

ENVIRONMENTAL PERFORMANCE COMMITMENTS (EPCs)

1. AIR QUALITY: DIESEL EMISSION MITIGATION

The Contractor shall minimize all air-borne pollutants generated by diesel-powered equipment and vehicles at all times during the performance of Work under this Contract.

All Non-Road diesel-powered equipment (e.g., backhoes, bull dozers, cranes, excavation machines, loaders, etc.), including stationary equipment (e.g., generators, compressors, etc.), shall incorporate diesel emission reduction strategies that include the use of ultra low sulfur diesel fuel. For equipment with a rated horsepower of 50 (50HP) or greater, best available technology for emission controls shall be applied. In addition, all such equipment and engines shall comply with all Federal, State and Local regulations applicable to exhaust emission controls and safety.

a. Ultra Low Sulfur Diesel (ULSD) Fuel

All diesel-powered Non-Road equipment to be used in the performance of Work under this Contract shall use Ultra Low Sulfur Diesel (ULSD) fuel that is certified to contain an average sulfur content of no more than 15 parts per million (ppm) as determined over a six month period. In the event that the Contractor can clearly demonstrate that ULSD fuel with an average sulfur content of not more than 15 ppm is not available, a written waiver may be granted by the Engineer until such time that the ULSD fuel has become available, or an approved equal is determined by the Engineer to satisfy the intent of this Section. The Engineer shall collect monthly samples of the ULSD fuel used during the period directly from the fuel tanks of the Non-Road diesel-powered equipment used on the construction site. The Testing Standards shall include, but are not limited to: ASTM D6920 – 03 “Total Sulfur in Naphthas, Distillates, Reformulated Gasolines, Diesels, Biodiesels, and Motor Fuels by Oxidative Combustion and Electrochemical Detection” or ASTM D6428-99 “Test Method for Total Sulfur in Liquid Aromatic Hydrocarbons and Their Derivatives by Oxidative Combustion and Electrochemical Detection.”

The ULSD fuel shall be obtained from any distributor capable of meeting the requirements of this Section. All ULSD fuel shall be dispensed directly on the construction site from either a dedicated on-site fuel storage facility or segregated truck delivery. In the case of on-site storage, all such facilities shall comply with all applicable jurisdictional Codes pertaining to the storage and dispensing of fuel. The details of which must be submitted and approved by the Engineer prior to implementation.

A listing of ULSD fuel suppliers is included on the following Web page.

ULSD fuel Suppliers:

http://www.epa.gov/otaq/retrofit/cont_fuels.htm

b. Diesel Emissions Control Technologies

All Non-Road diesel-powered equipment with a rated horsepower of 50 HP or greater shall be retrofitted with Emissions Control Devices (devices) utilizing the best available technology. The retrofit devices shall consist of Diesel Particulate Filters (DPFs) or other measures with equivalent particulate matter (PM) removal efficiency wherever the implementation of such a device is feasible. In cases where DPFs are not feasible for safety considerations, mechanical reasons, or where the technology would not function properly, the Contractor shall submit a request for a waiver to the Engineer for review and approval prior to the use of such equipment. If the Engineer grants a waiver, Diesel Oxidation Catalysts (DOCs) shall be used. Only in the following cases will the use of diesel engines greater than 50 HP without tailpipe reduction measures be permitted by the Engineer.

- Where for technical reasons neither DPFs or DOCs can be used effectively, and the operation cannot be performed by another engine or other means;
- To immediately remedy safety and health hazards;
- In response to emergencies.

Such reductions are to be targeted primarily toward the reduction of PM and secondarily on the reduction of nitrogen oxides (NOX), and shall in no event result in an increase in the emissions of either pollutant. The devices shall be contained in the U.S. Environmental Protection Agency (EPA) Verified Retrofit Technology List, the list of California Air Resources Board (CARB) Verifications, Europe's Verified Technology List (VERT), or as otherwise approved by the Engineer to provide the maximal level of pollutant reductions intended under this Section. For more information, refer to the following websites:

U.S. Environmental Protection Agency Verified Technology List:

<http://www.epa.gov/otaq/retrofit/retroverifiedlist.htm>

California Air Resources Board Verified Technology List:

<http://www.arb.ca.gov/diesel/verdev/level3/level3.htm>

Europe' Verified Technology List:

<http://www.akpf.org/pub/vertfilterliste.pdf>

Vendors of such technologies include: Cleaire, DCL International, Engelhard, Johnson-Matthey, Fleetguard Emission Solutions, Donaldson, Engine Control Systems, or other approved equal.

c. Diesel Construction Equipment Age Requirements

In order to facilitate the application of verified emission control devices as well as provide lower baseline emissions, all equipment used for the performance of Work under this Contract must use post-1995 fuel injection engines which meet Tier II engine emissions standards, as defined in 40 CFR Section 89.112. Exceptions will be made only for specific engines that are not yet commercially available as Tier II, and where the task cannot be reasonably accomplished using alternative engines or means which do comply with these demands. In such cases, the Contractor shall submit a request for a waiver to the Engineer for review and approval prior to the use of such equipment.

d. Contractor Diesel Emissions Mitigation Plan for Non-Road and On-Road Engines/Equipment

A Diesel Emission Mitigation Plan (the “DEM Plan”) shall be prepared by the Contractor and submitted to the Engineer for review and approval prior to the use of any diesel-powered engines, including all Non-Road equipment and On-Road vehicles (i.e., diesel-powered trucks). The DEM Plan shall identify all diesel-powered equipment and vehicles to be utilized in the performance of Work under this Contract, whether owned by, operated by or on the behalf of the Contractor, including that rented by the Authority as the rental agency of the Contractor. No Work shall proceed under this Contract until a DEM Plan is submitted and approved by the Engineer. Once approved, no changes in or deviations from the DEM Plan will be permitted unless approved by the Engineer. The DEM Plan shall address the control of emissions from all diesel-powered equipment and vehicles including equipment and vehicles not retrofitted with devices. The contents of this plan shall specifically address the following requirements:

1. Work Zone Creation

The Contractor shall establish On-Road vehicle (i.e., diesel-powered trucks) staging zones for the off-loading and loading of materials to and from the construction site. Such zones shall be located to minimize the impact of pollutants from diesel engines and vehicles on sensitive receptors and the general public. In addition, the Contractor shall ensure that all diesel-powered engines and vehicles are located away from the fresh air intakes of sensitive receptors as determined by the Engineer.

2. Diesel Engine Idling Policy

The idling time of Non-Road and On-Road Vehicles shall be limited to three (3) consecutive minutes as determined by the Engineer except as follows:

- When an On-Road Vehicle is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control;
- When it is necessary to operate heating, cooling or auxiliary equipment installed on the vehicle when such equipment is necessary to accomplish its intended use;
- To bring the vehicle to the manufacturer’s recommended operating temperature. In this event, the temperature requirements must be indicated in the DEM Plan as an exception;
- When the outdoor ambient temperature is below twenty (20) degrees Fahrenheit;
- When the vehicle is being actively worked on for repairs or maintenance.

3. Electrification

The Contractor shall develop and implement a plan to distribute temporary electrical power throughout the construction site. The plan shall identify all diesel-powered equipment intended to be used for the performance of construction, and indicate the availability of alternate electrically powered versions. In cases where electrically powered versions are available, only the electrically powered version shall be used. At a minimum, all stationary equipment (e.g., air compressors, grout plants, mixers, pumps, welding machines, etc.) required for the performance of work that can be practically replaced with an electrically powered version shall be powered electrically in lieu of diesel engines.

e. Limited Work Zone

Adjacent to the Route 9A walkway/bikeway in the vicinity of the east-west pedestrian concourse, the modeled concentration of particulate matter (PM 2.5) over a 24-hour period could exceed the National Ambient Air Quality Standards. Therefore, to ensure that such potential exceedances are mitigated, the Contractor shall not operate Non-Road diesel-powered equipment in this "Limited Work Zone" during periods of extreme meteorological conditions without the approval of the Engineer.

f. Submittals

The submittals required under this Section are as follows:

1. Inventory List: Non-Road Diesel Equipment and Engines, and Verified Emission Control Devices

No Work shall commence utilizing diesel-powered Non-Road equipment rated at 50 HP or greater until the Contractor submits a comprehensive and complete inventory list inclusive of all such equipment and vehicles including the specifics of each as detailed in the following subparagraph, and same is approved by the Engineer:

In the event that the Contractor clearly demonstrates to the Engineer that no emission control device is available for a particular engine or vehicle, or the retrofit of such a device may endanger the operator or those working nearby, the Engineer may grant a waiver to permit the use of such an engine or vehicle. Nonetheless, the equipment or vehicle must be included on the inventory list, and the Contractor must continue to demonstrate a reasonable effort to determine the availability of a substitute of equivalent performance.

The inventory list shall be provided in an electronic format (e.g., Microsoft Word, Access or Excel), and shall include the following:

- a. The owner whether the Contractor, subcontractor, or rental firm. The firm name, address, telephone number and contact person familiar with the operation and maintenance of the equipment and the emission control technologies;
- b. The number, type, make, year of manufacture, manufacturer and serial number;
- c. The engine type, make, horsepower rating, year of manufacture, and serial number;

- d. The approximate fuel consumption rate per shift;
- e. The anticipated function, duration of use, and days and hours of operation;
- f. Retrofit type, make, model, manufacturer, installation date, EPA, VERT or CARB verification number or supporting documentation related to emission control devices.

2. On-Going Equipment Updates and ULSD Fuel Deliveries:

The Contractor shall submit a weekly update to the Engineer of the inventory list of all diesel-powered Non-Road equipment. This update shall include the baseline inventory list, and a compilation of all ULSD fuel deliveries during the week, including delivery tickets.

3. Ultra Low Sulfur Diesel Fueling Plan

The Contractor shall submit his fueling plan, identifying the proposed ULSD fuel supplier, independent test results of sulfur content of the proposed supplier's fuel as determined by the Testing Standards referenced in the preceding Section entitled "Ultra Low Sulfur Diesel (ULSD) Fuel", and a description of segregated truck delivery or on-site fuel distribution plans.

2. AIR QUALITY: DUST CONTROL

The Contractor shall control fugitive dust at all times including non-working days, weekends and holidays. The requirements for controlling fugitive dust emissions within the construction site during the performance of Work under this Contract, such as earth moving and demolition activities, shall include the following:

- The spraying of a (non-hazardous, biodegradable) dust suppressing agent;
- The physical containment of fugitive dust particles through the use of tarps or other wind protection devices;
- The adjustment for meteorological conditions, as appropriate;
- Wheel washing of all Non-Road and On-Road vehicles leaving the site including the containment and treatment of wash water;
- The wetting and covering of all trucks loads containing materials delivered to or removed from the site that may generate fugitive dust;
- The routine wetting and cleaning of streets and access roads within the construction site.

a. Submittals:

The Contractor shall comply with all Federal, State and Local regulations applicable to the control and mitigation of fugitive dust dispersion. The Contractor shall submit a Dust Control Plan (“DC Plan”) to the Engineer for review and approval to address the specific measures contained in this Section. A copy of this DC Plan shall also be provided to each subcontractor who shall be obliged to comply in the provisions of his subcontract with the Contractor. The DC Plan shall include contact information for responsible individual(s) from the Contractor with 24 hour, 7 days per week availability, and who have been vested with the authority to implement all controls and mitigation measures identified in the DC Plan. The DC Plan must detail all dust control procedures for all such controls and measures as approved by the Engineer, and be job specific to address all anticipated Work activities that may generate fugitive dust dispersions (e.g., demolition, saw-cutting, pavement milling, haul roads, etc.).

3. NOISE ABATEMENT

The Contractor shall control and mitigate noise during all hours of construction. All construction activities shall be controlled to comply with the following noise levels.

Table 1: Noise Limitation Thresholds For Sensitive Receptor Sites – Resultant noise at sensitive receptor sites shall not exceed to the following levels:

TIME	8-hour Leq (dBA) Limit	
Weekdays, 7AM to 6 PM	80	
All Other Times	70	

The Contractor shall use equipment that ensures that the noise generated during all construction activities does not exceed the threshold levels indicated in Table 1. In addition, the following specific noise mitigation measures indicated in Table 2 shall be implemented during the use of impact wrenches, pavement breakers and pneumatic grout drills, to ensure that the noise threshold limits of Table 1 are not exceeded:

Table 2: Noise Criteria For Specific Equipment

Equipment	Noise Mitigation Measure	
Impact wrenches	Use impact wrenches with a noise emission level of 82 dBA at 50 feet	
Pavement breakers	Install mufflers on pavement breaker cylinders	
Pneumatic grout drills	Place drills inside acoustic enclosures	

Other than the specific equipment and mitigation measures listed in Table 2, and in the event that the Engineer determines that the Contractor has exceeded the noise thresholds specified in Table 1, the Engineer may direct the Contractor to implement, at his own cost, abatement measures deemed appropriate by the Engineer and/or as specified and approved in the Contractor’s Noise Control And Abatement Plan (the “NCA” Plan):

Where practicable, the Contractor shall schedule all construction activities to avoid and minimize any adverse acoustic noise that could impact sensitive receptors as determined by the Engineer. Acoustical sensitive receptors presently include 90 West Street, the Millennium Hotel on Church Street, Embassy Suites on Vesey Street, Multi Family Residential Structure on the corner of Park Place and West Broadway, 114 Liberty Street and the World Financial Center. Sensitive receptors may be added as deemed appropriate by the Engineer.

a. Contractor Noise Control And Abatement Plan

The Contractor shall comply with all appropriate Federal, State and Local regulations applicable to noise control and mitigation. The Contractor shall develop and submit to the

Engineer for review and approval an NCA Plan that describes his intended mitigation procedures and methods to control and mitigate noise generated during the performance of Work under this Contract. The NCA Plan shall specifically address the following:

1. Means and methods for the implementation of all control and mitigation measures including all calculations and supporting documentation;
2. Design drawings of noise abatement enclosures and barriers, signed and sealed by a Licensed Professional Engineer in the State of New York;
3. Description of physical noise mitigation materials, including the name of manufacturer and its specifications. All such materials shall be fire resistant;
4. Catalog cuts and technical data sheets of construction equipment to be employed during Work of this Contract;
5. Baseline background noise measurements taken prior to the start of construction;
6. Construction noise assessment. The method for predicting the construction noise impact shall be the FHWA prediction method, or similar.

b. Construction Noise Monitoring

To ensure compliance with this Section, the Contractor shall identify and submit to the Engineer for review and approval the qualifications of an acoustical firm to provide assistance in the development and implementation of the NCA Plan. The acoustical firm shall also provide noise monitoring services on the Site. The qualifications of the firm shall be as follows:

1. The firm shall have within the preceding five years provided noise measurement, monitoring and analysis consulting services on at least three projects of similar size and complexity that included specific noise control and abatement initiatives, preferably in the City Of New York;
2. The entity designing the noise mitigation measures and performing the noise assessment shall be a member in good standing with the National Council of Acoustical Consultants;
3. The firm shall have a Noise Control Engineer (NCE) on staff or under Contract either certified by the Institute of Noise Control Engineers (INCE), or have earned a baccalaureate or higher degree from an accredited college or university in engineering, physics, acoustics or architecture which devoted courses to the principles of acoustics. The NCE shall be fully familiar with the means, methods, materials, equipment and designs associated to noise control and abatement;
4. Each employee of the firm who will actually perform measurements or monitoring in the field shall be a Noise Control Officer (NCO). The NCO shall have been trained in the review and mitigation of community noise issues, and the standard methods for noise measurement and monitoring, including the use of all associated equipment and data collection. Training shall have been from a certified NCE certified by the Institute of Noise Control Engineers (INCE) or by other NCO(s) with a minimum of three (3) years experience. The NCO shall possess a working knowledge of all applicable standards.

Upon the approval by the Engineer of an acoustical firm, the Contractor shall immediately procure the services of the firm to perform baseline background noise measurements at the site and near the sensitive receptors identified above. The background noise monitoring shall

be performed to determine the “noise signature” or “noise level trend” for the site and the immediate vicinity.

A complete construction noise assessment for the project shall be conducted. The method for predicting the construction noise impact shall be the FHWA prediction method, or similar approved by the Engineer. The NCA shall be submitted to the Engineer for review a minimum of one month prior to the commencement of work unless otherwise directed by the Engineer.

The Contractor shall measure the noise levels and submit a written report to verify compliance with the allowable noise thresholds on a weekly basis, or as otherwise deemed necessary by the Engineer, throughout the duration of construction activities to ensure compliance. Readings shall be taken on a continuous basis during any construction activity, including but not limited to, the delivery of materials and movement of construction equipment. The Authority may monitor noise levels at known sensitive receptors or other locations as deemed appropriate by the Engineer to verify compliance. When noise level measurements exceed the allowable thresholds, the Contractor shall cease all construction activities, and immediately implement the mitigation procedures indicated in the approved NCA Plan. If applicable procedures are not included in the NCA Plan, revised procedures are to be developed and implemented. Such revised work procedures are to be incorporated in the NCA Plan as a revision, and submitted to the Engineer for review and approval. In the event of a conflict between the Contractor’s noise level measurements and those taken by the Authority, the of Authority’s noise level measurements shall prevail.

c. Submittals:

1. A NCA Plan shall be submitted for the review and approval by the Engineer prior to the commencement of any construction work. The submittal shall include all revisions, and a copy of the approved NCA Plan revisions shall be provided to each subcontractor prior to the commencement of his work. The subcontractor shall be specifically obliged to comply with the requirements of the approved NCA Plan in the provisions of his subcontract.
2. The name and qualifications of the acoustical firm, the name and qualifications of the firms NCE’s and NCO’s.
3. A weekly report summarizing the noise measurement readings taken at the site. All events that exceed the limits indicated in Tables 1 or 2 shall be clearly indicated and the corrective action taken to address the cause.

4. VIBRATION ABATEMENT

The Contractor shall control and mitigate vibration during all hours of construction. The Contractor shall develop and implement specific construction vibration mitigation measures to protect historic properties from increased vibration levels associated with construction activities at the site (see Section 5 Historic Resource Protection). In conjunction with the protection of historic properties, overall construction vibration abatement and monitoring shall be addressed as follows:

a. Contractor Vibration Control And Abatement Plan

The Contractor shall comply with all appropriate Federal, State and Local regulations applicable to vibration control and mitigation. The Contractor shall develop and submit to the Engineer for review and approval a Vibration Control And Abatement Plan (the "VCA Plan") that describes his intended mitigation procedures and methods to control and mitigate vibration during the performance of Work under this Contract. The VCA Plan shall specifically address the following:

1. Means and methods for the implementation of all control and mitigation measures including all calculations and supporting documentation;
2. Baseline background vibration measurements taken prior to the start of construction;
3. Construction vibration assessment. The method for predicting the construction vibration levels to be approved by the Engineer.

b. Construction Vibration Monitoring:

To ensure compliance with this Section, the Contractor shall identify and submit to the Engineer for approval the qualifications of a firm to provide assistance in the development and implementation of a VCA Plan, and to provide vibration monitoring on the Site. The qualifications of the firm shall be as follows:

1. The firm shall have within the preceding five years provided vibration measurement and analysis consulting services on at least three projects of similar size and complexity that included specific noise control and abatement initiatives, preferably in the City Of New York.
2. Each employee of the firm who will actually perform measurements or monitoring in the field shall possess appropriate training, and have demonstrated experience in the measurement and implementation of mitigation techniques for similar types of construction projects.

Upon the approval by the Engineer of a vibration control firm, the Contractor shall immediately procure the services of the firm to perform baseline vibration measurements at the site and near the Historic properties identified above, and submit a report to the Engineer including a review and assessment of the existing vibration levels relative to the allowable threshold.

On a weekly basis, or at other intervals deemed appropriate by the Engineer, the Contractor shall submit a written report to verify compliance with the allowable vibration threshold based on vibration measurements taken continuously at site and near the Historic properties

for the duration of construction activities. The Authority may also monitor vibration levels at locations deemed appropriate by the Engineer to verify compliance. When vibration level measurements exceed the allowable threshold, the Contractor shall immediately cease all construction activities, notify the Engineer and implement the mitigation procedures described in the approved VCA Plan. If applicable procedures are not included in the VCA Plan, revised procedures are to be developed and implemented only with the approval of the Engineer. Such revised work procedures are to be incorporated in the VCA Plan as a revision, and resubmitted to the Engineer for review and approval. In the event of a conflict between the Contractor's vibration level measurements and those taken by the Authority, the Authority's measurements shall prevail.

c. Submittals:

A VCA Plan shall be submitted for the review and approval by the Engineer prior to the commencement of any construction work. The submittal shall include all revisions, and a copy of the approved VCA Plan and all revisions shall be provided to each subcontractor prior to the commencement of the subcontractor's work. The subcontractor shall be specifically obliged by the Contractor to comply with the requirements of the approved VCA Plan in the provisions of its subcontract.

5. CULTURAL AND HISTORIC RESOURCE PROTECTION

Consistent with the Stipulations of the executed Memorandum of Agreement (MOA) pursuant to Section 106 of the National Historic Preservation Act, a Resource Protection Plan (RPP) was developed by the Port Authority of New York and New Jersey's (PANYNJ) Priority Capital Programs Department (PCP) in consultation with its Project Historical Architect (PHA). The purpose of which is to protect historically significant elements of the WTC Site that are to remain in situ during construction from inadvertent damage. The elements designated to be protected are presently as follows:

- East and west and Liberty Street slurry walls

The Contractor shall be responsible for compliance with all the requirements specified in the RPP for protection of the above historic WTC Site elements to remain undamaged and in situ during construction. The Contractor shall also require that each subcontractor be in compliance with the requirements of the RPP, and include appropriate provisions in each subcontract. The Contractor shall cooperate fully in implementing any Contract specific procedures and guidelines regarding the protection the above historic WTC Site elements, and shall identify his respective staff responsible for the implementation and maintenance of all such protection.

The Engineer shall notify the Contractor when a non-compliance with WTC Site historic element protection requirements is discovered. Conversely, if the Contractor discovers any non-compliance with site element protection requirements, the Engineer is to be notified immediately. In all cases, the Contractor shall implement appropriate corrective actions immediately to restore the required protection.

a. Inspection of Existing Conditions of Historic Elements

The Contractor shall inspect and record the existing conditions of the above historic elements on the WTC Site, including but not limited to: 1) the historic tower perimeter column base remnants outlining the North and South Tower footprints and the footprint areas within the

outlines, 2) the E subway entrance, 3) the east and west slurry walls and 4) the steel beams in cross form.

b. Protection Considerations in All Contractor Submittals

The Contractor shall consider the protection of the historic WTC site elements in all submittals, especially those regarding means and methods, made to the Engineer for review and approval. The Contractor shall design, furnish and install all protective measures specified in the Contract Documents, and is responsible for the preservation of all existing protection measures in place that may be damaged or affected by his construction activities. The Contractor shall not locate any equipment, deliver any materials or commence any work whatsoever that may impact historic elements on the WTC Site unless approved by the Engineer.

Each Contractor Submittal shall include the following information:

1. A general location map of the WTC Site showing where the work shall be performed, including a notation on the map of location of the historic element(s) relative to the work;

A listing of materials or construction equipment to be used in the performance of work that shall or may come in contact with any of the WTC Site's historic elements, and the proposed methods to be employed to prevent any damage to said historic elements.

c. Protection Requirements

If during the review of a Contractor submittal, the Engineer determines that the potential exists for damage, the Engineer may direct the Contractor to preserve or implement or restore the following protective measures in accordance with the Authority's Resource Protection Plan (RPP). In the event that the Contractor identifies a more effective and/or efficient methods of protection as construction proceeds, the Contractor shall propose said measures for further consideration by the Engineer. Under no conditions, however, shall the Contractor proceed with such an alternate method without the approval of the Engineer.

1. Requirements for the Protection East and West and Liberty Street Slurry Walls

If Work is required by Contract on or adjacent to the existing east and west slurry walls of the West Bath tub, and the Engineer determines that a potential exists for the existing slurry walls to be damaged, the Contractor shall furnish and install appropriate protective measures approved by the Engineer that provide a clear, unobstructed, recognizable and respectful view of the walls

2. Protection of Historic Resources from Construction Vibration

The Contractor shall develop and implement specific mitigation measures (as discussed in Section 4 Vibration Abatement) to protect the following Historic properties from increased vibration levels associated with construction activities at the site. Such measures shall reduce vibration to a level below the threshold criterion of 0.12 in/sec (approximately 95 VdB):

- a. 90 West Street
- b. Beard Building, 125 Cedar Street
- c. 114-118 Liberty Street
- d. St Paul's Chapel and Graveyard
- e. Former East Street Savings Bank, 26 Cortlandt Street

d. Monitoring Program

1. Periodic Monitoring:

Prior to construction, the Contractor shall meet with the Engineer to establish a program to periodically inspect and examine all protection measures in place to verify compliance with the applicable provisions of the RPP. The Contractor shall develop and submit a written monitoring program for the review and approval of the Engineer. The program shall include an Emergency Remediation Plan (the “ERP”) identifying the emergency contacts and outlining the procedures to be followed should an unforeseen condition or unanticipated damage arise that compromises or places at risk any historic elements on the WTC Site. Once approved the Engineer, the Contractor shall set aside the materials, products and equipment in a safe and accessible location on the WTC site to ensure an immediate response to any such occurrence.

2. Routine Monitoring

During the progress of construction, the Engineer will routinely review (inspect) all protection measures in place to verify compliance with the applicable provisions of the RPP. Upon the completion of the Engineer’s review, a meeting will be conducted with the Contractor to discuss and document the following:

- a. The progress achieved since the previous inspection;
- b. An assessment of the performance of the protection measures in place, and a determination of the adjustments or modifications required to correct non-compliances with the requirements of the RPP;
- c. A review of the upcoming scheduled work activities, a determination of the required protection measures, and a verification that the existing protective measures are adequate for such activities. If necessary, there will be a determination of supplemental measures to be implemented for compliance with the requirements of the RPP.

3. Emergency Remediation

Should any condition arise or damage occur during construction that compromises the integrity of the in-place protection measures, or adversely affects any historic elements on the WTC Site, the Contractor shall stop all work in the affected area immediately, notify the Engineer and implement the relevant measures outlined in the approved ERP. At a minimum, the notification to the Engineer shall include a description of the following:

- a. The situation that arose;
- b. Its cause, if known;
- c. Response measures implemented;
- d. Recommendations for further intervention, if any.

At the time of notification, the Engineer, will determine whether or not the Contractor may resume work in the affected area. If not, the Contractor shall repair and/or furnish and install all supplemental remediation and mitigation measures deemed appropriate by the Engineer. All repair work shall be done in such a manner as to minimize the adverse impact to the affected historic elements. The Contractor shall not remove any damaged, marred or otherwise unsalvageable historic elements from the WTC Site unless otherwise approved by the Engineer.

6. ARCHAEOLOGICAL RESOURCES

Consistent with the Stipulations of the executed Memorandum of Agreement (MOA) pursuant to Section 106 of the National Historic Preservation Act, the area within the WTC site bounded by West Street, Liberty Street, Washington Street and Cedar Street as well as the roadbeds of Liberty, Washington and Cedar Streets, have been determined to be sensitive historic archaeological resources.

Unless specifically required by Contract, under no conditions shall the Contractor perform any construction activities that may cause a subsurface disturbance at or in the vicinity of the above areas without the approval of the Engineer.

7. DISCOVERIES OF ARCHAEOLOGICAL RESOURCES AND EFFECTS ON HISTORICAL RESOURCES

In the event that archaeological deposits or features are encountered during the performance of construction activities, the Contractor shall stop all work immediately, flag or fence off the archaeological discovery location, provide site security and immediately notify the Engineer. The Contractor shall not recommence Work until so directed by the Engineer.

8. CONSTRUCTION PROTECTION PLAN

The Contractor shall develop and submit to the Engineer for review and approval a comprehensive Construction Protection Plan (CPP) to address the implementation, enforcement and monitoring of the Environmental Performance Commitments (EPCs) as outlined in the previous Sections 1 through 7 of this Specification for Air Quality: Diesel Emission Mitigation and Dust Control, Noise and Vibration Abatement, Historic Resource Protection, Archaeological Resources and Discoveries. The CPP shall be submitted to the Engineer for review and approval within thirty (30) calendar days of acceptance by the Authority of the Contractor's proposal. No Work shall commence until the CPP is approved by the Engineer. The CPP will be organized to address each EPC Section, and shall include the following plans:

- a. Diesel Emission Mitigation (DEM) Plan** (as per Section 1);
- b. Dust Control (DC) Plan** (as per Section 2);
- c. Noise Control and Abatement (NCA) Plan** (as per Section 3);
- d. Vibration Control And Abatement (VCA) Plan** (as per Section 4);
- e. Emergency Remediation (ERP) Plan** (as per Section 5);
- f. Maintenance and Protection of Traffic (MPT) Plan** - A plan for the management of traffic and truck/vehicle delivery routes to and from the site for each major construction phase. Included in the MPT plan are to be specific measures to minimize impacts to the intersection of Route 9A and Liberty Street for the maintenance of an acceptable Level of Service (LOS "B"). The plan shall also include the mapping of all existing businesses in the

area to determine conflicts between construction activities and access for customers and deliveries, and specific measures to minimize such impacts including but not limited to the furnishing and installation of temporary signage to enhance way finding.

- g. Health & Safety Plan (the “HASP”)** - A plan shall be developed and implemented in accordance with the requirements of the current document entitled “The World Trade Center – Site Safety Program – Health And Safety Requirements”;
- i. Soil Management Plan** – A plan to address the means and methods to be used in the handling, staging, disposal, transportation and decontamination of equipment and personnel in accordance with all jurisdictional codes and rules and regulations.
- j. Common Fuel Storage Coordination Plan** - This plan shall require the Contractor to coordinate its ULSD fuel storage system on site with other agencies on the WTC Site. This may require the development of agreements to operate and maintain a common fueling station on site with agency roles and responsibilities defined. The plan shall consider the minimum number of fueling sites to keep construction activities moving and will be temporarily designed in accordance with State and City permit requirements for on site open fuel storage. The Contractor shall submit a location plan; installation plan and operations plan for the ULSD refueling station on site.

9. AVAILABLE DOCUMENTS

The following documents are available for reference in regard to the above stated requirements:

- Permanent WTC PATH Terminal – Final Environmental Impact Statement, dated May 2005;
- WTC Vehicular Security Center and Tour Bus Parking Facility Environmental Assessment and Section 4(f) Evaluation, dated November 2006;
- Memorandum Of Agreement Among The Federal Transit Administration, The New York State Historic Preservation Office, Advisory Council On Historic Preservation And The Port Authority Of New York And New Jersey Regarding The World Trade Center Vehicular Security Center and Tour Bus Parking Facility In New York City, executed April 20, 2006;
- Finding of No Significant Impact, WTC Vehicular Security Center and Tour Bus Parking Facility, dated January 26, 2007;
- Downtown Restoration Program – The World Trade Center And Transportation Hub- Site Safety Program – Health And Safety Requirements dated October 2005.

10. NONCOMPLIANCE

The Contractor will be issued a written Notice of Non-Compliance by the Engineer in the event that, emissions reductions, dust suppression, noise abatement, vibration abatement or cultural and historic resources protection measures fail to comply with the requirements of this Section. All notices of non-compliance shall be remedied within twenty-four (24) hours of the Contractor’s receipt of notice from the Engineer. The failure of the Contractor to perform corrective action within this period shall constitute grounds for the Engineer to invoke the provisions of the Form of Contract entitled “Withholding of Payments.”

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