPHOT

Form 1: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 2: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 3: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 4: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427 TEMPERATURE °C 28

Accreditations: NVLAP 101187-0 ELAP 10879
Microscopes: OLYMPUS BH-2 / NIKON OPTIPHOT

Form 1: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 2: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 3: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 4: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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Accreditations:
NVLAP 101187-0
ELAP 10879

Microscopes:
OLYMPUS BH-2/
NIKON OPTIPHOT

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst SM Batch Number 21-427 TEMPERATURE °C 25

Field Number	13	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Green</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile	12 Cellulose	86 Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>4</u> Vermiculite <u>1</u>		Amosite	2 Fiberglass	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>		Other	Other	0 Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No				Other	
SM-V	Point Counts	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	
Required <input type="checkbox"/>	PLM			200	0	
See SM-V analysis sheet for results	NOB PLM					
Comments:						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.						

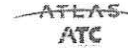
Field Number	14	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Green</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile	18 Cellulose	80 Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>4</u> Vermiculite <u>1</u>		Amosite	2 Fiberglass	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>		Other	Other	0 Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No				Other	
SM-V	Point Counts	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	
Required <input type="checkbox"/>	PLM			200	0	
See SM-V analysis sheet for results	NOB PLM					
Comments:						
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.						

Field Number	15	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>White</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile	Cellulose	0 Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>4</u> Vermiculite <u>1</u>		Amosite	Fiberglass	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>		Other	Other	0 Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No				Other	
SM-V	Point Counts	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	
Required <input type="checkbox"/>	PLM			200	0	
See SM-V analysis sheet for results	NOB PLM					
Comments:						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.						

Field Number	16	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>White</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile	Cellulose	100 Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>4</u> Vermiculite <u>1</u>		Amosite	Fiberglass	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>		Other	Other	0 Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No				Other	
SM-V	Point Counts	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	
Required <input type="checkbox"/>	PLM			200	0	
See SM-V analysis sheet for results	NOB PLM					
Comments:						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.						

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst SM Batch Number 21-427 TEMPERATURE °C 25

Field Number	17	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>White</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile	Cellulose	100 Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>4</u> Vermiculite <u>1</u>		Amosite	Fiberglass	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>		Other	Other	0 Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No				Other	
SM-V	Point Counts	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	
Required <input type="checkbox"/>	PLM			200	0	
See SM-V analysis sheet for results	NOB PLM					
Comments:						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.						

Field Number	18	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>White</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile	Cellulose	100 Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>4</u> Vermiculite <u>1</u>		Amosite	Fiberglass	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>		Other	Other	6 Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No				Other	
SM-V	Point Counts	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	
Required <input type="checkbox"/>	PLM			200	0	
See SM-V analysis sheet for results	NOB PLM					
Comments:						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.						

Field Number	19	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>White</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile	Cellulose	100 Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>4</u> Vermiculite <u>1</u>		Amosite	Fiberglass	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>		Other	Other	0 Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No				Other	
SM-V	Point Counts	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	
Required <input type="checkbox"/>	PLM			200	0	
See SM-V analysis sheet for results	NOB PLM					
Comments:						
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.						

Field Number	20	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>White</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile	Cellulose	100 Mineral Filler	
Required <input type="checkbox"/>	Homogeneity <u>4</u> Vermiculite <u>1</u>		Amosite	Fiberglass	Organic Binders	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>		Other	Other	0 Vermiculite*	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No				Other	
SM-V	Point Counts	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	
Required <input type="checkbox"/>	PLM			200	0	
See SM-V analysis sheet for results	NOB PLM					
Comments:						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.						

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427 TEMPERATURE °C 28

1	21	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Grey</u>	Texture <u>P</u>	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other	
Required <input type="checkbox"/>	Homogeneity	Vermiculite											Cellulose Ondulose Extinction		Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence					
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
See SM-V analysis sheet for results	NOB PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION											Q.C. <input type="checkbox"/>											

2	22	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Grey</u>	Texture <u>P</u>	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other	
Required <input type="checkbox"/>	Homogeneity	Vermiculite											Cellulose Ondulose Extinction		Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence					
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
See SM-V analysis sheet for results	NOB PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION											Q.C. <input type="checkbox"/>											

3	23	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Grey</u>	Texture <u>P</u>	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other	
Required <input type="checkbox"/>	Homogeneity	Vermiculite											Cellulose Ondulose Extinction		Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence					
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
See SM-V analysis sheet for results	NOB PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION											Q.C. <input type="checkbox"/>											

4	24	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Grey</u>	Texture <u>P</u>	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other	
Required <input type="checkbox"/>	Homogeneity	Vermiculite											Cellulose Ondulose Extinction		Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence					
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
See SM-V analysis sheet for results	NOB PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION											Q.C. <input type="checkbox"/>											

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
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Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427 TEMPERATURE °C 28

1	25	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Grey</u>	Texture <u>P</u>	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other	
Required <input type="checkbox"/>	Homogeneity	Vermiculite											Cellulose Ondulose Extinction		Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence					
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
See SM-V analysis sheet for results	NOB PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION											Q.C. <input type="checkbox"/>											

2	26	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Brown</u>	Texture <u>P</u>	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other	
Required <input type="checkbox"/>	Homogeneity	Vermiculite											Cellulose Ondulose Extinction		Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence					
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
See SM-V analysis sheet for results	NOB PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION											Q.C. <input type="checkbox"/>											

3	27	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Brown</u>	Texture <u>P</u>	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other	
Required <input type="checkbox"/>	Homogeneity	Vermiculite											Cellulose Ondulose Extinction		Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence					
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
See SM-V analysis sheet for results	NOB PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION											Q.C. <input type="checkbox"/>											

4	28	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Brown</u>	Texture <u>P</u>	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other	
Required <input type="checkbox"/>	Homogeneity	Vermiculite											Cellulose Ondulose Extinction		Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence					
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence			
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
See SM-V analysis sheet for results	NOB PLM											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence						
Comments:																						
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION											Q.C. <input type="checkbox"/>											

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427

Accreditations:
NVLAP 101187-0
ELAP 10879

Microscopes:
OLYMPUS BH-2T
NIKON OPTIPHOT

TEMPERATURE °C 25

1 29 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Color <u>Grey</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity											Chrysotile <u>2</u>	Cellulose <u>2</u>	Mineral Filler <u>96</u>
Gravimetric Required <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Amosite <u>2</u>	Fiberglass <u>2</u>	Organic Binders <u>0</u>	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>											Other <u>0</u>	Other <u>0</u>	Vermiculite* <u>0</u>	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
SM-V Point Counts	Slide 1 <u>1</u> Slide 2 <u>1</u> Slide 3 <u>1</u> Slide 4 <u>1</u> Slide 5 <u>1</u> Slide 6 <u>1</u> Slide 7 <u>1</u> Slide 8 <u>1</u> Asb./Ver. PT <u>0</u> Total PT <u>0</u>											%Asb. Or %Ver. <u>0</u>	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM <u>1</u>														
See SM-V analysis sheet for results	NOB PLM <u>1</u>														
Comments:															
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													<input type="checkbox"/> Q.C.		

2 30 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Color <u>Grey</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity											Chrysotile <u>3</u>	Cellulose <u>2</u>	Mineral Filler <u>95</u>
Gravimetric Required <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Amosite <u>2</u>	Fiberglass <u>2</u>	Organic Binders <u>0</u>	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>											Other <u>0</u>	Other <u>0</u>	Vermiculite* <u>0</u>	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
SM-V Point Counts	Slide 1 <u>1</u> Slide 2 <u>1</u> Slide 3 <u>1</u> Slide 4 <u>1</u> Slide 5 <u>1</u> Slide 6 <u>1</u> Slide 7 <u>1</u> Slide 8 <u>1</u> Asb./Ver. PT <u>0</u> Total PT <u>0</u>											%Asb. Or %Ver. <u>0</u>	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM <u>1</u>														
See SM-V analysis sheet for results	NOB PLM <u>1</u>														
Comments:															
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													<input type="checkbox"/> Q.C.		

3 31 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Color <u>Grey</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity											Chrysotile <u>2</u>	Cellulose <u>2</u>	Mineral Filler <u>96</u>
Gravimetric Required <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Amosite <u>2</u>	Fiberglass <u>2</u>	Organic Binders <u>0</u>	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>											Other <u>0</u>	Other <u>0</u>	Vermiculite* <u>0</u>	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
SM-V Point Counts	Slide 1 <u>1</u> Slide 2 <u>1</u> Slide 3 <u>1</u> Slide 4 <u>1</u> Slide 5 <u>1</u> Slide 6 <u>1</u> Slide 7 <u>1</u> Slide 8 <u>1</u> Asb./Ver. PT <u>0</u> Total PT <u>0</u>											%Asb. Or %Ver. <u>0</u>	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM <u>1</u>														
See SM-V analysis sheet for results	NOB PLM <u>1</u>														
Comments:															
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION													<input type="checkbox"/> Q.C.		

4 32 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Color <u>White</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity											Chrysotile <u>1</u>	Cellulose <u>1</u>	Mineral Filler <u>100</u>
Gravimetric Required <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Amosite <u>0</u>	Fiberglass <u>0</u>	Organic Binders <u>0</u>	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>											Other <u>0</u>	Other <u>0</u>	Vermiculite* <u>0</u>	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
SM-V Point Counts	Slide 1 <u>1</u> Slide 2 <u>1</u> Slide 3 <u>1</u> Slide 4 <u>1</u> Slide 5 <u>1</u> Slide 6 <u>1</u> Slide 7 <u>1</u> Slide 8 <u>1</u> Asb./Ver. PT <u>0</u> Total PT <u>0</u>											%Asb. Or %Ver. <u>0</u>	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM <u>1</u>														
See SM-V analysis sheet for results	NOB PLM <u>1</u>														
Comments:															
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION													<input type="checkbox"/> Q.C.		

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427

Accreditations:
NVLAP 101187-0
ELAP 10879

Microscopes:
OLYMPUS BH-2T
NIKON OPTIPHOT

TEMPERATURE °C 25

1 33 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Color <u>White</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity											Chrysotile <u>1</u>	Cellulose <u>1</u>	Mineral Filler <u>100</u>
Gravimetric Required <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Amosite <u>0</u>	Fiberglass <u>0</u>	Organic Binders <u>0</u>	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>											Other <u>0</u>	Other <u>0</u>	Vermiculite* <u>0</u>	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
SM-V Point Counts	Slide 1 <u>1</u> Slide 2 <u>1</u> Slide 3 <u>1</u> Slide 4 <u>1</u> Slide 5 <u>1</u> Slide 6 <u>1</u> Slide 7 <u>1</u> Slide 8 <u>1</u> Asb./Ver. PT <u>0</u> Total PT <u>0</u>											%Asb. Or %Ver. <u>0</u>	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM <u>1</u>														
See SM-V analysis sheet for results	NOB PLM <u>1</u>														
Comments:															
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													<input type="checkbox"/> Q.C.		

2 34 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Color <u>White</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity											Chrysotile <u>1</u>	Cellulose <u>1</u>	Mineral Filler <u>100</u>
Gravimetric Required <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Amosite <u>0</u>	Fiberglass <u>0</u>	Organic Binders <u>0</u>	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>											Other <u>0</u>	Other <u>0</u>	Vermiculite* <u>0</u>	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
SM-V Point Counts	Slide 1 <u>1</u> Slide 2 <u>1</u> Slide 3 <u>1</u> Slide 4 <u>1</u> Slide 5 <u>1</u> Slide 6 <u>1</u> Slide 7 <u>1</u> Slide 8 <u>1</u> Asb./Ver. PT <u>0</u> Total PT <u>0</u>											%Asb. Or %Ver. <u>0</u>	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM <u>1</u>														
See SM-V analysis sheet for results	NOB PLM <u>1</u>														
Comments:															
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													<input type="checkbox"/> Q.C.		

3 35 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Color <u>Brown/Silver</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity											Chrysotile <u>75</u>	Cellulose <u>5</u>	Mineral Filler <u>20</u>
Gravimetric Required <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Amosite <u>0</u>	Fiberglass <u>0</u>	Organic Binders <u>0</u>	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>											Other <u>0</u>	Other <u>0</u>	Vermiculite* <u>0</u>	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
SM-V Point Counts	Slide 1 <u>1</u> Slide 2 <u>1</u> Slide 3 <u>1</u> Slide 4 <u>1</u> Slide 5 <u>1</u> Slide 6 <u>1</u> Slide 7 <u>1</u> Slide 8 <u>1</u> Asb./Ver. PT <u>0</u> Total PT <u>0</u>											%Asb. Or %Ver. <u>0</u>	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM <u>1</u>														
See SM-V analysis sheet for results	NOB PLM <u>1</u>														
Comments:															
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													<input type="checkbox"/> Q.C.		

4 36 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	Color <u>Brown/Silver</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity											Chrysotile <u>75</u>	Cellulose <u>5</u>	Mineral Filler <u>20</u>
Gravimetric Required <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Amosite <u>0</u>	Fiberglass <u>0</u>	Organic Binders <u>0</u>	
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>											Other <u>0</u>	Other <u>0</u>	Vermiculite* <u>0</u>	
See gravimetric analysis sheet for results	Color of Layer <u>1</u> Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
SM-V Point Counts	Slide 1 <u>1</u> Slide 2 <u>1</u> Slide 3 <u>1</u> Slide 4 <u>1</u> Slide 5 <u>1</u> Slide 6 <u>1</u> Slide 7 <u>1</u> Slide 8 <u>1</u> Asb./Ver. PT <u>0</u> Total PT <u>0</u>											%Asb. Or %Ver. <u>0</u>	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM <u>1</u>														
See SM-V analysis sheet for results	NOB PLM <u>1</u>														
Comments:															
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													<input type="checkbox"/> Q.C.		

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ

Project Number 214PNPEPJ1

Analysis Date 3/16/2021 Analyst [Signature]

Batch Number 21-427

TEMPERATURE 25

1 Field Number 37	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Brown</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile <u>75</u>	Cellulose <u>20</u>	Mineral Filler <u>5</u>						
	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite	Fiberglass	Organic Binders						
	# of Layers <u>1</u> Asbestos <u>1</u>										Other	Other	Other						
	Color of Layer <u>1</u> Detected Yes No																		
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.							
	PLM	<u>0/0</u>										<u>0/200</u>	<u>0</u>						
	NOB PLM																		
	Comments:																		
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>																	

2 Field Number 38	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Brown</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile <u>95</u>	Cellulose <u>5</u>	Mineral Filler <u>0</u>						
	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite	Fiberglass	Organic Binders						
	# of Layers <u>1</u> Asbestos <u>1</u>										Other	Other	Other						
	Color of Layer <u>1</u> Detected Yes No																		
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.							
	PLM	<u>0/0</u>										<u>0/200</u>	<u>0</u>						
	NOB PLM																		
	Comments:																		
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>																	

3 Field Number 39	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Brown</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile <u>95</u>	Cellulose <u>5</u>	Mineral Filler <u>0</u>						
	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite	Fiberglass	Organic Binders						
	# of Layers <u>1</u> Asbestos <u>1</u>										Other	Other	Other						
	Color of Layer <u>1</u> Detected Yes No																		
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.							
	PLM	<u>0/0</u>										<u>0/200</u>	<u>0</u>						
	NOB PLM																		
	Comments:																		
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>																	

4 Field Number 40	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Brown</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile <u>95</u>	Cellulose <u>5</u>	Mineral Filler <u>0</u>						
	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite	Fiberglass	Organic Binders						
	# of Layers <u>1</u> Asbestos <u>1</u>										Other	Other	Other						
	Color of Layer <u>1</u> Detected Yes No																		
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.							
	PLM	<u>0/0</u>										<u>0/200</u>	<u>0</u>						
	NOB PLM																		
	Comments:																		
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>																	

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ

Project Number 214PNPEPJ1

Analysis Date 3/16/2021 Analyst [Signature]

Batch Number 21-427

TEMPERATURE 25

1 Field Number 41	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Grey</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile <u>2</u>	Cellulose <u>2</u>	Mineral Filler <u>96</u>						
	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite	Fiberglass	Organic Binders						
	# of Layers <u>1</u> Asbestos <u>1</u>										Other	Other	Other						
	Color of Layer <u>1</u> Detected Yes No																		
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.							
	PLM	<u>0/0</u>										<u>0/200</u>	<u>0</u>						
	NOB PLM																		
	Comments:																		
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>																	

2 Field Number 42	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Grey</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile <u>2</u>	Cellulose <u>2</u>	Mineral Filler <u>96</u>						
	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite	Fiberglass	Organic Binders						
	# of Layers <u>1</u> Asbestos <u>1</u>										Other	Other	Other						
	Color of Layer <u>1</u> Detected Yes No																		
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.							
	PLM	<u>0/0</u>										<u>0/200</u>	<u>0</u>						
	NOB PLM																		
	Comments:																		
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>																	

3 Field Number 43	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>Grey</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile <u>3</u>	Cellulose <u>2</u>	Mineral Filler <u>95</u>						
	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite	Fiberglass	Organic Binders						
	# of Layers <u>1</u> Asbestos <u>1</u>										Other	Other	Other						
	Color of Layer <u>1</u> Detected Yes No																		
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.							
	PLM	<u>0/0</u>										<u>0/200</u>	<u>0</u>						
	NOB PLM																		
	Comments:																		
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>																	

4 Field Number 44	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %		
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Color <u>White</u> Texture <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity									Chrysotile <u>4</u>	Cellulose <u>10</u>	Mineral Filler <u>86</u>						
	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite	Fiberglass	Organic Binders						
	# of Layers <u>1</u> Asbestos <u>1</u>										Other	Other	Other						
	Color of Layer <u>1</u> Detected Yes No																		
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.							
	PLM	<u>0/0</u>										<u>0/200</u>	<u>0</u>						
	NOB PLM																		
	Comments:																		
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>																	

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427 TEMPERATURE 25 °C

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %					
45	Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	White	G																						
Required	Homogeneity	Vermiculite																						
Recommended	# of Layers	Asbestos																						
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
Required	PLM											0	200	0										
See SM-V analysis sheet for results	NOB PLM																							
Comments:																								
Method:	ELAP		EPA		SCANNING OPTION										Q.C.									

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %					
46	Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	White	G																						
Required	Homogeneity	Vermiculite																						
Recommended	# of Layers	Asbestos																						
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
Required	PLM											0	200	0										
See SM-V analysis sheet for results	NOB PLM																							
Comments:																								
Method:	ELAP		EPA		SCANNING OPTION										Q.C.									

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %					
47	Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Beige	NR																						
Required	Homogeneity	Vermiculite																						
Recommended	# of Layers	Asbestos																						
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
Required	PLM											0	200	0										
See SM-V analysis sheet for results	NOB PLM																							
Comments:																								
Method:	ELAP		EPA		SCANNING OPTION										Q.C.									

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %					
48	Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Beige	NR																						
Required	Homogeneity	Vermiculite																						
Recommended	# of Layers	Asbestos																						
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
Required	PLM											0	200	0										
See SM-V analysis sheet for results	NOB PLM																							
Comments:																								
Method:	ELAP		EPA		SCANNING OPTION										Q.C.									

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.

Note #2: ELAP requires method 198.6 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ Project Number 214PNPEPJ1
Analysis Date 3/16/2021 Analyst [Signature] Batch Number 21-427 TEMPERATURE 25 °C

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %					
49	Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Beige	NR																						
Required	Homogeneity	Vermiculite																						
Recommended	# of Layers	Asbestos																						
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
Required	PLM											0	200	0										
See SM-V analysis sheet for results	NOB PLM																							
Comments:																								
Method:	ELAP		EPA		SCANNING OPTION										Q.C.									

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %					
50	Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Black/Brown	NR																						
Required	Homogeneity	Vermiculite																						
Recommended	# of Layers	Asbestos																						
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
Required	PLM											0	200	0										
See SM-V analysis sheet for results	NOB PLM																							
Comments:																								
Method:	ELAP		EPA		SCANNING OPTION										Q.C.									

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %					
51	Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Black/Brown	NR																						
Required	Homogeneity	Vermiculite																						
Recommended	# of Layers	Asbestos																						
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
Required	PLM											0	200	0										
See SM-V analysis sheet for results	NOB PLM																							
Comments:																								
Method:	ELAP		EPA		SCANNING OPTION										Q.C.									

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %					
52	Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Black/Brown	NR																						
Required	Homogeneity	Vermiculite																						
Recommended	# of Layers	Asbestos																						
See gravimetric analysis sheet for results																								



ATC Group Services LLC

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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
69	1ST FLOOR CARPETERS SHOP	CMU MORTAR	PLM	100% Mineral Filler			
21-668 -8				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Ivan Reyes							
70	1ST FLOOR PLUMBING SHOP	CMU MORTAR	PLM	100% Mineral Filler			
21-668 -9				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Ivan Reyes							
71	2ND FLOOR OFFICE SPACE	2' X 2' CEILING TILE	NOB-TEM			30.5% Organic 48.6% Residue 20.9% Carbonate	
21-668 -10				0.0% Vermiculite			NONE DETECTED
Color: White							
Analyzed By: Ivan Reyes Second Analyst: Roman Peysakhov Comments: NOB PLM Inconclusive							
72	2ND FLOOR OFFICE SPACE	2' X 2' CEILING TILE	NOB-TEM			28.7% Organic 62.5% Residue 8.8% Carbonate	
21-668 -11				0.0% Vermiculite			NONE DETECTED
Color: White							
Analyzed By: Ivan Reyes Second Analyst: Roman Peysakhov Comments: NOB PLM Inconclusive							
73	2ND FLOOR OFFICE SPACE	2' X 2' CEILING TILE	NOB-TEM			29.4% Organic 55.8% Residue 14.8% Carbonate	
21-668 -12				0.0% Vermiculite			NONE DETECTED
Color: White							
Analyzed By: Ivan Reyes Second Analyst: Roman Peysakhov Comments: NOB PLM Inconclusive							
74	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL BOARD	PLM	90% Cellulose	10% Mineral Filler		
21-668 -13				0.0% Vermiculite			NONE DETECTED
Color: Brown							
Analyzed By: Ivan Reyes							
75	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL BOARD	PLM	90% Cellulose	10% Mineral Filler		
21-668 -14				0.0% Vermiculite			NONE DETECTED
Color: Brown							
Analyzed By: Ivan Reyes							
76	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL BOARD	PLM	90% Cellulose	10% Mineral Filler		
21-668 -15				0.0% Vermiculite			NONE DETECTED
Color: Brown							
Analyzed By: Ivan Reyes							
77	2ND FLOOR OFFICE SPACE	GYPSUM BOARD WALL WALL	PLM	8% Cellulose 2% FiberGlass	90% Mineral Filler		
21-668 -16				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Ivan Reyes							
78	2ND FLOOR OFFICE SPACE	GYPSUM BOARD WALL WALL	PLM	10% Cellulose 2% FiberGlass	88% Mineral Filler		
21-668 -17				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Ivan Reyes							



ATC Group Services LLC

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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
79	2ND FLOOR OFFICE SPACE	GYPSUM BOARD WALL WALL	PLM	10% Cellulose 2% FiberGlass	88% Mineral Filler		
21-668 -18				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Ivan Reyes							
80	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -19				0.0% Vermiculite			NONE DETECTED
Color: White							
Analyzed By: Ivan Reyes							
81	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -20				0.0% Vermiculite			NONE DETECTED
Color: White							
Analyzed By: Ivan Reyes							
82	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -21				0.0% Vermiculite			NONE DETECTED
Color: White							
Analyzed By: Ivan Reyes							
83	2ND FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler		
21-668 -22				0.0% Vermiculite			NONE DETECTED
Color: Tan/Silver							
Analyzed By: Ivan Reyes							
84	2ND FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 7% FiberGlass	18% Mineral Filler		
21-668 -23				0.0% Vermiculite			NONE DETECTED
Color: Tan/silver							
Analyzed By: Ivan Reyes							
85	2ND FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 8% FiberGlass	17% Mineral Filler		
21-668 -24				0.0% Vermiculite			NONE DETECTED
Color: Tan/silver							
Analyzed By: Ivan Reyes							
86	2ND FLOOR OFFICE SPACE	SPRAYED ON FIRE PROOFING	PLM	12% Cellulose 3% FiberGlass	85% Mineral Filler		
21-668 -25				0.0% Vermiculite			NONE DETECTED
Color: Light Green							
Analyzed By: Ivan Reyes							
87	2ND FLOOR OFFICE SPACE	SPRAYED ON FIRE PROOFING	PLM	15% Cellulose 3% FiberGlass	82% Mineral Filler		
21-668 -26				0.0% Vermiculite			NONE DETECTED
Color: Light Green							
Analyzed By: Ivan Reyes							
88	2ND FLOOR OFFICE SPACE	SPRAYED ON FIRE PROOFING	PLM	12% Cellulose 3% FiberGlass	85% Mineral Filler		
21-668 -27				0.0% Vermiculite			NONE DETECTED
Color: Light Green							
Analyzed By: Ivan Reyes							



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Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
89	2ND FLOOR OFFICE SPACE	SPRAYED ON FIRE PROOFING PLM	PLM	10% Cellulose 3% FiberGlass	87% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -28							
Analyzed By: Ivan Reyes		Color: Light Green					
90	2ND FLOOR OFFICE SPACE	SPRAYED ON FIRE PROOFING PLM	PLM	12% Cellulose 3% FiberGlass	85% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -29							
Analyzed By: Ivan Reyes		Color: Light Green					
91	2ND FLOOR OFFICE @ DECK LEVEL	FIRE STOP SEALANT RED	NOB-TEM		46.7% Organic 27.5% Residue 25.8% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -30							
Analyzed By: Ivan Reyes		Color: Red Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
92	2ND FLOOR OFFICE @ DECK LEVEL	FIRE STOP SEALANT RED	NOB-TEM		46.8% Organic 25.2% Residue 28% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -31							
Analyzed By: Ivan Reyes		Color: Red Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
93	2ND FLOOR OFFICE @ DECK LEVEL	FIRE STOP SEALANT RED	NOB-TEM		49.5% Organic 22.8% Residue 27.7% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -32							
Analyzed By: Ivan Reyes		Color: Red Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
94	2ND FLOOR OFFICE SPACE SLOPE SINK	2' X 2' CEILING TILES TYPE II	NOB-TEM		26.3% Organic 33.7% Residue 40% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -33							
Analyzed By: Ivan Reyes		Color: White Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
95	2ND FLOOR OFFICE SPACE SLOPE SINK	2' X 2' CEILING TILES TYPE II	NOB-TEM		26.9% Organic 52.4% Residue 20.7% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -34							
Analyzed By: Ivan Reyes		Color: White Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
96	2ND FLOOR OFFICE SPACE SLOPE SINK	2' X 2' CEILING TILES TYPE II	NOB-TEM		27.1% Organic 57.5% Residue 15.4% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -35							
Analyzed By: Ivan Reyes		Color: White Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
97	3RD FLOOR OFFICE SPACE	2' X 2' CEILING TILE	NOB-TEM		30.2% Organic 58.2% Residue 11.6% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -36							
Analyzed By: Ivan Reyes		Color: White Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
98	3RD FLOOR OFFICE SPACE	2' X 2' CEILING TILE TYPE I	NOB-TEM		22.9% Organic 62.3% Residue 14.8% Carbonate	0.0% Vermiculite	NONE DETECTED
21-668 -37							
Analyzed By: Ivan Reyes		Color: White Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
99	3RD FLOOR OFFICE SPACE	2' X 2' CEILING TILE TYPE I	NOB-TEM			24.8% Organic 65.4% Residue 9.8% Carbonate	NONE DETECTED
21-668 -38					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: White Second Analyst: Roman Peysakhov		Comments: NOB PLM Inconclusive			
100	3RD FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 7% FiberGlass	18% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -39							
Analyzed By: Ivan Reyes		Color: Tan/Silver					
101	3RD FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 6% FiberGlass	19% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -40							
Analyzed By: Ivan Reyes		Color: Tan/Silver					
102	3RD FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 7% FiberGlass	18% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -41							
Analyzed By: Ivan Reyes		Color: Tan/Silver					
103	3RD FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	90% Cellulose	10% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -42							
Analyzed By: Ivan Reyes		Color: Brown					
104	3RD FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	90% Cellulose	10% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -43							
Analyzed By: Ivan Reyes		Color: Brown					
105	3RD FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	90% Cellulose	10% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -44							
Analyzed By: Ivan Reyes		Color: Brown					
106	3RD FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -45							
Analyzed By: Ivan Reyes		Color: Off white					
107	3RD FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	4% Cellulose 2% FiberGlass	94% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -46							
Analyzed By: Ivan Reyes		Color: Off white					
108	3RD FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	7% Cellulose 2% FiberGlass	91% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-668 -47							
Analyzed By: Ivan Reyes		Color: Off white					



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
109	3RD FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -48					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
110	3RD FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -49					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
111	3RD FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -50					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
112	3RD FLOOR OFFICE SPACE ON BEAMS	SPRAYED ON FIRE PROOFINGS	PLM	18% Cellulose	80% Mineral Filler		
21-668 -51				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Light Green					
Analyzed By: Ivan Reyes							
113	3RD FLOOR OFFICE SPACE ON BEAMS	SPRAYED ON FIRE PROOFINGS	PLM	15% Cellulose	83% Mineral Filler		
21-668 -52				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Light Green					
Analyzed By: Ivan Reyes							
114	3RD FLOOR OFFICE SPACE ON BEAMS	SPRAYED ON FIRE PROOFINGS	PLM	18% Cellulose	80% Mineral Filler		
21-668 -53				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Light Green					
Analyzed By: Ivan Reyes							
115	3RD FLOOR OFFICE SPACE ON BEAMS	SPRAYED ON FIRE PROOFINGS	PLM	20% Cellulose	78% Mineral Filler		
21-668 -54				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Light Green					
Analyzed By: Ivan Reyes							
116	3RD FLOOR OFFICE SPACE	SPRAYED ON FIRE PROOFINGS	PLM	15% Cellulose	83% Mineral Filler		
21-668 -55				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Light Green					
Analyzed By: Ivan Reyes							
117	3RD FLOOR STAIRCASE EAST	GYPSUM BOARD PAPER CEILING	PLM	90% Cellulose	10% Mineral Filler		
21-668 -56					0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
118	3RD FLOOR STAIRCASE EAST	GYPSUM BOARD PAPER CEILING	PLM	90% Cellulose	10% Mineral Filler		
21-668 -57					0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
119	3RD FLOOR STAIRCASE WEST	GYPSUM BOARD PAPER CEILING	PLM	90% Cellulose	10% Mineral Filler		
21-668 -58					0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
120	3RD FLOOR STAIRCASE EAST	GYPSUM BOARD CEILING	PLM	4% Cellulose	94% Mineral Filler		
21-668 -59				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Off White					
Analyzed By: Ivan Reyes							
121	3RD FLOOR STAIRCASE EAST	GYPSUM BOARD CEILING	PLM	3% Cellulose	95% Mineral Filler		
21-668 -60				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Off White					
Analyzed By: Ivan Reyes							
122	3RD FLOOR STAIRCASE WEST	GYPSUM BOARD CEILING	PLM	3% Cellulose	95% Mineral Filler		
21-668 -61				2% FiberGlass	0.0% Vermiculite		NONE DETECTED
		Color: Off White					
Analyzed By: Ivan Reyes							
123	3RD FLOOR STAIRCASE EAST	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -62					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
124	3RD FLOOR STAIRCASE EAST	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -63					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
125	3RD FLOOR STAIRCASE WEST	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler		
21-668 -64					0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							



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ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____. Amendments: _____. Amendment Dates: _____. Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Ivan Reyes

Analyst:

Roman Peysakhov

Analyst:

Mei Wang

Approved by

Quality Manager:

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ		Project Name: FIRESPRINKLER REHABILITATION		3a. ATC Project No.: 214PNPEPJ1		4a. Project Manager: R. Rivero	
2a. Project Address: (Circle One) PN PE PJ		3b. Task No.: 0001		4b. Inspector: PHILIP CARRINGTON			
5. Date: 4/15/21	6. BUILDING NUMBER: 200		8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X			9. Comments (Field): NOB → TEM Stop @ 1st Positive	
7. Sampling Areas:							

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location		15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
				Floor	Sample Coordinates		
20	62	2x2' CEILING PLG		1	WAREHOUSE		
20	63	TYPE I			"		
20	64	"			"		
21	65	HVAC DUCT INSULATION			LUNCH ROOM		
21	66	COVER			"		
21	67	"			"		
22	68	CRU HODRPAR			FREIGHT SHOP		
22	69	"			CARPENTER'S SHOP		
22	70	"			PLUMBER'S SHOP		
23	71	2x2' CEILING PLG		2	OFFICE SPACE		
23	72	"			"		
23	73	"			"		
24	74	GYPSON BOARD					
24	75	PAPER					
24	76	WALL					
25	77	GYPSON BOARD					
25	78	WALL			OCBY		
25	79	WALL					

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
Philip Carrington	4/15/21	1:30pm	Evelyn Ely	4/15/21	1:35	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
Ivan Reyes	4/15/21	2:37pm	
24a. Analyzed By:	4/16/21	7:42am	
24b. Analyzed By: Rina Neri			
24c. QC By:			

TEM & R. Rivero 4/16/21 10:40

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ		Project Name: FIRESPRINKLER REHABILITATION		3a. ATC Project No.: 214PNPEPJ1		4a. Project Manager: R. Rivero	
2a. Project Address: (Circle One) PN PE PJ		3b. Task No.: 0001		4b. Inspector: PHILIP CARRINGTON			
5. Date: 4/15/21	6. BUILDING NUMBER: 200		8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X			9. Comments (Field): NOB → TEM Stop @ 1st Positive	
7. Sampling Areas:							

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location		15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
				Floor	Sample Coordinates		
26	80	JOINT COMPOUND		2	OFFICE SPACE		
26	81	"			"		
26	82	"			"		
27	83	HVAC DUCT			"		
27	84	INSULATION			"		
27	85	COVER			"		
28	86	SPRAYED ON			"		
28	87	FIRE PROOFING			"		
28	88	"			"		
28	89	"			"		
28	90	"			"		
29	91	FIRE STOP			DECK LEVEL		
29	92	SEALANT			"		
29	93	RED			"		
30	94	2x2' CEILING PLG			SCOPE SINK		
30	95	TYPE II			"		
30	96	"			"		
31	97	2x2' CEILING PLG		3	OFFICE SPACE		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
Philip Carrington	4/15/21	1:30pm	Evelyn Ely	4/15/21	1:35	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
Ivan Reyes	4/15/21	2:37pm	
24a. Analyzed By:	4/16/21	7:42am	
24b. Analyzed By: Rina Neri			
24c. QC By:			

TEM & R. Rivero 4/16/21 10:40

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: <u>4/15/21</u>	6. BUILDING NUMBER: <u>260</u>	8. Turnaround Time: <input type="checkbox"/> STAT <input type="checkbox"/> 24 HRS <input type="checkbox"/> 72 HRS <input type="checkbox"/> OTHER <input type="checkbox"/> 6 HRS <input type="checkbox"/> 48 HRS <input type="checkbox"/> NORMAL <input checked="" type="checkbox"/> RUSH_X	9. Comments (Field) NOB → TEM Stop @ 1 st Positive
2a. Project Address: (Circle One) PN PE PJ		3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
7. Sampling Areas: <u>260</u>			

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
31	98	2x2' CEILING POP		3 OFFICE SPACE		
31	99	TYPE I				
32	100	FNAC DUCT				
32	101	INSULATION				
32	102	COVER				
33	103	GYPSON BOARD				
33	104	PAPER -				
33	105	WALL				
34	106	GYPSON BOARD				
34	107	WALL				
34	108	"				
35	109	JOINT COMPOUND				
35	110	"				
35	111	"				
36	112	SPRAYED ON		ON PLASTER WALL		
36	113	FIREPROOFING		"		
36	114	"		"		
36	115	"		"		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
<u>Philip Carrington</u>	<u>4/15/21</u>	<u>1:30pm</u>	<u>E. Lopez E. G.</u>	<u>4/15/2021</u>	<u>13:35</u>	Field
ii.						Walk In
iii.						US Mail
						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
<u>Isaac Reyes</u>	<u>4/15/2021</u>	<u>2:37pm</u>	
24a. Analyzed By:			
24b. Analyzed By: <u>PLM NORS: Isaac Reyes</u>	<u>4/16/2021</u>	<u>7:42am</u>	
24c. QC By:			

TEM & RPS presence RPS 4/16/21 10:20

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: <u>4/15/21</u>	6. BUILDING NUMBER: <u>260</u>	8. Turnaround Time: <input type="checkbox"/> STAT <input type="checkbox"/> 24 HRS <input type="checkbox"/> 72 HRS <input type="checkbox"/> OTHER <input type="checkbox"/> 6 HRS <input type="checkbox"/> 48 HRS <input type="checkbox"/> NORMAL <input checked="" type="checkbox"/> RUSH_X	9. Comments (Field) NOB → TEM Stop @ 1 st Positive
2a. Project Address: (Circle One) PN PE PJ		3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
7. Sampling Areas: <u>260</u>			

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
36	116	SPRAYED ON FIREPROOFING		3 OFFICE SPACE		
37	117	GYPSON BOARD		STAIRCASE EAST		
37	118	PAPER CEILING		"		
37	119	"		WEST		
38	120	GYPSON BOARD		EAST		
38	121	CEILING		EAST		
38	122	"		WEST		
39	123	JOINT COMPOUND		EAST		
39	124	"		EAST		
39	125	"		WEST		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
<u>Philip Carrington</u>	<u>4/15/21</u>	<u>1:30pm</u>	<u>E. Lopez E. G.</u>	<u>4/15/2021</u>	<u>13:35</u>	Field
ii.						Walk In
iii.						US Mail
						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
<u>Isaac Reyes</u>	<u>4/15/2021</u>	<u>2:37pm</u>	
24a. Analyzed By:			
24b. Analyzed By: <u>PLM NORS: Isaac Reyes</u>	<u>4/16/2021</u>	<u>7:42am</u>	
24c. QC By:			

TEM & RPS presence RPS 4/16/21 10:20

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ/ FIRESPRINKLER REHAB Project Number: 214PNPEPJ1
Analysis Date: 4/15/2021 Analyst: [Signature] Batch Number: 21-668 TEMPERATURE: 25

Form 62: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 63: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 64: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 65: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Method: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 820/R-93-116 ELAP Items 198.1, 198.4, 198.6, 198.8
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires method ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
ELAP, FORMS, DOCUMENTS AND RECORDS OPTICAL ASBESTOS, BULK ASBESTOS ANALYSIS SHEET, FORM #62 01/15/2021 REV. 03 BY MEI WANG FORM #62

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ/ FIRESPRINKLER REHAB Project Number: 214PNPEPJ1
Analysis Date: 4/15/2021 Analyst: [Signature] Batch Number: 21-668 TEMPERATURE: 25

Form 66: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 67: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 68: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 69: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Method: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 820/R-93-116 ELAP Items 198.1, 198.4, 198.6, 198.8
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires method ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
ELAP, FORMS, DOCUMENTS AND RECORDS OPTICAL ASBESTOS, BULK ASBESTOS ANALYSIS SHEET, FORM #62 01/15/2021 REV. 03 BY MEI WANG FORM #62

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEP11
Analysis Date 4/15/2021 Analyst [Signature] Batch Number 21-668 TEMPERATURE 25

Field Number 70	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color <u>Grey</u>	Texture <u>G</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Recommended <input type="checkbox"/>	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>																				
See gravimetric analysis sheet for results	# of Layers <u>15</u>	Asbestos <u>Y</u>																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM																					
See SM-V analysis sheet for results	NOB PLM																					
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																						

Field Number 71	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color <u>White</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Recommended <input type="checkbox"/>	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>																				
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM																					
See SM-V analysis sheet for results	NOB PLM																					
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																						

Field Number 72	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color <u>White</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Recommended <input type="checkbox"/>	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>																				
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM																					
See SM-V analysis sheet for results	NOB PLM																					
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																						

Field Number 73	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color <u>White</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Recommended <input type="checkbox"/>	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>																				
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM																					
See SM-V analysis sheet for results	NOB PLM																					
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																						

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 620/R-93/116
ELAP Items 195.1, 195.4, 195.6, 195.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires method ELAP 198.1 followed by ELAP 198.8. This method has limitations for identification and quantization of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 195.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
ELAP FORMS, DOCUMENTS AND RECORDS OPTICAL ASBESTOS BULK ANALYSIS SHEET (FORM 467) AND BULK ASBESTOS ANALYSIS SHEET (FORM 468) EFFECTIVE DATE 01/15/2021 REVISION 423 BY MEL WANG / CHM VEV

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEP11
Analysis Date 4/15/2021 Analyst [Signature] Batch Number 21-668 TEMPERATURE 25

Field Number 74	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color <u>Brown</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Recommended <input type="checkbox"/>	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>																				
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM																					
See SM-V analysis sheet for results	NOB PLM																					
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																						

Field Number 75	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color <u>Brown</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Recommended <input type="checkbox"/>	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>																				
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM																					
See SM-V analysis sheet for results	NOB PLM																					
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																						

Field Number 76	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color <u>Brown</u>	Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Recommended <input type="checkbox"/>	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>																				
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM																					
See SM-V analysis sheet for results	NOB PLM																					
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																						

Field Number 77	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color <u>Grey</u>	Texture <u>G</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other
Recommended <input type="checkbox"/>	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>																				
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>																				
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.										
Required <input type="checkbox"/>	PLM																					
See SM-V analysis sheet for results	NOB PLM																					
Comments:																						
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																						

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 620/R-93/116
ELAP Items 195.1, 195.4, 195.6, 195.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires method ELAP 198.1 followed by ELAP 198.8. This method has limitations for identification and quantization of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 195.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
ELAP FORMS, DOCUMENTS AND RECORDS OPTICAL ASBESTOS BULK ANALYSIS SHEET (FORM 467) AND BULK ASBESTOS ANALYSIS SHEET (FORM 468) EFFECTIVE DATE 01/15/2021 REVISION 423 BY MEL WANG / CHM VEV

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ/ FIRESPRINKLER REHAB Project Number: 214PNPEPJ1
Analysis Date: 4/15/2021 Analyst: [Signature] Batch Number: 21-668 TEMPERATURE: 28

Form 78: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 79: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 80: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 81: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing >10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantitation of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.6 for the analysis of surfacing material containing vermiculite (SM-V) and utilizes a 400 point count method.
ATC EFFECTIVE DATE 01/15/2021 REVISION 035 BY MJL WANG FORM #82

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ/ FIRESPRINKLER REHAB Project Number: 214PNPEPJ1
Analysis Date: 4/15/2021 Analyst: [Signature] Batch Number: 21-668 TEMPERATURE: 28

Form 82: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 83: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 84: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 85: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing >10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantitation of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.6 for the analysis of surfacing material containing vermiculite (SM-V) and utilizes a 400 point count method.
ATC EFFECTIVE DATE 01/15/2021 REVISION 035 BY MJL WANG FORM #82

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ / FIRESPRINKLER REHAB

Project Number 214PNPEPJ1

Analysis Date 4/15/2021

Analyst

Batch Number 21-668

TEMPERATURE 25

Accreditation:
NYLAP 101187-3
ILAP 10079
Microscopy:
OLYMPUS BH-2
NIKON OPTIPHOT

Field Number: 86	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color: Lt. green	Texture: F	Morph	Extinction	RI I	RI II	DS Color	Color, Pico	Biref	Sign	Other	Identity	Chrysotile	12 Cellulose	85 Mineral Filler	
Recommended <input type="checkbox"/>	Homogeneity: 4	Vermiculite											Amosite	3 Fiberglass	0 Organic Binders	
See gravimetric analysis sheet for results	# of Layers: 1	Asbestos											Other	0 Other	0 Vermiculite*	
Color of Layer: Detected	Yes	No														
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Ash/Ver. PT	Total PT	%Asb. Or %Ver.				
See SM-V analysis sheet for results	PLM	0/0								0/200	0					
Comments:																
Method:	<input checked="" type="checkbox"/> ELAP		<input type="checkbox"/> EPA		<input type="checkbox"/> SCANNING OPTION		<input type="checkbox"/> Q.C.									

Field Number: 87	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color: Lt. green	Texture: F	Morph	Extinction	RI I	RI II	DS Color	Color, Pico	Biref	Sign	Other	Identity	Chrysotile	12 Cellulose	82 Mineral Filler	
Recommended <input type="checkbox"/>	Homogeneity: 4	Vermiculite											Amosite	3 Fiberglass	0 Organic Binders	
See gravimetric analysis sheet for results	# of Layers: 1	Asbestos											Other	0 Other	0 Vermiculite*	
Color of Layer: Detected	Yes	No														
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Ash/Ver. PT	Total PT	%Asb. Or %Ver.				
See SM-V analysis sheet for results	PLM	0/0								0/200	0					
Comments:																
Method:	<input checked="" type="checkbox"/> ELAP		<input type="checkbox"/> EPA		<input type="checkbox"/> SCANNING OPTION		<input type="checkbox"/> Q.C.									

Field Number: 88	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color: Lt. green	Texture: F	Morph	Extinction	RI I	RI II	DS Color	Color, Pico	Biref	Sign	Other	Identity	Chrysotile	12 Cellulose	85 Mineral Filler	
Recommended <input type="checkbox"/>	Homogeneity: 4	Vermiculite											Amosite	3 Fiberglass	0 Organic Binders	
See gravimetric analysis sheet for results	# of Layers: 1	Asbestos											Other	0 Other	0 Vermiculite*	
Color of Layer: Detected	Yes	No														
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Ash/Ver. PT	Total PT	%Asb. Or %Ver.				
See SM-V analysis sheet for results	PLM	0/0								0/200	0					
Comments:																
Method:	<input checked="" type="checkbox"/> ELAP		<input type="checkbox"/> EPA		<input type="checkbox"/> SCANNING OPTION		<input type="checkbox"/> Q.C.									

Field Number: 89	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color: Lt. green	Texture: F	Morph	Extinction	RI I	RI II	DS Color	Color, Pico	Biref	Sign	Other	Identity	Chrysotile	10 Cellulose	87 Mineral Filler	
Recommended <input type="checkbox"/>	Homogeneity: 4	Vermiculite											Amosite	3 Fiberglass	0 Organic Binders	
See gravimetric analysis sheet for results	# of Layers: 1	Asbestos											Other	0 Other	0 Vermiculite*	
Color of Layer: Detected	Yes	No														
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Ash/Ver. PT	Total PT	%Asb. Or %Ver.				
See SM-V analysis sheet for results	PLM	0/0								0/200	0					
Comments:																
Method:	<input checked="" type="checkbox"/> ELAP		<input type="checkbox"/> EPA		<input type="checkbox"/> SCANNING OPTION		<input type="checkbox"/> Q.C.									

Method:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 800R-95-118
ELAP Items 198.1, 198.4, 198.6, 198.9

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires method ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 199.6 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 count method
LAB FORMS DOCUMENTS AND RECORDS/OPTICAL/ASBESTOS_BULK_ANALYSIS_SHEET_BULK_ANALYSIS_SHEET_2020/BULK ASBESTOS ANALYSIS SHEET, FORM APO 492
ATC CH LCTIVE DATE 01/10/2021 REVISION 933 BY MB WANG FORM 492

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ / FIRESPRINKLER REHAB

Project Number 214PNPEPJ1

Analysis Date 4/15/2021

Analyst

Batch Number 21-668

TEMPERATURE 25

Accreditation:
NYLAP 101187-3
ILAP 10079
Microscopy:
OLYMPUS BH-2
NIKON OPTIPHOT

Field Number: 90	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color: Lt. green	Texture: F	Morph	Extinction	RI I	RI II	DS Color	Color, Pico	Biref	Sign	Other	Identity	Chrysotile	12 Cellulose	85 Mineral Filler	
Recommended <input type="checkbox"/>	Homogeneity: 4	Vermiculite											Amosite	3 Fiberglass	0 Organic Binders	
See gravimetric analysis sheet for results	# of Layers: 1	Asbestos											Other	0 Other	0 Vermiculite*	
Color of Layer: Detected	Yes	No														
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Ash/Ver. PT	Total PT	%Asb. Or %Ver.				
See SM-V analysis sheet for results	PLM	0/0								0/200	0					
Comments:																
Method:	<input checked="" type="checkbox"/> ELAP		<input type="checkbox"/> EPA		<input type="checkbox"/> SCANNING OPTION		<input type="checkbox"/> Q.C.									

Field Number: 91	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color: Red	Texture: NF	Morph	Extinction	RI I	RI II	DS Color	Color, Pico	Biref	Sign	Other	Identity	Chrysotile	12 Cellulose	10 Mineral Filler	
Recommended <input type="checkbox"/>	Homogeneity: 4	Vermiculite											Amosite	3 Fiberglass	0 Organic Binders	
See gravimetric analysis sheet for results	# of Layers: 1	Asbestos											Other	0 Other	0 Vermiculite*	
Color of Layer: Detected	Yes	No														
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Ash/Ver. PT	Total PT	%Asb. Or %Ver.				
See SM-V analysis sheet for results	PLM	0/0								0/200	0					
Comments:																
Method:	<input checked="" type="checkbox"/> ELAP		<input type="checkbox"/> EPA		<input type="checkbox"/> SCANNING OPTION		<input type="checkbox"/> Q.C.									

Field Number: 92	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color: Red	Texture: NF	Morph	Extinction	RI I	RI II	DS Color	Color, Pico	Biref	Sign	Other	Identity	Chrysotile	12 Cellulose	10 Mineral Filler	
Recommended <input type="checkbox"/>	Homogeneity: 4	Vermiculite											Amosite	3 Fiberglass	0 Organic Binders	
See gravimetric analysis sheet for results	# of Layers: 1	Asbestos											Other	0 Other	0 Vermiculite*	
Color of Layer: Detected	Yes	No														
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Ash/Ver. PT	Total PT	%Asb. Or %Ver.				
See SM-V analysis sheet for results	PLM	0/0								0/200	0					
Comments:																
Method:	<input checked="" type="checkbox"/> ELAP		<input type="checkbox"/> EPA		<input type="checkbox"/> SCANNING OPTION		<input type="checkbox"/> Q.C.									

Field Number: 93	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric Required <input type="checkbox"/>	Color: Red	Texture: NF	Morph	Extinction	RI I	RI II	DS Color	Color, Pico	Biref	Sign	Other	Identity	Chrysotile	12 Cellulose	10 Mineral Filler	
Recommended <input type="checkbox"/>	Homogeneity: 4	Vermiculite											Amosite	3 Fiberglass	0 Organic Binders	
See gravimetric analysis sheet for results	# of Layers: 1	Asbestos											Other	0 Other	0 Vermiculite*	
Color of Layer: Detected	Yes	No														
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Ash/Ver. PT	Total PT	%Asb. Or %Ver.				
See SM-V analysis sheet for results	PLM	0/0								0/200	0					
Comments:																
Method:	<input checked="" type="checkbox"/> ELAP		<input type="checkbox"/> EPA		<input type="checkbox"/> SCANNING OPTION		<input type="checkbox"/> Q.C.									

Method:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix F to Subpart F of Part 763
EPA 800R-95-118
ELAP Items 198.1, 198.4, 198.6, 198.9

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires method ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 199.6 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 count method
LAB FORMS DOCUMENTS AND RECORDS/OPTICAL/ASBESTOS_BULK_ANALYSIS_SHEET_BULK_ANALYSIS_SHEET_2020/BULK ASBESTOS ANALYSIS SHEET, FORM APO 492
ATC EFFECTIVE DATE 01/10/2021 REVISION 933 BY MB WANG FORM 492

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / FIRESPRINKLER REHAB
Project Number: 214PNPEP11
Analysis Date: 4/15/2021 Analyst: [Signature]
Batch Number: 21-668

TEMPERATURE: 28

Form 94: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 95: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 96: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 97: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / FIRESPRINKLER REHAB
Project Number: 214PNPEP11
Analysis Date: 4/15/2021 Analyst: [Signature]
Batch Number: 21-668

TEMPERATURE: 28

Form 98: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 99: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 100: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 101: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Inorganic Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 820/R-03-010 ELAP forms 101.1, 101.4, 101.5, 101.6

Note #1: ELAP requires method ELAP 199.1 for the analysis of samples containing >10% vermiculite... Note #2: ELAP requires method 189.6 for the analysis of surfacing material containing vermiculite (SM-V) and utilizes a 400 point count method.

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Inorganic Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 820/R-03-010 ELAP forms 101.1, 101.4, 101.5, 101.6

Note #1: ELAP requires method ELAP 199.1 for the analysis of samples containing >10% vermiculite... Note #2: ELAP requires method 189.6 for the analysis of surfacing material containing vermiculite (SM-V) and utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / FIRESPRINKLER REHAB

Project Number: 214PNPEPJ1

Analysis Date: 4/15/2021

Analyst: [Signature]

Batch Number: 21-668

TEMPERATURE: 25

Field 102: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes gravimetric and SEM-V analysis sections.

Field 103: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes gravimetric and SEM-V analysis sections.

Field 104: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes gravimetric and SEM-V analysis sections.

Field 105: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes gravimetric and SEM-V analysis sections.

Methods: EPA Inform Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 800/R-93/115 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 199.1 for the analysis of samples containing <10% vermiculite... Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / FIRESPRINKLER REHAB

Project Number: 214PNPEPJ1

Analysis Date: 4/15/2021

Analyst: [Signature]

Batch Number: 21-668

TEMPERATURE: 25

Field 106: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes gravimetric and SEM-V analysis sections.

Field 107: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes gravimetric and SEM-V analysis sections.

Field 108: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes gravimetric and SEM-V analysis sections.

Field 109: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM%, Other Fibrous PLM%, Non Fibrous PLM%. Includes gravimetric and SEM-V analysis sections.

Methods: EPA Inform Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 800/R-93/115 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 199.1 for the analysis of samples containing <10% vermiculite... Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / FIRESPRINKLER REHAB

Project Number: 214PNPEPJ1

Analysis Date: 4/15/2021

Analyst: [Signature]

Batch Number: 21-668

TEMPERATURE: 25

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
110	Color: White Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/> Homogeneity: Verrucite # of Layers: Asbestos Color of Layer: Detected Yes No	Map: Extinction RI1 RI2 DS Color Color, Pleo Biref Sign Other Identity Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite Other
SM-V	Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Ash/Ver. PT Total PT %Asb. Or %Ver.	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
111	Color: White Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/> Homogeneity: Verrucite # of Layers: Asbestos Color of Layer: Detected Yes No	Map: Extinction RI1 RI2 DS Color Color, Pleo Biref Sign Other Identity Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite Other
SM-V	Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Ash/Ver. PT Total PT %Asb. Or %Ver.	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
112	Color: Lt-green Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/> Homogeneity: Verrucite # of Layers: Asbestos Color of Layer: Detected Yes No	Map: Extinction RI1 RI2 DS Color Color, Pleo Biref Sign Other Identity Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite Other
SM-V	Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Ash/Ver. PT Total PT %Asb. Or %Ver.	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
113	Color: Lt-green Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/> Homogeneity: Verrucite # of Layers: Asbestos Color of Layer: Detected Yes No	Map: Extinction RI1 RI2 DS Color Color, Pleo Biref Sign Other Identity Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite Other
SM-V	Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Ash/Ver. PT Total PT %Asb. Or %Ver.	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Methods:
-HA Intern Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 800/R-93/116
ELAP Items 198.1, 198.4, 198.5, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires method ELAP 198.1 followed by ELAP 198.8. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 199.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

ATC FORMS DOCUMENTS AND RECORDS/OPTICAL/ASBESTOS_BULK/ASBESTOS_BULK FORMS/2020/BULK ASBESTOS ANALYSIS BULK FORM #62.dwg
ATC EFFCTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #62

BULK ASBESTOS ANALYSIS SHEET

Client / Project: PANYNJ / FIRESPRINKLER REHAB

Project Number: 214PNPEPJ1

Analysis Date: 4/15/2021

Analyst: [Signature]

Batch Number: 21-668

TEMPERATURE: 25

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
114	Color: Lt-green Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/> Homogeneity: Verrucite # of Layers: Asbestos Color of Layer: Detected Yes No	Map: Extinction RI1 RI2 DS Color Color, Pleo Biref Sign Other Identity Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite Other
SM-V	Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Ash/Ver. PT Total PT %Asb. Or %Ver.	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
115	Color: Lt-green Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/> Homogeneity: Verrucite # of Layers: Asbestos Color of Layer: Detected Yes No	Map: Extinction RI1 RI2 DS Color Color, Pleo Biref Sign Other Identity Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite Other
SM-V	Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Ash/Ver. PT Total PT %Asb. Or %Ver.	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
116	Color: Lt-green Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/> Homogeneity: Verrucite # of Layers: Asbestos Color of Layer: Detected Yes No	Map: Extinction RI1 RI2 DS Color Color, Pleo Biref Sign Other Identity Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite Other
SM-V	Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Ash/Ver. PT Total PT %Asb. Or %Ver.	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
117	Color: Brown Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/> Homogeneity: Verrucite # of Layers: Asbestos Color of Layer: Detected Yes No	Map: Extinction RI1 RI2 DS Color Color, Pleo Biref Sign Other Identity Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite Other
SM-V	Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Ash/Ver. PT Total PT %Asb. Or %Ver.	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>					

Methods:
EPA Intern Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 800/R-93/116
ELAP Items 198.1, 198.4, 198.5, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires method ELAP 198.1 followed by ELAP 198.8. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 199.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

ATC FORMS DOCUMENTS AND RECORDS/OPTICAL/ASBESTOS_BULK/ASBESTOS_BULK FORMS/2020/BULK ASBESTOS ANALYSIS BULK FORM #62.dwg
ATC EFFCTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #62

BULK ASBESTOS ANALYSIS SHEET

Client / Project **PANYNJ/ FIRESPRINKLER REHAB**

Project Number **214PNPEP11**

Analysis Date **4/15/2021** Analyst **[Signature]**

Batch Number **21-668**

TEMPERATURE **28**

1	118	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
Gravimetric	Color	Brown		Morph	Extinction	RI	RI	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	70	Cellulose	10	Mineral Filler			
Required	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders			
Recommended	# of Layers	Asbestos												Other		Other		Vermiculite*		Other	
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												Cellulose Ocululose Extinction		Fiberglass Isotropic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
Required	PLM	0/0												0/200		0					
See SM-V analysis sheet for results	NOB PLM																				
Comments:																					
Method:	ELAP		EPA		SCANNING OPTION		Q.C.														

2	119	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
Gravimetric	Color	Brown		Morph	Extinction	RI	RI	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	70	Cellulose	10	Mineral Filler			
Required	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders			
Recommended	# of Layers	Asbestos												Other		Other		Vermiculite*		Other	
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												Cellulose Ocululose Extinction		Fiberglass Isotropic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
Required	PLM	0/0												0/200		0					
See SM-V analysis sheet for results	NOB PLM																				
Comments:																					
Method:	ELAP		EPA		SCANNING OPTION		Q.C.														

3	120	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
Gravimetric	Color	White		Morph	Extinction	RI	RI	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	4	Cellulose	99	Mineral Filler			
Required	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders			
Recommended	# of Layers	Asbestos												Other		Other		Vermiculite*		Other	
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												Cellulose Ocululose Extinction		Fiberglass Isotropic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
Required	PLM	0/0												0/200		0					
See SM-V analysis sheet for results	NOB PLM																				
Comments:																					
Method:	ELAP		EPA		SCANNING OPTION		Q.C.														

4	121	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
Gravimetric	Color	White		Morph	Extinction	RI	RI	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	3	Cellulose	95	Mineral Filler			
Required	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders			
Recommended	# of Layers	Asbestos												Other		Other		Vermiculite*		Other	
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												Cellulose Ocululose Extinction		Fiberglass Isotropic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
Required	PLM	0/0												0/200		0					
See SM-V analysis sheet for results	NOB PLM																				
Comments:																					
Method:	ELAP		EPA		SCANNING OPTION		Q.C.														

Methods:
 -FA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
 EPA 800/R-93/115
 ELAP Items 198.1, 198.4, 198.6, 198.9

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing >10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
 Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
 ELAP FORMS, DOCUMENTS AND RECORDS OPTICAL ASBESTOS, BULK ASBESTOS ANALYSIS SHEET, FORM #32.doc
 ATC EFFECTIVE DATE 01/15/2021 REVISION #33 BY MEI WANG FORM #32

BULK ASBESTOS ANALYSIS SHEET

Client / Project **PANYNJ/ FIRESPRINKLER REHAB**

Project Number **214PNPEP11**

Analysis Date **4/15/2021** Analyst **[Signature]**

Batch Number **21-668**

TEMPERATURE **28**

1	122	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
Gravimetric	Color	White		Morph	Extinction	RI	RI	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	3	Cellulose	95	Mineral Filler			
Required	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders			
Recommended	# of Layers	Asbestos												Other		Other		Vermiculite*		Other	
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												Cellulose Ocululose Extinction		Fiberglass Isotropic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
Required	PLM	0/0												0/200		0					
See SM-V analysis sheet for results	NOB PLM																				
Comments:																					
Method:	ELAP		EPA		SCANNING OPTION		Q.C.														

2	123	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
Gravimetric	Color	White		Morph	Extinction	RI	RI	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	4	Cellulose	100	Mineral Filler			
Required	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders			
Recommended	# of Layers	Asbestos												Other		Other		Vermiculite*		Other	
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												Cellulose Ocululose Extinction		Fiberglass Isotropic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
Required	PLM	0/0												0/200		0					
See SM-V analysis sheet for results	NOB PLM																				
Comments:																					
Method:	ELAP		EPA		SCANNING OPTION		Q.C.														

3	124	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
Gravimetric	Color	White		Morph	Extinction	RI	RI	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	4	Cellulose	100	Mineral Filler			
Required	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders			
Recommended	# of Layers	Asbestos												Other		Other		Vermiculite*		Other	
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												Cellulose Ocululose Extinction		Fiberglass Isotropic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
Required	PLM	0/0												0/200		0					
See SM-V analysis sheet for results	NOB PLM																				
Comments:																					
Method:	ELAP		EPA		SCANNING OPTION		Q.C.														

4	125	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %			
Gravimetric	Color	White		Morph	Extinction	RI	RI	DS Color	Color, Pleo	Biref	Sign	Other	Identify	Chrysotile	4	Cellulose	100	Mineral Filler			
Required	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders			
Recommended	# of Layers	Asbestos												Other		Other		Vermiculite*		Other	
See gravimetric analysis sheet for results	Color of Layer	Detected Yes No												Cellulose Ocululose Extinction		Fiberglass Isotropic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence	
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.									
Required	PLM	0/0												0/200		0					
See SM-V analysis sheet for results	NOB PLM																				
Comments:																					
Method:	ELAP		EPA		SCANNING OPTION		Q.C.														

Methods:
 -FA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
 EPA 800/R-93/115
 ELAP Items 198.1, 198.4, 198.6, 198.9

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing >10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
 Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
 ELAP FORMS, DOCUMENTS AND RECORDS OPTICAL ASBESTOS, BULK ASBESTOS ANALYSIS SHEET, FORM #32.doc
 ATC EFFECTIVE DATE 01/15/2021 REVISION #33 BY MEI WANG FORM #32



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH NOB PLM Analyst: IR NOB TEM PREP: SH PLM Batch # 21-668 TEM Batch # 122990 Start Date: 04/15/21
NOB PLM PREP: SAEV NOB PLM Analyst: IR NOB TEM PREP: SH NOB TEM Analyst: RP Date Completed: 04/16/21

Field #	5 % Organic	11 Non-Asb Residue % NFR	12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
						PREP	PLM	TEM
62	29.1	60.4	10.5	ND		✓	✓	✓
63	28.6	59.2	12.2	ND		✓	✓	✓
64	26.5	61.7	11.8	ND		✓	✓	✓
71	30.5	48.6	20.9	ND		✓	✓	✓
72	28.7	62.5	8.8	ND		✓	✓	✓
73	29.4	55.8	14.8	ND		✓	✓	✓
91	46.7	27.6	25.8	ND		✓	✓	✓
92	46.8	25.2	28.0	ND		✓	✓	✓
93	49.5	22.8	27.7	ND		✓	✓	✓
94	26.3	33.7	40.0	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
2. Refer to PLM analysis sheet for NOB results and/or point count data.
3. Vermiculite not reported = not detected.



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

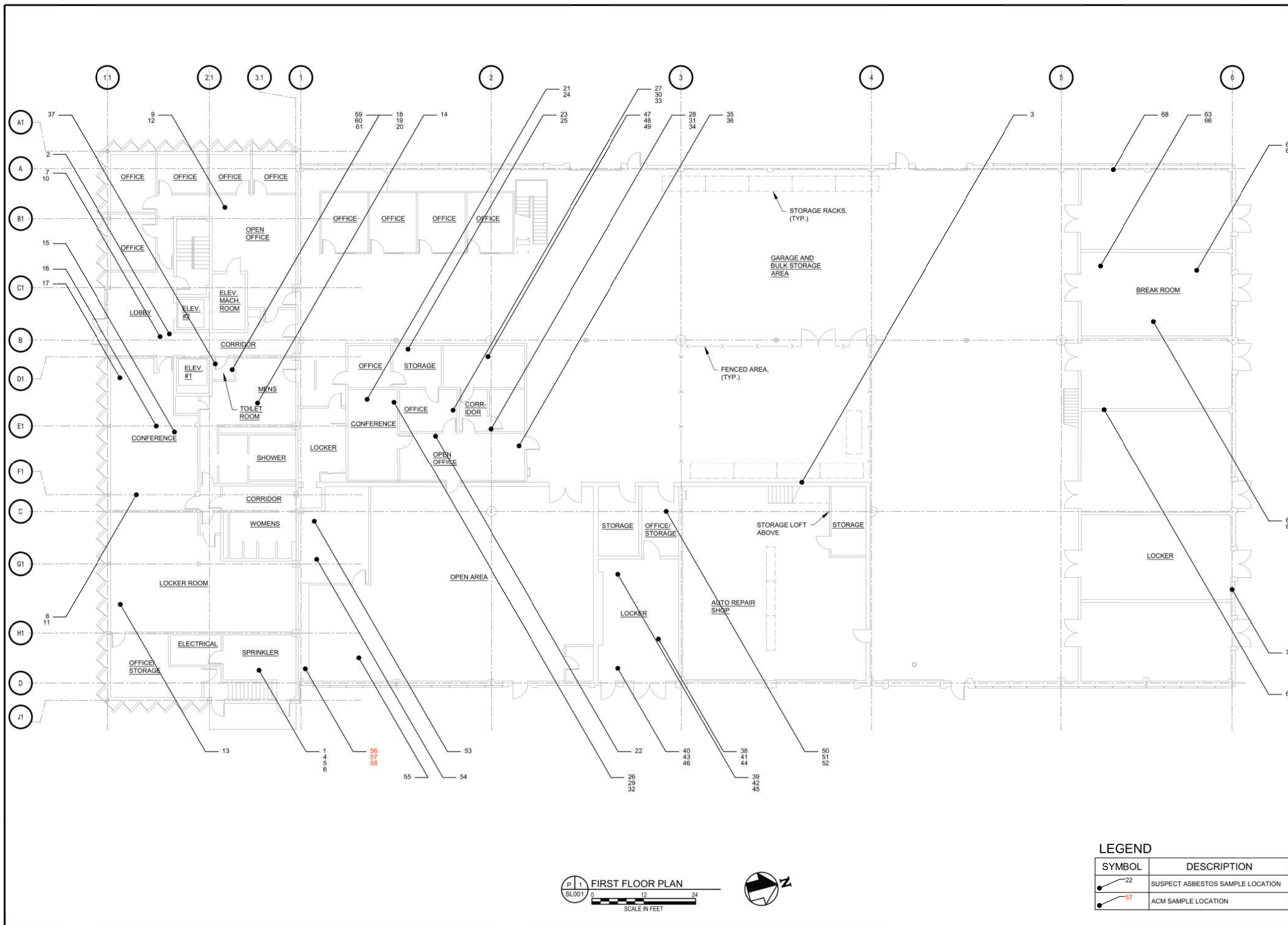
Client/Project: PANYNJ RUSH NOB PLM Analyst: IR NOB TEM PREP: SH PLM Batch # 21-668 TEM Batch # 122990 Start Date: 04/15/21
NOB PLM PREP: SAEV NOB PLM Analyst: IR NOB TEM PREP: SH NOB TEM Analyst: RP Date Completed: 04/16/21

Field #	5 % Organic	11 Non-Asb Residue % NFR	12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
						PREP	PLM	TEM
95	26.9	52.4	20.7	ND		✓	✓	✓
96	27.1	57.5	15.4	ND		✓	✓	✓
97	30.2	58.2	11.6	ND		✓	✓	✓
98	22.9	62.3	14.8	ND		✓	✓	✓
99	24.8	65.4	9.8	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
2. Refer to PLM analysis sheet for NOB results and/or point count data.
3. Vermiculite not reported = not detected.

APPENDIX B
ASBESTOS SAMPLE LOCATION DRAWINGS

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

**NEW JERSEY
MARINE TERMINAL
PORT NEWARK**

ENVIRONMENTAL

Title

NEW JERSEY PORTS
ASBESTOS SURVEY

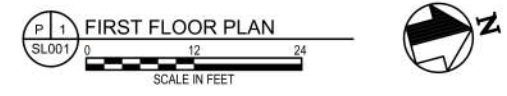
**BUILDING 260
FIRST FLOOR
SAMPLE LOCATION PLAN
SAMPLES 1 TO 70**

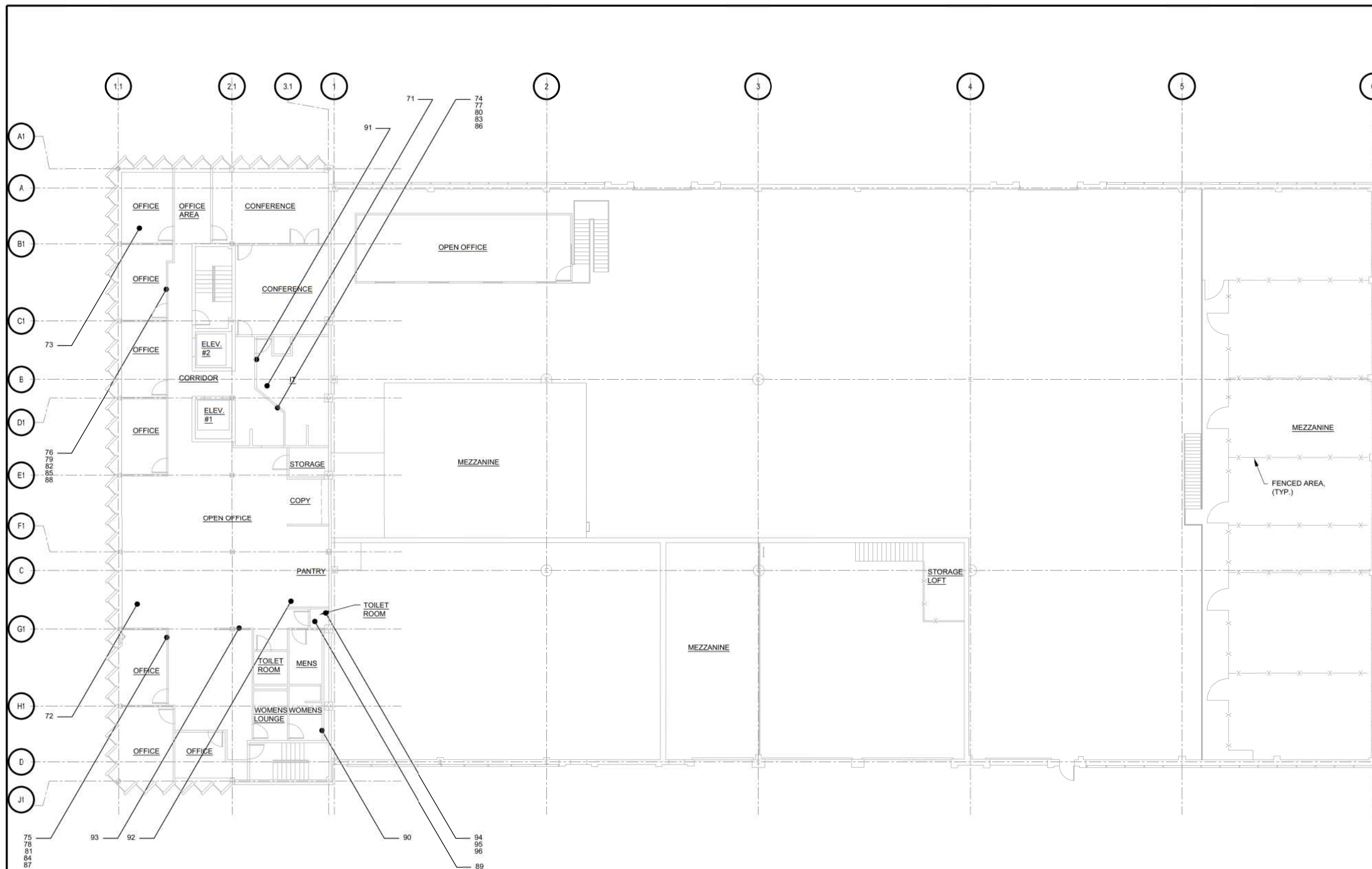
This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "Altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by **R.RIVERO**
 Drawn by **E.MILKIS**
 Checked by
 Date **07/01/2021**
 Contract Number
 Drawing Number **SL001**

LEGEND

SYMBOL	DESCRIPTION
—22	SUSPECT ASBESTOS SAMPLE LOCATION
—56, 57, 58	ACM SAMPLE LOCATION





No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 260
SECOND FLOOR
SAMPLE LOCATION PLAN
SAMPLES 71 TO 96

This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by E.MILKIS
Checked by
Date 07/01/2021

Contract Number

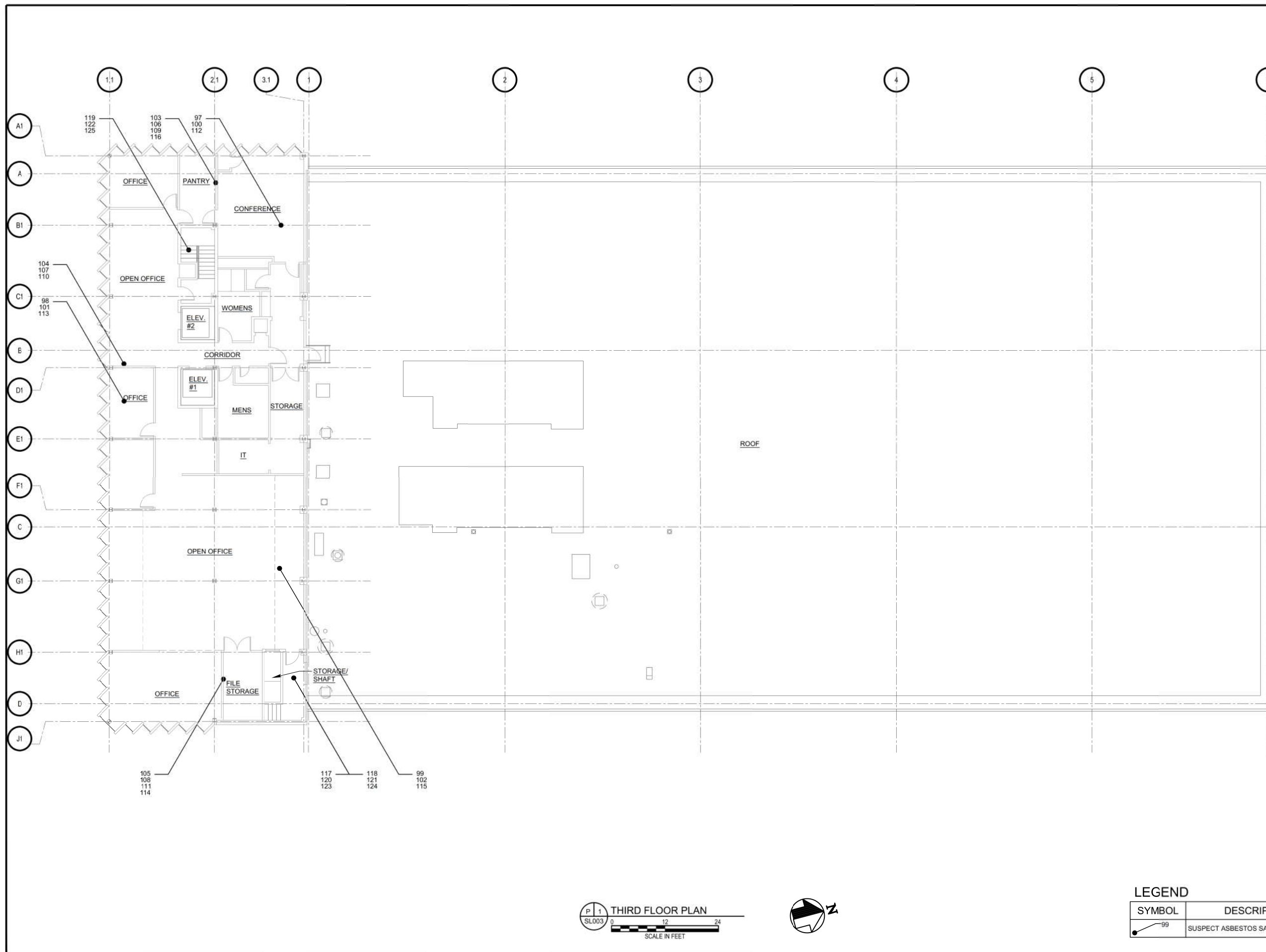
Drawing Number **SL002**

P 1 SECOND FLOOR PLAN
SL002
SCALE IN FEET



LEGEND

SYMBOL	DESCRIPTION
●-77	SUSPECT ASBESTOS SAMPLE LOCATION



No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title

NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 260
THIRD FLOOR
SAMPLE LOCATION PLAN
SAMPLES 97 TO 125

This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
 Drawn by E.MILKIS
 Checked by
 Date 07/01/2021
 Contract Number
 Drawing Number **SL003**

LEGEND

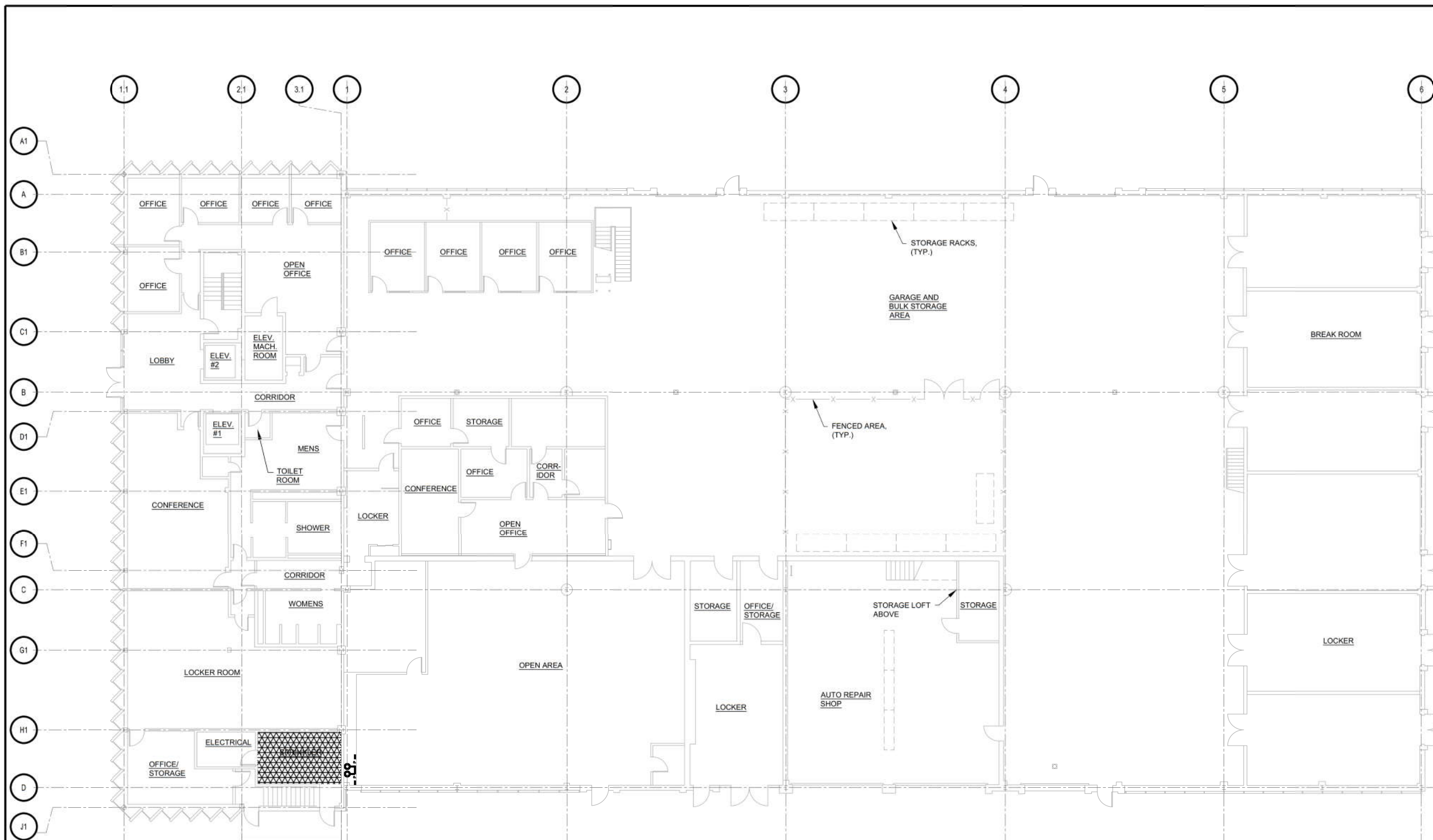
SYMBOL	DESCRIPTION
●-99	SUSPECT ASBESTOS SAMPLE LOCATION

P 1 THIRD FLOOR PLAN
 SL003
 SCALE IN FEET



APPENDIX C
ASBESTOS LOCATION DRAWINGS

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

**NEW JERSEY
MARINE TERMINAL
PORT NEWARK**

ENVIRONMENTAL

Title

NEW JERSEY PORTS
ASBESTOS SURVEY

**BUILDING 260
FIRST FLOOR
ACM LOCATION PLAN**

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Designed by R.RIVERO
 Drawn by E.MILKIS
 Checked by
 Date 07/01/2021

Contract Number
 Drawing Number **ACM001**

LEGEND

SYMBOL	DESCRIPTION
	ASBESTOS CONTAINING PIPE FITTING INSULATION ASSOCIATED WITH FIBERGLASS PIPE INSULATION
	FLANGE & VALVE GASKETS (PACM)



APPENDIX D

**LAB CERTIFICATIONS AND ACCREDITATIONS, COMPANY
AND PERSONNEL CERTIFICATIONS**

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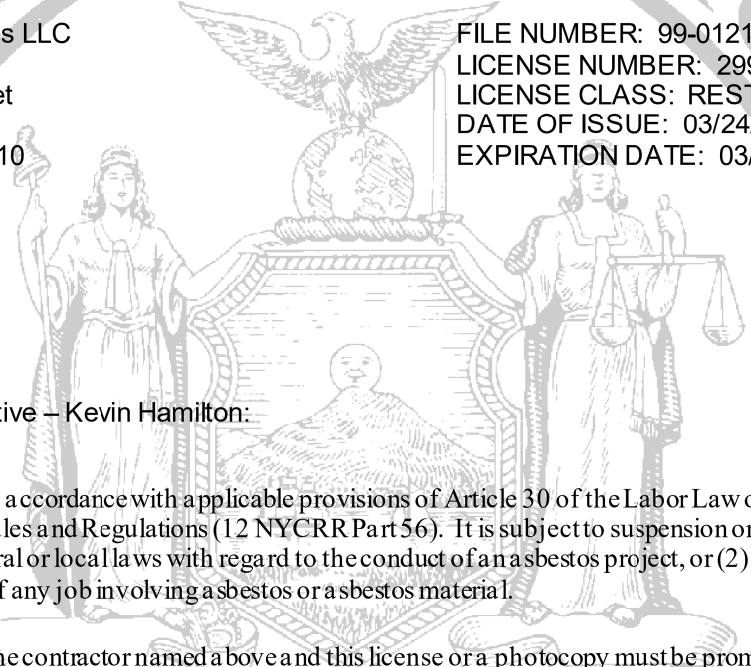
New York State – Department of Labor

Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

ATC Group Services LLC
10th Floor
104 East 25th Street
New York, NY 10010

FILE NUMBER: 99-0121
LICENSE NUMBER: 29902
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 03/24/2021
EXPIRATION DATE: 03/31/2022



Duly Authorized Representative – Kevin Hamilton:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or a asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

SH 432 (8/12)

**NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER**

Expires 12:01 AM April 01, 2021
Issued April 01, 2020



CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2003) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos

EPA 100.2



Serial No.: 61221

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.





Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

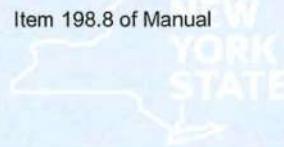
MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos in Friable Material Item 198.1 of Manual
EPA 600/M4/82/020
- Asbestos in Non-Friable Material-PLM Item 198.6 of Manual (NOB by PLM)
- Asbestos in Non-Friable Material-TEM Item 198.4 of Manual
- Asbestos-Vermiculite-Containing Material Item 198.8 of Manual



Department
of Health

Serial No.: 61222

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Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos 40 CFR 763 APX A No. III
NIOSH 7402
- Fibers NIOSH 7400 A RULES



Department
of Health

Serial No.: 61223

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos EPA 100.2

Serial No.: 62824

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual

Serial No.: 62825

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

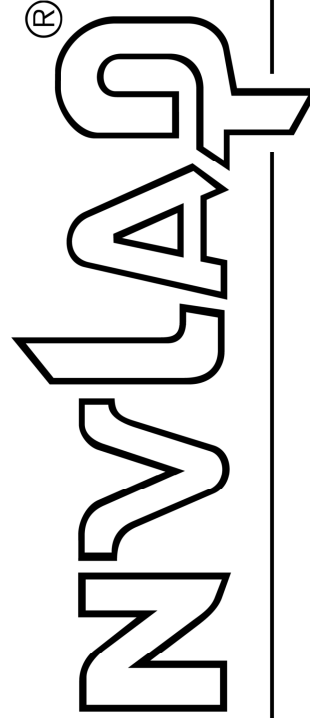
Miscellaneous
Asbestos
Fibers

40 CFR 763 APX A No. III
NIOSH 7402
NIOSH 7400 A RULES

Serial No.: 62826

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United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101187-0

ATC Group Services LLC
New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).

2020-07-01 through 2021-06-30

Effective Dates



For the National Voluntary Laboratory Accreditation Program



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ATC Group Services LLC
 104 E. 25th Street 8th Floor
 New York, NY 10010
 Ms. Milena Bonezzi
 Phone: 212-353-8280 x247 Fax: 212-353-8306
 Email: milena.bonezzi@atcgs.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101187-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR Part 763 Subpart E Appendix A

[Signature]
 For the National Voluntary Laboratory Accreditation Program



AIHA
 Laboratory Accreditation Programs, LLC
AIHA Laboratory Accreditation Programs, LLC
acknowledges that
ATC Group Services LLC
 104 East 25th St 8th Flr New York, NY 10010
 Laboratory ID: LAP-100229

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS	
<input checked="" type="checkbox"/>	INDUSTRIAL HYGIENE Accreditation Expires: November 01, 2021
<input type="checkbox"/>	ENVIRONMENTAL LEAD Accreditation Expires:
<input type="checkbox"/>	ENVIRONMENTAL MICROBIOLOGY Accreditation Expires:
<input type="checkbox"/>	FOOD Accreditation Expires:
<input type="checkbox"/>	UNIQUE SCOPES Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

[Signature]
 Cheryl O. Morton
 Managing Director, AIHA Laboratory Accreditation Programs, LLC

[Signature]
 Elizabeth Bair
 Chairperson, Analytical Accreditation Board



AIHA Laboratory Accreditation Programs, LLC SCOPE OF ACCREDITATION

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

Issue Date: 08/30/2019

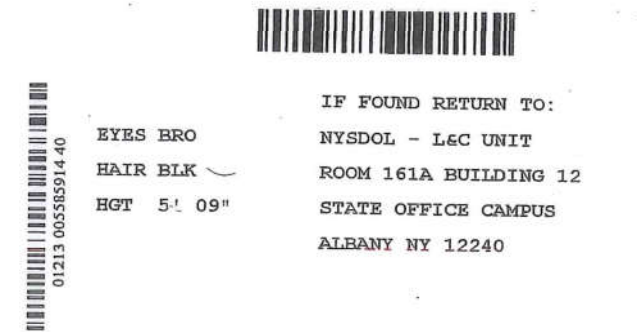
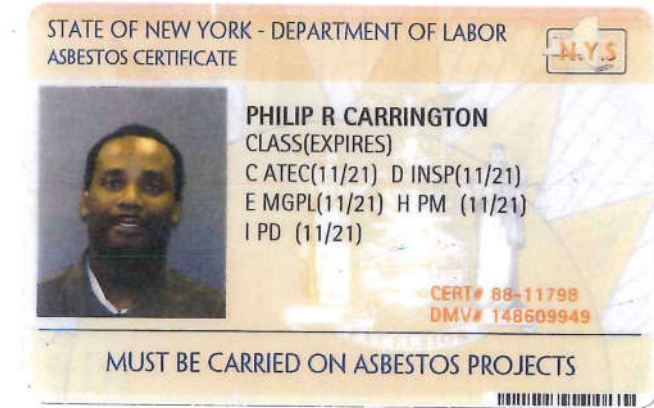
The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 06/12/1995

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400 Modified	-

A complete listing of currently accredited IHLAP laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE




NANCY B GUEVARA
CLASS(EXPIRES)
C ATEC(05/21) D INSP(05/21)
H PM (05/21) I PD (05/21)

CERT# 14-00412
DMV# 234032668

MUST BE CARRIED ON ASBESTOS PROJECTS





01213 005585171 14

EYES BRO
HAIR BRO
HGT 5' 06"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

RONEY D RIVERO
CLASS(EXPIRES)
C ATEC(08/21) D INSP(08/21)
E MGPL(08/21) H PM (08/21)
I PD (08/21)

CERT# 88-06348
DMV# 955602641

MUST BE CARRIED ON ASBESTOS PROJECTS



01213 005581057 61

EYES BRO
HAIR GRY
HGT 5' 11"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240



**NJMT REHABILITATION OF FIRE PROTECTION
SYSTEMS PN, EP, & PJ**

**ASBESTOS INSPECTION REPORT
PORT NEWARK, BUILDING #263**

Performed for:

**PORT NEWARK
NEWARK, NEW JERSEY**

Prepared for:

**THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY**

Prepared by:

**ATC GROUP SERVICES LLC
104 EAST 25TH STREET
NEW YORK, NEW YORK 10010
(212) 353-8280**

ATC Project No: 214PNPEPJ1

July 2, 2021



104 East 25th Street
8th Floor
New York, New York 10010
Telephone 212-353-8280
Fax 212-353-8306

July 2, 2021

Robert Pruno, P.E.
Chief Environmental Engineer
Port Authority of New York & New Jersey
Engineering Design Division
4 World Trade Center, Floor 20
New York, NY, 10006

Subject: Inspection Report for Asbestos-Containing Materials

**Re: Port Newark, Building #263
263 Marlin Street
Newark, NJ 07114
NJMT Rehabilitation of Fire Protection Systems**

Dear Mr. Pruno:

ATC Group Services LLC (ATC) has completed the inspection for Asbestos-Containing Materials (ACM) for the proposed work at the above referenced site. The inspection included visual observation, material sampling, laboratory analysis and development of asbestos abatement plans. The attached report presents our inspection procedures, findings, assessments and recommendations along with the pertinent appendices.

ATC appreciates this opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

Roney D. Rivero
Senior Project Manager
for ATC Group Services LLC
Direct Line +1 212 284 0614
Email: roney.rivero@atcgs.com

Attachments

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 BUILDING DESCRIPTION.....	2
3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS	2
4.0 ACM INSPECTION SCOPE.....	3
5.0 ACM INSPECTION RESULTS	4
6.0 PCB-IN-CAULKING INSPECTION FINDINGS	5
7.0 UNIVERSAL WASTE OBSERVATION	5
8.0 CONCLUSIONS AND RECOMMENDATIONS	5
9.0 ASSUMPTIONS AND LIMITATIONS.....	6

APPENDICES

Appendix A: ACM Laboratory Results and Chain of Custodies

Appendix B: Asbestos Sample Location Drawings

Appendix C: ACM Location Drawings

Appendix D: Lab Certifications / Accreditations, Company and Personnel Certifications

EXECUTIVE SUMMARY

On February 26, 2021 and April 8, 2021, ATC completed the inspection for ACM at Port Newark, Building #263 (the Site). The survey was conducted at the request of Port Authority of New York and New Jersey (PANYNJ) in preparation for the Rehabilitation of Fire Protection Systems Project. ATC utilized drawings provided by PANYNJ delineating the areas that will be impacted by the renovation project.

ATC collected thirty-six (36) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, five (5) sampled homogeneous areas were found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content). In addition, one (1) non-ACM homogeneous area, marked with an asterisk (*), should be treated as ACM due to its association/proximity with ACM within the same location.

The materials that tested positive for asbestos are:

- Aircell Pipe Insulation (3" OD)
- Elbow Insulation associated with Aircell Pipe Insulation
- Wrapped Cardboard Pipe Insulation (3" OD)
- Mudded Joint Fitting Insulation associated with Wrapped Cardboard Pipe Insulation *
- Packing Insulation at Ceiling Penetration for 8" OD Pipes (East Side)
- Packing Insulation at Ceiling Penetration for 8" OD Pipes (West Side)

These materials are tabulated in Section 4.0.

ATC did not observed or sampled any suspect PCB-containing Caulking at the time of the inspection.

1.0 INTRODUCTION

The intent of this survey was to locate and identify all accessible ACM, and PCBs in caulking within the referenced structure that could potentially be impacted by the proposed Fire Sprinkler Rehabilitation Project.

The environmental survey was conducted by the following personnel who hold certifications from the New York State Department of Labor as Asbestos Inspectors, and the Environmental Protection Agency as Lead Risk Assessors.

Inspector's Name	Certification Number	ACM/LCP
Philip R. Carrington	AH-88-11798	ACM
Nancy Guevara	AH-14-00412	ACM
Roney D. Rivero	AH-88-06348	ACM

2.0 BUILDING DESCRIPTION

The New Jersey Port Newark Building 263 is a single-story steel frame warehouse which measures approximately 161 ft. by 634 ft. in plan. Most of the building is being used as a general cargo warehouse and sustain heavy forklift traffic. A portion of the building is used as a factory for light manufacturing. The floor in the warehouse is bituminous concrete and in the factory area the floor is plywood. The girders support steel roof purlins which support the corrugated metal roof decking. The building's height varies from approximately a minimum of 26 ft. at the north and south sides to 40 ft. at the ridge. A concrete masonry firewall divides the building into east and west portions. Several modular office structures exist in the building and are occupied by various tenants.

3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogeneous area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos.

Bulk samples of suspect ACM were analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Methods 198.1 and 198.6 as specified in the Environmental Laboratory Approval Program (ELAP) Certification Manual. Method 198.1 is used for friable ACM and Method 198.6 is used for non-friable ACM.

For non-friable materials such as mastic, caulking, etc., Method 198.6 requires that any result of 1-percent or less be reanalyzed by Method 198.4. This Method utilizes Transmission Electron Microscopy (TEM) to determine asbestos content. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) Non-friable Organically Bound (NOB) sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

The laboratory performing both these analysis procedures was ATC, located at 104 East 25th Street, New York, New York. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101187-0)
- New York State Environmental Laboratory Approval Program (Lab No. 10879)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 100229)

4.0 ACM INSPECTION SCOPE

ATC conducted the walkthrough of Port Newark building 260 on August 11, 2020 to understand typical building layouts and systems on buildings that are similar in lay out and use. Based on the findings of the walkthrough, ATC conducted an asbestos inspection of Port Newark Building 263 on February 26, 2021 and April 8, 2021 and collected thirty-six (36) bulk samples from all suspect asbestos-containing material. The areas inspected included only areas that may be impacted by the proposed Fire Sprinkler Rehabilitation Project at this location. The intent of this survey was to locate and identify all accessible ACM.

The following twelve (12) homogeneous materials inspected and sampled for ACM during the inspections were:

Suspect Material	Location
1' X 1' Ceiling Tile	1 st Floor – Office Space
Gypsum Board	1 st Floor – Office Space & Kitchen
CMU Wall Mortar	1 st Floor – Office Space Women's Bathroom
Aircell Pipe Insulation (3" OD)	1 st Floor – Office Space & Kitchen
Elbow Insulation associated with Aircell Pipe Insulation	1 st Floor – Office Space Kitchen

Wrapped Cardboard Pipe Insulation (3" OD)	1 st Floor – Bathroom in Warehouse Area (Open Building Space)
Mudded Joint Fitting Insulation associated with Wrapped Cardboard Pipe Insulation	1 st Floor – Bathroom in Warehouse Area (Open Building Space)
CMU Wall Mortar	1 st Floor Sprinkler Room East Side
Packing Insulation at Ceiling Penetration around 8" OD Pipes	1 st Floor East Side Sprinkler Room Ceiling
Packing Insulation at Ceiling Penetration around 8" OD Pipes	1 st Floor West Side Sprinkler Room Ceiling
Tectum Ceiling Board	1 st Floor - Warehouse Bathroom
Wall Blanket Insulation	1 st Floor - Warehouse Dividing Wall

5.0 ACM INSPECTION RESULTS

Based upon visual inspection and analytical results of bulk samples collected, **the following materials are asbestos-containing (> 1%)**:

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
10-12	Aircell Pipe Insulation (3" OD)	33% Chrysotile	20 LF	ACM001
13-15	Elbow Insulation associated with Aircell Pipe Insulation	50% Chrysotile	10 LF	ACM001
16-18	Wrapped Cardboard Pipe Insulation (3" OD)	12% Chrysotile	12 LF	ACM001
19-21	Mudded Joint Fitting Insulation associated with Wrapped Cardboard Pipe Insulation *	*	6 LF	ACM001
25-27	Packing Insulation at Ceiling Penetration around 8" OD Pipes	67% Chrysotile	3 SF	ACM001
28-30	Packing Insulation at Ceiling Penetration around 8" OD Pipes	67% Chrysotile	3 SF	ACM002

* This homogeneous area should be treated as ACM due to its association/proximity with ACM within the same location.

The following materials are presumed to be asbestos-containing material (PACM)

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
N/A	Flange & Valve Gaskets - 2 Sprinkler Rooms	PACM	50 Units	ACM001 & ACM02

ACM laboratory results are included in Appendix A. Asbestos Sample Location Plans are included in Appendix B. Asbestos Location Plans are included in Appendix C.

6.0 PCB-IN-CAULKING INSPECTION FINDINGS

ATC did not observe or sample any suspect PCB-containing Caulking at the time of the inspection

7.0 UNIVERSAL WASTE INVENTORY

ATC conducted a visual inspection of the light fixtures at the site to document Universal Waste, defined in Title 40, CFR Part 273. During the inspection at the site, it was observed the presence of fluorescent lamps, high intensity discharge (HID) lamps and ballasts.

It was assumed that lamp ballasts/capacitors contain PCBs and/or Di-Ethylhexyl Phthalate (DEHP); therefore, if removal is necessary it should be disposed of as PCB wastes as per 40 CFR Part 761.

8.0 CONCLUSIONS AND RECOMMENDATIONS

ATC collected thirty-six (36) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, five (5) sampled homogeneous areas were found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content). In addition, one (1) homogeneous area, marked with an asterisk (*), should be treated as ACM due to its association/proximity with ACM within the same location.

The materials that tested positive for asbestos at Building 263 include the following:

- Aircell Pipe Insulation (3" OD)
- Elbow Insulation associated with Aircell Pipe Insulation
- Wrapped Cardboard Pipe Insulation (3" OD)
- Mudded Joint Fitting Insulation Associated with Wrapped Cardboard Pipe Insulation *
- Packing Insulation at Ceiling Penetration around 8" OD Pipes (East Side)
- Packing Insulation at Ceiling Penetration around 8" OD Pipes (West Side)

ATC did not observe or sample any suspect PCB-containing caulking at the time of the inspection.

Various types of painted surfaces such as sprinkler pipes, gypsum board ceilings and walls, CMU walls, and roof decking have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 263, located in Newark, New Jersey.

Various types of light fixtures (fluorescent lamps, high intensity discharge (HID) lamps and ballasts) have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 263 located in Newark, New Jersey.

The materials reported in Section 5.0 of this report would require abatement, removal and disposal prior to sprinkler system renovation due to the proximity to the sprinkler pipe system.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted at the time of the inspection. The valve gaskets inside the pipe flanges could not be tested since the sprinkler system is still operational. It is assumed, based on the number of flanges observed, that there are 25 gaskets in each sprinkler room. There are 2 sprinkler rooms in this building, so it is assumed there are 50 gaskets that are presumed to be asbestos containing. This quantity should be verified with destructive sampling if abatement is planned prior to any renovation work.

If questions arise regarding asbestos content in building materials that were not tested by ATC, additional testing services should be procured to test those areas.

This report is intended for the sole use of the PANYNJ. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations contained herein is at the risk of said user.

END OF REPORT

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ATC Group Services LLC

104 E. 25th Street, 8th Floor
 New York, NY 10010
 Tel. 212-353-8280
 Fax: 212-353-8306

Client: ATC - NEW YORK
 104 EAST 25TH STREET
 NEW YORK , NY 10010
Fax: (212) 353-3599 **Phone:** (212) 353-8280
Project: PANYNJ / FIRESPRINKLER REHABILITATION

Sample Date: 2/26/2021
Date Received : 3/1/2021
Date Analyzed : 3/2/2021
ATC Batch # 21-226

Methods: ELAP 198.1, 198.6, 198.4

Location: PN - BUILDING 263
Project # 214PNPEPJ1/TASK0001

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type
1	1ST FLOOR OFFICE SPACE	1" X 1" CEILING TILE	NOB-TEM			31% Organic 52.5% Residue 16.5% Carbonate	NONE DETECTED
21-226 -1					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: Tan	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive			
2	1ST FLOOR OFFICE SPACE	1" X 1" CEILING TILE	NOB-TEM			29.3% Organic 48.1% Residue 22.6% Carbonate	NONE DETECTED
21-226 -2					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: Tan	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive			
3	1ST FLOOR OFFICE SPACE	1" X 1" CEILING TILE	NOB-TEM			30.5% Organic 54.8% Residue 14.7% Carbonate	NONE DETECTED
21-226 -3					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: Tan	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive			
4	1ST FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	5% Cellulose Trace% FiberGlass	95% Mineral Filler		NONE DETECTED
21-226 -4					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: White					
5	1ST FLOOR OFFICE SPACE (KITCHEN)	GYPSUM BOARD	PLM	4% Cellulose Trace% FiberGlass	96% Mineral Filler		NONE DETECTED
21-226 -5					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: White					
6	1ST FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	5% Cellulose Trace% FiberGlass	95% Mineral Filler		NONE DETECTED
21-226 -6					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: White					
7	1ST FLOOR OFFICE WOMEN'S BATHROOM	CMU MORTAR	PLM		100% Mineral Filler		NONE DETECTED
21-226 -7					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: Grey					

APPENDIX A

ACM LABORATORY RESULTS AND CHAIN OF CUSTODIES



ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
8	1ST FLOOR OFFICE WOMEN'S BATHROOM	CMU MORTAR	PLM	100% Mineral Filler			
21-226 -8				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Michael Gittings							
9	1ST FLOOR OFFICE WOMEN'S BATHROOM	CMU MORTAR	PLM	100% Mineral Filler			
21-226 -9				0.0% Vermiculite			NONE DETECTED
Color: Gray							
Analyzed By: Michael Gittings							
10	1ST FLOOR OFFICE WOMEN'S BATHROOM	AIR CELL PIPE INSULATION 3"	PLM	20% Cellulose Trace% FiberGlass	47% Mineral Filler 0.0% Vermiculite		33% Chrysotile
21-226 -10							
Color: Tan							
Analyzed By: Michael Gittings							
Total Asbestos: 33 %							
11	1ST FLOOR OFFICE WOMEN'S BATHROOM	AIR CELL PIPE INSULATION 3"					
21-226 -11							NOT ANALYZED
Comments: Positive stop, see #10							
12	1ST FLOOR OFFICE KITCHEN AREA	AIR CELL PIPE INSULATION 3"					
21-226 -12							NOT ANALYZED
Comments: Positive stop, see #10							
13	1ST FLOOR OFFICE WOMEN'S BATHROOM	ELBOW INSULATION ASSOCIATED WITH AIRCELL PIPE INSULATION	PLM	50% Mineral Filler			50% Chrysotile
21-226 -13				0.0% Vermiculite			
Color: Gray							
Analyzed By: Michael Gittings							
Total Asbestos: 50 %							
14	1ST FLOOR OFFICE WOMEN'S BATHROOM	ELBOW INSULATION ASSOCIATED WITH AIRCELL PIPE INSULATION					
21-226 -14							NOT ANALYZED
Comments: Positive stop, see #13							
15	1ST FLOOR OFFICE KITCHEN AREA	ELBOW INSULATION ASSOCIATED WITH AIRCELL PIPE INSULATION					
21-226 -15							NOT ANALYZED
Comments: Positive stop, see #13							
16	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	WRAPPED CARD BOARD PIPE INSULATION	PLM	90% Cellulose	10% Mineral Filler		
21-226 -16				0.0% Vermiculite			NONE DETECTED
Color: Tan							
Analyzed By: Michael Gittings							
17	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	WRAPPED CARD BOARD PIPE INSULATION	PLM	80% Cellulose	8% Mineral Filler		12% Chrysotile
21-226 -17				0.0% Vermiculite			
Color: Tan							
Analyzed By: Michael Gittings							
Comments: POSSIBLE FIELD CONTAMINATION							
Total Asbestos: 12 %							



ATC Group Services LLC

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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
18	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	WRAPPED CARD BOARD PIPE INSULATION					
21-226 -18							NOT ANALYZED
Comments: Positive stop, see #17							
19	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	MUDDED JOINT FITTING INSULATION	PLM	Trace% Cellulose 70% FiberGlass	30% Mineral Filler 0.0% Vermiculite		
21-226 -19							NONE DETECTED
Color: Gray							
Analyzed By: Michael Gittings							
20	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	MUDDED JOINT FITTING INSULATION	PLM	Trace% Cellulose 75% FiberGlass	25% Mineral Filler 0.0% Vermiculite		
21-226 -20							NONE DETECTED
Color: Gray							
Analyzed By: Michael Gittings							
21	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	MUDDED JOINT FITTING INSULATION	PLM	Trace% Cellulose 70% FiberGlass	30% Mineral Filler 0.0% Vermiculite		
21-226 -21							NONE DETECTED
Color: Gray							
Analyzed By: Michael Gittings							



ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306



ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____. Amendments: _____. Amendment Dates: _____. Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Michael Gittings

Analyst:

Mei Wang

Approved by
Quality Manager:

Feyza Gungor

Analyst:

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MV Batch Number 21-226 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1	Gravimetric Color <u>Tan</u> Texture <u>F</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>10</u> Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>70</u> NOB PLM <u>70</u> Comments: Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>	Asb./Ver. PT Total PT <u>0</u> <u>70</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2	Gravimetric Color <u>Tan</u> Texture <u>F</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>10</u> Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>70</u> NOB PLM <u>70</u> Comments: Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>	Asb./Ver. PT Total PT <u>0</u> <u>70</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3	Gravimetric Color <u>Tan</u> Texture <u>F</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>10</u> Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>70</u> NOB PLM <u>70</u> Comments: Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>	Asb./Ver. PT Total PT <u>0</u> <u>70</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4	Gravimetric Color <u>White</u> Texture <u>F</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>95</u> Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>70</u> NOB PLM <u>70</u> Comments: Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>	Asb./Ver. PT Total PT <u>0</u> <u>70</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #82

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MC Batch Number 21-226 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1	Gravimetric Color <u>White</u> Texture <u>F</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>98</u> Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>70</u> NOB PLM <u>70</u> Comments: Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>	Asb./Ver. PT Total PT <u>0</u> <u>70</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2	Gravimetric Color <u>White</u> Texture <u>F</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>95</u> Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>70</u> NOB PLM <u>70</u> Comments: Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>	Asb./Ver. PT Total PT <u>0</u> <u>70</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3	Gravimetric Color <u>Grey</u> Texture <u>C</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>100</u> Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>70</u> NOB PLM <u>70</u> Comments: Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>	Asb./Ver. PT Total PT <u>0</u> <u>70</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4	Gravimetric Color <u>Grey</u> Texture <u>C</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>100</u> Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>70</u> NOB PLM <u>70</u> Comments: Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>	Asb./Ver. PT Total PT <u>0</u> <u>70</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #82

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-226 TEMPERATURE °C 20

17	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color <u>Tan</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	12	Chrysotile	80	Cellulose	8	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>N</u>	Vermiculite <u>1</u>												Amosite		Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>1</u>	Asbestos <u>1</u>												Other		Other		Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM	18	19	18	18					4	33	12						
See SM-V analysis sheet for results	NOB PLM																	
	Comments: <u>Possible field contamination?</u>																	
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

18	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile		Cellulose		Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos												Other		Other		Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments: <u>see 17</u>																	
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

19	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color <u>Grey</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile	70	Cellulose	30	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>												Amosite	70	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>7</u>	Asbestos <u>1</u>												Other		Other		Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM									0	20	0						
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

20	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color <u>Grey</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile	75	Cellulose	25	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>												Amosite	75	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>7</u>	Asbestos <u>1</u>												Other		Other		Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM									0	20	0						
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-226 TEMPERATURE °C 23

21	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color <u>Grey</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile	70	Cellulose	30	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite <u>1</u>												Amosite	70	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers <u>7</u>	Asbestos <u>1</u>												Other		Other		Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM									0	20	0						
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

2	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile		Cellulose		Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos												Other		Other		Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

3	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile		Cellulose		Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos												Other		Other		Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

4	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %			
Gravimetric	Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile		Cellulose		Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite												Amosite		Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos												Other		Other		Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION																	
													<input type="checkbox"/> Q.C.					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB FORMS\DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS BULK FORMS 2021\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-226 TEM Batch # 122381 Start Date: 03/02/21
 NOB PLM PREP: MG/EV NOB PLM Analyst: MJG NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 03/02/21

Field #	% Organic	11		12	9	13	Notes	Methods		
		Non Asb Residue %	NFr					% Carbonate	Asbestos Types or Vermiculite	% Total Asbestos or Vermiculite
1	31.0	52.5		16.5	ND			>	>	>
2	29.3	48.1		22.6	ND			>	>	>
3	30.5	54.8		14.7	ND			>	>	>

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.

Client Copy



ATC Group Services LLC
 104 E. 25th Street, 8th Floor
 New York, NY 10010
 Tel. 212-353-8280
 Fax: 212-353-8306

Client: ATC - NEW YORK
 104 EAST 25TH STREET
 NEW YORK , NY 10010
Fax: (212) 353-3599 **Phone:** (212) 353-8280
Project: PANYNJ / FIRESPRINKLER REHABILITATION
Location: PN / BUILDING #263
Project # 214PNPEPJ1/TASK0001

Sample Date: 4/8/2021
Date Received : 4/8/2021
Date Analyzed : 4/9/2021
ATC Batch # 21-618
Methods: ELAP 198.1, 198.6, 198.4

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
22	1ST FLOOR SPRINKLER ROOM EAST	CMU WALL MORTAR	PLM	100% Mineral Filler	0.0% Vermiculite		NONE DETECTED
21-618 -1							
Analyzed By: Ivan Reyes							
23	1ST FLOOR SPRINKLER ROOM EAST	CMU WALL MORTAR	PLM	100% Mineral Filler	0.0% Vermiculite		NONE DETECTED
21-618 -2							
Analyzed By: Ivan Reyes							
24	1ST FLOOR SPRINKLER ROOM EAST	CMU WALL MORTAR	PLM	100% Mineral Filler	0.0% Vermiculite		NONE DETECTED
21-618 -3							
Analyzed By: Ivan Reyes							
25	1ST FLOOR SPRINKLER ROOM EAST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES	PLM	33% Mineral Filler	0.0% Vermiculite		67% Chrysotile
21-618 -4							
Analyzed By: Ivan Reyes							
26	1ST FLOOR SPRINKLER ROOM EAST @ CEILING	PACKING INSULATION PENETRATION 8" PIPES					NOT ANALYZED
21-618 -5							
Comments: Positive stop, see #25							
27	1ST FLOOR SPRINKLER ROOM EAST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES					NOT ANALYZED
21-618 -6							
Comments: Positive stop, see #25							
28	1ST FLOOR SPRINKLER ROOM WEST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES	PLM	33% Mineral Filler	0.0% Vermiculite		67% Chrysotile
21-618 -7							
Analyzed By: Ivan Reyes							
							Total Asbestos: 67 %



ATC Group Services LLC

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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
29 21-618 -8	1ST FLOOR SPRINKLER ROOM WEST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES					NOT ANALYZED
Comments: Positive stop, see #28							
30 21-618 -9	1ST FLOOR SPRINKLER ROOM WEST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES					NOT ANALYZED
Comments: Positive stop, see #28							
31 21-618 -10	1ST FLOOR WAREHOUSE SMALL BATHROOM	TECTUM CEILING BOARD	NOB-TEM		0.0% Vermiculite	31.4% Organic 11.1% Residue 57.5% Carbonate	NONE DETECTED
Color: White/Tan Analyzed By: Mei Wang Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
32 21-618 -11	1ST FLOOR WAREHOUSE SMALL BATHROOM	TECTUM CEILING BOARD	NOB-TEM		0.0% Vermiculite	32.4% Organic 16.1% Residue 51.5% Carbonate	NONE DETECTED
Color: White/Tan Analyzed By: Mei Wang Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
33 21-618 -12	1ST FLOOR WAREHOUSE SMALL BATHROOM	TECTUM CEILING BOARD	NOB-TEM		0.0% Vermiculite	32.9% Organic 14.4% Residue 52.7% Carbonate	NONE DETECTED
Color: White/Tan Analyzed By: Mei Wang Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
34 21-618 -13	1ST FLOOR WAREHOUSE DIVIDING WALL	WALL BLANKET INSULATION	PLM	Trace% Cellulose 95% FiberGlass	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
Color: Brown Analyzed By: Ivan Reyes							
35 21-618 -14	1ST FLOOR WAREHOUSE DIVIDING WALL	WALL BLANKET INSULATION	PLM	Trace% Cellulose 95% FiberGlass	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
Color: Brown Analyzed By: Ivan Reyes							
36 21-618 -15	1ST FLOOR WAREHOUSE DIVIDING WALL	WALL BLANKET INSULATION	PLM	Trace% Cellulose 95% FiberGlass	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
Color: Brown Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10379
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: _____, Amendment Dates: _____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis.
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Ivan Reyes

Analyst:

Mei Wang

Approved by

Quality Manager:

Mei Wang

Analyst:

Feyza Gungor

Analyst:



**ELAP
BULK ASBESTOS ANALYSIS RESULTS**

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

- ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
5. Date: 4/8/21	6. BUILDING NUMBER: 263	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL RUSH_X_	9. Comments (Field) NOB -> TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
8	22	CHU WALL		1 SPRINKLER ROOM EAST		
8	23	MORRM				
8	24	"				
9	25	PACKING INSULATION		@ CEILING	3 S.F.	
9	26	@ PENETRATIONS				
9	27	8" PIPES				
10	28	PACKING INSULATION		SPRINKLER ROOM WEST	3 S.F.	
10	29	@ PENETRATIONS		@ CEILING		
10	30	8" PIPES				
11	31	TECTUM CEILING		WAREHOUSE SHED		
11	32	BOARD		BARBARIUM		
11	33	"				
12	34	WALL BLANKET		WAREHOUSE REGION		
12	35	INSULATION		DIVIDING WALL		
12	36	"		"		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <i>Philip Carrington</i>	4/8/21	3:18pm	<i>Eduar E...</i>	4/8/2021	15:25	Field
II.						Walk In
						US Mail
						Fed-Ex
III.			QC BY			Other

LABORATORY INFORMATION

24. Name and Signature: <i>Ivan...</i>	25. Date: 4/9/2021	26. Time: 8:48 am	27. Comments (Lab)
24a. Analyzed By: <i>Milena Bonezzi</i>	4/9/21	13:30	
24b. Analyzed By:			
24c. QC By: <i>TEM: Feza Gungor Jazg</i>	4/9/21	14:49	

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-618 TEMPERATURE °C 25

1	22	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Brown</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>✓</u>											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>✓</u>											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic	<input type="checkbox"/> Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Synthetic High Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM											<u>0 200 0</u>	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM															
Comments:																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

2	23	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Brown</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>✓</u>											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>✓</u>											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic	<input type="checkbox"/> Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Synthetic High Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM											<u>0 200 0</u>	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM															
Comments:																
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

3	24	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Brown</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>✓</u>											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>✓</u>											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic	<input type="checkbox"/> Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Synthetic High Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM											<u>0 200 0</u>	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM															
Comments:																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

4	25	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Grey</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>✓</u>											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>✓</u>											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic	<input type="checkbox"/> Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Synthetic High Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM	<u>1/2</u>	<u>1/1</u>	<u>1/1</u>	<u>1/2</u>							<u>4 6 67% Chr</u>	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM															
Comments:																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-618 TEMPERATURE °C 25

1	26	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color _____ Texture _____	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity _____ Vermiculite _____											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers _____ Asbestos _____											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer _____ Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic	<input type="checkbox"/> Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Synthetic High Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM												<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM															
Comments: <u>See #25</u>																
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

2	27	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color _____ Texture _____	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity _____ Vermiculite _____											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers _____ Asbestos _____											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer _____ Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic	<input type="checkbox"/> Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Synthetic High Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM												<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM															
Comments: <u>See #25</u>																
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

3	28	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>Grey</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity <u>Y</u> Vermiculite <u>✓</u>											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>✓</u>											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer <u>Detected</u> Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic	<input type="checkbox"/> Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Synthetic High Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM	<u>1/1</u>	<u>1/2</u>	<u>1/1</u>	<u>1/2</u>							<u>4 6 67% Chr</u>	<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM															
Comments:																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

4	29	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color _____ Texture _____	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Required <input type="checkbox"/>	Homogeneity _____ Vermiculite _____											Amosite	Fiberglass	Organic Binders		
Recommended <input type="checkbox"/>	# of Layers _____ Asbestos _____											Other	Other	Vermiculite*		
See gravimetric analysis sheet for results	Color of Layer _____ Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic	<input type="checkbox"/> Other		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Synthetic High Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
Required <input type="checkbox"/>	PLM												<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence			
See SM-V analysis sheet for results	NOB PLM															
Comments: <u>See #28</u>																
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-618 TEMPERATURE 25

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 30	Color <u>White</u> Texture <u>F</u> Homogeneity <u>4</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM				
Required <input type="checkbox"/>	Comments: <u>See #23</u>				
See SM-V analysis sheet for results	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION				Q.C. <input type="checkbox"/>

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 31	Color <u>White</u> Texture <u>F</u> Homogeneity <u>4</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM				
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION				Q.C. <input type="checkbox"/>

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 32	Color <u>White</u> Texture <u>F</u> Homogeneity <u>4</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM				
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION				Q.C. <input type="checkbox"/>

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 33	Color <u>White</u> Texture <u>F</u> Homogeneity <u>4</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM				
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION				Q.C. <input type="checkbox"/>

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-618 TEMPERATURE 25

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 34	Color <u>Brown</u> Texture <u>F</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM				
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION				Q.C. <input type="checkbox"/>

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 35	Color <u>Brown</u> Texture <u>F</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM				
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION				Q.C. <input type="checkbox"/>

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 36	Color <u>Brown</u> Texture <u>F</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM				
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION				Q.C. <input type="checkbox"/>

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 37	Color <u>White</u> Texture <u>F</u> Homogeneity <u>4</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM				
Required <input type="checkbox"/>	Comments:				
See SM-V analysis sheet for results	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION				Q.C. <input type="checkbox"/>

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS.DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS BULK FORMS 2020\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-618 TEM Batch # 122928 Start Date: 04/09/21
 NOB PLM PREP: MG/EV NOB PLM Analyst: MWV NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 04/09/21

Field #	5 % Organic	11 Non Asb Residue %		12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
		NFr	NFr				PREP	PLM	NOB
31	31.4	11.1	11.1	57.5	ND		✓	✓	✓
32	32.4	16.1	16.1	51.5	ND		✓	✓	✓
33	32.9	14.4	14.4	52.7	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.

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APPENDIX B
ASBESTOS SAMPLE LOCATION DRAWINGS

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No.	Date	Revision	Approved
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ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 263
FIRST FLOOR
SAMPLE LOCATION PLAN
(1 OF 2)
SAMPLES 1 TO 21 &
28 TO 36

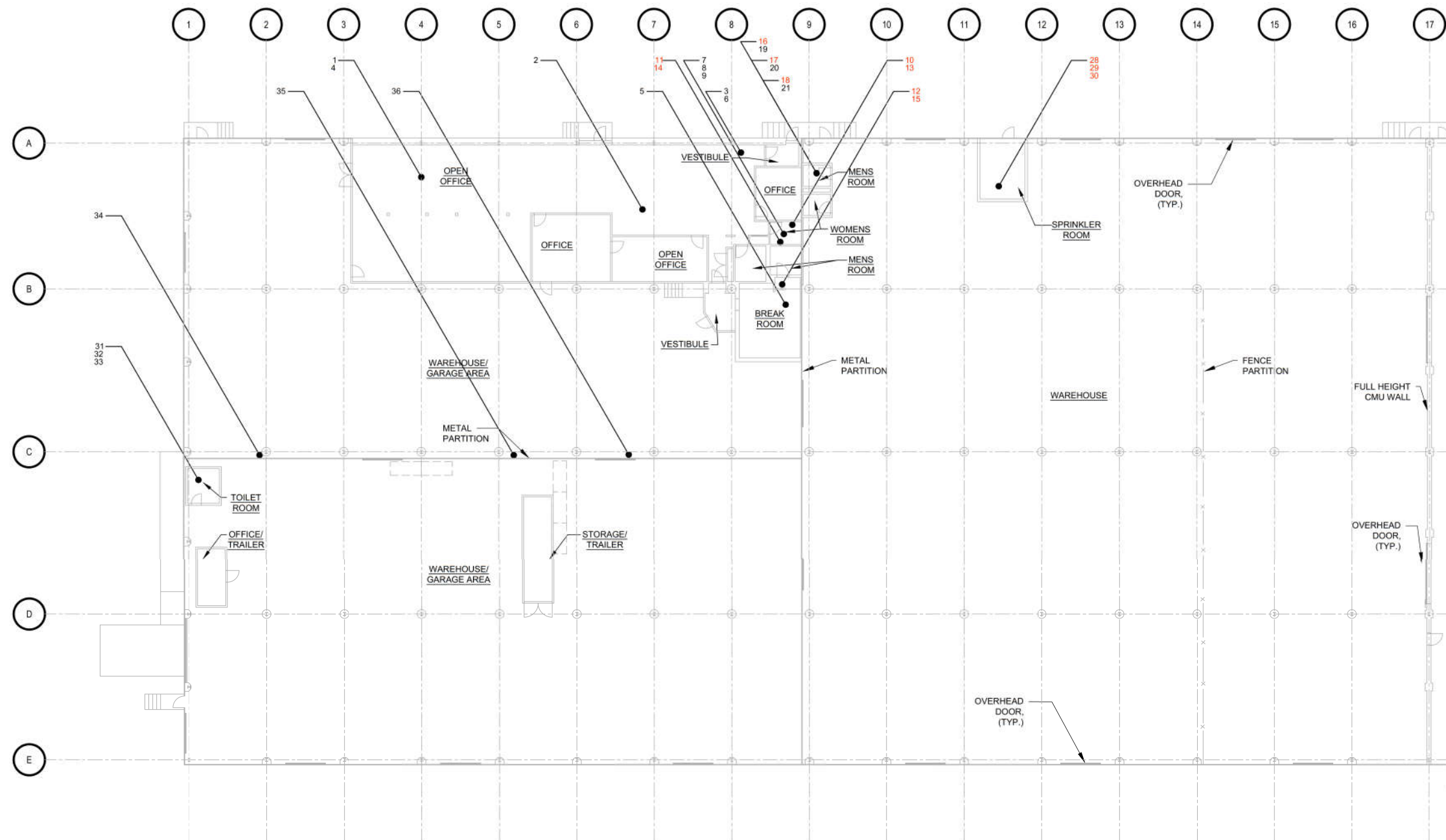
This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by E.MILKIS

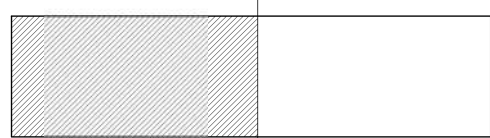
Checked by
Date 07/02/2021

Contract Number

Drawing Number **SL001**



MATCH LINE
FOR CONTINUATION SEE DRAWING SL002



KEY PLAN



LEGEND

SYMBOL	DESCRIPTION
● 22	SUSPECT ASBESTOS SAMPLE LOCATION
● 15	ACM SAMPLE LOCATION

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 263
FIRST FLOOR
SAMPLE LOCATION PLAN
(2 OF 2)
SAMPLES 22 TO 27

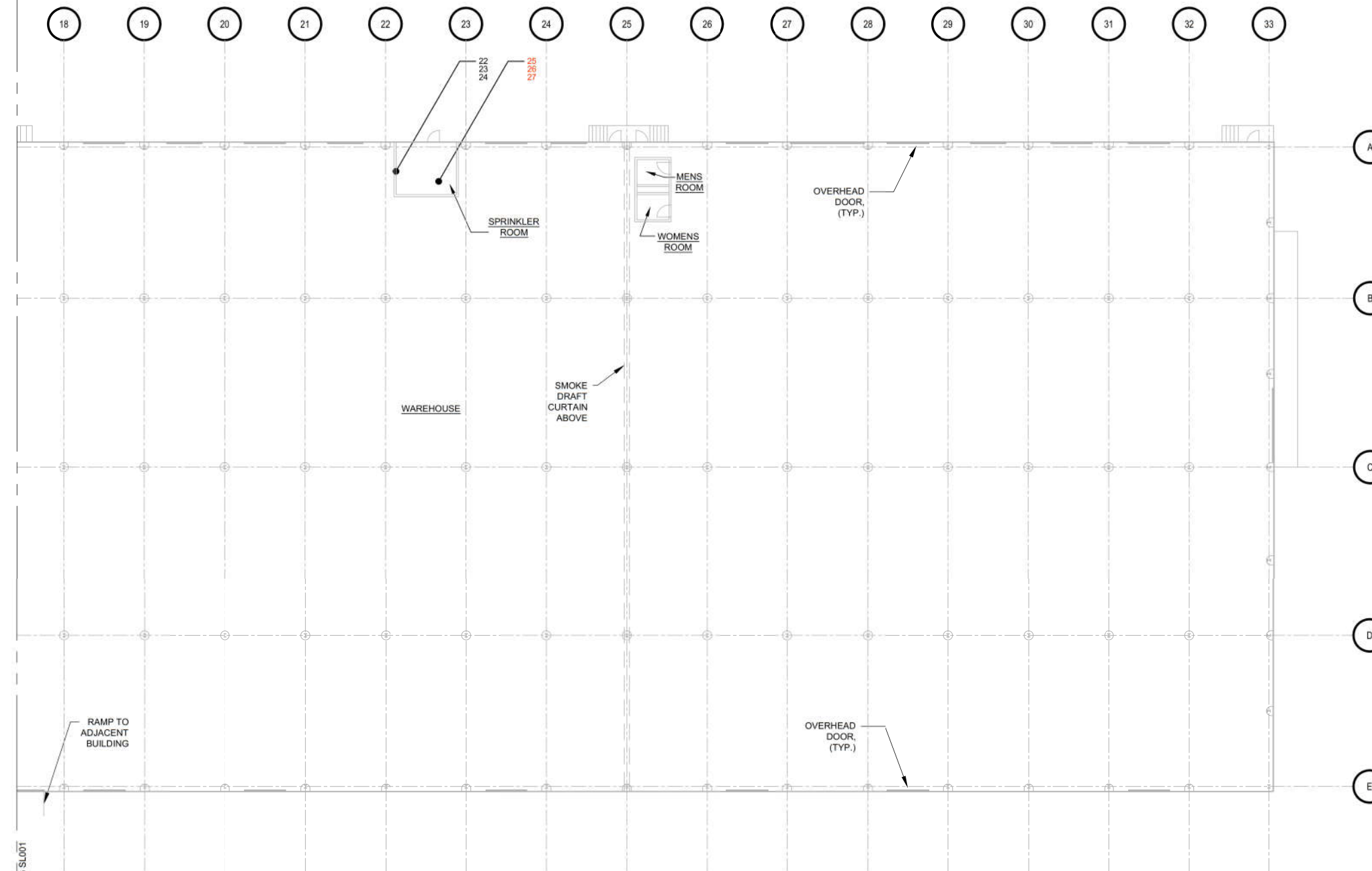
This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "Altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by E.MILKIS

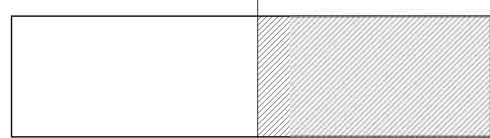
Checked by
Date 07/02/2021

Contract Number

Drawing Number **SL002**



MATCH LINE FOR CONTINUATION SEE DRAWING SL001



KEY PLAN

P 1 FIRST FLOOR PLAN (2 OF 2)
SL002
SCALE IN FEET



LEGEND

SYMBOL	DESCRIPTION
	SUSPECT ASBESTOS SAMPLE LOCATION
	ACM SAMPLE LOCATION

APPENDIX C
ASBESTOS LOCATION DRAWINGS

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No.	Date	Revision	Approved
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ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 263
FIRST FLOOR
ACM LOCATION PLAN
(1 OF 2)

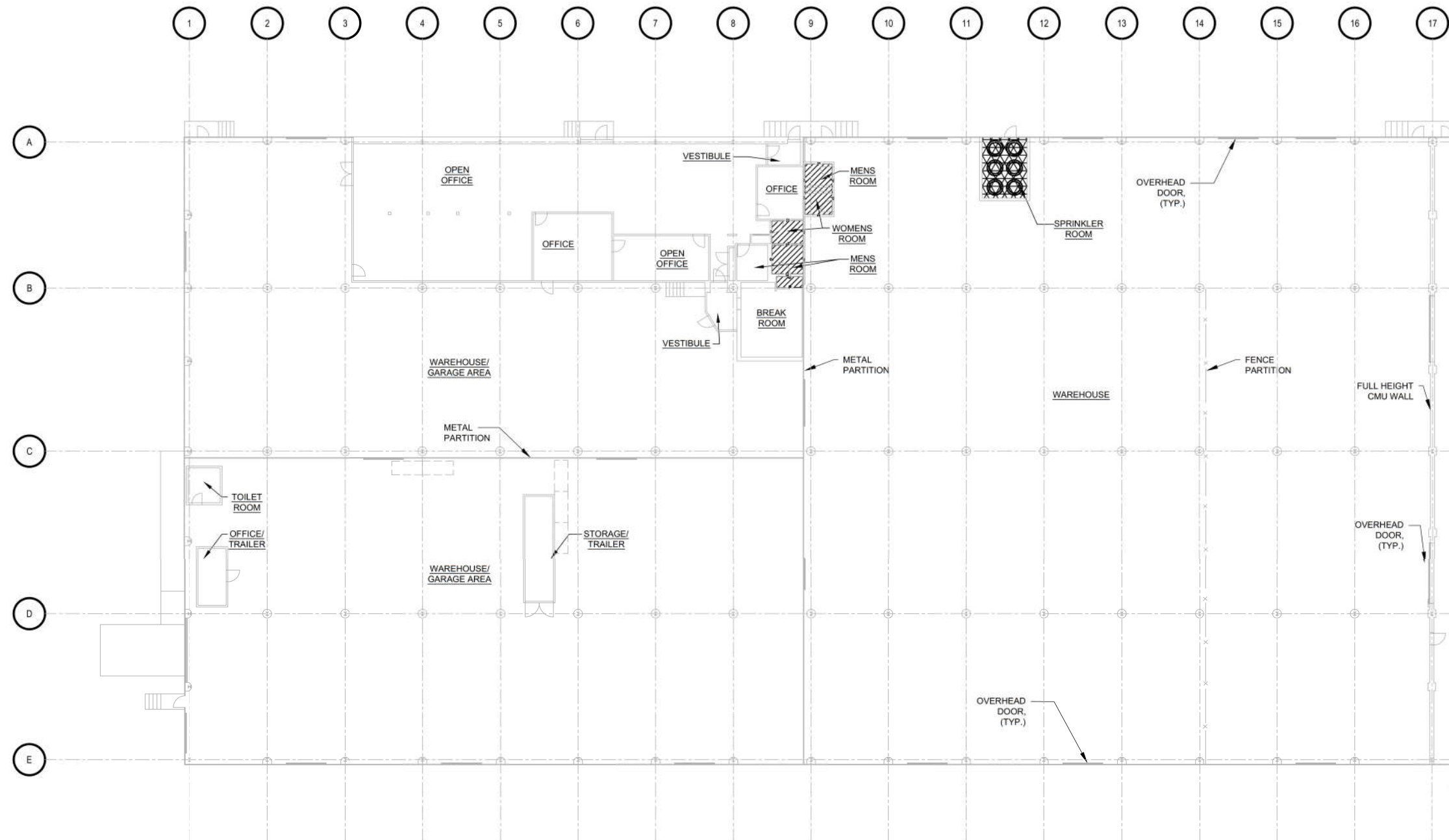
This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by E.MILKIS

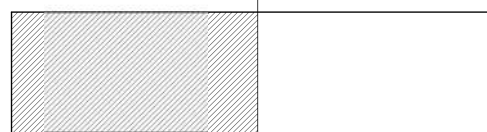
Checked by
Date 07/02/2021

Contract Number

Drawing Number **ACM001**



MATCH LINE
FOR CONTINUATION SEE DRAWING ACM002

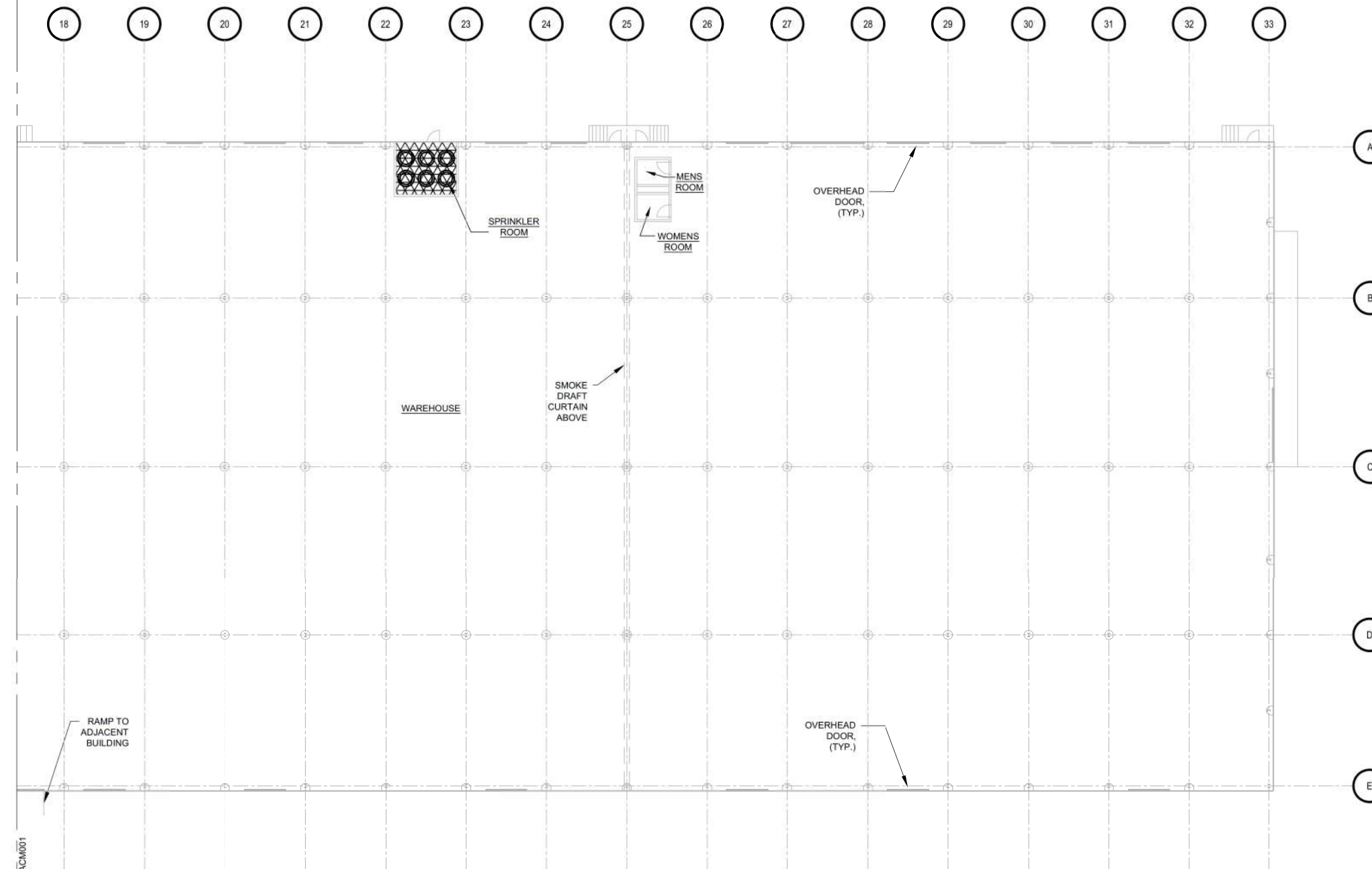


KEY PLAN

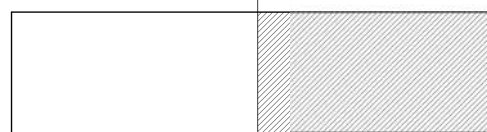


LEGEND

SYMBOL	DESCRIPTION
	ASBESTOS CONTAINING PIPE AND PIPE FITTING INSULATION
	ASBESTOS CONTAINING PACKING INSULATION AT CEILING PIPE PENETRATION
	FLANGE & VALVE GASKETS (PACM)



MATCH LINE
FOR CONTINUATION SEE DRAWING ACM001



KEY PLAN



LEGEND

SYMBOL	DESCRIPTION
○○○	ASBESTOS CONTAINING PACKING INSULATION AT CEILING PIPE PENETRATION
XXXXXX	FLANGE & VALVE GASKETS (PACM)

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 263
FIRST FLOOR
ACM LOCATION PLAN
(2 OF 2)

This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by E.MILKIS
Checked by
Date 07/02/2021

Contract Number
Drawing Number **ACM002**

APPENDIX D

**LAB CERTIFICATIONS AND ACCREDITATIONS, COMPANY
AND PERSONNEL CERTIFICATIONS**

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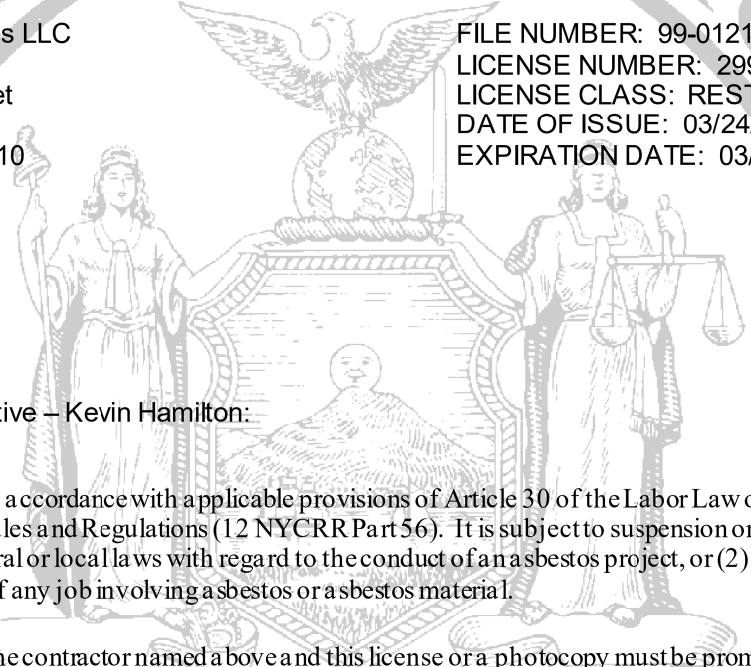
New York State – Department of Labor

Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

ATC Group Services LLC
10th Floor
104 East 25th Street
New York, NY 10010

FILE NUMBER: 99-0121
LICENSE NUMBER: 29902
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 03/24/2021
EXPIRATION DATE: 03/31/2022



Duly Authorized Representative – Kevin Hamilton:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or a asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

SH 432 (8/12)

**NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER**

Expires 12:01 AM April 01, 2021
Issued April 01, 2020



CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2003) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos

EPA 100.2



Department
of Health

Serial No.: 61221

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.





Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

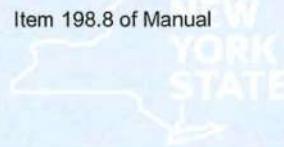
MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos in Friable Material Item 198.1 of Manual
EPA 600/M4/82/020
- Asbestos in Non-Friable Material-PLM Item 198.6 of Manual (NOB by PLM)
- Asbestos in Non-Friable Material-TEM Item 198.4 of Manual
- Asbestos-Vermiculite-Containing Material Item 198.8 of Manual



Department
of Health

Serial No.: 61222

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Issued April 01, 2020

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MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

- Asbestos 40 CFR 763 APX A No. III
NIOSH 7402
- Fibers NIOSH 7400 A RULES



Department
of Health

Serial No.: 61223

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



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Issued April 01, 2021

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MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Miscellaneous

Asbestos

EPA 100.2



Serial No.: 62824

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material

Item 198.1 of Manual

EPA 600/M4/82/020

Asbestos in Non-Friable Material-PLM

Item 198.6 of Manual (NOB by PLM)

Asbestos in Non-Friable Material-TEM

Item 198.4 of Manual

Asbestos-Vermiculite-Containing Material

Item 198.8 of Manual

Serial No.: 62825

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI
ATC GROUP SERVICES LLC
104 EAST 25TH STREET 8TH FLOOR
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous
Asbestos
Fibers

40 CFR 763 APX A No. III
NIOSH 7402
NIOSH 7400 A RULES

Serial No.: 62826

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United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101187-0

ATC Group Services LLC
New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2020-07-01 through 2021-06-30

Effective Dates



For the National Voluntary Laboratory Accreditation Program



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ATC Group Services LLC
 104 E. 25th Street 8th Floor
 New York, NY 10010
 Ms. Milena Bonezzi
 Phone: 212-353-8280 x247 Fax: 212-353-8306
 Email: milena.bonezzi@atcgs.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101187-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR Part 763 Subpart E Appendix A

[Signature]
 For the National Voluntary Laboratory Accreditation Program





AIHA Laboratory Accreditation Programs, LLC SCOPE OF ACCREDITATION

ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

Issue Date: 08/30/2019

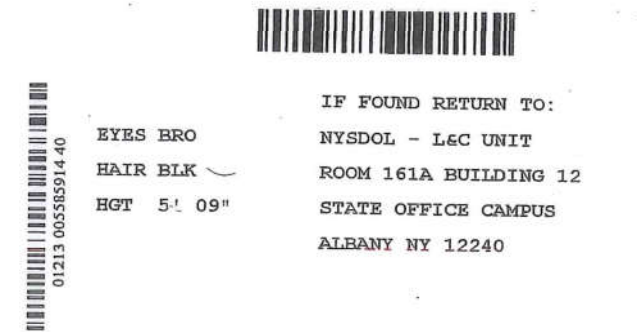
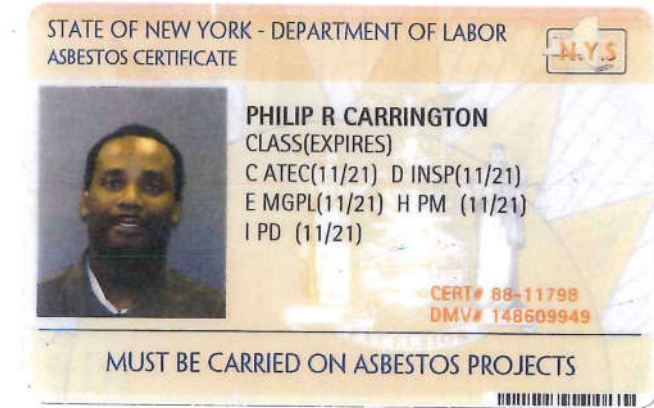
The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 06/12/1995

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400 Modified	-

A complete listing of currently accredited IHLAP laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



IF FOUND RETURN TO:
 NYSDOL - L&C UNIT
 ROOM 161A BUILDING 12
 STATE OFFICE CAMPUS
 ALBANY NY 12240

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE




NANCY B GUEVARA
CLASS(EXPIRES)
C ATEC(05/21) D INSP(05/21)
H PM (05/21) I PD (05/21)

CERT# 14-00412
DMV# 234032668

MUST BE CARRIED ON ASBESTOS PROJECTS





01213 005585171 14

EYES BRO
HAIR BRO
HGT 5' 06"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

RONEY D RIVERO
CLASS(EXPIRES)
C ATEC(08/21) D INSP(08/21)
E MGPL(08/21) H PM (08/21)
I PD (08/21)

CERT# 88-06348
DMV# 955602641

MUST BE CARRIED ON ASBESTOS PROJECTS



01213 005581057 61

EYES BRO
HAIR GRY
HGT 5' 11"

IF FOUND RETURN TO:
NYS DOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240



**NJMT REHABILITATION OF FIRE PROTECTION
SYSTEMS PN, EP, & PJ**

**REVISED ASBESTOS INSPECTION REPORT
PORT NEWARK, BUILDING #263**

Performed for:

**PORT NEWARK
NEWARK, NEW JERSEY**

Prepared for:

**THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY**

Prepared by:

**ATC GROUP SERVICES LLC
104 EAST 25TH STREET
NEW YORK, NEW YORK 10010
(212) 353-8280**

ATC Project No: 214PNPEPJ1

December 15, 2021



104 East 25th Street
8th Floor
New York, New York 10010
Telephone 212-353-8280
Fax 212-353-8306

December 15, 2021

Robert Pruno, P.E.
Chief Environmental Engineer
Port Authority of New York & New Jersey
Engineering Design Division
4 World Trade Center, Floor 20
New York, NY, 10006

Subject: Revised Inspection Report for Asbestos-Containing Materials

**Re: Port Newark, Building #263
263 Marlin Street
Newark, NJ 07114
NJMT Rehabilitation of Fire Protection Systems**

Dear Mr. Pruno:

ATC Group Services LLC (ATC) has completed the inspection for Asbestos-Containing Materials (ACM) for the proposed work at the above referenced site. The inspection included visual observation, material sampling, laboratory analysis and development of asbestos abatement plans. The attached report presents our inspection procedures, findings, assessments and recommendations along with the pertinent appendices.

ATC appreciates this opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

Roney D. Rivero
Senior Project Manager
for ATC Group Services LLC
Direct Line +1 212 284 0614
Email: roney.rivero@atcgs.com

Attachments

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 BUILDING DESCRIPTION.....	2
3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS	2
4.0 ACM INSPECTION SCOPE.....	3
5.0 ACM INSPECTION RESULTS	4
6.0 PCB-IN-CAULKING INSPECTION FINDINGS	6
7.0 UNIVERSAL WASTE OBSERVATION	7
8.0 CONCLUSIONS AND RECOMMENDATIONS	7
9.0 ASSUMPTIONS AND LIMITATIONS.....	9

APPENDICES

Appendix A: ACM Laboratory Results and Chain of Custodies

Appendix B: PCB-in-Caulking Laboratory Results and Chain of Custodies

Appendix C: Asbestos, and PCB Bulk Sample Location Drawings

Appendix D: ACM Location Drawings

Appendix E: Lab Certifications / Accreditations, Company and Personnel Certifications

EXECUTIVE SUMMARY

On February 26, 2021 and April 8, 2021, ATC completed the inspection for ACM at Port Newark, Building #263 (the Site). Additionally, on November 9, 2021 a supplemental limited survey was performed in response to the Scope of Work changes and recommendations as indicated in the Stage 1 Report dated July 12, 2021 (50% submission). The Architectural team recommended surveying both Sprinkler Valve Rooms corrugated exterior wall and doors. The survey was conducted at the request of Port Authority of New York and New Jersey (PANYNJ) in preparation for the Rehabilitation of Fire Protection Systems Project. ATC utilized drawings provided by PANYNJ delineating the areas that will be impacted by the renovation project.

ATC collected sixty-three (63) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, twelve (12) sampled homogeneous areas were found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content). In addition, one (1) non-ACM homogeneous area, marked with an asterisk (*), should be treated as ACM due to its association/proximity with ACM within the same location.

The materials that tested positive for asbestos are:

- Aircell Pipe Insulation (3" OD)
- Elbow Insulation associated with Aircell Pipe Insulation
- Wrapped Cardboard Pipe Insulation (3" OD)
- Mudded Joint Fitting Insulation associated with Wrapped Cardboard Pipe Insulation *
- Packing Insulation at Ceiling Penetration for 8" OD Pipes (East Side Sprinkler Room)
- Packing Insulation at Ceiling Penetration for 8" OD Pipes (West Side Sprinkler Room)
- Interior Door Caulking – East Side Sprinkler Room Door
- Caulking on Interior Wall Perimeter - East Side Sprinkler Room Exterior Wall Interior Side
- Packing Insulation at Wall Pipe Penetration - East Side Sprinkler Room Interior Wall
- Interior Door Caulking – West Side Sprinkler Room Door
- Caulking on Interior Wall Perimeter - West Side Sprinkler Room Exterior Wall Interior Side
- Packing Insulation at Wall Pipe Penetration around 4" OD and Floor Pipe Penetration around 8" OD - West Side Sprinkler Room Interior Wall and Floor
- Exterior Door Caulking Remnants – West Side Sprinkler Room Door

These materials are tabulated in Section 4.0.

ATC collected and analyzed five (5) samples from suspect PCB-containing Caulking. Based upon review of the analytical results of bulk samples collected, the samples were found to be none detect for total PCBs. A tabulation of the laboratory results is summarized in Section 6.0.

1.0 INTRODUCTION

The intent of this survey was to locate and identify all accessible ACM, and PCBs in caulking within the referenced structure that could potentially be impacted by the proposed Fire Sprinkler Rehabilitation Project.

The environmental survey was conducted by the following personnel who hold certifications from the New York State Department of Labor as Asbestos Inspectors, and the Environmental Protection Agency as Lead Risk Assessors.

Inspector's Name	Certification Number	ACM/LCP
Philip R. Carrington	AH-88-11798	ACM
Nancy Guevara	AH-14-00412	ACM
Roney D. Rivero	AH-88-06348	ACM

2.0 BUILDING DESCRIPTION

The New Jersey Port Newark Building 263 is a single-story steel frame warehouse which measures approximately 161 ft. by 634 ft. in plan. Most of the building is being used as a general cargo warehouse and sustain heavy forklift traffic. A portion of the building is used as a factory for light manufacturing. The floor in the warehouse is bituminous concrete and in the factory area the floor is plywood. The girders support steel roof purlins which support the corrugated metal roof decking. The building's height varies from approximately a minimum of 26 ft. at the north and south sides to 40 ft. at the ridge. A concrete masonry firewall divides the building into east and west portions. Several modular office structures exist in the building and are occupied by various tenants.

3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogeneous area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos.

Bulk samples of suspect ACM were analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Methods 198.1 and 198.6 as specified in the Environmental Laboratory Approval Program (ELAP) Certification Manual. Method 198.1 is used for friable ACM and Method 198.6 is used for non-friable ACM.

For non-friable materials such as mastic, caulking, etc., Method 198.6 requires that any result of 1-percent or less be reanalyzed by Method 198.4. This Method utilizes Transmission Electron Microscopy (TEM) to determine asbestos content. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) Non-friable Organically Bound (NOB) sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

The laboratory performing both these analysis procedures was ATC, located at 104 East 25th Street, New York, New York. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101187-0)
- New York State Environmental Laboratory Approval Program (Lab No. 10879)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 100229)

4.0 ACM INSPECTION SCOPE

ATC conducted the walkthrough of Port Newark building 260 on August 11, 2020 to understand typical building layouts and systems on buildings that are similar in lay out and use. Based on the findings of the walkthrough, ATC conducted an asbestos inspection of Port Newark Building 263 on February 26, 2021, April 8, 2021 and November 9, 2021 and collected sixty-three (63) bulk samples from all suspect asbestos-containing material. The areas inspected included only areas that may be impacted by the proposed Fire Sprinkler Rehabilitation Project at this location and recommendations as indicated in the Stage 1 Report dated July 12, 2021 (50% submission). The intent of this survey was to locate and identify all accessible ACM.

The following twenty-one (21) homogeneous materials inspected and sampled for ACM during the inspections were:

Suspect Material	Location
1' X 1' Ceiling Tile	1 st Floor – Office Space
Gypsum Board	1 st Floor – Office Space & Kitchen
CMU Wall Mortar	1 st Floor – Office Space Women's Bathroom
Aircell Pipe Insulation (3" OD)	1 st Floor – Office Space & Kitchen

Elbow Insulation associated with Aircell Pipe Insulation	1 st Floor – Office Space Kitchen
Wrapped Cardboard Pipe Insulation (3” OD)	1 st Floor – Bathroom in Warehouse Area (Open Building Space)
Mudded Joint Fitting Insulation associated with Wrapped Cardboard Pipe Insulation	1 st Floor – Bathroom in Warehouse Area (Open Building Space)
CMU Wall Mortar	1 st Floor Sprinkler Room East Side
Packing Insulation at Ceiling Penetration around 8” OD Pipes	1 st Floor East Side Sprinkler Room Ceiling
Packing Insulation at Ceiling Penetration around 8” OD Pipes	1 st Floor West Side Sprinkler Room Ceiling
Tectum Ceiling Board	1 st Floor - Warehouse Bathroom
Wall Blanket Insulation	1 st Floor - Warehouse Dividing Wall
<u>November 9, 2021 Sampling</u>	
Interior Door Caulking	East Side Sprinkler Room Door
Caulking on Interior Wall Perimeter	East Side Sprinkler Room Exterior Wall Interior Side
Packing Insulation at Wall Pipe Penetration	East Side Sprinkler Room Interior Wall
Weather Strip Seal Block	East Side Sprinkler Room at Corrugated Wall & Concrete Wall
Interior Door Caulking	West Side Sprinkler Room Door
Caulking on Interior Wall Perimeter	West Side Sprinkler Room Exterior Wall Interior Side
Packing Insulation at Wall Pipe Penetration around 4” OD and Floor Pipe Penetration around 8” OD	West Side Sprinkler Room Interior Wall and Floor
Exterior Door Caulking Remnants	West Side Sprinkler Room Door
Weather Strip Seal Block	West Side Sprinkler Room at Corrugated Wall & Concrete Wall

5.0 ACM INSPECTION RESULTS

Based upon visual inspection and analytical results of bulk samples collected, **the following materials are asbestos-containing (> 1%)**:

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
10-12	Aircell Pipe Insulation (3” OD)	33% Chrysotile	20 LF	ACM001
13-15	Elbow Insulation associated with Aircell Pipe Insulation	50% Chrysotile	10 LF	ACM001
16-18	Wrapped Cardboard Pipe Insulation (3” OD)	12% Chrysotile	12 LF	ACM001
19-21	Mudded Joint Fitting Insulation associated with Wrapped Cardboard Pipe Insulation *	*	6 LF	ACM001
25-27	Packing Insulation at Ceiling Penetration around 8” OD Pipes	67% Chrysotile	3 SF	ACM001
28-30	Packing Insulation at Ceiling Penetration around 8” OD Pipes	67% Chrysotile	3 SF	ACM002
* This homogeneous area should be treated as ACM due to its association/proximity with ACM within the same location.				
<u>ACM found as a result of the ADDITIONAL survey performed on November 9, 2021</u>				
37-39	Interior Door Caulking – East Side Sprinkler Room Door	3.6% Chrysotile	18 L.F.	N/A
40-42	Caulking on Interior Wall Perimeter - East Side Sprinkler Room Exterior Wall Interior Side	4.5% Chrysotile	60 L.F.	N/A
43-45	Packing Insulation at Wall Pipe Penetration - East Side Sprinkler Room Interior Wall	80.0% Chrysotile	2 S.F.	N/A
49-51	Interior Door Caulking – West Side Sprinkler Room Door	3.0% Chrysotile	18 L.F.	N/A
52-54	Caulking on Interior Wall Perimeter - West Side Sprinkler Room Exterior Wall Interior Side	2.1% Chrysotile	60 L.F.	N/A
55-57	Packing Insulation at Wall Pipe Penetration around 4” OD and Floor Pipe Penetration around 8” OD - West Side Sprinkler Room Interior Wall and Floor	67.0% Chrysotile	6 S.F.	N/A

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
58-60	Exterior Door Caulking Remnants – West Side Sprinkler Room Door	4.0% Chrysotile	12 L.F.	N/A

The following materials are presumed to be asbestos-containing material (PACM)

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
N/A	Flange & Valve Gaskets - 2 Sprinkler Rooms	PACM	50 Units	ACM001 & ACM02

No PACM was found as a result of the ADDITIONAL survey performed on November 9, 2021

Note: Visual inspection of the entrance doors to both Sprinkler Rooms indicated that the door insulation is fiberglass.

ACM laboratory results are included in Appendix A. Asbestos Sample Location Plans are included in Appendix C. Asbestos Location Plans are included in Appendix D.

6.0 PCB-IN-CAULKING INSPECTION FINDINGS

ATC collected five (5) samples from suspect PCB-containing Caulking and submitted to a third party laboratory for analysis. The suspect PCB-containing Caulking sample collected was based on building component, application type as well as color and texture. Caulking materials with similar characteristics were assumed to be homogenous materials.

ATC submitted the suspect PCB samples to New York Environmental & Analytical Laboratories Inc., for Gas Chromatography with Electron Capture Detection (GC/ECD) analysis utilizing EPA Method 8082.

Based on laboratory analysis and results, the five (5) samples tested “none detect” for total PCBs. A tabulation of the laboratory results are summarized in the table below. PCB laboratory results are attached in Appendix B.

ATC Sample Number(s)	Material Location & Description	Total PCB Content (mg/kg)
PCB 37	Interior Door Caulking – East Side Sprinkler Room Door	ND
PCB 40	Caulking on Interior Wall Perimeter - East Side Sprinkler Room Exterior Wall Interior Side	ND

ATC Sample Number(s)	Material Location & Description	Total PCB Content (mg/kg)
PCB 49	Interior Door Caulking - West Side Sprinkler Room Door	ND
PCB 52	Caulking on Interior Wall Perimeter - West Side Sprinkler Room Exterior Wall Interior Side	ND
PCB 58	Exterior Door Caulking Remnants - West Side Sprinkler Room Door	ND

7.0 UNIVERSAL WASTE INVENTORY

ATC conducted a visual inspection of the light fixtures at the site to document Universal Waste, defined in Title 40, CFR Part 273. During the inspection at the site, it was observed the presence of fluorescent lamps, high intensity discharge (HID) lamps and ballasts.

It was assumed that lamp ballasts/capacitors contain PCBs and/or Di-Ethylhexyl Phthalate (DEHP); therefore, if removal is necessary it should be disposed of as PCB wastes as per 40 CFR Part 761.

8.0 CONCLUSIONS AND RECOMMENDATIONS

ATC collected sixty-three (63) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, twelve (12) sampled homogeneous areas were found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content). In addition, one (1) homogeneous area, marked with an asterisk (*), should be treated as ACM due to its association/proximity with ACM within the same location.

The materials that tested positive for asbestos at Building 263 include the following:

- Aircell Pipe Insulation (3” OD)
- Elbow Insulation associated with Aircell Pipe Insulation
- Wrapped Cardboard Pipe Insulation (3” OD)
- Mudded Joint Fitting Insulation Associated with Wrapped Cardboard Pipe Insulation *
- Packing Insulation at Ceiling Penetration around 8” OD Pipes (East Side)
- Packing Insulation at Ceiling Penetration around 8” OD Pipes (West Side)
- Interior Door Caulking – East Side Sprinkler Room Door
- Caulking on Interior Wall Perimeter - East Side Sprinkler Room Exterior Wall Interior Side
- Packing Insulation at Wall Pipe Penetration - East Side Sprinkler Room Interior Wall
- Interior Door Caulking – West Side Sprinkler Room Door
- Caulking on Interior Wall Perimeter - West Side Sprinkler Room Exterior Wall Interior Side
- Packing Insulation at Wall Pipe Penetration around 4” OD and Floor Pipe Penetration

- around 8" OD - West Side Sprinkler Room Interior Wall and Floor
- Exterior Door Caulking Remnants – West Side Sprinkler Room Door

ATC collected and analyzed five (5) samples from suspect PCB-containing Caulking. Based on laboratory analysis and results, the five (5) samples tested "none detect" for total PCBs.

Various types of painted surfaces such as sprinkler pipes, gypsum board ceilings and walls, CMU walls, and roof decking have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 263, located in Newark, New Jersey.

Various types of light fixtures (fluorescent lamps, high intensity discharge (HID) lamps and ballasts) have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 263 located in Newark, New Jersey.

The materials reported in Section 5.0 of this report would require abatement, removal and disposal prior to sprinkler system renovation due to the proximity to the sprinkle pipe system.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted at the time of the inspection. The valve gaskets inside the pipe flanges could not be tested since the sprinkler system is still operational. It is assumed, based on the number of flanges observed, that there are 25 gaskets in each sprinkler room. There are 2 sprinkler rooms in this building, so it is assumed there are 50 gaskets that are presumed to be asbestos containing. This quantity should be verified with destructive sampling if abatement is planned prior to any renovation work.

If questions arise regarding asbestos content in building materials that were not tested by ATC, additional testing services should be procured to test those areas.

This report is intended for the sole use of the PANYNJ. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations contained herein is at the risk of said user.

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END OF REPORT

APPENDIX A

ACM LABORATORY RESULTS AND CHAIN OF CUSTODIES

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ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Client: ATC - NEW YORK
104 EAST 25TH STREET
NEW YORK, NY 10010
Fax: (212) 353-3599 **Phone:** (212) 353-8280
Project: PANYNJ / FIRESPRINKLER REHABILITATION

Sample Date: 2/26/2021
Date Received : 3/1/2021
Date Analyzed : 3/2/2021
ATC Batch # 21-226

Methods: ELAP 198.1, 198.6, 198.4

Location: PN - BUILDING 263

Project # 214PNPEPJ1/TASK0001

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
1	1ST FLOOR OFFICE SPACE	1" X 1" CEILING TILE	NOB-TEM			31% Organic 52.5% Residue 16.5% Carbonate	NONE DETECTED
21-226 -1				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Tan Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
2	1ST FLOOR OFFICE SPACE	1" X 1" CEILING TILE	NOB-TEM			29.3% Organic 48.1% Residue 22.6% Carbonate	NONE DETECTED
21-226 -2				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Tan Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
3	1ST FLOOR OFFICE SPACE	1" X 1" CEILING TILE	NOB-TEM			30.5% Organic 54.8% Residue 14.7% Carbonate	NONE DETECTED
21-226 -3				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Tan Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive				
4	1ST FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	5% Cellulose Trace% FiberGlass	95% Mineral Filler		NONE DETECTED
21-226 -4				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: White					
5	1ST FLOOR OFFICE SPACE (KITCHEN)	GYPSUM BOARD	PLM	4% Cellulose Trace% FiberGlass	96% Mineral Filler		NONE DETECTED
21-226 -5				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: White					
6	1ST FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	5% Cellulose Trace% FiberGlass	95% Mineral Filler		NONE DETECTED
21-226 -6				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: White					
7	1ST FLOOR OFFICE WOMEN'S BATHROOM	CMU MORTAR	PLM		100% Mineral Filler		NONE DETECTED
21-226 -7				0.0% Vermiculite			
Analyzed By: Michael Gittings		Color: Grey					



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
8	1ST FLOOR OFFICE WOMEN'S BATHROOM	CMU MORTAR	PLM		100% Mineral Filler		
21-226 -8					0.0% Vermiculite		NONE DETECTED
Analyzed By: Michael Gittings		Color: Grey					
9	1ST FLOOR OFFICE WOMEN'S BATHROOM	CMU MORTAR	PLM		100% Mineral Filler		
21-226 -9					0.0% Vermiculite		NONE DETECTED
Analyzed By: Michael Gittings		Color: Gray					
10	1ST FLOOR OFFICE WOMEN'S BATHROOM	AIR CELL PIPE INSULATION 3"	PLM	20% Cellulose Trace% FiberGlass	47% Mineral Filler		33% Chrysotile
21-226 -10					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: Tan					
Total Asbestos: 33 %							
11	1ST FLOOR OFFICE WOMEN'S BATHROOM	AIR CELL PIPE INSULATION 3"					
21-226 -11							NOT ANALYZED
Comments: Positive stop, see #10							
12	1ST FLOOR OFFICE KITCHEN AREA	AIR CELL PIPE INSULATION 3"					
21-226 -12							NOT ANALYZED
Comments: Positive stop, see #10							
13	1ST FLOOR OFFICE WOMEN'S BATHROOM	ELBOW INSULATION ASSOCIATED WITH AIRCELL PIPE INSULATION	PLM		50% Mineral Filler		50% Chrysotile
21-226 -13					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: Gray					
Total Asbestos: 50 %							
14	1ST FLOOR OFFICE WOMEN'S BATHROOM	ELBOW INSULATION ASSOCIATED WITH AIRCELL PIPE INSULATION					
21-226 -14							NOT ANALYZED
Comments: Positive stop, see #13							
15	1ST FLOOR OFFICE KITCHEN AREA	ELBOW INSULATION ASSOCIATED WITH AIRCELL PIPE INSULATION					
21-226 -15							NOT ANALYZED
Comments: Positive stop, see #13							
16	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	WRAPPED CARD BOARD PIPE INSULATION	PLM	90% Cellulose	10% Mineral Filler		
21-226 -16					0.0% Vermiculite		NONE DETECTED
Analyzed By: Michael Gittings		Color: Tan					
17	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	WRAPPED CARD BOARD PIPE INSULATION	PLM	80% Cellulose	8% Mineral Filler		12% Chrysotile
21-226 -17					0.0% Vermiculite		
Analyzed By: Michael Gittings		Color: Tan	Comments: POSSIBLE FIELD CONTAMINATION				
Total Asbestos: 12 %							



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Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u> % Type	<u>Asbestos</u> % Type
				% Fibrous	% Non-Fibrous		
18	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	WRAPPED CARD BOARD PIPE INSULATION					NOT ANALYZED
21-226 -18							
				Comments: Positive stop, see #17			
19	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	MUDDERED JOINT FITTING INSULATION	PLM	Trace% Cellulose 70% FiberGlass	30% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-226 -19							
				Color: Gray			
	Analyzed By: Michael Gittings						
20	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	MUDDERED JOINT FITTING INSULATION	PLM	Trace% Cellulose 75% FiberGlass	25% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-226 -20							
				Color: Gray			
	Analyzed By: Michael Gittings						
21	1ST FLOOR BATHROOM IN OPEN BUILDING SPACE	MUDDERED JOINT FITTING INSULATION	PLM	Trace% Cellulose 70% FiberGlass	30% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-226 -21							
				Color: Gray			
	Analyzed By: Michael Gittings						



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Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u> % Type	<u>Asbestos</u> % Type
				% Fibrous	% Non-Fibrous		
NOTES:							
1) The Limit of Detection is the same as the Reporting Limit for these results.							
2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.							
3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM							
4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.							
5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879							
6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.							
7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.							
8) Asbestos results are reliable to 2 significant figures.							
9) The condition of all samples was acceptable upon receipt.							
10) The laboratory certifies that the test results meet all requirements of NELAC.							
11) Supplement to test report batch # _____, Amendments: _____. Amendment Dates: _____. Amended by: _____							
12) PLM Letter is attached on this report.							
13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.							
14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis							
15) The uncertainty for these test results is available upon request.							
16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."							

Michael Gittings
Analyst:

Mei Wang
Approved by
Quality Manager:

Feyza Gungor
Analyst:



**ELAP
BULK ASBESTOS ANALYSIS RESULTS**

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
5. Date: 2/26/21	6. BUILDING NUMBER: 263	7. Sampling Areas:	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH_X
			9. Comment s (Field) NOB → TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
1	1	1x1" CEILING TILE		1 OFFICE SPACE	3,720 SF	
1	2			" "		
1	3			" "		
2	4	GYPSUM BOARD		" "	3720 SF	
2	5	"		" (KITCHEN)		
2	6	"		" "		
3	7	CMU MORTAR		" WOMEN'S BATHROOM		
3	8			" "		
3	9			" "		
4	10	AIR CELL PIPE		" "		
4	11	INSULATION 3"		" "	12 LF	
4	12			" KITCHEN AREA	8 LF	
5	13	FL BOW		" "	6 LF	
5	14	INSULATION ASSOCI		" "		
5	15	w/air cell pipe ins		" KITCHEN AREA	12 LF	
6	16	WRAPPED CORK BOARD		BATHROOM IN		
6	17	PIPE INSULATION		OPEN BUILDING	12 LF	
6	18	↓		SPACE		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <i>Philip Carrington</i>	3/1/21	3:40pm	<i>Evelyn Ely</i>	3/1/2021	16:00	Field
II.						Walk In
						US Mail
						Fed-Ex
III.						Other

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26 Time	27. Comments (Lab)
24a. Analyzed By: <i>Michael City</i>	3/2/2021	07:45	13 PLM NOB-PROP 3 NOB-PLM 3 NOB-TEM 3
24b. Analyzed By: <i>Michael City</i>	3/2/2021	13:35	
24c. QC By:			

TEM: *Fayza Gunga Poo* 3/2/21 16:30



BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: <u>2/26/21</u>	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
6. BUILDING NUMBER: <u>203</u>	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X_		9. Comments (Field) NOB → TEM Stop @ 1st Positive
7. Sampling Areas:			

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
7	19	MUDDIED JOINT		1 BATHROOM IN OPEN BUILDING SPACE	2 LF	
7	20	FITTING INSULATION				
7	21					

Should be treated as ACM because pipe is ACM

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <u>Philip Carrington</u>	<u>3/1/21</u>	<u>3:40 pm</u>	<u>E. Velazquez</u>	<u>3/1/2021</u>	<u>16:00</u>	Field
II.						Walk In
III.						US Mail
						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
24a. Analyzed By: <u>Michael C. [Signature]</u>	<u>3/2/21</u>	<u>07:45</u>	
24b. Analyzed By: <u>Michael C. [Signature]</u>	<u>3/2/21</u>	<u>13:35</u>	
24c. QC By:			



BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
 Analysis Date 3/2/2021 Analyst MV Batch Number 21-226 TEMPERATURE °C 23

1	Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	1	Gravimetric Required <input checked="" type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>tan</u> Texture <u>F</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identify Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
	SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results <input type="checkbox"/>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Asb./Ver. PT Total PT <u>0 20 0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>						

2	Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	2	Gravimetric Required <input checked="" type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>tan</u> Texture <u>F</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identify Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
	SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results <input type="checkbox"/>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Asb./Ver. PT Total PT <u>0 20 0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>						

3	Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	3	Gravimetric Required <input checked="" type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>tan</u> Texture <u>F</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identify Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
	SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results <input type="checkbox"/>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Asb./Ver. PT Total PT <u>0 20 0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>						

4	Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
	4	Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>white</u> Texture <u>F</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u> </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identify Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
	SM-V	Point Counts Required <input type="checkbox"/> See SM-V analysis sheet for results <input type="checkbox"/>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Asb./Ver. PT Total PT <u>0 20 0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>						

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*
Note #2: ELAP requires method 198.6 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS_DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS_BULK FORMS 2021\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MLC Batch Number 21-226 TEMPERATURE °C 23

1	5	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Field Number		Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Required <input type="checkbox"/>	Color <u>White</u>	Texture <u>F</u>																						
Recommended <input type="checkbox"/>		Homogeneity <u>1</u>	Vermiculite <u>1</u>																						
See gravimetric analysis sheet for results <input type="checkbox"/>		# of Layers <u>1</u>	Asbestos <u>1</u>																						
SM-V	Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
	See SM-V analysis sheet for results <input type="checkbox"/>	PLM <u>70</u>									<u>0</u>	<u>70</u>	<u>0</u>												
Comments:																									
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION		Q.C. <input type="checkbox"/>																							

2	6	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Field Number		Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Required <input type="checkbox"/>	Color <u>White</u>	Texture <u>F</u>																						
Recommended <input type="checkbox"/>		Homogeneity <u>1</u>	Vermiculite <u>1</u>																						
See gravimetric analysis sheet for results <input type="checkbox"/>		# of Layers <u>1</u>	Asbestos <u>1</u>																						
SM-V	Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
	See SM-V analysis sheet for results <input type="checkbox"/>	PLM <u>70</u>									<u>0</u>	<u>70</u>	<u>0</u>												
Comments:																									
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION		Q.C. <input type="checkbox"/>																							

3	7	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Field Number		Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Required <input type="checkbox"/>	Color <u>Grey</u>	Texture <u>C</u>																						
Recommended <input type="checkbox"/>		Homogeneity <u>1</u>	Vermiculite <u>1</u>																						
See gravimetric analysis sheet for results <input type="checkbox"/>		# of Layers <u>1</u>	Asbestos <u>1</u>																						
SM-V	Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
	See SM-V analysis sheet for results <input type="checkbox"/>	PLM <u>70</u>									<u>0</u>	<u>70</u>	<u>0</u>												
Comments:																									
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION		Q.C. <input type="checkbox"/>																							

4	8	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Field Number		Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Required <input type="checkbox"/>	Color <u>Grey</u>	Texture <u>C</u>																						
Recommended <input type="checkbox"/>		Homogeneity <u>1</u>	Vermiculite <u>1</u>																						
See gravimetric analysis sheet for results <input type="checkbox"/>		# of Layers <u>1</u>	Asbestos <u>1</u>																						
SM-V	Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
	See SM-V analysis sheet for results <input type="checkbox"/>	PLM <u>70</u>									<u>0</u>	<u>70</u>	<u>0</u>												
Comments:																									
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION		Q.C. <input type="checkbox"/>																							

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MLG Batch Number 21-226 TEMPERATURE °C 23

1	9	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Field Number		Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Required <input type="checkbox"/>	Color <u>Grey</u>	Texture <u>C</u>																						
Recommended <input type="checkbox"/>		Homogeneity <u>1</u>	Vermiculite <u>1</u>																						
See gravimetric analysis sheet for results <input type="checkbox"/>		# of Layers <u>1</u>	Asbestos <u>1</u>																						
SM-V	Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
	See SM-V analysis sheet for results <input type="checkbox"/>	PLM <u>70</u>									<u>0</u>	<u>70</u>	<u>0</u>												
Comments:																									
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION		Q.C. <input type="checkbox"/>																							

2	10	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Field Number		Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Required <input type="checkbox"/>	Color <u>tan</u>	Texture <u>F</u>																						
Recommended <input type="checkbox"/>		Homogeneity <u>1</u>	Vermiculite <u>1</u>																						
See gravimetric analysis sheet for results <input type="checkbox"/>		# of Layers <u>1</u>	Asbestos <u>1</u>																						
SM-V	Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
	See SM-V analysis sheet for results <input type="checkbox"/>	PLM <u>70</u>									<u>0</u>	<u>70</u>	<u>0</u>												
Comments:																									
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION		Q.C. <input type="checkbox"/>																							

3	11	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Field Number		Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Required <input type="checkbox"/>	Color <u>tan</u>	Texture <u>F</u>																						
Recommended <input type="checkbox"/>		Homogeneity <u>1</u>	Vermiculite <u>1</u>																						
See gravimetric analysis sheet for results <input type="checkbox"/>		# of Layers <u>1</u>	Asbestos <u>1</u>																						
SM-V	Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
	See SM-V analysis sheet for results <input type="checkbox"/>	PLM <u>70</u>									<u>0</u>	<u>70</u>	<u>0</u>												
Comments:		see 10																							
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION		Q.C. <input type="checkbox"/>																							

4	12	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Field Number		Color	Texture	Morph	Extinction	RI 1	RI 2	DS	Color	Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other	
Gravimetric	Required <input type="checkbox"/>	Color <u>tan</u>	Texture <u>F</u>																						
Recommended <input type="checkbox"/>		Homogeneity <u>1</u>	Vermiculite <u>1</u>																						
See gravimetric analysis sheet for results <input type="checkbox"/>		# of Layers <u>1</u>	Asbestos <u>1</u>																						
SM-V	Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.												
	See SM-V analysis sheet for results <input type="checkbox"/>	PLM <u>70</u>									<u>0</u>	<u>70</u>	<u>0</u>												
Comments:		see 10																							
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION		Q.C. <input type="checkbox"/>																							

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-226 TEMPERATURE °C 25

13	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Gravimetric	Color <u>Grey</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	50	Chrysotile	Cellulose	50	Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite													Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos													Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM	1/3	1/1	1/2	1/2					4	8	50						
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.					

14	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Gravimetric	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile	Cellulose		Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite													Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos													Other	Other		Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments:	<u>see 13</u>																
	Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.					

15	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Gravimetric	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile	Cellulose		Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite													Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos													Other	Other		Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments:	<u>see 13</u>																
	Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.					

16	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Gravimetric	Color <u>GM</u>	Texture <u>B</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile	Cellulose	90	Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite													Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos													Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM	1/8								0	200	0						
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-226 TEMPERATURE °C 25

17	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Gravimetric	Color <u>Tan</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	12	Chrysotile	Cellulose	80	Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite													Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos													Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM	1/8	1/9	1/8	1/8					4	33	12						
See SM-V analysis sheet for results	NOB PLM																	
	Comments:	<u>Possible field contamination?</u>																
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.					

18	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Gravimetric	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile	Cellulose		Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite													Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos													Other	Other		Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM																	
See SM-V analysis sheet for results	NOB PLM																	
	Comments:	<u>see 17</u>																
	Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.					

19	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Gravimetric	Color <u>Grey</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile	Cellulose	70	Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite													Amosite	Fiberglass	30	Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos													Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM	1/8								0	20	0						
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input checked="" type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.					

20	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %	
Gravimetric	Color <u>Grey</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity		Chrysotile	Cellulose	75	Mineral Filler
Required <input type="checkbox"/>	Homogeneity	Vermiculite													Amosite	Fiberglass	25	Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos													Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No														Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.						
Required <input type="checkbox"/>	PLM	1/8								0	20	0						
See SM-V analysis sheet for results	NOB PLM																	
	Comments:																	
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION									<input type="checkbox"/> Q.C.					

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

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ATC Group Services LLC

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Client: ATC - NEW YORK
104 EAST 25TH STREET
NEW YORK, NY 10010
Fax: (212) 353-3599 **Phone:** (212) 353-8280
Project: PANYNJ / FIRESPRINKLER REHABILITATION

Sample Date: 4/8/2021
Date Received : 4/8/2021
Date Analyzed : 4/9/2021
ATC Batch # 21-618

Methods: ELAP 198.1, 198.6, 198.4

Location: PN / BUILDING #263
Project # 214PNPEPJ1/TASK0001

Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
22	1ST FLOOR SPRINKLER ROOM EAST	CMU WALL MORTAR	PLM	100% Mineral Filler	0.0% Vermiculite		NONE DETECTED
21-618 -1		Color: Brown					
Analyzed By: Ivan Reyes							
23	1ST FLOOR SPRINKLER ROOM EAST	CMU WALL MORTAR	PLM	100% Mineral Filler	0.0% Vermiculite		NONE DETECTED
21-618 -2		Color: Brown					
Analyzed By: Ivan Reyes							
24	1ST FLOOR SPRINKLER ROOM EAST	CMU WALL MORTAR	PLM	100% Mineral Filler	0.0% Vermiculite		NONE DETECTED
21-618 -3		Color: Brown					
Analyzed By: Ivan Reyes							
25	1ST FLOOR SPRINKLER ROOM EAST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES	PLM	33% Mineral Filler	0.0% Vermiculite	67% Chrysotile	
21-618 -4		Color: Gray					
Analyzed By: Ivan Reyes							
Total Asbestos: 67 %							
26	1ST FLOOR SPRINKLER ROOM EAST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES					NOT ANALYZED
21-618 -5							
Comments: Positive stp, see #25							
27	1ST FLOOR SPRINKLER ROOM EAST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES					NOT ANALYZED
21-618 -6							
Comments: Positive stp, see #25							
28	1ST FLOOR SPRINKLER ROOM WEST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES	PLM	33% Mineral Filler	0.0% Vermiculite	67% Chrysotile	
21-618 -7		Color: Gray					
Analyzed By: Ivan Reyes							
Total Asbestos: 67 %							



ATC Group Services LLC

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Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
29	1ST FLOOR SPRINKLER ROOM WEST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES					NOT ANALYZED
21-618 -8							
Comments: Positive stop, see #28							
30	1ST FLOOR SPRINKLER ROOM WEST @ CEILING	PACKING INSULATION @ PENETRATION 8" PIPES					NOT ANALYZED
21-618 -9							
Comments: Positive stop, see #28							
31	1ST FLOOR WAREHOUSE SMALL BATHROOM	TECTUM CEILING BOARD	NOB-TEM		0.0% Vermiculite	31.4% Organic Residue 11.1% Carbonate	NONE DETECTED
21-618 -10		Color: White/Tan					
Analyzed By: Mei Wang Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
32	1ST FLOOR WAREHOUSE SMALL BATHROOM	TECTUM CEILING BOARD	NOB-TEM		0.0% Vermiculite	32.4% Organic Residue 16.1% Carbonate	NONE DETECTED
21-618 -11		Color: White/Tan					
Analyzed By: Mei Wang Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
33	1ST FLOOR WAREHOUSE SMALL BATHROOM	TECTUM CEILING BOARD	NOB-TEM		0.0% Vermiculite	32.9% Organic Residue 14.4% Carbonate	NONE DETECTED
21-618 -12		Color: White/Tan					
Analyzed By: Mei Wang Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
34	1ST FLOOR WAREHOUSE DIVIDING WALL	WALL BLANKET INSULATION	PLM	Trace% Cellulose 95% FiberGlass	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-618 -13		Color: Brown					
Analyzed By: Ivan Reyes							
35	1ST FLOOR WAREHOUSE DIVIDING WALL	WALL BLANKET INSULATION	PLM	Trace% Cellulose 95% FiberGlass	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-618 -14		Color: Brown					
Analyzed By: Ivan Reyes							
36	1ST FLOOR WAREHOUSE DIVIDING WALL	WALL BLANKET INSULATION	PLM	Trace% Cellulose 95% FiberGlass	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-618 -15		Color: Brown					
Analyzed By: Ivan Reyes							



ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306



ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: _____, Amendment Dates: _____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis.
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Ivan Reyes

Analyst:

Mei Wang

Analyst:

Feyza Gungor

Analyst:

Mei Wang

Approved by

Quality Manager:

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services



BATCH NO. 21-618 ✓ Page 1 of 1

BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
5. Date: <u>4/8/21</u>	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
6. BUILDING NUMBER: <u>263</u>	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL RUSH_X		9. Comments (Field) NOB → TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
8	22	CMU WALL		1 SPRINKLER ROOM EAST		
8	23	MORTAR				
8	24	"				
9	25	PACKING INSULATION		@ CEILING	35.F.	
9	26	@ PENETRATIONS				
9	27	8" PIPES				
10	28	PACKING INSULATION		SPRINKLER ROOM WEST	35.F.	
10	29	@ PENETRATIONS		@ CEILING		
10	30	8" PIPES				
11	31	TECTUM CEILING		WAREHOUSE SHED		
11	32	BOARD		BARRIUM		
11	33	"				
12	34	WALL BLANKET		WAREHOUSE DIVIDING WALL		
12	35	INSULATION				
12	36	"				

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <u>Philip Carrington</u>	<u>4/8/21</u>	<u>3:18pm</u>	<u>Eduar Eyz</u>	<u>4/8/2021</u>	<u>15:25</u>	Field
II.						Walk In
III.						US Mail
						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature: <u>Ivan Rivero</u>	25. Date: <u>4/9/2021</u>	26. Time: <u>8:48am</u>	27. Comments (Lab)
24a. Analyzed By: <u>Ivan Rivero</u>	25. Date: <u>4/9/21</u>	26. Time: <u>13:30</u>	
24b. Analyzed By:			
24c. QC By: <u>TEM: Felipe Gungor</u>	<u>4/9/21</u>	<u>14:49</u>	



ATC - New York
104 East 25th Street, 8th FL, New York, NY 10010
Phone: (212) 353-8280, Fax: (212) 353-3599 or 8306

Accreditations:
NLAP 101187-0
ELAP 10879
Microscopes:
OLYMPUS BH-2
NIKON OPTIPHOT

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-618 TEMPERATURE °C 25

1. Field Number	22	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	<input type="checkbox"/>	Color: <u>Brown</u> Texture: <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
Recommended	<input type="checkbox"/>	Homogeneity: <u>4</u> Vermiculite: <input checked="" type="checkbox"/>				
See gravimetric analysis sheet for results	<input type="checkbox"/>	# of Layers: <u>1</u> Asbestos: <input checked="" type="checkbox"/>				
SM-V Required	<input type="checkbox"/>	Color of Layer: <u>Detected</u> Yes No	Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	<u>0</u> <u>200</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
See SM-V analysis sheet for results	<input type="checkbox"/>	Comments:	PLM: <u>0/0</u>			
		Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION				

2. Field Number	23	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	<input type="checkbox"/>	Color: <u>Brown</u> Texture: <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
Recommended	<input type="checkbox"/>	Homogeneity: <u>4</u> Vermiculite: <input checked="" type="checkbox"/>				
See gravimetric analysis sheet for results	<input type="checkbox"/>	# of Layers: <u>1</u> Asbestos: <input checked="" type="checkbox"/>				
SM-V Required	<input type="checkbox"/>	Color of Layer: <u>Detected</u> Yes No	Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	<u>0</u> <u>200</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
See SM-V analysis sheet for results	<input type="checkbox"/>	Comments:	PLM: <u>0/0</u>			
		Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION				

3. Field Number	24	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	<input type="checkbox"/>	Color: <u>Brown</u> Texture: <u>G</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
Recommended	<input type="checkbox"/>	Homogeneity: <u>4</u> Vermiculite: <input checked="" type="checkbox"/>				
See gravimetric analysis sheet for results	<input type="checkbox"/>	# of Layers: <u>1</u> Asbestos: <input checked="" type="checkbox"/>				
SM-V Required	<input type="checkbox"/>	Color of Layer: <u>Detected</u> Yes No	Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	<u>0</u> <u>200</u> <u>0</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
See SM-V analysis sheet for results	<input type="checkbox"/>	Comments:	PLM: <u>0/0</u>			
		Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION				

4. Field Number	25	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	<input type="checkbox"/>	Color: <u>Grey</u> Texture: <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
Recommended	<input type="checkbox"/>	Homogeneity: <u>4</u> Vermiculite: <input checked="" type="checkbox"/>				
See gravimetric analysis sheet for results	<input type="checkbox"/>	# of Layers: <u>1</u> Asbestos: <input checked="" type="checkbox"/>				
SM-V Required	<input type="checkbox"/>	Color of Layer: <u>Detected</u> Yes No	Point Counts: Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	<u>67</u> <u>6</u> <u>67%</u> <u>Chr</u>	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
See SM-V analysis sheet for results	<input type="checkbox"/>	Comments:	PLM: <u>1/2</u> <u>1/1</u> <u>1/1</u> <u>1/2</u>			
		Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION				

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB FORMS DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\FORMS 2020\BULK ASBESTOS ANALYSIS SHEET_FORM #B2.doc
ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-618

Accreditations:
NVLAP 101167-0
ELAP 10879

Microscopes:
OLYMPUS BH-2 /
NIKON OPTIPHOT

TEMPERATURE 25

Form 1 26: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 2 27: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 3 28: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 4 29: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-618

Accreditations:
NVLAP 101167-0
ELAP 10879

Microscopes:
OLYMPUS BH-2 /
NIKON OPTIPHOT

TEMPERATURE 25

Form 1 30: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 2 31: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 3 32: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 4 33: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-618 TEMPERATURE 25

1	34	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %	
Gravimetric Required <input type="checkbox"/>	Color <u>Brown</u> Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Amosite <u>95</u>	Fiberglass	Organic Binders	
See gravimetric analysis sheet for results <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>											Other	Other	Vermiculite*	
	Color of Layer <u> </u> Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic	Other	
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
See SM-V analysis sheet for results <input type="checkbox"/>	PLM <u>0/10</u>											0 200 0			
	NOB PLM														
	Comments:														
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.			

2	35	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %	
Gravimetric Required <input type="checkbox"/>	Color <u>Brown</u> Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Amosite <u>95</u>	Fiberglass	Organic Binders	
See gravimetric analysis sheet for results <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>											Other	Other	Vermiculite*	
	Color of Layer <u> </u> Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic	Other	
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
See SM-V analysis sheet for results <input type="checkbox"/>	PLM <u>0/10</u>											0 200 0			
	NOB PLM														
	Comments:														
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.			

3	36	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %	
Gravimetric Required <input type="checkbox"/>	Color <u>Brown</u> Texture <u>F</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Amosite <u>95</u>	Fiberglass	Organic Binders	
See gravimetric analysis sheet for results <input type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>											Other	Other	Vermiculite*	
	Color of Layer <u> </u> Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic	Other	
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
See SM-V analysis sheet for results <input type="checkbox"/>	PLM <u>0/10</u>											0 200 0			
	NOB PLM														
	Comments:														
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.			

4	37	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %	
Gravimetric Required <input type="checkbox"/>	Color <u> </u> Texture <u> </u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
Recommended <input type="checkbox"/>	Homogeneity <u> </u> Vermiculite <u> </u>											Amosite	Fiberglass	Organic Binders	
See gravimetric analysis sheet for results <input type="checkbox"/>	# of Layers <u> </u> Asbestos <u> </u>											Other	Other	Vermiculite*	
	Color of Layer <u> </u> Detected Yes No											<input type="checkbox"/> Cellulose Ondulose Extinction	<input type="checkbox"/> Fiberglass Isotropic	Other	
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.		
See SM-V analysis sheet for results <input type="checkbox"/>	PLM														
	NOB PLM														
	Comments:														
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.			

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET



Client/Project: PANYNJ RUSH PLM Batch # 21-618 TEM Batch # 122928 Start Date: 04/09/21
NOB PLM PREP: MG/EV NOB PLM Analyst: MWV NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 04/09/21

Field #	%	Organic	Non Asb Residue % NFr	%	Carbonate	Asbestos Types or Vermiculite	9	13	Methods		
									NOB	TEM	PREP
31	31.4		11.1	57.5		ND			>	>	>
32	32.4		16.1	51.5		ND			>	>	>
33	32.9		14.4	52.7		ND			>	>	>

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
2. Refer to PLM analysis sheet for NOB results and/or point count data.
3. Vermiculite not reported = not detected.



ATC Group Services LLC

104 E. 25th Street, 8th Floor
New York, NY 10010
Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
54	1ST FLOOR WEST SIDE EXT WALL INTERIOR SIDE	INI. CAULKING ON WALL PERIMETER	NOB-PREP			36.9% Organic 7.1% Residue 56% Carbonate	NOT ANALYZED
21-1759 -18				Color: Tan		Comments: Not analyzed by NOB PLM, positive stop, see #52	
Analyzed By: Michael Gittings				Total Asbestos: 67 %			
55	1ST FLOOR WEST SIDE SPRINKLER ROOM INTERIOR WALL & FLOOR @ PIPE PENETRATION	PACKING INSULATION PIPE @ PENETRATION	PLM		33% Mineral Filler 0.0% Vermiculite		67% Chrysotile
21-1759 -19				Color: White			
Analyzed By: Michael Gittings				Total Asbestos: 67 %			
56	1ST FLOOR WEST SIDE SPRINKLER ROOM INTERIOR WALL & FLOOR @ PIPE PENETRATION	PACKNG INSULATION PIPE @ L PENETRATION					NOT ANALYZED
21-1759 -20						Comments: Positive stop, see #55	
57	1ST FLOOR WEST SIDE SPRINKLER ROOM INTERIOR WALL & FLOOR @ PIPE PENETRATION	PACKNG INSULATION PIPE @ PENETRATION					NOT ANALYZED
21-1759 -21						Comments: Positive stop, see #55	
58	1ST FLOOR WEST SIDE SPRINKLER ROOM DOOR	EXT DOOR CAULKING	NOB-PLM		0.0% Vermiculite	29.4% Organic 49.1% Residue 21.5% Carbonate	NONE DETECTED
21-1759 -22				Color: Brown		Comments: NOB-PLM inconclusive, positive stop, see #59	
Analyzed By: Michael Gittings							
59	1ST FLOOR WEST SIDE SPRINKLER ROOM DOOR	EXT DOOR CAULKING	NOB-PLM		0.0% Vermiculite	38.9% Organic 5.1% Residue 52% Carbonate	4% Chrysotile
21-1759 -23				Color: Brown			
Analyzed By: Michael Gittings				Total Asbestos: 4.0 %			
60	1ST FLOOR WEST SIDE SPRINKLER ROOM DOOR	EXT DOOR CAULKING	NOB-PREP			38.6% Organic 8.1% Residue 53.3% Carbonate	NOT ANALYZED
21-1759 -24				Color: Brown		Comments: Not analyzed by NOB PLM, positive stop, see #59	
Analyzed By: Michael Gittings							
61	1ST FLOOR WEST SIDE PRINKLER ROOM / RXT WALL @ CORRUGATED WALL & CONCRETE WALL	WEATHER STRIP SEAL BLOCK	NOB-TEM		0.0% Vermiculite	50% Organic 35.1% Residue 14.9% Carbonate	NONE DETECTED
21-1759 -25				Color: Black		Comments: NOB PLM Inconclusive	
Analyzed By: Michael Gittings				Second Analyst: Mark Peysakhov			
62	1ST FLOOR WEST SIDE PRINKLER ROOM / RXT WALL @ CORRUGATED WALL & CONCRETE WALL	WEATHER STRIP SEAL BLOCK	NOB-TEM		0.0% Vermiculite	50.5% Organic 28.4% Residue 21.1% Carbonate	NONE DETECTED
21-1759 -26				Color: Black		Comments: NOB PLM Inconclusive	
Analyzed By: Michael Gittings				Second Analyst: Mark Peysakhov			
63	1ST FLOOR WEST SIDE PRINKLER ROOM / RXT WALL @ CORRUGATED WALL & CONCRETE WALL	WEATHER STRIP SEAL BLOCK	NOB-TEM		0.0% Vermiculite	50.8% Organic 26.9% Residue 22.3% Carbonate	NONE DETECTED
21-1759 -27				Color: Black		Comments: NOB PLM Inconclusive	
Analyzed By: Michael Gittings				Second Analyst: Mark Peysakhov			



ATC Group Services LLC

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Tel. 212-353-8280
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
NOTES:							
1) The Limit of Detection is the same as the Reporting Limit for these results.							
2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.							
3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM							
4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.							
5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879							
6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.							
7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.							
8) Asbestos results are reliable to 2 significant figures.							
9) The condition of all samples was acceptable upon receipt.							
10) The laboratory certifies that the test results meet all requirements of NELAC.							
11) Supplement to test report batch # _____, Amendments: _____. Amendment Dates: _____. Amended by: _____							
12) PLM Letter is attached on this report.							
13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.							
14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis							
15) The uncertainty for these test results is available upon request.							
16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."							
Michael Gittings				Mei Wang			
Analyst:				Approved by:			
Mark Peysakhov				Quality Manager:			
Analyst:							



**ELAP
BULK ASBESTOS ANALYSIS RESULTS**

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

- ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi
ATC Group Services LLC
Director of Laboratory Services

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BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

PROJECT INFORMATION

1. Client PANYNJ	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: 214PNPEPJ1	4a. Project Manager: R. Rivero
	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: 0001	4b. Inspector: PHILIP CARRINGTON
5. Date: 11/9/21	6. BUILDING NUMBER: 263	7. Sampling Areas: SPRINKLER ROOM	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X
			9. Comment s (Field) NOB → TEM Stop @ 1st Positive

BULK SAMPLE LOCATION

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location		15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
				Floor	Sample Coordinates		
NOB 13	37	INTERIOR DOOR		1	EAST SIDE SPRINKLER		
13	38	CAULKING		1	ROOM DOOR		
13	39	"			"		
POB 14	40	INTERIOR CAULKING			EAST SIDE SPRINKLER		
14	41	ON WALL PERIMETER			ROOM EXTERIOR WALL		
14	42	"			INTERIOR		
15	43	PACKING INSULATION			EAST SIDE SPRINKLER		
15	44	@ WALL			ROOM INT. WALL		
15	45	PIPE PENETRATION			ROOM EXTERIOR WALL		
16	46	WRAPPER STRIP			EAST SIDE SPRINKLER ROOM @ COLLECTOR WALL		
16	47	SEAL BLOCK			CONCRETE WALL		
16	48	"			"		
POB 17	49	INT. DOOR			WEST SIDE SPR. ROOM		
17	50	CAULKING			DOOR		
17	51	"			"		
NOB 18	52	CAULKING			EXT WALL INTERIOR SIDE		
18	53	ON WALL PERIMETER			"		
18	54	"			"		

CHAIN OF CUSTODY

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. Philip Carrington	11-9-21	7:52 PM	ZAFAC Analyst	11/9/21	2:00 PM	Field Walk In
II.			ZR			US Mail
III.						Fed-Ex
						Other

LABORATORY INFORMATION

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
24a. Analyzed By: Michael Cozz	11/10/21	06:30	ZAL
24b. Analyzed By: Michael Cozz	11/11/21	06:20	
24c. QC By: Michael Cozz	11/11/21	11:15	

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ BLDG # 263

Project Number 214PNPEP11

Analysis Date 11/10/2021

Analyst MJG

Batch Number 21-1768-1759

TEMPERATURE °C 23

1	41	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
			Color Tan	Texture MF	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
			Homogeneity 7	Vermiculite 1										Amosite	Fiberglass	Organic Binders	
			# of Layers 1	Asbestos 1										Other	Other	Vermiculite*	
			Color of Layer	Detected Yes No												Other	
			Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
			PLM														
			NOB PLM														
			Comments:	See 40													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>										

2	42	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
			Color Tan	Texture MF	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
			Homogeneity 7	Vermiculite 1										Amosite	Fiberglass	Organic Binders	
			# of Layers 1	Asbestos 1										Other	Other	Vermiculite*	
			Color of Layer	Detected Yes No												Other	
			Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
			PLM														
			NOB PLM														
			Comments:	See 40													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>										

3	43	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
			Color White	Texture F	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
			Homogeneity 7	Vermiculite 1										Amosite	Fiberglass	Organic Binders	
			# of Layers 1	Asbestos 1										Other	Other	Vermiculite*	
			Color of Layer	Detected Yes No												Other	
			Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
			PLM	1/2	1/1	1/1	1/1						45	80			
			NOB PLM														
			Comments:	See 40													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/> MJG										

4	44	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
			Color	Texture	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
			Homogeneity	Vermiculite										Amosite	Fiberglass	Organic Binders	
			# of Layers	Asbestos										Other	Other	Vermiculite*	
			Color of Layer	Detected Yes No												Other	
			Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
			PLM														
			NOB PLM														
			Comments:	See 43													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>										

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

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Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.

Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

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ATC EFFECTIVE DATE 06/24/2021 REVISION #34 BY MEI WANG FORM #82

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ BLDG # 263

Project Number 214PNPEP11

Analysis Date 11/10/2021

Analyst MJG

Batch Number 21-1760-1759

TEMPERATURE °C 23

1	45	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
			Color	Texture	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
			Homogeneity	Vermiculite										Amosite	Fiberglass	Organic Binders	
			# of Layers	Asbestos										Other	Other	Vermiculite*	
			Color of Layer	Detected Yes No												Other	
			Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
			PLM														
			NOB PLM														
			Comments:	See 43													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>										

2	46	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
			Color Gray	Texture MF	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
			Homogeneity 7	Vermiculite 1										Amosite	Fiberglass	Organic Binders	
			# of Layers 1	Asbestos 1										Other	Other	Vermiculite*	
			Color of Layer	Detected Yes No												Other	
			Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
			PLM														
			NOB PLM														
			Comments:	See 40													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>										

3	47	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
			Color Gray	Texture MF	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
			Homogeneity 7	Vermiculite 1										Amosite	Fiberglass	Organic Binders	
			# of Layers 1	Asbestos 1										Other	Other	Vermiculite*	
			Color of Layer	Detected Yes No												Other	
			Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
			PLM														
			NOB PLM														
			Comments:	See 40													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>										

4	48	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
			Color Gray	Texture MF	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
			Homogeneity 7	Vermiculite 1										Amosite	Fiberglass	Organic Binders	
			# of Layers 1	Asbestos 1										Other	Other	Vermiculite*	
			Color of Layer	Detected Yes No												Other	
			Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
			PLM														
			NOB PLM														
			Comments:	See 40													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>										

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

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Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/BLDG # 263

Project Number 214PNPEPJ1

Analysis Date 11/10/2021

Analyst MJG

Batch Number 21-4760-1759

TEMPERATURE °C 23

1	57	Field Number	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %		
			Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler
			Required <input type="checkbox"/>												Amosite	Fiberglass	Organic Binders
			Recommended <input type="checkbox"/>												Other	Other	Vermiculite*
			See gravimetric analysis sheet for results <input type="checkbox"/>														Other
			Color of Layer	Detected	Yes	No											
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
			Required <input type="checkbox"/>	PLM													
			See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM													
			Comments:	<u>See 55</u>													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.

2	58	Field Number	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %		
			Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler
			Required <input type="checkbox"/>												Amosite	Fiberglass	Organic Binders
			Recommended <input type="checkbox"/>												Other	Other	Vermiculite*
			See gravimetric analysis sheet for results <input type="checkbox"/>														Other
			Color of Layer	Detected	Yes	No											
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
			Required <input type="checkbox"/>	PLM													
			See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM													
			Comments:	<u>See 59</u>													
			Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.

3	59	Field Number	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %		
			Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler
			Required <input type="checkbox"/>												Amosite	Fiberglass	Organic Binders
			Recommended <input type="checkbox"/>												Other	Other	Vermiculite*
			See gravimetric analysis sheet for results <input type="checkbox"/>														Other
			Color of Layer	Detected	Yes	No											
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
			Required <input type="checkbox"/>	PLM													
			See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM													
			Comments:	<u>See 59</u>													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.

4	60	Field Number	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %		
			Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler
			Required <input type="checkbox"/>												Amosite	Fiberglass	Organic Binders
			Recommended <input type="checkbox"/>												Other	Other	Vermiculite*
			See gravimetric analysis sheet for results <input type="checkbox"/>														Other
			Color of Layer	Detected	Yes	No											
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
			Required <input type="checkbox"/>	PLM													
			See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM													
			Comments:	<u>See 59</u>													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

THIS DOCUMENT OR FORM IS UNCONTROLLED WHEN PRINTED
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.5. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS\DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS BULK FORMS 2021\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc
ATC EFFECTIVE DATE 06/24/2021 REVISION #34 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/BLDG # 263

Project Number 214PNPEPJ1

Analysis Date 11/10/2021

Analyst MJG

Batch Number 21-4760-1759

TEMPERATURE °C 23

1	61	Field Number	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %		
			Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler
			Required <input type="checkbox"/>												Amosite	Fiberglass	Organic Binders
			Recommended <input type="checkbox"/>												Other	Other	Vermiculite*
			See gravimetric analysis sheet for results <input type="checkbox"/>														Other
			Color of Layer	Detected	Yes	No											
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
			Required <input type="checkbox"/>	PLM													
			See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM													
			Comments:	<u>See 55</u>													
			Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.

2	62	Field Number	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %		
			Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler
			Required <input type="checkbox"/>												Amosite	Fiberglass	Organic Binders
			Recommended <input type="checkbox"/>												Other	Other	Vermiculite*
			See gravimetric analysis sheet for results <input type="checkbox"/>														Other
			Color of Layer	Detected	Yes	No											
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
			Required <input type="checkbox"/>	PLM													
			See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM													
			Comments:	<u>See 59</u>													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.

3	63	Field Number	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %		
			Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler
			Required <input type="checkbox"/>												Amosite	Fiberglass	Organic Binders
			Recommended <input type="checkbox"/>												Other	Other	Vermiculite*
			See gravimetric analysis sheet for results <input type="checkbox"/>														Other
			Color of Layer	Detected	Yes	No											
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
			Required <input type="checkbox"/>	PLM													
			See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM													
			Comments:	<u>See 59</u>													
			Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.

4	64	Field Number	Stereoscopic Exam		PLM Optical Properties								Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %		
			Color	Texture	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler
			Required <input type="checkbox"/>												Amosite	Fiberglass	Organic Binders
			Recommended <input type="checkbox"/>												Other	Other	Vermiculite*
			See gravimetric analysis sheet for results <input type="checkbox"/>														Other
			Color of Layer	Detected	Yes	No											
			SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.		
			Required <input type="checkbox"/>	PLM													
			See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM													
			Comments:	<u>See 59</u>													
			Method:	<input type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.

Methods:
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
EPA 600/R-93/116
ELAP Items 198.1, 198.4, 198.6, 198.8

THIS DOCUMENT OR FORM IS UNCONTROLLED WHEN PRINTED
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.
L:\LAB_FORMS\DOCUMENTS AND RECORDS\OPTICAL\ASBESTOS_BULK\ASBESTOS BULK FORMS 2021\BULK ASBESTOS ANALYSIS SHEET FORM #B2.doc
ATC EFFECTIVE DATE 06/24/2021 REVISION #34 BY MEI WANG FORM #B2



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-1759 TEM Batch # 125166 Start Date: 11/10/21
 NOB PLM PREP: SA/ZANSARI NOB PLM Analyst: MJG NOB TEM PREP: SH NOB TEM Analyst: MP Date Completed: 11/11/21

Field #	% Organic	11		12	9	13	Notes	Methods		
		Non Asb Residue % NFr	% Carbonate					Asbestos Types or Vermiculite	% Total Asbestos or Vermiculite	NOB PREP
37	33.8	6.5	56.1	Chrysotile	3.6			✓	✓	
38	37.9	8.9	53.2	NA		Positive Stop		✓		
39	36.3	8.6	55.1	NA		Positive Stop		✓		
40	33.3	4.5	57.7	Chrysotile	4.5			✓	✓	
41	33.6	10.3	56.1	NA		Positive Stop		✓		
42	31.7	6.6	61.7	NA		Positive Stop		✓		
46	52.5	30.3	17.2	ND				✓	✓	✓
47	51.4	30.6	18.0	ND				✓	✓	✓
48	50.4	34.0	15.6	ND				✓	✓	✓
49	33.3	5.3	58.4	Chrysotile	3.0			✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.



**ATC Group Services LLC
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-1759 TEM Batch # 125166 Start Date: 11/10/21
 NOB PLM PREP: SA/ZANSARI NOB PLM Analyst: MJG NOB TEM PREP: SH NOB TEM Analyst: MP Date Completed: 11/11/21

Field #	% Organic	11		12	9	13	Notes	Methods		
		Non Asb Residue % NFr	% Carbonate					Asbestos Types or Vermiculite	% Total Asbestos or Vermiculite	NOB PREP
50	34.7	7.9	57.4	NA		Positive Stop		✓		
51	35.1	8.6	56.3	NA		Positive Stop		✓		
52	37.9	3.1	56.9	Chrysotile	2.1			✓	✓	
53	35.0	8.0	57.0	NA		Positive Stop		✓		
54	36.9	7.1	56.0	NA		Positive Stop		✓		
58	29.4	49.1	21.5	ND				✓	✓	✓
59	38.9	5.1	52.0	Chrysotile	4.0			✓	✓	
60	38.6	8.1	53.3	NA		Positive Stop		✓		
61	50.0	35.1	14.9	ND				✓	✓	✓
62	50.5	28.4	21.1	ND				✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.
 2. Refer to PLM analysis sheet for NOB results and/or point count data.
 3. Vermiculite not reported = not detected.

APPENDIX B

PCB-IN-CAULKING LABORATORY RESULTS AND CHAIN OF CUSTODIES

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Laboratory Report for PCBs in Solid Waste (Revised)

Report No.:2215161-19616R

Customer: Atlas Technical Consultants
104 East 25th Street, 8th Fl.
New York, NY 10010

Analytical results pertain only to the samples tested in the condition received by the laboratory. This report must not be reproduced except in its entirety, unless with express written permission from the laboratory.

Project: Fire Sprinkler Rehabilitation; Bldg. 263

Lab Sample ID: 211110H030	Collected: 11/9/2021
Client ID: PCB 37	Received: 11/10/2021 7:30
Description: East Side Sprinkler Room Door, Int Door Caulking	


Parameter	Method	Analysis Date	LOQ	Result	Units	Flag(s)
PCB 1016	EPA 8082A	11/12/21	0.480	<0.480	mg/kg	
PCB 1221	EPA 8082A	11/12/21	0.480	<0.480	mg/kg	
PCB 1232	EPA 8082A	11/12/21	0.480	<0.480	mg/kg	
PCB 1242	EPA 8082A	11/12/21	0.480	<0.480	mg/kg	
PCB 1248	EPA 8082A	11/12/21	0.480	<0.480	mg/kg	
PCB 1254	EPA 8082A	11/12/21	0.480	<0.480	mg/kg	
PCB 1260	EPA 8082A	11/12/21	0.480	<0.480	mg/kg	
Extraction	EPA 3550C	11/10/21				

Lab Sample ID: 211110H031	Collected: 11/9/2021
Client ID: PCB 40	Received: 11/10/2021 7:30
Description: East Side Sprinkler Room Ext Wall, Int Side Caulking	

Parameter	Method	Analysis Date	LOQ	Result	Units	Flag(s)
PCB 1016	EPA 8082A	11/12/21	0.491	<0.491	mg/kg	
PCB 1221	EPA 8082A	11/12/21	0.491	<0.491	mg/kg	
PCB 1232	EPA 8082A	11/12/21	0.491	<0.491	mg/kg	
PCB 1242	EPA 8082A	11/12/21	0.491	<0.491	mg/kg	
PCB 1248	EPA 8082A	11/12/21	0.491	<0.491	mg/kg	
PCB 1254	EPA 8082A	11/12/21	0.491	<0.491	mg/kg	
PCB 1260	EPA 8082A	11/12/21	0.491	<0.491	mg/kg	
Extraction	EPA 3550C	11/10/21				

Lab Sample ID: 211110H032	Collected: 11/9/2021
Client ID: PCB 49	Received: 11/10/2021 7:30
Description: West Side Sprinkler Room Door, Int Door Caulking	

Parameter	Method	Analysis Date	LOQ	Result	Units	Flag(s)
PCB 1016	EPA 8082A	11/12/21	0.467	<0.467	mg/kg	
PCB 1221	EPA 8082A	11/12/21	0.467	<0.467	mg/kg	
PCB 1232	EPA 8082A	11/12/21	0.467	<0.467	mg/kg	
PCB 1242	EPA 8082A	11/12/21	0.467	<0.467	mg/kg	
PCB 1248	EPA 8082A	11/12/21	0.467	<0.467	mg/kg	
PCB 1254	EPA 8082A	11/12/21	0.467	<0.467	mg/kg	
PCB 1260	EPA 8082A	11/12/21	0.467	<0.467	mg/kg	
Extraction	EPA 3550C	11/10/21				

Approved: 
Li Tsang, Laboratory Director

Laboratory Report for PCBs in Solid Waste (Revised)

Report No.:2215161-19616R

Lab Sample ID: 211110H033	Collected: 11/9/2021
Client ID: PCB 52	Received: 11/10/2021 7:30
Description: West Side Sprinkler Room Ext Wall, Int. Side Caulking	

Parameter	Method	Analysis Date	LOQ	Result	Units	Flag(s)
PCB 1016	EPA 8082A	11/12/21	0.482	<0.482	mg/kg	
PCB 1221	EPA 8082A	11/12/21	0.482	<0.482	mg/kg	
PCB 1232	EPA 8082A	11/12/21	0.482	<0.482	mg/kg	
PCB 1242	EPA 8082A	11/12/21	0.482	<0.482	mg/kg	
PCB 1248	EPA 8082A	11/12/21	0.482	<0.482	mg/kg	
PCB 1254	EPA 8082A	11/12/21	0.482	<0.482	mg/kg	
PCB 1260	EPA 8082A	11/12/21	0.482	<0.482	mg/kg	
Extraction	EPA 3550C	11/10/21				

Lab Sample ID: 211110H034	Collected: 11/9/2021
Client ID: PCB 58	Received: 11/10/2021 7:30
Description: West Side Sprinkler Room Ext Door, Ext Door Caulking	


Parameter	Method	Analysis Date	LOQ	Result	Units	Flag(s)
PCB 1016	EPA 8082A	11/12/21	0.497	<0.497	mg/kg	
PCB 1221	EPA 8082A	11/12/21	0.497	<0.497	mg/kg	
PCB 1232	EPA 8082A	11/12/21	0.497	<0.497	mg/kg	
PCB 1242	EPA 8082A	11/12/21	0.497	<0.497	mg/kg	
PCB 1248	EPA 8082A	11/12/21	0.497	<0.497	mg/kg	
PCB 1254	EPA 8082A	11/12/21	0.497	<0.497	mg/kg	
PCB 1260	EPA 8082A	11/12/21	0.497	<0.497	mg/kg	
Extraction	EPA 3550C	11/10/21				

Comment(s):

LOQ: Limit of Quantitation PCB: Polychlorinated biphenyl
High-level Limit of Quantitation (LOQ) of prep method EPA 3550C is 20 mg/kg; any PCB quantities reported less than 20 mg/kg are estimated.
Samples analyzed on a wet-weight, "as-received" basis.

Revision History:

Repot revised on 12/1/2021, replaces report generated on 11/12/2021.
- Client IDs revised as per original chain of custody.

Approved: 
Li Tsang, Laboratory Director

APPENDIX C

ASBESTOS AND PCB SAMPLE LOCATION DRAWINGS

APPENDIX D

ASBESTOS LOCATION DRAWINGS

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT			
NEW JERSEY			
MARINE TERMINAL			
PORT NEWARK			

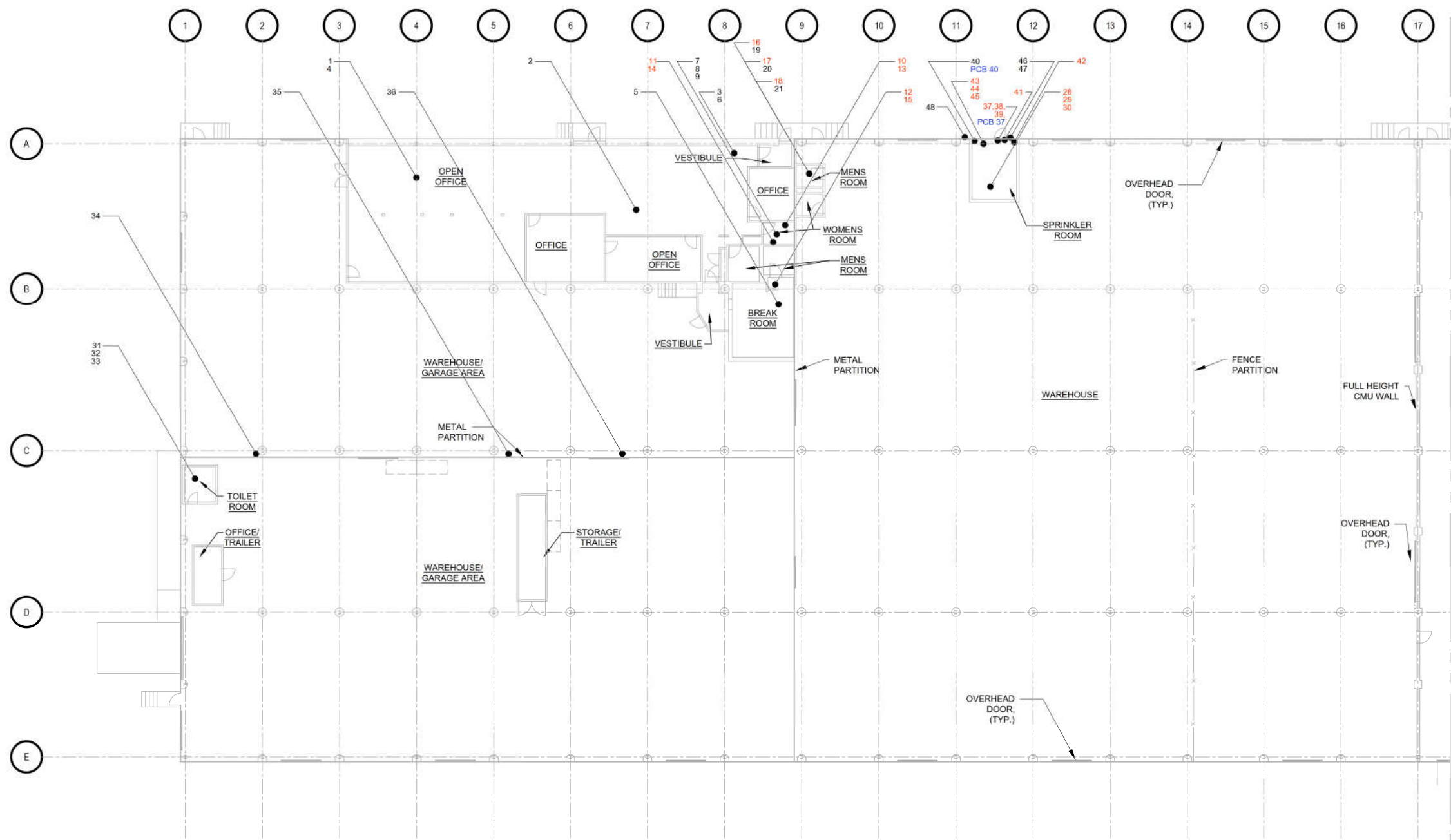
ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

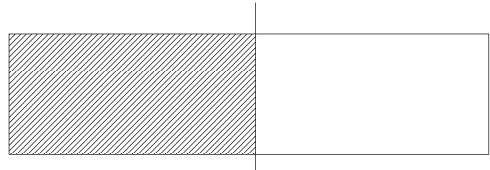
**BUILDING 263
FIRST FLOOR
SAMPLE LOCATION PLAN
(1 OF 2)
SAMPLES 1 TO 21 &
28 TO 48**

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third parties will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street - 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10037. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
 Drawn by E.MILKIS
 Checked by
 Date 12/15/2021
 Contract Number
 Drawing Number **SL001**



MATCH LINE
FOR CONTINUATION SEE DRAWING SL002



KEY PLAN

P 1 FIRST FLOOR PLAN (1 OF 2)
 SL001
 SCALE IN FEET



LEGEND

SYMBOL	DESCRIPTION
● 22	SUSPECT ASBESTOS SAMPLE LOCATION
● 15	ACM SAMPLE LOCATION
● PCB 40	SUSPECT PCB SAMPLE LOCATION

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

BUILDING 263
FIRST FLOOR
SAMPLE LOCATION PLAN
(2 OF 2)
SAMPLES 22 TO 27
& 49 TO 63

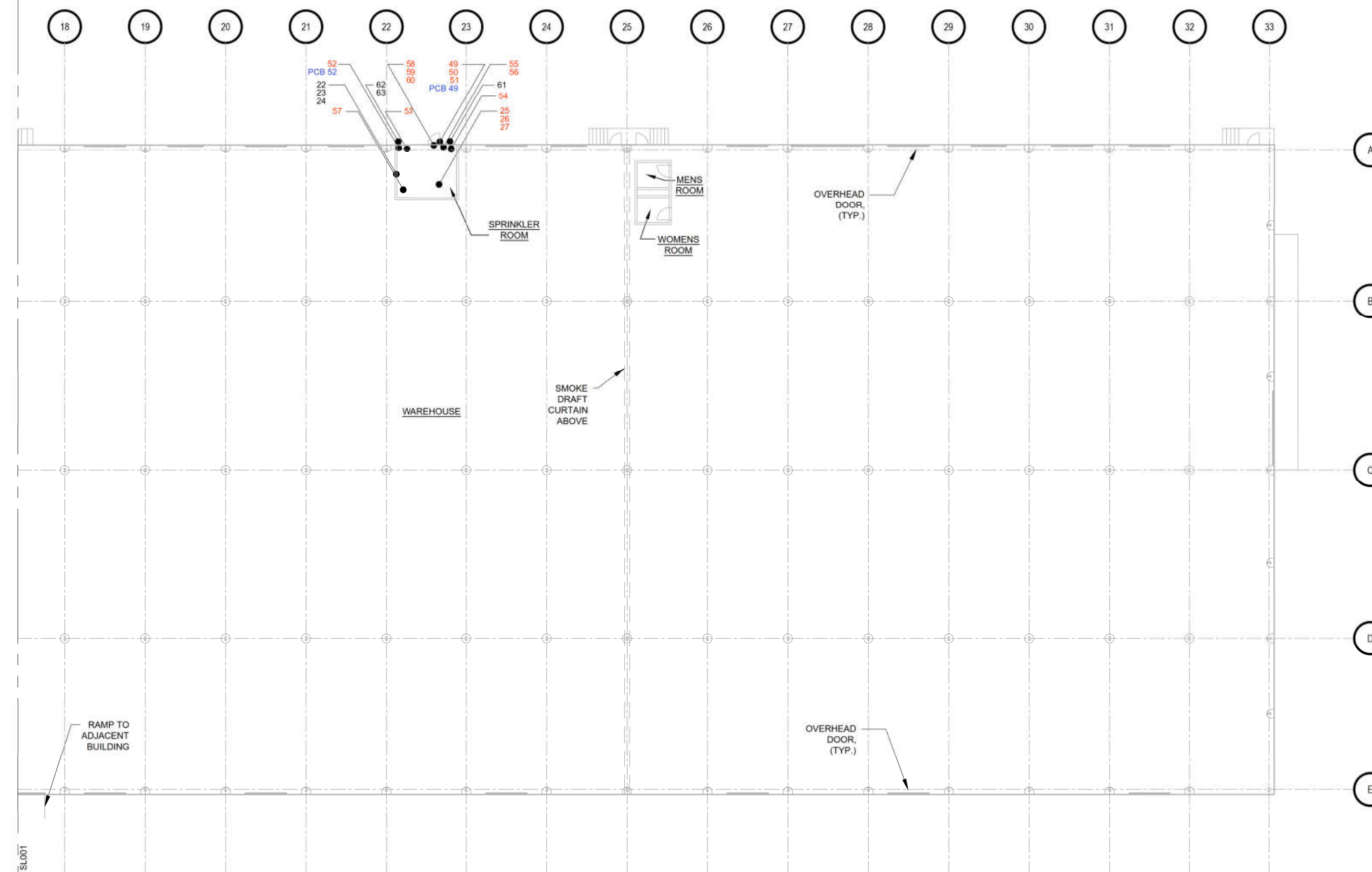
This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third parties will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk - 2 Montgomery Street - 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10037. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO
Drawn by E.MILKIS
Checked by

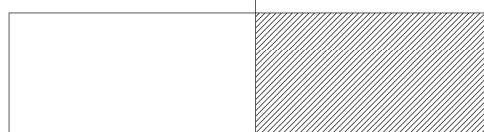
Date 12/15/2021

Contract Number

Drawing Number **SL002**



MATCH LINE
FOR CONTINUATION SEE DRAWING SL001



KEY PLAN

P 1 FIRST FLOOR PLAN (2 OF 2)
SL002
SCALE IN FEET



LEGEND

SYMBOL	DESCRIPTION
● 22	SUSPECT ASBESTOS SAMPLE LOCATION
● 15	ACM SAMPLE LOCATION
● PCB 40	SUSPECT PCB SAMPLE LOCATION

APPENDIX E

**LAB CERTIFICATIONS AND ACCREDITATIONS, COMPANY
AND PERSONNEL CERTIFICATIONS**

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY
MARINE TERMINAL
PORT NEWARK

ENVIRONMENTAL

Title
NEW JERSEY PORTS
ASBESTOS SURVEY

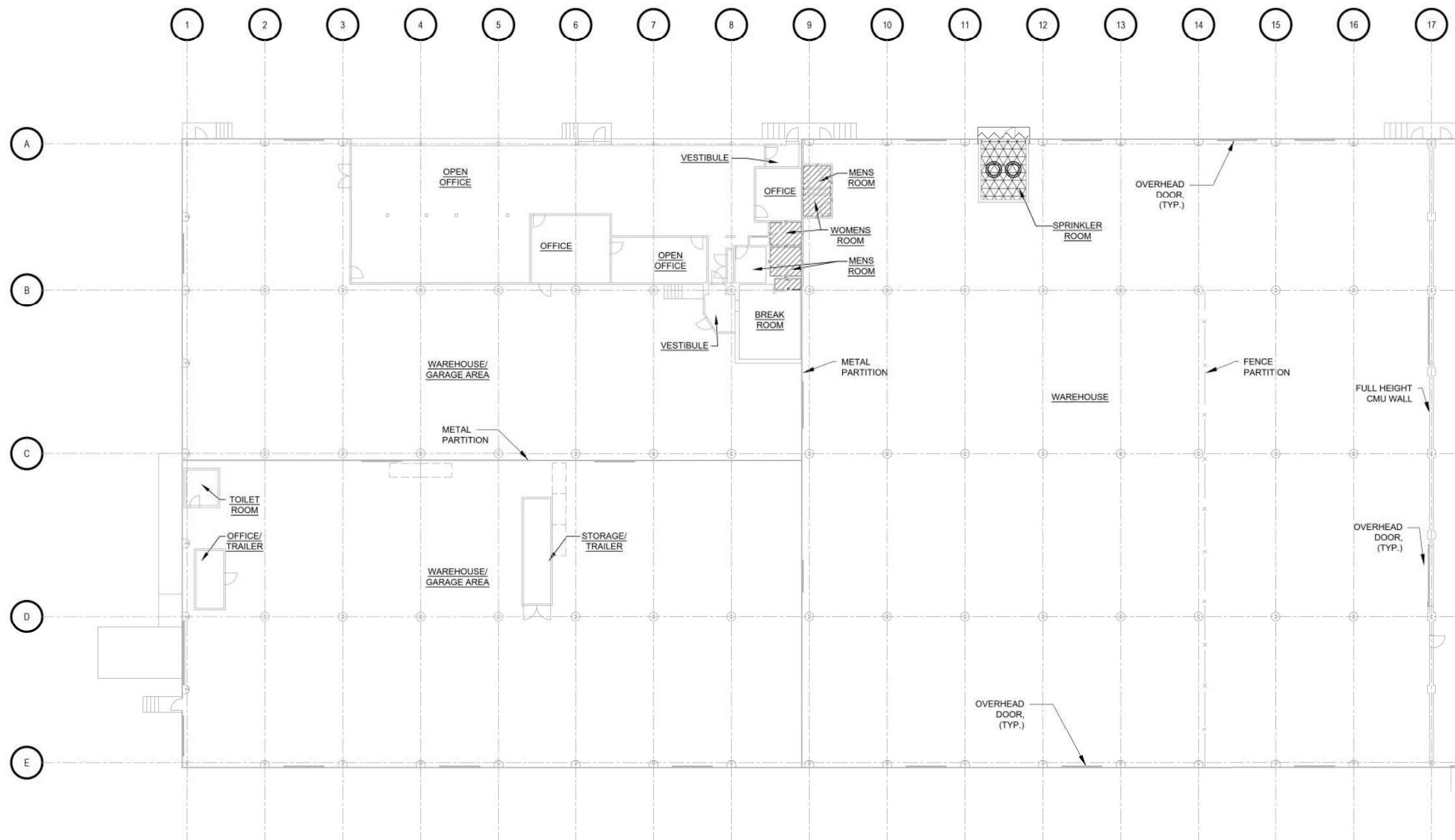
BUILDING 263
FIRST FLOOR
ACM LOCATION PLAN
(1 OF 2)

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third parties will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk - 2 Montgomery Street - 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10037. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

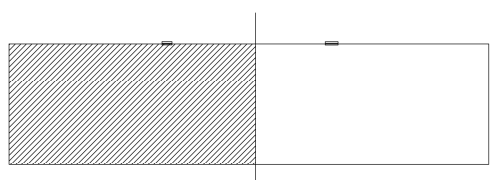
Designed by R.RIVERO
Drawn by E.MILKIS
Checked by
Date 12/15/2021

Contract Number

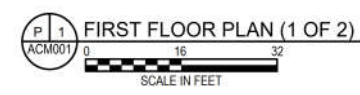
Drawing Number **ACM001**



MATCH LINE
FOR CONTINUATION SEE DRAWING ACM002

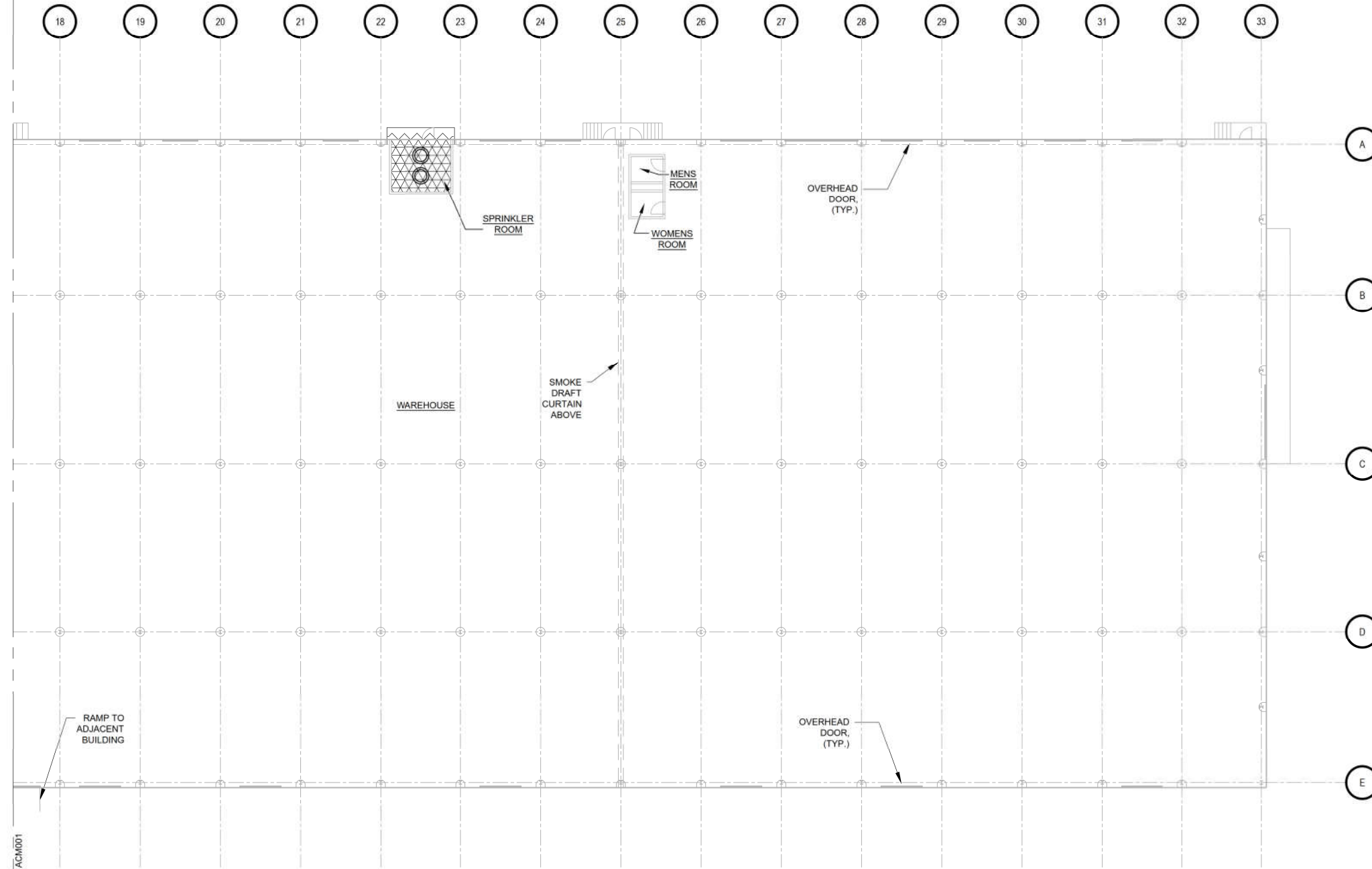


KEY PLAN

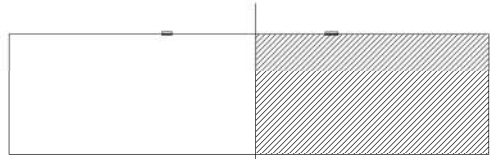


LEGEND

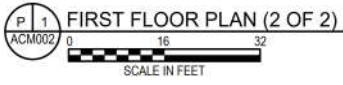
SYMBOL	DESCRIPTION
	ASBESTOS CONTAINING PIPE AND PIPE FITTING INSULATION
	ASBESTOS CONTAINING PACKING INSULATION AT CEILING PIPE PENETRATION
	ASBESTOS CONTAINING INTERIOR DOOR CAULKING, WALL CAULKING ON INTERIOR SIDE OF THE EXTERIOR WALL, PACKING INSULATION AT PIPE PENETRATION ON INTERIOR SIDE OF THE EXTERIOR WALL.
	FLANGE & VALVE GASKETS (PACM)



MATCHLINE
FOR CONTINUATION SEE DRAWING ACM001



KEY PLAN



LEGEND

SYMBOL	DESCRIPTION
○ ○	ASBESTOS CONTAINING PACKING INSULATION AT CEILING & FLOOR PIPE PENETRATION
~~~~~	ASBESTOS CONTAINING INTERIOR DOOR CAULKING, EXTERIOR DOOR CAULKING REMNANTS, WALL CAULKING ON INTERIOR SIDE OF THE EXTERIOR WALL, PACKING INSULATION AT PIPE PENETRATION ON INTERIOR SIDE OF THE EXTERIOR WALL.
XXXXX	FLANGE & VALVE GASKETS (PACM)

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT			
NEW JERSEY			
MARINE TERMINAL			
PORT NEWARK			

ENVIRONMENTAL	
Title	NEW JERSEY PORTS ASBESTOS SURVEY
	BUILDING 263 FIRST FLOOR ACM LOCATION PLAN (2 OF 2)

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third parties will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk - 2 Montgomery Street - 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10037. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by	R.RIVERO
Drawn by	E.MILKIS
Checked by	
Date	12/15/2021
Contract Number	
Drawing Number	<b>ACM002</b>

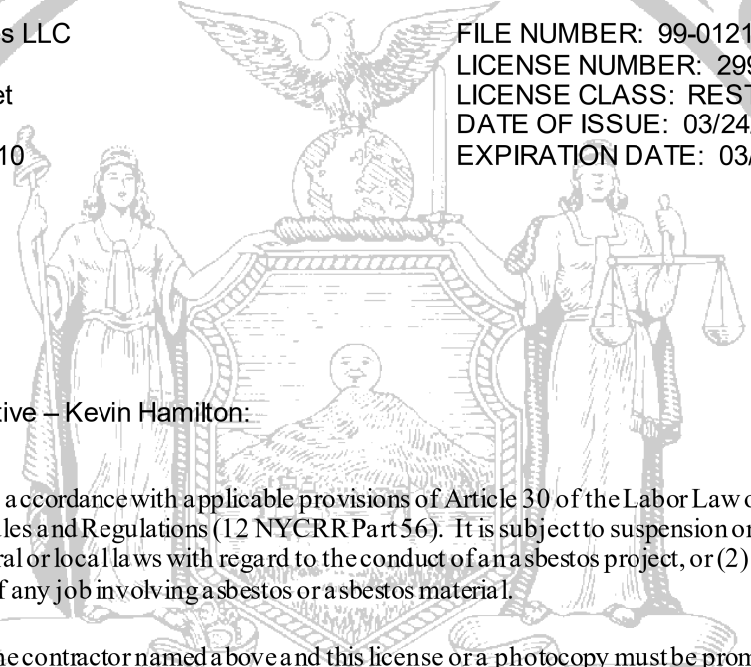
**New York State – Department of Labor**

Division of Safety and Health  
License and Certificate Unit  
State Campus, Building 12  
Albany, NY 12240

**ASBESTOS HANDLING LICENSE**

ATC Group Services LLC  
10th Floor  
104 East 25th Street  
New York, NY 10010

FILE NUMBER: 99-0121  
LICENSE NUMBER: 29902  
LICENSE CLASS: RESTRICTED  
DATE OF ISSUE: 03/24/2021  
EXPIRATION DATE: 03/31/2022



Duly Authorized Representative – Kevin Hamilton:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or a asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director  
For the Commissioner of Labor

SH 432 (8/12)

**NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER**

Expires 12:01 AM April 01, 2021  
Issued April 01, 2020



**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards (2003) for the category  
**ENVIRONMENTAL ANALYSES POTABLE WATER**  
All approved analytes are listed below:

**Miscellaneous**

Asbestos

EPA 100.2



Department  
of Health

Serial No.: 61221

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.





Expires 12:01 AM April 01, 2021  
Issued April 01, 2020

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

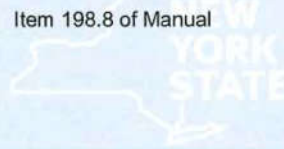
MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category  
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE  
All approved subcategories and/or analytes are listed below:

**Miscellaneous**

- Asbestos in Friable Material Item 198.1 of Manual  
EPA 600/M4/82/020
- Asbestos in Non-Friable Material-PLM Item 198.6 of Manual (NOB by PLM)
- Asbestos in Non-Friable Material-TEM Item 198.4 of Manual
- Asbestos-Vermiculite-Containing Material Item 198.8 of Manual



Department  
of Health

Serial No.: 61222

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



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Issued April 01, 2020

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MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category  
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS  
All approved subcategories and/or analytes are listed below:

**Miscellaneous**

- Asbestos 40 CFR 763 APX A No. III  
NIOSH 7402
- Fibers NIOSH 7400 A RULES



Department  
of Health

Serial No.: 61223

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

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MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards (2016) for the category  
**ENVIRONMENTAL ANALYSES POTABLE WATER**  
All approved analytes are listed below:

**Miscellaneous**

Asbestos EPA 100.2

Serial No.: 62824

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

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MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category  
**ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE**  
All approved subcategories and/or analytes are listed below:

**Miscellaneous**

Asbestos in Friable Material	Item 198.1 of Manual EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual

Serial No.: 62825

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

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MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category  
**ENVIRONMENTAL ANALYSES AIR AND EMISSIONS**  
All approved subcategories and/or analytes are listed below:

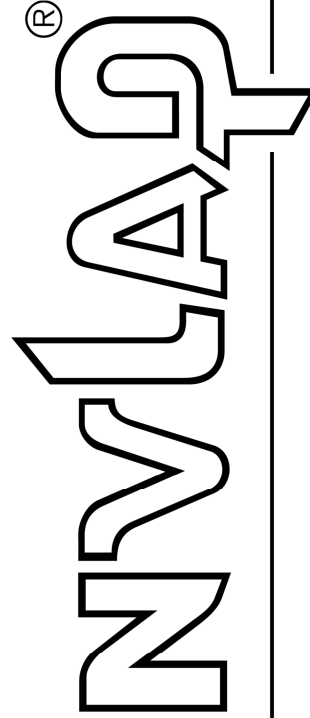
Miscellaneous  
Asbestos  
Fibers

40 CFR 763 APX A No. III  
NIOSH 7402  
NIOSH 7400 A RULES

Serial No.: 62826

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

United States Department of Commerce  
National Institute of Standards and Technology



**Certificate of Accreditation to ISO/IEC 17025:2017**

NVLAP LAB CODE: 101187-0

**ATC Group Services LLC**  
New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:

**Asbestos Fiber Analysis**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).

2020-07-01 through 2021-06-30

Effective Dates



For the National Voluntary Laboratory Accreditation Program



**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017**

**ATC Group Services LLC**  
 104 E. 25th Street 8th Floor  
 New York, NY 10010  
 Ms. Milena Bonezzi  
 Phone: 212-353-8280 x247 Fax: 212-353-8306  
 Email: milena.bonezzi@atcgs.com

**ASBESTOS FIBER ANALYSIS**

**NVLAP LAB CODE 101187-0**

**Bulk Asbestos Analysis**

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

**Airborne Asbestos Analysis**

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR Part 763 Subpart E Appendix A

*[Signature]*  
 For the National Voluntary Laboratory Accreditation Program





## AIHA Laboratory Accreditation Programs, LLC SCOPE OF ACCREDITATION

### ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

Issue Date: 08/30/2019

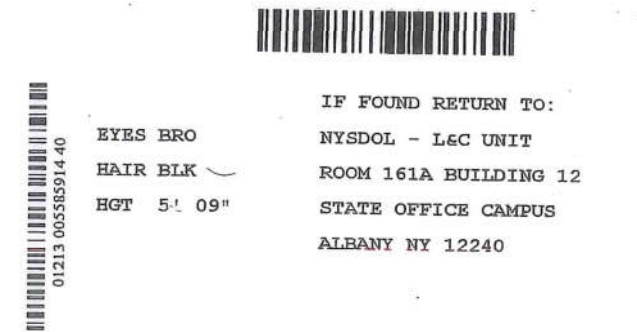
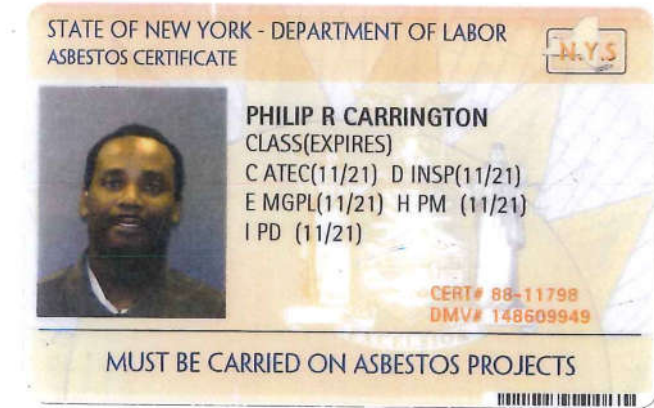
The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

### Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 06/12/1995


IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400 Modified	-

A complete listing of currently accredited IHLAP laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>





STATE OF NEW YORK - DEPARTMENT OF LABOR  
ASBESTOS CERTIFICATE

**NANCY B GUEVARA**  
CLASS(EXPIRES)  
C ATEC(05/21) D INSP(05/21)  
H PM (05/21) I PD (05/21)

CERT# 14-00412  
DMV# 234032668

**MUST BE CARRIED ON ASBESTOS PROJECTS**





01213 005585171 14

EYES BRO  
HAIR BRO  
HGT 5' 06"

IF FOUND RETURN TO:  
NYS DOL - L&C UNIT  
ROOM 161A BUILDING 12  
STATE OFFICE CAMPUS  
ALBANY NY 12240

STATE OF NEW YORK - DEPARTMENT OF LABOR  
ASBESTOS CERTIFICATE

**RONEY D RIVERO**  
CLASS(EXPIRES)  
C ATEC(08/21) D INSP(08/21)  
E MGPL(08/21) H PM (08/21)  
I PD (08/21)

CERT# 88-06348  
DMV# 955602641

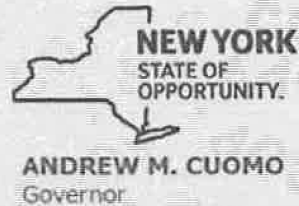
**MUST BE CARRIED ON ASBESTOS PROJECTS**



01213 005581057 61

EYES BRO  
HAIR GRY  
HGT 5' 11"

IF FOUND RETURN TO:  
NYS DOL - L&C UNIT  
ROOM 161A BUILDING 12  
STATE OFFICE CAMPUS  
ALBANY NY 12240



Department of Health

ANDREW M. CUOMO Governor

HOWARD A. ZUCKER, M.D., J.D. Commissioner

LISA J. PINO, M.A., J.D. Executive Deputy Commissioner

LAB ID: 11510

April 01, 2021

MR. LI TSANG
NY ENVIRONMENTAL AND ANALYTICAL LABS INC
88 HARBOR ROAD
PORT WASHINGTON, NY 11050

Certificate Expiration Date:
April 01, 2022

Dear Mr. Tsang,

Enclosed are certificate(s) of approval issued to your environmental laboratory for the current permit year. The certificate(s) supersede(s) any previously issued one(s) and is(are) in effect through the expiration date listed. Please carefully examine the certificate(s) to insure that the categories, subcategories, analytes, and methods for which your laboratory is approved are correct. In addition, verify that your laboratory's name, address, lead technical director, and identification number are accurate.

Pursuant to NYCRR Subpart 55-2.2, original certificates must be posted conspicuously in the laboratory and copies shall be made available to any client of the laboratory upon request.

Pursuant to NYCRR Subpart 55-2.6, any misrepresentation of the fields of accreditation (category - method - analyte) for which your laboratory is approved may result in denial, suspension, or revocation of your certification. Any use of the Environmental Laboratory Approval Program (ELAP) or National Environmental Laboratory Accreditation Program (NELAP) name, reference to the laboratory's approval status, and/or using the NELAP logo in any catalogs, advertising, business solicitations, proposals, quotations, laboratory analytical reports, or other materials must include the laboratory's ELAP identification number and distinguish between testing for which the laboratory is approved and testing for which the laboratory is not approved.

If you have any questions, please contact us at the Environmental Laboratory Approval Program, Wadsworth Center, New York State Department of Health, Empire State Plaza, Albany NY, 12237; by phone at (518) 485-5570; by facsimile at (518) 485-5568; and by email at elap@health.ny.gov.

Sincerely,

Victoria Pretti

Victoria Pretti
Director and QA Officer
Environmental Laboratory Approval Program

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. LI TSANG
NY ENVIRONMENTAL AND ANALYTICAL LABS INC
88 HARBOR ROAD
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards (2016) for the category
ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Bacteriology

Coliform, Total / E. coli (Qualitative) SM 20, 21-23 9223B (-04) (Colilert)
Enterococci SM 23 9230D (Enterolert)
Heterotrophic Plate Count SimPlate

Metals I

Barium, Total EPA 200.7 Rev. 4.4
Cadmium, Total EPA 200.7 Rev. 4.4
Chromium, Total EPA 200.7 Rev. 4.4
Copper, Total EPA 200.7 Rev. 4.4
Iron, Total EPA 200.7 Rev. 4.4
Lead, Total EPA 200.9 Rev. 2.2
Manganese, Total EPA 200.7 Rev. 4.4
Silver, Total EPA 200.7 Rev. 4.4
Zinc, Total EPA 200.7 Rev. 4.4

Metals II

Aluminum, Total EPA 200.7 Rev. 4.4
Beryllium, Total EPA 200.7 Rev. 4.4
Molybdenum, Total EPA 200.7 Rev. 4.4
Nickel, Total EPA 200.7 Rev. 4.4
Vanadium, Total EPA 200.7 Rev. 4.4

Metals III

Boron, Total EPA 200.7 Rev. 4.4
Calcium, Total EPA 200.7 Rev. 4.4
Magnesium, Total EPA 200.7 Rev. 4.4
Potassium, Total EPA 200.7 Rev. 4.4

Metals III

Sodium, Total EPA 200.7 Rev. 4.4

Miscellaneous

Odor SM 21-23 2150 B (-97)
Turbidity SM 21-23 2130 B (-01)

Non-Metals

Calcium Hardness EPA 200.7 Rev. 4.4
SM 18-22 2340B (-97)
Color SM 21-23 2120B (-01)
Specific Conductance SM 21-23 2510B (-97)

Serial No.: 63011

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. LI TSANG  
NY ENVIRONMENTAL AND ANALYTICAL LABS INC  
88 HARBOR ROAD  
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory for the category  
**ENVIRONMENTAL ANALYSES POTABLE WATER**  
All approved subcategories and/or analytes are listed below:

**Bacteriology**

Legionella ISO 11731:2017(E)



Department  
of Health

Serial No.: 63012

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



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Issued April 01, 2021

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NY ENVIRONMENTAL AND ANALYTICAL LABS INC  
88 HARBOR ROAD  
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory in conformance with the  
*National Environmental Laboratory Accreditation Conference Standards (2016)* for the category  
**ENVIRONMENTAL ANALYSES NON POTABLE WATER**  
All approved analytes are listed below:

**Bacteriology**

Enterococci SM 23 9230D (Enterolert)  
Heterotrophic Plate Count SimPlate

**Metals I**

Barium, Total EPA 200.7, Rev. 4.4 (1994)  
Cadmium, Total EPA 200.7, Rev. 4.4 (1994)  
Calcium, Total EPA 200.7, Rev. 4.4 (1994)  
Chromium, Total EPA 200.7, Rev. 4.4 (1994)  
Copper, Total EPA 200.7, Rev. 4.4 (1994)  
Iron, Total EPA 200.7, Rev. 4.4 (1994)  
Lead, Total EPA 200.7, Rev. 4.4 (1994)  
Magnesium, Total EPA 200.7, Rev. 4.4 (1994)  
Manganese, Total EPA 200.7, Rev. 4.4 (1994)  
Nickel, Total EPA 200.7, Rev. 4.4 (1994)  
Potassium, Total EPA 200.7, Rev. 4.4 (1994)  
Silver, Total EPA 200.7, Rev. 4.4 (1994)  
Sodium, Total EPA 200.7, Rev. 4.4 (1994)  
Strontium, Total EPA 200.7, Rev. 4.4 (1994)

**Metals II**

Aluminum, Total EPA 200.7, Rev. 4.4 (1994)  
Antimony, Total EPA 200.7, Rev. 4.4 (1994)  
Arsenic, Total EPA 200.7, Rev. 4.4 (1994)  
Beryllium, Total EPA 200.7, Rev. 4.4 (1994)  
Selenium, Total EPA 200.7, Rev. 4.4 (1994)  
Vanadium, Total EPA 200.7, Rev. 4.4 (1994)  
Zinc, Total EPA 200.7, Rev. 4.4 (1994)

**Metals III**

Cobalt, Total EPA 200.7, Rev. 4.4 (1994)  
Molybdenum, Total EPA 200.7, Rev. 4.4 (1994)  
Thallium, Total EPA 200.7, Rev. 4.4 (1994)

**Mineral**

Calcium Hardness EPA 200.7, Rev. 4.4 (1994)  
SM 2340B-2011  
Hardness, Total EPA 200.7, Rev. 4.4 (1994)  
SM 2340B-2011

**Miscellaneous**

Turbidity SM 2130 B-2011

Serial No.: 63013

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.





Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

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NY ENVIRONMENTAL AND ANALYTICAL LABS INC  
88 HARBOR ROAD  
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory for the category  
ENVIRONMENTAL ANALYSES NON POTABLE WATER  
All approved subcategories and/or analytes are listed below:

**Bacteriology**

Legionella ISO 11731:2017(E)



Serial No.: 63014

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. LI TSANG  
NY ENVIRONMENTAL AND ANALYTICAL LABS INC  
88 HARBOR ROAD  
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards (2016) for the category  
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE  
All approved analytes are listed below:

**Characteristic Testing**

TCLP EPA 1311

**Polychlorinated Biphenyls**

Aroclor 1016 (PCB-1016)	EPA 8082A
Aroclor 1221 (PCB-1221)	EPA 8082A
Aroclor 1232 (PCB-1232)	EPA 8082A
Aroclor 1242 (PCB-1242)	EPA 8082A
Aroclor 1248 (PCB-1248)	EPA 8082A
Aroclor 1254 (PCB-1254)	EPA 8082A
Aroclor 1260 (PCB-1260)	EPA 8082A



**Sample Preparation Methods**

EPA 3550C

Serial No.: 63015

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88 HARBOR ROAD  
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory for the category  
**ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE**  
All approved subcategories and/or analytes are listed below:

**Metals I**

Lead, Total EPA 6010D  
EPA 7000B

**Miscellaneous**

Asbestos in Friable Material Item 198.1 of Manual  
EPA 600/M4/82/020  
Asbestos in Non-Friable Material-PLM Item 198.6 of Manual (NOB by PLM)  
Asbestos-Vermiculite-Containing Material Item 198.8 of Manual  
Lead in Dust Wipes EPA 6010D  
EPA 7000B  
Lead in Paint EPA 6010D  
EPA 7000B

**Sample Preparation Methods**

EPA 3050B  
ASTM E-1979-17

Serial No.: 63016

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Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

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MR. LI TSANG  
NY ENVIRONMENTAL AND ANALYTICAL LABS INC  
88 HARBOR ROAD  
PORT WASHINGTON, NY 11050

NY Lab Id No: 11510

is hereby APPROVED as an Environmental Laboratory for the category  
**ENVIRONMENTAL ANALYSES AIR AND EMISSIONS**  
All approved subcategories and/or analytes are listed below:

**Metals I**

Lead, Total NIOSH 7082

**Miscellaneous**

Fibers NIOSH 7400 A RULES



Serial No.: 63017

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



**NJMT REHABILITATION OF FIRE PROTECTION  
SYSTEMS PN, EP, & PJ**

**ASBESTOS INSPECTION REPORT  
PORT NEWARK, BUILDING #301**

*Performed for:*

**PORT NEWARK  
NEWARK, NEW JERSEY**

*Prepared for:*

**THE PORT AUTHORITY  
OF NEW YORK & NEW JERSEY**

*Prepared by:*

**ATC GROUP SERVICES LLC  
104 EAST 25TH STREET  
NEW YORK, NEW YORK 10010  
(212) 353-8280**

**ATC Project No: 214PNPEPJ1**

**July 2, 2021**



104 East 25th Street  
8th Floor  
New York, New York 10010  
Telephone 212-353-8280  
Fax 212-353-8306

July 2, 2021

Robert Pruno, P.E.  
Chief Environmental Engineer  
Port Authority of New York & New Jersey  
Engineering Design Division  
4 World Trade Center, Floor 20  
New York, NY, 10006

**Subject: Inspection Report for Asbestos-Containing Materials**

**Re: Port Newark, Building #301  
301 Craneway Street  
Newark, NJ 07114  
NJMT Rehabilitation of Fire Protection Systems**

Dear Mr. Pruno:

ATC Group Services LLC (ATC) has completed the inspection for Asbestos-Containing Materials (ACM) for the proposed work at the above referenced site. The inspection included visual observation, material sampling, laboratory analysis and development of asbestos abatement plans. The attached report presents our inspection procedures, findings, assessments and recommendations along with the pertinent appendices.

ATC appreciates this opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

**Roney D. Rivero**  
Senior Project Manager  
for ATC Group Services LLC  
Direct Line +1 212 284 0614  
Email: [roney.rivero@atcgs.com](mailto:roney.rivero@atcgs.com)

Attachments

## TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 BUILDING DESCRIPTION.....	2
3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS .....	2
4.0 ACM INSPECTION SCOPE.....	3
5.0 ACM INSPECTION RESULTS .....	5
6.0 PCB-IN-CAULKING INSPECTION FINDINGS .....	5
7.0 UNIVERSAL WASTE OBSERVATION .....	5
8.0 CONCLUSIONS AND RECOMMENDATIONS .....	6
9.0 ASSUMPTIONS AND LIMITATIONS.....	6

## APPENDICES

Appendix A: ACM Laboratory Results and Chain of Custodies

Appendix B: Asbestos Sample Location Drawings

Appendix C: ACM Location Drawings

Appendix D: Lab Certifications / Accreditations, Company and Personnel Certifications

## EXECUTIVE SUMMARY

On February 26, 2021 and April 8, 2021, ATC completed the inspection for ACM at Port Newark, Building #301 (the Site). The survey was conducted at the request of Port Authority of New York and New Jersey (PANYNJ) in preparation for the Rehabilitation of Fire Protection Systems Project. ATC utilized drawings provided by PANYNJ delineating the areas that will be impacted by the renovation project.

ATC collected sixty-nine (69) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, one (1) sampled homogeneous area was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content).

The material that tested positive for asbestos is:

- Pipe Fitting Insulation associated with Fiberglass Pipe Insulation

These materials are tabulated in Section 4.0.

ATC did not observe or sample any suspect PCB-containing Caulking at the time of the inspection.

## 1.0 INTRODUCTION

The intent of this survey was to locate and identify all accessible ACM, and PCBs in caulking within the referenced structure that could potentially be impacted by the proposed Fire Sprinkler Rehabilitation Project.

The environmental survey was conducted by the following personnel who hold certifications from the New York State Department of Labor as Asbestos Inspectors, and the Environmental Protection Agency as Lead Risk Assessors.

Inspector's Name	Certification Number	ACM/LCP
Philip R. Carrington	AH-88-11798	ACM
Nancy Guevara	AH-14-00412	ACM
Roney D. Rivero	AH-88-06348	ACM

## 2.0 BUILDING DESCRIPTION

The New Jersey Port Newark Building 301, Harbor Freight Transport Building, was constructed within the facility located northeast of the Port Newark Marine Terminal and is accessible via Navy Street. The building is currently occupied by Harbor Freight Transport and used for storage of general cargo. The building is a one-story steel framed structure, measuring 255 ft. by 528 ft. in plan. The building height varies from 38'-7" at the eave to 40'-9" at the ridge. The steel framing consists of five rows of columns with 22 cross beams spaced at 25 ft. The cross beams support 41 roof purlins, which in turn supporting the gypsum roof panel covered with rubber roofing in a single gable shape. The exterior wall consists of concrete grade beam supported CMU wall brick wall with corrugated metal siding or Plexiglas window panels on top. The ground floor is bituminous concrete pavement on grade. There is an office located in the middle of the east side of the building and two office annexes along south side of building. The suspended acoustical ceilings are present at both office annexes.

## 3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogeneous area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the

same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos.

Bulk samples of suspect ACM were analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Methods 198.1 and 198.6 as specified in the Environmental Laboratory Approval Program (ELAP) Certification Manual. Method 198.1 is used for friable ACM and Method 198.6 is used for non-friable ACM.

For non-friable materials such as mastic, caulking, etc., Method 198.6 requires that any result of 1-percent or less be reanalyzed by Method 198.4. This Method utilizes Transmission Electron Microscopy (TEM) to determine asbestos content. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) Non-friable Organically Bound (NOB) sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

The laboratory performing both these analysis procedures was ATC, located at 104 East 25th Street, New York, New York. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101187-0)
- New York State Environmental Laboratory Approval Program (Lab No. 10879)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 100229)

## 4.0 ACM INSPECTION SCOPE

ATC conducted the walkthrough of Port Newark building 260 on August 11, 2020 to understand typical building layouts and systems on buildings that are similar in lay out and use. Based on the findings of the walkthrough, ATC conducted an asbestos inspection of Port Newark Building 301 on February 26, 2021 and April 8, 2021 and collected sixty-nine (69) bulk samples from all suspect asbestos-containing material. The areas inspected included only areas that may be impacted by the proposed Fire Sprinkler Rehabilitation Project at this location. The intent of this survey was to locate and identify all accessible ACM.

The following twenty-three (23) homogeneous materials inspected and sampled for ACM during the inspections were:

Suspect Material	Location
2'X4' Ceiling Tile Type I	1 st Floor – Warehouse Area, Lunch Room 1
Paper Backing on Ceiling Fiberglass Insulation	1 st Floor – Warehouse Area, Lunch Room 1
Textured Plaster (One Coat) on Plywood Ceiling	1 st Floor – Warehouse Area, Lunch Room 1, Gym Room



Brick Wall Mortar	1 st Floor – Warehouse Area Northeast Corner
2' X 2' & 2' X 4' Ceiling Tile - Fissured	1 st Floor – Office space
Gypsum Board Paper - Wall	1 st Floor – Office space
Gypsum Board - Wall	1 st Floor – Office space
Joint Compound – Wall	1 st Floor – Office space
HVAC Duct Insulation Cover	1 st Floor – Office space
Fiberglass Pipe Insulation Cover 3" OD	1 st Floor – Office space
CMU Mortar Wall	1 st Floor – Office space Electric Room
2' X 4' Ceiling Tile Type I - Fissured	2 nd Floor – Office space
Gypsum Board Paper - Wall	2 nd Floor – Office space
Gypsum Board - Wall	2 nd Floor – Office space
Joint Compound – Wall	2 nd Floor – Office space
HVAC Duct Insulation Cover	2 nd Floor – Office space
2' X 4' Ceiling Tile Type II	2 nd Floor – By Entrance to Office space
CMU Wall Mortar	1 st Floor – (Abandoned Building) – Locker Room & Lunch Room
Gypsum Board Paper - Wall	1 st Floor – (Abandoned Building) – Lobby
Gypsum Board - Wall	1 st Floor – (Abandoned Building) – Lobby
Joint Compound - Wall	1 st Floor – (Abandoned Building) – Lobby
Fiberglass Pipe Insulation Cover 3" OD	1 st Floor – (Abandoned Building) – Men's & Women's Bathrooms
Pipe Fitting Insulation associated with F/G Pipe Insulation	1 st Floor – (Abandoned Building) – Men's & Women's Bathrooms

## 5.0 ACM INSPECTION RESULTS

Based upon visual inspection and analytical results of bulk samples collected, **the following material is asbestos-containing (> 1%)**:

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
67-69	Pipe Fitting Insulation associated with F/G Pipe Insulation	10% Chrysotile	25 LF	ACM001

The following materials are presumed to be asbestos-containing material (PACM)

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
N/A	Pipe and Pipe Fitting Insulation - Warehouse Area	PACM	2,200 L.F.	ACM001
N/A	Flange & Valve Gaskets - 2 Sprinkler Rooms	PACM	50 Units	ACM001

ACM laboratory results are included in Appendix A. Asbestos Sample Location Plans are included in Appendix B. Asbestos Location Plans are included in Appendix C.

## 6.0 PCB-IN-CAULKING INSPECTION FINDINGS

ATC did not observe or sample any suspect PCB-containing Caulking at the time of the inspection

## 7.0 UNIVERSAL WASTE INVENTORY

ATC conducted a visual inspection of the light fixtures at the site to document Universal Waste, defined in Title 40, CFR Part 273. During the inspection at the site, it was observed the presence of fluorescent lamps, high intensity discharge (HID) lamps and ballasts.

It was assumed that lamp ballasts/capacitors contain PCBs and/or Di-Ethylhexyl Phthalate (DEHP); therefore, if removal is necessary it should be disposed of as PCB wastes as per 40 CFR Part 761.

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

ATC collected sixty-nine (69) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, one (1) sampled homogeneous area was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content).

The material that tested positive for asbestos at Building 301 include the following:

- Pipe Fitting Insulation associated with F/G Pipe Insulation

ATC did not observe or sample any suspect PCB-containing Caulking at the time of the inspection.

Various types of painted surfaces such as sprinkler pipes, gypsum board ceilings and walls, CMU walls, and roof decking have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 301, located in Newark, New Jersey.

Various types of light fixtures (fluorescent lamps, high intensity discharge (HID) lamps and ballasts) have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 301 located in Newark, New Jersey.

The materials reported in Section 5.0 of this report would require abatement, removal and disposal prior to sprinkler system renovation due to the proximity to the sprinkle pipe system.

## 9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted at the time of the inspection. The valve gaskets inside the pipe flanges could not be tested since the sprinkler system is still operational. It is assumed, based on the number of flanges observed, that there are approximately 25 gaskets in each sprinkler room. There are 2 sprinkler rooms in this building, so it is assumed there are 50 gaskets that are presumed to be asbestos containing. The pipes in the warehouse area below the roof deck with suspected asbestos-containing insulation were not sampled due to access restrictions (height and electric hazard) at the time of the survey. Based on visual inspection and assumptions, we estimate 2,200 linear feet of pipe insulation presumed to be asbestos containing. This quantity should be verified with destructive sampling if abatement is planned prior to any renovation work.

If questions arise regarding asbestos content in building materials that were not tested by ATC, additional testing services should be procured to test those areas.

This report is intended for the sole use of the PANYNJ. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations contained herein is at the risk of said user.

END OF REPORT

**APPENDIX A**

**ACM LABORATORY RESULTS AND CHAIN OF CUSTODIES**

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# ATC Group Services LLC

104 E. 25th Street, 8th Floor  
New York, NY 10010  
Tel. 212-353-8280  
Fax: 212-353-8306

**Client:** ATC - NEW YORK  
104 EAST 25TH STREET  
NEW YORK, NY 10010  
**Fax:** (212) 353-3599     **Phone:** (212) 353-8280  
**Project:** PANYNJ / FIRESPRINKLER REHABILITATION

**Sample Date:** 2/26/2021  
**Date Received :** 3/1/2021  
**Date Analyzed :** 3/2/2021  
**ATC Batch #** 21-225  
**Methods:** ELAP 198.1, 198.6, 198.4

**Location:** PN 301  
**Project #** 214PNPEPJ1/TASK0001

## Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
1 21-225 -1	1ST FLOOR WAREHOUSE AREA LUNCH ROOM 1	2' X 4' CEILING TILE TYPE I	NOB-TEM			21.9% Organic 58.3% Residue 19.8% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive	
2 21-225 -2	1ST FLOOR LUNCH ROOM 1	2' X 4' CEILING TILE TYPE I	NOB-TEM			26.3% Organic 48.8% Residue 24.9% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive	
3 21-225 -3	1ST FLOOR LUNCH ROOM 1	2' X 4' CEILING TILE TYPE I	NOB-TEM		0.0% Vermiculite	25.8% Organic 38.1% Residue 36.1% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive	
4 21-225 -4	1ST FLOOR LUNCH ROOM 1	PAPER BACKING ON CEILING F/G INSULATION	NOB-TEM		0.0% Vermiculite	96.1% Organic 1.1% Residue 2.8% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Black Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive. HAS TAR	
5 21-225 -5	1ST FLOOR LUNCH ROOM 1	PAPER BACKING ON CEILING F/G INSULATION	NOB-TEM		0.0% Vermiculite	92.9% Organic 1.1% Residue 6% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan/Black Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive. HAS TAR	
6 21-225 -6	1ST FLOOR LUNCH ROOM 1	PAPER BACKING ON CEILING F/G INSULATION	NOB-TEM		0.0% Vermiculite	98.9% Organic 1% Residue 0.1% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan/Black Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive. HAS TAR	
7 21-225 -7	1ST FLOOR LUNCH ROOM 1 (GYM ROOM)	TEXTURED PLASTER (ONE COAT) ON CEILING PLYWOOD	NOB-TEM			43.8% Residue 41.7% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive. Paint	



# ATC Group Services LLC

104 E. 25th Street, 8th Floor  
New York, NY 10010  
Tel. 212-353-8280  
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
8 21-225 -8	1ST FLOOR LUNCH ROOM 1 (GYM ROOM)	TEXTURED PLASTER (ONE COAT) ON CEILING PLYWOOD	NOB-TEM		0.0% Vermiculite	13.1% Organic 47.6% Residue 39.3% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive. Paint	
9 21-225 -9	1ST FLOOR LUNCH ROOM 1 (GYM ROOM)	TEXTURED PLASTER (ONE COAT) ON CEILING PLYWOOD	NOB-TEM		0.0% Vermiculite	13.5% Organic 48.4% Residue 38.1% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive. Paint	
10 21-225 -10	1ST FLOOR WAREHOUSE AREA N/E CORNER	BRICK MORTAR	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan			
11 21-225 -11	1ST FLOOR WAREHOUSE AREA N/E CORNER	BRICK MORTAR	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan			
12 21-225 -12	1ST FLOOR WAREHOUSE AREA N/E CORNER	BRICK MORTAR	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan			



# ATC Group Services LLC

104 E. 25th Street, 8th Floor  
New York, NY 10010  
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## ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

### NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____. Amendments: _____. Amendment Dates: _____. Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Michael Gittings

Analyst:

Feyza Gungor

Analyst:

Mei Wang

Approved by

Quality Manager:

### PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained *Trace* or *No* PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

### Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

### Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

### Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

### Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi  
ATC Group Services LLC  
Director of Laboratory Services



**BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM**

**PROJECT INFORMATION**

1. Client <b>PANYNJ</b>	Project Name: <b>FIRESPRINKLER REHABILITATION</b>	3a. ATC Project No.: <b>214PNPEPJ1</b>	4a. Project Manager: <b>R. Rivero</b>
5. Date: <u>2/26/21</u>	2a. Project Address: (Circle One) <b>PN PE PJ</b>	3b. Task No.: <b>0001</b>	4b. Inspector: <b>PHILIP CARRINGTON</b>
6. BUILDING NUMBER: <u>301</u>	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH_X_		9. Comments (Field) <b>NOB → TEM Stop @ 1st Positive</b>

**BULK SAMPLE LOCATION**

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
1	1	2x4' CEILING TILE		1 WAREHOUSE AREA -	400	
1	2	TYPE I		LUNCH ROOM ↓	5F.	
1	3			"		
2	4	PAPER BACKING ON		"	400 SF	
2	5	CEILING FIG		"		
2	6	INSULATION		"		
3	7	TEXTURED PLASTER		"	80 SF	
3	8	(ONE COAT) ON		" (GYM ROOM)		
3	9	CEILING PLYWOOD				
4	10	BRICK MORTAR		WAREHOUSE AREA	36 SF	
4	11	"		N/E CORNER		
4	12	"				

**CHAIN OF CUSTODY**

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <u>Philip Carrington</u>	<u>3/1/21</u>	<u>3:40</u>	<u>Evelyn Cruz</u>	<u>3/1/2021</u>	<u>16:00</u>	Field
II.						Walk In
III.						US Mail
						Fed-Ex
						Other

**LABORATORY INFORMATION**

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
24a. Analyzed By: <u>Michael Cruz</u>	<u>3/2/2021</u>	<u>07:10</u>	3 PLM NOB-Prep 9
24b. Analyzed By: <u>Michael Cruz</u>	<u>3/2/2021</u>	<u>13:30</u>	NOB-PLM-9
24c. QC By: <u>TEM: Feiya Ganga Feiya</u>	<u>3/2/2021</u>	<u>16:07</u>	NOB-TEM-9



**BULK ASBESTOS ANALYSIS SHEET**

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-225 TEMPERATURE °C 21

1	1	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input checked="" type="checkbox"/>	Color <u>Tan</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	100 Mineral Filler Organic Binders 0 Vermiculite* Other	
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>					
See gravimetric analysis sheet for results <input checked="" type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>					
	Color of Layer <u>1</u> Detected Yes No					
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.		
See SM-V analysis sheet for results <input type="checkbox"/>	PLM					
	NOB PLM <u>7/8</u>					
	Comments:					
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION					

2	2	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input checked="" type="checkbox"/>	Color <u>Tan</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	100 Mineral Filler Organic Binders 0 Vermiculite* Other	
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>					
See gravimetric analysis sheet for results <input checked="" type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>					
	Color of Layer <u>1</u> Detected Yes No					
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.		
See SM-V analysis sheet for results <input type="checkbox"/>	PLM					
	NOB PLM <u>7/8</u>					
	Comments:					
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION					

3	3	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input checked="" type="checkbox"/>	Color <u>Tan</u> Texture <u>F</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	100 Mineral Filler Organic Binders 0 Vermiculite* Other	
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>					
See gravimetric analysis sheet for results <input checked="" type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>					
	Color of Layer <u>1</u> Detected Yes No					
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.		
See SM-V analysis sheet for results <input type="checkbox"/>	PLM					
	NOB PLM <u>7/8</u>					
	Comments:					
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION					

4	4	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input checked="" type="checkbox"/>	Color <u>White</u> Texture <u>MC</u>	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	100 Mineral Filler Organic Binders 0 Vermiculite* Other	
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>					
See gravimetric analysis sheet for results <input checked="" type="checkbox"/>	# of Layers <u>1</u> Asbestos <u>1</u>					
	Color of Layer <u>1</u> Detected Yes No					
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.		
See SM-V analysis sheet for results <input type="checkbox"/>	PLM					
	NOB PLM <u>7/8</u>					
	Comments:					
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION					

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-225 TEMPERATURE °C 23

1	5	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM/Black</u>	Texture <u>MF</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input checked="" type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>7/8</u>														
Comments: <u>Hos Tax</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

2	6	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM/Black</u>	Texture <u>MF</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>7/8</u>														
Comments: <u>Hos Tax</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

3	7	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM</u>	Texture <u>MF</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input checked="" type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>7/8</u>														
Comments: <u>Point</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

4	8	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM</u>	Texture <u>MF</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>7/8</u>														
Comments: <u>Point</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-225 TEMPERATURE °C 23

1	9	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM</u>	Texture <u>MF</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input checked="" type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>7/8</u>														
Comments: <u>Point</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

2	10	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM</u>	Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>7/8</u>														
Comments: <u>Point</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

3	11	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TM</u>	Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>7/8</u>														
Comments: <u>Point</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

4	12	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric	Color <u>TA</u>	Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler
Required <input type="checkbox"/>	Homogeneity <u>7</u>	Vermiculite											Amosite	Fiberglass		Organic Binders
Recommended <input type="checkbox"/>	# of Layers	Asbestos											Other	Other	0	Vermiculite*
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No												Other
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.				
Required <input type="checkbox"/>	PLM															
See SM-V analysis sheet for results	NOB PLM	<u>7/8</u>														
Comments: <u>Point</u>																
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8

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Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2



**ATC Group Services LLC  
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-225 TEM Batch # 122379 Start Date: 03/02/21  
 NOB PLM PREP: MG/EV NOB PLM Analyst: MJG NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 03/02/21

Field #	5 % Organic	11 Non Ash Residue % NFR	12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Notes	Methods		
							PREP	PLM	TEM
1	21.9	58.3	19.8	ND			>	>	>
2	26.3	48.8	24.9	ND			>	>	>
3	25.8	38.1	36.1	ND			>	>	>
4	96.1	1.1	2.8	ND			>	>	>
5	92.9	1.1	6.0	ND			>	>	>
6	98.9	1.0	0.1	ND			>	>	>
7	14.5	43.8	41.7	ND			>	>	>
8	13.1	47.6	39.3	ND			>	>	>
9	13.5	48.4	38.1	ND			>	>	>

1. Methods: ELAP 198.6, 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.  
 2. Refer to PLM analysis sheet for NOB results and/or point count data.  
 3. Vermiculite not reported = not detected.

Client Copy



**ATC Group Services LLC**

104 E. 25th Street, 8th Floor  
 New York, NY 10010  
 Tel. 212-353-8280  
 Fax: 212-353-8306

**Client:** ATC - NEW YORK  
 104 EAST 25TH STREET  
 NEW YORK, NY 10010  
**Fax:** (212) 353-3599 **Phone:** (212) 353-8280

**Sample Date:** 4/8/2021  
**Date Received :** 4/8/2021  
**Date Analyzed :** 4/9/2021

**Project:** PANYNJ / FIRESPRINKLER REHABILITATION

**ATC Batch #** 21-619

**Methods:** ELAP 198.1, 198.6, 198.4

**Location:** PN / BUILDING #301  
**Project #** 214PNPEPJ1/TASK0001

**Bulk Asbestos Analysis Results**

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
13	1ST FLOOR OFFICE SPACE	2' X 2' & 2' X 4" CEILING TILE FISSURED	NOB-TEM			21.8% Organic 52.8% Residue 25.4% Carbonate	NONE DETECTED
21-619 -1					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: White	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive			
14	1ST FLOOR OFFICE SPACE	2' X 2' & 2' X 4" CEILING TILE FISSURED	NOB-TEM			23.5% Organic 44.7% Residue 31.8% Carbonate	NONE DETECTED
21-619 -2					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: White	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive			
15	1ST FLOOR OFFICE SPACE	2' X 2' & 2' X 4" CEILING TILE FISSURED	NOB-TEM			24.9% Organic 42% Residue 33.1% Carbonate	NONE DETECTED
21-619 -3					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: White	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive			
16	1ST FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -4					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: Brown					
17	1ST FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -5					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: Brown					
18	1ST FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -6					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: Brown					
19	1ST FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	4% Cellulose 2% FiberGlass	94% Mineral Filler		NONE DETECTED
21-619 -7					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: Off White					





# ATC Group Services LLC

104 E. 25th Street, 8th Floor  
New York, NY 10010  
Tel. 212-353-8280  
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
20	1ST FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -8		Color: OffWhite			
Analyzed By: Ivan Reyes							
21	1ST FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	4% Cellulose 2% FiberGlass	94% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -9		Color: OffWhite			
Analyzed By: Ivan Reyes							
22	1ST FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -10		Color: White			
Analyzed By: Ivan Reyes							
23	1ST FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -11		Color: White			
Analyzed By: Ivan Reyes							
24	1ST FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -12		Color: White			
Analyzed By: Ivan Reyes							
25	1ST FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 8% FiberGlass	17% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -13		Color: Tan/Silver			
Analyzed By: Ivan Reyes							
26	1ST FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -14		Color: Tan/Silver			
Analyzed By: Ivan Reyes							
27	1ST FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -15		Color: Tan/Silver			
Analyzed By: Ivan Reyes							
28	1ST FLOOR OFFICE SPACE	F/G PIPE INSULATION COVER 3"	PLM	70% Cellulose 5% FiberGlass	25% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -16		Color: White/Silver			
Analyzed By: Ivan Reyes							
29	1ST FLOOR OFFICE SPACE	F/G PIPE INSULATION COVER 3"	PLM	70% Cellulose 5% FiberGlass	25% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -17		Color: White/Silver			
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
30	1ST FLOOR OFFICE SPACE	F/G PIPE INSULATION COVER 3"	PLM	70% Cellulose 5% FiberGlass	25% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -18		Color: White/Silver			
Analyzed By: Ivan Reyes							
31	1ST FLOOR OFFICE SPACE ELEC ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -19		Color: Brown			
Analyzed By: Ivan Reyes							
32	1ST FLOOR OFFICE SPACE ELEC ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -20		Color: Brown			
Analyzed By: Ivan Reyes							
33	1ST FLOOR OFFICE SPACE ELEC ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -21		Color: Brown			
Analyzed By: Ivan Reyes							
34	2ND FLOOR OFFICE SPACE	2' X 4' CEILING TILE TYPE I FISSURED	NOB-TEM		28.6% Organic Residue 47.7% Residue 23.7% Carbonate 0.0% Vermiculite		NONE DETECTED
		21-619 -22		Color: White		Comments: NOB PLM Inconclusive	
Analyzed By: Mei Wang Second Analyst: Feyza Gungor							
35	2ND FLOOR OFFICE SPACE	2' X 4' CEILING TILE TYPE I FISSURED	NOB-TEM		29.8% Organic Residue 47.4% Residue 22.8% Carbonate 0.0% Vermiculite		NONE DETECTED
		21-619 -23		Color: White		Comments: NOB PLM Inconclusive	
Analyzed By: Mei Wang Second Analyst: Feyza Gungor							
36	2ND FLOOR OFFICE SPACE	2' X 4' CEILING TILE TYPE I FISSURED	NOB-TEM		30.6% Organic Residue 45.6% Residue 23.8% Carbonate 0.0% Vermiculite		NONE DETECTED
		21-619 -24		Color: White		Comments: NOB PLM Inconclusive	
Analyzed By: Mei Wang Second Analyst: Feyza Gungor							
37	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -25		Color: Brown			
Analyzed By: Ivan Reyes							
38	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -26		Color: Brown			
Analyzed By: Ivan Reyes							
39	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		21-619 -27		Color: Brown			
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
40	2ND FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -28		Color: Off White					
Analyzed By: Ivan Reyes							
41	2ND FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	6% Cellulose 2% FiberGlass	92% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -29		Color: Off White					
Analyzed By: Ivan Reyes							
42	2ND FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	4% Cellulose 2% FiberGlass	94% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -30		Color: Off White					
Analyzed By: Ivan Reyes							
43	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -31		Color: White					
Analyzed By: Ivan Reyes							
44	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -32		Color: White					
Analyzed By: Ivan Reyes							
45	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -33		Color: White					
Analyzed By: Ivan Reyes							
46	2ND FLOOR OFFICE SPACE	HVAC DUCT COVER	PLM	75% Cellulose 7% FiberGlass	18% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -34		Color: Tan/Silver					
Analyzed By: Ivan Reyes							
47	2ND FLOOR OFFICE SPACE	HVAC DUCT COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -35		Color: Tan/Silver					
Analyzed By: Ivan Reyes							
48	2ND FLOOR OFFICE SPACE	HVAC DUCT COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -36		Color: Tan/Silver					
Analyzed By: Ivan Reyes							
49	2ND FLOOR BY ENTRANCE TO OFFICE SPACE	2 X 4 CEILING TILE TYPE II	NOB-TEM			24% Organic 31.4% Residue 44.6% Carbonate	NONE DETECTED
21-619 -37		Color: White		0.0% Vermiculite			
Analyzed By: Mei Wang		Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive			



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
50	2ND FLOOR BY ENTRANCE TO OFFICE SPACE	2 X 4 CEILING TILE TYPE II	NOB-TEM			20.7% Organic 20.7% Residue 58.6% Carbonate	NONE DETECTED
21-619 -38		Color: White		0.0% Vermiculite			
Analyzed By: Mei Wang		Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive			
51	2ND FLOOR BY ENTRANCE TO OFFICE SPACE	2 X 4 CEILING TILE TYPE II	NOB-TEM			18.5% Organic 12.6% Residue 68.9% Carbonate	NONE DETECTED
21-619 -39		Color: White		0.0% Vermiculite			
Analyzed By: Mei Wang		Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive			
52	1ST FLOOR ABANDONED BLDG	CMU WALL MORTAR	PLM		100% Mineral Filler		NONE DETECTED
21-619 -40		Color: Brown		0.0% Vermiculite			
Analyzed By: Ivan Reyes							
53	1ST FLOOR LOCKER ROOM & LUNCH ROOM	CMU WALL MORTAR	PLM		100% Mineral Filler		NONE DETECTED
21-619 -41		Color: Brown		0.0% Vermiculite			
Analyzed By: Ivan Reyes							
54	1ST FLOOR LOCKER ROOM & LUNCH ROOM	CMU WALL MORTAR	PLM		100% Mineral Filler		NONE DETECTED
21-619 -42		Color: Brown		0.0% Vermiculite			
Analyzed By: Ivan Reyes							
55	1ST FLOOR LOBBY	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -43		Color: Brown		0.0% Vermiculite			
Analyzed By: Ivan Reyes							
56	1ST FLOOR LOBBY	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -44		Color: Brown		0.0% Vermiculite			
Analyzed By: Ivan Reyes							
57	1ST FLOOR LOBBY	GYPSUM BOARD PAPER WALL	PLM		100% Mineral Filler		NONE DETECTED
21-619 -45		Color: Brown		0.0% Vermiculite			
Analyzed By: Ivan Reyes							
58	1ST FLOOR LOBBY	GYPSUM BOARD	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -46		Color: Off White					
Analyzed By: Ivan Reyes							
59	1ST FLOOR LOBBY	GYPSUM BOARD	PLM	2% Cellulose 2% FiberGlass	96% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -47		Color: Off White					
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
60	1ST FLOOR LOBBY	GYPSUM BOARD	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Off White					
Analyzed By: Ivan Reyes							
61	1ST FLOOR LOBBY	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
62	1ST FLOOR LOBBY	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
63	1ST FLOOR LOBBY	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
64	1ST FLOOR BATHROOMS	F/G PIPE INSULATION COVER 3"	NOB-TEM		0.0% Vermiculite	81.4% Organic 4.7% Residue 13.9% Carbonate	NONE DETECTED
		Color: Black/Brown	Comments: NOB PLM Inconclusive				
		Second Analyst: Feyza Gungor					
Analyzed By: Mei Wang							
65	1ST FLOOR BATHROOMS	F/G PIPE INSULATION COVER 3"	NOB-TEM		0.0% Vermiculite	78.4% Organic 13.7% Residue 7.9% Carbonate	NONE DETECTED
		Color: Black/Brown	Comments: NOB PLM Inconclusive				
		Second Analyst: Feyza Gungor					
Analyzed By: Mei Wang							
66	1ST FLOOR BATHROOMS	F/G PIPE INSULATION COVER 3"	NOB-TEM		0.0% Vermiculite	88.9% Organic 10.2% Residue 0.9% Carbonate	NONE DETECTED
		Color: Black/Brown	Comments: NOB PLM Inconclusive				
		Second Analyst: Feyza Gungor					
Analyzed By: Mei Wang							
67	1ST FLOOR ABADONED BLDG BATHROOMS	PIPE FITTINGS INSULATION	PLM	35% FiberGlass	55% Mineral Filler 0.0% Vermiculite		10% Chrysotile
		Color: Off White					
Analyzed By: Ivan Reyes							
							<b>Total Asbestos: 10 %</b>
68	1ST FLOOR ABADONED BLDG BATHROOMS	PIPE FITTINGS INSULATION					NOT ANALYZED
			Comments: Positive stp. see #67				
Analyzed By: Ivan Reyes							
69	1ST FLOOR ABADONED BLDG BATHROOMS	PIPE FITTINGS INSULATION					NOT ANALYZED
			Comments: Positive stp. see #67				
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10379
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: _____, Amendment Dates: _____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis.
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Ivan Reyes

Analyst:

Mei Wang

Approved by

Quality Manager:

Mei Wang

Analyst:

Feyza Gungor

Analyst:



**ELAP  
BULK ASBESTOS ANALYSIS RESULTS**

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

- ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi  
ATC Group Services LLC  
Director of Laboratory Services



BATCH NO.

21-619 ✓

Page 1 of 4

**BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM**

**PROJECT INFORMATION**

1. Client <b>PANYNJ</b>	Project Name: <b>FIRESPRINKLER REHABILITATION</b>	3a. ATC Project No.: <b>214PNPEPJ1</b>	4a. Project Manager: <b>R. Rivero</b>
	2a. Project Address: (Circle One) <b>PN PE PJ</b>	3b. Task No.: <b>0001</b>	4b. Inspector: <b>PHILIP CARRINGTON</b>
5. Date: <b>4/8/21</b>	6. BUILDING NUMBER: <b>301</b>	7. Sampling Areas:	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input checked="" type="radio"/> NORMAL <b>RUSH_X</b>
			9. Comments (Field) <b>NOB → TEM Stop @ 1st Positive</b>

**BULK SAMPLE LOCATION**

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location		15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
				Floor	Sample Coordinates		
51	13	2x2' & 2x4'		1	OFFICE SPACE		
51	14	CEILING PLE					
51	15	FISSURED					
16	16	GYPSUM BOARD					
10	17	PAPER					
16	18	WALL					
17	19	GYPSUM BOARD					
17	20	WALL					
17	21	"					
18	22	JOINT COMPOUND					
18	23	"					
18	24	"					
19	25	HVAC DUCT					
19	26	INSULATION					
19	27	COVER					
10	28	F/G PIPE					
10	29	INSULATION					
10	30	COVER 3"					

**CHAIN OF CUSTODY**

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I.	4/8/21	3:20pm	Ebezer Eley	4/8/2021	15:25	Field Walk In
II.						US Mail
III.			QC BY			Fed-Ex
						Other

**LABORATORY INFORMATION**

24. Name and Signature: 24a. Analyzed By:	25. Date: 4/9/2021	26. Time: 9:58am	27. Comments (Lab)
24b. Analyzed By:	4/9/21	11:00am	
24c. QC By:			

TEM: Feiza Ganga Fez 8 4/9/21 14:47

**BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM**

**PROJECT INFORMATION**

1. Client <b>PANYNJ</b>	Project Name: <b>FIRESPRINKLER REHABILITATION</b>	3a. ATC Project No.: <b>214PNPEPJ1</b>	4a. Project Manager: <b>R. Rivero</b>
2a. Project Address: (Circle One) <b>PN PE PJ</b>	3b. Task No.: <b>0001</b>	4b. Inspector: <b>PHILIP CARRINGTON</b>	
5. Date: <b>4/8/21</b>	6. BUILDING NUMBER: <b>301</b>	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X_	
7. Sampling Areas:		9. Comments (Field) <b>NOB → TEM Stop @ 1st Positive</b>	

**BULK SAMPLE LOCATION**

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
11	31	CNU MORTAR		1 OFFICE SPACE		
11	32	WALL		1 ELEC ROOM		
11	33	"		1		
12	34	2x4 CEILING		2 OFFICE SPACE		
12	35	TILE TYPE I				
12	36	FISSURED				
13	37	GYPSUM BOARD				
13	38	PAPER				
13	39	WALL				
14	40	GYPSUM BOARD				
14	41	"				
14	42	"				
15	43	JOINT COMPOUND				
15	44	"				
15	45	"				
16	46	HVAC DUCT				
16	47	COVER				
16	48	"				

**CHAIN OF CUSTODY**

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
<i>Philip Carrington</i>	4/8/21	3:20pm	<i>Eleler E</i>	4/8/2021	15:25	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

**LABORATORY INFORMATION**

24. Name and Signature:	25. Date	26 Time	27. Comments (Lab)
24a. Analyzed By: <i>Ivan Reyes</i>	4/9/2021	9:58am	
24b. Analyzed By: <i>MEL WHO</i>	4/9/21	14:47	
24c. QC By: <i>Feiya Gungor</i>	4/9/20	14:47	

**BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM**

**PROJECT INFORMATION**

1. Client <b>PANYNJ</b>	Project Name: <b>FIRESPRINKLER REHABILITATION</b>	3a. ATC Project No.: <b>214PNPEPJ1</b>	4a. Project Manager: <b>R. Rivero</b>
2a. Project Address: (Circle One) <b>PN PE PJ</b>	3b. Task No.: <b>0001</b>	4b. Inspector: <b>PHILIP CARRINGTON</b>	
5. Date: <b>4/8/21</b>	6. BUILDING NUMBER: <b>301</b>	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X_	
7. Sampling Areas:		9. Comments (Field) <b>NOB → TEM Stop @ 1st Positive</b>	

**BULK SAMPLE LOCATION**

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
17	49	2x4 CEILING TIE		2 139 ENTRANCE TO		
17	50	TYPE II		1 OFFICE SPACE		
17	51	"		1		
18	52	CNU WALL		1 ABANDONED BUNG		
18	53	MORTAR		1 1st FLOOR LOCKER		
18	54	"		1 ROOM & LOBBY ROOM		
19	55	GYPSUM BOARD		1 1st FLOOR LOBBY		
19	56	PAPER				
19	57	WALL				
20	58	GYPSUM BOARD				
20	59	"				
20	60	"				
21	61	JOINT COMPOUND				
21	62	"				
21	63	"				
22	64	F/G PIPE INSULATION		1 BARR ROOMS		
22	65	COVER 3"				
22	66	"				

**CHAIN OF CUSTODY**

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
<i>Philip Carrington</i>	4/8/21	3:20pm	<i>Eleler E</i>	4/8/2021	16:25	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

**LABORATORY INFORMATION**

24. Name and Signature:	25. Date	26 Time	27. Comments (Lab)
24a. Analyzed By: <i>Ivan Reyes</i>	4/9/2021	9:58am	
24b. Analyzed By: <i>MEL WHO</i>	4/9/21	14:47	
24c. QC By: <i>Feiya Gungor</i>	4/9/21	14:47	



BATCH NO. 21-619 Page 4 of 4

**BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM**

**PROJECT INFORMATION**

1. Client <b>PANYNJ</b>	Project Name: <b>FIRESPRINKLER REHABILITATION</b>	3a. ATC Project No.: <b>214PNPEPJ1</b>	4a. Project Manager: <b>R. Rivero</b>
5. Date: <b>4/8/21</b>	6. BUILDING NUMBER: <b>301</b>	3b. Task No.: <b>0001</b>	4b. Inspector: <b>PHILIP CARRINGTON</b>
2a. Project Address: (Circle One) <b>PN PE PJ</b>		9. Comments (Field) <b>NOB → TEM Stop @ 1st Positive</b>	
8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input type="radio"/> RUSH_X_			

**BULK SAMPLE LOCATION**

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
23	67	PIPE FITTINGS		1 ABANDONED BLDG		
23	68	INSULATION		1 BATHROOMS		
23	69	1		"		
24						
24						
24						

**CHAIN OF CUSTODY**

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <i>Philip Carrington</i>	4/8/21	3:20pm	Ebler E	4/8/21	11:25	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

**LABORATORY INFORMATION**

24. Name and Signature: 24a. Analyzed By: <i>Iron Reyes</i>	25. Date: 4/9/21	26. Time: 9:58am	27. Comments (Lab)
24b. Analyzed By: <i>Michael...</i>	4/9/21	6:47	
24c. QC By: <i>TEM: Feiza Gungor</i>	4/9/21	14:47	



ATC - New York  
104 East 25th Street, 8th FL, New York, NY 10010  
Phone: (212) 353-8280, Fax: (212) 353-3599 or 8306

**BULK ASBESTOS ANALYSIS SHEET**

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
 Analysis Date 4/9/2021 Analyst DL Batch Number 21-619 TEMPERATURE 75

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
13	Color: <u>White</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>✓</u> # of Layers: <u>1</u> Asbestos: <u>✓</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	
Required <input type="checkbox"/>	Comments:	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION		Q.C. <input type="checkbox"/>	
14	Color: <u>White</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>✓</u> # of Layers: <u>1</u> Asbestos: <u>✓</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	
Required <input type="checkbox"/>	Comments:	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION		Q.C. <input type="checkbox"/>	
15	Color: <u>White</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>✓</u> # of Layers: <u>1</u> Asbestos: <u>✓</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	
Required <input type="checkbox"/>	Comments:	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION		Q.C. <input type="checkbox"/>	
16	Color: <u>Brown</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>✓</u> # of Layers: <u>1</u> Asbestos: <u>✓</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	
Required <input type="checkbox"/>	Comments:	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION		Q.C. <input type="checkbox"/>	

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.

Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25

17 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %								
Gravimetric Required <input type="checkbox"/>	Color <u>Brown</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	95	Cellulose	5	Mineral Filler	Amosite	0	Fiberglass	0	Organic Binders	Vermiculite*	0	Other	0	Other
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Other		Cellulose Ondulose Extinction		Other									
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence		* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.							
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
See SM-V analysis sheet for results	PLM											0	200												
	NOB PLM																								
	Comments:																								
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																								

18 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %								
Gravimetric Required <input type="checkbox"/>	Color <u>Brown</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	95	Cellulose	5	Mineral Filler	Amosite	0	Fiberglass	0	Organic Binders	Vermiculite*	0	Other	0	Other
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Other		Cellulose Ondulose Extinction		Other									
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence		* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.							
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
See SM-V analysis sheet for results	PLM											0	200												
	NOB PLM																								
	Comments:																								
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																								

19 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %								
Gravimetric Required <input type="checkbox"/>	Color <u>Offwhite</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	4	Cellulose	94	Mineral Filler	Amosite	2	Fiberglass	0	Organic Binders	Vermiculite*	0	Other	0	Other
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Other		Cellulose Ondulose Extinction		Other									
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence		* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.							
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
See SM-V analysis sheet for results	PLM											0	200												
	NOB PLM																								
	Comments:																								
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																								

20 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %								
Gravimetric Required <input type="checkbox"/>	Color <u>Offwhite</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	3	Cellulose	95	Mineral Filler	Amosite	2	Fiberglass	0	Organic Binders	Vermiculite*	0	Other	0	Other
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Other		Cellulose Ondulose Extinction		Other									
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence		* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.							
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
See SM-V analysis sheet for results	PLM											0	200												
	NOB PLM																								
	Comments:																								
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																								

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25

21 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %								
Gravimetric Required <input type="checkbox"/>	Color <u>Offwhite</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	4	Cellulose	94	Mineral Filler	Amosite	2	Fiberglass	0	Organic Binders	Vermiculite*	0	Other	0	Other
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Other		Cellulose Ondulose Extinction		Other									
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence		* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.							
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
See SM-V analysis sheet for results	PLM											0	200												
	NOB PLM																								
	Comments:																								
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																								

22 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %								
Gravimetric Required <input type="checkbox"/>	Color <u>White</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	4	Cellulose	100	Mineral Filler	Amosite	0	Fiberglass	0	Organic Binders	Vermiculite*	0	Other	0	Other
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Other		Cellulose Ondulose Extinction		Other									
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence		* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.							
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
See SM-V analysis sheet for results	PLM											0	200												
	NOB PLM																								
	Comments:																								
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																								

23 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %								
Gravimetric Required <input type="checkbox"/>	Color <u>White</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	4	Cellulose	100	Mineral Filler	Amosite	0	Fiberglass	0	Organic Binders	Vermiculite*	0	Other	0	Other
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Other		Cellulose Ondulose Extinction		Other									
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence		* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.							
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
See SM-V analysis sheet for results	PLM											0	200												
	NOB PLM																								
	Comments:																								
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																								

24 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %								
Gravimetric Required <input type="checkbox"/>	Color <u>White</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	4	Cellulose	100	Mineral Filler	Amosite	0	Fiberglass	0	Organic Binders	Vermiculite*	0	Other	0	Other
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>											Other		Cellulose Ondulose Extinction		Other									
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>											Fiberglass Isotopic		Synthetic High Birefringence		Horse Hair: Scales, Low to Moderate Birefringence		* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.							
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
See SM-V analysis sheet for results	PLM											0	200												
	NOB PLM																								
	Comments:																								
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																								

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1	25	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Tan/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	75	Cellulose	17	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

2	26	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Tan/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	75	Cellulose	20	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

3	27	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Tan/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	75	Cellulose	20	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

4	28	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>White/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	25	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1	29	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>White/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	25	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

2	30	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>White/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	25	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

3	31	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Brown</u> <u>G</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	10	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

4	32	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Brown</u> <u>G</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	10	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide																								



BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25

Form 33: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 34: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 35: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 36: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25

Form 37: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 38: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 39: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 40: Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1

Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25 °C

1	41	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>White</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Recommended	Homogeneity <u>1</u> Vermiculite <u>1</u>												Amosite	Fiberglass	Organic Binders		
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>												Other	Other	Vermiculite*		
	Color of Layer <u>  </u> Detected Yes No												Cellulose Ondulose Extinction		Other		
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Fiberglass Isotopic				
See SM-V analysis sheet for results	PLM <u>10</u>											<u>0 200 0</u>	<input type="checkbox"/> Synthetic High Birefringence				
	NOB PLM												<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence				
	Comments:																
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION																

2	42	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>White</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Recommended	Homogeneity <u>1</u> Vermiculite <u>1</u>												Amosite	Fiberglass	Organic Binders		
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>												Other	Other	Vermiculite*		
	Color of Layer <u>  </u> Detected Yes No												Cellulose Ondulose Extinction		Other		
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Fiberglass Isotopic				
See SM-V analysis sheet for results	PLM <u>10</u>											<u>0 200 0</u>	<input type="checkbox"/> Synthetic High Birefringence				
	NOB PLM												<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence				
	Comments:																
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION																

3	43	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>White</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Recommended	Homogeneity <u>1</u> Vermiculite <u>1</u>												Amosite	Fiberglass	Organic Binders		
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>												Other	Other	Vermiculite*		
	Color of Layer <u>  </u> Detected Yes No												Cellulose Ondulose Extinction		Other		
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Fiberglass Isotopic				
See SM-V analysis sheet for results	PLM <u>10</u>											<u>0 200 0</u>	<input type="checkbox"/> Synthetic High Birefringence				
	NOB PLM												<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence				
	Comments:																
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION																

4	44	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>White</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Recommended	Homogeneity <u>1</u> Vermiculite <u>1</u>												Amosite	Fiberglass	Organic Binders		
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>												Other	Other	Vermiculite*		
	Color of Layer <u>  </u> Detected Yes No												Cellulose Ondulose Extinction		Other		
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Fiberglass Isotopic				
See SM-V analysis sheet for results	PLM <u>10</u>											<u>0 200 0</u>	<input type="checkbox"/> Synthetic High Birefringence				
	NOB PLM												<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence				
	Comments:																
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION																

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1

Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25 °C

1	45	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>White</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Recommended	Homogeneity <u>1</u> Vermiculite <u>1</u>												Amosite	Fiberglass	Organic Binders		
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>												Other	Other	Vermiculite*		
	Color of Layer <u>  </u> Detected Yes No												Cellulose Ondulose Extinction		Other		
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Fiberglass Isotopic				
See SM-V analysis sheet for results	PLM <u>10</u>											<u>0 200 0</u>	<input type="checkbox"/> Synthetic High Birefringence				
	NOB PLM												<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence				
	Comments:																
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION																

2	46	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>Tan/Silver</u> Texture <u>R</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Recommended	Homogeneity <u>1</u> Vermiculite <u>1</u>												Amosite	Fiberglass	Organic Binders		
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>												Other	Other	Vermiculite*		
	Color of Layer <u>  </u> Detected Yes No												Cellulose Ondulose Extinction		Other		
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Fiberglass Isotopic				
See SM-V analysis sheet for results	PLM <u>10</u>											<u>0 200 0</u>	<input type="checkbox"/> Synthetic High Birefringence				
	NOB PLM												<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence				
	Comments:																
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION																

3	47	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>Tan/Silver</u> Texture <u>R</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Recommended	Homogeneity <u>1</u> Vermiculite <u>1</u>												Amosite	Fiberglass	Organic Binders		
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>												Other	Other	Vermiculite*		
	Color of Layer <u>  </u> Detected Yes No												Cellulose Ondulose Extinction		Other		
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Fiberglass Isotopic				
See SM-V analysis sheet for results	PLM <u>10</u>											<u>0 200 0</u>	<input type="checkbox"/> Synthetic High Birefringence				
	NOB PLM												<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence				
	Comments:																
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION																

4	48	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>Tan/Silver</u> Texture <u>R</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler		
Recommended	Homogeneity <u>1</u> Vermiculite <u>1</u>												Amosite	Fiberglass	Organic Binders		
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>												Other	Other	Vermiculite*		
	Color of Layer <u>  </u> Detected Yes No												Cellulose Ondulose Extinction		Other		
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.	<input type="checkbox"/> Fiberglass Isotopic				
See SM-V analysis sheet for results	PLM <u>10</u>											<u>0 200 0</u>	<input type="checkbox"/> Synthetic High Birefringence				
	NOB PLM												<input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence				
	Comments:																
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION																

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1	49	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>White</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
Recommended	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>												Amosite	Fiberglass	Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>												Other	Other	Vermiculite*	
	Color of Layer	Detected	Yes	No													Other
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM																
	NOB PLM																
	Comments:																
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.		

2	50	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>White</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
Recommended	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>												Amosite	Fiberglass	Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>												Other	Other	Vermiculite*	
	Color of Layer	Detected	Yes	No													Other
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM																
	NOB PLM																
	Comments:																
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.		

3	51	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>White</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
Recommended	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>												Amosite	Fiberglass	Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>												Other	Other	Vermiculite*	
	Color of Layer	Detected	Yes	No													Other
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM																
	NOB PLM																
	Comments:																
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.		

4	52	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>Brown</u>	Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
Recommended	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>												Amosite	Fiberglass	Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>												Other	Other	Vermiculite*	
	Color of Layer	Detected	Yes	No													Other
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM																
	NOB PLM																
	Comments:																
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.		

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1	53	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>Brown</u>	Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
Recommended	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>												Amosite	Fiberglass	Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>												Other	Other	Vermiculite*	
	Color of Layer	Detected	Yes	No													Other
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM																
	NOB PLM																
	Comments:																
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.		

2	54	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>Brown</u>	Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
Recommended	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>												Amosite	Fiberglass	Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>												Other	Other	Vermiculite*	
	Color of Layer	Detected	Yes	No													Other
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM																
	NOB PLM																
	Comments:																
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.		

3	55	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>Brown</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
Recommended	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>												Amosite	Fiberglass	Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>												Other	Other	Vermiculite*	
	Color of Layer	Detected	Yes	No													Other
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM																
	NOB PLM																
	Comments:																
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.		

4	56	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>Brown</u>	Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	
Recommended	Homogeneity <u>Y</u>	Vermiculite <u>Y</u>												Amosite	Fiberglass	Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u>	Asbestos <u>Y</u>												Other	Other	Vermiculite*	
	Color of Layer	Detected	Yes	No													Other
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM																
	NOB PLM																
	Comments:																
	Method:	<input checked="" type="checkbox"/> ELAP	<input type="checkbox"/> EPA	<input type="checkbox"/> SCANNING OPTION											<input type="checkbox"/> Q.C.		

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

Accreditations:  
NVLAP 101187-0  
ELAP 10679

Microscopes:  
OLYMPUS BH-2/  
NIKON OPTIPHOT

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %						
1 57	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other		
Gravimetric	Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>											Cellulose Ondulose Extinction <input type="checkbox"/>			Fiberglass Isotopic <input type="checkbox"/>			Synthetic High Birefringence <input type="checkbox"/>			Horse Hair: Scales, Low to Moderate Birefringence <input type="checkbox"/>		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
Required <input type="checkbox"/>	PLM																								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																								
Comments:																									
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																									

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %						
2 58	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other		
Gravimetric	Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>											Cellulose Ondulose Extinction <input type="checkbox"/>			Fiberglass Isotopic <input type="checkbox"/>			Synthetic High Birefringence <input type="checkbox"/>			Horse Hair: Scales, Low to Moderate Birefringence <input type="checkbox"/>		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
Required <input type="checkbox"/>	PLM																								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																								
Comments:																									
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																									

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %						
3 59	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other		
Gravimetric	Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>											Cellulose Ondulose Extinction <input type="checkbox"/>			Fiberglass Isotopic <input type="checkbox"/>			Synthetic High Birefringence <input type="checkbox"/>			Horse Hair: Scales, Low to Moderate Birefringence <input type="checkbox"/>		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
Required <input type="checkbox"/>	PLM																								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																								
Comments:																									
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																									

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %						
4 60	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other		
Gravimetric	Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>											Cellulose Ondulose Extinction <input type="checkbox"/>			Fiberglass Isotopic <input type="checkbox"/>			Synthetic High Birefringence <input type="checkbox"/>			Horse Hair: Scales, Low to Moderate Birefringence <input type="checkbox"/>		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
Required <input type="checkbox"/>	PLM																								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																								
Comments:																									
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																									

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

Accreditations:  
NVLAP 101187-0  
ELAP 10679

Microscopes:  
OLYMPUS BH-2/  
NIKON OPTIPHOT

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %						
1 61	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other		
Gravimetric	Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>											Cellulose Ondulose Extinction <input type="checkbox"/>			Fiberglass Isotopic <input type="checkbox"/>			Synthetic High Birefringence <input type="checkbox"/>			Horse Hair: Scales, Low to Moderate Birefringence <input type="checkbox"/>		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
Required <input type="checkbox"/>	PLM																								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																								
Comments:																									
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																									

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %						
2 62	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other		
Gravimetric	Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>											Cellulose Ondulose Extinction <input type="checkbox"/>			Fiberglass Isotopic <input type="checkbox"/>			Synthetic High Birefringence <input type="checkbox"/>			Horse Hair: Scales, Low to Moderate Birefringence <input type="checkbox"/>		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
Required <input type="checkbox"/>	PLM																								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																								
Comments:																									
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																									

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %						
3 63	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other		
Gravimetric	Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>											Cellulose Ondulose Extinction <input type="checkbox"/>			Fiberglass Isotopic <input type="checkbox"/>			Synthetic High Birefringence <input type="checkbox"/>			Horse Hair: Scales, Low to Moderate Birefringence <input type="checkbox"/>		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
Required <input type="checkbox"/>	PLM																								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																								
Comments:																									
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																									

Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %						
4 64	Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Amosite	Other	Cellulose	Fiberglass	Other	Mineral Filler	Organic Binders	Vermiculite*	Other		
Gravimetric	Required <input type="checkbox"/>	Recommended <input type="checkbox"/>	See gravimetric analysis sheet for results <input type="checkbox"/>											Cellulose Ondulose Extinction <input type="checkbox"/>			Fiberglass Isotopic <input type="checkbox"/>			Synthetic High Birefringence <input type="checkbox"/>			Horse Hair: Scales, Low to Moderate Birefringence <input type="checkbox"/>		
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
Required <input type="checkbox"/>	PLM																								
See SM-V analysis sheet for results <input type="checkbox"/>	NOB PLM																								
Comments:																									
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.																									

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
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Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25

Form 1: 65 Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 2: 66 Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 3: 67 Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 4: 68 Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25

Form 1: 69 Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 2: 69 Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 3: 69 Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Form 4: 69 Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.



**ATC Group Services LLC  
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-619 TEM Batch # 122927 Start Date: 04/09/21  
 NOB PLM PREP: MG/EV NOB PLM Analyst: MW 13 NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 04/09/21

Field #	5 % Organic	11 Non Asb Residue %		12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
		NFR					NOB	PLM	TEM
13	21.8	52.8		25.4	ND		✓	✓	✓
14	23.5	44.7		31.8	ND		✓	✓	✓
15	24.9	42.0		33.1	ND		✓	✓	✓
34	28.6	47.7		23.7	ND		✓	✓	✓
35	29.8	47.4		22.8	ND		✓	✓	✓
36	30.6	45.6		23.8	ND		✓	✓	✓
49	24.0	31.4		44.6	ND		✓	✓	✓
50	20.7	20.7		58.6	ND		✓	✓	✓
51	18.5	12.6		68.9	ND		✓	✓	✓
64	81.4	4.7		13.9	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.  
 2. Refer to PLM analysis sheet for NOB results and/or point count data.  
 3. Vermiculite not reported = not detected.



**ATC Group Services LLC  
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-619 TEM Batch # 122927 Start Date: 04/09/21  
 NOB PLM PREP: MG/EV NOB PLM Analyst: MW 13 NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 04/09/21

Field #	5 % Organic	11 Non Asb Residue %		12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
		NFR					NOB	PLM	TEM
65	78.4	13.7		7.9	ND		✓	✓	✓
66	88.9	10.2		0.9	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.  
 2. Refer to PLM analysis sheet for NOB results and/or point count data.  
 3. Vermiculite not reported = not detected.

**APPENDIX B**  
**ASBESTOS SAMPLE LOCATION DRAWINGS**

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No.	Date	Revision	Approved
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ENGINEERING DEPARTMENT

NEW JERSEY  
MARINE TERMINAL  
PORT NEWARK

ENVIRONMENTAL

Title  
NEW JERSEY PORTS  
ASBESTOS SURVEY

BUILDING 301  
FIRST FLOOR SAMPLE  
LOCATION PLAN  
SAMPLES 1 TO 33 &  
52 TO 69

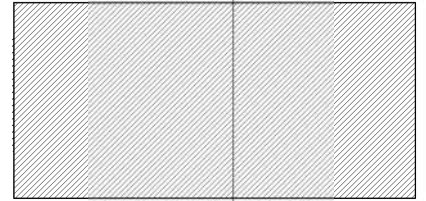
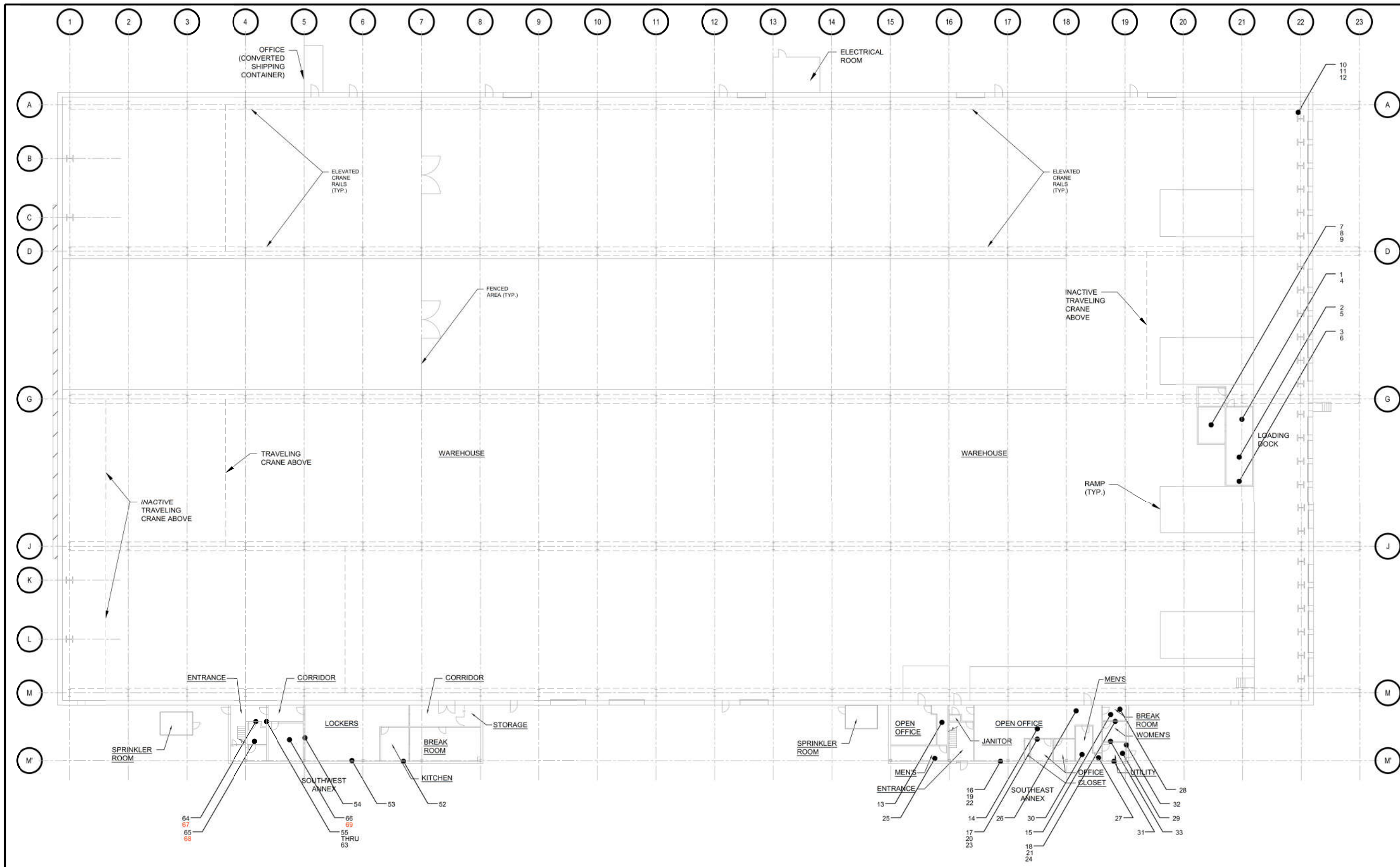
This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "Altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO  
Drawn by E.MILKIS

Checked by  
Date 07/02/2021

Contract Number

Drawing Number **SL001**



KEY PLAN



**LEGEND**

SYMBOL	DESCRIPTION
	SUSPECT ASBESTOS SAMPLE LOCATION
	ACM SAMPLE LOCATION



**THE PORT AUTHORITY  
OF NY & NJ**



ATC GROUP SERVICES  
104 EAST 25TH STREET, NEW YORK NY 10010

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY  
MARINE TERMINAL  
PORT NEWARK

ENVIRONMENTAL

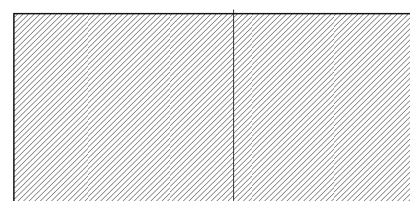
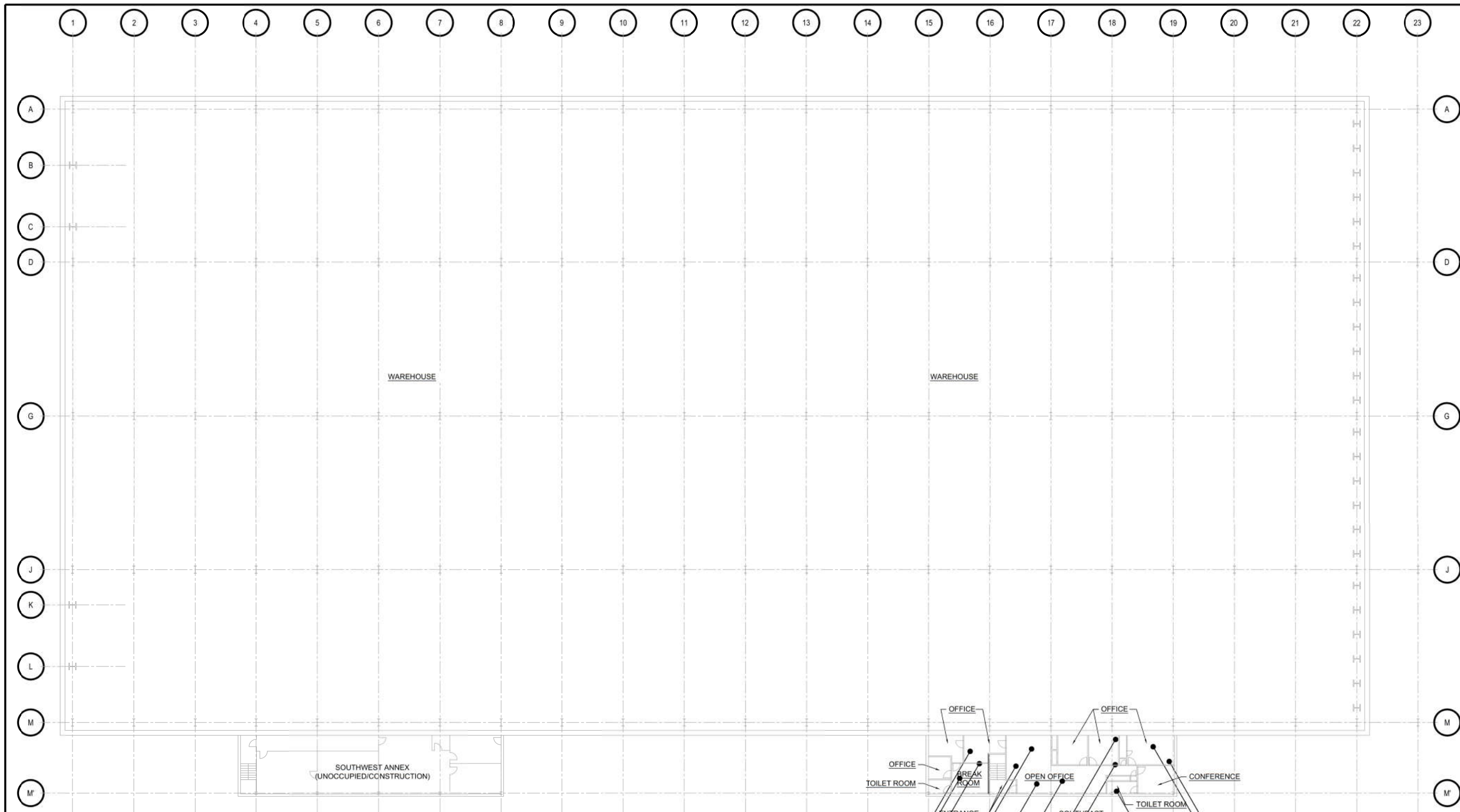
Title  
NEW JERSEY PORTS  
ASBESTOS SURVEY  
  
BUILDING 301  
SECOND FLOOR  
SAMPLE LOCATION PLAN  
SAMPLES 34 TO 51

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Designed by R.RIVERO  
Drawn by E.MILKIS  
Checked by  
Date 07/02/2021

Contract Number

Drawing Number **SL002**



**LEGEND**

SYMBOL	DESCRIPTION
	SUSPECT ASBESTOS SAMPLE LOCATION

**APPENDIX C**  
**ASBESTOS LOCATION DRAWINGS**

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No.	Date	Revision	Approved
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ENGINEERING DEPARTMENT

NEW JERSEY  
MARINE TERMINAL  
PORT NEWARK

**ENVIRONMENTAL**

Title  
NEW JERSEY PORTS  
ASBESTOS SURVEY  
  
BUILDING 301  
FIRST FLOOR  
ACM LOCATION PLAN

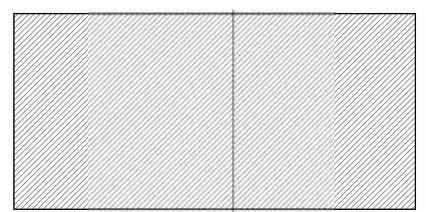
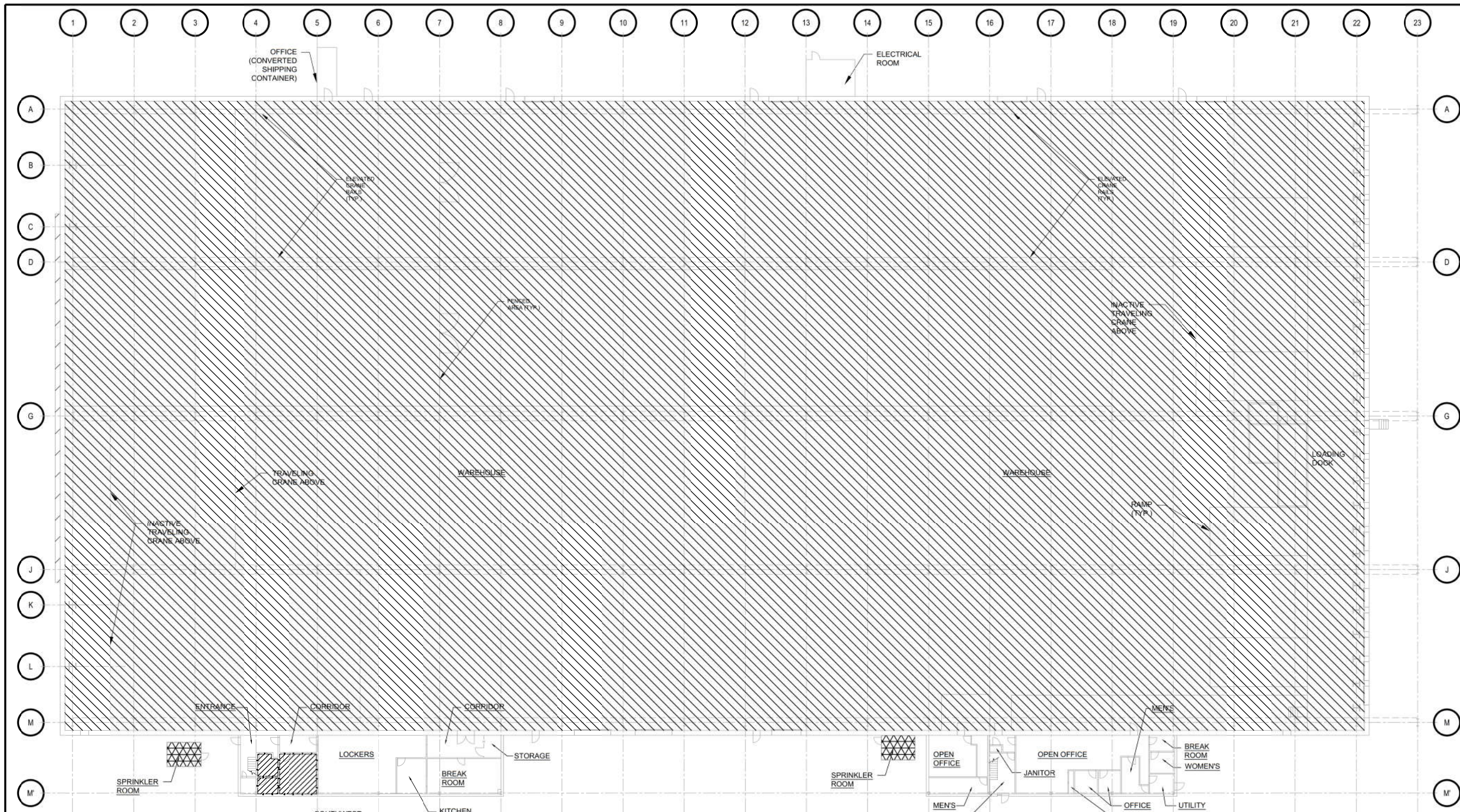
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Designed by R.RIVERO  
Drawn by E.MILKIS

Checked by  
Date 07/02/2021

Contract Number

Drawing Number **ACM001**



**KEY PLAN**



**LEGEND**

SYMBOL	DESCRIPTION
	ASBESTOS CONTAINING PIPE FITTING INSULATION
	PIPE AND PIPE FITTING INSULATION IN WAREHOUSE AREA (PACM), EXACT LOCATION TO BE VERIFIED.
	FLANGE & VALVE GASKETS (PACM)

**APPENDIX D**

**LAB CERTIFICATIONS AND ACCREDITATIONS, COMPANY  
AND PERSONNEL CERTIFICATIONS**

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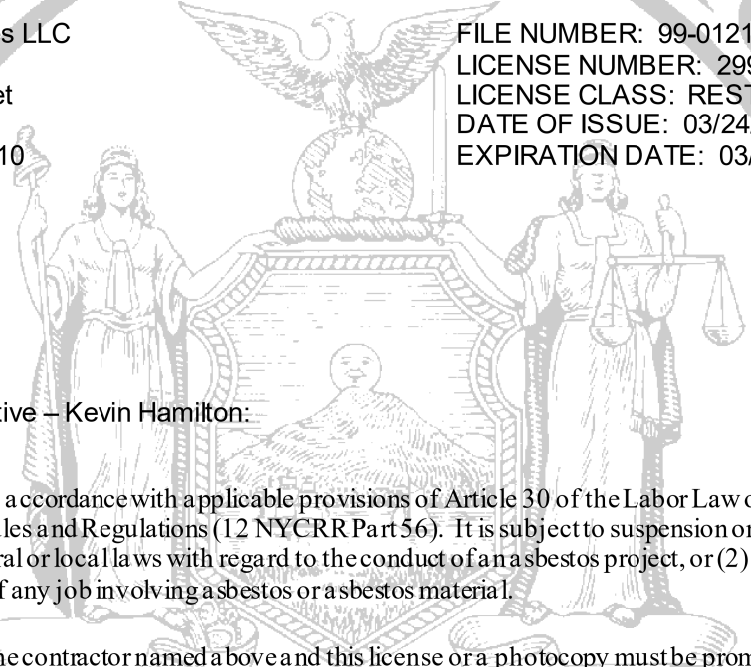
**New York State – Department of Labor**

Division of Safety and Health  
License and Certificate Unit  
State Campus, Building 12  
Albany, NY 12240

**ASBESTOS HANDLING LICENSE**

ATC Group Services LLC  
10th Floor  
104 East 25th Street  
New York, NY 10010

FILE NUMBER: 99-0121  
LICENSE NUMBER: 29902  
LICENSE CLASS: RESTRICTED  
DATE OF ISSUE: 03/24/2021  
EXPIRATION DATE: 03/31/2022



Duly Authorized Representative – Kevin Hamilton:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or a asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director  
For the Commissioner of Labor

SH 432 (8/12)

**NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER**

Expires 12:01 AM April 01, 2021  
Issued April 01, 2020



**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards (2003) for the category  
**ENVIRONMENTAL ANALYSES POTABLE WATER**  
All approved analytes are listed below:

**Miscellaneous**

Asbestos

EPA 100.2



Serial No.: 61221

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.





Expires 12:01 AM April 01, 2021  
Issued April 01, 2020

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

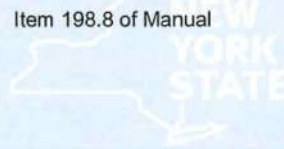
MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category  
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE  
All approved subcategories and/or analytes are listed below:

**Miscellaneous**

- Asbestos in Friable Material Item 198.1 of Manual  
EPA 600/M4/82/020
- Asbestos in Non-Friable Material-PLM Item 198.6 of Manual (NOB by PLM)
- Asbestos in Non-Friable Material-TEM Item 198.4 of Manual
- Asbestos-Vermiculite-Containing Material Item 198.8 of Manual



Department  
of Health

Serial No.: 61222

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Expires 12:01 AM April 01, 2021  
Issued April 01, 2020

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category  
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS  
All approved subcategories and/or analytes are listed below:

**Miscellaneous**

- Asbestos 40 CFR 763 APX A No. III  
NIOSH 7402
- Fibers NIOSH 7400 A RULES



Department  
of Health

Serial No.: 61223

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards (2016) for the category  
ENVIRONMENTAL ANALYSES POTABLE WATER  
All approved analytes are listed below:

Miscellaneous

Asbestos

EPA 100.2



Serial No.: 62824

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category  
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE  
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material

Item 198.1 of Manual

EPA 600/M4/82/020

Asbestos in Non-Friable Material-PLM

Item 198.6 of Manual (NOB by PLM)

Asbestos in Non-Friable Material-TEM

Item 198.4 of Manual

Asbestos-Vermiculite-Containing Material

Item 198.8 of Manual

Serial No.: 62825

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category  
**ENVIRONMENTAL ANALYSES AIR AND EMISSIONS**  
All approved subcategories and/or analytes are listed below:

**Miscellaneous**

Asbestos

40 CFR 763 APX A No. III

NIOSH 7402

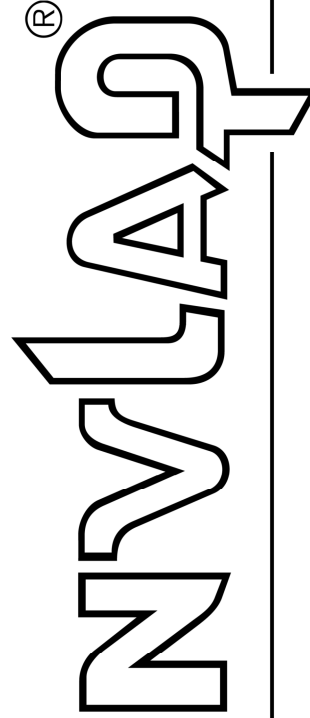
Fibers

NIOSH 7400 A RULES

Serial No.: 62826

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

United States Department of Commerce  
National Institute of Standards and Technology



**Certificate of Accreditation to ISO/IEC 17025:2017**

NVLAP LAB CODE: 101187-0

**ATC Group Services LLC**

New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:

**Asbestos Fiber Analysis**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).



2020-07-01 through 2021-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program





**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017**

**ATC Group Services LLC**  
 104 E. 25th Street 8th Floor  
 New York, NY 10010  
 Ms. Milena Bonezzi  
 Phone: 212-353-8280 x247 Fax: 212-353-8306  
 Email: milena.bonezzi@atcgs.com

**ASBESTOS FIBER ANALYSIS**

**NVLAP LAB CODE 101187-0**

**Bulk Asbestos Analysis**

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

**Airborne Asbestos Analysis**

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR Part 763 Subpart E Appendix A

*[Signature]*  
 For the National Voluntary Laboratory Accreditation Program





## AIHA Laboratory Accreditation Programs, LLC SCOPE OF ACCREDITATION

### ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

Issue Date: 08/30/2019

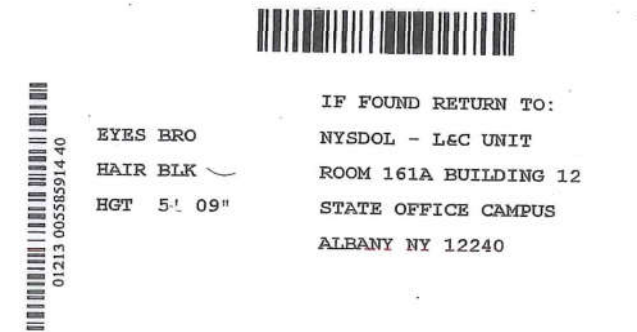
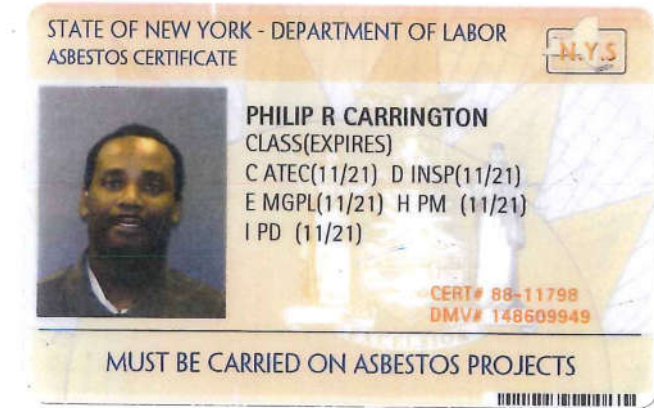
The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

### Industrial Hygiene Laboratory Accreditation Program (IHLAP)


Initial Accreditation Date: 06/12/1995

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400 Modified	-

A complete listing of currently accredited IHLAP laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



STATE OF NEW YORK - DEPARTMENT OF LABOR  
ASBESTOS CERTIFICATE

**NANCY B GUEVARA**  
CLASS(EXPIRES)  
C ATEC(05/21) D INSP(05/21)  
H PM (05/21) I PD (05/21)

CERT# 14-00412  
DMV# 234032668

**MUST BE CARRIED ON ASBESTOS PROJECTS**





01213 005585171 14

EYES BRO  
HAIR BRO  
HGT 5' 06"

IF FOUND RETURN TO:  
NYS DOL - L&C UNIT  
ROOM 161A BUILDING 12  
STATE OFFICE CAMPUS  
ALBANY NY 12240

STATE OF NEW YORK - DEPARTMENT OF LABOR  
ASBESTOS CERTIFICATE

**RONEY D RIVERO**  
CLASS(EXPIRES)  
C ATEC(08/21) D INSP(08/21)  
E MGPL(08/21) H PM (08/21)  
I PD (08/21)

CERT# 88-06348  
DMV# 955602641

**MUST BE CARRIED ON ASBESTOS PROJECTS**



01213 005581057 61

EYES BRO  
HAIR GRY  
HGT 5' 11"

IF FOUND RETURN TO:  
NYS DOL - L&C UNIT  
ROOM 161A BUILDING 12  
STATE OFFICE CAMPUS  
ALBANY NY 12240



**NJMT REHABILITATION OF FIRE PROTECTION  
SYSTEMS PN, EP, & PJ**

**REVISED ASBESTOS INSPECTION REPORT  
PORT NEWARK, BUILDING #301**

*Performed for:*

**PORT NEWARK  
NEWARK, NEW JERSEY**

*Prepared for:*

**THE PORT AUTHORITY  
OF NEW YORK & NEW JERSEY**

*Prepared by:*

**ATC GROUP SERVICES LLC  
104 EAST 25TH STREET  
NEW YORK, NEW YORK 10010  
(212) 353-8280**

**ATC Project No: 214PNPEPJ1**

**December 17, 2021**



104 East 25th Street  
8th Floor  
New York, New York 10010  
Telephone 212-353-8280  
Fax 212-353-8306

December 17, 2021

Robert Pruno, P.E.  
Chief Environmental Engineer  
Port Authority of New York & New Jersey  
Engineering Design Division  
4 World Trade Center, Floor 20  
New York, NY, 10006

**Subject: Revised Inspection Report for Asbestos-Containing Materials**

**Re: Port Newark, Building #301  
301 Craneway Street  
Newark, NJ 07114  
NJMT Rehabilitation of Fire Protection Systems**

Dear Mr. Pruno:

ATC Group Services LLC (ATC) has completed the inspection for Asbestos-Containing Materials (ACM) for the proposed work at the above referenced site. The inspection included visual observation, material sampling, laboratory analysis and development of asbestos abatement plans. The attached report presents our inspection procedures, findings, assessments and recommendations along with the pertinent appendices.

ATC appreciates this opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

**Roney D. Rivero**  
Senior Project Manager  
for ATC Group Services LLC  
Direct Line +1 212 284 0614  
Email: [roney.rivero@atcgs.com](mailto:roney.rivero@atcgs.com)

Attachments

## TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 BUILDING DESCRIPTION.....	2
3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS .....	2
4.0 ACM INSPECTION SCOPE.....	3
5.0 ACM INSPECTION RESULTS .....	5
6.0 PCB-IN-CAULKING INSPECTION FINDINGS .....	6
7.0 UNIVERSAL WASTE OBSERVATION .....	6
8.0 CONCLUSIONS AND RECOMMENDATIONS .....	6
9.0 ASSUMPTIONS AND LIMITATIONS.....	7

## APPENDICES

Appendix A: ACM Laboratory Results and Chain of Custodies

Appendix B: Asbestos Sample Location Drawings

Appendix C: ACM Location Drawings

Appendix D: Lab Certifications / Accreditations, Company and Personnel Certifications

## EXECUTIVE SUMMARY

On February 26, 2021 and April 8, 2021, ATC completed the inspection for ACM at Port Newark, Building #301 (the Site). Additionally, on November 5, 2021 a supplemental limited survey was performed in response to the Scope of Work changes and recommendations as indicated in the Stage 1 Report dated July 12, 2021 (50% submission). The Architectural team recommended surveying both Sprinkler Valve Rooms (sheds) corrugated exterior wall and roof. The survey was conducted at the request of Port Authority of New York and New Jersey (PANYNJ) in preparation for the Rehabilitation of Fire Protection Systems Project. ATC utilized drawings provided by PANYNJ delineating the areas that will be impacted by the renovation project.

ATC collected eighty-one (81) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, one (1) sampled homogeneous area was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content).

The material that tested positive for asbestos is:

- Pipe Fitting Insulation associated with Fiberglass Pipe Insulation

These materials are tabulated in Section 4.0.

ATC did not observe or sample any suspect PCB-containing Caulking at the time of the inspection.

## 1.0 INTRODUCTION

The intent of this survey was to locate and identify all accessible ACM, and PCBs in caulking within the referenced structure that could potentially be impacted by the proposed Fire Sprinkler Rehabilitation Project.

The environmental survey was conducted by the following personnel who hold certifications from the New York State Department of Labor as Asbestos Inspectors, and the Environmental Protection Agency as Lead Risk Assessors.

Inspector's Name	Certification Number	ACM/LCP
Philip R. Carrington	AH-88-11798	ACM
Nancy Guevara	AH-14-00412	ACM
Roney D. Rivero	AH-88-06348	ACM

## 2.0 BUILDING DESCRIPTION

The New Jersey Port Newark Building 301, Harbor Freight Transport Building, was constructed within the facility located northeast of the Port Newark Marine Terminal and is accessible via Navy Street. The building is currently occupied by Harbor Freight Transport and used for storage of general cargo. The building is a one-story steel framed structure, measuring 255 ft. by 528 ft. in plan. The building height varies from 38'-7" at the eave to 40'-9" at the ridge. The steel framing consists of five rows of columns with 22 cross beams spaced at 25 ft. The cross beams support 41 roof purlins, which in turn supporting the gypsum roof panel covered with rubber roofing in a single gable shape. The exterior wall consists of concrete grade beam supported CMU wall brick wall with corrugated metal siding or Plexiglas window panels on top. The ground floor is bituminous concrete pavement on grade. There is an office located in the middle of the east side of the building and two office annexes along south side of building. The suspended acoustical ceilings are present at both office annexes.

## 3.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogeneous area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the

same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos.

Bulk samples of suspect ACM were analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Methods 198.1 and 198.6 as specified in the Environmental Laboratory Approval Program (ELAP) Certification Manual. Method 198.1 is used for friable ACM and Method 198.6 is used for non-friable ACM.

For non-friable materials such as mastic, caulking, etc., Method 198.6 requires that any result of 1-percent or less be reanalyzed by Method 198.4. This Method utilizes Transmission Electron Microscopy (TEM) to determine asbestos content. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) Non-friable Organically Bound (NOB) sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

The laboratory performing both these analysis procedures was ATC, located at 104 East 25th Street, New York, New York. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101187-0)
- New York State Environmental Laboratory Approval Program (Lab No. 10879)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 100229)

## 4.0 ACM INSPECTION SCOPE

ATC conducted the walkthrough of Port Newark building 260 on August 11, 2020 to understand typical building layouts and systems on buildings that are similar in lay out and use. Based on the findings of the walkthrough, ATC conducted an asbestos inspection of Port Newark Building 301 on February 26, 2021, April 8, 2021 and November 5, 2021 and collected eighty-one (81) bulk samples from all suspect asbestos-containing material. The areas inspected included only areas that may be impacted by the proposed Fire Sprinkler Rehabilitation Project at this location and recommendations as indicated in the Stage 1 Report dated July 12, 2021 (50% submission). The intent of this survey was to locate and identify all accessible ACM.

The following twenty-seven (27) homogeneous materials inspected and sampled for ACM during the inspections were:

Suspect Material	Location
2'X4' Ceiling Tile Type I	1 st Floor – Warehouse Area, Lunch Room 1
Paper Backing on Ceiling Fiberglass Insulation	1 st Floor – Warehouse Area, Lunch Room 1

Textured Plaster (One Coat) on Plywood Ceiling	1 st Floor – Warehouse Area, Lunch Room 1, Gym Room
Brick Wall Mortar	1 st Floor – Warehouse Area Northeast Corner
2' X 2' & 2' X 4' Ceiling Tile - Fissured	1 st Floor – Office space
Gypsum Board Paper - Wall	1 st Floor – Office space
Gypsum Board - Wall	1 st Floor – Office space
Joint Compound – Wall	1 st Floor – Office space
HVAC Duct Insulation Cover	1 st Floor – Office space
Fiberglass Pipe Insulation Cover 3" OD	1 st Floor – Office space
CMU Mortar Wall	1 st Floor – Office space Electric Room
2' X 4' Ceiling Tile Type I - Fissured	2 nd Floor – Office space
Gypsum Board Paper - Wall	2 nd Floor – Office space
Gypsum Board - Wall	2 nd Floor – Office space
Joint Compound – Wall	2 nd Floor – Office space
HVAC Duct Insulation Cover	2 nd Floor – Office space
2' X 4' Ceiling Tile Type II	2 nd Floor – By Entrance to Office space
CMU Wall Mortar	1 st Floor – (Abandoned Building) – Locker Room & Lunch Room
Gypsum Board Paper - Wall	1 st Floor – (Abandoned Building) – Lobby
Gypsum Board - Wall	1 st Floor – (Abandoned Building) – Lobby
Joint Compound - Wall	1 st Floor – (Abandoned Building) – Lobby
Fiberglass Pipe Insulation Cover 3" OD	1 st Floor – (Abandoned Building) – Men's & Women's Bathrooms
Pipe Fitting Insulation associated with F/G Pipe Insulation	1 st Floor – (Abandoned Building) – Men's & Women's Bathrooms

<b><u>November 5, 2021 Sampling</u></b>	
Tar Weatherproofing Strip	South West Shed – Under Wall Metal Framing
Weather Proofing Corrugated Wedge	South West Shed – Under Roof Panel at Wall
Tar Weatherproofing Strip	South East Shed – Under Wall Metal Framing
Weather Proofing Corrugated Wedge	South East Shed – Under Roof Panel at Wall

### 5.0 ACM INSPECTION RESULTS

Based upon visual inspection and analytical results of bulk samples collected, **the following material is asbestos-containing (> 1%)**:

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
67-69	Pipe Fitting Insulation associated with F/G Pipe Insulation	10% Chrysotile	25 LF	ACM001
<b><u>No ACM was found as a result of the ADDITIONAL survey performed on November 5, 2021</u></b>				

The following materials are presumed to be asbestos-containing material (PACM)

ATC Sample Number(s)	Material Description & Location	Asbestos Content	Approximate Quantity	ACM Drawing Number(s)
N/A	Pipe and Pipe Fitting Insulation - Warehouse Area	PACM	2,200 L.F.	ACM001
N/A	Flange & Valve Gaskets - 2 Sprinkler Rooms (Sheds)	PACM	50 Units	ACM001
<b><u>PACM found as a result of the ADDITIONAL survey performed on November 5, 2021</u></b>				
N/A	South West Sprinkler Shed Entrance Door	PACM	1 Unit	ACM001
N/A	South East Sprinkler Shed Entrance Door	PACM	1 Unit	ACM001

ACM laboratory results are included in Appendix A. Asbestos Sample Location Plans are included in Appendix B. Asbestos Location Plans are included in Appendix C.

## 6.0 PCB-IN-CAULKING INSPECTION FINDINGS

ATC did not observe or sample any suspect PCB-containing Caulking at the time of the inspection.

## 7.0 UNIVERSAL WASTE INVENTORY

ATC conducted a visual inspection of the light fixtures at the site to document Universal Waste, defined in Title 40, CFR Part 273. During the inspection at the site, it was observed the presence of fluorescent lamps, high intensity discharge (HID) lamps and ballasts.

It was assumed that lamp ballasts/capacitors contain PCBs and/or Di-Ethylhexyl Phthalate (DEHP); therefore, if removal is necessary it should be disposed of as PCB wastes as per 40 CFR Part 761.

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

ATC collected sixty-nine (69) asbestos bulk samples from all suspect asbestos-containing material on all accessible areas. Based upon review of the analytical results of bulk samples collected, one (1) sampled homogeneous area was found to be an Asbestos-Containing Material (ACM - greater than 1% asbestos content).

The material that tested positive for asbestos at Building 301 include the following:

- Pipe Fitting Insulation associated with F/G Pipe Insulation

ATC did not observe or sample any suspect PCB-containing Caulking at the time of the inspection.

Various types of painted surfaces such as sprinkler pipes, gypsum board ceilings and walls, CMU walls, and roof decking have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 301, located in Newark, New Jersey.

Various types of light fixtures (fluorescent lamps, high intensity discharge (HID) lamps and ballasts) have been observed during the visual inspection of the site that may be impacted as part of the proposed Rehabilitation of Fire Protection Systems Project for Port Newark building 301 located in Newark, New Jersey.

The materials reported in Section 5.0 of this report would require abatement, removal and disposal

prior to sprinkler system renovation due to the proximity to the sprinkle pipe system.

## 9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted at the time of the inspection. The valve gaskets inside the pipe flanges could not be tested since the sprinkler system is still operational. It is assumed, based on the number of flanges observed, that there are approximately 25 gaskets in each sprinkler room. There are 2 sprinkler rooms in this building, so it is assumed there are 50 gaskets that are presumed to be asbestos containing. The pipes in the warehouse area below the roof deck with suspected asbestos-containing insulation were not sampled due to access restrictions (height and electric hazard) at the time of the survey. Based on visual inspection and assumptions, we estimate 2,200 linear feet of pipe insulation presumed to be asbestos containing. This quantity should be verified with destructive sampling if abatement is planned prior to any renovation work.

If questions arise regarding asbestos content in building materials that were not tested by ATC, additional testing services should be procured to test those areas.

This report is intended for the sole use of the PANYNJ. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations contained herein is at the risk of said user.

END OF REPORT



**APPENDIX A**

**ACM LABORATORY RESULTS AND CHAIN OF CUSTODIES**

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# ATC Group Services LLC

104 E. 25th Street, 8th Floor  
New York, NY 10010  
Tel. 212-353-8280  
Fax: 212-353-8306

**Client:** ATC - NEW YORK  
104 EAST 25TH STREET  
NEW YORK, NY 10010  
**Fax:** (212) 353-3599     **Phone:** (212) 353-8280  
**Project:** PANYNJ / FIRESPRINKLER REHABILITATION

**Sample Date:** 2/26/2021  
**Date Received :** 3/1/2021  
**Date Analyzed :** 3/2/2021  
**ATC Batch #** 21-225

**Methods:** ELAP 198.1, 198.6, 198.4

**Location:** PN 301  
**Project #** 214PNPEPJ1/TASK0001

## Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
1 21-225 -1	1ST FLOOR WAREHOUSE AREA LUNCH ROOM 1	2' X 4' CEILING TILE TYPE I	NOB-TEM			21.9% Organic 58.3% Residue 19.8% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive	
2 21-225 -2	1ST FLOOR LUNCH ROOM 1	2' X 4' CEILING TILE TYPE I	NOB-TEM			26.3% Organic 48.8% Residue 24.9% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive	
3 21-225 -3	1ST FLOOR LUNCH ROOM 1	2' X 4' CEILING TILE TYPE I	NOB-TEM		0.0% Vermiculite	25.8% Organic 38.1% Residue 36.1% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive	
4 21-225 -4	1ST FLOOR LUNCH ROOM 1	PAPER BACKING ON CEILING F/G INSULATION	NOB-TEM		0.0% Vermiculite	96.1% Organic 1.1% Residue 2.8% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Black	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive. HAS TAR	
5 21-225 -5	1ST FLOOR LUNCH ROOM 1	PAPER BACKING ON CEILING F/G INSULATION	NOB-TEM		0.0% Vermiculite	92.9% Organic 1.1% Residue 6% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan/Black	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive. HAS TAR	
6 21-225 -6	1ST FLOOR LUNCH ROOM 1	PAPER BACKING ON CEILING F/G INSULATION	NOB-TEM		0.0% Vermiculite	98.9% Organic 1% Residue 0.1% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan/Black	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive. HAS TAR	
7 21-225 -7	1ST FLOOR LUNCH ROOM 1 (GYM ROOM)	TEXTURED PLASTER (ONE COAT) ON CEILING PLYWOOD	NOB-TEM			43.8% Residue 41.7% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive. Paint	



# ATC Group Services LLC

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New York, NY 10010  
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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
8 21-225 -8	1ST FLOOR LUNCH ROOM 1 (GYM ROOM)	TEXTURED PLASTER (ONE COAT) ON CEILING PLYWOOD	NOB-TEM		0.0% Vermiculite	13.1% Organic 47.6% Residue 39.3% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive. Paint	
9 21-225 -9	1ST FLOOR LUNCH ROOM 1 (GYM ROOM)	TEXTURED PLASTER (ONE COAT) ON CEILING PLYWOOD	NOB-TEM		0.0% Vermiculite	13.5% Organic 48.4% Residue 38.1% Carbonate	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive. Paint	
10 21-225 -10	1ST FLOOR WAREHOUSE AREA N/E CORNER	BRICK MORTAR	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan			
11 21-225 -11	1ST FLOOR WAREHOUSE AREA N/E CORNER	BRICK MORTAR	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan			
12 21-225 -12	1ST FLOOR WAREHOUSE AREA N/E CORNER	BRICK MORTAR	PLM		0.0% Vermiculite	100% Mineral Filler	NONE DETECTED
Analyzed By: Michael Gittings				Color: Tan			



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## ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

### NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____. Amendments: _____. Amendment Dates: _____. Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Michael Gittings

Analyst:

Feyza Gungor

Analyst:

Mei Wang

Approved by

Quality Manager:

### PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

### Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

### Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

### Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

### Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi  
ATC Group Services LLC  
Director of Laboratory Services



**BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM**

**PROJECT INFORMATION**

1. Client <b>PANYNJ</b>	Project Name: FIRESPRINKLER REHABILITATION	3a. ATC Project No.: <b>214PNPEPJ1</b>	4a. Project Manager: <b>R. Rivero</b>
5. Date: <u>2/26/21</u>	2a. Project Address: (Circle One) PN PE PJ	3b. Task No.: <b>0001</b>	4b. Inspector: <b>PHILIP CARRINGTON</b>
6. BUILDING NUMBER: <u>301</u>	7. Sampling Areas: <u>301</u>	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH_X_	9. Comments (Field) <b>NOB → TEM Stop @ 1st Positive</b>

**BULK SAMPLE LOCATION**

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
1	1	2x4' CEILING TILE		1 WAREHOUSE AREA -	400	
1	2	TYPE I		LUNCH ROOM ↓	5F.	
1	3			"		
2	4	PAPER BACKING ON		"	400 SF	
2	5	CEILING FIG		"		
2	6	INSULATION		"		
3	7	TEXTURED PLASTER		"	80 SF	
3	8	(ONE COAT) ON		" (GYM ROOM)		
3	9	CEILING PLYWOOD				
4	10	BRICK MORTAR		WAREHOUSE AREA	36 SF	
4	11	"		N/E CORNER		
4	12	"				

**CHAIN OF CUSTODY**

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <u>Philip Carrington</u>	<u>3/1/21</u>	<u>3:40</u>	<u>Evelyn Cruz</u>	<u>3/1/2021</u>	<u>16:00</u>	Field
II.						Walk In
III.						US Mail
						Fed-Ex
						Other

**LABORATORY INFORMATION**

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
24a. Analyzed By: <u>Michael Cruz</u>	<u>3/2/2021</u>	<u>07:10</u>	3 PLM NOB-Prep 9
24b. Analyzed By: <u>Michael Cruz</u>	<u>3/2/2021</u>	<u>13:30</u>	NOB-PLM-9
24c. QC By: <u>TEM: Feiya Ganga Feiya</u>	<u>3/2/2021</u>	<u>16:07</u>	NOB-TEM-9



**BULK ASBESTOS ANALYSIS SHEET**

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-225 TEMPERATURE °C 21

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1	Gravimetric Required <input checked="" type="checkbox"/> Homogeneity <u>7</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u>  </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	Chrysotile <u>  </u> Amosite <u>  </u> Other <u>  </u>	Cellulose <u>  </u> Fiberglass <u>  </u> Other <u>  </u> Cellulose Ondulose Extinction <input checked="" type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence <input type="checkbox"/>	Mineral Filler <u>100</u> Organic Binders <u>  </u> Vermiculite* <u>  </u> Other <u>  </u>
SM-V	Point Counts PLM <u>  </u> NOB PLM <u>70</u>		%Asb. Or %Ver. <u>  </u>		
Required <input type="checkbox"/>	Comments: <u>  </u>				
See SM-V analysis sheet for results	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>				
2	Gravimetric Required <input checked="" type="checkbox"/> Homogeneity <u>7</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u>  </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	Chrysotile <u>  </u> Amosite <u>  </u> Other <u>  </u>	Cellulose <u>  </u> Fiberglass <u>  </u> Other <u>  </u> Cellulose Ondulose Extinction <input checked="" type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence <input type="checkbox"/>	Mineral Filler <u>100</u> Organic Binders <u>  </u> Vermiculite* <u>  </u> Other <u>  </u>
SM-V	Point Counts PLM <u>  </u> NOB PLM <u>70</u>		%Asb. Or %Ver. <u>  </u>		
Required <input type="checkbox"/>	Comments: <u>  </u>				
See SM-V analysis sheet for results	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>				
3	Gravimetric Required <input checked="" type="checkbox"/> Homogeneity <u>7</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u>  </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	Chrysotile <u>  </u> Amosite <u>  </u> Other <u>  </u>	Cellulose <u>  </u> Fiberglass <u>  </u> Other <u>  </u> Cellulose Ondulose Extinction <input checked="" type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence <input type="checkbox"/>	Mineral Filler <u>100</u> Organic Binders <u>  </u> Vermiculite* <u>  </u> Other <u>  </u>
SM-V	Point Counts PLM <u>  </u> NOB PLM <u>70</u>		%Asb. Or %Ver. <u>  </u>		
Required <input type="checkbox"/>	Comments: <u>  </u>				
See SM-V analysis sheet for results	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>				
4	Gravimetric Required <input checked="" type="checkbox"/> Homogeneity <u>7</u> Vermiculite <u>1</u> Recommended <input type="checkbox"/> # of Layers <u>1</u> Asbestos <u>1</u> See gravimetric analysis sheet for results Color of Layer <u>  </u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT	Chrysotile <u>  </u> Amosite <u>  </u> Other <u>  </u>	Cellulose <u>  </u> Fiberglass <u>  </u> Other <u>  </u> Cellulose Ondulose Extinction <input checked="" type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence <input type="checkbox"/>	Mineral Filler <u>100</u> Organic Binders <u>  </u> Vermiculite* <u>  </u> Other <u>  </u>
SM-V	Point Counts PLM <u>  </u> NOB PLM <u>70</u>		%Asb. Or %Ver. <u>  </u>		
Required <input type="checkbox"/>	Comments: <u>Has for</u>				
See SM-V analysis sheet for results	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>				

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

Accreditations:  
NVLAP 101187-0  
ELAP 10879  
Microscopes:  
OLYMPUS BH-2/  
NIKON OPTIPHOT

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-225 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 5	Gravimetric Color <u>TM/Black</u> Texture <u>MF</u> Required <input checked="" type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite # of Layers <u>1</u> Asbestos Color of Layer Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>100</u> Mineral Filler Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT <u>0</u> <u>200</u> <u>0</u>	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Required <input type="checkbox"/> See SM-V analysis sheet for results	Comments: <u>Hos Tax</u>	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>			

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 6	Gravimetric Color <u>TM/Black</u> Texture <u>MF</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite # of Layers <u>1</u> Asbestos Color of Layer Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>100</u> Mineral Filler Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT <u>0</u> <u>200</u> <u>0</u>	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Required <input type="checkbox"/> See SM-V analysis sheet for results	Comments: <u>Hos Tax</u>	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>			

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 7	Gravimetric Color <u>TM</u> Texture <u>MF</u> Required <input checked="" type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite # of Layers <u>1</u> Asbestos Color of Layer Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>100</u> Mineral Filler Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT <u>0</u> <u>200</u> <u>0</u>	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Required <input type="checkbox"/> See SM-V analysis sheet for results	Comments: <u>Point</u>	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>			

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 8	Gravimetric Color <u>TM</u> Texture <u>MF</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite # of Layers <u>1</u> Asbestos Color of Layer Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>100</u> Mineral Filler Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT <u>0</u> <u>200</u> <u>0</u>	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Required <input type="checkbox"/> See SM-V analysis sheet for results	Comments: <u>Point</u>	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>			

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 3/2/2021 Analyst MVC Batch Number 21-225 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 9	Gravimetric Color <u>TM</u> Texture <u>MF</u> Required <input checked="" type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite # of Layers <u>1</u> Asbestos Color of Layer Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>100</u> Mineral Filler Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT <u>0</u> <u>200</u> <u>0</u>	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Required <input type="checkbox"/> See SM-V analysis sheet for results	Comments: <u>Point</u>	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>			

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 10	Gravimetric Color <u>TM</u> Texture <u>G</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite # of Layers <u>1</u> Asbestos Color of Layer Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>100</u> Mineral Filler Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT <u>0</u> <u>200</u> <u>0</u>	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Required <input type="checkbox"/> See SM-V analysis sheet for results	Comments: <u>Point</u>	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>			

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 11	Gravimetric Color <u>TM</u> Texture <u>G</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite # of Layers <u>1</u> Asbestos Color of Layer Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>100</u> Mineral Filler Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT <u>0</u> <u>200</u> <u>0</u>	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Required <input type="checkbox"/> See SM-V analysis sheet for results	Comments: <u>Point</u>	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>			

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 12	Gravimetric Color <u>TA</u> Texture <u>G</u> Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity Homogeneity <u>7</u> Vermiculite # of Layers <u>1</u> Asbestos Color of Layer Detected Yes No	Chrysotile Amosite Other	Cellulose Fiberglass Other	<u>100</u> Mineral Filler Organic Binders <u>0</u> Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM <u>70</u>	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 Asb./Ver. PT Total PT <u>0</u> <u>200</u> <u>0</u>	%Asb. Or %Ver.	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotopic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.
Required <input type="checkbox"/> See SM-V analysis sheet for results	Comments: <u>Point</u>	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>			

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2



**ATC Group Services LLC  
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-225 TEM Batch # 122379 Start Date: 03/02/21  
 NOB PLM PREP: MG/EV NOB PLM Analyst: MJG NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 03/02/21

Field #	5 % Organic	11 Non Ash Residue % NFR	12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Notes	Methods		
							PREP	PLM	TEM
1	21.9	58.3	19.8	ND			>	>	>
2	26.3	48.8	24.9	ND			>	>	>
3	25.8	38.1	36.1	ND			>	>	>
4	96.1	1.1	2.8	ND			>	>	>
5	92.9	1.1	6.0	ND			>	>	>
6	98.9	1.0	0.1	ND			>	>	>
7	14.5	43.8	41.7	ND			>	>	>
8	13.1	47.6	39.3	ND			>	>	>
9	13.5	48.4	38.1	ND			>	>	>

1. Methods: ELAP 198.6, 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.  
 2. Refer to PLM analysis sheet for NOB results and/or point count data.  
 3. Vermiculite not reported = not detected.



**ATC Group Services LLC**

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 New York, NY 10010  
 Tel. 212-353-8280  
 Fax: 212-353-8306

**Client:** ATC - NEW YORK  
 104 EAST 25TH STREET  
 NEW YORK, NY 10010  
**Fax:** (212) 353-3599 **Phone:** (212) 353-8280

**Sample Date:** 4/8/2021  
**Date Received :** 4/8/2021  
**Date Analyzed :** 4/9/2021

**Project:** PANYNJ / FIRESPRINKLER REHABILITATION

**ATC Batch #** 21-619

**Methods:** ELAP 198.1, 198.6, 198.4

**Location:** PN / BUILDING #301  
**Project #** 214PNPEPJ1/TASK0001

**Bulk Asbestos Analysis Results**

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
13	1ST FLOOR OFFICE SPACE	2' X 2' & 2' X 4" CEILING TILE FISSURED	NOB-TEM			21.8% Organic 52.8% Residue 25.4% Carbonate	NONE DETECTED
21-619 -1					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: White	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive			
14	1ST FLOOR OFFICE SPACE	2' X 2' & 2' X 4" CEILING TILE FISSURED	NOB-TEM			23.5% Organic 44.7% Residue 31.8% Carbonate	NONE DETECTED
21-619 -2					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: White	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive			
15	1ST FLOOR OFFICE SPACE	2' X 2' & 2' X 4" CEILING TILE FISSURED	NOB-TEM			24.9% Organic 42% Residue 33.1% Carbonate	NONE DETECTED
21-619 -3					0.0% Vermiculite		
Analyzed By: Mei Wang		Color: White	Second Analyst: Feyza Gungor	Comments: NOB PLM Inconclusive			
16	1ST FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -4					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: Brown					
17	1ST FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -5					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: Brown					
18	1ST FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -6					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: Brown					
19	1ST FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	4% Cellulose 2% FiberGlass	94% Mineral Filler		NONE DETECTED
21-619 -7					0.0% Vermiculite		
Analyzed By: Ivan Reyes		Color: Off White					



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
20	1ST FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: OffWhite					
Analyzed By: Ivan Reyes							
21	1ST FLOOR OFFICE SPACE	GYPSUM BOARD WALL	PLM	4% Cellulose 2% FiberGlass	94% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: OffWhite					
Analyzed By: Ivan Reyes							
22	1ST FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
23	1ST FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
24	1ST FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
25	1ST FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 8% FiberGlass	17% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Tan/Silver					
Analyzed By: Ivan Reyes							
26	1ST FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Tan/Silver					
Analyzed By: Ivan Reyes							
27	1ST FLOOR OFFICE SPACE	HVAC DUCT INSULATION COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Tan/Silver					
Analyzed By: Ivan Reyes							
28	1ST FLOOR OFFICE SPACE	F/G PIPE INSULATION COVER 3"	PLM	70% Cellulose 5% FiberGlass	25% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White/Silver					
Analyzed By: Ivan Reyes							
29	1ST FLOOR OFFICE SPACE	F/G PIPE INSULATION COVER 3"	PLM	70% Cellulose 5% FiberGlass	25% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White/Silver					
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
30	1ST FLOOR OFFICE SPACE	F/G PIPE INSULATION COVER 3"	PLM	70% Cellulose 5% FiberGlass	25% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White/Silver					
Analyzed By: Ivan Reyes							
31	1ST FLOOR OFFICE SPACE ELEC ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
32	1ST FLOOR OFFICE SPACE ELEC ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
33	1ST FLOOR OFFICE SPACE ELEC ROOM	CMU MORTAR WALL	PLM		100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
34	2ND FLOOR OFFICE SPACE	2' X 4' CEILING TILE TYPE I FISSURED	NOB-TEM		0.0% Vermiculite	28.6% Organic Residue 47.7% Carbonate	NONE DETECTED
		Color: White					
Analyzed By: Mei Wang Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
35	2ND FLOOR OFFICE SPACE	2' X 4' CEILING TILE TYPE I FISSURED	NOB-TEM		0.0% Vermiculite	29.8% Organic Residue 47.4% Carbonate	NONE DETECTED
		Color: White					
Analyzed By: Mei Wang Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
36	2ND FLOOR OFFICE SPACE	2' X 4' CEILING TILE TYPE I FISSURED	NOB-TEM		0.0% Vermiculite	30.6% Organic Residue 45.6% Carbonate	NONE DETECTED
		Color: White					
Analyzed By: Mei Wang Second Analyst: Feyza Gungor Comments: NOB PLM Inconclusive							
37	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
38	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							
39	2ND FLOOR OFFICE SPACE	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Brown					
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
40	2ND FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -28		Color: Off White					
Analyzed By: Ivan Reyes							
41	2ND FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	6% Cellulose 2% FiberGlass	92% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -29		Color: Off White					
Analyzed By: Ivan Reyes							
42	2ND FLOOR OFFICE SPACE	GYPSUM BOARD	PLM	4% Cellulose 2% FiberGlass	94% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -30		Color: Off White					
Analyzed By: Ivan Reyes							
43	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -31		Color: White					
Analyzed By: Ivan Reyes							
44	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -32		Color: White					
Analyzed By: Ivan Reyes							
45	2ND FLOOR OFFICE SPACE	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -33		Color: White					
Analyzed By: Ivan Reyes							
46	2ND FLOOR OFFICE SPACE	HVAC DUCT COVER	PLM	75% Cellulose 7% FiberGlass	18% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -34		Color: Tan/Silver					
Analyzed By: Ivan Reyes							
47	2ND FLOOR OFFICE SPACE	HVAC DUCT COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -35		Color: Tan/Silver					
Analyzed By: Ivan Reyes							
48	2ND FLOOR OFFICE SPACE	HVAC DUCT COVER	PLM	75% Cellulose 5% FiberGlass	20% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -36		Color: Tan/Silver					
Analyzed By: Ivan Reyes							
49	2ND FLOOR BY ENTRANCE TO OFFICE SPACE	2 X 4 CEILING TILE TYPE II	NOB-TEM			24% Organic 31.4% Residue 44.6% Carbonate	NONE DETECTED
21-619 -37		Color: White		0.0% Vermiculite			
Analyzed By: Mei Wang		Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive			



# ATC Group Services LLC

104 E. 25th Street, 8th Floor  
New York, NY 10010  
Tel. 212-353-8280  
Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
50	2ND FLOOR BY ENTRANCE TO OFFICE SPACE	2 X 4 CEILING TILE TYPE II	NOB-TEM			20.7% Organic 20.7% Residue 58.6% Carbonate	NONE DETECTED
21-619 -38		Color: White		0.0% Vermiculite			
Analyzed By: Mei Wang		Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive			
51	2ND FLOOR BY ENTRANCE TO OFFICE SPACE	2 X 4 CEILING TILE TYPE II	NOB-TEM			18.5% Organic 12.6% Residue 68.9% Carbonate	NONE DETECTED
21-619 -39		Color: White		0.0% Vermiculite			
Analyzed By: Mei Wang		Second Analyst: Feyza Gungor		Comments: NOB PLM Inconclusive			
52	1ST FLOOR ABANDONED BLDG	CMU WALL MORTAR	PLM		100% Mineral Filler		NONE DETECTED
21-619 -40		Color: Brown		0.0% Vermiculite			
Analyzed By: Ivan Reyes							
53	1ST FLOOR LOCKER ROOM & LUNCH ROOM	CMU WALL MORTAR	PLM		100% Mineral Filler		NONE DETECTED
21-619 -41		Color: Brown		0.0% Vermiculite			
Analyzed By: Ivan Reyes							
54	1ST FLOOR LOCKER ROOM & LUNCH ROOM	CMU WALL MORTAR	PLM		100% Mineral Filler		NONE DETECTED
21-619 -42		Color: Brown		0.0% Vermiculite			
Analyzed By: Ivan Reyes							
55	1ST FLOOR LOBBY	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -43		Color: Brown		0.0% Vermiculite			
Analyzed By: Ivan Reyes							
56	1ST FLOOR LOBBY	GYPSUM BOARD PAPER WALL	PLM	95% Cellulose	5% Mineral Filler		NONE DETECTED
21-619 -44		Color: Brown		0.0% Vermiculite			
Analyzed By: Ivan Reyes							
57	1ST FLOOR LOBBY	GYPSUM BOARD PAPER WALL	PLM		100% Mineral Filler		NONE DETECTED
21-619 -45		Color: Brown		0.0% Vermiculite			
Analyzed By: Ivan Reyes							
58	1ST FLOOR LOBBY	GYPSUM BOARD	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -46		Color: Off White					
Analyzed By: Ivan Reyes							
59	1ST FLOOR LOBBY	GYPSUM BOARD	PLM	2% Cellulose 2% FiberGlass	96% Mineral Filler 0.0% Vermiculite		NONE DETECTED
21-619 -47		Color: Off White					
Analyzed By: Ivan Reyes							





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Fax: 212-353-8306

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		
60	1ST FLOOR LOBBY	GYPSUM BOARD	PLM	3% Cellulose 2% FiberGlass	95% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: Off White					
Analyzed By: Ivan Reyes							
61	1ST FLOOR LOBBY	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
62	1ST FLOOR LOBBY	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
63	1ST FLOOR LOBBY	JOINT COMPOUND	PLM	Trace% Cellulose	100% Mineral Filler 0.0% Vermiculite		NONE DETECTED
		Color: White					
Analyzed By: Ivan Reyes							
64	1ST FLOOR BATHROOMS	F/G PIPE INSULATION COVER 3"	NOB-TEM		0.0% Vermiculite	81.4% Organic 4.7% Residue 13.9% Carbonate	NONE DETECTED
		Color: Black/Brown	Comments: NOB PLM Inconclusive				
		Second Analyst: Feyza Gungor					
Analyzed By: Mei Wang							
65	1ST FLOOR BATHROOMS	F/G PIPE INSULATION COVER 3"	NOB-TEM		0.0% Vermiculite	78.4% Organic 13.7% Residue 7.9% Carbonate	NONE DETECTED
		Color: Black/Brown	Comments: NOB PLM Inconclusive				
		Second Analyst: Feyza Gungor					
Analyzed By: Mei Wang							
66	1ST FLOOR BATHROOMS	F/G PIPE INSULATION COVER 3"	NOB-TEM		0.0% Vermiculite	88.9% Organic 10.2% Residue 0.9% Carbonate	NONE DETECTED
		Color: Black/Brown	Comments: NOB PLM Inconclusive				
		Second Analyst: Feyza Gungor					
Analyzed By: Mei Wang							
67	1ST FLOOR ABADONED BLDG BATHROOMS	PIPE FITTINGS INSULATION	PLM	35% FiberGlass	55% Mineral Filler 0.0% Vermiculite		10% Chrysotile
		Color: Off White					
Analyzed By: Ivan Reyes							
							<b>Total Asbestos: 10 %</b>
68	1ST FLOOR ABADONED BLDG BATHROOMS	PIPE FITTINGS INSULATION					NOT ANALYZED
			Comments: Positive stp. see #67				
Analyzed By: Ivan Reyes							
69	1ST FLOOR ABADONED BLDG BATHROOMS	PIPE FITTINGS INSULATION					NOT ANALYZED
			Comments: Positive stp. see #67				
Analyzed By: Ivan Reyes							



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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB % Type	Asbestos % Type
				% Fibrous	% Non-Fibrous		

NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10379
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: _____, Amendment Dates: _____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Ivan Reyes

Analyst:

Mei Wang

Approved by

Quality Manager:

Mei Wang

Analyst:

Feyza Gungor

Analyst:



**ELAP  
BULK ASBESTOS ANALYSIS RESULTS**

PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

Methods

- ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi  
ATC Group Services LLC  
Director of Laboratory Services



BATCH NO.

21-619 ✓

Page 1 of 4

**BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM**

**PROJECT INFORMATION**

1. Client <b>PANYNJ</b>	Project Name: <b>FIRESPRINKLER REHABILITATION</b>	3a. ATC Project No.: <b>214PNPEPJ1</b>	4a. Project Manager: <b>R. Rivero</b>
	2a. Project Address: (Circle One) <b>PN PE PJ</b>	3b. Task No.: <b>0001</b>	4b. Inspector: <b>PHILIP CARRINGTON</b>
5. Date: <b>4/8/21</b>	6. BUILDING NUMBER: <b>301</b>	7. Sampling Areas:	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input checked="" type="radio"/> NORMAL <b>RUSH_X</b>
			9. Comments (Field) <b>NOB → TEM Stop @ 1st Positive</b>

**BULK SAMPLE LOCATION**

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location		15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
				Floor	Sample Coordinates		
51	13	2x2' & 2x4'		1	OFFICE SPACE		
51	14	CEILING TILE					
51	15	FISSURED					
16	16	GYPSUM BOARD					
10	17	PAPER					
16	18	WALL					
17	19	GYPSUM BOARD					
17	20	WALL					
17	21	"					
18	22	JOINT COMPOUND					
18	23	"					
18	24	"					
19	25	HVAC DUCT					
19	26	INSULATION					
19	27	COVER					
10	28	F/G PIPE					
10	29	INSULATION					
10	30	COVER 3"					

**CHAIN OF CUSTODY**

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I.	4/8/21	3:20pm	Ebezer Eley	4/8/2021	15:25	Field Walk In
II.						US Mail
III.			QC BY			Fed-Ex
						Other

**LABORATORY INFORMATION**

24. Name and Signature: 24a. Analyzed By:	25. Date: 4/9/2021	26. Time: 9:58am	27. Comments (Lab)
24b. Analyzed By:	4/9/21	11:00am	
24c. QC By:			

TEM: Feiza Ganga Fez 8 4/9/21 14:47

**BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM**

**PROJECT INFORMATION**

1. Client <b>PANYNJ</b>	Project Name: <b>FIRESPRINKLER REHABILITATION</b>	3a. ATC Project No.: <b>214PNPEPJ1</b>	4a. Project Manager: <b>R. Rivero</b>
2a. Project Address: (Circle One) <b>PN PE PJ</b>	3b. Task No.: <b>0001</b>	4b. Inspector: <b>PHILIP CARRINGTON</b>	
5. Date: <b>4/8/21</b>	6. BUILDING NUMBER: <b>301</b>	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X_	
7. Sampling Areas:		9. Comments (Field) <b>NOB → TEM Stop @ 1st Positive</b>	

**BULK SAMPLE LOCATION**

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
11	31	CNU MORTAR		1 OFFICE SPACE		
11	32	WAN		1 ELEC ROOM		
11	33	"		1		
12	34	2x4 CEILING		2 OFFICE SPACE		
12	35	TILE TYPE I				
12	36	FISSURED				
13	37	GYPSUM BOARD				
13	38	PAPER				
13	39	WALL				
14	40	GYPSUM BOARD				
14	41	"				
14	42	"				
15	43	JOINT COMPOUND				
15	44	"				
15	45	"				
16	46	HVAC DUCT				
16	47	COVER				
16	48	"				

**CHAIN OF CUSTODY**

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
<i>Philip Carrington</i>	4/8/21	3:20pm	<i>Eleler E</i>	4/8/2021	15:25	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

**LABORATORY INFORMATION**

24. Name and Signature:	25. Date	26 Time	27. Comments (Lab)
24a. Analyzed By: <i>Ivan Reyes</i>	4/9/2021	9:58am	
24b. Analyzed By: <i>MEL WHO</i>	4/9/21	14:47	
24c. QC By: <i>Feiya Gungor</i>	4/9/20	14:47	

**BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM**

**PROJECT INFORMATION**

1. Client <b>PANYNJ</b>	Project Name: <b>FIRESPRINKLER REHABILITATION</b>	3a. ATC Project No.: <b>214PNPEPJ1</b>	4a. Project Manager: <b>R. Rivero</b>
2a. Project Address: (Circle One) <b>PN PE PJ</b>	3b. Task No.: <b>0001</b>	4b. Inspector: <b>PHILIP CARRINGTON</b>	
5. Date: <b>4/8/21</b>	6. BUILDING NUMBER: <b>301</b>	8. Turnaround Time: <input type="radio"/> STAT <input type="radio"/> 24 HRS <input type="radio"/> 72 HRS <input type="radio"/> OTHER <input type="radio"/> 6 HRS <input type="radio"/> 48 HRS <input type="radio"/> NORMAL <input checked="" type="radio"/> RUSH_X_	
7. Sampling Areas:		9. Comments (Field) <b>NOB → TEM Stop @ 1st Positive</b>	

**BULK SAMPLE LOCATION**

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location Floor Sample Coordinates	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
17	49	2x4 CEILING TIE		2 139 ENTRANCE TO		
17	50	TYPE II		1 OFFICE SPACE		
17	51	"		1		
18	52	CNU WAN		1 ABANDONED BUNG		
18	53	MORTAR		1 1st FLOOR LOCKER		
18	54	"		1 ROOM & LOBBY ROOM		
19	55	GYPSUM BOARD		1 1st FLOOR LOBBY		
19	56	PAPER				
19	57	WALL				
20	58	GYPSUM BOARD				
20	59	"				
20	60	"				
21	61	JOINT COMPOUND				
21	62	"				
21	63	"				
22	64	F/G PIPE INSULATION		1 BARR ROOMS		
22	65	COVER 3"				
22	66	"				

**CHAIN OF CUSTODY**

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
<i>Philip Carrington</i>	4/8/21	3:20pm	<i>Eleler E</i>	4/8/2021	16:25	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

**LABORATORY INFORMATION**

24. Name and Signature:	25. Date	26 Time	27. Comments (Lab)
24a. Analyzed By: <i>Ivan Reyes</i>	4/9/2021	9:58am	
24b. Analyzed By: <i>MEL WHO</i>	4/9/21	14:47	
24c. QC By: <i>Feiya Gungor</i>	4/9/21	14:47	



**BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM**

**PROJECT INFORMATION**

1. Client <b>PANYNJ</b>	Project Name: <b>FIRESPRINKLER REHABILITATION</b>	3a. ATC Project No.: <b>214PNPEPJ1</b>	4a. Project Manager: <b>R. Rivero</b>
5. Date: <b>4/8/21</b>	2a. Project Address: (Circle One) <b>PN PE PJ</b>	3b. Task No.: <b>0001</b>	4b. Inspector: <b>PHILIP CARRINGTON</b>
6. BUILDING NUMBER: <b>301</b>	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH_X_		9. Comments (Field) <b>NOB -&gt; TEM Stop @ 1st Positive</b>

**BULK SAMPLE LOCATION**

10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
23	67	PIPE FITTINGS		1 ABANDONED BLDG		
23	68	INSULATION		1 BOPARDUS		
23	69	1		"		
24						
24						
24						

**CHAIN OF CUSTODY**

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <i>Philip Carrington</i>	4/8/21	3:20pm	Ebler E	4/8/21	15:25	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

**LABORATORY INFORMATION**

24. Name and Signature: 24a. Analyzed By: <i>Iron Reyes</i>	25. Date: 4/9/21	26. Time: 9:58am	27. Comments (Lab)
24b. Analyzed By: <i>Michael...</i>	4/9/21	6:47	
24c. QC By: <i>TEM: Feiza Gungor</i>	4/9/21	14:47	



**BULK ASBESTOS ANALYSIS SHEET**

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst DC Batch Number 21-619 TEMPERATURE 25

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
13	Color: <u>White</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>1</u> # of Layers: <u>1</u> Asbestos: <u>1</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	
Required					
See SM-V analysis sheet for results					
Comments: <u>NOB PLM</u>					
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					
14	Color: <u>White</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>1</u> # of Layers: <u>1</u> Asbestos: <u>1</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	
Required					
See SM-V analysis sheet for results					
Comments: <u>NOB PLM</u>					
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					
15	Color: <u>White</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>1</u> # of Layers: <u>1</u> Asbestos: <u>1</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	
Required					
See SM-V analysis sheet for results					
Comments: <u>NOB PLM</u>					
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					
16	Color: <u>Brown</u> Texture: <u>F</u> Homogeneity: <u>4</u> Vermiculite: <u>1</u> # of Layers: <u>1</u> Asbestos: <u>1</u> Color of Layer: <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts PLM NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT	%Asb. Or %Ver.	
Required					
See SM-V analysis sheet for results					
Comments: <u>NOB PLM</u>					
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION Q.C. <input type="checkbox"/>					

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8  
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25

17 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/>	Color <u>Brown</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	95	Cellulose	5	Mineral Filler
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite		Fiberglass	2	Organic Binders
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>										Other		Other	0	Vermiculite*
	Color of Layer <u>1</u> Detected Yes No														Other
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
See SM-V analysis sheet for results	PLM <u>1/2</u>											0 200 0			
	NOB PLM														
	Comments:														
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION														

18 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/>	Color <u>Brown</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	95	Cellulose	5	Mineral Filler
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite		Fiberglass	0	Organic Binders
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>										Other		Other	0	Vermiculite*
	Color of Layer <u>1</u> Detected Yes No														Other
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
See SM-V analysis sheet for results	PLM <u>1/2</u>											0 200 0			
	NOB PLM														
	Comments:														
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION														

19 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/>	Color <u>Offwhite</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	4	Cellulose	94	Mineral Filler
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite	2	Fiberglass	0	Organic Binders
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>										Other		Other	0	Vermiculite*
	Color of Layer <u>1</u> Detected Yes No														Other
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
See SM-V analysis sheet for results	PLM <u>1/2</u>											0 200 0			
	NOB PLM														
	Comments:														
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION														

20 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/>	Color <u>Offwhite</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	3	Cellulose	95	Mineral Filler
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite	2	Fiberglass	0	Organic Binders
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>										Other		Other	0	Vermiculite*
	Color of Layer <u>1</u> Detected Yes No														Other
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
See SM-V analysis sheet for results	PLM <u>1/2</u>											0 200 2			
	NOB PLM														
	Comments:														
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION														

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
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Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25

21 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/>	Color <u>Offwhite</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	4	Cellulose	94	Mineral Filler
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite	2	Fiberglass	0	Organic Binders
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>										Other		Other	0	Vermiculite*
	Color of Layer <u>1</u> Detected Yes No														Other
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
See SM-V analysis sheet for results	PLM <u>1/2</u>											0 200 0			
	NOB PLM														
	Comments:														
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION														

22 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/>	Color <u>White</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	4	Cellulose	100	Mineral Filler
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite		Fiberglass	0	Organic Binders
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>										Other		Other	0	Vermiculite*
	Color of Layer <u>1</u> Detected Yes No														Other
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
See SM-V analysis sheet for results	PLM <u>1/2</u>											0 200 0			
	NOB PLM														
	Comments:														
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION														

23 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/>	Color <u>White</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	4	Cellulose	100	Mineral Filler
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite		Fiberglass	0	Organic Binders
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>										Other		Other	0	Vermiculite*
	Color of Layer <u>1</u> Detected Yes No														Other
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
See SM-V analysis sheet for results	PLM <u>1/2</u>											0 200 0			
	NOB PLM														
	Comments:														
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION														

24 Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required <input type="checkbox"/>	Color <u>White</u> Texture <u>G</u>	Morph Extinction	RI I	RI II	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	4	Cellulose	100	Mineral Filler
Recommended <input type="checkbox"/>	Homogeneity <u>1</u> Vermiculite <u>1</u>										Amosite		Fiberglass	0	Organic Binders
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos <u>1</u>										Other		Other	0	Vermiculite*
	Color of Layer <u>1</u> Detected Yes No														Other
SM-V Required <input type="checkbox"/>	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.			
See SM-V analysis sheet for results	PLM <u>1/2</u>											0 200 0			
	NOB PLM														
	Comments:														
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION														

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
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ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."  
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1	25	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Tan/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	75	Cellulose	17	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

2	26	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Tan/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	75	Cellulose	20	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

3	27	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Tan/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	75	Cellulose	20	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

4	28	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>White/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	25	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1	29	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>White/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	25	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

2	30	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>White/Silver</u> <u>P</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	25	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

3	31	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Brown</u> <u>G</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	10	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
Required <input type="checkbox"/>	PLM											0	200	0												
See SM-V analysis sheet for results	NOB PLM																									
Comments:																										
Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION													Q.C. <input type="checkbox"/>													

4	32	Stereoscopic Exam										PLM Optical Properties								Asbestos Results PLM %		Other Fibrous PLM %		Non Fibrous PLM %		
Gravimetric	Color <u>Brown</u> <u>G</u>	Morph	Extinction	RI 1	RI 2	DS Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	70	Cellulose	10	Mineral Filler	Amosite	5	Fiberglass	0	Organic Binders	Other	0	Vermiculite*	Other	0
Required <input type="checkbox"/>	Homogeneity <u>W</u>	Vermiculite																								
Recommended <input type="checkbox"/>	# of Layers <u>W</u>	Asbestos																								
See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
SM-V	Point Counts	Slide 1																								

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst JA Batch Number 21-619 TEMPERATURE °C 25

1	33	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>Brown</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler	
Recommended	Homogeneity <u>Y</u> Vermiculite												Amosite	Fiberglass		Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos												Other	Other	0	Vermiculite*	
	Color of Layer <u>Detected</u> Yes No															Other	
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM <u>0/200</u>											0	200	0			
	NOB PLM																
	Comments:																
	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>															

2	34	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>White</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler	
Recommended	Homogeneity <u>Y</u> Vermiculite												Amosite	Fiberglass		Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos												Other	Other	0	Vermiculite*	
	Color of Layer <u>Detected</u> Yes No															Other	
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM <u>0/200</u>											0	200	0			
	NOB PLM																
	Comments:																
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>															

3	35	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>White</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler	
Recommended	Homogeneity <u>Y</u> Vermiculite												Amosite	Fiberglass		Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos												Other	Other	0	Vermiculite*	
	Color of Layer <u>Detected</u> Yes No															Other	
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM <u>0/200</u>											0	200	0			
	NOB PLM																
	Comments:																
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>															

4	36	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>White</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	100	Mineral Filler	
Recommended	Homogeneity <u>Y</u> Vermiculite												Amosite	Fiberglass		Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos												Other	Other	0	Vermiculite*	
	Color of Layer <u>Detected</u> Yes No															Other	
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM <u>0/200</u>											0	200	0			
	NOB PLM																
	Comments:																
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>															

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst JA Batch Number 21-619 TEMPERATURE °C 25

1	37	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>Brown</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	95	Mineral Filler	
Recommended	Homogeneity <u>Y</u> Vermiculite												Amosite	Fiberglass		Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos												Other	Other	0	Vermiculite*	
	Color of Layer <u>Detected</u> Yes No															Other	
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM <u>0/200</u>											0	200	0			
	NOB PLM																
	Comments:																
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>															

2	38	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>Brown</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	95	Mineral Filler	
Recommended	Homogeneity <u>Y</u> Vermiculite												Amosite	Fiberglass		Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos												Other	Other	0	Vermiculite*	
	Color of Layer <u>Detected</u> Yes No															Other	
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM <u>0/200</u>											0	200	0			
	NOB PLM																
	Comments:																
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>															

3	39	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>Brown</u> Texture <u>F</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	95	Mineral Filler	
Recommended	Homogeneity <u>Y</u> Vermiculite												Amosite	Fiberglass		Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos												Other	Other	0	Vermiculite*	
	Color of Layer <u>Detected</u> Yes No															Other	
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM <u>0/200</u>											0	200	0			
	NOB PLM																
	Comments:																
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>															

4	40	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
Gravimetric Required	Color <u>White</u> Texture <u>G</u>	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	3	Mineral Filler	
Recommended	Homogeneity <u>Y</u> Vermiculite												Amosite	Fiberglass	2	Organic Binders	
See gravimetric analysis sheet for results	# of Layers <u>1</u> Asbestos												Other	Other	0	Vermiculite*	
	Color of Layer <u>Detected</u> Yes No															Other	
SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.					
See SM-V analysis sheet for results	PLM <u>0/200</u>											0	200	0			
	NOB PLM																
	Comments:																
	Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input type="checkbox"/> SCANNING OPTION	Q.C. <input type="checkbox"/>															

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1

Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25 °C

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 41	Color <u>Offwhite</u> Texture <u>G</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose <u>6</u> Fiberglass <u>2</u> Other	Mineral Filler <u>92</u> Organic Binders Vermiculite* <u>0</u> Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>[Signature]</u> NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT <u>0 200 0</u>	%Asb. Or %Ver.	
Required <input type="checkbox"/>	See SM-V analysis sheet for results	Comments:	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION	<input type="checkbox"/> Q.C.	

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 42	Color <u>Offwhite</u> Texture <u>G</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose <u>4</u> Fiberglass <u>2</u> Other	Mineral Filler <u>94</u> Organic Binders Vermiculite* <u>0</u> Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>[Signature]</u> NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT <u>0 200 0</u>	%Asb. Or %Ver.	
Required <input type="checkbox"/>	See SM-V analysis sheet for results	Comments:	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION	<input type="checkbox"/> Q.C.	

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 43	Color <u>White</u> Texture <u>G</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose <u>4</u> Fiberglass Other	Mineral Filler <u>100</u> Organic Binders Vermiculite* <u>0</u> Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>[Signature]</u> NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT <u>0 200 0</u>	%Asb. Or %Ver.	
Required <input type="checkbox"/>	See SM-V analysis sheet for results	Comments:	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION	<input type="checkbox"/> Q.C.	

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 44	Color <u>White</u> Texture <u>G</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose <u>4</u> Fiberglass Other	Mineral Filler <u>100</u> Organic Binders Vermiculite* <u>0</u> Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>[Signature]</u> NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT <u>0 200 0</u>	%Asb. Or %Ver.	
Required <input type="checkbox"/>	See SM-V analysis sheet for results	Comments:	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION	<input type="checkbox"/> Q.C.	

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1

Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25 °C

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 45	Color <u>White</u> Texture <u>G</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose <u>6</u> Fiberglass <u>2</u> Other	Mineral Filler <u>92</u> Organic Binders Vermiculite* <u>0</u> Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>[Signature]</u> NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT <u>0 200 0</u>	%Asb. Or %Ver.	
Required <input type="checkbox"/>	See SM-V analysis sheet for results	Comments:	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION	<input type="checkbox"/> Q.C.	

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 46	Color <u>Tan/Silver</u> Texture <u>R</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose <u>4</u> Fiberglass <u>2</u> Other	Mineral Filler <u>94</u> Organic Binders Vermiculite* <u>0</u> Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>[Signature]</u> NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT <u>0 200 0</u>	%Asb. Or %Ver.	
Required <input type="checkbox"/>	See SM-V analysis sheet for results	Comments:	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION	<input type="checkbox"/> Q.C.	

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 47	Color <u>Tan/Silver</u> Texture <u>R</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose <u>4</u> Fiberglass Other	Mineral Filler <u>100</u> Organic Binders Vermiculite* <u>0</u> Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>[Signature]</u> NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT <u>0 200 0</u>	%Asb. Or %Ver.	
Required <input type="checkbox"/>	See SM-V analysis sheet for results	Comments:	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION	<input type="checkbox"/> Q.C.	

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 48	Color <u>Tan/Silver</u> Texture <u>R</u> Homogeneity <u>1</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose <u>4</u> Fiberglass <u>3</u> Other	Mineral Filler <u>20</u> Organic Binders Vermiculite* <u>0</u> Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM <u>[Signature]</u> NOB PLM	Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8	Asb./Ver. PT Total PT <u>0 200 0</u>	%Asb. Or %Ver.	
Required <input type="checkbox"/>	See SM-V analysis sheet for results	Comments:	Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION	<input type="checkbox"/> Q.C.	

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
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Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1	49	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %								
			Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other						
			Gravimetric Required	Homogeneity	Vermiculite																								
			Recommended	# of Layers	Asbestos																								
			See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																						
			SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.														
			See SM-V analysis sheet for results	PLM																									
				NOB PLM																									
				Comments:																									
				Method:																									

2	50	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Gravimetric Required	Homogeneity	Vermiculite																							
			Recommended	# of Layers	Asbestos																							
			See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																					
			SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
			See SM-V analysis sheet for results	PLM																								
				NOB PLM																								
				Comments:																								
				Method:																								

3	51	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Gravimetric Required	Homogeneity	Vermiculite																							
			Recommended	# of Layers	Asbestos																							
			See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																					
			SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
			See SM-V analysis sheet for results	PLM																								
				NOB PLM																								
				Comments:																								
				Method:																								

4	52	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Gravimetric Required	Homogeneity	Vermiculite																							
			Recommended	# of Layers	Asbestos																							
			See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																					
			SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
			See SM-V analysis sheet for results	PLM																								
				NOB PLM																								
				Comments:																								
				Method:																								

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.

Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

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ATC EFFECTIVE DATE 01/18/2021 REVISION #33 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1	53	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Gravimetric Required	Homogeneity	Vermiculite																							
			Recommended	# of Layers	Asbestos																							
			See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																					
			SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
			See SM-V analysis sheet for results	PLM																								
				NOB PLM																								
				Comments:																								
				Method:																								

2	54	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Gravimetric Required	Homogeneity	Vermiculite																							
			Recommended	# of Layers	Asbestos																							
			See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																					
			SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
			See SM-V analysis sheet for results	PLM																								
				NOB PLM																								
				Comments:																								
				Method:																								

3	55	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Gravimetric Required	Homogeneity	Vermiculite																							
			Recommended	# of Layers	Asbestos																							
			See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																					
			SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
			See SM-V analysis sheet for results	PLM																								
				NOB PLM																								
				Comments:																								
				Method:																								

4	56	Field Number	Stereoscopic Exam		PLM Optical Properties										Asbestos Results PLM %			Other Fibrous PLM %			Non Fibrous PLM %							
			Color	Texture	Morph	Extinction	RI I	RI II	DS	Color	Color, Pleo	Biref	Sign	Other	Identity	Chrysotile	Cellulose	Mineral Filler	Amosite	Fiberglass	Organic Binders	Vermiculite*	Other					
			Gravimetric Required	Homogeneity	Vermiculite																							
			Recommended	# of Layers	Asbestos																							
			See gravimetric analysis sheet for results	Color of Layer	Detected	Yes	No																					
			SM-V Required	Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.													
			See SM-V analysis sheet for results	PLM																								
				NOB PLM													</											

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1 57 Field Number  
Stereoscopic Exam: Color Brown Texture F  
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity  
Asbestos Results PLM %: Chrysotile / Amosite / Other /  
Other Fibrous PLM %: Cellulose 10 Fiberglass 0 Other 0  
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0  
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver. 0 200 0  
Method:  ELAP  EPA  SCANNING OPTION  Q.C.

2 58 Field Number  
Stereoscopic Exam: Color White Texture G  
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity  
Asbestos Results PLM %: Chrysotile 3 Amosite 2 Other 0  
Other Fibrous PLM %: Cellulose 95 Fiberglass 0 Other 0  
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0  
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver. 0 200 0  
Method:  ELAP  EPA  SCANNING OPTION  Q.C.

3 59 Field Number  
Stereoscopic Exam: Color White Texture G  
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity  
Asbestos Results PLM %: Chrysotile 2 Amosite 2 Other 0  
Other Fibrous PLM %: Cellulose 76 Fiberglass 0 Other 0  
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0  
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver. 0 200 0  
Method:  ELAP  EPA  SCANNING OPTION  Q.C.

4 60 Field Number  
Stereoscopic Exam: Color White Texture G  
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity  
Asbestos Results PLM %: Chrysotile 3 Amosite 2 Other 0  
Other Fibrous PLM %: Cellulose 95 Fiberglass 0 Other 0  
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0  
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver. 0 200 0  
Method:  ELAP  EPA  SCANNING OPTION  Q.C.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE °C 25

1 61 Field Number  
Stereoscopic Exam: Color White Texture G  
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity  
Asbestos Results PLM %: Chrysotile / Amosite / Other /  
Other Fibrous PLM %: Cellulose 10 Fiberglass 0 Other 0  
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0  
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver. 0 200 0  
Method:  ELAP  EPA  SCANNING OPTION  Q.C.

2 62 Field Number  
Stereoscopic Exam: Color White Texture G  
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity  
Asbestos Results PLM %: Chrysotile 3 Amosite 2 Other 0  
Other Fibrous PLM %: Cellulose 95 Fiberglass 0 Other 0  
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0  
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver. 0 200 0  
Method:  ELAP  EPA  SCANNING OPTION  Q.C.

3 63 Field Number  
Stereoscopic Exam: Color White Texture G  
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity  
Asbestos Results PLM %: Chrysotile 2 Amosite 2 Other 0  
Other Fibrous PLM %: Cellulose 76 Fiberglass 0 Other 0  
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0  
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver. 0 200 0  
Method:  ELAP  EPA  SCANNING OPTION  Q.C.

4 64 Field Number  
Stereoscopic Exam: Color Black/Brown Texture NP  
PLM Optical Properties: Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity  
Asbestos Results PLM %: Chrysotile 3 Amosite 2 Other 0  
Other Fibrous PLM %: Cellulose 95 Fiberglass 0 Other 0  
Non Fibrous PLM %: Mineral Filler 0 Organic Binders 0 Vermiculite* 0 Other 0  
SM-V Point Counts: Slide 1-8, Asb./Ver. PT, Total PT, %Asb. Or %Ver. 0 200 0  
Method:  ELAP  EPA  SCANNING OPTION  Q.C.

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. *This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.*  
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25

Form 1: 65. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %.

Form 2: 66. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %.

Form 3: 67. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %.

Form 4: 68. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %.

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1
Analysis Date 4/9/2021 Analyst [Signature] Batch Number 21-619 TEMPERATURE 25

Form 1: 69. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %.

Form 2: 69. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %.

Form 3: 69. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %.

Form 4: 69. Stereoscopic Exam, PLM Optical Properties, Asbestos Results PLM %, Other Fibrous PLM %, Non Fibrous PLM %.

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8
Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing <=10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite.
Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.



**ATC Group Services LLC  
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-619 TEM Batch # 122927 Start Date: 04/09/21  
 NOB PLM PREP: MG/EV NOB PLM Analyst: MW 13 NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 04/09/21

Field #	5 % Organic	11 Non Asb Residue %		12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
		NFR	NFR				NOB	PLM	TEM
13	21.8	52.8	52.8	25.4	ND		✓	✓	✓
14	23.5	44.7	44.7	31.8	ND		✓	✓	✓
15	24.9	42.0	42.0	33.1	ND		✓	✓	✓
34	28.6	47.7	47.7	23.7	ND		✓	✓	✓
35	29.8	47.4	47.4	22.8	ND		✓	✓	✓
36	30.6	45.6	45.6	23.8	ND		✓	✓	✓
49	24.0	31.4	31.4	44.6	ND		✓	✓	✓
50	20.7	20.7	20.7	58.6	ND		✓	✓	✓
51	18.5	12.6	12.6	68.9	ND		✓	✓	✓
64	81.4	4.7	4.7	13.9	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.  
 2. Refer to PLM analysis sheet for NOB results and/or point count data.  
 3. Vermiculite not reported = not detected.



**ATC Group Services LLC  
GRAVIMETRIC (NOB) ANALYSIS SHEET**

Client/Project: PANYNJ RUSH PLM Batch # 21-619 TEM Batch # 122927 Start Date: 04/09/21  
 NOB PLM PREP: MG/EV NOB PLM Analyst: MW 13 NOB TEM PREP: SH NOB TEM Analyst: FG Date Completed: 04/09/21

Field #	5 % Organic	11 Non Asb Residue %		12 % Carbonate	9 Asbestos Types or Vermiculite	13 % Total Asbestos or Vermiculite	Methods		
		NFR	NFR				NOB	PLM	TEM
65	78.4	13.7	13.7	7.9	ND		✓	✓	✓
66	88.9	10.2	10.2	0.9	ND		✓	✓	✓

1. Methods: ELAP 198.6 198.4, EPA 40CFR App. E to Subpt. E of Part 763, EPA 600/R-93/116.  
 2. Refer to PLM analysis sheet for NOB results and/or point count data.  
 3. Vermiculite not reported = not detected.



# ATC Group Services LLC

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New York, NY 10010  
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Fax: 212-353-8306

**Client:** ATC - NEW YORK  
104 EAST 25TH STREET  
NEW YORK, NY 10010  
**Fax:** (212) 353-3599     **Phone:** (212) 353-8280  
**Project:** PANYNJ / FIRESPRINKLER REHABILITATION

**Sample Date:** 11/5/2021

**Date Received :** 11/5/2021

**Date Analyzed :** 11/8/2021

**ATC Batch #** 21-1750

**Methods:** ELAP 198.1, 198.6, 198.4

**Location:** PN / BUILDING NUMBER 301 / SHEDS

**Project #** 214PNPEPJ1/TASK0001

## Bulk Asbestos Analysis Results

Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
70 21-1750 -1	1ST FLOOR S.W. SHED UNDER WALL METAL FRAMING	TAR WEATERPROOFING STRIP	NOB-TEM	0.0% Vermiculite		60.8% Organic 23.9% Residue 15.3% Carbonate	NONE DETECTED
Analyzed By: Mei Wang		Color: Black Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
71 21-1750 -2	1ST FLOOR S.W. SHED UNDER WALL METAL FRAMING	TAR WEATERPROOFING STRIP	NOB-TEM	0.0% Vermiculite		61.3% Organic 27.5% Residue 11.2% Carbonate	NONE DETECTED
Analyzed By: Mei Wang		Color: Black Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
72 21-1750 -3	1ST FLOOR S.W. SHED UNDER WALL METAL FRAMING	TAR WEATERPROOFING STRIP	NOB-TEM	0.0% Vermiculite		67.9% Organic 17.7% Residue 14.4% Carbonate	NONE DETECTED
Analyzed By: Mei Wang		Color: Black Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
73 21-1750 -4	1ST FLOOR S.W. SHED UNDER ROOF PANELS @ WALL	WEATER PROOFING CORRUGATED WEDGE	NOB-TEM	0.0% Vermiculite		57.3% Organic 33.1% Residue 9.6% Carbonate	NONE DETECTED
Analyzed By: Mei Wang		Color: Black Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
74 21-1750 -5	1ST FLOOR S.W. SHED UNDER ROOF PANELS @ WALL	WEATER PROOFING CORRUGATED WEDGE	NOB-TEM	0.0% Vermiculite		55.6% Organic 33.3% Residue 11.1% Carbonate	NONE DETECTED
Analyzed By: Mei Wang		Color: Black Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
75 21-1750 -6	1ST FLOOR S.W. SHED UNDER ROOF PANELS @ WALL	WEATER PROOFING CORRUGATED WEDGE	NOB-TEM	0.0% Vermiculite		60.7% Organic 30.2% Residue 9.1% Carbonate	NONE DETECTED
Analyzed By: Mei Wang		Color: Black Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
76 21-1750 -7	1ST FLOOR S.E. SHED UNDER WALL METAL FRAMING	TAR WEATHER PROOFING STRIP	NOB-TEM	0.0% Vermiculite		64.4% Organic 25.5% Residue 10.1% Carbonate	NONE DETECTED
Analyzed By: Mei Wang		Color: Black Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				



# ATC Group Services LLC

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Sample #	Location	Type of Material	Method	Non-Asbestos		NOB	Asbestos
				% Fibrous	% Non-Fibrous	% Type	% Type
77 21-1750 -8	1ST FLOOR S.E. SHED UNDER WALL METAL FRAMING	TAR WEATHER PROOFING STRIP	NOB-TEM	0.0% Vermiculite		68.5% Organic 16.4% Residue 15.1% Carbonate	NONE DETECTED
Analyzed By: Mei Wang		Color: Black Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
78 21-1750 -9	1ST FLOOR S.E. SHED UNDER WALL METAL FRAMING	TAR WEATHER PROOFING STRIP	NOB-TEM	0.0% Vermiculite		60.5% Organic 25.2% Residue 14.3% Carbonate	NONE DETECTED
Analyzed By: Mei Wang		Color: Black Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
79 21-1750 -10	1ST FLOOR S.E. SHED UNDER ROOF PANELS @ WALL	WEATHER PROOFING CORRUGATED WEDGE	NOB-TEM	0.0% Vermiculite		58.4% Organic 33.9% Residue 7.7% Carbonate	NONE DETECTED
Analyzed By: Mei Wang		Color: Black Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
80 21-1750 -11	1ST FLOOR S.E. SHED UNDER ROOF PANELS @ WALL	WEATHER PROOFING CORRUGATED WEDGE	NOB-TEM	0.0% Vermiculite		57.9% Organic 32.3% Residue 9.8% Carbonate	NONE DETECTED
Analyzed By: Mei Wang		Color: Black Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				
81 21-1750 -12	1ST FLOOR S.E. SHED UNDER ROOF PANELS @ WALL	WEATHER PROOFING CORRUGATED WEDGE	NOB-TEM	0.0% Vermiculite		58% Organic 37.6% Residue 4.4% Carbonate	NONE DETECTED
Analyzed By: Mei Wang		Color: Black Second Analyst: Roman Peysakhov	Comments: NOB PLM Inconclusive				



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## ELAP BULK ASBESTOS ANALYSIS RESULTS

Sample #	Location	Type of Material	Method	<u>Non-Asbestos</u>		<u>NOB</u>	<u>Asbestos</u>
				% Fibrous	% Non-Fibrous	% Type	% Type

### NOTES:

- 1) The Limit of Detection is the same as the Reporting Limit for these results.
- 2) The Reporting Limit (RL) is the Limit of Quantitation. For point counts the limit of quantitation of 0.25%; based on one asbestos point counter over 400 non-empty points.
- 3) Asbestos Containing Material (ACM) Definition: > 1% asbestos by weight is considered an ACM
- 4) Disclaimer: The laboratory is not responsible for sample collection. Please refer to enclosed letter. This report may not be reproduced, except in full, without written approval by ATC Group Services. This report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the samples reported above as described in the chain of custody. Quality control data is available upon request.
- 5) Accredited by NVLAP #101187-0 and by NY State ELAP #10879
- 6) Confidentiality Notice: The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
- 7) Liability Notice: ATC Group Services and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed.
- 8) Asbestos results are reliable to 2 significant figures.
- 9) The condition of all samples was acceptable upon receipt.
- 10) The laboratory certifies that the test results meet all requirements of NELAC.
- 11) Supplement to test report batch # _____, Amendments: _____, Amendment Dates: _____, Amended by: _____
- 12) PLM Letter is attached on this report.
- 13) TRACE: The result is reported as Trace when No points are counted and asbestos is identified. For ELAP Trace is < 1%.
- 14) ATC Group Services certifies that this report is an accurate and authentic report of the results obtained from the laboratory analysis
- 15) The uncertainty for these test results is available upon request.
- 16) ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite. For samples containing > 10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Mei Wang

Analyst:

Roman Peysakhov

Analyst:

Mei Wang

Approved by

Quality Manager:

### PLM Analysis Methodology

The samples were analyzed by industry accepted methods in accordance with ELAP¹ using Polarized Light Microscopy (PLM) with dispersion staining in conjunction with stereoscopic analysis. Point counts are performed on samples regulated by this agency. The Environmental Laboratory Approval Program (ELAP) has determined that analysis of non-friable organically bound materials (i.e. floor tile, roofing, etc.) and ceiling tiles with cellulose is not reliable when performed by Polarized Light Microscopy (PLM) method. Therefore, if this analysis included that of non-friable materials or ceiling tiles with cellulose under PLM and the results were negative, ATC must add this disclaimer to maintain ELAP accreditation:

"Polarized light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing".

Non-friable samples that contained Trace or No PLM detectable asbestos are classified as Inconclusive. Layered samples should be separated and analyzed individually and the analysis of each layer should be reported. Joint compound is the only exception.

ELAP requires method ELAP 198.1 for the analysis of samples containing ≤ 10% vermiculite with the exception of surfacing material containing vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. "This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."

Surfacing material that contains vermiculite (SM-V) are analyzed by ELAP method 198.8. Sample results for SM-V tested by other methods upon client requests are inconclusive.

ATC has the capability of performing TEM confirmation if so desired.

Bulk sample reports are checked and reviewed two times. Unused portions of samples are archived for two months unless client requests special handling. This report must not be used by the client to claim product endorsement by NIST or any agency of the U.S. government.

ATC is not responsible for sample collection and analytical procedures not performed by our laboratory. This report may not be reproduced in part without the laboratory permission.

ATC will not be liable for analytical results from samples that are not prepared according to the standard methods used by the laboratory (e.g. composite samples from different locations, samples with insufficient volumes, straight TEM samples without gravimetric procedures, dust samples, non-friable samples by PLM only).

### Laboratory Equipment

Laboratory analyses were accomplished utilizing Olympus BH-2 Microscopes for PLM analyses and the JEOL Model JEM-100CXII-2 for TEM analyses.

### Quality Control

ATC is accredited by NY State DOH ELAP (Lab ID 10879) for bulk and air fiber analyses. ATC participates in the Bulk Asbestos Sample Quality Assurance Programs for ELAP and maintains an in-house QC/QA program for bulk samples whereby 10% of all submitted samples are reanalyzed and results are documented. ATC also participates in a quarterly round robin QC/QA program for bulk samples with several accredited laboratories throughout the United States. Current and past QC/QA program results are available in the laboratory for inspection.

### Accuracy and Precision

The phase abundances provided by point count may be considered within the limits of variability inherent in the method employed. For point counts the detection limit of 0.25% is based on one asbestos point counted over 400 non-empty points. If no points are counted and asbestos is identified, the result will be reported as trace. For ELAP trace is < 1%.

The analyses were supervised by Milena Bonezzi, Director of Laboratory Services, who has extensive experience in asbestos analysis by PLM and other methods. Please contact me regarding any questions relating to these materials at 212-353-8280.

### Methods

1. ELAP 4088 Items 198.1 and 198.4 and 198.6 and 198.8

Sincerely,

Milena Bonezzi  
ATC Group Services LLC  
Director of Laboratory Services

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**BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM**

**PROJECT INFORMATION**

1. Client <b>PANYNJ</b>	Project Name: <b>FIRESPRINKLER REHABILITATION</b>	3a. ATC Project No.: <b>214PNPEPJ1</b>	4a. Project Manager: <b>R. Rivero</b>
5. Date: <u>11/5/2021</u>	6. BUILDING NUMBER: <u>301</u>	3b. Task No.: <b>0001</b>	4b. Inspector: <b>PHILIP CARRINGTON</b>
7. Sampling Areas: <u>SHEDS</u>	8. Turnaround Time: o STAT o 24 HRS o 72 HRS o OTHER o 6 HRS o 48 HRS o NORMAL RUSH <u>X</u>	9. Comments (Field) <b>NOB → TEM Stop @ 1st Positive</b>	

**BULK SAMPLE LOCATION**

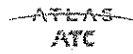
10. Homogenous Area No.	11. Bulk Sample ID No.	12. Material	13. Thermal System	14. Sample Location	15. Material Total Qty. (LF, SF, PCS)	16. Asbestos Content (Type & %)
24	70	TAR WEATHERPROOFING		1 SW. SHED UNDER		
24	71	STRIP "		1 WALL METAL FRAMING		
24	72	"		1 "		
25	73	WEATHER PROOFING		1 S.W. SHED UNDER		
25	74	CORRUGATED WEDGE		1 ROOF PANELS @		
25	75	"		1 WALL		
26	76	TAR WEATHER PROOFING		1 S.E. SHED UNDER		
26	77	STRIP		1 WALL METAL FRAMING		
26	78	"		1 "		
27	79	WEATHER PROOFING		1 S.E. SHED UNDER		
27	80	CORRUGATED WEDGE		1 ROOF PANELS @		
27	81	"		1 WALL		

**CHAIN OF CUSTODY**

17. Relinquished By	18. Date	19. Time	20. Received By	21. Date	22. Time	23. Method of Submittal
I. <u>Philip Carrington</u>	<u>11-5-21</u>	<u>3:55pm</u>	<u>E. Velazquez</u>	<u>11/5/2021</u>	<u>15:56</u>	Field Walk In
II.						US Mail
III.						Fed-Ex
						Other

**LABORATORY INFORMATION**

24. Name and Signature:	25. Date	26. Time	27. Comments (Lab)
24a. Analyzed By: <u>MEI WANG</u>	<u>11/12/21</u>	<u>9:30A</u>	
24b. Analyzed By: <u>Philip Carrington</u>	<u>11/08/21</u>	<u>10:00</u>	
24c. QC By:			



**BULK ASBESTOS ANALYSIS SHEET**

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 11/7/2021 Analyst umb Batch Number 21-1750 TEMPERATURE °C 23

1	70	Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %												
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>blk</u> Texture <u>W</u> Homogeneity <u>X</u> Vermiculite <u>-</u> # of Layers <u>-</u> Asbestos <u>-</u> Color of Layer <u>-</u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.												
								Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.
								PLM NOB PLM											
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results <input type="checkbox"/> Comments: Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																			

2	71	Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %												
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>blk</u> Texture <u>W</u> Homogeneity <u>X</u> Vermiculite <u>-</u> # of Layers <u>-</u> Asbestos <u>-</u> Color of Layer <u>-</u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.												
								Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.
								PLM NOB PLM											
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results <input type="checkbox"/> Comments: Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																			

3	72	Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %												
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>blk</u> Texture <u>W</u> Homogeneity <u>X</u> Vermiculite <u>-</u> # of Layers <u>-</u> Asbestos <u>-</u> Color of Layer <u>-</u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.												
								Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.
								PLM NOB PLM											
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results <input type="checkbox"/> Comments: Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																			

4	73	Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %												
Gravimetric Required <input type="checkbox"/> Recommended <input type="checkbox"/> See gravimetric analysis sheet for results <input type="checkbox"/>	Color <u>blk</u> Texture <u>W</u> Homogeneity <u>X</u> Vermiculite <u>-</u> # of Layers <u>-</u> Asbestos <u>-</u> Color of Layer <u>-</u> Detected Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other	<input type="checkbox"/> Cellulose Ondulose Extinction <input type="checkbox"/> Fiberglass Isotropic <input type="checkbox"/> Synthetic High Birefringence <input type="checkbox"/> Horse Hair: Scales, Low to Moderate Birefringence	* If vermiculite is >10% the level of asbestos in a sample might be underestimated. See Note #1.												
								Point Counts	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Asb./Ver. PT	Total PT	%Asb. Or %Ver.
								PLM NOB PLM											
SM-V Required <input type="checkbox"/> See SM-V analysis sheet for results <input type="checkbox"/> Comments: Method: <input checked="" type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C. <input type="checkbox"/>																			

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763 EPA 600/R-93/116 ELAP Items 198.1, 198.4, 198.6, 198.8

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Note #1: ELAP requires method ELAP 198.1 for the analysis of samples containing ≤10% vermiculite, with the exception of surfacing material that contains vermiculite (SM-V). For samples containing >10% vermiculite ELAP requires methods ELAP 198.1 followed by ELAP 198.6. This method has limitations for identification and quantification of vermiculite. This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.

Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.

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ATC EFFECTIVE DATE 06/24/2021 REVISION #34 BY MEI WANG FORM #B2

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 11/7/2021 Analyst [Signature] Batch Number 21-1750 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 74	Color <u>blk</u> Texture <u>sk</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	See SM-V analysis sheet for results				
Comments: <u>[Signature]</u>					
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 75	Color <u>blk</u> Texture <u>sk</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	See SM-V analysis sheet for results				
Comments: <u>[Signature]</u>					
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 76	Color <u>blk</u> Texture <u>sk</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	See SM-V analysis sheet for results				
Comments: <u>[Signature]</u>					
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 77	Color <u>blk</u> Texture <u>sk</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	See SM-V analysis sheet for results				
Comments: <u>[Signature]</u>					
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Methods:  
EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
EPA 600/R-93/116  
ELAP Items 198.1, 198.4, 198.6, 198.8

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Note #2: ELAP requires method 198.8 for the analysis of surfacing material containing vermiculite (SM-V) and it utilizes a 400 point count method.  
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ATC EFFECTIVE DATE 06/24/2021 REVISION #34 BY MEI WANG FORM #82

BULK ASBESTOS ANALYSIS SHEET

Client / Project PANYNJ/ FIRESPRINKLER REHAB Project Number 214PNPEPJ1  
Analysis Date 11/7/2021 Analyst [Signature] Batch Number 21-1750 TEMPERATURE °C 23

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
1 78	Color <u>blk</u> Texture <u>sk</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	See SM-V analysis sheet for results				
Comments: <u>[Signature]</u>					
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
2 79	Color <u>blk</u> Texture <u>sk</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	See SM-V analysis sheet for results				
Comments: <u>[Signature]</u>					
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
3 80	Color <u>blk</u> Texture <u>sk</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	See SM-V analysis sheet for results				
Comments: <u>[Signature]</u>					
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

Field Number	Stereoscopic Exam	PLM Optical Properties	Asbestos Results PLM %	Other Fibrous PLM %	Non Fibrous PLM %
4 81	Color <u>blk</u> Texture <u>sk</u> Homogeneity <u>X</u> Vermiculite <u>1</u> # of Layers <u>1</u> Asbestos <u>1</u> Color of Layer <u>Detected</u> Yes No	Morph Extinction RI I RI II DS Color Color, Pleo Biref Sign Other Identity	Chrysotile Amosite Other	Cellulose Fiberglass Other	Mineral Filler Organic Binders Vermiculite* Other
SM-V	Point Counts Slide 1 Slide 2 Slide 3 Slide 4 Slide 5 Slide 6 Slide 7 Slide 8 PLM NOB PLM	Asb./Ver. PT Total PT	%Asb. Or %Ver.		
Required <input type="checkbox"/>	See SM-V analysis sheet for results				
Comments: <u>[Signature]</u>					
Method: <input type="checkbox"/> ELAP <input type="checkbox"/> EPA <input checked="" type="checkbox"/> SCANNING OPTION <input type="checkbox"/> Q.C.					

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EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples - 40 CFR Appendix E to Subpart E of Part 763  
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ATC EFFECTIVE DATE 06/24/2021 REVISION #34 BY MEI WANG FORM #82





**APPENDIX B**

**ASBESTOS SAMPLE LOCATION DRAWINGS**

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No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY  
MARINE TERMINAL  
PORT NEWARK

ENVIRONMENTAL

Title  
NEW JERSEY PORTS  
ASBESTOS SURVEY

BUILDING 301  
FIRST FLOOR SAMPLE  
LOCATION PLAN  
SAMPLES 1 TO 33 &  
52 TO 81

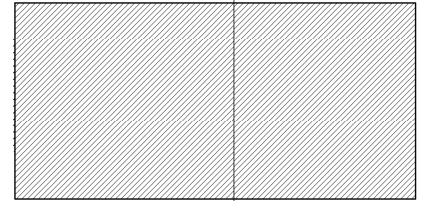
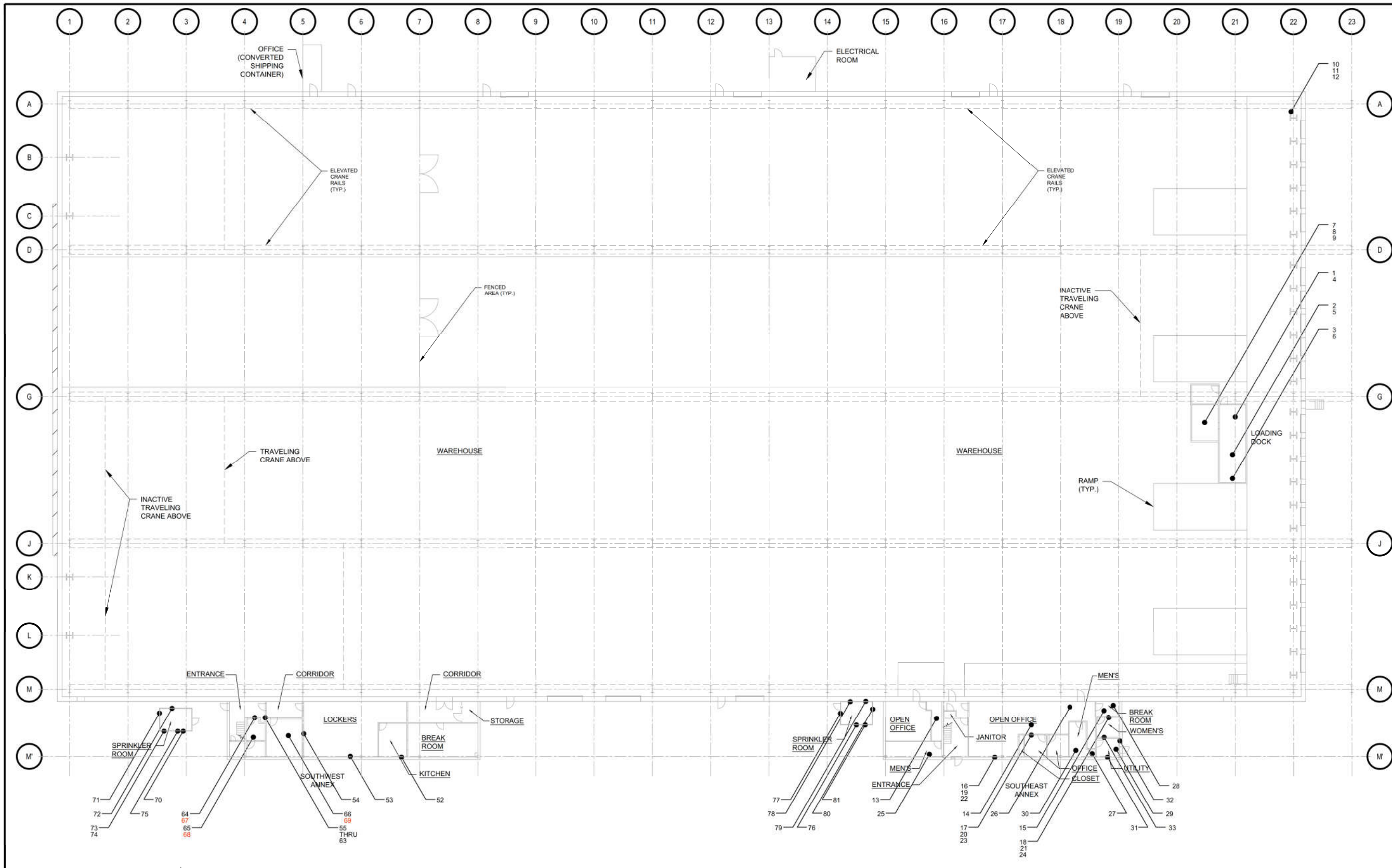
This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street - 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO  
Drawn by E.MILKIS

Checked by  
Date 12/17/2021

Contract Number

Drawing Number **SL001**



KEY PLAN



LEGEND

SYMBOL	DESCRIPTION
	35 SUSPECT ASBESTOS SAMPLE LOCATION
	69 ACM SAMPLE LOCATION

**THE PORT AUTHORITY  
OF NY & NJ**



ATC GROUP SERVICES  
104 EAST 25TH STREET, NEW YORK NY 10010

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

NEW JERSEY  
MARINE TERMINAL  
PORT NEWARK

ENVIRONMENTAL

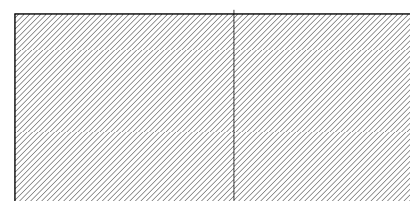
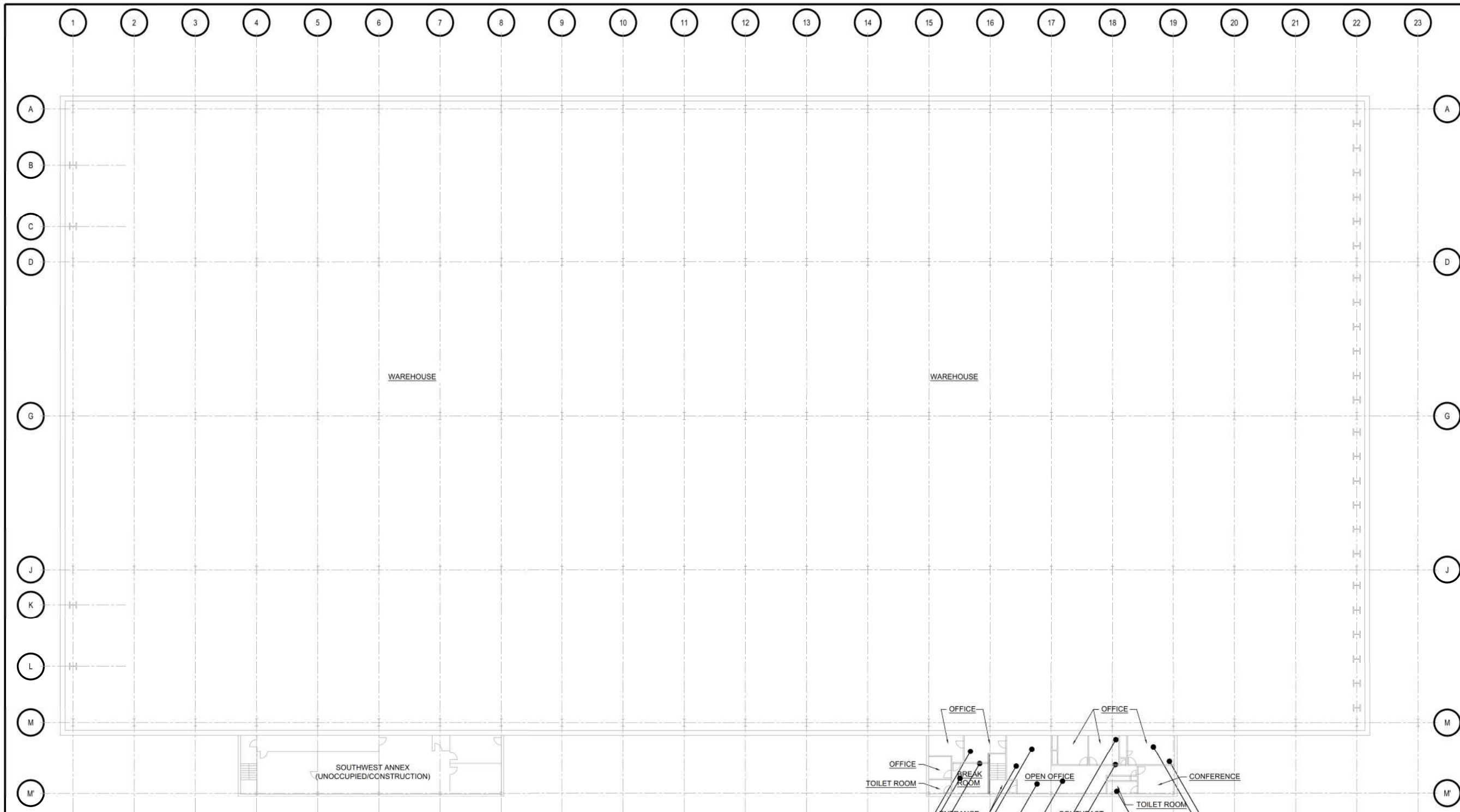
Title  
NEW JERSEY PORTS  
ASBESTOS SURVEY  
  
BUILDING 301  
SECOND FLOOR  
SAMPLE LOCATION PLAN  
SAMPLES 34 TO 51

This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street - 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO  
Drawn by E.MILKIS  
Checked by  
Date 12/17/2021

Contract Number

Drawing Number **SL002**



**KEY PLAN**



**LEGEND**

SYMBOL	DESCRIPTION
	SUSPECT ASBESTOS SAMPLE LOCATION

**APPENDIX C**

**ASBESTOS LOCATION DRAWINGS**

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No.	Date	Revision	Approved
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ENGINEERING DEPARTMENT

NEW JERSEY  
MARINE TERMINAL  
PORT NEWARK

ENVIRONMENTAL

Title  
NEW JERSEY PORTS  
ASBESTOS SURVEY

BUILDING 301  
FIRST FLOOR  
ACM LOCATION PLAN

This drawing is subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk, 2 Montgomery Street - 1st Floor, Jersey City, NJ 07302 or the office of the Chief Procurement Officer, 4 World Trade Center, 21st Floor, New York, NY 10007.

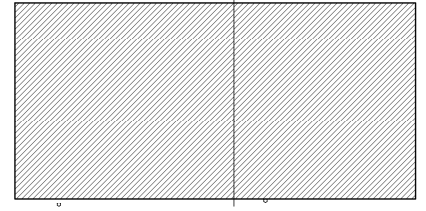
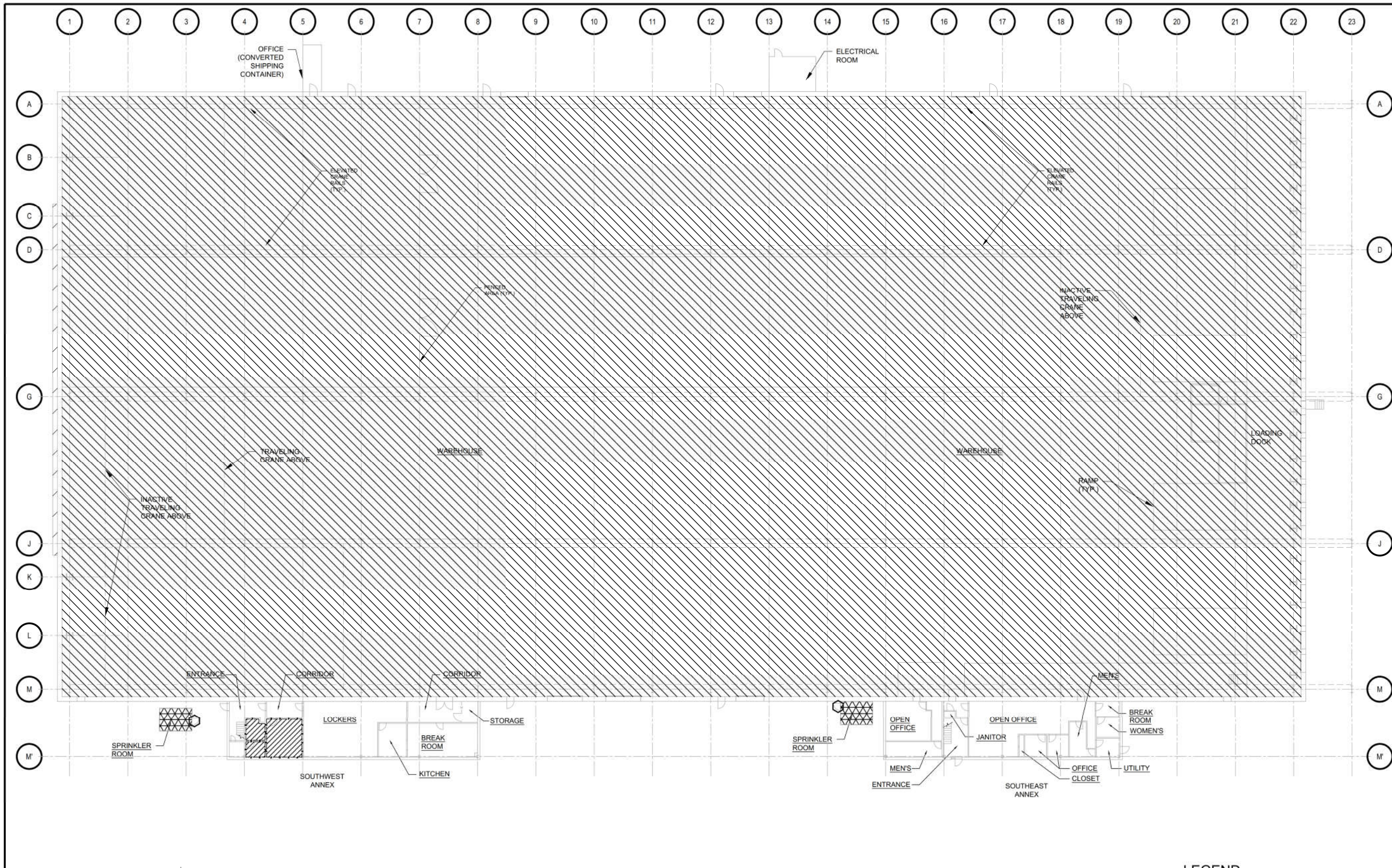
It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by R.RIVERO  
Drawn by E.MILKIS  
Checked by

Date 12/17/2021

Contract Number

Drawing Number **ACM001**



KEY PLAN



**LEGEND**

SYMBOL	DESCRIPTION
	ASBESTOS CONTAINING PIPE FITTING INSULATION
	PIPE AND PIPE FITTING INSULATION IN WAREHOUSE AREA (PACM), EXACT LOCATION TO BE VERIFIED.
	FLANGE & VALVE GASKETS (PACM)
	ENTRANCE DOOR (PACM)

**APPENDIX D**

**LAB CERTIFICATIONS AND ACCREDITATIONS, COMPANY  
AND PERSONNEL CERTIFICATIONS**

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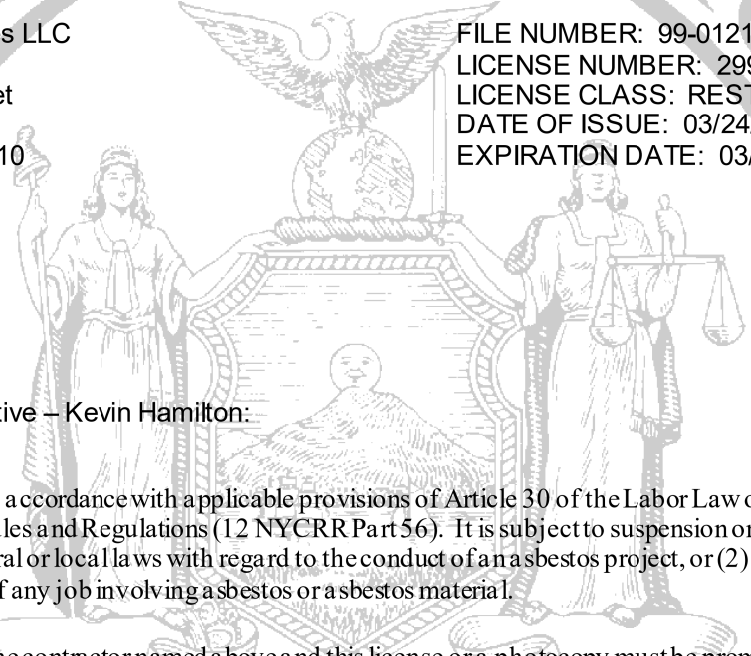
**New York State – Department of Labor**

Division of Safety and Health  
License and Certificate Unit  
State Campus, Building 12  
Albany, NY 12240

**ASBESTOS HANDLING LICENSE**

ATC Group Services LLC  
10th Floor  
104 East 25th Street  
New York, NY 10010

FILE NUMBER: 99-0121  
LICENSE NUMBER: 29902  
LICENSE CLASS: RESTRICTED  
DATE OF ISSUE: 03/24/2021  
EXPIRATION DATE: 03/31/2022



Duly Authorized Representative – Kevin Hamilton:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or a asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director  
For the Commissioner of Labor

SH 432 (8/12)

**NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER**

Expires 12:01 AM April 01, 2021  
Issued April 01, 2020



**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards (2003) for the category  
**ENVIRONMENTAL ANALYSES POTABLE WATER**  
All approved analytes are listed below:

**Miscellaneous**

Asbestos

EPA 100.2



Serial No.: 61221

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.







Expires 12:01 AM April 01, 2021  
Issued April 01, 2020

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

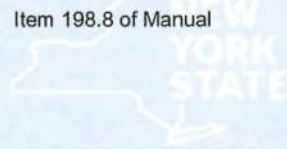
MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category  
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE  
All approved subcategories and/or analytes are listed below:

**Miscellaneous**

- Asbestos in Friable Material Item 198.1 of Manual  
EPA 600/M4/82/020
- Asbestos in Non-Friable Material-PLM Item 198.6 of Manual (NOB by PLM)
- Asbestos in Non-Friable Material-TEM Item 198.4 of Manual
- Asbestos-Vermiculite-Containing Material Item 198.8 of Manual



Department  
of Health

Serial No.: 61222

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



Expires 12:01 AM April 01, 2021  
Issued April 01, 2020

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

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MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category  
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS  
All approved subcategories and/or analytes are listed below:

**Miscellaneous**

- Asbestos 40 CFR 763 APX A No. III  
NIOSH 7402
- Fibers NIOSH 7400 A RULES



Department  
of Health

Serial No.: 61223

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards (2016) for the category  
**ENVIRONMENTAL ANALYSES POTABLE WATER**  
All approved analytes are listed below:

**Miscellaneous**

Asbestos EPA 100.2

Serial No.: 62824

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category  
**ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE**  
All approved subcategories and/or analytes are listed below:

**Miscellaneous**

Asbestos in Friable Material	Item 198.1 of Manual EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual

Serial No.: 62825

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.



Expires 12:01 AM April 01, 2022  
Issued April 01, 2021

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. MILENA BONEZZI  
ATC GROUP SERVICES LLC  
104 EAST 25TH STREET 8TH FLOOR  
NEW YORK, NY 10010

NY Lab Id No: 10879

is hereby APPROVED as an Environmental Laboratory for the category  
**ENVIRONMENTAL ANALYSES AIR AND EMISSIONS**  
All approved subcategories and/or analytes are listed below:

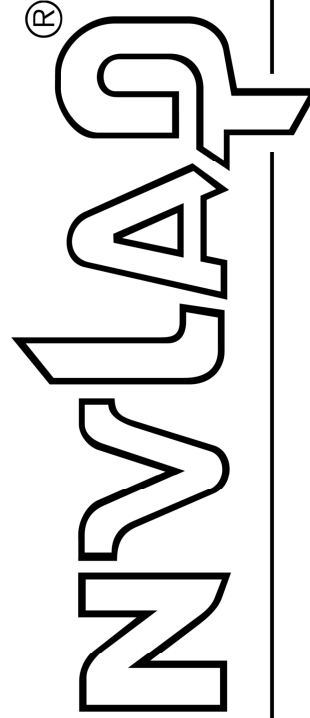
Miscellaneous  
Asbestos  
Fibers

40 CFR 763 APX A No. III  
NIOSH 7402  
NIOSH 7400 A RULES

Serial No.: 62826

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

United States Department of Commerce  
National Institute of Standards and Technology



**Certificate of Accreditation to ISO/IEC 17025:2017**

NVLAP LAB CODE: 101187-0

**ATC Group Services LLC**  
New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:

**Asbestos Fiber Analysis**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).



2020-07-01 through 2021-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program



**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017**

**ATC Group Services LLC**  
 104 E. 25th Street 8th Floor  
 New York, NY 10010  
 Ms. Milena Bonezzi  
 Phone: 212-353-8280 x247 Fax: 212-353-8306  
 Email: milena.bonezzi@atcgs.com

**ASBESTOS FIBER ANALYSIS**

**NVLAP LAB CODE 101187-0**

**Bulk Asbestos Analysis**

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

**Airborne Asbestos Analysis**

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR Part 763 Subpart E Appendix A

*[Signature]*  
 For the National Voluntary Laboratory Accreditation Program



**AIHA**  
 Laboratory Accreditation Programs, LLC  
**AIHA Laboratory Accreditation Programs, LLC**  
*acknowledges that*  
**ATC Group Services LLC**  
**104 East 25th St 8th Flr New York, NY 10010**  
**Laboratory ID: LAP-100229**

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS	
<input checked="" type="checkbox"/>	INDUSTRIAL HYGIENE Accreditation Expires: November 01, 2021
<input type="checkbox"/>	ENVIRONMENTAL LEAD Accreditation Expires:
<input type="checkbox"/>	ENVIRONMENTAL MICROBIOLOGY Accreditation Expires:
<input type="checkbox"/>	FOOD Accreditation Expires:
<input type="checkbox"/>	UNIQUE SCOPES Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website ([www.aihaaccreditedlabs.org](http://www.aihaaccreditedlabs.org)) for the most current Scope.

*[Signature]*  
 Elizabeth Bair  
 Chairperson, Analytical Accreditation Board

*[Signature]*  
 Cheryl O. Morton  
 Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 17: 09/11/2018  
 Date Issued: 08/30/2019



## AIHA Laboratory Accreditation Programs, LLC SCOPE OF ACCREDITATION

### ATC Group Services LLC

104 East 25th St 8th Flr New York, NY 10010

Laboratory ID: LAP-100229

Issue Date: 08/30/2019

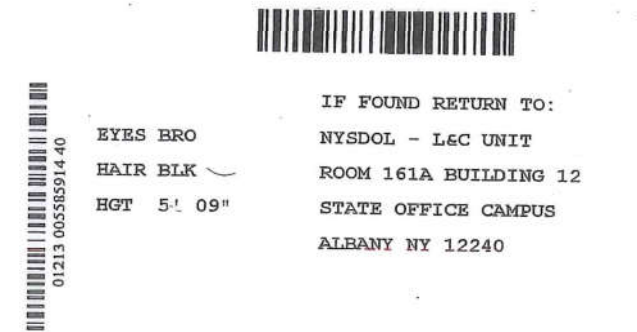
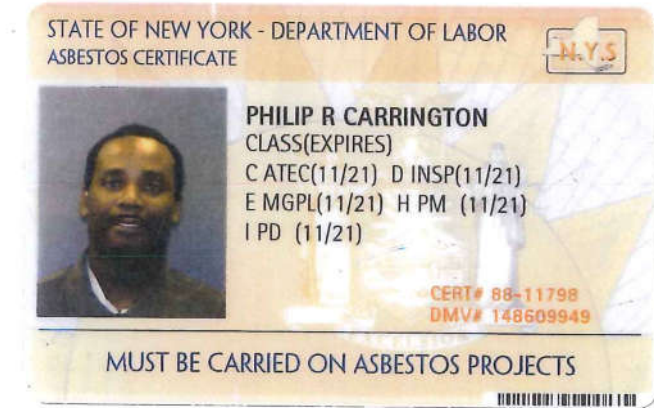
The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

### Industrial Hygiene Laboratory Accreditation Program (IHLAP)


Initial Accreditation Date: 06/12/1995

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400 Modified	-

A complete listing of currently accredited IHLAP laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



STATE OF NEW YORK - DEPARTMENT OF LABOR  
ASBESTOS CERTIFICATE

**NANCY B GUEVARA**  
CLASS(EXPIRES)  
C ATEC(05/21) D INSP(05/21)  
H PM (05/21) I PD (05/21)

CERT# 14-00412  
DMV# 234032668

**MUST BE CARRIED ON ASBESTOS PROJECTS**






01213 005585171 14

EYES BRO  
HAIR BRO  
HGT 5' 06"



IF FOUND RETURN TO:  
NYS DOL - L&C UNIT  
ROOM 161A BUILDING 12  
STATE OFFICE CAMPUS  
ALBANY NY 12240


STATE OF NEW YORK - DEPARTMENT OF LABOR  
ASBESTOS CERTIFICATE

**RONEY D RIVERO**  
CLASS(EXPIRES)  
C ATEC(08/21) D INSP(08/21)  
E MGPL(08/21) H PM (08/21)  
I PD (08/21)

CERT# 88-06348  
DMV# 955602641

**MUST BE CARRIED ON ASBESTOS PROJECTS**




EYES BRO  
HAIR GRY  
HGT 5' 11"



IF FOUND RETURN TO:  
NYS DOL - L&C UNIT  
ROOM 161A BUILDING 12  
STATE OFFICE CAMPUS  
ALBANY NY 12240