



U. S. Department  
of Transportation

**Federal Aviation  
Administration**

New York Airports District Office  
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Garden City, New York 11530  
Telephone: 516-227-3800  
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January 28, 2014

Mr. Ed Knoesel  
Aviation Department  
The Port Authority of New York and New Jersey  
233 Park Ave South, 9<sup>th</sup> Floor  
New York, New York 10003

Re: Newark Liberty International Airport (EWR)  
Aviation Fueling System Modifications, Phase I  
Environmental Determination

Dear Mr. Knoesel:

The Federal Aviation Administration (FAA) has recently approved the Environmental Assessment and Finding of No Significant Impact (EA/FONSI) for the Aviation Fueling system Modifications, Phase I at Newark Liberty International Airport, New Jersey. A copy of the FONSI signed by the Approving Official and the EA signature page signed by the Responsible FAA Official are attached.

This Federal environmental approval is a determination by the Approving Official that the requirements imposed by applicable environmental statutes and regulations have been satisfied by a FONSI. However, it is not an approval of any other Federal action relative to the project proposal.

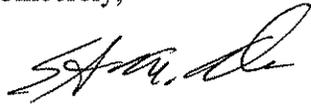
In compliance with Council on Environmental Quality (CEQ) regulations 1501.4(e)(1) and 1506.6, we require that your office make the final EA with Signature Page and FONSI available to the affected public, and announce such availability through appropriate media in the area. The announcement shall indicate the availability of the document for examination and note the appropriate location of general public access where the document may be found (i.e., your office, local libraries, public buildings, etc.). We request that a copy of such announcement be sent to us when it is issued.

Finally, your attention is directed to the mitigating measures that were made a condition of approval of the FONSI. Please be reminded that these measures must be taken by the airport sponsor in order to meet the terms of the EA/FONSI.

The process of making these environmental determinations is that of a partnership between yourself, as airport sponsor, and the other contributing parties, both public and private. We thank you for your effort and cooperation.

Please contact our office if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Urlass". The signature is fluid and cursive, written over a light blue horizontal line.

Steven M. Urlass, Manager  
New York Airports District Office

Enclosures (2)

cc: A. Yousef, PANYNJ

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

**Location**

Newark Liberty International Airport (EWR)  
Newark, New Jersey

**Proposed Federal Action**

The proposed federal action is the Airport Layout Plan (ALP) approval and potential federal financial assistance for the modifications and upgrades to the existing aviation fueling system at Newark Liberty International Airport (EWR).

**Project Description**

The proposed project entails modifications and upgrades to the existing aviation fueling system at EWR to enable it to operate in a more efficient manner. The main components of the proposed project are as follows:

- The below grade installation of approximately 29,400 linear feet (LF) of new double-wall dual fuel distribution main in the South Cargo Area of the airport. This would involve approximately 12,450 LF of new 18-inch main fuel line from the South Fuel Farm to a new Fuel Selection Area (FSA) and approximately 16,950 LF of 14-inch distribution line to reconnect the new FSA back into the multi-line Central Terminal Area fuel ring. The existing 36,000 LF of 18-inch single-wall distribution pipe would be decommissioned, capped, and abandoned in-place after being flushed with nitrogen.
- The new FSA would be constructed between Terminal B and Terminal A and located on a 30 x 70 foot concrete containment pad, covered with a canopy and surrounded by security fencing and would contain an aboveground transfer and distribution piping manifold. The existing FSA would be decommissioned.
- The construction/installation of two 2-million gallon Jet A above ground storage tanks at the existing fuel farm. These two tanks would connect to the existing pipeline and upgaged fuel pump manifold for direct distribution to the terminals.
- Airside construction of a new two-position airside truck loading ramp north of the Peripheral Ditch. The new loading rack would have 'gasoline station-style' dispenser pumps used to load 10,000-gallon tanker trucks which drive airside to fuel aircraft in locations not directly served by hydrant pits. The new loading rack would be co-located with a new Contact Water Treatment Facility (CWTF). The CWTF is being relocated to consolidate operations and includes three truck parking positions, three holding tanks, one reclaim tank and an oil/water separator. The loading rack would have a separate drainage system to direct any spills to the CWTF for treatment prior to discharge. Secondary containment would be provided through catch basins and a 30,000 gallon underground storage tank and connected oil/water separator. The CWTF would consist of three 10,000-gallon double walled holding tanks with skimmers. Separated fuel

would be pumped to an aboveground 1,500-gallon reclaim tank for offsite sale or disposal. Water and fuel effluent would be discharged to a 4,000-gallon oil water separator; separated water would be subsequently discharged to stormwater drains. The existing CWTF will be decommissioned by cleaning the oil/water separator tanks and filling them with sand.

The project would also include the following ancillary components:

- Construction of a temporary Guard Post Foxtrot behind Building 345 to facilitate construction Demolition of the existing Guard Post Foxtrot and the construction of a new updated facility on Wiley Post Road.
- Installation of a 20-inch sanitary sewer line and 16-inch water main along with the dual fuel mains within the same right of way.

### **Background**

This project is considered to be Phase I of a three-phase multi-year Aviation Fueling System Renewal Program. Phase I, as detailed above and in the EA, is the installation of a new, two-pipe, double wall fuel distribution main in the South Cargo Area of the airport. Phases II and III would be continuations of the distribution main across the footprint of Terminal B and then across the footprint of Terminal C, however, these projects are in their very early stages and are planned for implementation in approximately 10 and 15 years, respectively. Because of this length of time, Phases II and III have not yet been assessed; appropriate environmental documentation will be prepared for these projects when they are ripe for decision.

### **Purpose and Need**

The purpose and need of the project is to modify and upgrade the existing aviation fueling system to meet current State regulatory standards and to operate in a more efficient and more environmentally conscious manner.

### **Alternatives**

In addition to the no action alternative, alternate pipe routings were considered. The proposed project was selected to minimize or avoid impacts to operations, and to existing underground utilities and meet the project purpose and need.

### **Discussion**

The attached October 2013 Short Environmental Assessment Form (EA) addresses the effects of the proposed action on the quality of the human and natural environment, and is made a part of this Finding. The following impact analysis highlights the more thorough analysis presented in the document.

### **Air Quality**

Newark Airport is located in the New Jersey-New York-Connecticut Intrastate Air Quality Control Region (AQCR). The New Jersey-New York-Connecticut AQCR does not meet the federal standard for the 8-hour concentration of ozone. The area also operates under a maintenance plan for carbon monoxide (CO).

A General Conformity Rule (GCR) analysis was conducted with a construction emissions inventory. The results of these analyses predict that the construction emissions levels from the project will be below the established threshold levels. Thus, emissions levels associated with the project will be *de minimis* and a formal conformity determination is not required. Consequently, this project will not have a significant impact on air quality.

### **Hazardous Materials**

During construction, soils would be excavated for the installation of new pipeline and foundation work for new structures. If any stained soils are encountered and field assessments reveal that the soils are suspected of being contaminated, samples would be obtained and analyzed. Soils with elevated level of pollutants would be disposed of off-site in accordance with federal and state regulations. If any soil or other material removed during construction is determined to be hazardous, the material would be disposed of at an approved hazardous waste disposal facility.

### **Construction Impacts**

Limited short-term effects resulting from construction may occur. Specific effects could include noise from construction equipment on the site, fugitive dust, and soil erosion and sedimentation. These impacts will be limited by requiring the contractor to comply with all contract provisions for environmental protection. These short-term construction impacts will not persist beyond the construction period, and no significant long-term construction impacts are expected as a result of this project.

### **Other Impact Categories**

The impacts of the proposed Federal action on air quality, noise, land use compatibility, social, induced socioeconomic impacts, water quality, DOT Section 4(f), biotic communities, endangered species, coastal zones, floodplains, coastal barriers, prime and unique farmland, energy supply and natural resources, light emissions, solid waste impacts, construction impacts, environmental justice, and cumulative impacts were evaluated in the EA. It is the FAA's finding that the proposed action will not have any significant effect on any of the above noted categories.

### **Public Involvement**

A Notice of Public Availability was published in the *Newark Star-Ledger* on April 25, 2013. The EA was available to any person who requested to review a copy from April 25, 2013 through May 9, 2013. No public comments were received.

### **Mitigation Measures**

1. Construction contract provisions shall contain the provisions of AC 150/5370-10A, "Standards for specifying construction of Airports" item P-156, temporary air, water pollution, soil erosion and siltation control and AC 150/5320-5B, "Airport Drainage."
2. All necessary permits for construction of the proposed action and associated mitigation shall be obtained prior to construction.

**CONCLUSION AND APPROVAL:**

After careful and thorough consideration of the facts contained herein, the undersigned finds the federal action is consistent with existing national environmental policies and objectives as set forth in Section 101 (a) of the National Environmental Policy Act of 1969 (NEPA) and it will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 102(2)(c) of NEPA.

Recommended:  1/28/14  
Environmental Specialist Date  
New York Airports District Office

Approved:  1/28/14  
Manager Date  
New York Airports District Office

Disapproved: \_\_\_\_\_  
Manager Date  
New York Airports District Office



**FEDERAL AVIATION ADMINISTRATION**

**EASTERN REGION**  
AIRPORTS DIVISION

**Short Environmental  
Assessment Form  
for  
AIRPORT DEVELOPMENT  
PROJECTS**



Airport Name: Newark Liberty International Airport Identifier: EWR

Proposed Project: Aviation Fueling System Modifications, Phase I

This Environmental Assessment becomes a Federal document when evaluated, signed, and dated by the Responsible FAA official.

*Marie Dent*  
Responsible FAA Official

1/28/14  
Date

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*This form is to be used only for limited types of projects. It is strongly recommended that you contact your local Environmental Protection Specialist (EPS) before completing this form. See instructions page.*

### **APPLICABILITY**

This Form can be used if the proposed project meets the following criteria:

- 1) It is not categorically excluded (see paragraphs 303 and 307-312 in FAA Order 1050.1E) or
- 2) It is normally categorically excluded but, in this instance, involves at least one extraordinary circumstance that may significantly impact the human environment (see paragraph 304 and the applicable section in Appendix of 1050.1E) or
- 3) The action is one that normally requires an EA at a minimum (see paragraph 506 in FAA Order 5050.4B) and
- 4) The proposed project must fall under one of the following categories of Federal Airports Program actions:
  - (a) Approval of a project on an Airport Layout Plan (ALP).
  - (b) Approval of federal funding for airport development.
  - (c) Requests for conveyance of government land.
  - (d) Approval of release of airport land.
  - (e) Approval of the use of Passenger Facility Charges (PFC).
  - (f) Approval of development or construction on a federally obligated airport.

**If you have questions as to whether the use of this form is appropriate for your project, contact your local EPS BEFORE using this form.**

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**Complete the following information:**

**Project Location**

**Airport Name:** Newark Liberty International Airport **Identifier:** EWR  
**Airport Address:** 1 Conrad Road  
**City:** Newark **County:** Essex & Union **State:** NJ **Zip:** 07114

**Airport Sponsor Information**

**Point of Contact:** Edward C. Knoesel, Mgr., Environmental Programs, Aviation Technical Services  
**Address:** Port Authority of New York & New Jersey, 233 Park Avenue South, 9<sup>th</sup> Floor  
**City:** New York **State:** NY **Zip:** 10003  
**Telephone:** (212) 435 3747 **Fax:** (212) 435 3825  
**Email:** eknoesel@panynj.gov

**Evaluation Form Preparer Information**

**Point of Contact:** Adeel Yousuf, Airport Environmental Specialist, Aviation Technical Services  
**Address:** Port Authority of New York & New Jersey, 233 Park Avenue South, 9<sup>th</sup> Floor  
**City:** New York **State:** NY **Zip:** 10003  
**Telephone:** (212) 435 3784 **Fax:** (212) 435 3825  
**Email:** ayousuf@panynj.gov

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**1. Introduction/Background:**

This project consists of modifications and upgrades to the existing aviation fueling system at Newark Liberty International Airport (EWR) to maintain a state of good repair, bring the system in line with current industry standards, comply with current New Jersey environmental regulations, increase operational efficiencies, and enhance system operations.

The project is considered to be Phase I of a three-phase multi-year Aviation Fueling System Renewal Program. Phase I, the subject of this document, consists of the installation of a new, two-pipe, double-wall fuel distribution main in the airport's South Cargo Area (See Section 2, below, for a detailed Project Description). Phases II and III would be continuations of the distribution main across the footprint of Terminal B and then across the footprint of Terminal C. Phases II and III are planned for implementation in accordance with an approximate timetable of 10 years and 15 years respectively.

The existing fuel system was constructed in 1970 and is original to the construction of the central terminal area (CTA). The fuel system is in need of state of good repair work and upgrades to bring the system up to current industry and environmental standards. The fuel system design was premised upon the industry practice at that time of airlines sourcing individual specifications and brands of aviation fuel for their respective aircraft fleets. As a result, the current system is comprised of a single-walled pipe distribution network of 11 18-inch

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transfer lines connecting the 27-tank fuel farm to the primary fuel selection area (FSA). The FSA is connected to a network of 19 12-inch single-walled distribution pipes with 2 lines connected to each of the 9 terminal satellites plus 1 to the Federal Express Metroplex. This operation allowed the airlines to use fuel individually purchased and stored in the tank farm. Physically this operation requires a total of 27 fuel pumps (1 per tank) sorted into 11 pump systems operated via 4 pump stations.

The present industry standard calls for centralized purchasing of standard Jet-A fuel for all airport users. This model allows for the simplification of existing multi-pump fuel supply systems and piping networks. The resulting simplified fuel system has fewer pipes, pumps, valves and controls. This reduces operational complexity, while actually allowing greater flexibility among the existing fuel storage tanks. Further, the overall simplification of the system components, coupled with the modernization of the system, enhances the system's environmental stewardship.

Finally, the existing piping system is comprised of single-wall welded steel pipe. This type of construction is now prohibited by the New Jersey Department of Environmental Protection (NJDEP) for underground piping. The proposed new work would adhere to new standards introduced in 2005 using double-wall construction with continuous monitoring of the interstitial space.

**2. Project Description** (List and clearly describe **ALL** components of project proposal including all connected actions). **Attach a map or drawing of the area with the location(s) of the proposed action(s) identified:**

The modifications and upgrades to the existing aviation fueling system would consist of the following elements:

- Approximately 29,400 linear feet (LF) of new piping would be installed in the airport's South Cargo Area. The new pipeline would consist of approximately 12,450 LF of a new 18-inch main fuel line from the South Fuel Farm to a new FSA and approximately 16,950 LF of 14-inch distribution line to reconnect the new FSA back into the multi-line CTA fuel ring serving the terminal satellites. The existing 36,000 LF of 18-inch single-wall pipe from the fuel farm to the FSA and the 83,500 LF of 12-inch single-wall distribution pipe serving the terminal satellites and the Federal Express Metroplex would be decommissioned and would be capped and abandoned-in-place after being flushed with nitrogen. All new piping would consist of double-wall pipes that would comply with the latest NJDEP regulations. Utilizing the existing crossing of the Peripheral Ditch, the new pipeline would start at a point located northeast of the Ditch; thus there would be no new crossing of the Ditch. The new pipeline would run from a point east of the Peripheral Ditch north to a new FSA to be located between Terminal B and Terminal A. The routing of the pipeline would not preclude the proposed Terminal A Redevelopment Program and would be located outside the footprint of the proposed new Terminal A building. The planning of the proposed route
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has accounted for all potential Terminal A layout schemes, none of which were compromised. The final fuel system route was laid out after the Preferred Alternative for the proposed Terminal A was selected.

- A new FSA would be built between Terminal B and Terminal A. The new FSA would be located on a 30-foot by 70-foot concrete containment pad, covered with a canopy and surrounded by security fencing, and would contain an aboveground transfer and distribution piping manifold. The current FSA, which is to be decommissioned, is a relic of the obsolete practice of maintaining dedicated fuel inventories for individual airlines. The new FSA will act only as a fuel selection manifold since commercial fuel has been standardized to Jet-A fuel. However, emergency fuel cutoff (EFSO) capability would still be required. The decommissioning of the existing FSA will consist of cleaning the Jet-A fuel pipes and filling with nitrogen in the same fashion as the single-wall fuel pipes that are being replaced.
  - A new two-position airside truck loading rack would be constructed at a location north of the Peripheral Ditch. The new loading rack would be comprised of “gasoline station-style” dispenser pumps used to load 10,000-gallon tanker trucks, which, in turn, are driven airside to fuel aircraft berthing locations not directly served by hydrant pits. The loading rack would be capable of transferring 400 to 600 gallons of fuel per minute and will be equipped with state of the art control technology. The new loading rack would be situated airside. This would eliminate truck trips from the tank farm to gates for fueling, resulting in less traffic on landside roadways, and fewer stops at security checkpoints and reduced air emissions. The new loading rack would be co-located with a new Contact Water Treatment Facility (CWTF). The CWTF is being relocated to consolidate operations for the fuel operator by being located adjacent to the proposed loading rack. This consolidation enhances the overall security of the peripheral fuel system operation and is in keeping with the airport’s strategy to maximize the efficient use of airside land assets for aeronautical operations only. The new CWTF would be of a similar design and function as the existing facility and would include three truck parking positions, three holding tanks, one reclaim tank, and an oil water separator. The existing CWTF will be decommissioned. This will consist of cleaning the oil/water separator tanks and filling them with sand in accordance with NJDEP regulations. The new CWTF, as well as the new loading rack, would comply with all NJDEP permitting and operating requirements. The new loading rack would have a separate drainage system in the tanker parking area to direct any spills to the CWTF for treatment prior to discharge. Secondary containment would be provided through catch basins and a 30,000 gallon underground storage tank and connected oil/water separator. The existing CWTF will be decommissioned. This will consist of cleaning the oil/water separator tanks and filling them with sand in accordance with NJDEP regulations. The CWTF would receive water collected by the fuel farm operator from the fuel system hydrant pits and control valve pits on a regular basis after rain. This water would be discharged at the CWTF for gravity separation of residual petroleum product from the water. The CWTF would consist of three 10,000-gallon double
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walled holding tanks with skimmers. Separated fuel would be pumped to an aboveground 1,500-gallon reclaim tank for offsite sale or disposal. Water and fuel effluent would be discharged to a 4,000-gallon oil water separator. Separated water would be subsequently discharged to stormwater drains

- Two new 2-million gallon Jet-A storage tanks would be constructed on the south end of the fuel farm. These two tanks would connect to the existing pipeline and fuel pump manifold for direct fuel distribution to the terminals. The existing pump manifold would also be upgraded to bring it up to current industry standards. Each new storage tank would be equipped with a fuel gauge system for fuel inventory management and would utilize an internal floating roof system. The primary seal would be a mechanical shoe seal and the secondary seal would be a urethane wiper seal. The tank specifications and operations will comply with the latest NJDEP permitting and operating requirements
- Modifications and upgrades would be made to fueling system components including, but not limited to, pipe joints, valves, pumps, and electrical controls. These improvements would streamline the fuel distribution system and reduce the pumping infrastructure, which would reduce electrical usage and maintenance costs. The associated elimination of component parts, which require periodic dismantling, inspection and/or repair, would also reduce the risk of fuel leaks

The following ancillary components would also be included as part of this effort:

- Construction of a temporary Guard Post Foxtrot behind Building 345 to facilitate construction
  - Demolition of the existing Guard Post Foxtrot and the construction of a new, updated facility on Wiley Post Road.
  - Installation of a proposed 20-inch sanitary sewer line along with the dual fuel mains in a right-of-way running parallel to the north fence of the taxi overflow lot. The proposed sewer would run from Earhart Road east approximately 900 feet. Turning north, the fuel and sanitary lines would continue together another 400 feet to the 'west' entry of FedEx (See Figure 3 under Attachment B). At this point, the sanitary line would be terminated at the FedEx property line while the fuel lines would continue through Guard Post Foxtrot out to the restricted service road. The final 300 foot segment of the sanitary line to the existing lift station on the FedEx leasehold will be completed by others. Finally, a new sanitary lift station pit would be constructed near Earhart Road. The station will be completed (pumps, etc.) by others.
  - Installation of a proposed 16-inch water main along with the new dual fuel mains in the right-of-way along the north-south segment of Wiley Post Road through Guard Post Foxtrot airside across to Hardstand Lindy. At this point the water line would be terminated and be completed by others
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These ancillary components are guided by necessary work to accommodate the construction of the fuel infrastructure and the airport's facility-wide infrastructure renewal program. The sanitary and sewer work will be done in concert with the Proposed Action since it occupies the same right of way, thereby being more efficient with excavation and paving, and not causing rework and repetitive operational disruption to airport tenants.

### **3. Project Purpose and Need:**

The purpose of the Proposed Action is to modify and upgrade the existing aviation fueling system so that it meets current New Jersey regulatory standards and operates in a more efficient and more environmentally conscious manner. A modified fuel distribution system with less component parts and new loading racks and storage tanks, would meet the need for increased efficiency by:

- i) providing energy efficient operation of the new airside loading rack,
- ii) providing new, reliable piping, pumps and components.

The need for reduced environmental impacts would be met by:

- iii) decreasing the potential for fuel leakage by replacing approximately 60% of the existing single-wall piping with double-wall piping,
- iv) reducing truck trips, traffic and air emissions by building a new airside truck loading rack for servicing aircraft in the CTA.

Furthermore, as a result of the lessons learned from Superstorm Sandy in October 2012, there is a need to provide a more reliable aviation fueling system at the airport. The devastating storm interrupted outside fuel delivery to the airport and lack of available storage capacity did not allow the airport to stockpile enough fuel for continued operations. The proposed additional storage tanks would provide added fuel storage capacity for any future extreme storm events. In addition, the double-wall piping would also provide enhanced safety of fuel delivery infrastructure during flooding, such as that which took place after Sandy.

### **4. Describe the affected environment (existing conditions) and land use in the vicinity of project:**

The airport is encircled by major highways, commercial and light manufacturing facilities and the Port Newark/Elizabeth Marine Terminal complex. Commercial and light manufacturing dominate the land uses of the area, generally surrounding the airport. Industrial and commercial uses exist to the west of U.S. Routes 1&9, including a number of hotels, parking facilities, car rental facilities, and an Anheuser Busch brewery. A medium density residential area is located between North Avenue East and McClellan Street southwest of the airport.

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The Proposed Action would be located entirely on airport property. Land use in the immediate vicinity of the project consists of several commercial buildings, parking lots, aircraft aprons and aircraft hardstand areas.

**5. Alternatives to the Project: Describe any other reasonable actions that may feasibly substitute for the proposed project, and include a description of the “No Action” alternative. If there are no feasible or reasonable alternatives to the proposed project, explain why (attach alternatives drawings as applicable):**

**Proposed Action:**

The Proposed Action entails modification and upgrades to the existing aviation fueling system at Newark Liberty International Airport to enable it to operate in a more efficient and more environmentally conscious manner. The project elements include replacing approximately 29,400 linear feet of existing single-wall piping with new double-wall piping, constructing a new Fuel Selection Area on a 30-foot by 70-foot concrete containment pad, two 2 million-gallon fuel storage tanks, a new fuel storage gauging system, a new Contact Water Treatment facility, a new 2-position truck loading rack and fuel farm pump manifold modifications. The project elements will meet the purpose and need of the Proposed Action as described above.

**Other Alternatives:**

There are no other viable alternatives to the Proposed Action for initiating the aviation fueling system upgrading effort. In order to achieve the required operational efficiencies and system enhancements, the project components are all nominally inter-related (i.e., the new storage tanks, new fuel loading rack, double-wall piping, and the fuel selection area). Alternative routings for the piping were considered and the Proposed Action was selected to minimize or avoid impacts to operations and existing underground utilities.

**No-Build/No-Action Alternative:**

Under the No-Build/No-Action Alternative, the existing aviation fueling system would remain un-changed and subject to further degradation in the future. The risk of fuel spills and soil contamination associated with delivering fuel through single-wall pipes would persist. The number of truck trips for fuel delivery from the tank farm to airside areas would continue. In addition, emissions reductions associated with building a new loading rack would not be realized. Overall, the risk of service disruptions would worsen due to the aging infrastructure components.

**6. Environmental Consequences – Special Impact Categories (refer to the Instructions page and corresponding sections in Appendix A of 1050.1E and the Airports Desk Reference for**

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**more information and direction. The analysis under each section must comply with the requirements and significance thresholds as described in the Desk Reference).**

**(A) AIR QUALITY** (Please note this analysis must meet requirements for both NEPA review and Clean Air Act (CAA) requirements).

**Clean Air Act**

(a) Is the proposed project located in a nonattainment or maintenance area for the National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act and does it result in direct emissions (including construction emissions)?(If **Yes**, go to (b), **No**, go to the NEPA section below.

Newark Airport is located in the New Jersey-New York-Connecticut Intrastate Air Quality Control Region (AQCR). The New Jersey-New York-Connecticut Intrastate AQCR does not meet the federal standard for the 8-hour concentration of ozone. In the past, this area was also designated as a nonattainment area for carbon monoxide (CO); however, on May 20, 2002, the U.S. Environmental Protection Agency (USEPA) determined the area had attained the CO standard and the region was re-designated to attainment for CO. The area now operates under a maintenance plan for CO.

Although the New York-Northern New Jersey-Long Island metropolitan region has been designated as a nonattainment area for particulate matter with an aerodynamic diameter of up to 2.5 micro meters (PM<sub>2.5</sub>), the recent ambient monitored PM<sub>2.5</sub> levels have shown compliance with the NAAQS. On June 15, 2010, USEPA issued a final rule effective December 15, 2010 with respect to a new designation of the New York-Northern New Jersey-Long Island metropolitan region. In the rule, USEPA determined that the region has attained the PM<sub>2.5</sub> NAAQS. The PM<sub>2.5</sub> baseline concentration levels at the monitoring site that is closest to the airport are well below the corresponding NAAQS.

(b) Is the proposed project an “exempted action,” under the General Conformity Rule or Presumed to Conform (See FRN, vol.72 no. 145, pg 41565)? (If **Yes**, cite exemption and go to NEPA section below; **No**, go to (c)).

No. The Proposed Action is not an “exempted action” under the General Conformity Rule or is presumed to conform under 72 FR 41565.

(c) Would the proposed project result in a net total of direct and indirect emissions that exceed the threshold levels of the regulated air pollutants for which the project area is in non-attainment or maintenance? (Attach emissions inventory). (If **Yes**, consult with ADO).

The annual emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx) (as precursors of ozone), PM<sub>2.5</sub> and its precursor SO<sub>2</sub>, and CO for the construction of the Proposed Action will be well below the federal de minimis thresholds for each pollutant established by the General Conformity Rule. See Attachment C for the Air Quality emissions analysis.

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**NEPA**

(a) Is the airport's activity levels below the FAA thresholds for requiring a NAAQS analysis? (If **Yes**, document activity levels and go to Item 2, **No**, go to (b)).

No. The USEPA has determined that projects having de minimis emissions would not be likely to cause an exceedance of any NAAQS. The evaluation of the construction emissions for this project confirms that the net emissions due to the Proposed Action will be de minimis. Therefore, no further analysis to demonstrate attainment of the NAAQS is required for this proposed project; furthermore, the Proposed Action will not result in any delay in the attainment of any NAAQS, nor would the Proposed Action worsen any existing NAAQS violation.

(b) Do pollutant concentrations exceed NAAQS thresholds? (Attach emissions inventory).

Not Applicable.

(c) Is an air quality analysis needed with regard to state indirect source review?

The construction and operation of a new fuel loading rack, and two new storage tanks will be subject to a NJDEP Minor Facility – Preconstruction Permit (N.J.A.C. 7:27-8). The operating emissions from these two sources would be covered under the NJDEP permit. Permit applications would be filed with NJDEP after FAA's final determination.

**(B) BIOTIC RESOURCES**

Describe the potential of the proposed project to directly or indirectly impact plant communities and/or the displacement of wildlife. (This answer should also reference Section 19, Water Quality, if jurisdictional water bodies are present).

The Proposed Action would commence near the top of the eastern bank of the Peripheral Ditch, west of Earhart Drive approximately 100 feet south of the Basilone Road bridge. This area consists of previously disturbed mowed turf. The remainder of the Project Area, east of Earhart Drive, consists of impervious surfaces. The area of mowed turf does not provide habitat for any federally threatened, endangered, or candidate fish species, therefore there would be no impact. There are no known federally- or state-listed species of flora or fauna known to exist in the vicinity of the Project Area. The Peripheral Ditch, considered by NJDEP to be a "State Open Water", would not be impacted by the Proposed Action.

**(C) COASTAL RESOURCES**

(a) Would the proposed project occur in a coastal zone, or affect the use of a coastal resource, as defined by your state's Coastal Zone Management Plan (CZMP)? Explain.

Because the site of the Proposed Action is located more than 500 feet from the mean high water line and outside any regulated adjacent area, and is located

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outside the CAFRA Zone (New Jersey's designated coastal zone), no impact to the coastal zone would occur under the Proposed Action.

(b) If **Yes**, is the project consistent with the State's CZMP? (If applicable, attach the sponsor's consistency certification and the state's concurrence of that certification).

Not Applicable.

(c) Is the location of the proposed project within the Coastal Barrier Resources System? (If **Yes**, and the project would receive federal funding, coordinate with the FWS and attach record of consultation).

No, the Proposed Action would not be located within the Coastal Barrier Resources System.

**(D) COMPATIBLE LAND USE**

(a) Would the proposed project result in other (besides noise) impacts that have land use ramifications, such as disruption of communities, relocation of residences or businesses, or impact natural resource areas? Explain.

No. The Proposed Action would be located entirely on airport property and would be compatible with surrounding land use. There would be no change in the airport's relationship with the area's existing zoning, surrounding area land use plans, and the land uses on the airport. No businesses, residences or natural resource areas would be affected by this proposed project.

(b) Would the proposed project be located near or create a wildlife hazard as defined in FAA Advisory Circular 150/5200-33, "Wildlife Hazards On and Near Airports"? Explain.

No. With the exception of a small area of disturbed mowed turf, the Proposed Action would be located on impervious areas. The Proposed Action would not be located near wildlife or create a wildlife hazard.

**(E) CONSTRUCTION IMPACTS**

Would construction of the proposed project increase ambient noise levels due to equipment operation; degrade local air quality due to dust, equipment exhausts and burning debris; deteriorate water quality when erosion and pollutant runoff occur; and/or disrupt off-site and local traffic patterns? Explain.

Noise

The area around the airport has an existing high background noise level due to highway traffic and aircraft operations. The noise generated during construction activities would not be discernible from the airport's normal background noise levels. There are no sensitive receptors located immediately adjacent to the proposed project site. Off-site impacts, from construction equipment and materials egress/ingress, are anticipated to be minimal.

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#### Air Quality

Emissions and dust related to construction activity would be temporary and limited to the duration of the project. Dust would be minimized using methods contained in FAA Advisory Circular 150/5370-10F, *Standards for Specifying Construction of Airports*. In general, impacts would be typical of those from a medium-to-large scale construction project in Elizabeth or Newark.

#### Water Quality

Several measures would be implemented during construction that would minimize impact to water quality, such as those discussed under Item (S) Water Quality below. All actions would conform to state and federal water quality regulations. Construction contract specifications would contain the provisions of FAA Advisory Circular 150/5370-10F, *Standards for Specifying Construction of Airports*, Item P-156 *Temporary Air and Water Pollution, Soil Erosion, and Siltation Control*, and 150/5320-5C, *Surface Drainage Design*.

#### Local Traffic Patterns

Because the Proposed Action would be located entirely on airport property, no local off-site traffic patterns would be disrupted.

### **(F) SECTION 4(f) RESOURCES**

Does the proposed project have an impact on any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or an historic site of national, state, or local significance? (If **Yes**, contact FAA, contact appropriate agency and attach record of consultation).

No. The Proposed Action would be located completely within the confines of the airport and would not require the use of any public lands or historic sites.

### **(G) ENDANGERED AND THREATENED SPECIES**

(a) Would the proposed project impact any federally or state-listed or proposed, endangered, or threatened species (ESA) of flora and fauna, or impact critical habitat? (Attach record of consultation with federal and state agencies as appropriate).

There are no known federally-listed species of flora or fauna known to exist in the vicinity of the Project Area. Therefore, there would be no impact to any federally-listed threatened or endangered species, individuals, concentrations or critical habitat from the Proposed Action (See Attachment A).

(b) Would the proposed project affect species protected under the Migratory Bird Act? (If **Yes**, contact FAA).

No. The Proposed Action would likely not affect any species protected under the Migratory Bird Act. The majority of the Project Area is comprised of impervious surfaces, with a small area of disturbed mowed turf that does not provide suitable habitat for any protected species.

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**(H) ENERGY SUPPLIES, NATURAL RESOURCES AND SUSTAINABLE DESIGN**

What effect would the proposed project have on energy or other natural resource consumption? (Attach record of consultations with local public utilities or suppliers if appropriate)

The Proposed Action would have no impact on public utilities, energy supply or natural resources. There would be no change to airport operations, except to increase efficiency and environmental stewardship. There is no shortage of construction material necessary for the Proposed Action in the region.

**(I) ENVIRONMENTAL JUSTICE**

Would the proposed project have a disproportionate impact on minority and/or low-income communities? Consider human health, social, economic, and environmental issues in your evaluation. Explain.

No. There would be no residential or business displacement, no fiscal impact, no adverse impacts to children's health and safety, and no disproportionate impacts to low-income or minority populations.

**(J) FARMLANDS**

Does the project involve acquisition of farmland, or use of farmland, that would be converted to non-agricultural use and is protected by the Federal Farmland Protection Policy Act (FPPA)? (If Yes, attach record of coordination with the Natural Resources Conservation Service (NRCS), including form AD-1006.)

No. The airport is located in a heavily urbanized area on a former marsh. The Proposed Action would not involve farmland acquisition or conversion, or the use of any FPPA properties.

**(K) FLOODPLAINS**

(a) Would the proposed project be located in, or would it encroach upon, any 100-year floodplains, as designated by the Federal Emergency Management Agency (FEMA)?

Yes. Prior to Hurricane Sandy, FEMA was in the process of updating specific Flood Insurance Rate Maps (FIRMs). These updated maps were set to be finalized in mid-2013. After the storm however, and because these updated FIRMs were not finalized, FEMA developed interim Advisory Base Flood Elevations (ABFEs) to support post-Sandy reconstruction efforts. ABFEs provide improved flood hazard data when the information on the FIRM no longer depicts an area's true flood risk. According to ABFEs dated December 7, 2012, January 12, 2013 and January 15, 2013 the Project Area is located in Advisory Flood Hazard Zone A, which is the area subject to storm surge flooding from the 1% annual chance coastal flood (the 100-year flood). In the vicinity of the Project Area, the 1% annual advisory base flood elevation is 12 feet NAVD 88.

(b) If Yes, attach the corresponding FEMA Flood Insurance Rate Map (FIRM) and describe the measures to be taken to comply with Executive Order 11988.

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Executive Order 11988 requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. The Proposed Action would not result in any increase in impervious surface or changes in floodplain storage capacity and would therefore not create significant adverse impacts to the surrounding floodplain.

NJDEP's Flood Hazard Area regulations provide protection for stream buffers through riparian zone protections. The regulations limit the area of vegetation that can be disturbed for various regulated activities. Although construction of the Proposed Action would result in the temporary disturbance of approximately 1,800 square feet of mowed turf located within the 50-foot riparian zone along the Peripheral Ditch, any impact is expected to be minor.

**(L) HAZARDOUS MATERIALS**

Would the proposed project involve the use of land that may contain hazardous materials or cause potential contamination from hazardous materials? (If **Yes**, attach record of consultation with appropriate agencies). Explain.

During construction, soils would be excavated for the installation of new pipeline and foundation work for new structures. If any of the soils are suspected of being contaminated through a field assessment, samples would be obtained and analyzed for the USEPA target compound list/target analyte list of parameters. Soils with elevated levels of pollutants will be disposed of off-site in accordance with federal and state regulations. If any soil or other material removed during construction is determined to be hazardous, the material would be disposed of at an approved hazardous waste disposal facility under the PANYNJ's RCRA hazardous waste ID number.

**(M) HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL OR CULTURAL PROPERTY**

(a) Describe any impact the proposed project might have on any properties in or eligible for inclusion in the National Register of Historic Places. (Include a record of your consultation and response with the State or Tribal Historic Preservation Officer (S/THPO)).

Research conducted at the State Historic Preservation Office (SHPO) revealed that there are no previously identified architectural resources located within the Project Area that either listed on, or eligible to be listed on, either the National or State Registers of Historic Places. See attached concurrence letter from New Jersey Historic Preservation Office for this proposed project (Attachment A).

(b) Describe any impacts to archeological resources as a result of the proposed project. (Include a record of consultation with persons or organizations with relevant expertise, including the S/THPO, if applicable).

The Project Area is situated in a former marsh. In 1928 about 68 acres were filled to a height of almost 20 feet above sea level for the initial airfield. A 1989 cultural

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resources survey conducted subsurface testing in two small areas proximate to the Project Area that were areas of naturally higher ground, unaffected by the prior filling of the marshland. No prehistoric or historic archaeological sites were identified during this effort and no further work was recommended. Recent research conducted at the SHPO and the New Jersey State Museum indicates that there are no eligible archaeological resources located within the Project Area.

**(N) INDUCED SOCIOECONOMIC IMPACTS**

Would the proposed project cause induced, or secondary, socioeconomic impacts to surrounding communities, such as change business and economic activity in a community; impact public service demands; induce shifts in population movement and growth, etc.? Explain.

The Proposed Action would induce positive secondary impacts in the region because of construction activity. These economic impacts would benefit surrounding communities during construction by increasing employment opportunities and expenditures on local services and materials. The Proposed Action would not result in property acquisition, residential relocation, division or disruption of established communities, or disruption of planned development.

**(O) LIGHT EMISSIONS AND VISUAL EFFECTS**

Would the proposed project have the potential for airport-related lighting impacts on nearby residents? Explain.

No. The Proposed Action would not result in any airport-related lighting impacts on nearby residents.

**(P) NOISE**

Will the project, when compared to the No-Build/No-Action alternative for the same timeframe, cause noise sensitive areas located at or above DNL 65 dB to experience a noise increase of at least DNL 1.5 dB? (Use AEM as a screening tool and INM as appropriate. See Airports Desk Reference, Chapter 17, for further guidance).

The evaluation of the Proposed Action does not require a noise analysis per FAA Order 5050.4B.

**(Q) SOCIAL IMPACTS**

Would the proposed project cause an alteration in surface traffic patterns, or cause a noticeable increase in surface traffic congestion or decrease in Level of Service?

During construction, traffic on Earhart Drive and Wiley Post Road would be maintained at all times. There would be no decrease in Level of Service as a result of this proposed project.

**(R) SOLID WASTE**

Would the operation and/or construction of the project generate significant amounts of solid waste? If Yes, are local disposal facilities capable of handling the additional volumes of waste resulting from the project? Explain.

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During construction, solid waste would be generated by excavation. Construction and demolition debris generated by the Proposed Action may be recycled. In New Jersey, recyclable material is defined as a source-separated material which is subject to NJDEP approval prior to receipt, storage, processing or transfer at a recycling center, and which includes source-separated, waste concrete and asphalt. Disposal of these materials would be done in accordance with Union County's Solid Waste Management Plan and in compliance with the regulations of the state's *Solid Waste Management Act*, as well as the Authority's *Sustainable Infrastructure Guidelines*.

**(S) WATER QUALITY**

(a) Does the proposed project have the potential to impact water quality, including ground water, surface water bodies, and public water supply system or federal, state or tribal water quality standards? (If **Yes**, contact appropriate agency and include record of consultation).

The Proposed Action would have no adverse impact to the surface water quality at the airport, construction activity would not require any alteration to the Peripheral Ditch. The Proposed Action would not adversely impact the quantity or quality of stormwater runoff at the airport, nor would it alter the location or type of impervious surfaces. Stormwater runoff volume and velocity would not change because of the Proposed Action. Finally, there would be no impact to groundwater or wastewater as a result of the Proposed Action.

(b) Is the project to be located over a designated Sole Source Aquifer? (If **Yes**, attach record of consultation with EPA).

No, the Proposed Action will not impact any designated Sole Source Aquifers.

**(T) WETLANDS**

(a) Does the proposed project involve federal or state regulated or non-jurisdictional wetlands? (Contact USFWS or state agency if protected resources are affected) (Wetlands must be delineated using methods in the US Army Corps of Engineers 1987 Wetland Delineation Manual. Delineations must be performed by a person certified in wetlands delineation).

No. NJDEP has classified the Peripheral Ditch as "State Open Water" with no buffer area required. There would be no impact to wetlands.

(b) If yes, does the project qualify for an Army Corps of Engineers General permit? (Document coordination with the Corps).

Not Applicable.

**(U) WILD AND SCENIC RIVERS**

Would the proposed project affect a river segment that is listed in the Wild and Scenic River System or National Rivers Inventory? (If **Yes**, coordinate with the jurisdictional agency and attach record of consultation).

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No. The Proposed Action would not affect any designated Wild and Scenic Rivers.

#### **(V) CUMULATIVE IMPACTS**

Discuss impacts from past, present, and reasonably foreseeable future projects both on and off the airport. Would the proposed project produce a cumulative effect on any of the environmental impact categories above? Consider projects that are connected and may have common timing and/or location. For purposes of this Form, generally use 3 years for past projects and 5 years for future foreseeable projects.

The construction schedule of the Proposed Action, to span from March 2014 through July 2016, may overlap with some initial construction preparation and landside work associated with the Terminal A Redevelopment Program. With the exception of temporary construction-related impacts, the cumulative adverse environmental impact of the Proposed Action is expected to be minimal. Extensive preventive procedures will be put into place to avoid and minimize any potential adverse impacts during construction. The Proposed Action is consistent with the overall planning mission of the Port Authority and would not result in unmitigated adverse cumulative impacts. The cumulative impacts resulting from implementation of the Proposed Action have been assessed against other projects on the airport. The cumulative impacts analysis presented in this document includes a review of available environmental documents for other projects at the airport.

Newark Airport, like any other airport in the country, requires regular maintenance and modernization. The Port Authority has and will continue to undertake an array of improvements at the airport to maintain and improve the safe and efficient movement of aircraft and travelers. As is evident from a review of the projects listed below, each has demonstrated independent utility and can go forward without regard to any or all of the other listed actions being adopted. Each is proceeding separately and has or will go forward based on its own merits. The Proposed Action has also demonstrated its independent utility. The projects listed below represent the Port Authority's most recent steps to maintain and to improve the Airport's functionality and to enhance level of service.

The following is a summary of ongoing or recently completed projects and projects anticipated in the foreseeable future.

#### **Past Actions**

Between 2005 and 2009 there were seven development or improvement projects undertaken at the airport, all of which were categorically excluded from the requirement to prepare an EA or an EIS (Projects eligible for a Categorical Exclusion are actions that, under normal circumstances, are not considered major federal actions and that have no measurable impacts on the environment). These projects were:

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- Port Street and Brewster Road Improvements Phase 1
  - Construction of Multi-Fuel Station and Carwash
  - Rehabilitation of Taxiway A and Sections of Taxiways K, M, Q and PA
  - Rehabilitation of Taxiways CC, P, W, Z and S
  - Widening of Taxiway Fillets
  - Installation of Ground Based Augmentation System Navigational Aid
  - Upgrade of Runways 22R, 22L and 4L Navigation Aids

### **Ongoing Actions**

These nine ongoing actions have all been categorically excluded.

- Enlargement and Modernization of Terminal B
- Port Street and Brewster Road Improvements, Phase 2
- United Airlines Maintenance Hangar Terminal C In-Line Baggage Handling System
- Signature Flight Support FBO Terminal Improvements
- Rehabilitation of Taxiways A, B, D, & PA
- Bollard Protection at Terminal Frontages
- Runway 22R Multiple Entrance Taxiways Construction
- Runway 4R-22L Rehabilitation and Improvements
- United Airlines Widebody Hangar and Taxiway S Construction

### **Reasonably Foreseeable Future Projects**

These seven actions are planned to be undertaken between 2013 and 2023. With the exception of the Terminal A Redevelopment Program (for which a draft EA is being prepared) and the Demolition of Buildings 14, 95 and 332 (whose Categorical Exclusion is currently being prepared), the projects identified below have been categorically excluded from the requirement to prepare an EA or an EIS.

- Terminal A Redevelopment Program – The construction of a new Terminal A and associated improvements
- Demolition of Buildings 14, 95 and 332 – This proposed project entails the demolition of Buildings 14, 95, and 332, all located in the airport's North Area, to create a site for future use by cargo tenants
- Runway 4L-22R Rehabilitation and Improvements
- Runway 11/29 Safety Area Improvements - EMAS Installation
- Replacement of Guard Posts E-2 and D
- Taxiway P Rehabilitation and Improvements
- Terminal B Electrical Distribution and Substation Improvements

With the exception of the Terminal A Redevelopment Program and the Demolition of Buildings 14, 95 and 332, all of the above have been categorically excluded. By definition, projects eligible for a categorical exclusion do not

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individually or cumulatively have significant adverse effects on the environment. Even when impacts are determined to be individually insignificant, the impacts can be collectively significant when taking place over a period of time. Therefore, the cumulative effects of environmental impacts were considered only for those categories determined to have impacts due to the Proposed Action.

Given the history of intense urbanization that has occurred in the region, and because no potentially significant adverse impacts have been linked to the Proposed Action in this Short-Form EA, it is unlikely that the incremental impact of the Proposed Action would cause or contribute to a significant adverse impact on the environment when added to future projects or actions involving the airport. If the Proposed Action is approved and implemented, it would be incumbent on NEPA analyses undertaken for future projects to look back on this Short-Form EA as a past project and to reevaluate the potential for cumulative impacts.

## **7. PERMITS**

List all required permits for the proposed project. Has coordination with the appropriate agency commenced and what is the expected time frame of receiving a permit?

The following permits and approvals would be required prior to initiating construction.

- NJDEP Flood Hazard Area Permit
- NJDEP Water Quality Certificate
- Discharge to Surface Water Permit, Category B4B (General Groundwater Petroleum Product Cleanup) – to be issued by NJDEP
- Somerset-Union County Soil Erosion & Sediment Control Plan Certification
- Minor Source Preconstruction Permit – Air Quality – to be issued by NJDEP for construction and operation of two (2) new storage tanks and loading rack

It is anticipated that all of the above permits would be obtained in a timely fashion with no difficulty before the start of construction.

*NOTE: Even though the airport sponsor has/shall obtain one or more permits from the appropriate federal, state, and/or local agencies for the proposed project, initiation of such project shall NOT be approved until FAA has issued its environmental determination.*

## **8. MITIGATION**

Describe those mitigation measures to be taken to avoid creation of significant impacts to a particular resource as a result of the proposed project, and include a discussion of any impacts that cannot be mitigated.

The Port Authority is committed to implementing the Proposed Action in accordance with all federal, state and local environmental laws, regulations, policies, and permit requirements applicable to the project. In addition, to reduce

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adverse environmental impacts associated with Port Authority projects and actions, the Port Authority is committed to having each contractor perform the work in accordance with the following recent and relevant standards and guidelines:

- PANYNJ *Sustainable Design Guidelines (AI 45-2)*
  - *Sustainable Building Guidelines*
  - *Sustainable Infrastructure Guidelines*
- PANYNJ *Newark Liberty International Airport Best Management Practices Plan*
- Item 156 of FAA Advisory Circular (AC) 150/5070-10A, *Standards for Specifying Construction of Airports*
- PANYNJ *Spill Prevention Control and Countermeasures Plan for Facilities at Newark Liberty International Airport*

The project's construction documents would include language and details on dust and sedimentation control. Implementation of the Proposed Action may also require the removal and remediation of some hazardous materials from subsurface areas. These materials would be properly disposed of, reclaimed, or recycled in accordance with all federal, state and local requirements.

## **9. PUBLIC INVOLVEMENT**

Describe the public review process and any comments received.

To satisfy FAA requirements for public involvement, a Notice of Availability (NOA) was published in the Newark Star-Ledger on April 25, 2013 to solicit public comment. The Draft EA was also available for review at the airport's Administration Building at 1 Conrad Road, Newark; the Authority's headquarters office at 225 Park Avenue South in Manhattan; and at the FAA's Airport District Office at 600 Old Country Road in Garden City, New York. A copy of the document was also be available for review on the Authority's website. The comment period lasted for 15 days from the date of publication of the NOA. No comments were received.

To ensure that interested parties are informed, another advertisement will be placed in the Newark Star-Ledger announcing the FAA's determination of significance.

## **10. LIST OF ATTACHMENTS**

- Attachment A: NJ SHPO and USFWS Documentation
  - Attachment B: Figures
  - Attachment C: Air Quality Analysis
-

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- Attachment D: FEMA Flood Maps (FIRM)
  - Attachment E: Airport Layout Plan

**Project Title:** Aviation Fueling System Infrastructure Modifications

**Identifier:** EWR

**11. PREPARER CERTIFICATION**

I certify that the information I have provided above is, to the best of my knowledge, correct.

 \_\_\_\_\_ 10/18/13  
Signature Date

Adeel A. Yousuf  
Name

Airport Environmental Specialist  
Title

The Port Authority of NY & NJ \_\_\_\_\_ (212) 435 3784  
Affiliation Phone No.

**12. AIRPORT SPONSOR CERTIFICATION**

I certify that the information I have provided above is, to the best of my knowledge, correct. I also recognize and agree that no construction activity, including but not limited to site preparation, demolition, or land disturbance, shall proceed for the above proposed project(s) until FAA issues a final environmental decision for the proposed project(s), and until compliance with all other applicable FAA approval actions (e.g., ALP approval, airspace approval, grant approval) has occurred.

 \_\_\_\_\_ 10/18/13  
Signature Date

Edward C. Knoesel  
Name

Manager, Environmental Programs  
Title

The Port Authority of NY & NJ \_\_\_\_\_ (212) 435 3747  
Affiliation Phone No.

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**Attachment A**  
**NJ SHPO & USFWS Documentation**

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**THE PORT AUTHORITY OF NY & NJ**

July 30, 2013

RECEIVED

Katherine Marcopul  
Supervising Historic Preservation Specialist  
New Jersey State Historic Preservation Office  
P.O. Box 420  
Mail Code 501-04B  
Trenton, NJ 08625-0420

AUG - 8 2013

HISTORIC PRESERVATION OFFICE

13-1710-1 Vm  
HPO-12013-119

**RE: Newark Liberty International Airport Fueling System Modifications**

Dear Ms. Marcopul:

The Port Authority of New York and New Jersey (the Authority) is currently planning a series of modifications and upgrades to the existing aviation fueling system at Newark Liberty International Airport (EWR) to maintain a state of good repair, bring the system in line with current industry standards, comply with current New Jersey environmental regulations, increase operational efficiencies, and enhance system operations. The FAA is the lead federal agency and the Authority is the sponsor and lead state agency. An Environmental Assessment (EA) for the project is currently being prepared in accordance with the National Environmental Policy Act (NEPA). The purpose of this letter is to initiate consultation with the New Jersey State Historic Preservation Office (SHPO) to determine what, if any, cultural resources investigations would be required under Section 106 of the National Historic Preservation Act (NHPA) and NEPA. We look forward to working with you and the SHPO to assure that this Proposed Action conforms to both NHPA and NEPA requirements.

The airport's existing fuel system was constructed in 1970 and is original to the construction of the central terminal area (CTA). The fuel system is in need of state of good repair work and upgrades to bring it up to current industry and environmental standards. The fuel system design was premised upon the industry practice at that time of airlines sourcing individual specifications and brands of aviation fuel for their respective aircraft fleets. As a result, the current system is comprised of a single-walled pipe distribution network of eleven 18-inch transfer lines connecting the 27-tank fuel farm to the primary fuel selection area (FSA). The FSA is connected to a network of nineteen 12-inch single-walled distribution pipes with 2 lines connected to each of the 9 terminal satellites plus 1 to the Federal Express Metroplex. This operation allowed the airlines to use fuel individually purchased and stored in the tank farm. Physically this operation requires a total of 27 fuel pumps (1 per tank) sorted into 11 pump systems operated via 4 pump stations.

The present industry standard calls for centralized purchasing of standard Jet-A fuel for all airport users. This model allows for the simplification of existing multi-pump fuel supply

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## THE PORT AUTHORITY OF NY & NJ

systems and piping networks. The resulting simplified fuel system has fewer pipes, pumps, valves and controls. This reduces operational complexity, while actually allowing greater flexibility among the existing fuel storage tanks. Further, the overall simplification of the system components, coupled with the modernization of the system, enhances the system's environmental stewardship.

Finally, the existing piping system is comprised of single-wall welded steel pipe. This type of underground pipe construction is now prohibited by the New Jersey Department of Environmental Protection (NJDEP). The proposed new work would adhere to new standards introduced in 2005 using double-wall construction with continuous monitoring of the interstitial space.

### Description of the Proposed Action

The modifications and upgrades to the existing aviation fueling system would consist of the following elements:

- Approximately 29,400 linear feet (LF) of new piping would be installed in the airport's South Cargo Area. The new pipeline would consist of approximately 12,450 LF of a new 18-inch main fuel line from the South Fuel Farm to a new FSA and approximately 16,950 LF of 14-inch distribution line to reconnect the new FSA back into the multi-line CTA fuel ring serving the terminal satellites. The existing 36,000 LF of 18-inch single-wall pipe from the fuel farm to the FSA and the 83,500 LF of 12-inch single-wall distribution pipe serving the terminal satellites and the Federal Express Metroplex would be decommissioned and would be capped and abandoned-in-place after being flushed with nitrogen. All new piping would consist of double-wall pipes that would comply with the latest NJDEP regulations. The new pipeline would run from a point east of the Peripheral Ditch north to a new FSA to be located between Terminal B and Terminal A.
- The new FSA would be located on a 30-foot by 70-foot concrete containment pad, covered with a canopy and surrounded by security fencing, and would contain an aboveground transfer and distribution piping manifold. The new FSA would act only as a fuel selection manifold since commercial fuel has been standardized to Jet-A fuel.
- A new two-position airside truck loading rack would be constructed at a location north of the Peripheral Ditch. The new loading rack would be comprised of "gasoline station-style" dispenser pumps used to load 10,000-gallon tanker trucks, which, in turn, are driven airside to fuel aircraft berthing locations not directly served by hydrant pits. The new loading rack would be situated airside, which would eliminate truck trips from the tank farm to gates for fueling, resulting in less traffic, and fewer stops at security checkpoints and reduced air emissions. The new loading rack would be co-located with a new Contact Water Treatment Facility (CWTF). The CWTF is being relocated to consolidate operations for the fuel operator by being located adjacent to the proposed loading rack. The new CWTF would be of a similar design and function as the existing facility and would include three truck parking positions, three holding tanks, one reclaim tank, and an oil water separator. The new loading rack would have a separate drainage

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system in the tanker parking area to direct any spills to the CWTF for treatment prior to discharge. Secondary containment would be provided through catch basins and a 30,000 gallon underground storage tank and connected oil/water separator. The CWTF would receive water collected by the fuel farm operator from the fuel system hydrant pits and control valve pits on a regular basis after rain. This water would be discharged at the CWTF for gravity separation of residual petroleum product from the water. The CWTF would consist of three 10,000-gallon double walled holding tanks with skimmers. Separated fuel would be pumped to an aboveground 1,500-gallon reclaim tank for offsite sale or disposal. Water and fuel effluent would be discharged to a 4,000-gallon oil water separator. Separated water would be subsequently discharged to stormwater drains.

- Two new 2-million gallon Jet-A storage tanks would be constructed on the south end of the fuel farm. These two tanks would connect to the existing pipeline and fuel pump manifold for direct fuel distribution to the terminals. The existing pump manifold would also be upgraded to bring it up to current industry standards. Each new storage tank would be equipped with a fuel gauge system for fuel inventory management and would utilize an internal floating roof system. The primary seal would be a mechanical shoe seal and the secondary seal would be a urethane wiper seal. The tank specifications and operations will comply with the latest NJDEP permitting and operating requirements.
- Modifications and upgrades would be made to fueling system components including, but not limited to, pipe joints, valves, pumps, and electrical controls. These improvements would streamline the fuel distribution system and reduce the pumping infrastructure, which would reduce electrical usage and maintenance costs. The associated elimination of component parts, which require periodic dismantling, inspection and/or repair, would also reduce the risk of fuel leaks.

**Previous Cultural Resources Surveys and Cultural Setting**

A file search was conducted by AECOM cultural resources staff to determine if archaeological and historic architectural resources have been documented within the APE for the Proposed Action and if the potential for undocumented resources exists. This review included an online and paper records check at the SHPO in Trenton, a review of historic maps for evidence of historic architectural resources and a review of the records maintained at the New Jersey State Museum (NJSM) to determine whether previously identified archaeological sites exist in, or near, the limits of the Proposed Action.

*Archaeological Resources*

A review of the NJ-GeoWeb inline database and NJSM site files found that no archaeological resources have been identified within one mile of the APE. The soil types present within the APE were also reviewed as to their suitability for prehistoric habitation. Soils beneath the airport consist of anthropogenic fill soils as the result of urban development. To assess prehistoric land use, deep machine trenching to below the overburden of compact fill would be necessary. However, the buried prehistoric surface was previously a wetland, which is unlikely to have been suitable for prehistoric habitation.

Background research conducted at the SHPO indicates that several previous cultural resources surveys were conducted within the APE and that there are no eligible archaeological resources present. The most pertinent of those previous studies was a Phase I Cultural Resources Survey conducted in November 1989 as part of the Newark International Airport Redevelopment Program. The 1989 research identified the project area as a former wetland and reported that in 1928 about 68 acres of the marshland were raised to a height of almost 20 feet above sea level for the original airfield. Land filling continued through the 1930s, as the airport expanded. The survey conducted subsurface testing in two small areas at the western limits of the APE that were areas of naturally higher ground, unaffected by the filling of the marshland. No prehistoric or historic sites were identified as a result of this effort and no further work was recommended.

*Historic Architectural Resources*

Research conducted at the SHPO indicates that there are no previously identified NRHP-listed or eligible architectural resources located within the project area. Three buildings located outside the project area, but on airport property, were previously listed in the New Jersey State register of Historic Places on June 25, 1980 and in the National Register of Historic Places on December 2, 1980. These buildings are the 1935 Terminal, the 1938 Brewster Hangar and the Medical Building, which was built between 1934 and 1938. The Terminal was relocated 2,500 feet southwest of its original location in 2002 and became the airport's Administration building. It is located outside of the project area. The Brewster Hangar was demolished in 1998. The Medical Building is the only building that remains in its original location at the north end of the airport proper.

A review of historic maps and aerial photographs from the late 19<sup>th</sup> and 20<sup>th</sup> centuries (ESRI 2011, 2009; Lake and Beers 1862; NETR 2009; Stewart 1876; USGS 1898) identified no evidence of historic architectural resources over 50 years of age located within the project area.

Based on our reviews of currently available information, the proposed APE for the Proposed Action appears to have little to no potential to contain undocumented archaeological resources and is not likely to affect any National Register eligible or listed properties. We look forward to your review of the project and notification of what steps, if any, may be required to fulfill the requirements of the NHPA and NEPA.

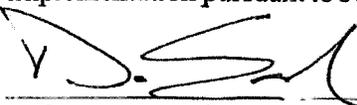
If you require any additional information or have questions about this application, you can contact Donald E. Ehrenbeck, AICP, P.P., at (732) 564-3239.

Sincerely,

  
Patricia Fox  
Program Manager

| Enclosures

I concur with your finding that there are no historic properties affected within the project's area of potential effects. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

 8/14/13  
DANIEL D. SAUNDERS Date  
Deputy State Historic Preservation Officer NP



## State of New Jersey

### DEPARTMENT OF ENVIRONMENTAL PROTECTION

State Forestry Services

Mail Code 501-04

ONLM - Natural Heritage Program

P.O. Box 420

Trenton, NJ 08625-0420

Tel. #609-984-1339

Fax. #609-984-1427

**CHRIS CHRISTIE**

*Governor*

**KIM GUADAGNO**

*Lt. Governor*

**BOB MARTIN**

*Commissioner*

April 15, 2013

Patricia Fox  
Port Authority of NY & NJ  
Newark Liberty International Airport  
1 Conrad Road, Building #1  
Newark, NJ 07114

Re: Terminal A Redevelopment Program

Dear Ms. Fox:

Thank you for your data request regarding rare species information for the above referenced project site in Newark and Elizabeth Cities, Essex and Union County.

Searches of the Natural Heritage Database and the Landscape Project (Version 3.1) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Request for Data into our Geographic Information System. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Landscape Project habitat mapping and the Biotics Database for occurrences of any rare wildlife species or wildlife habitat on the referenced site. The Natural Heritage Database was searched for occurrences of rare plant species or ecological communities that may be on the project site. Please refer to Table 1 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented on site. A detailed report is provided for each category coded as 'Yes' in Table 1.

We have also checked the Landscape Project habitat mapping and Biotics Database for occurrences of rare wildlife species or wildlife habitat in the immediate vicinity (within ¼ mile) of the referenced site. Additionally, the Natural Heritage Database was checked for occurrences of rare plant species or ecological communities within ¼ mile of the site. Please refer to Table 2 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented within the immediate vicinity of the site. Detailed reports are provided for all categories coded as 'Yes' in Table 2. These reports may include species that have also been documented on the project site.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and ecological communities. Please refer to Tables 1 and 2 (attached) to determine if any priority sites are located on or in the vicinity of the site.

A list of rare plant species and ecological communities that have been documented from Essex and Union County can be downloaded from <http://www.state.nj.us/dep/parksandforests/natural/heritage/countylist.html>. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from [http://www.state.nj.us/dep/parksandforests/natural/heritage/nhpcodes\\_2010.pdf](http://www.state.nj.us/dep/parksandforests/natural/heritage/nhpcodes_2010.pdf).

If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive NJ-GeoWeb website at the following URL, <http://www.state.nj.us/dep/gis/geoweb splash.htm> or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292-9400.

PLEASE SEE 'CAUTIONS AND RESTRICTIONS ON NHP DATA', which can be downloaded from <http://www.state.nj.us/dep/parksandforests/natural/heritage/newcaution2008.pdf>.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. Cartica", with a horizontal line extending to the right.

Robert J. Cartica  
Administrator

c: NHP File No. 13-4007462-3106

***Table 1: On Site Data Request Search Results (7 Possible Reports)***

Rare Plants/Ecological Communities Possibly On Site:	No
Rare Plants/Ecological Communities On Site/Immediate Vicinity:	No
Natural Heritage Priority Sites On Site:	No
Landscape 3.1 Species Based Patches On Site:	Yes
Landscape 3.1 Vernal Pool Habitat On Site:	No
Landscape 3.1 Stream/Mussel Habitat On Site:	No
Other Animals Tracked by ENSP On Site:	No

**Rare Wildlife Species or Wildlife Habitat on the Project  
Site Based on Search of  
Landscape Project 3.1 Species Based Patches**

<b>Class</b>	<b>Common Name</b>	<b>Scientific Name</b>	<b>Feature Type</b>	<b>Rank</b>	<b>Federal Protection</b>	<b>State Protection</b>	<b>Grank</b>	<b>Strank</b>
<b>Aves</b>	Black-crowned Night-heron	Nycticorax nycticorax	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Cattle Egret	Bubulcus ibis	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Least Tern	Sterna antillarum	Nesting Colony	4	NA	State Endangered	G4	S1B,S1N
	Little Blue Heron	Egretta caerulea	Foraging	2	NA	Special Concern	G5	S3B,S3N
	Savannah Sparrow	Passerculus sandwichensis	Breeding Sighting	3	NA	State Threatened	G5	S2B,S4N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Upland Sandpiper	Bartramia longicauda	Breeding Sighting	4	NA	State Endangered	G5	S1B,S1N
	Checkered White	Pontia protodice	Breeding/Courtship	3	NA	State Threatened	G4	S2
	<b>Insecta</b>							

**Table 2: Vicinity Data Request Search Results (6 possible reports)**

<b>Rare Plants/Ecological Communities within the Vicinity:</b>	<b>No</b>
<b>Natural Heritage Priority Sites within the Vicinity:</b>	<b>No</b>
<b>Landscape 3.1 Species Based Patches within the Vicinity:</b>	<b>Yes</b>
<b>Landscape 3.1 Vernal Pool Habitat within the Vicinity:</b>	<b>No</b>
<b>Landscape 3.1 Stream/Mussel Habitat within the Vicinity:</b>	<b>No</b>
<b>Other Animals Tracked by ENSP within the Vicinity:</b>	<b>No</b>

**Rare Wildlife Species or Wildlife Habitat Within the  
Immediate Vicinity of the Project Site Based on Search of  
Landscape Project 3.1 Species Based Patches**

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection	State Protection	Grank	Strank
<i>Aves</i>	Black-crowned Nightheron	Nycticorax nycticorax	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Cattle Egret	Bubulcus ibis	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Least Tern	Sternula antillarum	Nesting Colony	4	NA	State Endangered	G4	S1B,S1N
	Little Blue Heron	Egretta caerulea	Foraging	2	NA	Special Concern	G5	S3B,S3N
	Savannah Sparrow	Passerculus sandwichensis	Breeding Sighting	3	NA	State Threatened	G5	S2B,S4N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Upland Sandpiper	Bartramia longicauda	Breeding Sighting	4	NA	State Endangered	G5	S1B,S1N
	Checkered White	Pontia protodice	Breeding/Courship	3	NA	State Threatened	G4	S2
	<i>Insecta</i>							

Federally Listed and Candidate Species Occurrences in New Jersey by County and Municipality

County	Municipality	Bog Turtle (T)	Piping Plover (T)	Indiana Bat (E)	Dwarf Wedgemussel (E)	NE Beach Tiger Beetle (T)	Small Whorled Pogonia (T)	Swamp Pink (T)	Knieskem's Beaked Rush (T)	American Chaffseed (E)	Sensitive Joint-vetch (T)	Seabeach Amaranth (T)	Red Knot (C)	Hirsts' Panic Grass (C)
<b>Federal Listing Status: (E)=Endangered, (T)=Threatened, (C)=Candidate</b>														
<b>E = Extant (present), P = Potential (may be present), H = Historic (may still be present), X = Extirpated (no longer present)</b>														
<b>Extant occurrences of Indiana bat: MA = Maternity (April 1 to Sept. 30), HI = Hibernation</b>														
SOMERSET	Far Hills Borough	E		MA										
SOMERSET	Franklin Township	H		P										
SOMERSET	Green Brook Township			P										
SOMERSET	Hillsborough Township			P										
SOMERSET	Millstone Borough			P										
SOMERSET	Montgomery Township			P										
SOMERSET	North Plainfield Borough			P										
SOMERSET	Peapack-Gladstone Borough	E		MA										
SOMERSET	Raritan Borough			P										
SOMERSET	Somerville Borough			P										
SOMERSET	Warren Township	E		MA										
SOMERSET	Watchung Borough	X		MA										
SUSSEX	Andover Borough	H		P	P									
SUSSEX	Andover Township	E		HI	P		H							
SUSSEX	Branchville Borough			P	P									
SUSSEX	Byram Township			HI	P									
SUSSEX	Byram Township	E		HI	P		P							
SUSSEX	Frankford Township	E		P	E		P							
SUSSEX	Franklin Borough	E		MA	P		H							
SUSSEX	Fredon Township	E		P	P									
SUSSEX	Green Township	E		P	P									
SUSSEX	Hamburg Borough	E		MA	P									
SUSSEX	Hampton Township	E		MA	E		P							
SUSSEX	Hardyston Township	E		HI	P		H							
SUSSEX	Hopatcong Borough	P		HI	P		P							
SUSSEX	Lafayette Township	E		MA	E		H							
SUSSEX	Montague Township	E		MA	E		E							
SUSSEX	Newton Town	P		MA	P									
SUSSEX	Ogdensburg Borough	E		HI	P		H							
SUSSEX	Sandyston Township	E		P	E		E							
SUSSEX	Sparta Township	E		HI	P		H							
SUSSEX	Stanhope Borough	P		HI	P									
SUSSEX	Stillwater Township	E		P	P		P							
SUSSEX	Sussex Borough	P		MA	P									
SUSSEX	Vernon Township	E		MA	P		P							
SUSSEX	Walpack Township	E		P	E		P							
SUSSEX	Wantage Township	E		MA	P		P							
UNION	Berkeley Heights Township	E		MA										
UNION	Cranford Township			P										
UNION	Mountainside Borough	X		MA										
UNION	New Providence Borough			MA										
UNION	Scotch Plains Township	E		MA										
UNION	Springfield Township			P										

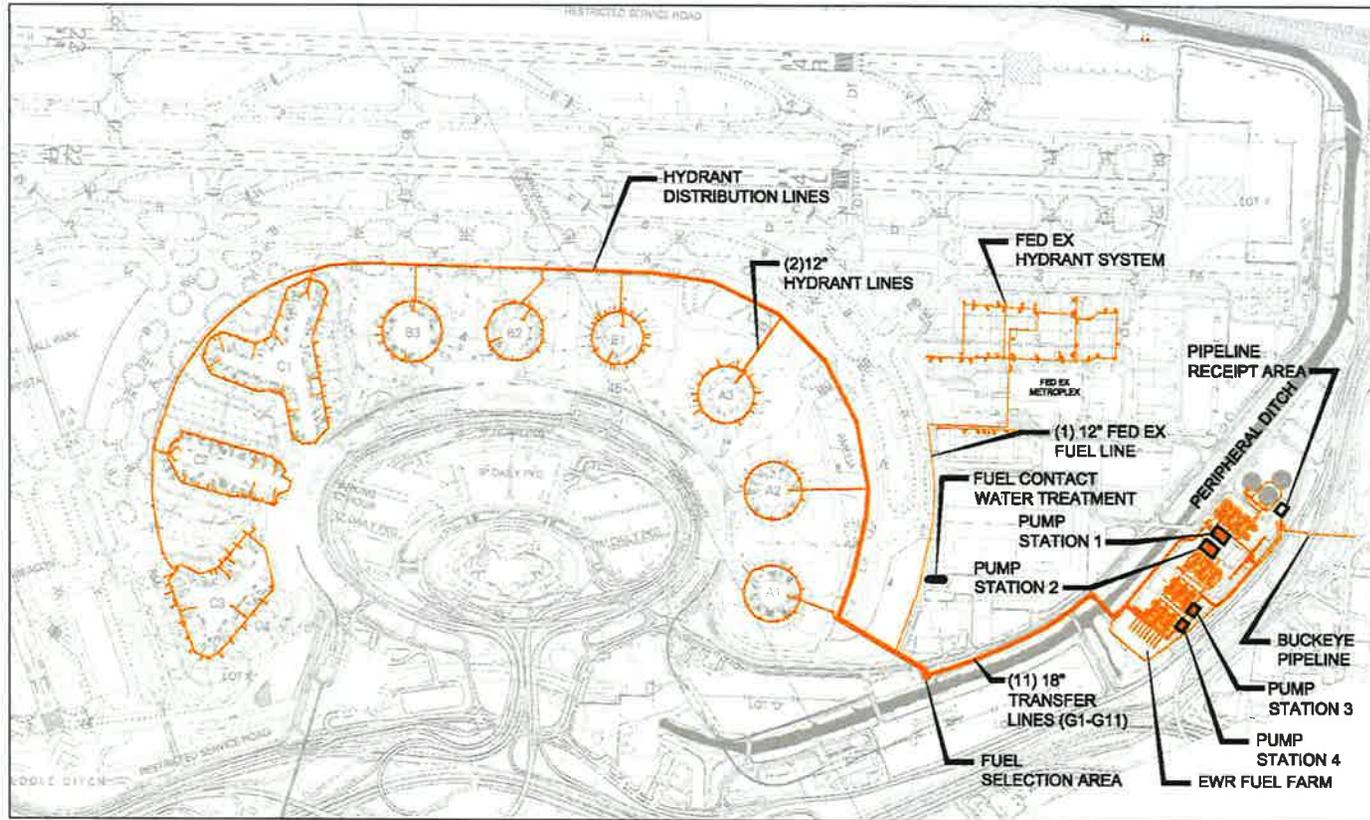
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**Attachment B**  
**Figures**

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FIGURE 1

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**EWR FUEL SYSTEM & AIRFIELD LABELS**

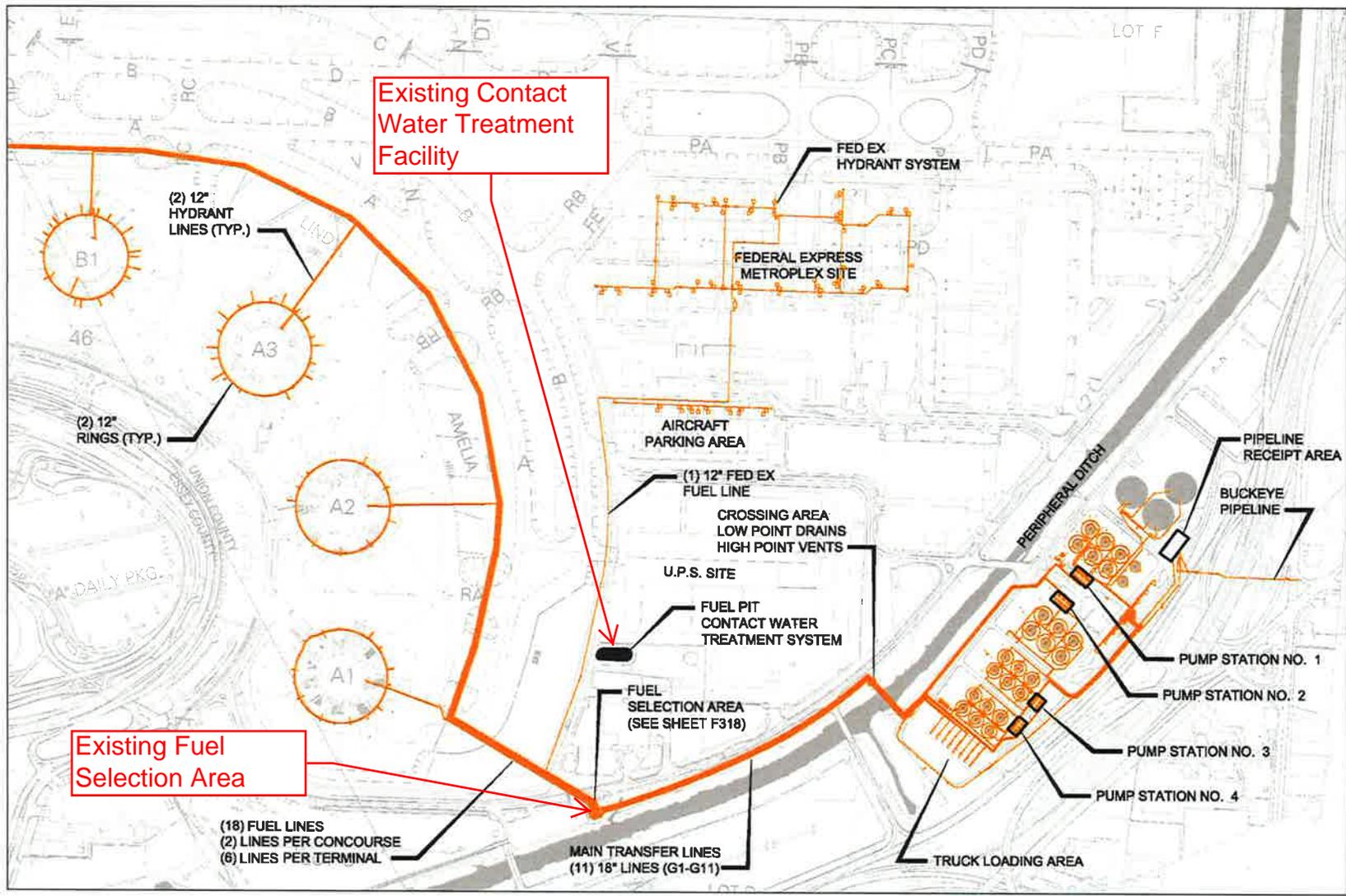


<b>ARGUS CONSULTING, INC.</b> 1300 NW Jefferson Court, Suite 100 Blue Springs, MO 64015 816.228.7500 FAX 816.228.7535 www.argusconsulting.com	CLIENT PANTJU	PROJECTING 11070.00	DWR. NO. <b>F100</b>
	PROJECT EWR - STAGE 1 REPORT	DATE 10/22/10	EXISTING EWR FUEL SYSTEM EXTENTS

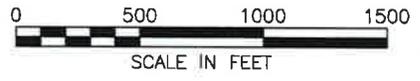


FIGURE 2

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**EXISTING TERMINAL A AREA**

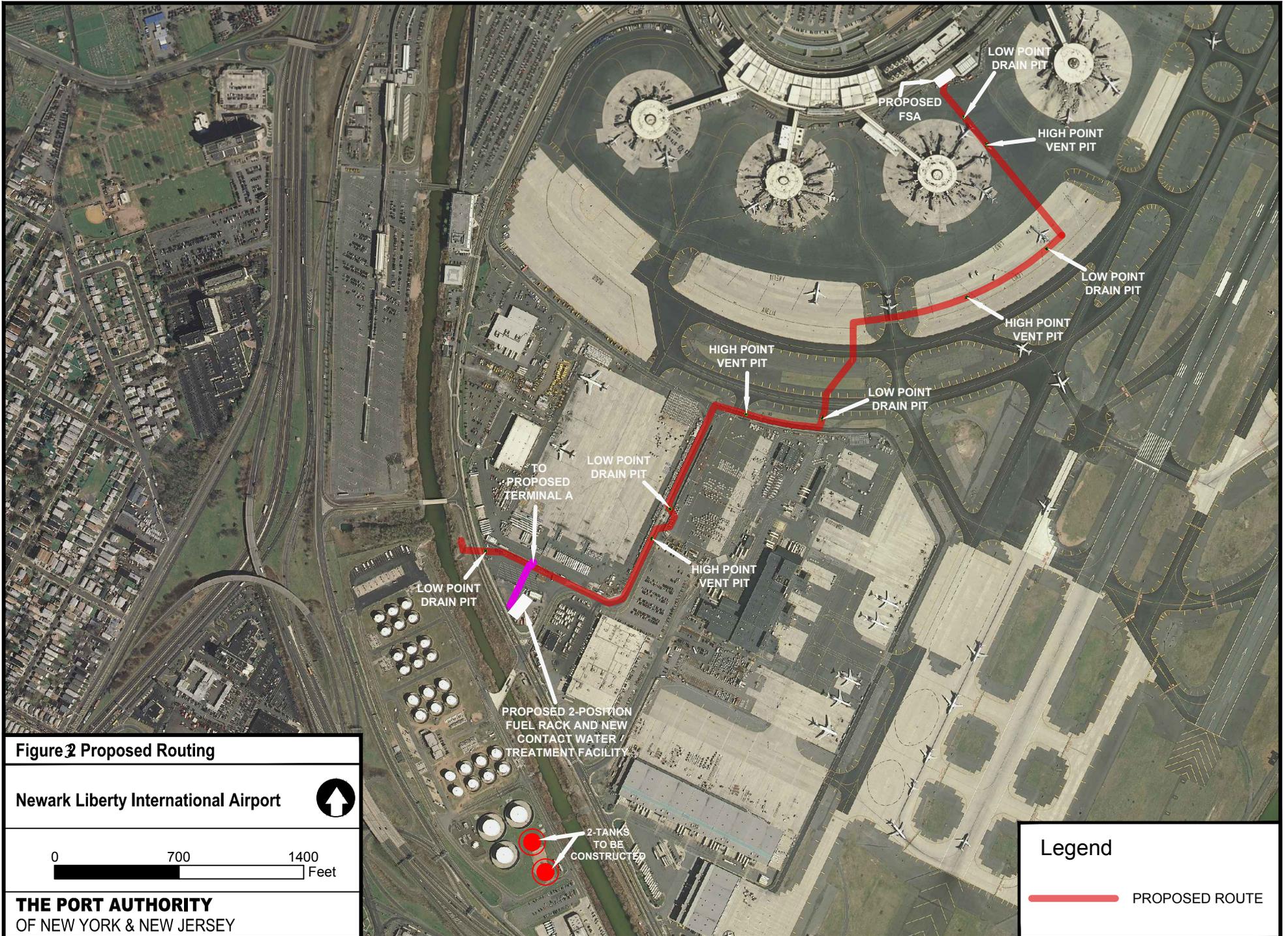


<b>ARGUS CONSULTING, INC.</b> 1300 NW Jefferson Court, Suite 100 Blue Springs, MO 64015 816.228.7500 FAX 816.228.7535 www.argusconsulting.com	EXISTING TERMINAL A AREA - FUEL SYSTEM EXTENTS PROJECTING 11070.00 DATE 10/22/10
	CLIENT PANYNU PROJECT EWR - STAGE 1 REPORT DWG. NO. <b>F111</b>

ARGUS CONSULTING, INC. ENGINEERING | PLANNING | MANAGEMENT



FIGURE 3



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**Attachment C**  
**Air Quality Analysis**

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## ATTACHMENT C

### GENERAL CONFORMITY RULE AND AIR EMISSIONS ANALYSIS

#### C.1 Clean Air Conformity

The 1990 amendments to the Clean Air Act (CAA) require federal agencies to ensure that their actions conform to the appropriate State Implementation Plan (SIP) in a nonattainment area. The SIP provides for implementation, maintenance, and enforcement of the National Ambient Air Quality Standards (NAAQS); it includes emission limitations and control measures to attain and maintain the NAAQS. Conformity to a SIP, as defined in the CAA, means conformity to a SIP's purpose of reducing the severity and number of violations of the NAAQS to achieve attainment of the standards. The federal agency responsible for a proposed action is required to determine if its action conforms to the applicable SIP.

The US Environmental Protection Agency (USEPA) has developed two sets of conformity regulations; federal actions are differentiated into transportation projects and non-transportation-related projects:

- Transportation projects, which are governed by the "transportation conformity" regulations (40 C.F.R. §§ 51, 93), effective on December 27, 1993 and revised on August 15, 1997.
- Non-transportation projects, including those in an airport that require approval from the Federal Aviation Administration (FAA), which are governed by the "general conformity" regulations (40 C.F.R. §§ 6, 51, 93) described in the final rule for *Determining Conformity of General Federal Actions to State or Federal Implementation Plans* published in the *Federal Register* on November 30, 1993. The general conformity rule became effective January 31, 1994 and was revised on March 24, 2010.

This general conformity applicability analysis has been prepared for the Proposed Action of modifying and upgrading the aviation fueling system at Newark Liberty International Airport.

#### C.2 General Conformity

##### C.2.1 Attainment and Nonattainment Areas

The General Conformity Rule applies to federal actions occurring in air basins designated as nonattainment for the NAAQS or in attainment areas subject to maintenance plans (maintenance areas). Federal actions occurring in air basins that are in attainment with the NAAQS are not subject to the Conformity Rule.

A criterion pollutant is a pollutant for which an air quality standard has been established under the CAA. The designation of nonattainment is based on exceedances or violations of the air quality standard. A Maintenance Plan establishes measures to control emissions to ensure the air quality standard is maintained in areas that have been re-designated as attainment from a previous nonattainment status.

Under the requirements of the CAA, USEPA established NAAQS for six criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), inhalable particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and lead (Pb).

Areas that meet the NAAQS for a criterion pollutant are designated as being in "attainment;" an area where a pollutant level exceeds the corresponding NAAQS is designated as being in "nonattainment." O<sub>3</sub>

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nonattainment areas are subcategorized based on the severity of their pollution problem (marginal, moderate, serious, severe, or extreme). PM<sub>10</sub> and CO nonattainment areas are classified as moderate or serious. When insufficient data exist to determine an area's attainment status, it is designated as unclassifiable (or in attainment).

The Proposed Action would take place at Newark Liberty International Airport, which lies within Essex and Union Counties, an area that is currently designated as a nonattainment area for PM<sub>2.5</sub>, a moderate nonattainment area for 8-hour O<sub>3</sub>, a maintenance area (former nonattainment area) for CO, and an attainment area for the other criteria pollutants. O<sub>3</sub> is principally formed from nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) through chemical reactions in the atmosphere. SO<sub>2</sub> is considered a precursor of PM<sub>2.5</sub>.

### C.2.2 De Minimis Emissions Levels

To focus general conformity requirements on those federal actions with the potential to have significant air quality impacts, threshold (*de minimis*) rates of emissions were established in the Final Rule. A formal conformity determination is required when the annual net total of direct and indirect emissions from a federal action occurring in a nonattainment or maintenance area for a criterion pollutant would equal or exceed the annual *de minimis* level for that pollutant. **Table C-1** lists the *de minimis* levels for each pollutant.

**Table C-1: De Minimis Emission Levels for Criteria Air Pollutants**

Pollutant	Nonattainment Designation	Tons/Year
Ozone*	Serious	50
	Severe	25
	Extreme	10
	Other nonattainment or maintenance areas outside ozone transport region	100
	Marginal and moderate nonattainment areas inside ozone transport region	50/100**
Carbon Monoxide	All	100
Sulfur Dioxide	All	100
Lead	All	25
Nitrogen Dioxide	All	100
Particulate Matter ≤ 10 microns	Moderate	100
	Serious	70
Particulate Matter ≤ 2.5 microns***	All	100

**Notes:** \* Applies to ozone precursors – volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>)

\*\* VOC/NO<sub>x</sub>

\*\*\* Applies to PM<sub>2.5</sub> and its precursors.

For O<sub>3</sub> nonattainment areas, USEPA's conformity rules establish *de minimis* emission levels for both O<sub>3</sub> precursors, VOC and NO<sub>x</sub>, on the presumption that VOC and NO<sub>x</sub> reductions will contribute to reductions in O<sub>3</sub> formation. Since the Project Area is located in an O<sub>3</sub> moderate nonattainment area in an O<sub>3</sub> transport region, the *de minimis* levels of 100 tons per year (tpy) of NO<sub>x</sub> and 50 tpy of VOC apply.

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For PM<sub>2.5</sub> nonattainment areas, USEPA's conformity rules establish *de minimis* emission levels for both PM<sub>2.5</sub> and its precursor, SO<sub>2</sub>. Although the Project Area is currently designated as in attainment for SO<sub>2</sub>, SO<sub>2</sub> was considered in the analysis as a precursor of PM<sub>2.5</sub>. The *de minimis* level of 100 tpy applies to both PM<sub>2.5</sub> and SO<sub>2</sub>. For CO maintenance areas, 100 tpy is the *de minimis* level.

### **C.2.3 Analysis**

This CAA General Conformity Rule (GCR) analysis was conducted according to the guidance contained in 40 C.F.R. §§ 6, 51, 93, *Determining Conformity of Federal Actions to State or Federal Implementation Plans* (USEPA, November 30, 1993 and March 24, 2010).

The analysis was performed to determine whether a formal conformity analysis would be required. Pursuant to the GCR, all reasonably foreseeable emissions (both direct and indirect) associated with the implementation of the project were quantified and compared to the applicable annual *de minimis* levels to determine potential air quality impacts.

The conformity analysis for a federal action examines the impacts of the direct and indirect net emissions from mobile and stationary sources. Direct emissions are emissions of a criterion pollutant or its precursors that are caused or initiated by a federal action and occur at the same time and place as the action. Indirect emissions, occurring later in time and/or further removed in distance from the action itself, must be included in the determination if both of the following apply:

- The federal agency can practicably control the emissions and has continuing program responsibility to maintain control.
- The emissions caused by the federal action are reasonably foreseeable.

Increased direct and indirect NO<sub>x</sub>, VOC, PM<sub>2.5</sub>, CO, and SO<sub>2</sub> emissions would result from the following potential demolition and construction activities:

- Use of diesel and gas-powered demolition and construction equipment.
- Movement of trucks containing construction and removed materials.
- Commuting of construction workers and PA inspectors.

## **C.3 Emissions Estimate**

The GCR requires that potential emissions generated by any project-related activity and/or increased operational activities be determined on an annual basis and compared to the annual *de minimis* levels for those pollutants (or their precursors) for which the area is classified as nonattainment or maintenance. Emissions attributable to activities related to the proposed project were analyzed for NO<sub>x</sub>, VOC, PM<sub>2.5</sub>, CO, and SO<sub>2</sub>.

### **C.3.1 Proposed Activities Resource Data Estimates**

Estimates as to construction crew and equipment requirements and productivity are based on data presented in

- *2003 RSMeans Facilities Construction Cost Data*, R.S. Means Co., Inc., 2002
  - *2011 RSMeans Facilities Construction Cost Data*, R.S. Means Co., Inc., 2010
-

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The assumptions used in predicting construction activity data are based on the draft “*Project Description*” document. The proposed work includes:

- The below-grade installation of 12,450 feet of 18-inch trunk fuel line and 16,950 feet of 14-inch distribution line. Existing piping replaced by the new installation would be decommissioned and abandoned in place.
- The construction of a new fuel selection area on a 30-foot x 70-foot containment pad, covered with a canopy and surrounded by security fencing.
- A new loading ramp and contact water treatment facility (CWTF). The truck rack would have two truck loading positions and the CWTF would have three truck parking positions, three 10,000-gallon double-walled holding tanks, a 1,500-gallon reclaim tank and a 4,000-gallon oil-water separator. Assuming 6-foot tank heights, the holding tanks, overflow tank and oil-water separator would require about 1,200 square feet (sf) of space. Assuming five truck parking positions (two for the loading rack, three for the CWTF) and a 1,000-sf footprint per truck parking position, the total footprint of the loading ramp/CWTF is therefore approximately 6,200 sf.
- Two 2-million gallon Jet A storage tanks would be constructed at the existing tank farm.

The construction components considered include:

*Component No. 1 – Underground Fuel Piping:* A total of 12,450 feet of 18-inch trunk fuel line and 16,950 feet of 14-inch distribution line would be installed. Demolition of existing pavement, trenching, backfill and installation of new pavement is required. Although a precise alignment was not available, it is assumed that the new pipeline would be installed predominantly within the airfield; therefore, it is further assumed that the piping would be installed at a minimum depth of 3 feet below subgrade, and that the airfield pavement section consists of 6 inches of crushed aggregate, 11 inches of bituminous base course and 3 inches of surface course (i.e., a 20-inch pavement section overlies a 36-inch deep trench in the subgrade for a total excavation depth of 56 inches). Assume excavation width is 5 feet; therefore, total surface footprint of pipeline installation work is approximately 147,000 square feet. The construction elements for this component would include:

- Pavement demolition
- Demolished pavement hauling
- Sub-grade excavation
- Pipeline decommissioning
- Pipeline installation
- Backfill
- Crushed aggregate
- Airfield pavement

*Component No. 2 – Fuel Selection Area:* A 30-ft by 70-ft concrete containment pad with canopy over the fuel distribution manifold will be constructed. Total surface area is 2,100 sf. The construction elements include:

- Pavement demolition
  - Demolished pavement hauling
  - Gravel placement
  - Adding rebar
  - Pumping concrete
  - Security fencing installation
  - Canopy installation
  - Installation of selection manifold
-

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*Component No. 3 – Truck Rack and CWTF:* A 6,200 sf paved area will be constructed airside to provide a fuel truck loading area and a replacement CWTF. The construction elements include:

- Pavement demolition
- Demolished pavement hauling
- Gravel placement
- Adding rebar
- Pumping concrete
- Installation of piping
- Installation of 3 above-ground 10,000-gallon double-wall tanks, and a 1,500-gallon double-wall tank and a 4,000-gallon oil-water separator
- Installation of piping for the CWTF

*Component No. 4 – Fuel Tanks:* Includes construction of two 2-million gallon above ground storage tanks. Assuming a tank height of 40 feet, the corresponding tank diameter is 92 feet. Diameter will be rounded up to 95 feet to allow additional freeboard. The total footprint of each tank is therefore 7,088 sf, or 14,176 sf total. There would be an excavation to a depth of 20 feet for the foundation of each tank. The construction elements include:

- Excavating
- Grading
- Concrete work
- Tank installation
- Upgrades to existing pump manifold

### **C.3.2 Equipment Operations and Emissions**

The quantity and type of construction equipment necessary were determined based on the activities necessary to implement the proposed action as described above. All equipment was assumed to be diesel-powered unless otherwise noted. Pieces of equipment to be used include, but are not limited to:

- Cranes (30- and 50-foot booms)
- Front-End Loaders
- 12-cubic yard Dump Trucks
- Arc-Weld Trucks
- Pavers
- Concrete pumps
- Graders
- Rollers
- X-Ray Testing Vehicle
- PA Inspection vehicles

Estimates of equipment emissions were based on the estimated hours of usage and emission factors for each motorized source for the project. Although the entire construction activities are planned to occur over several years, the activity inputs were developed conservatively assuming all demolition and construction action

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would be compressed over one year. Emission factors for NO<sub>x</sub>, VOC, CO, CO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> related to heavy-duty diesel equipment were obtained from the *NONROAD* emission factor model (USEPA, 2008).

The USEPA recommends the following formula to calculate hourly emissions from non-road engine sources including cranes, front end loaders, etc.:

$$M_i = N \times HP \times LF \times EF_i$$

where:

M<sub>i</sub> = mass of emissions of ith pollutants during inventory period;

N = source population (units);

HP = average rated horsepower;

LF = typical load factor; and

EF<sub>i</sub> = average emissions of ith pollutant per unit of use (e.g., grams per horsepower-hour).

Typical load factor values were obtained from the *NONROAD Model Emission Factor Worksheet* (USEPA, 2008).

### C.3.3 Construction Vehicle Operations and Emissions

Truck and commuting vehicle operations to and from the airport would result in indirect emissions. However, the only activities that are subject to the general conformity determination are vehicle operations within the airport. Motor vehicle operations are assumed and summarized as follows:

- Construction trucks would travel at an average speed of 25 miles per hour (mph) on site, for a total estimated on-airport run time of two hours per working day; and
- Each worker or inspector's commuter vehicle would take a 20-minute round trip to commute within the airport at an average speed of 25 mph.

Emission factors for motor vehicles were calculated for both trucks (modeled as heavy duty diesel vehicles) and commuter vehicles (modeled as light duty gasoline vehicles) using USEPA *MOVES* (in association with national default input parameters for Union County), a mobile source emission factor model developed by USEPA for the appropriate seasons applicable to each pollutant. These emission factors were then multiplied by the vehicle operational hours to determine motor vehicle emissions.

### C.4 Compliance Analysis

Based on this analysis of NO<sub>x</sub>, VOC, CO, PM<sub>2.5</sub>, PM<sub>10</sub> and SO<sub>2</sub> emissions performed in conjunction with the Final Rule of *Determining Conformity of Federal Actions to State or Federal Implementation Plans*, (USEPA, November 30, 1993 and March 24, 2010), the proposed action would not require a formal conformity determination. The conservative results, assuming the total emissions predicted from demolition and construction activities, would occur only within one year although they are planned to occur between 2014 through 2016. As shown in **Table C-2**, the results show no exceedances of the applicable *de minimis* criteria of 100 tpy for NO<sub>x</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and CO, and 50 tpy of VOC. Therefore, the Proposed Action would have minimal air quality impacts and would not require a formal conformity determination.

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**Table C-2: Total Construction Emissions**

<b>Emissions (tons)</b>					
<b>Type</b>	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>PM2.5</b>	<b>SO<sub>2</sub></b>
Non-Road Equipment Emission	0.56	8.41	2.05	0.28	0.34
On-Road Vehicle Emission	0.10	1.15	1.55	0.09	0.01
<b>Total Emission</b>	<b>0.66</b>	<b>9.56</b>	<b>3.60</b>	<b>0.37</b>	<b>0.34</b>
<i>Annual De Minimis Level</i>	<i>50</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

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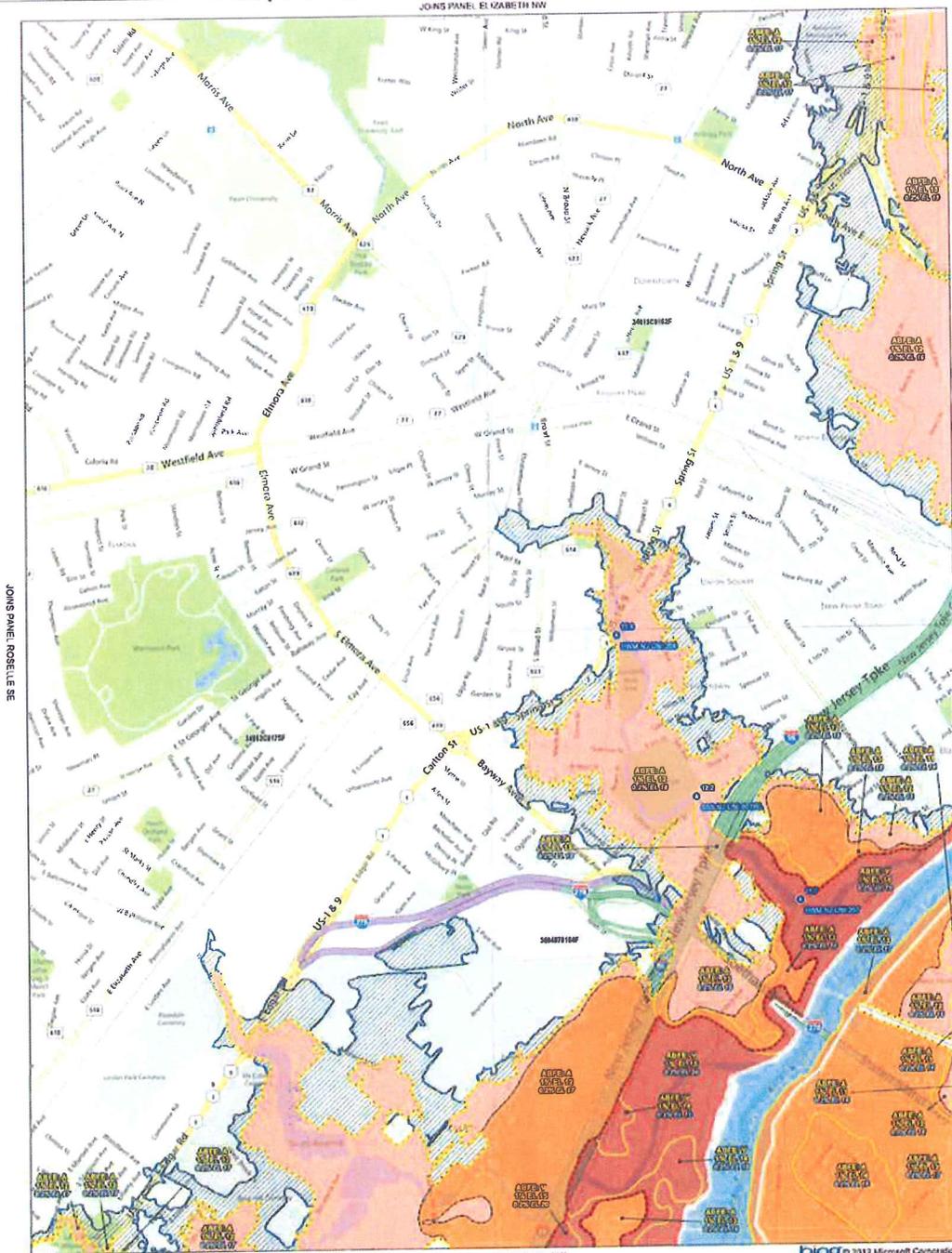
## REFERENCES

- Federal Aviation Administration, September 2004, *Air Quality Procedures for Civilian Airports & Air Force Bases*.
- R.S. Means Co., 2002, *2003 R.S. Means Facilities Construction Cost Data*.
- R.S. Means Co., 2010, *2011 R.S. Means Facilities Construction Cost Data*.
- US Environmental Protection Agency (USEPA), November 30, 1993, 40 C.F.R. §§ 6, 51, 93, *Determining Conformity of Federal Actions to State or Federal Implementation Plans, Federal Register*.
- USEPA, March 24, 2010, 40 C.F.R. §§ 51, 93, *Revision to the General Conformity Rule*.
- USEPA, July 17, 2000, 40 C.F.R. §§ 51, 93, *PM2.5 De Minimis Emission Levels for General Conformity Applicability, Federal Register*.
- USEPA, June 2012, *Motor Vehicle Emission Simulator (MOVES) User Guide for MOVES2010b*.
- USEPA, December 31, 2008, *Non-Road Model Emission Factor Worksheet*.
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**Attachment D**  
**FEMA Advisory Base Flood Elevation Maps**

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JOINS PANEL: ROSELLE SE

JOINS PANEL: ELIZABETH SE

JOINS PANEL: ELIZABETH NW

JOINS PANEL: ARTHUR KILL NW

bing 2012 Microsoft Corporation

**ADVISORY BASE FLOOD ELEVATIONS**

This map shows **Advisory Base Flood Elevations (ABFEs)** developed by FEMA. Use the QR code to the right, or navigate to <http://www.region2coastal.com/> for more information on how they were determined.

These ABFEs can serve as a guide to understanding current coastal flood hazard risk and the elevations that communities should build to in order to protect themselves from future flood events. As part of the long term recovery effort, the ABFEs are a tool for Federal, State, and local officials, building officials, builders and architects, insurance professionals, and property owners to make informed decisions during rebuilding and to mitigate losses from future flood events, safeguard lives, and protect the private and public investment in rebuilding.

The elevations shown on this map are considered best available data until issuance of updated Flood Insurance Rate Maps.

**OBSERVED SANDY SURGE ELEVATIONS<sup>1,6</sup>**

**Approximately 11-13 ft on this Panel**

**LEGEND**

**Flood Advisory Related Data**

- Advisory Base Flood Elevation Zone (ABFE)
- 1% Advisory Base Flood Elevation, feet
- 0.2% Advisory Base Flood Elevation, feet
- Advisory Flood Hazard Zone V
- Area of Moderate Wave Action
- Advisory Flood Hazard Zone A
- Advisory Limit of the 1% Annual Chance Flood Hazard Area
- Advisory Limit of the 0.2% Annual Chance Flood Hazard Area
- Advisory Shaded Zone X
- Effective FIRM Panel Boundary

**Hurricane Sandy Related Data**

- Provisional Hurricane Sandy Surge Elevation

**Geographic Boundaries**

- CBRA
- County

**NOTES**

- Measured in feet relative to the North American Vertical Datum of 1988 (NAVD88). To convert from NAVD88 to the National Geodetic Vertical Datum of 1929, add the following county-wide value(s): Union (1.0 ft), Essex (1.0 ft), and City of New York (1.1 ft)
- Each whole-foot 1% annual chance Advisory Base Flood Elevation shown applies to all properties located in the mapped zone, with zone boundaries outlined in yellow
- Each whole-foot 0.2% annual chance Advisory Base Flood Elevation shown applies to all properties located in the mapped zone, with zone boundaries outlined in yellow
- Depicts the extent of the "Coastal A Zone" or area of moderate wave action where wave heights are between 1.5 and 3 feet. The FEMA Coastal Construction Manual, American Society of Civil Engineers, and the 2012 International Residential Building Code recommend Zone VE construction practices in this area
- Depicts the approximate extent of the Coastal Barrier Resources System (CBRS). Most new Federal expenditures and financial assistance (including flood insurance) are prohibited within the CBRS, with some exceptions. For the best available CBRS boundary data, visit: <http://www.fws.gov/cbra/Maps/Mapper.html>

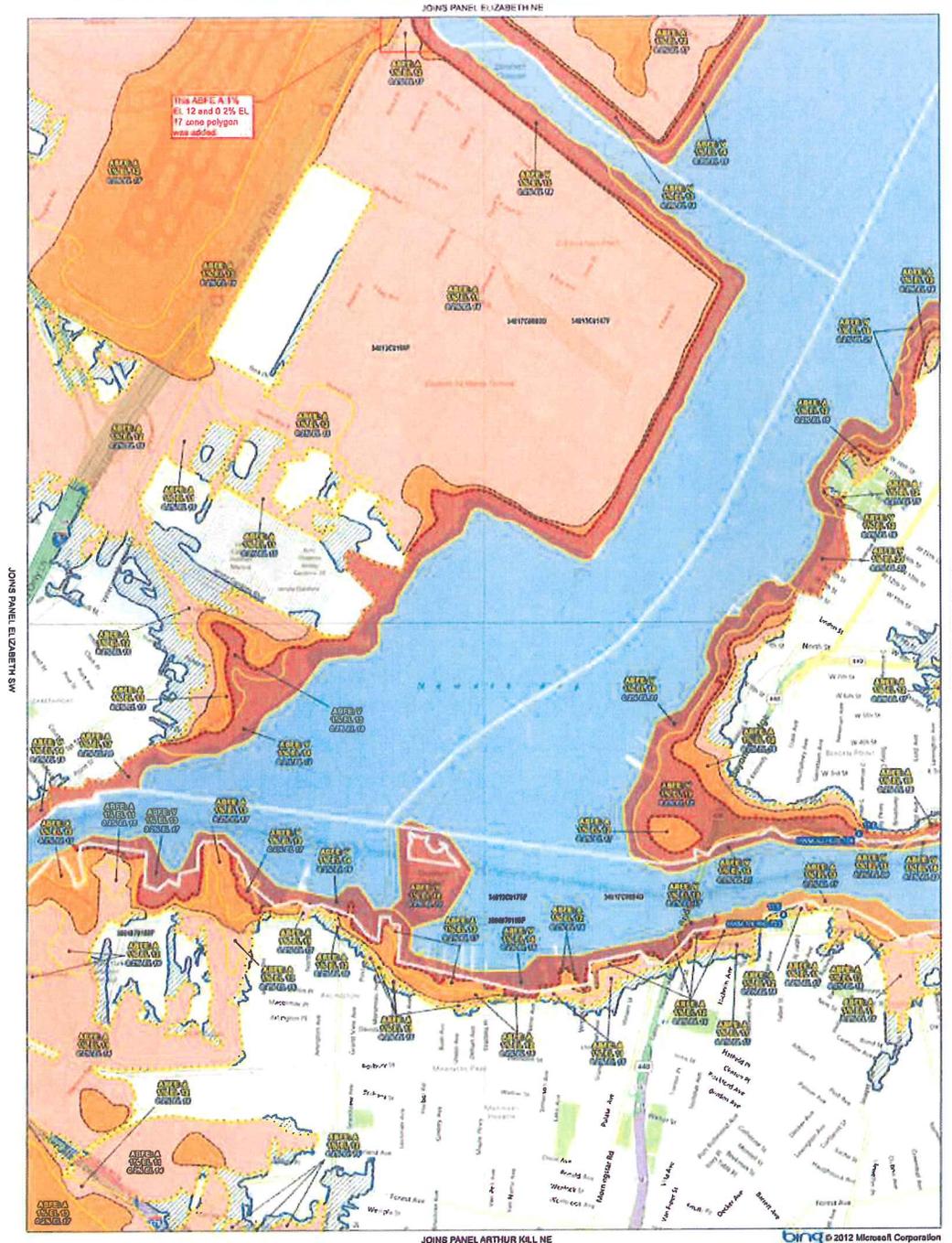
**Data Sources:**

<sup>1</sup>Sandy Surge Elevations: U.S. Geological Survey Rapid Deployment Gauges and High Water Marks (Provisional data retrieved on 11/27/2012). Current data can be found at: <http://water.usgs.gov/floodsurvey/2012/sandy/>; Base Map: Bing Maps Road; Stillwater Elevations: Preliminary Coastal FEMA Flood Insurance Study Update for New York City and New Jersey, 2012; Storm Track: NOAA National Weather Service

**MAPS FOR ADVISORY PURPOSES ONLY - NOT FOR INSURANCE RATING PURPOSES**

For insurance rating purposes refer to the effective Flood Insurance Rate Map (FIRM), available from your local floodplain administrator or the FEMA Map Service Center (<http://msc.fema.gov/>)





**ADVISORY BASE FLOOD ELEVATIONS**

**USAGE**

**LEGEND**

This map shows Advisory Base Flood Elevations (ABFE) developed by FEMA. Use the QR code to the right, or navigate to <http://www.region2coastal.com/> for more information on how they were determined.

The elevations shown on this map are considered best available data until issuance of updated Flood Insurance Rate Maps.

**OBSERVED SANDY SURGE ELEVATIONS<sup>1,6</sup>**  
**Approximately 11-12 ft on this Panel**



**Flood Advisory Related Data**

- Advisory Base Flood Elevation Zone (ABFE)<sup>2</sup>
- 1% Advisory Base Flood Elevation, feet<sup>1,2</sup>
- 0.2% Advisory Base Flood Elevation, feet<sup>1,3</sup>
- Advisory Flood Hazard Zones V
- Area of Moderate Wave Action<sup>4</sup>
- Advisory Flood Hazard Zone A
- Advisory Limit of the 1% Annual Chance Flood Hazard Area
- Advisory Limit of the 0.2% Annual Chance Flood Hazard Area
- Advisory Shaded Zone X
- Effective FIRM Panel Boundary

**Hurricane Sandy Related Data**

- Provisional Hurricane Sandy Surge Elevation

These ABFEs can serve as a guide to understanding current coastal flood hazard risk and the elevations that communities should build in order to protect themselves from future flood events. As part of the long term recovery effort, the ABFEs are a tool for Federal, State, and local officials, building officials, builders and architects, insurance professionals, and property owners to make informed decisions during rebuilding and to mitigate losses from future flood events, safeguard lives, and protect the private and public investment in rebuilding.

**NOTES**

- Measured in feet relative to the North American Vertical Datum of 1988 (NAVD88). (To convert from NAVD88 to the National Geodetic Vertical Datum of 1929, add the following county wide values): City of New York (1.1 ft), Essex (1 ft), Union (1.0 ft), and Hudson (1.3 ft).
- Each whole-foot 1% annual chance Advisory Base Flood Elevation shown applies to all properties located in the mapped zone, with zone boundaries outlined in yellow.
- Each whole-foot 0.2% annual chance Advisory Base Flood Elevation shown applies to all properties located in the mapped zone, with zone boundaries outlined in yellow.
- Depicts the extent of the "Coastal A Zone" or area of moderate wave action where wave heights are between 1.5 and 3 feet. The FEMA Coastal Construction Manual, American Society of Civil Engineers, and the 2012 International Residential Building Code recommend Zone VE construction practices in this area.
- Depicts the approximate extent of the Coastal Barrier Resources System (CBRS). Most new Federal expenditures and financial assistance (including flood insurance) are prohibited within the CBRS, with some exceptions. For the best available CBRS boundary data, visit: <http://www.fws.gov/cbra/Maps/Mapper.html>

**Data Sources:**  
<sup>1</sup> Sandy Surge Elevations: U.S. Geological Survey Rapid Deployment Gauges and High Water Marks (Provisional data retrieved on 11/27/2012). Current data can be found at: <http://water.usgs.gov/foia/sandy/>; **Base Map:** Bing Maps Road; **Stillwater Elevations:** Preliminary Coastal FEMA Flood Insurance Study Update for New York City and New Jersey, 2012; **Storm Track:** NOAA National Weather Service

**MAPS FOR ADVISORY PURPOSES ONLY - NOT FOR INSURANCE RATING PURPOSES**  
 For insurance rating purposes refer to the effective Flood Insurance Rate Map (FIRM), available from your local floodplain administrator or the FEMA Map Service Center (<http://msc.fema.gov/>)

**Geographic Boundaries**

- CBRA<sup>5</sup>
- County

**OVERVIEW MAP**

The diagram conveniently notes counties: Richmond, Essex, Kings, Queens, and New York Counties as City of New York.

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**Attachment E**  
**Airport Layout Plan**

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