New York Governor’s Office of Storm Recovery

February 13, 2017
Village of Freeport: Freeport Channel Crossing Electrical Improvements

Environmental Assessment

February 13, 2017

Project Name: Village of Freeport: Freeport Channel Crossing Electrical Improvements
Project Location: 2 Ray Street, Freeport, NY 11520; at Freeport Channel
HTFC SHARS #: N/A
Federal Agency: US Department of Housing and Urban Development
Responsible Entity: New York State Homes and Community Renewal
Governor’s Office of Storm Recovery
Responsible Agency’s Certifying Officer: Lori A. Shirley Certifying Environmental Officer
99 Washington Avenue, Suite 1224
Albany, NY 12260
(518) 473-0009, Lori.Shirley@nyshcr.org
Project Sponsor: Village of Freeport
Primary Contact: Robert T. Kennedy, Mayor, Village of Freeport
A46 North Ocean Avenue, Freeport, NY 11550
(516) 377-2252, rkennedy@freeportny.gov

Project NEPA Classification: 24 CFR 58.36 (Environmental Assessment)

Environmental Finding:

☑ Finding of No Significant Impact - The project will not result in a significant impact on the quality of the human environment.

☐ Finding of Significant Impact - The project may significantly affect the quality of the human environment.

Certification:
The undersigned hereby certifies that New York State Homes and Community Renewal has conducted an environmental review of the project identified above and prepared the attached environmental review record in compliance with all applicable provisions of the National Environmental Policy Act of 1969, as amended (42 USC Sec. 4321 et seq.) and its implementing regulations at 24 CFR Part 58.

Signature:

Lori A. Shirley, Certifying Officer, Governor’s Office of Storm Recovery

Environmental Review Prepared By: The Louis Berger Group, Inc.
48 Wall Street, 16th Floor
New York, NY 10005
CERTIFICATION OF NEPA CLASSIFICATION

It is the finding of the New York State Housing Trust Fund Corporation that the activity(ies) proposed in its 2016 NYS CDBG-DR project, Village of Freeport: Freeport Channel Crossing Electrical Improvements are:

Check the applicable classification.

☐ Exempt as defined in 24 CFR 58.34 (a).

☐ Categorically Excluded as defined in 24 CFR 58.35(b).

☐ Categorically Excluded as defined in 24 CFR 58.35(a) and no activities are affected by federal environmental statues and executive orders [i.e., exempt under 58.34(a)(12)].

☐ Categorically Excluded as defined in 24 CFR 58.35(a) and some activities are affected by federal environmental statues and executive orders.

☒ "Other" neither exempt (24 CFR 58.34(a)) nor categorically excluded (24 CFR 58.35).

☒ Part or all of the project is located in an area identified as a floodplain or wetland. For projects located in a floodplain or wetland, evidence of compliance with Executive Orders 11988 and/or 11990 is required.

For activities excluding those classified as "Other", attached is the appropriate Classification Checklist (Exhibit 2-4) that identifies each activity and the corresponding citation.

Signature of Certifying Officer

Lori A. Shirley

Print Name

February 13, 2017

Date

Certifying Officer

Title
CERTIFICATION OF SEQRA CLASSIFICATION

It is the finding of the New York State Housing Trust Fund Corporation that the activity(ies) proposed in its __2016____ NYS CDBG-DR project,

Village of Freeport: Freeport Channel Crossing Electrical Improvements constitute a:

Check the applicable classification:

☐ Type I Action (6NYCRR Section 617.4)
☒ Type II Action (6NYCRR Section 617.5)
☐ Unlisted Action (not Type I or Type II Action)

Check if applicable:

☐ Environmental Impact Statement (EIS) Prepared

☐ Draft EIS
☐ Final EIS

Signature of Certifying Officer

Lori A. Shirley

Print Name

Certifying Officer

February 13, 2017

Date

Title
Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:

The Village of Freeport is proposing to replace electrical transmission infrastructure that was damaged during Superstorm Sandy. The project is located in the eastern part of Freeport, bisected by the Freeport Channel (also known as South Oyster Bay) (see Figure 1). Freeport is an incorporated village located in the Town of Hempstead on the south shore of Nassau County’s mainland on Long Island, New York (see Figure 2).

The project would include the following improvements:

- Replace the existing conduits and tie lines originally installed below the Freeport Channel in 1967;
- Extend the underwater tie lines further inland on the western side of the Freeport Channel;
- Remove the two riser poles on the western side and extend the lines underground from the channel through the right-of-way to the intersection of Ray Street and South End Place;
- Install four new riser poles at Ray Street/South End Place and Ray Street/Bedell Street to diversify locations.

The existing cross-channel cable is a direct-buried armor type cable that is close to the channel bed. The new conduits would be installed at a depth greater than that of the existing cable. The maximum depth is anticipated to be approximately 40 feet below ground surface and 25 to 30 feet below the channel mudline. (See Appendix A for proposed construction drawings.)

The conduits would carry 15kV EPR Insulated Copper electrical cable and fiber optic cable. On the west side of the Freeport Channel, the cable/conduits would be extended further underground to overhead lines/riser poles located on Ray Street/South End Place and Ray Street/Bedell Street. On the east side of the Freeport Channel, the cable/conduits would be extended to an existing electrical vault on Hanse Avenue. Construction of the project would involve excavating a launching pit on one side of the Freeport Channel and a receiving pit on the opposite side of the channel. One of these (it is not known from which direction the drilling would occur) would be located at the juncture of Ray Street and South End Place. The pit on the east side of the channel would be located at the existing tie-in located in a Village of Freeport parking lot at the bend of Hanse Avenue. Directional horizontal boring would be used to drill a tunnel beneath the Freeport Channel between the two pits, and the conduits would be installed through the tunnel.

Freeport Electric will permanently abandon the existing four submarine cable feeder circuits in place, and all in-water submarine cable will rest on the bottom of the Freeport Creek in perpetuity. Since the existing submarine cables are direct-buried cables, there are no conduits or pipes to be filled to complete the abandonment. Cables will be cut within the existing manholes, and the penetrations within the manholes will be permanently plugged.

With exception to one geotechnical water boring in the channel—to be conducted over an approximate 2 to 3 day time period for the purposes of collecting soil samples prior to construction—no construction activity would occur in Freeport Channel, and no construction equipment or construction materials would be staged from the water of Freeport Channel. A non-toxic drilling fluid, comprised of a mixture of bentonite clay and water with additives used to improve performance, would be used in the process. Drilling fluid would be pumped into the excavation through the boring machine cutter head. The fluid would then be pumped back out of the bore hole and the cuttings carried back out to the surface where the cuttings would settle out in a pit or removed mechanically via a cleaning system. The spent drilling fluid
will be disposed of according to all applicable regulations and manufacturer recommendations. All material excavated during the horizontal directional drilling process would be disposed of offsite.

Two additional pits, approximately 10 feet by 10 feet, and approximately 10 feet deep, would be excavated within the public right-of-way along Ray Street; one just east of the intersection at South Main Street, and one just east of the intersection at Bedell Street. Electric vaults would be constructed in these two pits as well as the pit located on the east side of the Freeport Channel.

Outside of the horizontal directional drilling crossing the channel, an open-cut trench would be excavated along Ray Street to the intersection at Bedell Street on the west side of the Freeport Channel. Similarly, an open-cut trench would be excavated to the existing electrical vault at Hanse Avenue on the east side of the channel. Both open-cut trenches would be approximately 1,000 feet long. Additionally, three electrical vaults, each approximately 16 feet long by 10 feet wide by 10 feet deep, would be installed; two on the west side and one on the east side of the Freeport Channel. Suitable excavated material would be used as backfill and any surplus excavated material or unsuitable backfill material (clay, etc.) would be disposed of offsite.

Construction of the project would begin in July of 2017 and is expected to be complete approximately 9 months later. Project construction would comply with local and state building codes, including the Village of Freeport noise ordinance.

A brief period of power outage for some customers in the area is expected near the end of project construction, when power is transferred from the old transmission lines to the new lines. The utility provider (Freeport Electric) would notify affected customers in advance of the outage.

The project would introduce new visual elements consisting of four new distribution risers (similar to the existing poles that line the streets in the neighborhood); two on Ray Street just east of Bedell Street, and two on Bedell just north of Ray Street. The existing risers at the intersection of Ray Street and South End Place and in a nearby, privately-owned marina parking lot would be removed. No other elements of the project would be visible when the project is complete.

Some public streets may be temporarily closed during construction of the project. The project would incorporate restrictions on construction equipment to reduce air emissions. Construction documents would restrict unnecessary idling on roadways, and on-site vehicle idle time would also be restricted to five minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., drilling machine) or otherwise required for the proper operation of the engine.

The contract document would provide for utilization of newer equipment. EPA’s Tier 1 through 4 standards for non-road engines regulates the emission of criteria pollutants from new engines, including PM, CO, NOx, and hydrocarbons (HC). All non-road construction equipment with a power rating of 50 horsepower (hp) or greater would meet at least the Tier 2 emissions standard to the extent practicable. Non-road diesel engines with a power rating of 50 hp or greater would utilize the best available tailpipe technology for reducing DPM emissions.

**Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:**

Freeport Electric, the largest municipal-owned utility on Long Island, serves more than 43,000 people. During Superstorm Sandy, infrastructure maintained by Freeport Electric and located adjacent to the
Freeport Channel was damaged by untethered vessels and floating debris, tripping the electrical grid in the area. The resulting outage disrupted power to 3,700 residential and commercial customers, and to critical village assets, including three flood sirens, two fire houses, two sewer pump stations, and two schools, as well as the Nautical Mile, the Village’s primary economic district.

The proposed project would replace a submarine cable beneath the Freeport Channel that carries Freeport Electric’s power serving one-quarter of the Village of Freeport’s residents. The conduit, and the risers connecting electric cables to the overhead transmission lines, are vulnerable to tidal inundation and are susceptible to damage from floating debris and drifting vessels during coastal surges and storms. The purpose of the project is to make this infrastructure less susceptible to damage and thereby protect residents and businesses from future loss of power, and to reduce the risk of injury and fire due to downed electric lines.

**Existing Conditions and Trends [24 CFR 58.40(a)]:**

The original 1967 power lines run below the Freeport Channel from risers located in a nearby, privately-owned marina parking lot just east of the intersection of Bay Street and South End Place to a Village of Freeport parking lot at the bend of Hanse Avenue on the east side of the Freeport Channel. Aboveground poles and wires extend west along Ray Street to connect to the power grid. The two existing risers in the marina as well as above street poles and lines are susceptible to damage posed by boats during flooding or storm surges, creating the potential for power outages and electrical fires in Freeport.

**Land Use**

The project area is dominated by single-family residential properties. However, the land use in the immediate area of the project site is a diverse mix of industrial, recreational, commercial, open space and residential uses. This is due to the presence of an industrial park, marinas, and boat yards that line the west shore of the Freeport Channel, which separate the more typical residential properties from the channel. Immediately to the north of the project site lie several commercial developments with retail and dining, as well as a large open space (although fenced in) surrounding an antenna. The proposed project would not change the existing land use.

**Floodplain Management**

According to FIRM panel 36059C0239G published September 10, 2009, almost all of the project area lies within a Special Flood Hazard Area Zone AE. This is a 100 year floodplain with a base flood elevation of 8 feet. Therefore, a formal floodplain review process is required for compliance with Executive Order 11988 Floodplain Management.

**Coastal Zone Management**

The project area is located within a coastal zone. However, the Village of Freeport does not have an adopted local waterfront revitalization program. A federal coastal consistency assessment was completed for the project (see Appendix C).

**Cultural and Ecological Resources**

While the proposed project is located in an area of generalized archaeological sensitivity, no historic resources were identified in the project area or its immediate surroundings. The project area is not located in regulated wetlands. According to the New York State Department of Environmental Conservation’s Environmental Resource Mapper, the project is not located in the vicinity of Significant Natural Communities and Rare Plants and Rare Animals.
Funding Information

Estimated Total HUD Funded Amount: $3,000,000.00

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]: $3,000,000.00
Compliance with 24 CFR 58.5, and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

<table>
<thead>
<tr>
<th>Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6</th>
<th>Are formal compliance steps or mitigation required?</th>
<th>Compliance determinations</th>
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<tr>
<td><strong>STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6</strong></td>
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<tr>
<td><strong>Airport Hazards</strong></td>
<td>Yes No</td>
<td>Not applicable. Based on guidance provided by HUD in Fact Sheet #D1, the National Plan of Integrated Airport Systems was reviewed for civilian, commercial service airports within the vicinity of the project site. No known civil airports are located within 2,500 feet and no known military airports are located within 15,000 feet of the project site. <a href="https://www.michigan.gov/documents/mshda/mshda_cd_nsp2_air_accident_315724_7.pdf">https://www.michigan.gov/documents/mshda/mshda_cd_nsp2_air_accident_315724_7.pdf</a></td>
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<td>24 CFR Part 51 Subpart D</td>
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<tr>
<td><strong>Coastal Barrier Resources</strong></td>
<td>Yes No</td>
<td>Not applicable. According to the Coastal Barrier Resource System maps, the proposed project is not located in a Coastal Barrier Resource System (see Figure 4). Therefore, the proposed project would have no impact on any Coastal Barrier Resources. <a href="http://www.fws.gov/cbra/Maps/index.html">http://www.fws.gov/cbra/Maps/index.html</a></td>
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<td>Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]</td>
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<td><strong>Flood Insurance</strong></td>
<td>Yes No</td>
<td>As shown in Figure 6, about 90% of the project area is located within the 100 year flood hazard zone, while the other 10% is located within a 500 year flood hazard zone. The proposed project is an infrastructure project with no improvements to buildings (i.e., real property) or mobile homes either located or to be located in areas identified by FEMA as having special flood hazards in participating communities. Therefore, proof of flood insurance is not required. <a href="https://msc.fema.gov/portal">https://msc.fema.gov/portal</a></td>
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Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93

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<th>Yes</th>
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The proposed project would be located in Nassau County, which is within a maintenance area for inhalable particulate matter (PM2.5) and carbon monoxide, a marginal non-attainment area for the 8-hour Ozone standard and considered an area source for hazardous air pollutants (HAPs) emissions. Temporary emissions would result from equipment during construction with no increased emissions occurring due to operation.

Therefore, a conformity analysis was made according to the requirements of 40 CFR 93, Subpart B (federal general conformity regulations) and a screening analysis was performed (see Appendix B) assuming that the emissions intensity per expenditure (tons per dollar) for the project would be similar to the average intensity of the construction sector in the county. Projects with projected construction expenditure substantially lower than the average construction *de minimis* expenditure would clearly not exceed *de minimis* emissions levels for general conformity purposes.

Based on the screening analysis, the construction expenditure threshold for Nassau County is $410 million before a project may be expected to exceed the *de minimis* expenditure thresholds requiring further analysis or conformity determination. The estimated construction cost of the project is approximately $3 million, which is much less than the $410 million threshold; therefore the proposed project would not require further analysis for conformity determination.

Construction of the project would not generate significant levels of vehicular traffic; therefore, no exceedances of the National Ambient Air Quality Standard (NAAQS) associated with carbon monoxide (CO) or particulate matter (PM) is anticipated occur. The proposed project would not result in siting any new source of air pollutants. The project would not adversely affect the State Implementation Plan (SIP). Any air quality impacts would be short-term and localized during construction and, therefore, no significant adverse impacts to air quality are
anticipated
The project would incorporate restrictions on construction equipment to reduce air emissions. Construction documents would restrict unnecessary idling on roadways, and on-site vehicle idle time will also be restricted to five minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., drilling machine) or otherwise required for the proper operation of the engine.

Additionally, the following measures will be incorporated into the contract documents and a more detailed conformity analysis will be required to be completed for the bid package using the “General Conformity Worksheet.”

*Idling Restriction.* In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time will also be restricted to five minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine.

*Utilization of Newer Equipment.* EPA’s Tier 1 through 4 standards for non-road engines regulate the emission of criteria pollutants from new engines, including PM, CO, NOx, and hydrocarbons (HC). All non-road construction equipment with a power rating of 50 horsepower (hp) or greater would meet at least the Tier 2 emissions standard to the extent practicable.

*Best Available Tailpipe Reduction Technologies.* Non-road diesel engines with a power rating of 50 hp or greater and controlled truck fleets (i.e., truck fleets under long-term contract with the project) including but not limited to concrete mixing and pumping trucks would utilize the best available tailpipe (BAT) technology for reducing DPM emissions. Diesel particulate filters (DPFs) have been identified as being the tailpipe technology currently proven to have the highest reduction capability. Construction
contracts would specify that all diesel non-road engines rated at 50 hp or greater would utilize DPFs, either installed by the original equipment manufacturer (OEM) or retrofitted. Retrofitted DPFs must be verified by EPA or the California Air Resources Board (CARB). Active DPFs or other technologies proven to achieve an equivalent reduction may also be used.


EPA, *Recent Updates: Federal Register Notices Published or Effective After September 22, 2016* [http://www.epa.gov/airquality/greenbook/appendix_n.html](http://www.epa.gov/airquality/greenbook/appendix_n.html)

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<tr>
<th>Coastal Zone Management</th>
<th>Yes</th>
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<td>Coastal Zone Management Act, sections 307(c) &amp; (d)</td>
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<td>The project area is located within a coastal zone (see Figure 5). However, the Village of Freeport does not have an adopted local waterfront revitalization program. A New York State Federal Consistency Assessment was completed and submitted to the New York State Division of Coastal Resources on November 1, 2016 for the Project to determine its consistency with New York State’s Coastal Management Plan (See Appendix C). On November 29th 2016, the New York Department of State concurred with GOSR’s assessment that the proposed project was consistent with the State Coastal Consistency requirements (see Appendix C).</td>
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<th>Contamination and Toxic Substances</th>
<th>Yes</th>
<th>No</th>
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<tr>
<td>24 CFR Part 50.3(i) &amp; 58.5(i)(2)</td>
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<td>According to reviews of the NYSDEC Spills Database and NYSDEC Environmental Site Remediation database, there are a number of remediation sites within the project area, including two state superfund sites and a voluntary cleanup program site (see Figure 8). Two additional voluntary cleanup program remediation sites and another superfund program site are located within a half mile radius of the project area. There are two Toxic Release Inventory sites, but both are warehouses or factories that would not be impacted by the project.</td>
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According to the NYS DEC, the Columbia Cement Company property (DEC Site Code V00090) east of the Freeport Channel (industrial park site) sits over the former Landfill of the Village and is considered a voluntary cleanup site. A second site, located on the west side of the channel, was investigated (NYS DEC Site Code 11520), but not placed in the Superfund site registry (see Appendix D).

A third site, the Superfund Program site located at 435 South Main Street, is the former Metal Etching Company (currently a privately owned marina). This site is a Class 2 site on the NYSDEC Registry of Inactive Hazardous Waste Sites (NYS DEC Site Code 130110) and is known to contain contaminated soil (see Appendix D).

All work proposed at the former Metal Etching Company site (NYS DEC Site Code 130110) will be completed in accordance with an approved Excavation Work Plan (see Appendix D). It is anticipated that approximately 150 cubic yards of material will be excavated from the site. Excavated material will be tested and disposed of in accordance with NYSDEC requirements. Similarly, all slurry and soil cuttings removed from the borehole and mud pits during horizontal directional drilling will be stored in metal containers, tested and disposed of in accordance with NYSDEC regulations. Two existing groundwater monitoring wells located at the marina and associated with site remediation, MW-03S and MW-03D, will sealed and decommissioned in accordance with NYSDEC regulations “CP-43 Groundwater Monitoring Well Decommissioning Policy” (dated November 2009), and replacement wells will be installed at an alternate location within 20 feet of existing locations and as approved by NYSDEC (see Appendix D).

In order to further avoid adverse effects to human health and the environment, construction of the proposed project will be conducted in accordance with a site-specific Soil Mitigation Plan (SMP) which will specify procedures for identifying and managing any suspected or unforeseen contaminated soil.
and/or underground storage tanks (including procedures for stockpiling and off-site transportation and disposal), environmental regulatory agency notification and/or reporting, and appropriate health and safety procedures during construction. All dewatering necessary for the horizontal directional drilling process will be disposed of in accordance with an Excavation Work Plan.

http://www.dec.ny.gov/chemical/8437.html
http://www.dec.ny.gov/imsmaps/facilities/viewer.htm

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<th>Endangered Species</th>
<th>Yes</th>
<th>No</th>
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Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402

The following Federally-listed species have the potential to occur within the vicinity of the project:

Endangered:
- Roseate Tern (*Sterna dougallii dougallii*)
- Sandplain Gerardia (*Agalinis acuta*)

Threatened:
- Piping Plover (*Charadrius melodus*)
- Red Knot (*Calidris canutus rufa*)
- Seabeach Amaranth (*Amaranthus pumilus*)
- Northern Land-eared Bat (*Myotis septentrionalis*)

The National Marine Fisheries lists the following ESA species for the Greater Atlantic Region:

Fish Species:
- Atlantic salmon (*Salmo salar*)
- Shortnose sturgeon (*Acipenser brevirostrum*)
- Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*)

Sea Turtles:
- Green sea turtle (*Chelonia mydas*)
- Hawksbill turtle (*Eretmochelys imbricata*)
- Kemp’s Ridley turtle (*Lepidochelys kempii*)
- Leatherback turtle (*Dermochelys coriacea*)
- Loggerhead turtle (*Caretta caretta*)

Marine Mammals:
- Blue Whale (*Balaenoptera musculus musculus*)
- Fin Whale (*Balaenoptera physalus*)
- Humpback Whale (*Megaptera novaeangliae*)
- North Atlantic right whale (*Eubalaena glacialis*)
- Sei whale (*Balaenoptera borealis*)
Sperm whale (Physeter microcephalus)

On May 23, 2016, an initial request for information was submitted to the New York Natural Heritage Program (NHP). On June 28, 2016, a response was received from the NHP, which did not identify any records of rare or state-listed animals or plants, or significant natural communities at the Site or in its immediate vicinity.

On November 4, 2016, a No Effect Determination was sent to the U.S. Fish & Wildlife Service (USFWS). On November 4, 2010, a Memorandum of No Effect was also sent to the National Marine Fisheries Service (NMFS). On November 8, 2016, a response from USFWS indicating acknowledgement of receipt of the No Effect Determination was received (see Appendix G).

The noise and vibrations resulting from the horizontal directional drilling are not expected to be significantly in excess of the current ambient conditions. The noise generated during the one vertical geotechnical boring is anticipated to be on the order of 100 dbA and vibrations are expected to be insignificant (less than 0.3 inch/second peak particle velocity). Noise transmission to open waters where listed species may occur would be minimized due to the project area being located upstream within a narrow, developed channel subject to frequent boating and other human disturbances. Therefore, the project will not directly affect any listed fish species, marine mammals, or sea turtles.

Underground drilling would minimize impacts to any species which may be in the area. The proposed project is anticipated to have no effect on these species or their habitat.

http://ecos.fws.gov/ipac/gettingStarted/map

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<th>Explosive and Flammable Hazards</th>
<th>Yes</th>
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<td>24 CFR Part 51 Subpart C</td>
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Not applicable. This criterion is applicable to HUD-assisted projects that involve new residential construction, conversion of non-residential buildings to residential use, rehabilitation of residential properties that increase the number of units, or restoration of
abandoned properties to habitable condition. The proposed project does not include these activities.

**Farmlands Protection**
Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658

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Not applicable. The project location is not located within an Agricultural District. It would not cause disturbance to Prime, Unique, or Statewide Important Farmland and would not involve the conversion of farmland to non-agricultural use (See Appendix E). Therefore, the proposed project would not violate the Farmland Protection Policy Act.


**Floodplain Management**
Executive Order 11988, particularly section 2(a); 24 CFR Part 55

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According to the flood map of the study area and FIRM panel 36059C0239G (figures 6 and 11) published September 10, 2009, almost all of the project area lies within a Special Flood Hazard Area Zone AE. This is a 100 year floodplain with a base flood elevation of 8 feet. Therefore, a formal floodplain review process is required for compliance with Executive Order 11988 Floodplain Management. This 8-step decision making process is detailed in Appendix F.

[https://msc.fema.gov/portal](https://msc.fema.gov/portal)

**Historic Preservation**
National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800; Tribal notification for new ground disturbance.

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The New York State Cultural Resource Information System was searched for resources. No National Register listed or eligible properties are located within a quarter mile of the project area. A National Register Building Site, the Jones Beach State Park Causeway and Parkway System is the closest significant site, about a quarter mile to the east, and would not be impacted by the project. The project area is located within an area of archaeological sensitivity. However, all digging and trenching would occur within previously disturbed areas.

On April 28, 2016, a consultation with the New York State Historic Preservation Office (SHPO) was initiated with a letter indicating that the project would not result in a potential to affect architectural resources. On May 3, 2016, the SHPO responded with concurrence that there will be No Historic Properties Affected by the proposed undertaking (see Appendix I).

| Noise Abatement and Control | Yes No | The Proposed Project is not a noise sensitive use, and furthermore, the policies of 24 CFR 51.101(a)(3) do not apply to any action or emergency assistance under disaster assistance provisions or appropriations which are provided to protect property and protect public health and safety. The proposed project will cause temporary increases in noise levels during trenching activities and during the horizontal directional drilling in the channel water column. However, these are not expected to be significantly in excess of the current ambient conditions. Noise associated with geotechnical boring prior to construction is anticipated to be on the order of 100 dbA, and vibrations at the ground during the geotechnical boring are expected to be insignificant (less than 0.3 inch/second peak particle velocity). Existing ambient noise levels will not be exceeded during operations. Therefore, the project would not generate any significant adverse noise impacts. Moreover, the project would incorporate restrictions on construction equipment to reduce air emission and noise. Construction documents would restrict unnecessary idling on roadways, and on-site vehicle idle time will also be restricted to five minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., drilling machine) or otherwise required for the proper operation of the engine. |
| Sole Source Aquifers | Yes No | The proposed project is located on the Nassau-Suffolk Sole Aquifer (SSA) system (see Figure 10). On November 1, 2016, an Initial Screen/Preliminary Review request was submitted to the Region 2 office of the Environmental Protection Agency (EPA) as per the Memorandum of Understanding (MOU) between EPA and HUD dated August 24, 1990. On November 21, 2016, a request for additional information was received to which a response was sent on November 22, 2016. On December 1, 2016, the Region 2 EPA Office responded indicating that the project satisfies the requirements of Section 1424(e) of the Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149 |
Drinking Water Act (See Appendix J).  
[http://www3.epa.gov/region02/water/aquifer/](http://www3.epa.gov/region02/water/aquifer/)  

| Wetlands Protection | Yes | No | Per the NYSDEC Environmental Resource Mapper, there are no state-regulated wetlands located within the project area. South Oyster Bay is classified by the U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) as estuarine and marine deepwater, as shown in Figure 3. Permits, under Section 404 and Section 10, via USACE Nationwide permit (NWP) 12, would be required for the placement/construction of the utility line within a navigable waterway. A formal floodplain review process is required for compliance with Executive Order 11990 Protection of Wetlands. The 8-step decision making process was followed (see Appendix F). |  |
|---------------------|-----|----|---|---|---|---|
| Executive Order 11990, particularly sections 2 and 5 | Yes | No |  |
| Wild and Scenic Rivers | Yes | No | Not applicable. There are no Wild and Scenic Rivers within Nassau County, as designated by the U.S. Department of the Interior. There are no National Wild and Scenic Rivers Systems in Nassau County as designated by the National Wild and Scenic Rivers System. The project is not located along a Wild, Scenic and Recreational Rivers as determined by the NYSDEC. Therefore, the proposed project would not violate the Wild and Scenic Rivers Act. |  |
| Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c) | Yes | No |  |

| ENVIRONMENTAL JUSTICE | Yes | No | The Project Site is not located in an area defined by the NYSDEC as a potential environmental justice area. However, it is adjacent to one (see Figure 7). The project would not result in the potential for significant adverse impacts, so there are no disproportionate adverse impacts anticipated on the surrounding community. The project will benefit the entire southern end of Freeport by increasing power reliability and reducing the risk of electrical fires. |  |
|-----------------------|-----|----|---|---|---|
| Environmental Justice | Yes | No |  |
| Executive Order 12898 | Yes | No |  |
Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 & 1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. All conditions, attenuation or mitigation measures have been clearly identified.

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.

1. Minor beneficial impact
2. No impact anticipated
3. Minor Adverse Impact – May require mitigation
4. Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

<table>
<thead>
<tr>
<th>Environmental Assessment Factor</th>
<th>Impact Code</th>
<th>Impact Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAND DEVELOPMENT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>2</td>
<td>No impacts would occur. The project would not change land use, require changes in zoning, or conflict with any land use plans. The project would</td>
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<tr>
<td></td>
<td></td>
<td>introduce new visual elements consisting of four new distribution risers, two on Ray Street just east of Bedell Street, and two on Bedell Street</td>
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<tr>
<td></td>
<td></td>
<td>just north of Ray Street. The existing risers at the intersection of Ray Street and South End Place and in a nearby, privately-owned marina parking</td>
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<tr>
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<td>lot would be removed. No other elements of the project would be visible when the project is complete. The new risers will be in character with</td>
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<td>the existing power lines in the neighborhood.</td>
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<td></td>
<td></td>
<td>The project area is dominated by single-family residential properties. However, the land use in the immediate area of the project site is a</td>
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<tr>
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<td></td>
<td>diverse mix of industrial, recreational, commercial, open space and residential uses. This is due to the presence of an industrial park,</td>
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<td>marinas, and boat yards that line the west shore of the Freeport Channel, which separate the more typical residential properties from the</td>
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<tr>
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<td></td>
<td>channel. Immediately to the north of the project site lie several commercial developments with retail and dinning, as well as a large open</td>
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<tr>
<td></td>
<td></td>
<td>space (although fenced in) surrounding an antenna. The proposed project would not change the existing land use. The project area along the west</td>
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<tr>
<td></td>
<td></td>
<td>side of the Freeport Channel is zoned for Marine Apartment/Boatel and Condominium, the area</td>
</tr>
<tr>
<td>Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff</td>
<td>2</td>
<td>No impacts would occur. The project is located on urban land (see Figure 9) and project activities would not substantially affect soils in the area. The directionally-drilled bore hole is expected to be approximately 825 feet in length and 36 inches in diameter, extending east from a 150 square foot entrance pit located 200 feet to the east of the Channel to a 150 square foot exit pit located 360 feet to the west of the Channel. Outside of the horizontal directional drilling crossing the channel, excavation of an open cut trench approximately 800 feet in length will be performed. There would be no significant increase in impervious surfaces and stormwater runoff. Appropriate soil erosion and sediment control best practices will be implemented during construction activities. In particular, soil erosion and sediment control measures would be in place for any construction activities associated with drilling and trench excavation.</td>
</tr>
</tbody>
</table>
| Hazards and Nuisances including Site Safety and Noise | 2 | No impacts would occur. Although some public streets may be closed during construction activities, appropriate precautions such as signage and detours would be installed to direct vehicular and pedestrian traffic. Fugitive dust would be addressed under existing regulations governing construction activity in New York State, Nassau County, and local municipalities. The proposed project would only temporarily increase noise levels at nearby residences during the construction period. Noise and vibrations occurring within the water column during the horizontal directional drilling work are not expected to exceed the current ambient conditions significantly. A geotechnical water boring would occur over a period of approximately 2 to 3 days during construction in the channel. Noise from this operation is anticipated to be approximately 100 dBA, and vibrations at the ground during the geotechnical boring are expected to be less than 0.3 inch/second peak particle velocity, which would not result in significant impacts. The project construction would comply with existing local and state building codes, including the Village of Freeport noise ordinance. Completion of the project would not result in increases to existing ambient noise levels. All work proposed at the former Metal Etching Company site (NYS DEC Site Code 130110) will be completed in accordance with an approved Excavation Work Plan. It is anticipated that approximately 150 cubic yards of material would be excavated from the site. Excavated material will be tested and disposed of in accordance with NYSDEC requirements. Similarly, all slurry and
Soil cuttings removed from the borehole and mud pits during horizontal directional drilling will be stored in metal containers, tested and disposed of in accordance with NYSDEC regulations.

A non-toxic drilling fluid, comprised of a mixture of bentonite clay and water with additives used to improve performance, would be used in the process. Drilling fluid would be pumped into the excavation through the boring machine cutter head. The fluid would then be pumped back out of the bore hole and the cuttings carried back out to the surface where the cuttings would settle out in a pit or removed mechanically via a cleaning system. The spent drilling fluid will be disposed of according to all applicable regulations and manufacturer recommendations. All material excavated during the horizontal directional drilling process would be disposed of offsite.

<table>
<thead>
<tr>
<th>Environmental Assessment Factor</th>
<th>Impact Code</th>
<th>Impact Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOCIOECONOMIC</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment and Income Patterns</td>
<td>2</td>
<td>No impacts would occur. The proposed project would create temporary jobs during construction. However, these jobs would not significantly increase employment opportunities or impact income patterns as construction is expected to occur over a nine-month duration and be within the capabilities of an existing construction firm. Operation of the proposed project would not result in any changes to existing employment opportunities or impact income patterns.</td>
</tr>
<tr>
<td>Demographic Character Changes, Displacement</td>
<td>2</td>
<td>No impacts would occur. The proposed project would not result in the creation of new permanent jobs and therefore would not alter the demographic characteristics of the surrounding community. The proposed project would not directly or indirectly displace people, businesses, institutions, or community facilities.</td>
</tr>
</tbody>
</table>

Energy Consumption 1 Beneficial impacts are anticipated. Construction of the proposed project would require energy, including the use of fossil fuels, for construction equipment and the shipment of materials required for construction activities. However, the proposed project would not increase long-term energy consumption. The existing electrical service line carries a substantial load of Freeport Electric's power, serving one-quarter of Freeport's residents. The proposed replacement would enhance storm resiliency and increase system reliability, resulting in fewer outages and less reliance on lower efficiency sources of back-up power.
<table>
<thead>
<tr>
<th>COMMUNITY FACILITIES AND SERVICES</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational and Cultural Facilities</td>
<td>2</td>
<td>No impacts would occur. The proposed project would not result in the creation of new jobs and therefore would not increase demand on educational facilities. There are no facilities serving children, the elderly, or people with disabilities located within 1,500 feet of the project area.</td>
</tr>
<tr>
<td>Commercial Facilities</td>
<td>2</td>
<td>No impacts would occur. The proposed project would not result in the creation of new jobs and therefore would not increase demand on commercial facilities nor have any adverse effects on existing facilities.</td>
</tr>
<tr>
<td>Health Care and Social Services</td>
<td>2</td>
<td>No impacts would occur. The proposed project would not result in the creation of new jobs and therefore would not increase demand on health care and social services nor have any adverse effects on existing facilities.</td>
</tr>
<tr>
<td>Solid Waste Disposal / Recycling</td>
<td>2</td>
<td>No impacts would occur. The proposed project will have no impact on solid waste or recycling. The amount of solid waste generated from construction would not significantly increase short-term generation of municipal solid waste. Dredging 10 by 10 foot pits, a trench of approximately 0.25 miles in length, and drilling under the Channel are the only project activities expected to generate waste. A non-toxic drilling fluid, comprised of a mixture of bentonite clay and water with additives used to improve performance, would be used in the process. Drilling fluid would be pumped into the excavation through the boring machine cutter head. The fluid would then be pumped back out of the bore hole and the cuttings carried back out to the surface where the cuttings would settle out in a pit or removed mechanically via a cleaning system. The spent drilling fluid will be disposed of according to all applicable regulations and manufacturer recommendations. All material excavated during the horizontal directional drilling process would be disposed of offsite.</td>
</tr>
<tr>
<td>Waste Water / Sanitary Sewers</td>
<td>2</td>
<td>No impacts would occur. The proposed project would not alter the existing wastewater systems.</td>
</tr>
<tr>
<td>Water Supply</td>
<td>2</td>
<td>No impacts would occur. The proposed project would have no impact on water supply.</td>
</tr>
<tr>
<td>Public Safety - Police, Fire and Emergency Medical</td>
<td>1</td>
<td>Beneficial impacts are anticipated. The proposed project should improve the ability of emergency responders to access the southern end of Freeport during and after storm events by reducing power outages and lessening the risk of downed power lines.</td>
</tr>
<tr>
<td>Parks, Open Space and Recreation</td>
<td>2</td>
<td>No impacts would occur. There will be no change in the amount or quality of land for open space or recreation.</td>
</tr>
</tbody>
</table>
Transportation and Accessibility

1

Beneficial impacts are anticipated. The proposed project would reduce the likelihood of streets in the project area being closed due to downed power lines, which should improve transportation access during and after storm events.

<table>
<thead>
<tr>
<th>Environmental Assessment Factor</th>
<th>Impact Code</th>
<th>Impact Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NATURAL FEATURES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unique Natural Features, Water Resources</td>
<td>2</td>
<td>No impacts would occur. The proposed project is located on the Nassau-Suffolk Sole Source Aquifer system but is not anticipated to impact the Aquifer. The Freeport Channel is designated by the USFWS as Estuarine and Marine Deepwater; however, no construction or staging would take place in the waters.</td>
</tr>
<tr>
<td>Vegetation, Wildlife</td>
<td>2</td>
<td>No impacts would occur. The project would not adversely impact flora and fauna, including special status species, occurring in the vicinity. The noise and vibrations resulting from the horizontal directional drilling are not expected to be significantly in excess of the current ambient conditions. The noise generated during the one vertical geotechnical boring is anticipated to be on the order of 100 dbA and vibrations are expected to be insignificant (less than 0.3 inch/second peak particle velocity). Noise transmission to open waters where listed species may occur would be minimized due to the project area being located upstream within a narrow, developed channel subject to frequent boating and other human disturbances. Therefore, the project would not directly affect any listed fish species, marine mammals, or sea turtles. Underground drilling would minimize impacts to any species that may be in the area. The proposed project is anticipated to have no effect on these species or their habitat. <a href="http://ecos.fws.gov/ipac/gettingStarted/map">http://ecos.fws.gov/ipac/gettingStarted/map</a></td>
</tr>
<tr>
<td>Other Factors</td>
<td>2</td>
<td>There are no other factors applicable to the proposed project.</td>
</tr>
</tbody>
</table>

**Additional Studies Performed:**
None

**Field Inspection** (Date and completed by):

**List of Sources, Agencies and Persons Consulted** [40 CFR 1508.9(b)]:

**Agencies**
New York State Division for Historic Preservation, New York State Office of Parks, Recreation & Historic Preservation (OPRHP)
Shinnecock Nation
Unkechaug Nation
Delaware Tribe of Indians
Stockbridge-Munsee Community, Band of the Mohicans
Mohawk Nation Council of Chiefs of Haudenosaunee Six Nations Confederacy
St. Regis Mohawk Tribe
New York State Department of Environmental Conservation (NYS DEC) – Region 1
New York State Department of State Division of Coastal Resources
US Army Corps of Engineers (USACE)
US Environmental Protection Agency (EPA), Region 2
US Fish & Wildlife Service - Long Island Field Office
National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS)

Sources
- USFWS Wetlands Mapper, Fish and Wildlife Service Wetlands http://www.fws.gov/wetlands/Data/Mapper.html
- FEMA Floodplain Map, http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=cbe088e7c8704464aa0fc34eb99e7f30
- Electronic Code of Federal Regulations, Title 24 Part 55, http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=97a50e75891a65a7fbced896b890743e&r=PART&n=24y1.1.1.1.32
- EPA Region 2 Sole Source Aquifers, http://www.epa.gov/region02/water/aquifer/
- FEMA Floodplain Map Service Center: https://msc.fema.gov/portal
- Freeport NY Community Reconstruction Plan, NYRCR, March 2014
• NYSDEC Spills Database,  
• NYSDEC Remediation Database,  
• NYSDEC Wild, Scenic and Recreational Rivers,  http://www.dec.ny.gov/animals/32739.html
• NYSDEC Potential Environmental Justice Areas in Nassau County,  
http://www.dec.ny.gov/docs/permits_ej_operations_pdf/nassauej.pdf
• New York State Department of State (NYSDOS) – Coastal Boundary Map,  and  
• NYSDOS – Local Waterfront Revitalization Program – Coastal Waterbodies and Inland Waterways,  
• Pre Application Report for Village of Freeport Channel Crossing Electrical Improvements, December 12, 2014.
• State Register of Historic Places – Cultural Resources Information Systems (CRIS),  
http://parks.ny.gov/shpo/online-tools/
http://ecos.fws.gov/ipac/
• USFWS Coastal Barrier Resources Act,  http://www.fws.gov/cbra/Maps/index.html
• USFWS Wetlands Online Mapper – National Wetlands Inventory Map,  
http://www.fws.gov/wetlands/Data/Mapper.html
• Village of Freeport Zoning Map,  
http://www.freeportny.com/DocumentCenter/Home/View/682
• Wild and Scenic Rivers Act – Sections 3 and 5 (16 USC 1274 and 1276),  
List of Permits Obtained or Required:

<table>
<thead>
<tr>
<th>Federal Permits, Approvals, and/or Consultations:</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Water Act – Nationwide Permit No.12-Utility Line Activities (Section 10)*</td>
<td>USACE</td>
</tr>
<tr>
<td>Sole Source Aquifer Screening</td>
<td>USEPA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New York State Permits, Approvals, and/or Consultations:</th>
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</thead>
<tbody>
<tr>
<td>Tidal Wetlands – ECL Article 25*</td>
<td>NYS DEC</td>
</tr>
<tr>
<td>Protection of Waters (Excavation and Fill in Navigable Waters) – ECL Article 15*</td>
<td>NYS DEC</td>
</tr>
<tr>
<td>Water Quality Certification – Section 401 of the Clean Water Act*</td>
<td>NYS DEC</td>
</tr>
<tr>
<td>Coastal Consistency Concurrence</td>
<td>NYS DOS</td>
</tr>
<tr>
<td>Dewatering Permit – ECL Article 15, Section 1527</td>
<td>NYS DEC</td>
</tr>
</tbody>
</table>

* signifies Joint Permit Application

Public Outreach [24 CFR 50.23 & 58.43]:

- New York Rising Community Reconstruction Program for Freeport. Public Engagement meetings held:
  - October 16, 2013
  - November 19, 2013
  - February 26, 2014
- Early Notice and Public Explanation of a Proposed Activity in a 100-Year Floodplain and Wetland published in the Freeport Leader on October 20th, 2016.
- A 15-day public review period for this Environmental Assessment was initiated upon publication of the combined notice of Finding of No Significant Impact (FONSI) and Notice of Intent to Request Release of Funds (NOI/RROF). During this period, any individual, group or agency could submit written comments on the Project.

Cumulative Impact Analysis [24 CFR 58.32]:

Current and reasonably foreseeable projects identified in the project area include annual asphalt paving and other routine local infrastructure projects and improvements. Impacts from the proposed project, when combined with other projects occurring in the project vicinity, may contribute to minor short-term cumulative impacts to noise, transportation and public safety. However, the majority of impacts from the proposed project would be short-term in duration and occur only during the construction period associated with the proposed action. As a result, adverse cumulative impacts from the proposed project would be minimal and are not expected to rise to a level of significance in the context of overall development occurring within the vicinity of the project. Because the construction periods associated with these projects would not necessarily occur simultaneously, there would be no contribution to cumulative impacts during construction.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]
No other action alternatives were considered in addition to the proposed action due to the fact that electrical upgrades require replacement of the existing cable, as described in the project description for the proposed action, in order to meet the purpose and need for action. The No Action alternative is described below.

**No Action Alternative [24 CFR 58.40(e)]:**
The No Action Alternative is not proposed as it does not adequately achieve the goal of improving resiliency and creating opportunities for growth protect by protecting residents and businesses from future loss of power and reducing the risk of injury and fire due to downed electric lines. Under the No Action alternative, conditions of the environment would remain unchanged and Freeport would continue to experience periodic flooding and water pooling due to high tides and precipitation events which would damage infrastructure due to untethered vessels and floating debris, tripping the electrical grid in the area causing further outages.

**Summary of Findings and Conclusions:**
Freeport Electric, the largest municipal-owned utility on Long Island, serves more than 43,000 people. During Superstorm Sandy, infrastructure maintained by Freeport Electric and located adjacent to the Freeport Channel was damaged by untethered vessels and floating debris, tripping the electrical grid in the area. The resulting outage disrupted power to 3,700 residential and commercial customers, and to critical village assets, including three flood sirens, two fire houses, two sewer pump stations, and two schools, as well as the Nautical Mile, the Village’s primary economic district.

The proposed project would replace a submarine cable beneath the Freeport Channel that carries Freeport Electric’s power serving one-quarter of the Village of Freeport’s residents. The conduit, and the risers connecting electric cables to the overhead transmission lines, are vulnerable to tidal inundation and are susceptible to damage from floating debris and drifting vessels during coastal surges and storms. The purpose of the project is to make this infrastructure less susceptible to damage and thereby protect residents and businesses from future loss of power, and to reduce the risk of injury and fire due to downed electric lines.

As shown above in the Environmental Assessment Checklist, no significant land development, neighborhood, socioeconomic, natural resources, community facility or other direct, indirect or cumulative impacts would result from the proposed project. As shown in the accompanying Statutory Checklists, the proposed project would comply with all relevant regulations listed in 24 CFR subparts 58.5 and 58.6.
**Mitigation Measures and Conditions [40 CFR 1505.2(c)]**

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

<table>
<thead>
<tr>
<th>Law, Authority, or Factor</th>
<th>Mitigation Measure</th>
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<tbody>
<tr>
<td><strong>Contamination and Toxic Substances</strong></td>
<td>A site-specific Soil Mitigation Plan (SMP) will be required, which will specify procedures for identifying and managing any suspected or unforeseen contaminated soils encountered during trenching and boring activities. The SMP will include procedures for stockpiling and off-site transportation and disposal, environmental regulatory agency notification and/or reporting, and appropriate health and safety procedures during construction.</td>
</tr>
<tr>
<td>24 CFR Part 50.3(i) &amp; 58.5(i)(2)</td>
<td>A decontamination area will be constructed at the Class 2 hazardous waste site located at 435 South Main Street (No. 1-30-110) for washing down all equipment used in construction. All water generated as part of the decontamination activities will be disposed of in accordance with an Excavation Work Plan (see Appendix D).</td>
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<tr>
<td></td>
<td>Two existing groundwater monitoring wells located at the marina and associated with site remediation, MW-03S and MW-03D, will sealed and decommissioned in accordance with NYSDEC regulations, and replacement wells will be installed at the site (see Appendix D).</td>
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<tr>
<td></td>
<td>All dewatering necessary for the horizontal directional drilling process will be disposed of in accordance with an Excavation Work Plan.</td>
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<td>As a mitigation effort to prevent the HDD borehole from fracturing out, monitoring wells MW-03S and MW-03D will be grouted and decommissioned in accordance with NYSDEC regulations.</td>
</tr>
<tr>
<td></td>
<td>All slurry and soil cuttings removed from the borehole and mud pits for disposal will be stored in metal containers and disposed of in accordance with NYSDEC regulations.</td>
</tr>
</tbody>
</table>
The proposed project would be located in Nassau County, which is within a maintenance area for inhalable particulate matter (PM2.5) and carbon monoxide, a marginal non-attainment area for the 8-hour Ozone standard and considered an area source for hazardous air pollutants (HAPs) emissions. Temporary emissions would result from equipment during construction with no increased emissions occurring due to operation.

Therefore, a conformity analysis was made according to the requirements of 40 CFR 93, Subpart B (federal general conformity regulations) and a screening analysis was performed (see Appendix B) assuming that the emissions intensity per expenditure (tons per dollar) for the project would be similar to the average intensity of the construction sector in the county. Projects with projected construction expenditure substantially lower than the average construction de minimis expenditure would clearly not exceed de minimis emissions levels for general conformity purposes.

Based on the screening analysis, the construction expenditure threshold for Nassau County is $410 million before a project may be expected to exceed the de minimis expenditure thresholds requiring further analysis or conformity determination. The estimated construction cost of the project is approximately $3 million, which is much less than the $410 million threshold; therefore the proposed project would not require further analysis for conformity determination.

Construction of the project would not generate significant levels of vehicular traffic; therefore, no exceedances of the National Ambient Air Quality Standard (NAAQS) associated with carbon monoxide (CO) or particulate matter (PM) is anticipated occur. The proposed project would not result in siting any new source of air pollutants. The project would not adversely affect the State Implementation Plan (SIP). Any air quality impacts would be short-term and localized during construction and, therefore, no significant adverse impacts to air quality are anticipated.

The project would incorporate restrictions on construction equipment to reduce air emissions. Construction documents would restrict unnecessary idling on roadways, and on-site vehicle idle time will also be restricted to five minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., drilling machine) or otherwise required for the proper operation.
operation of the engine.

Additionally, the following measures will be incorporated into the contract documents and a more detailed conformity analysis will be required to be completed for the bid package using the “General Conformity Worksheet.”

*Idling Restriction.* In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time will also be restricted to five minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine.

*Utilization of Newer Equipment.* EPA’s Tier 1 through 4 standards for non-road engines regulates the emission of criteria pollutants from new engines, including PM, CO, NOx, and hydrocarbons (HC). All non-road construction equipment with a power rating of 50 horsepower (hp) or greater would meet at least the Tier 2 emissions standard to the extent practicable.

*Best Available Tailpipe Reduction Technologies.* Non-road diesel engines with a power rating of 50 hp or greater and controlled truck fleets (i.e., truck fleets under long-term contract with the project) including but not limited to concrete mixing and pumping trucks would utilize the best available tailpipe (BAT) technology for reducing DPM emissions. Diesel particulate filters (DPFs) have been identified as being the tailpipe technology currently proven to have the highest reduction capability. Construction contracts would specify that all diesel non-road engines rated at 50 hp or greater would utilize DPFs, either installed by the original equipment manufacturer (OEM) or retrofitted. Retrofitted DPFs must be verified by EPA or the California Air Resources Board (CARB). Active DPFs or other technologies proven to achieve an equivalent reduction may also be used.

<table>
<thead>
<tr>
<th>Permit Requirements</th>
<th>Construction and operation of the proposed project will adhere to all permit conditions referenced herein or otherwise required for activities under the proposed project.</th>
</tr>
</thead>
</table>

**Water Quality**  
(SPDES permit for Stormwater Discharge from Construction Activity)

A Soil Erosion and Sediment Control Plan and Stormwater Pollution Prevention Plan (SWPPP) must be developed and implemented.
Determination:

- **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
  The project will not result in a significant impact on the quality of the human environment.

- **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
  The project may significantly affect the quality of the human environment.

Preparer Signature: ___________________________ Date: February 10, 2017

Name/Title/Organization: Joshua Schnabel, Environmental Planner, Louis Berger

Certifying Officer Signature: ___________________________ Date: February 13, 2017

Name/Title: Lori A. Shirley, Certifying Environmental Officer, GOSR

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).
Figure 1

Legend

Project Area

Source: U.S. Fish and Wildlife Service; Ulster County GIS Datasets; N; NYS Department of Environmental Conservation; U.S. Department of Agriculture; FEMA; ESRI World Imagery; ESRI Street Map

Freeport Channel Crossing
Electrical Improvements
Nassau County, New York

Figure 1
Freeport Channel Crossing
Electrical Improvements
Nassau County, New York

Regional Location
Freeport Channel Crossing
Electrical Improvements
Nassau County, New York

Legend
★ Project Area

Source: U.S. Fish and Wildlife Service; Ulster County GIS Datasets; N; NYS Department of Environmental Conservation; U.S. Department of Agriculture; FEMA; ESRI World Imagery; ESRI Street Map
Legend

- Project Area
- National Wetland Inventory
  - Estuarine and Marine Deepwater

National Wetland Inventory

Freeport Channel Crossing
Electrical Improvements
Nassau County, New York

Source: U.S. Fish and Wildlife Service; Ulster County GIS Datasets; N. NYS Department of Environmental Conservation; U.S. Department of Agriculture; FEMA; ESRI World Imagery; ESRI Street Map

Figure 3
Figure 4

Coastal Barrier Resource System
Freeport Channel Crossing
Electrical Improvements
Nassau County, New York

Legend
- Project Area
- Coastal Barrier Resource System

Source: U.S. Fish and Wildlife Service; Nassau County GIS Datasets; N; NYS Department of Environmental Conservation; U.S. Department of Agriculture; FEMA; ESRI World Imagery; ESRI Street Map
Coastal Management Area

Freeport Channel Crossing
Electrical Improvements
Nassau County, New York

Legend
- Project Area
- Coastal Boundary

Source: U.S. Fish and Wildlife Service; Nassau County GIS Datasets; N; NYS Department of Environmental Conservation; U.S. Department of Agriculture; FEMA; ESRI World Imagery; ESRI Street Map

Figure 5
Legend

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Area</td>
<td>FEMA 100 Yr. Flood Hazard Zone</td>
</tr>
<tr>
<td></td>
<td>FEMA 500 Yr. Flood Hazard Zone</td>
</tr>
</tbody>
</table>

Flood Hazard Zones

- Freeport Channel Crossing
- Electrical Improvements
- Nassau County, New York

Source:
- U.S. Fish and Wildlife Service: Nassau County GIS Datasets
- NYS Department of Environmental Conservation
- U.S. Department of Agriculture
- FEMA
- ESRI World Imagery
- ESRI Street Map

Figure 6
Legend

- Project Area
- Potential Environmental Justice Areas

Environmental Justice Areas
Freeport Channel Crossing
Electrical Improvements
Nassau County, New York

Source: U.S. Fish and Wildlife Service; Nassau County GIS Datasets; N; NYS Department of Environmental Conservation; U.S. Department of Agriculture; FEMA; ESRI World Imagery; ESRI Street Map

Figure 7
Figure 9

Freeport Channel Crossing
Electrical Improvements
Nassau County, New York

Legend
- Project Area
- Soil Type
  - Ug - Urban land
  - UrA - Urban land-Riverhead complex, 0 to 3 percent slopes
  - Us - Urban land-Sudbury complex
  - Uw - Urban land-Udipsamments, wet substratum complex
  - W - Water

Source: U.S. Fish and Wildlife Service; Ulster County GIS Datasets; N; NYS Department of Environmental Conservation; U.S. Department of Agriculture; FEMA; ESRI World Imagery; ESRI Street Map
VILLAGE OWNED PARKING LOT

HANSE AVENUE PLAN

NOTE:
1. Village owned and parking lot is under the jurisdiction of the incorporated village of Freeport.
2. Owner must provide as-built survey, ground verification, private property, and adjoining property.
3. Preparation of the survey is required for the design of the electrical conduit system. Assistance is available upon the owner's request for valuable data.

FREEPORT CHANNEL CROSSING ELECTRICAL IMPROVEMENTS

INCORPORATED VILLAGE OF FREEPORT

DO NOT USE FOR CONSTRUCTION

100% SUBMITTAL 10/14/16

HANSE AVENUE - PLAN
TYPICAL WATER MAIN OFFSET DETAIL

PIPE CROSSING NOTES IF NECESSARY:
1. PIERS FOR STRUCTURAL SUPPORT TO WATER MAIN FOUNDATION SHALL BE LOCATED AT A DISTANCE OF 10'-0" ALONG THE CENTER LINE OF THE WATER MAIN AND IN THE CENTER OF THE ROADWAY.
2. WHEN WATER MAIN MAJOR DIAMETER IS SMALLER THAN 24" (I.D.), THE WATER MAIN SHALL BE PROTECTED BY A CONCRETE THRUST BLOCK AS DEPICTED IN DETAIL SHEETS.
3. WHEN WATER MAIN MAJOR DIAMETER IS SMALLER THAN 24" (I.D.), THE WATER MAIN SHALL BE PROTECTED BY A CONCRETE THRUST BLOCK AS DEPICTED IN DETAIL SHEETS.

CONCRETE THRUST BLOCK

TYPICAL WATER MAIN TRENCH SECTIONS

100% SUBMITTAL 10/14/16
DO NOT USE FOR CONSTRUCTION
GROUNDWATER MONITORING WELL DETAIL

NOTES:
1. MONITORING WELLS SHALL BE DESIGNATED PRIOR TO NEW CONSTRUCTION PROJECT WORK.
2. MONITORING WELLS INSTALLATION TO BE COMPLETED AFTER NEW CONSTRUCTION PROJECT WORK.
3. ALL MONITORING WELLS AND INSTALLATION OF MONITORING WELLS FOR NEW CONSTRUCTION PROJECTS TO BE IN ACCORDANCE WITH OFFICIAL ENGINEERING AND THE CONTRACT SPECIFICATIONS.
4. ALL LOCATION OF NEW MONITORING WELLS TO BE APPROVED BY THE SUPERINTENDENT.
5. CONTRACTOR RENDEZ AND MONITORING WELL INSTALLATIONS TO BE APPROVED PRIOR TO NEW CONSTRUCTION.
6. NO MONITORING WELLS TO BE MADE PRIOR TO NEW CONSTRUCTION AND THE SUPERINTENDENT AND THE CONTRACTOR RENDEZ TO SIGN OFF ON THE PLACE AND LOCATION.

NASSAU COUNTY FREEPORT CHANNEL CROSSING ELECTRICAL IMPROVEMENTS

MONITORING WELL DETAILS

INcorporated village of Freeport
FREEPORT CHANNEL CROSSING ELECTRICAL
IMPROVEMENTS

100% SUBMITTAL 10/14/16
DO NOT USE FOR CONSTRUCTION

SCALE: 1" = 30'

PRIVATELY OWNED MARINA PLAN

SCALE 1" = 1'
The conformity requirements of the CAA and regulations promulgated thereunder (conformity requirements) limit the ability of federal agencies to assist, fund, permit, and approve projects in non-attainment areas that do not conform to the applicable SIP. When subject to this regulation, the lead agency is responsible for demonstrating conformity for its proposed action. Conformity determinations for federal actions other than those related to transportation plans, programs, and projects that are developed, funded, or approved under title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601 et seq.) must be made according to the requirements of 40 CFR 93, Subpart B (federal general conformity regulations).

The general conformity regulations apply to those federal actions in non-attainment or maintenance areas where the action’s direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates equal to or exceeding the prescribed rates.

General conformity de minimis threshold levels for the non-attainment and maintenance areas in New York State are presented in Table 1.

<table>
<thead>
<tr>
<th>Non-Attainment Area and Pollutants</th>
<th>Threshold (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ozone, other non-attainment areas inside an ozone transport region:</td>
<td></td>
</tr>
<tr>
<td>volatile organic compounds (VOC)</td>
<td>50</td>
</tr>
<tr>
<td>nitrogen oxides (NOx)</td>
<td>100</td>
</tr>
<tr>
<td>carbon monoxide (CO), maintenance areas:</td>
<td></td>
</tr>
<tr>
<td>direct emissions</td>
<td>100</td>
</tr>
<tr>
<td>inhalable particulate matter (PM10), nonattainment areas:</td>
<td></td>
</tr>
<tr>
<td>direct emissions</td>
<td>100</td>
</tr>
<tr>
<td>fine particulate matter (PM2.5), maintenance areas:</td>
<td></td>
</tr>
<tr>
<td>direct emissions</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>SO2</td>
</tr>
</tbody>
</table>

Source: 40 CFR § 93.153(b)
Notes: NOx and VOCs also limited at 100 tpy in PM2.5 maintenance areas, but ozone requirements are stricter.

The general conformity requirements do not apply to federal actions that:
- Do not satisfy either one of the above conditions (where the action’s direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates
equal to or exceeding the threshold levels above within a non-attainment or maintenance area);

- Occur in an attainment area;
- Are related to transportation plans, programs, and projects developed, funded, or approved under Title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601); or
- Qualify for exemptions established at 40 CFR Part 93.153.

The regulation assumes that a proposed federal action whose criteria pollutant emissions have already been included in the local SIP’s attainment or maintenance demonstrations conforms to the SIP.

Most construction work would not require a general conformity evaluation, since construction activity in general is included in the SIP estimates, based on past activity levels and assumptions regarding growth in future years. However, there may be projects which are not considered to be included in the SIP if they were beyond the scope of what was anticipated during SIP preparation. If a project is not included in the SIP or there is uncertainty regarding its inclusion, a preliminary evaluation of emissions may be sufficient to demonstrate that the project’s emissions would be de minimis under the above general conformity regulations. If that is the case, a detailed conformity analysis and determination would not be required. The following analysis provides a simplified approach to preliminary evaluation, based on construction expenditure.

As a conservative estimate, the analysis below assumes that the emissions intensity per expenditure (tons per dollar) for the project would be similar to the average intensity of the construction sector in the county. This would not be applicable for projects with higher intensity (emissions per dollar) such as large infrastructure projects or intense development projects including substantial excavation and foundations work. Given this and other limitations of this analysis, it is recommended that this approach not be seen as definitive if the results are not clearly de minimis. In such cases, a more refined approach may be needed.

Construction expenditure data is available from the U.S. Census Bureau’s 2007 Survey of Business Owners.\(^1\) Since the expenditure data represent firms by their location and not necessarily the location where construction takes place, applying this data at the county level may skew the results in some cases. As a broader estimate, we have categorized the expenditure as ‘upstate’ and ‘downstate’, reflecting the higher cost of construction in the downstate area. Downstate counties include Bronx, Kings, Nassau, New York, Orange, Queens, Richmond, Rockland, Suffolk, and Westchester. Total construction expenditure in 2007 was approximately 23.1 billion dollars in the upstate area, and 71.8 billion in the downstate area.

Construction emissions by county for the year 2007 were obtained from the New York State Department of Environmental Conservation (NYSDEC).\(^2\) The fraction each de minimis emissions level represents of total regional emissions was calculated for each pollutant and area (upstate and downstate). The fraction of construction expenditure in each area equivalent to

---


2. NYSDEC. 2007 SIP data. (provided by DEC, 2014)
those emission fractions were then calculated, representing de minimis project construction expenditures which would be equivalent to de minimis emissions.

For example, the downstate VOC emissions were 2,401.6 tons per year (tpy), and the relevant de minimis VOC emissions are 50 tpy; therefore—

\[
\text{de minimis as fraction of total emissions: } \quad \frac{50 \text{ tpy}}{2,401.6 \text{ tpy}} = 2.08\%
\]

\[
\text{de minimis fraction of total expenditure: } \quad 2.08\% \times 71.8 \text{ bn} = 1.5 \text{ bn}
\]

The total SIP emissions by pollutant and region and the resulting average project expenditure equivalent to de minimis levels are presented in Table 2.

### Table 2: Regional SIP Emissions and de minimis Construction Expenditure

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Region</th>
<th>2007 SIP Emissions (tpy)</th>
<th>De Minimis (tpy)</th>
<th>Average Construction De Minimis Expenditure (million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC</td>
<td>Downstate</td>
<td>2,401.6</td>
<td>50</td>
<td>1,496</td>
</tr>
<tr>
<td></td>
<td>Upstate</td>
<td>1,464.3</td>
<td>50</td>
<td>789</td>
</tr>
<tr>
<td>NOx</td>
<td>Downstate</td>
<td>16,332.1</td>
<td>100</td>
<td>440</td>
</tr>
<tr>
<td></td>
<td>Upstate</td>
<td>9,745.2</td>
<td>100</td>
<td>237</td>
</tr>
<tr>
<td>CO</td>
<td>Downstate</td>
<td>17,522.1</td>
<td>100</td>
<td>410</td>
</tr>
<tr>
<td></td>
<td>Upstate</td>
<td>11,746.2</td>
<td>100</td>
<td>197</td>
</tr>
<tr>
<td>PM10</td>
<td>Downstate</td>
<td>1,489.6</td>
<td>100</td>
<td>4,823</td>
</tr>
<tr>
<td>PM2.5</td>
<td>Downstate</td>
<td>1,442.3</td>
<td>100</td>
<td>4,981</td>
</tr>
<tr>
<td>SO2</td>
<td>Downstate</td>
<td>1,251.9</td>
<td>100</td>
<td>5,738</td>
</tr>
</tbody>
</table>

**Notes:** Only relevant pollutants by area are presented; see Table 3 for details.

Based on the above analysis, projects with projected construction expenditure substantially lower than the average construction de minimis expenditure would clearly not exceed de minimis emissions levels for general conformity purposes. Table 3 identifies the minimum de minimis expenditure threshold in each county, based on the lowest level for all nonattainment or attainment maintenance areas within which the county is located. For example, New York County is in 4 nonattainment/maintenance areas; of all the pollutants relevant to those areas, the CO de minimis emissions have the lowest corresponding construction expenditure of 410 million dollars. Standard construction projects in Manhattan with construction expenditure substantially lower than 410 million dollars in New York County would not exceed the de minimis level for any of the relevant pollutants and would not require any further analysis or conformity determination. For projects with components in more than one county, use the lowest threshold for all counties (if that exceeds de minimis levels, this can be refined by reviewing all appropriate pollutants based on the nonattainment/maintenance areas identified in Table 3, the appropriate pollutant for the area type from Table 1, and the de minimis expenditure for each pollutant from Table 2).
### Table 3
De Minimis Construction Expenditure Threshold by County

<table>
<thead>
<tr>
<th>County</th>
<th>Nonattainment / Maintenance Area</th>
<th>Critical Pollutant</th>
<th>De Minimis Expenditure Threshold (million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ozone</td>
<td>CO</td>
<td>PM$_{2.5}$</td>
</tr>
<tr>
<td>Upstate:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Albany</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erie</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genesee</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greene</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livingston</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monroe</td>
<td>√</td>
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</tr>
<tr>
<td>Montgomery</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niagara</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onondaga</td>
<td></td>
<td>√</td>
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</tr>
<tr>
<td>Ontario</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Orleans</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rensselaer</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Saratoga</td>
<td>√</td>
<td></td>
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</tr>
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<td>Schenectady</td>
<td>√</td>
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</tr>
<tr>
<td>Schoharie</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wayne</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Downstate:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bronx</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Dutchess</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kings</td>
<td>√</td>
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</tr>
<tr>
<td>Nassau</td>
<td>√</td>
<td>√</td>
<td>√</td>
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<tr>
<td>New York</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Orange</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Putnam</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queens</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Richmond</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Rockland</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suffolk</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Westchester</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>
## GENERAL CONFORMITY WORKSHEET

### Air Emissions Information

**PROJECT NAME _________________________________**

**LOCATION (COUNTY, STATE)_____________________

**FOR CALENDAR YEAR ___________________________

Estimated Construction Start Date: ______________ End Date: ______________

#### A. ON-ROAD VEHICLES

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>VEHICLE TYPE</th>
<th># OPERATING</th>
<th>ON / OFF SITE</th>
<th>GVWR PER VEHICLE</th>
<th>TOTAL MILES PER VEHICLE</th>
<th>TOTAL MILES ALL VEHICLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Demolition</td>
<td>Truck</td>
<td>2</td>
<td>ON</td>
<td>33,000</td>
<td>36</td>
<td>72</td>
</tr>
</tbody>
</table>

#### B. OFF-ROAD VEHICLES

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>EQUIPMENT TYPE</th>
<th># OPERATING</th>
<th>HORSE-POWER</th>
<th>GAS/ DIESEL</th>
<th>TOTALHRS PER VEHICLE</th>
<th>TOTAL HRS ALL VEHICLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Site Clearing</td>
<td>Backhoe</td>
<td>3</td>
<td>90</td>
<td>Diesel</td>
<td>80</td>
<td>240</td>
</tr>
</tbody>
</table>

### Notes:

1. If construction occurs over more than one calendar year, provide a separate table for each calendar year.
2. For ACTIVITY, include a short description of the type of activity
   - On-Road examples: workers commuting to/from job site, materials deliveries, material movement to site, etc.
   - Off-Road examples: site clearing, demolition, excavation, construction, material placement, etc.
3. For EQUIPMENT
   - On-Road examples: auto, pickup truck (gas or diesel), heavy trucks (gas or diesel), etc.
   - Off-Road examples: crane, backhoe, dozer, mixer, chain saw, forklift, etc.
4. Specify whether the on-road vehicles listed are being used for transportation to/from site, or are used exclusively on the site, as this will affect the emission estimates.
5. Specify the Gross Vehicle Weight Ratings for any on-road heavy-duty diesel vehicles, as these are necessary to determine the correct emissions factors.
6. For worker commutation, the number of vehicles and miles traveled can be estimated by using any available data to estimate commuting distance, carpool rates, etc., (e.g., Census Journey-to-Work data).
November 1, 2016

Jeffrey Zappieri  
Supervisor, Consistency Review Unit  
Division of Coastal Resources  
New York State Department of State  
One Commerce Plaza  
99 Washington Avenue  
Albany, New York 12231-0001

Re:  CDBG-DR Program – Village of Freeport: Freeport Channel Crossing Electrical Improvements

Dear Mr. Zappieri:

The Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York Homes and Community Renewal’s Housing Trust Fund Corporation, was established to aid the statewide recovery of disaster-affected communities in New York State. GOSR is administering a U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant for Disaster Recovery (CDBG-DR), including the “Village of Freeport: Freeport Channel Crossing Electrical Improvements” project (the “Proposed Project”) located in the Village of Freeport, Nassau County, New York (Attachment A). On behalf of GOSR, please find the enclosed coastal zone consistency materials for your review.

The Proposed Project would replace a submarine cable beneath Freeport Channel that carries a substantial load of Freeport Electric’s power, serving one-quarter of Freeport’s residents. The conduit, and the risers connecting electric cables to the overhead transmission lines, are vulnerable to tidal inundation and are susceptible to damage from floating debris and drifting vessels during coastal surges and storms. The purpose of the Proposed Project is to make this infrastructure less susceptible to damage and thereby protect residents and businesses from future loss of power and to reduce the risk of injury and fire due to downed electric lines.

The Proposed Project would include the following improvements: replacing the existing circuits and tie lines originally installed below the channel in 1967; extending the underwater circuits and tie lines further inland; removing riser poles; and extending buried lines from the channel to new riser pole locations. Additionally, it is anticipated that there will be three (3) electrical vaults installed approximately 16 feet long by 8 feet wide by 10 feet high.

The Proposed Project would be accomplished through a horizontal directional drilling technique, which would create a bore hole beneath the Freeport Channel. The bore hole is expected to be approximately 825 feet in length and 36 inches in diameter extending east from a 150 square foot entrance pit located 200 feet to the east of the Channel to a 150 square foot exit pit located 360 feet to the west of the Channel. Drilling
fluid, comprised of a mixture of bentonite clay and water with additives used to improve performance, would be used in the process. Drilling fluid would be pumped into the excavation through the boring machine cutter head. The fluid would then be pumped back out of the bore hole along with cuttings to the surface where they would be allowed to settle out in a pit or removed mechanically in a cleaning system. The drilling fluid used would be non-toxic and would be disposed of according to all applicable regulations.

Construction of the Proposer Project is anticipated to begin in February of 2017 and is expected to be complete approximately nine (9) months later.

GOSR is acting as the Responsible Entity in accordance with 24 C.F.R. Part 58—Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities. GOSR has prepared the attached Federal Consistency Assessment Form to certify that the proposed project is consistent with New York’s Coastal Management Program. At this time, we are requesting that the New York State Department of State concur with the attached certification.

Thank you for taking the time to review the enclosed materials. Please do not hesitate to contact me by email at Alicia.shultz@nyshcr.org or by telephone at (518) 474-0647 should you have any questions or require additional information.

Sincerely,

Alicia Shultz
Community Developer – Environmental Services
Governor’s Office of Storm Recovery

**Attachments:**
Attachment A – Site Map
Attachment B – Federal Consistency Form
Attachment C – Detailed Project Description and Policy Analysis
Attachment A

Site Map
Attachment B

Federal Consistency Form
NEW YORK STATE DEPARTMENT OF STATE
COASTAL MANAGEMENT PROGRAM

Federal Consistency Assessment Form

An applicant, seeking a permit, license, waiver, certification or similar type of approval from a federal agency which is subject to the New York State Coastal Management Program (CMP), shall complete this assessment form for any proposed activity that will occur within and/or directly affect the State's Coastal Area. This form is intended to assist an applicant in certifying that the proposed activity is consistent with New York State's CMP as required by U.S. Department of Commerce regulations (15 CFR 930.57). It should be completed at the time when the federal application is prepared. The Department of State will use the completed form and accompanying information in its review of the applicant's certification of consistency.

A. APPLICANT (please print)

1. Name: New York State Governor's Office of Storm Recovery (GOSR)
2. Address: 25 Beaver Street, 5th Floor, New York, NY 10004
3. Telephone: Area Code ( ) 212.480.6265

B. PROPOSED ACTIVITY:

1. Brief description of activity:

   The replacement of electrical transmission infrastructure damaged during Superstorm Sandy. Including replacing existing conduits below Freeport Channel and the burying of lines under street right of way.

2. Purpose of activity:

   Improve storm resiliency by reducing the risk of power outages or electrical fires due to damaged transmission lines.

3. Location of activity:

   Nassau County
   Village of Freeport City, Town, or Village
   Sides of Freeport Channel Street or Site Description

4. Type of federal permit/license required: ____________________________

5. Federal application number, if known: ____________________________

6. If a state permit/license was issued or is required for the proposed activity, identify the state agency and provide the application or permit number, if known:

   SPDES General Permit for Stormwater Discharges from Construction (NYSDEC)
C. **COASTAL ASSESSMENT** Check either "YES" or "NO" for each of these questions. The numbers following each question refer to the policies described in the CMP document (see footnote on page 2) which may be affected by the proposed activity.

1. Will the proposed activity result in any of the following: YES/NO

   a. Large physical change to a site within the coastal area which will require the preparation of an environmental impact statement? (11, 22, 25, 32, 37, 38, 41, 43)  
   b. Physical alteration of more than two acres of land along the shoreline, land under water or coastal waters? (2, 11, 12, 20, 28, 35, 44)  
   c. Revitalization/redevelopment of a deteriorated or underutilized waterfront site? (1)  
   d. Reduction of existing or potential public access to or along coastal waters? (19, 20)  
   e. Adverse effect upon the commercial or recreational use of coastal fish resources? (9, 10)  
   f. Siting of a facility essential to the exploration, development and production of energy resources in coastal waters or on the Outer Continental Shelf? (29)  
   g. Siting of a facility essential to the generation or transmission of energy? (27)  
   h. Mining, excavation, or dredging activities, or the placement of dredged or fill material in coastal waters? (15, 35)  
   i. Discharge of toxics, hazardous substances or other pollutants into coastal waters? (8, 15, 35)  
   j. Draining of stormwater runoff or sewer overflows into coastal waters? (33)  
   k. Transport, storage, treatment, or disposal of solid wastes or hazardous materials? (36, 39)  
   l. Adverse effect upon land or water uses within the State's small harbors? (4)  

2. Will the proposed activity affect or be located in, on, or adjacent to any of the following: YES/NO

   a. State designated freshwater or tidal wetland? (44)  
   b. Federally designated flood and/or state designated erosion hazard area? (11, 12, 17)  
   c. State designated significant fish and/or wildlife habitat? (7)  
   d. State designated significant scenic resource or area? (24)  
   e. State designated important agricultural lands? (26)  
   f. Beach, dune or Barrier Island? (12)  
   g. Major ports of Albany, Buffalo, Ogdensburg, Oswego or New York? (3)  
   h. State, county, or local park? (19, 20)  
   i. Historic resource listed on the National or State Register of Historic Places? (23)  

3. Will the proposed activity require any of the following: YES/NO

   a. Waterfront site? (2, 21, 22)  
   b. Provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (5)  
   c. Construction or reconstruction of a flood or erosion control structure? (13, 14, 16)  
   d. State water quality permit or certification? (30, 38, 40)  
   e. State air quality permit or certification? (41, 43)  

4. Will the proposed activity occur within and/or affect an area covered by a State-approved local waterfront revitalization program, or State-approved regional coastal management program? (see policies in program document*)  

   □  □
D. ADDITIONAL STEPS

1. If all of the questions in Section C are answered "NO", then the applicant or agency shall complete Section E and submit the documentation required by Section F.

2. If any of the questions in Section C are answered "YES", then the applicant or agent is advised to consult the CMP, or where appropriate, the local waterfront revitalization program document*. The proposed activity must be analyzed in more detail with respect to the applicable state or local coastal policies. On a separate page(s), the applicant or agent shall: (a) identify, by their policy numbers, which coastal policies are affected by the activity, (b) briefly assess the effects of the activity upon the policy; and, (c) state how the activity is consistent with each policy. Following the completion of this written assessment, the applicant or agency shall complete Section E and submit the documentation required by Section F.

E. CERTIFICATION

The applicant or agent must certify that the proposed activity is consistent with the State's CMP or the approved local waterfront revitalization program, as appropriate. If this certification cannot be made, the proposed activity shall not be undertaken. If this certification can be made, complete this Section.

"The proposed activity complies with New York State's approved Coastal Management Program, or with the applicable approved local waterfront revitalization program, and will be conducted in a manner consistent with such program."

Applicant/Agent's Name: _____________________________________________________________________
Address: __________________________________________________________________________________
Telephone:  Area Code (  ) ________________________________________________________________
Applicant/Agent's Signature: __________________________________________ Date: ___________________

F. SUBMISSION REQUIREMENTS

1. The applicant or agent shall submit the following documents to the New York State Department of State, Office of Planning and Development, Attn: Consistency Review Unit, One Commerce Plaza-Suite 1010, 99 Washington Avenue, Albany, New York 12231.
   a. Copy of original signed form.
   b. Copy of the completed federal agency application.
   c. Other available information which would support the certification of consistency.

2. The applicant or agent shall also submit a copy of this completed form along with his/her application to the federal agency.

3. If there are any questions regarding the submission of this form, contact the Department of State at (518) 474-6000.

*These state and local documents are available for inspection at the offices of many federal agencies, Department of environmental Conservation and Department of State regional offices, and the appropriate regional and county planning agencies. Local program documents are also available for inspection at the offices of the appropriate local government.
Attachment C

Detailed Project Description and Policy Analysis
1. b. Physical alteration of more than two acres of land along the shoreline, land under water or coastal waters? (35, 44)

Policy 35 Applies - *Dredging and filling in coastal waters and disposal of dredged material will be undertaken in a manner that meets existing State dredging permit requirements, and protects significant fish and wildlife habitats, scenic resources, natural protective features, important agricultural lands, and wetlands.*

Policy 44 Applies - *Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.*

The Freeport Channel is designated by the U.S. Fish and Wildlife Service (USFWS) as a wetland of the type Estuarine and Marine Deepwater. The USFWS lists several species of plants, birds and animals that are threatened or endangered as being known to inhabit the area and the New York State Department of Environmental Conservation lists several significant natural communities of plants in the area. The new transmission cable conduit will be bored underneath the Channel from pits on either side and will not involve in water dredging or staging equipment. Construction of the project would involve excavating a launching pit on one side of the Freeport Channel and a receiving pit on the other side of the channel. Horizontal directional drilling would be used to drill a tunnel between the two and beneath the Channel, and conduit would be installed in the tunnel. These proposed construction methods will avoid impacts to the coastal waters and their ecosystems. Therefore, it is anticipated that the proposed project is consistent with this policy.

1. g. Siting of a facility essential to the generation or transmission of energy? (27)

Policy 27 applies - *Decisions on the siting and construction of major energy facilities in the coastal area will be based on public energy needs, compatibility of such facilities with the environment, and the facility's need for a shorefront location.*

Freeport Electric, the largest municipal-owned electric utility on Long Island, serves more than 43,000 people, while the electrical cable to be replaced serves one-quarter of Freeport's residential and commercial buildings and critical village assets, including three flood sirens, two firehouses, two sewer pump stations, and two schools. It also distributes power to the Nautical Mile, the heart of the Village's boating, fishing, tourism, nightlife, and recreational economy. The utility's infrastructure is more vulnerable to damage from coastal inundation in some areas than others. The tie lines proposed for replacement are susceptible to floating debris and drifting vessels during coastal surges and storms. Freeport Electric staff, boatyard/marina operators, and NYCR planning committee members reported that untethered vessels and floating debris struck elevated electric lines and their supports during Superstorm Sandy, overwhelming the electric grid, creating a significant fire hazard in South Freeport, and delaying power restoration after the storm. Electrical lines in the boatyard right-of-way on Ray Street were tripped several times.

Among the numerous benefits of the Project are less frequent power disruptions, immediate threat to public health, safety and welfare of Freeport residents, and the lowered potential of electrical and vessel fires that can have damage effects. The electrical cable improvements will improve certainty and reliability of service for the businesses along the Nautical Mile. Maintenance and disaster recovery costs could also be mitigated with the extension of the buried portion of the cables to points further from floodwaters. These improvements help create community-wide economic revitalization that benefits all residents of the Village of Freeport. There is no practicable alternative location for the proposed action due to the fact that upgrades would occur to existing infrastructure which is already in place.

The proposed project would not create any new energy facilities but would replace the existing transmission lines and
move riser poles further inland to improve the resiliency of energy transmission. The new transmission cable conduit will be bored underneath the Channel from pits on either side and will not involve in water dredging or staging equipment. Construction of the project would involve excavating a launching pit on one side of the Freeport Channel and a receiving pit on the other side of the channel. Horizontal directional drilling would be used to drill a tunnel between the two and beneath the Channel, and conduit would be installed in the tunnel. These proposed construction methods will avoid impacts to the coastal waters and their ecosystems. Therefore, it is anticipated that the proposed project is consistent with this policy.

1. j. **Draining of stormwater runoff or sewer overflows into coastal waters? (33)**
Policy 33 Applies - *Best management practices will be used to ensure the control of stormwater runoff and combined sewer overflows draining into coastal waters.*

The open cut excavation will be approximately 1,000 feet long. Additionally there will be four (4) electrical vaults installed approximately 16 feet long by 10 feet wide by 10 feet high. Suitable excavated material will be used as backfill and any surplus excavated material or unsuitable backfill material (clay, etc.) will be disposed of offsite. There should be no significant increase in impervious surfaces and stormwater runoff. Appropriate soil erosion and sediment control best practices will be implemented during construction activities. In particular, soil erosion and sediment control measures would be in place for any construction activities associated with drilling and trench excavation. Therefore, it is anticipated that the proposed project is consistent with this policy.
1. k. Transport, storage, treatment, or disposal of solid wastes or hazardous materials? (36, 39)
Policy 39 Applies - *The transport, storage, treatment and disposal of solid wastes, particularly hazardous wastes, within coastal areas will be conducted in such a manner so as to protect groundwater and surface water sup-plies, significant fish and wildlife habitats, recreation areas, important agricultural lands and scenic resources.*

Construction of the project would involve excavating a launching pit on one side of the Freeport Channel and a receiving pit on the other side of the channel. Horizontal directional drilling would be used to drill a tunnel between the two and beneath the Channel, and conduit would be installed in the tunnel. The construction of the new conduit and trench would require excavation of earth and/or rock over a 1,000-foot open trench. Suitable soils would be placed back into utility trenches and compacted, while the remaining excavated material would be hauled by an approved excavation contractor to a licensed facility. For drilling under the Channel, drilling fluid, comprised of a mixture of bentonite clay and water with additives used to improve performance, would be used in the process. Drilling fluid would be pumped into the excavation through the boring machine cutter head. The fluid would then be pumped back out of the bore hole and the cuttings carried back out to the surface where they would be allowed to settle out in a pit or removed mechanically in a cleaning system. The drilling fluid used would be non-toxic and would be disposed of according to all applicable regulations.

The project would require a New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Storm Water Discharges from Construction Activity permit application, which would include an Erosion and Sediment Control Plan and Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would identify best management practices that would be employed for construction stormwater management. Any additional stormwater discharge due to construction is temporary and would only occur during the construction; once completed no more excavation would occur. Therefore, it is anticipated that the proposed project is consistent with this policy.

2. b. Federally designated flood and/or state designated erosion hazard area? (11, 12, 17)

Policy 11 Applies - *Buildings and other structures will be sited in the coastal area so as to minimize damage to property and the endangering of human lives caused by flooding and erosion.*

*Policy 12 Applies - Activities or development in the coastal area will be undertaken so as to minimize damage to natural resources and property from flooding and erosion by protecting natural protective features including beaches, dunes, barrier islands and bluffs.*

According to FIRM panel 36059C0239G published September 10, 2009, almost all of the project area lies within a Special Flood Hazard Area Zone AE. This is a 100 year floodplain with a base flood elevation of 8 feet. Since the project is underground (below street level) or under the Channel, no alterations to floodplains would occur. Overall the project should increase flood resiliency by reducing the risk of downed power lines and electrical fires during storms and floods. Therefore, it is anticipated that the proposed project is consistent with this policy.

2. c. State designated significant fish and/or wildlife habitat? (7)

Policy 7 Applies - *Significant coastal fish and wildlife habitats will be protected, preserved, and, where practical, restored so as to maintain their viability as habitats.*

The proposed project area is designated as an area of Significant Natural Communities by the New York State Department of Environmental Conservation. Communities at or near the project area include Low Salt Marsh, High Salt Marsh and Salt Panne. Horizontal directional drilling would be used to drill a tunnel between the two and beneath the
Channel, and conduit would be installed in the tunnel. By drilling under the Channel to construct the new conduit impacts to the communities should be avoided. Therefore, it is anticipated that the proposed project is consistent with this policy.

3. a. Waterfront site? (2, 21, 22)

Policy 22 Applies - Development when located adjacent to the shore would provide for water-related recreation whenever such use is compatible with reasonably anticipated demand for such activities, and is compatible with the primary purpose of the development.

The proposed project would require development adjacent to the waterfront, however this development would not generate substantial new demand for waterfront recreation, and construction adjacent to the waterfront would occur under the surface of existing paved roadways. Therefore, the project would not need to provide for additional water-related recreation opportunities. Therefore, it is anticipated that the proposed project is consistent with this policy.

3. d. State water quality permit or certification? (30, 38, 40)

Policy 30 Applies - Municipal, industrial, and commercial discharge of pollutants, including but not limited to, toxic and hazardous substances, into coastal waters will conform to State and National water quality standards.

Policy 38 Applies - The quality and quantity of surface water and groundwater supplies will be conserved and protected, particularly where such waters constitute the primary or sole source of water supply.

Due to excavation during construction, the project would require a New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Storm Water Discharges from Construction Activity, which would include an Erosion and Sediment Control Plan and Storm Water Pollution Prevention Plan (SWPPP). Short-term, temporary impacts to water quality may result during construction. Mitigation measures would include best management practices for soil erosion and sediment control. The SWPPP would identify best management practices that would be employed for construction stormwater management. Therefore, it is anticipated that the proposed project is consistent with this policy.
November 28, 2016

Alicia Shultz  
Community Developer - Environmental Services  
Governor’s Office of Storm Recovery  
New York State Homes & Community Renewal  
38-40 State St., 408N, Hampton Plaza  
Albany, New York 12207

Re: F-2016-1010(FA)  
GOSR - Village of Freeport  
Replacement of electrical transmission infrastructure. Including replacing existing conduits below Freeport Channel and the burying of lines under street right of way.  
Village of Freeport, Nassau County  
General Concurrence - No Objection To Funding

Dear Ms. Shultz:

The Department of State received the information you submitted regarding the above matter on 11/1/2016.

The Department of State has determined that this proposal meets the Department’s general consistency concurrence criteria. Therefore, the Department of State has no objection to the use of the U. S. Housing and Urban Development funds for this financial assistance activity. This concurrence pertains to the financial assistance activity for this project only. If federal permits or other form of federal agency authorization is required for this activity, the Department of State will conduct a separate review for those permit activities. In such a case, please forward a copy of the federal application for authorization, a completed Federal Consistency Assessment Form, and all supporting information to the Department at the same time it is submitted to the federal agency from which the necessary authorization is requested.

When communicating with us regarding this matter, please contact Jeffrey Zappieri at (518) 474-6000 and refer to our file #F-2016-1010(FA).

Sincerely,

Jeffrey Zappieri  
Supervisor, Consistency Review Unit  
Office of Planning and Development

JZ/dc
Environmental Remediation Databases Details

Site Record

Administrative Information

Site Name: Columbia Cement Company, Inc.
Site Code: 130052
Program: State Superfund Program
Classification: 02
EPA ID Number:

Location

DEC Region: 1
Address: 159 Hanse Avenue
City: Freeport  Zip: 11520
County: Nassau
Latitude: 40.646971656
Longitude: -73.571514648
Site Type: STRUCTURE LAGOON
Estimated Size: 2 Acres

Site Owner(s) and Operator(s)

Current Owner Name: ILLINOIS TOOL WORKS
Current Owner(s) Address: 3600 WEST LAKE AVENUE
GLENVIEW,IL, 60026
Current On-Site Operator: Columbia Cement Company, Inc.
Stated Operator(s) Address: 159 Hanse Avenue
Freeport,NY 11520

Site Document Repository

Name: Freeport Memorial Library
Address: 144 West Merrick Road
Freeport,NY 11520

Hazardous Waste Disposal Period

From: 4/28/88  To: unknown

Site Description
Site Location: The former Columbia Cement Company, Inc. Site is located at 159 Hanse Avenue in Freeport, Nassau County. The site is bordered by a recycling facility to the north. Former Rohm & Haas Electronic Components borders the property to the east. Apollo Fine Spirits is located to the south of the property. The property is bordered by Hanse Avenue to the West. Farber Plastics and Love & Quiches Bakery are located on the opposite (west) side of Hanse Avenue. Site Features: The site is approximately 2 acres in size. The site building covers approximately 65,000 square feet, and consists of former offices, material storage, production rooms, and warehousing. Freeport Creek is located 500 feet (ft) west of the site and Stadium Park Canal is 1,000 ft east of the site. Stadium Park Canal merges with Freeport Creek approximately 1,500 ft southeast of the site. From this point, surface water flows south through tidal marshes to the Atlantic Ocean, approximately 5 miles south of the site. The site is very flat, ranging from 5 to 10 ft above Mean Sea Level (MSL). Surface water at the site drains to the west toward Freeport Creek. Storm drains located on site also drain to Freeport Creek. Ten 8,000 gallon underground storage tanks (USTs) were located near the southeast corner of the property. Current Zoning/Use(s): The site is currently vacant and zoned Industrial. The surrounding parcels are currently used for a combination of industrial and commercial purposes. Past Use of the Site: Columbia Cement Company was the first occupant of the site building since 1969. Prior to 1969, the Village of Freeport operated a municipal landfill within this area of Freeport before its development for commercial/industrial use. Columbia Cement Company manufactured various grades of contact cement and other industrial/commercial adhesives at the site since 1969. The southeastern portion of the site was served as an unloading and storage area for process chemicals. Between 1969 and 1988, there were twenty-two 1,000 gallon underground storage tanks (USTs) located in the southeastern part (southern tank farm) of the site to store chemicals such as toluene, hexane, acetone and Laktane. On April 28, 1988, during delivery of approximately 3,500 gallons of 1,1,1-TCA to an above ground tank in the building on the site, the truck became over pressurized causing the tanker end to buckle, resulting in the loss of the entire load. The Department responded to the spill. Approximately 1,740 gallons of the spilled material was recovered with the remaining 1,760 gallons of spilled material entering into a storm drain. An undetermined amount of spilled material also entered into the drainage system which leads to Freeport Creek. The 22 USTs and piping were removed on September 1989. Four additional 6,000 gallon USTs were located to the east of the 22 USTs. These tanks were reportedly used to store acetone, hexane, Laktane and toluene between 1969 and 1989. These tanks and associated lines were removed in January 1994. A 6,000 gallon UST was also located in the southern tank farm that collected floor drain runoff from the manufacturing areas of the building. This UST was removed in 1994. Ten 8,000-gallon USTs were installed in the southern tank farm area. Five of these USTs (the southern tank farm) were installed in the Spring of 1988 (prior to the
1,1,1-TCA spill) and the remaining five (the northern tank farm) were installed after the spill. These 10 USTs were closed and removed by current site owner in September 2004.

Geology/Hydrogeology: The site geology consists of five stratigraphic units beneath the site. In order of increasing depth, these units are: fill material; tidal marsh deposits; gravelly sand; gray clay and silt; and gray sand. The fill material is encountered across the entire site and consists of reworked native soil and various debris related to previous site use as a municipal landfill. The fill material is present with an average thickness of about 11 ft. The tidal marsh deposits are encountered beneath the fill material over most of the site. The tidal marsh deposits are encountered at an average depth of 9.5 ft and has an average thickness of 4 ft. The gravelly sand unit is encountered beneath the tidal marsh deposits, and beneath the fill material where the tidal marsh deposits are absent. The gravelly sand thickness ranges from 15 to 30 ft. The gray clay and silt underlie the gravelly sand. This unit ranges in thickness from 20 to 30 ft beneath the site. Deeper confined units include the Jameco, Magothy and Lloyd aquifers, which are mostly used for drinking water on Long Island. Due to saltwater encroachment near the southern shore of Long Island, these units are not a source of drinking water near the site. There are no existing drinking water supply wells at the site, nor is groundwater used for any purpose at the site. Potable water in the area is supplied by the Village of Freeport. The nearest public supply wells are located 1.3 miles upgradient (North) of the site. Groundwater at the Site is encountered between 5.5 and 8.0 ft below ground surface (bgs) depending on the tidal stage.

**Contaminants of Concern (Including Materials Disposed)**

<table>
<thead>
<tr>
<th>Contaminant Name/Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1-trichloroethane</td>
</tr>
<tr>
<td>1,1-dichloroethane</td>
</tr>
<tr>
<td>1,1,1-TRICHLOROETHANE (TCA)</td>
</tr>
<tr>
<td>chloroethane</td>
</tr>
</tbody>
</table>

**Site Environmental Assessment**

The main source of contamination was the spill of 1,1,1-Trichloroethane (TCA). Based upon investigations conducted to date, the primary contaminants of concern at the site include 1,1,1-TCA, 1,1-Dichloroethane (DCA), Chloroethane (CA), toluene and xylene. The maximum 1,1,1-TCA concentrations (7000 ppm) was detected in soils at 10 to 13.7 ft below grade surface. Concentrations of 1,1,1-TCA detected at the site significantly exceed the soil clean up objectives for the protection of groundwater (0.68 ppm). 1,1,1- TCA and its associated degradation products are found in on-site groundwater exceeding groundwater standards.
(typically 5 ppb) with maximum concentrations of 5100 ppb and 13,000 ppb of CA. Groundwater plume has migrated off-site towards Freeport Creek. Site contamination has impacted groundwater resource in the Upper Glacial aquifer, which is a source of drinking water in the Nassau County. The site presents a significant environmental threat. However, the site's location next to a creek indicates that impacted groundwater would not be a viable source for potential future drinking water due to saltwater intrusion.

**Site Health Assessment**

Direct contact with contaminants in the soil is unlikely because the majority of the site is covered with buildings and pavement. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. The potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion in any future on-site building redevelopment and occupancy. In addition, the potential exists for contaminated soil vapor to impact the indoor air of two off-site buildings.

**For more Information: E-mail Us**

Refine Current Search
Environmental Remediation Databases Details

Site Record

Administrative Information

**Site Name:** Flexmaster Site  
**Site Code:** V00614  
**Program:** Voluntary Cleanup Program  
**Classification:** N  
**EPA ID Number:**

Location

**DEC Region:** 1  
**Address:** 146 Hanse Avenue  
**City:** Freeport  
**Zip:** 11520  
**County:** Nassau  
**Latitude:** 40.647747883  
**Longitude:** -73.572481853  
**Site Type:**  
**Estimated Size:** 3.5 Acres

Site Owner(s) and Operator(s)

**Current Owner Name:** SEGAL ASSOCIATES OF NEW JERSEY, L.P.  
**Current Owner(s) Address:** 13 PRODUCTION WAY  
AVENEL,NJ, 07001  
**Current On-Site Operator:** BRADCO SUPPLY CORPORATION  
**Stated Operator(s) Address:** 13 PRODUCTION WAY  
AVENEL,NJ 07001

Site Description

**Description Not Available**

Contaminants of Concern (Including Materials Disposed)

**Contaminant Name/Type**
*Class N Sites*: "DEC offers this information with the caution that the amount of information provided for Class N sites is highly variable, not necessarily based on any DEC investigation, sometimes of unknown origin, and sometimes is many years old. Due to the preliminary nature of this information, significant conclusions or decisions should not be based solely upon this summary."

For more Information: E-mail Us

Refine Current Search
Environmental Remediation Databases Details

Site Record

Administrative Information

Site Name: 435 South Main Street (Metal Etchings)
Site Code: V00381
Program: Voluntary Cleanup Program
Classification: N *
EPA ID Number:

Location

DEC Region: 1
Address: 435 South Main Street
City: Freeport Zip: 11520
County: Nassau
Latitude: 40.647859007
Longitude: -73.575829921
Site Type:
Estimated Size: 0 Acres

Site Owner(s) and Operator(s)

Current Owner Name: FREEPORT CREEK ASSOCIATES
Current Owner(s) Address: 19 CENTER DRIVE SYOSSET,NY, 11791
Current On-Site Operator: MAIN STREET MARINE
Stated Operator(s) Address: 500 SOUTH MAIN STREET FREEPORT,NY 11520

Site Description

Description Not Available

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type
Hazardous Substances
*Class N Sites*: "DEC offers this information with the caution that the amount of information provided for Class N sites is highly variable, not necessarily based on any DEC investigation, sometimes of unknown origin, and sometimes is many years old. Due to the preliminary nature of this information, significant conclusions or decisions should not be based solely upon this summary."

For more Information: E-mail Us

Refine Current Search
Environmental Remediation Databases Details

Site Record

Administrative Information

Site Name: South End Place TCA Plume
Site Code: 130162
Program: State Superfund Program
Classification: N *
EPA ID Number:

Location

DEC Region: 1
Address: South End Place
City: Freeport Zip: 11520
County: Nassau
Latitude: 40.645805513
Longitude: -73.574560565
Site Type: Estimated Size: 0 Acres

Site Owner(s) and Operator(s)

Site Description

South End Place has been investigated and based on the information that has been gathered to date, the DEC has determined that the site does not qualify for placement on the Registry.

* Class N Sites: "DEC offers this information with the caution that the amount of information provided for Class N sites is highly variable, not necessarily based on any DEC investigation, sometimes of unknown origin, and sometimes is many years old. Due to the preliminary nature of this information, significant conclusions or decisions should not be based solely upon this summary."
For more Information: E-mail Us

Refine Current Search
September 28, 2016

David Chiusano, Project Manager
NYS Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7017

Re: Incorporated Village of Freeport
Freeport Channel Crossing Electrical Improvements

Proposed Work Plan
435 South Main Street, Freeport, New York
D&B No. 3748

Dear Mr. Chiusano:

This letter serves to outline the proposed work related to the Freeport Channel Crossing Electrical Improvements Project for the Incorporated Village of Freeport which will impact the property located at 435 South Main Street, Freeport, Nassau County, New York. The property located at 435 South Main Street is the former Metal Etching Site that is listed as a Class 2 Site on the NYSDEC Registry of Inactive Hazardous Waste Sites (No. 1-30-110) (hereinafter referenced to as the “Site”). All work proposed at the site will be completed in accordance with the Site Management Plan (SMP) dated October, 2012 and specifically the Excavation Work Plan.

The project involves installing an underground electrical duct bank underneath the Freeport Channel, entering from the Village of Freeport owned parking lot on Hanse Avenue and exiting on the Site, utilizing the Horizontal Directional Drilling method. From the exit pit location, the underground electrical duct bank will be installed on the Site, to South Main Street through open cut trenching.

It is anticipated that approximately 150 cubic yards of material will be excavated from the Site during this project. All excavated material will be removed from the Site by trucks with tight-fitting covers and temporarily staged at the spoils storage area to be established on the east side of the channel (see attached Site Plan). Soil stockpiles will be underlain by a plastic tarp and continuously encircled with a berm and/or silt fence and covered at all times in accordance with the Excavation Work Plan. The soil will then be tested and disposed of in accordance with the Excavation Work Plan. Backfill from off-site sources meeting the requirements of the SMP and NYSDEC Division of Environmental Remediation (DER-10) Guidance will be used to backfill the excavated areas. Additionally, it is anticipated that all excavation will be outside the limits of the existing cover systems; therefore, the cover systems will not be impacted. Pavement restoration will be made to match the existing conditions.

"50 Years of Facing Challenges, Finding Solutions... Since 1965"
During the Horizontal Direction Drilling (HDD) Process, the Contractor will begin drilling a pilot borehole on the east side of the Freeport Channel and proceed underneath the channel to the exit pit located on the west side of the channel within the Site, along the profile shown on the attached drawing. The borehole will be reamed to achieve the final required diameter. Slurry will continuously be injected into the borehole and recirculated throughout the HDD drilling work to remove soil cuttings as the borehole progresses. Soil cuttings will be separated from the slurry in the Contractor's separation plant on the east side for disposal. The slurry will be recirculated back into the borehole for use in the HDD drilling process. The slurry will be contained within plastic-lined mud pits on either side of the channel at the exit and entrance points. Once the borehole is completed, the conduit bundle will be pulled through the borehole which will displace the slurry out of the borehole. The slurry removed from the borehole will be contained and removed from the pits on either side of the channel. Slurry within the annulus between the conduit bundle and the borehole will remain in the borehole. All slurry and soil cuttings removed from the borehole and mud pits for disposal will be stored in metal containers, tested and disposed of in accordance with NYSDEC regulations.

A decontamination area will be constructed at the Site for washing down all equipment. All water generated as part of the decontamination activities will be disposed of in accordance with the Excavation Work Plan.

All dewatering necessary for the open cut trenching work will be disposed of in accordance with the Excavation Work Plan.

As a mitigation effort to prevent the HDD borehole from fracking out, monitoring wells MW-03S and MW-03D will be grouted and decommissioned in accordance with NYSDEC regulations.

Community air monitoring will be implemented by the Contractor to monitor for VOC and particulate levels at the perimeter of the work area in conformance with the Excavation Work Plan. Readings will be recorded by the Contractor and made available for review by the NYSDEC. The Contractor will implement a dust control plan including the use of a truck equipped with a water cannon for spraying water onto dust source areas.

The anticipated project schedule has construction/excavation beginning at the Site during the second week of July 2017. At least 15 days prior to the start of any activity at the Site, the NYSDEC will be notified by the Contractor per the Excavation Work Plan.

We are currently preparing plans and specifications for the work and will be incorporating the above requirements into the Contract Documents. Once we have the Department's concurrence on the above proposed work plan, we can provide the Department with copies of the applicable plans and specifications, if necessary.
Although the work is not scheduled to be performed until next year, we are scheduled to Bid this project in November of 2016, with contract award anticipated to follow shortly thereafter, and therefore appreciate your continued cooperation with this project.

Very truly yours,

Michael Neuberger, P.E.
Vice President
Mike N.:

We have one comment:

Plan will need to state that you will decommission the existing wells in accordance with NYSDEC regulations. Moreover, you also will need to add a statement that you will replace those wells at an alternate location (within 20 feet of existing locations and as approved by NYSDEC), following completion of the horizontal drilling work.

Thanks

New York State Department of Environmental Conservation
Division of Environmental Remediation, Bureau E, Section A
625 Broadway, Albany, NY 12233-7017
P: (518) 402-9813 | C: (518) 598-7753 | David.Chiusano@dec.ny.gov

From: Michael Neuberger [mailto:MNeuberger@db-eng.com]
Sent: Wednesday, September 28, 2016 12:27 PM
To: Chiusano, David (DEC) <david.chiusano@dec.ny.gov>
Cc: alivingston@freeportelectric.com; 'Tony Fiore' (suantconsulting@yahoo.com); Joseph H Marturano; Maria Wright; Matthew Thogersen; Donna Barr (dbarr@freeportelectric.com); Casey, Robert; Chiusano, David (DEC)
Subject: Freeport Channel Crossing Electrical Improvements (DB 3748)

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

David,

Attached please find the proposed Work Plan related to the Freeport Channel Electrical Improvements project and the proposed work on the former Metal Etching Site.

After you have had a chance to review this, please contact our office if you have any questions or comments.

Thanks,

Mike
Metal Etching Site
NASSAU COUNTY, FREEPORT, NEW YORK
Site Management Plan

NYSDEC Site Number: 130110

Prepared for:
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau E
625 Broadway
Albany, New York 12233-7017

Prepared by:
EA Engineering, P.C. and its Affiliate
EA Science and Technology
6712 Brooklawn Parkway, Suite 104
Syracuse, New York 13211-2158
(315)-431-4610

Revisions to Final Approved Site Management Plan:

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OCTOBER 2012
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SITE MANAGEMENT PLAN

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This document is required as an element of the remedial program at the Metal Etching Co, Inc. site under the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program administered by New York State Department of Environmental Conservation (NYSDEC). The Class 2 inactive hazardous waste disposal site (Site No. 130110) was remediated in accordance with the Record of Decision (ROD) (NYSDEC 2007)\(^1\).

1.1.1 General

EA Engineering, P.C., and its affiliate EA Science and Technology (EA), along with its Joint Venture Partner, The Louis Berger Group, Inc. (Berger) were tasked by the NYSDEC to oversee the remediation of a 1.05 acre property located in Freeport, Nassau County, New York. The Remedial Party, EA and Berger, was required to investigate and oversee the remediation of contaminated media at the site. A figure showing the site location and boundaries of this 1.05-acre site is provided in Figure 1. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement (EE) currently being prepared by the NYSDEC to be included in Appendix G.

After completion of the remedial work described in the Remedial Action Work Plan, some contamination was left in the subsurface at this site, which is hereafter referred to as remaining contamination. This Site Management Plan (SMP) was prepared to manage remaining contamination at the site until the EE is extinguished in accordance with Environmental Conservation Law (ECL) Article 71, Title 36. All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in NYS.

This SMP was prepared by EA in accordance with the requirements in NYSDEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation (NYSDEC 2010)\(^2\) and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the institutional controls (ICs) and engineering controls (ECs) that are required by the EE for the site.

1.1.2 Purpose

The site contains contamination left after completion of the remedial action. ECs have been incorporated into the site remedy to control exposure to remaining contamination during the use of the site to ensure protection of public health and the environment. An EE granted to the

\(^2\) NYSDEC. 2010. DER-10 Technical Guidance for Site Investigation and Remediation.
NYSDEC, and recorded with the Nassau County Clerk, will require compliance with this SMP and all ECs and ICs placed on the site. The ICs place restrictions on site use; and mandate operation, maintenance, monitoring, and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the EE for contamination that remains at the site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the EE and the grantor’s successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the site after completion of the remedial action, including: (1) implementation and management of all ECs and ICs; (2) media monitoring; and (3) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports. To address these needs, this SMP includes two plans: (1) an EC/IC Plan for implementation and management of EC/ICs; and (2) a Monitoring Plan for implementation of site monitoring.

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the EE. Failure to properly implement the SMP is a violation of the EE.

- Failure to comply with this SMP is also a violation of ECL, 6 New York Code of Rules and Regulations Part 375 and, thereby, subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC’s project manager. In accordance with the EE for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 SITE BACKGROUND

1.2.1 Site Location and Description

The Metal Etching site is a Class 2 Site listed on the NYSDEC Registry of Inactive Hazardous Waste Sites (No. 1-30-110). The site is located adjacent to Freeport Creek at 435 South Main Street, Freeport, Nassau County, New York. A site location map is presented in Figure 1. The site is currently owned by Freeport Creek Associates and leased by Main Street Marina, 500 South Main Street, Freeport, New York. The Metal Etching property is designated as Section 62, Block 45, and Lots 144, 145, and 158 on the tax maps. The Metal Etching property is a 1.05 acre L-shaped area, bounded by Ray Street East and a commercial property to the north, Freeport Creek to the south and east, and Main Street and Ray Street East to the west. Figure 1 depicts
the site boundaries. The boundaries of the site are more fully described in Appendix A – ALTA Survey.

The site is currently used as a boat dealership, marina, and boat storage yard. Operations at the site are conducted in a single 2,400 ft² building located on the northeast corner of the property. A smaller 1,200 ft² building, located on the western portion of the property, has been restored and is used for office space for the boat dealership. Minor boat restoration activities are performed within the 2,400 ft² building and include engine rebuilds, sanding, and painting/varnishing. Prior to remediation, most areas of the site grounds were concrete or asphalt paved. Portions of the site adjacent to Freeport Creek were covered with gravel. Soil cover was observed on a small stretch of land on the southern property beneath a two-story boat rack.

1.2.2 Site History

The former Metal Etching buildings at the site were erected prior to 1954; however, the exact date of construction is unknown. These connected buildings occupied approximately 26,650 ft² of the property (approximately 60 percent of the Metal Etching portion of the site). Aside for the 2,400 ft² building, which was a portion of the Metal Etching quarters, the Metal Etching buildings were demolished in 2001; however, the concrete slabs and footings of the buildings remained in place at the site. A 6-in. thick concrete slab covering an approximate area of 7,750 ft² was the foundation of the Metal Etching plating slab and is visible to the west of the 2,400 ft² building.

Prior to 1966, the site operated as Flores Manufacturing, which manufactured handbags. The manufacturing process included decorative plating with nickel, chromium, and cadmium. From 1966 to 1999, Metal Etching Corporation manufactured metal nameplates, instrument panels, rulers, and miscellaneous plated products. All products were etched or printed. The process of etching included anodizing, chromate conversion, and chrome/nickel plating. From 1973 to 1982, Metal Etching Co. operated under the name of Plastic Associates, as a wholly owned subsidiary. From July 1982 to June 1999, Metal Etching Co., Inc. was the entity that operated the site. In the later years of the operation of Metal Etching Co., Inc., several of the metal coating operations were discontinued; i.e., chromate conversion (discontinued in 1997), chrome plating (discontinued in 1997), and anodizing (discontinued in 1998). All operations terminated in 1999 and Metal Etching Co., Inc. abandoned the premises during September of 1999. The facility buildings were demolished around 2001. During the demolition, limited decontamination and/or investigation was performed under the oversight of NYSDEC Resource Conservation and Recovery Act personnel. Two 4,000 gal aboveground storage tanks (ASTs), which formerly contained ferric chloride, were decontaminated and removed from the site during demolition activities.

1.2.3 Geologic Conditions

The top 3-4 ft of soil at the site consists of compacted fill material which includes sand, gravel, and brick and wood debris. Fill is underlain by organics and shells to approximately 11 ft below ground surface (bgs). A geologic cross section of the site is provided in Figure 2. Some fill was
excavated, disposed offsite, and replaced with clean granular fill during the 2011 remedial action. In areas depicted on Figure 3, fill has been excavated, disposed offsite and replaced with clean granular fill.

Depth to groundwater ranges from 3 to 5 ft bgs and is highly influenced by tides, as discussed in the remedial investigation (RI) report (Environmental Resource Management [ERM] 2007).3 Groundwater flow is to the southeast across the site. Overburden and bedrock groundwater flow is shown in Figure 4.

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A RI was performed to characterize the nature and extent of contamination at the site. The results of the RI are described in detail in the RI Report (ERM 2007).3

Generally, the RI determined that, based on the standards, criteria, and guidance (SCGs) used for the site, surface soil, subsurface soil, groundwater, and sediment contained metals and volatile organic compounds (VOCs) contamination that was to be addressed in the remedy selection. Soil vapor contained VOC contamination which was addressed by an interim remedial measure (IRM) conducted at the site prior to the remedial action.

Below is a summary of site conditions when the RI was performed in 2007.

Soil

Site soil was analyzed for VOCs and metals during the RI. Analytical results indicated that the site soil contained concentrations of VOCs and metals exceeding their SCGs. Metals were detected exceeding their SCGs in the top 7 ft of soil; specifically, nickel, copper, and zinc were detected at concentrations exceeding their SCGs. VOC contamination varied across the site. The eastern area was contaminated with petroleum related compounds including ethylbenzene, chlorobenzene, and xylene. Samples collected from the western area contained xylene and naphthalene exceeding their SCGs. Contaminants tetrachloroethene (PCE) (non-detect [ND] to 4.3 mg/kg), trichloroethene (TCE) (ND to 10 mg/kg), and methyl tert butyl ether (MTBE) (ND to 1.5 mg/kg) were the predominant VOCs detected in soil samples above their SCGs in the eastern central area of the site. The western central area of the site contained only TCE above its SCG.

Table 1 and Figures 5-5D show site soil sampling results from the RI.

Site-Related Groundwater

Groundwater samples were collected from 10 onsite monitoring wells at the water table interface and three monitoring wells installed directly above the clay layer. Samples collected from all

onsite monitoring wells contained concentrations of VOCs including MTBE and PCE; and PCE breakdown contaminants TCE, dichloroethene (DCE), and vinyl chloride (VC). Samples collected from above the clay layer contained higher concentrations of PCE, TCE, DCE, and VC than samples collected from the water table interface. Concentrations of PCE from samples collected above the clay layer ranged from ND to 1,600 μg/L, while concentrations of PCE from samples collected at the water table interface ranged from ND to 250 μg/L. The highest concentrations of PCE and breakdown contaminants were detected in monitoring wells located west and south of the 2,400 ft² building in monitoring wells MW-02S/D and MW-07S/D. The distribution and concentrations of breakdown contaminants across the site indicated that degradation was occurring at the site.

MTBE was detected in groundwater samples across the site at concentrations ranging from ND to 2,100 μg/L. The highest groundwater concentration of MTBE was collected as a grab sample at boring SB-21, south of MW-02S/D in the area of a suspected underground storage tank (UST) southwest of the 2,400 ft² building.

Table 2 and Figures 6A and 6B show the groundwater sampling results from the RI.

**Site-Related Soil Vapor Intrusion**

The potential for vapor intrusion in onsite buildings was evaluated prior to the RI. Subslab vapor samples indicated that both PCE and TCE were present in subslab air beneath both buildings onsite. The smaller building subslab vapor sample contained PCE at a concentration of 292 μg/m³ and TCE at a concentration of 187 μg/m³. The subslab vapor sample from the larger building contained PCE at a concentration of 5,772 μg/m³ and TCE at a concentration of 16,014 μg/m³. Indoor air samples collected from both buildings did not contain detections of PCE or TCE. Potential vapor intrusion was addressed by the installation of sub-slab depressurization systems at the two onsite buildings prior to the RI; however, site soil vapor will continue to be monitored as part of the EC/IC Plan as discussed in Section 2.0.

Table 3 and Figure 7 show the soil vapor sampling results from the RI.

**Underground Storage Tanks**

One UST was removed from the western area of the site in 1990, prior to the RI. This tank contained heating fuel. During the RI, two additional potential USTs were identified on the site. One was identified east of the smaller building and the other was identified south of the larger building. Contents were unknown prior to the remedial action.

**Sediment**

Sediment within Freeport Creek surrounding the perimeter of the site was sampled during the RI. Two of the eight samples contained metals (i.e., nickel, chromium, and zinc) exceeding their respective SCGs. The sample collected from sediment just below the outfall in the northeastern part of the site contained nickel at a concentration of 40.4 mg/kg, exceeding the Effect Range-
Low (ER-L) of 20.9 mg/kg. The sample collected south of the southeastern bulkhead contained chromium (127 mg/kg) and nickel (28.4 mg/kg) at concentrations exceeding their respective ER-L values (81 mg/kg and 20.9 mg/kg, respectively), as well as zinc (425 mg/kg) exceeding the Effect Range-Medium (ER-M) of 410 mg/kg. ER-L is the 10th percentile on a series of data that is ranked from the lowest, or least toxic concentrations, to the highest, or more toxic concentrations. ER-M is the 50th percentile on this continuum.

In addition to sediment within Freeport Creek, sediment from within an existing storm drain was sampled during the RI. The samples contained metals (i.e., nickel, copper, and zinc) exceeding their respective SCGs. Table 4 and Figure 5D show the sediment sampling results from the RI.

1.4 SUMMARY OF REMEDIAL ACTIONS

The site was remediated in accordance with the NYSDEC-approved remedial design, which was part of the Contract Documents dated August 2010 and addendums dated September 28, 2010, September 30, 2010, and October 1, 2010.

The following is a summary of the remedial actions performed at the site:

- Excavation of 2,684 yd³ of soil/fill exceeding soil cleanup objectives (SCOs) listed in Table 5A within identified excavation limits, to low-tide groundwater elevation, approximately 5 ft bgs.

- Construction and maintenance of a soil cover system consisting of a geotextile demarcation layer covered by asphalt or permeable pavement to prevent human exposure to contaminated soil/fill remaining at the site.

- Execution and recording of an EE to restrict land use to commercial use, and prevent future exposure to any contamination remaining at the site. NYSDEC is currently preparing an EE.

- Removal of approximately 2 yd³ of sediment from the onsite storm water system and disposal at an approved offsite facility.

- Closure and removal of four USTs onsite in accordance with NYSDEC regulations.

- Limited removal of approximately 183 yd³ of sediment from delineated area within Freeport Creek and disposal at an approved offsite facility.

- Development and implementation of a SMP for long-term management of remaining contamination as required by the EE, which includes plans for: (1) IC/ECs, (2) monitoring, (3) operation and maintenance, and (4) reporting.

Remedial activities were completed at the site in January 2012.
1.4.1 Removal of Contaminated Materials from the Site

Soil and sediment hot spots were identified onsite and delineated during design activities prior to the remedial construction. Hot spot locations were based on soil sample collection and analysis performed during the 2007 RI (ERM 2007) and the 2008 additional site investigation.

Soil

Remedial activities at the site consisted of excavation and offsite disposal of contaminated soils from within excavation areas EX-1 through EX-7 shown on Figure 3. Asphalt and concrete top layers within excavation limits were saw-cut using walk-behind saw equipment, broken up by a CAT 320 excavator, and disposed of offsite. Remnant foundation walls encountered within excavation areas were removed to the bottom of the excavation limits, broken up, and disposed of offsite along with other construction and demolition (C&D) debris. Approximately 240 tons of C&D materials were removed and disposed offsite at 110 Sand Landfill in Melville, NY.

Soil within excavation areas EX1, EX3, EX4, EX5, and EX6 was removed down to 5 ft bgs. Soil within excavation area EX2 was removed down to 1 ft bgs. Contaminated soil from the excavation areas was removed using a CAT 320 excavator and disposed offsite at 110 Sand Landfill. During excavation within EX6, fuel-impacted soil was encountered directly to the west of excavation limit points EX6-7 and EX6-8. Excavation area EX6 was extended an additional 9 ft to the east of excavation limit points EX6-7 and EX6-8, down to approximately 5 ft bgs to remove visual impacts. Two additional USTs were uncovered within EX3, to the east side of the one-story brick office building. All product from within the USTs was pumped and disposed of at International Petroleum Corporation of Delaware. Cleaned USTs were delivered to Gershow Recycling in Freeport, NY.

During excavation in the vicinity of excavation limit points EX5-11, EX5-12, and EX5-13, down to 5 ft bgs, two USTs were encountered. These USTs were found to extend within the footprint of excavation area EX1. The area to the west of points EX5-11 and EX5-13, and entire excavation area EX1 were excavated down to the bottom of the USTs (approximately 5 ft bgs), and then further excavated another 2-3 ft below the bottom of the USTs to remove visually impacted soils.

Approximately 5,500 tons of contaminated soil was excavated and disposed off-site. This includes approximately 110 tons of fuel-impacted soil encountered within EX1 and EX6, and C&D materials. The fuel-impacted soil encountered at excavations EX1 and EX6 were segregated from other excavated soil, characterized, and disposed at 110 Sand Landfill, following disposal facility approval.

In addition, during excavation activities, monitoring wells MW02S/MW02D, MW03S/MW03D, and MW07S/MW07D were decommissioned, removed, and disposed of offsite in accordance with the Contract Documents. Monitoring wells MW-08S and MW-08D replaced MW-02S and MW-02D; monitoring wells MW-09S and MW-09D replaced MW-07S and MW-07D; and monitoring wells MW-10S and MW-10D replaced MW-03S and MW-03D.
Storm Drain Sediment

Sediment from within an 18-in. reinforced-concrete storm pipe located in the east portion of the site was cleaned out on May 16, 2011 using a vactor truck (2100 Series DEC 1A-727).

No sediment or wash water was observed to flow out of the pipe into Freeport Creek from the outfall end. Following pipe clean out activities, water that had been pumped from the manhole during clean out activities was decanted from the vactor truck back into the manhole, then sediment from the vactor truck was loaded into 55 gal drums. Seven drums were packed with sediment and staged onsite until disposal at Residuals Management Services, Inc. (RMS) in Deer Park, NY on October 3, 2011.

Freeport Creek Contaminated Sediment

Dredging of contaminated sediment located in the 40 ft × 60 ft targeted area within Freeport Creek (delineated by excavation limit points EX7-1 through EX7-4) was performed between 11 and January 20, 2012. Wood-finger docks were removed prior to dredging and restored following dredging activities. A turbidity barrier was installed prior to dredging operations to prevent migration of sediment outside of the targeted area and was removed following completion of dredging activities.

Pre- and post-dredging surveys of the dredging area were performed by Alphonse Pesce Land Surveying to verify the sediment removal limits and the volume of sediment removed. Dredging was performed by Hancock Bulkhead by means of clamshell boom mechanical dredging equipment. Sediment removal progressed in a grid pattern within the targeted area. AARCO removed sediment from the onsite barge and transported it to 110 Sand Landfill. Approximately 250 tons of dredged sediment were transported and disposed offsite.

A list of the ER-Ls and ER-Ms for the primary contaminants of concern is provided in Table 5B.

A figure showing areas where excavation was performed is shown in Figure 3.

1.4.2 Site-Related Treatment Systems

Two sub-slab depressurization systems (SSDSs) that were installed in March 2005 in the onsite buildings remain in operation. No additional long-term treatment systems were installed as part of the site remedy.

1.4.3 Remaining Contamination

Per the ROD, excavation depth was limited by the low-tide groundwater elevation; therefore, known contamination remains at the site. Mirafi® 180N/O non-woven geotextile was installed at a depth of 5 ft in excavation areas EX3, EX4, EX5, and EX6; it was installed at a depth of 1 ft in excavation areas EX1 and EX2.
During the RI, VOC and metals contamination was identified in various locations throughout the site deeper than the maximum excavation depth of 5 ft. Concentrations of metals and VOCs exceeded the SCOs at sampling intervals 7-8 ft bgs and 12 ft bgs. VOCs (i.e., xylene and naphthalene) were identified in the western area of the site near excavation EX3 7-8 ft bgs and 12 ft bgs. Various VOCs including TCE, benzene, toluene, and MTBE were identified in the central area of the site near excavation EX5 within intervals 7-8 ft bgs and 12 ft bgs. Xylenes were identified 7-8 ft bgs and 12 ft bgs in the northeast area of the site near an existing electrical conduit. Ethylbenzene, xylene, and chlorobenzene were identified 8 ft bgs in the southeast area of the site.

Metals including chromium, copper, nickel, and zinc were identified at concentrations exceeding the SCOs in soil within the central portion of the site 7-8 ft bgs and 12 ft bgs. Copper, nickel, and zinc were identified in soil within the east area of the site 7-8 ft bgs and 12 ft bgs. A confining clay layer was identified 31-38 ft bgs across the site.

Confirmation soil samples were collected at the excavation boundaries following remediation work. VOCs detected in confirmation soil samples with concentrations exceeding the site-specific SCGs include xylenes (north sidewall of EX1 and south central area of EX5); and 1,2-DCE as a combination of cis- and trans-1,2-DCE, and toluene (south central area of EX5).

Metals detected in confirmation soil samples with concentrations exceeding the site-specific SCGs include chromium, copper, nickel, and zinc. Some confirmation samples collected from the bottom of excavations EX1 and EX2 contained all four metals at concentrations in exceedance of the site-specific SCGs.

Of the three confirmation samples collected from the bottom of EX3, only one sample contained zinc at a concentration exceeding the site-specific SCGs. Four of the five side wall samples from EX3 contained zinc at a concentration exceeding the site-specific SCGs as well.

The bottom sample collected from EX4 contained chromium, copper, and zinc at concentrations exceeding the SCGs, while only one of the three side wall samples from EX4 contained a concentration of zinc exceeding the site-specific SCGs.

A majority of the bottom samples of EX5 contained a concentration of copper exceeding the site-specific SCGs, while the northwest quadrant contained chromium and the northeast quadrant contained nickel at concentrations exceeding the respective site-specific SCGs. A majority of side samples from EX5 contained concentrations of copper and zinc exceeding the site-specific SCGs, while 4 of 13 samples contained concentrations of nickel exceeding the site-specific SCGs. Only one side wall sample from EX5 contained chromium at a concentration exceeding the site-specific SCGs.

Excavation EX6 consisted of a northern and southern portion separated by the utility right-of-way. Both bottom samples in the northern portion and all three of the bottom samples in the southern portion contained concentrations of copper and zinc exceeding the site-specific SCGs.
One of the northern bottom samples and two of the three southern bottom samples contained nickel at a concentration greater than the site-specific SCGs. All side wall samples collected from EX6 contained concentrations of zinc exceeding the site-specific SCGs, while all but two (along the northern and northwestern excavation boundary) contained concentrations of copper exceeding the site-specific SCGs. All but two of the side wall samples collected from the southern portion of EX6 and one of the side wall samples collected from the northern portion of EX6 (along the boundary with the right-of-way) contained nickel at a concentration exceeding the site-specific SCGs. One side wall sample along the southern boundary of EX6 contained a concentration of chromium at a concentration exceeding the site-specific SCGs.

EX7 was a 2 ft excavation within Freeport Creek. Documentation samples collected following dredging activities contained copper and mercury exceeding their respective ER-Ls of 34 mg/Kg and 0.15 mg/Kg. Sample location EX7P2 contained copper at a concentration of 299 mg/Kg exceeding the Effects Range-High (ER-H) of 270 mg/Kg. Sample location EX7P3 contained mercury at a concentration of 1.86 mg/Kg exceeding the ER-H of 0.71 mg/Kg. Four of the five documentation samples collected from EX7 contained concentrations of arsenic which exceeded the ER-L of 8.2 mg/Kg. Concentrations ranged from 8.48 mg/Kg in EX7P5 to 17.2 mg/Kg in EX7P2.

Tables 6A and 6B, and Figures 8-8C summarize the results of all soil samples remaining at the site after completion of remedial action that exceed the unrestricted levels for VOCs and metals, respectively. Tables 7A and 7B, and Figures 9-9C summarize the remaining soil contamination that exceeds the site-specific SCOs for VOCs and metals, respectively. Table 8 and Figure 9D summarizes the results of all sediment samples remaining at the site after completion of dredging activities that exceed the ER-L and ER-H.

Since contaminated soil and groundwater remain beneath the site after completion of the remedial action, ECs and ICs are required to protect human health and the environment. These ECs and ICs are described in the following sections. Long-term management of these ECs and ICs, and residual contamination will be performed under this SMP.
2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

Since remaining contaminated soil exists beneath the site, ECs and ICs are required to protect human health and the environment. This EC/IC Plan describes the procedures for the implementation and management of all EC/ICs at the site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

This plan provides:

- A description of all EC/ICs on the site
- The basic implementation and intended role of each EC/IC
- A description of the key components of the ICs set forth in the EE
- A description of the features to be evaluated during each required inspection and periodic review
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan (EWP) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

2.2.1.1 Final Cover System

Exposure to remaining contamination in soil/fill at the site is prevented by a demarcation layer and asphalt and porous pavement cover system placed over the site. This cover system is comprised of a geotextile demarcation layer, topped by a minimum of 12 in. of asphalt pavement, porous pavement, or rip-rap. The EWP that appears in Appendix B outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed; and any underlying remaining contamination is disturbed. Procedures for
the inspection and maintenance of this cover are provided in the Monitoring Plan included in Section 4 of this SMP. A figure showing the location of the different cover types is provided as Figure 10.

2.2.1.2 Sub-Slab Depressurization Systems

Exposure to indoor air impacted with VOCs within the site buildings is prevented by the two existing SSDSs, which were installed in the site buildings in March 2005. The systems serve to reduce the pressure beneath the building slabs by venting potentially impacted soil vapor outside of the buildings.

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

2.2.2.1 Composite Cover System

The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity.

2.2.2.2 Sub-Slab Depressurization Systems

The SSDSs will be monitored on an annual basis to determine whether the systems remain necessary at the site, or if the remedial action objectives were achieved.

2.3 INSTITUTIONAL CONTROLS

A series of ICs is required by the ROD to: (1) implement, maintain and monitor EC systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site to commercial uses only. Adherence to these ICs on the site is required by the EE and will be implemented under this SMP. These ICs are:

- Compliance with the EE and this SMP by the Grantor and the Grantor’s successors and assigns.

- All ECs must be operated and maintained as specified in this SMP.

- All ECs on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
Groundwater and indoor air monitoring must be performed as defined in this SMP.

Submission of a periodic certification of institutional and ECs to the NYSDEC by the property owner.

Data and information pertinent to site management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP.

ICs identified in the EE may not be discontinued without an amendment to or extinguishment of the EE.

The site has a series of ICs in the form of site restrictions. Adherence to these ICs is required by the EE. Site restrictions that apply to the Controlled Property are:

- The property may only be used for commercial use provided that the long-term ECs and ICs included in this SMP are employed. The property may also be used for industrial use, in conformance of local zoning.

- The property may not be used for a higher level of use, such as unrestricted use without additional remediation and amendment of the EE, as approved by the NYSDEC.

- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP.

- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use.

- The potential for vapor intrusion must be evaluated for any buildings developed within the site boundaries, and any potential impacts that are identified must be monitored or mitigated.

- Vegetable gardens and farming on the property are prohibited.

- The site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.
2.3.1 Excavation Work Plan

The site has been remediated for commercial or industrial uses. Any future intrusive work that will penetrate the soil cover or cap, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the EWP that is attached as Appendix B to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the site. A sample HASP is attached as Appendix B-1 to the EWP that is in current compliance with DER-10, and 29 Code of Federal Regulations (CFR) 1910, 29 CFR 1926, and all other applicable federal, state, and local regulations. Based on future changes to state and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP, and CAMP; and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (Section 5).

The site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The site owner will ensure that site development activities will not interfere with, or otherwise impair or compromise, the ECs described in this SMP.

2.3.2 Soil Vapor Intrusion Evaluation

Prior to the construction of any enclosed structures within the area identified on Figure 11, a soil vapor intrusion (SVI) evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. Alternatively, a SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive SSDS that is capable of being converted to an active system.

Prior to conducting a SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and New York State Department of Health (NYSDOH) for approval. This work plan will be developed in accordance with the most recent NYSDOH Guidance for Evaluating Vapor Intrusion in the State of New York (NYSDOH 2006)4. Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

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Preliminary (un-validated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. Validated SVI data will be transmitted to the property owner within 30 days of validation. If any indoor air test results exceed NYSDOH guidelines, relevant NYSDOH fact sheets will be provided to all tenants and occupants of the property within 15 days of receipt of validated data.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed
- If these controls continue to be protective of human health and the environment
- Compliance with requirements of this SMP and the EE
- Achievement of remedial performance criteria
- Sampling and analysis of appropriate media during monitoring events
- If site records are complete and up to date
- Changes, or needed changes, to the remedial or monitoring system.

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the site by a qualified environmental professional as determined by NYSDEC.

2.4.2 Notifications

Notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in site use in accordance with the ROD.
- 15-day advance notice of any proposed ground-intrusive activities pursuant to the EWP.
• Notice within 48-hours of any damage or defect to the foundations structures that reduces or has the potential to reduce the effectiveness of other ECs and likewise any action to be taken to mitigate the damage or defect.

• Notice within 48-hours of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, including a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

• Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

• At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of all approved work plans and reports, including this SMP.

• Within 15 days after the transfer of all or part of the site, the new owner’s name, contact representative, and contact information will be confirmed in writing.

2.5 CONTINGENCY PLAN

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

2.5.1 Emergency Telephone Numbers

In the event of any environmentally-related situation or unplanned occurrence requiring assistance, the Owner or Owner’s representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to the NYSDEC project manager. These emergency contact lists must be maintained in an easily accessible location at the site.

<table>
<thead>
<tr>
<th>Emergency Contact Numbers</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical, Fire, and Police:</td>
<td>911</td>
</tr>
<tr>
<td>One Call Center:</td>
<td>(800) 272-4480</td>
</tr>
<tr>
<td></td>
<td>(3 day notice required for utility markout)</td>
</tr>
<tr>
<td>Poison Control Center:</td>
<td>(800) 222-1222</td>
</tr>
<tr>
<td>Pollution Toxic Chemical Oil Spills:</td>
<td>(800) 424-8802</td>
</tr>
<tr>
<td>NYSDEC Spills Hotline:</td>
<td>(800) 457-7362</td>
</tr>
</tbody>
</table>
2.5.2 Map and Directions to Nearest Health Facility

Site Location: Metal Etching Site  
Nearest Hospital Name: South Nassau Communities Hospital  
Hospital Location: 1 Healthy Way, Oceanside, New York 11572  
Hospital Telephone: 516-632-3000

Directions to the Hospital:
1. Go north on S Main Street.
2. Take 1st left onto Atlantic Avenue.
3. Turn right onto S Bayview Avenue.
4. Turn left onto W Merrick Road.
5. Turn left onto Healthy Way.
Total Distance: 3.6 miles  
Total Estimated Time: 10 minutes

<table>
<thead>
<tr>
<th>Contact Numbers</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYSDEC Division of Environmental Remediation</td>
<td>518-402-9814</td>
</tr>
<tr>
<td>Eric Hausamann (SSDS)</td>
<td>518-402-9814</td>
</tr>
</tbody>
</table>

NOTE: Contact numbers subject to change and should be updated as necessary
Map Showing Route from the site to the Hospital:

*Map is from maps.google.com
2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan. The list will also be posted prominently at the site and made readily available to all personnel at all times.

2.5.3.1 Spill Procedures

In the event that a hazardous substance is released on the site, all site personnel shall be notified immediately. If the substance poses an immediate threat to human health and the environment, evacuation and notification of the appropriate authorities including the NYSDEC Spill Response team (listed in previous table) may be necessary. If the release is minimal and does not pose a health risk, the leak shall be contained and the spilled material shall be cleaned up with appropriately sized absorbent pads. Materials used to contain the substance shall be disposed of properly.

2.5.3.2 Evacuation Plan

If site evacuation is necessary, site personnel shall exit the site on Main Street. All site personnel shall be notified of the evacuation.
3.0 SITE MONITORING PLAN

3.1 INTRODUCTION

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site, the soil cover system, and all affected site media identified below. Monitoring of other ECs is described in Chapter 4, Operation and Maintenance Plan. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor)
- Assessing compliance with applicable NYSDEC SCGs, particularly ambient groundwater standards and Part 375 SCOs for soil
- Assessing achievement of the remedial performance criteria.
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency
- Information on all designed monitoring systems (e.g., well logs)
- Analytical sampling program requirements
- Reporting requirements
- Quality Assurance (QA)/Quality Control (QC) requirements
- Inspection and maintenance requirements for monitoring wells and SSDS
- Monitoring well decommissioning procedures
- Annual inspection and periodic certification.

Semi-annual monitoring of the performance of the remedy and overall reduction in contamination onsite will be conducted for the first year. The frequency thereafter will be determined by NYSDEC. Trends in contaminant levels in air, soil, and/or groundwater in the affected areas, will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in the following table and outlined in detail in Sections 3.2 and 3.3 below.
3.2 COVER SYSTEM MONITORING

For the first year of monitoring, the cover system will be inspected on a semi-annual basis and after large storm events to ensure proper drainage, and to look for sedimentation issues. The inspector will also note whether the asphalt and porous pavement has settled unevenly, been overloaded, or otherwise disturbed. The porous pavement will be checked for signs of clogging by soil or debris or chemical sealers. Rip-rap areas will be inspected for disturbance and effectiveness. Concrete surrounding the slotted drains at the site entrances will be inspected for cracking or crumbling.

3.3 MEDIA MONITORING PROGRAM

Groundwater and indoor air will be monitored as part of the management of this site.

3.3.1 Groundwater Monitoring

The network of monitoring wells has been installed to monitor both upgradient and downgradient groundwater conditions at the site. The network of onsite wells was designed and installed during the RI. A total of 10 wells were installed including three monitoring well clusters of one shallow and one deep well, three single shallow wells, and one single deep micro well. Deep wells were installed to a maximum of 33 ft bgs, which is the depth of the top of the clay layer observed during the soil boring investigation. Shallow wells were installed to 13 ft bgs to intercept any light non-aqueous phase liquid that may have been present. All wells were constructed with 10 ft of screen. Well locations were selected based on the geophysical, soil boring and groundwater investigations which took place as part of the RI and field observations. Wells are located throughout the site. Figure 12 show the shallow and deep monitoring well arrays.

As noted in Section 1.4.1, monitoring wells MW02S/MW02D, MW03S/MW03D, and MW07S/MW07D were decommissioned during soil excavation activities. These monitoring wells were replaced with monitoring wells MW-08S and MW-08D, MW-09S and MW-09D, and MW-10S and MW-10D following cover installation in similar locations and to similar depths as
the original wells. Monitoring well construction details for all wells present at the site are included in Appendix C.

New monitoring wells were last sampled on December 14, 2011. Samples were analyzed for oil and grease (Method E1664A), polychlorinated biphenyls (PCBs) and pesticides (Method E608), metals and mercury (Methods SW6010B and SW7470A, respectively,) VOCs (Method SW8260B), and semivolatile organic compounds (Method SW8270C). Results of the initial post-remedial groundwater sampling are shown on Figure 13.

Groundwater monitoring is to be performed twice per year for the first year and as directed by NYSDEC thereafter. Groundwater is to be analyzed for metals and mercury (Methods 6010B and SW7470A) and VOCs (Method 8260B). The following monitoring wells are to be sampled as part of the groundwater monitoring program for the Metal Etching site.

<table>
<thead>
<tr>
<th>Monitoring Wells at the Metal Etching Site</th>
<th>Well Depth (ft bgs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgradient Onsite Monitoring Wells</td>
<td></td>
</tr>
<tr>
<td>MW-01</td>
<td>31</td>
</tr>
<tr>
<td>MW-06</td>
<td>13</td>
</tr>
<tr>
<td>Downgradient Onsite Monitoring Wells</td>
<td></td>
</tr>
<tr>
<td>MW-04</td>
<td>13</td>
</tr>
<tr>
<td>MW-05</td>
<td>13</td>
</tr>
<tr>
<td>MW-08S</td>
<td>14</td>
</tr>
<tr>
<td>MW-08D</td>
<td>31</td>
</tr>
<tr>
<td>MW-09S</td>
<td>14</td>
</tr>
<tr>
<td>MW-09D</td>
<td>32</td>
</tr>
<tr>
<td>MW-10S</td>
<td>14</td>
</tr>
<tr>
<td>MW-10D</td>
<td>32</td>
</tr>
</tbody>
</table>

The sampling frequency may be modified with the approval of the NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

The groundwater monitoring well network is shown in Figure 12. Figure 13 and Tables 9A and 9B provide a summary of the post-remaining groundwater quality for VOCs and metals, respectively.

Deliverables for the groundwater monitoring program are specified below.

### 3.3.1.1 Sampling Protocol

All monitoring well sampling activities will be recorded in a field book and a groundwater sampling log presented in Appendix D. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.
Prior to sampling, all monitoring wells shall be inspected and gauged to obtain the static water levels for the site. Monitoring well purging will be performed and groundwater samples will be collected from the monitoring wells using a submersible pump and dedicated section of polyethylene tubing. A water quality meter (Horiba U-52 or similar) with flow-through cell (flushed with distilled water before use at each well) will be used during well purging for field measurement of pH, specific conductance, temperature, Eh, turbidity, and dissolved oxygen. Each well shall be purged three well volumes or until field parameters stabilize, whichever occurs first. Purge water is to be discharged to the ground surface near the well. In the event that a strong odor or sheen is evident, water is to be drummed, characterized, handled, and disposed of at a licensed treatment, storage, and disposal facility.

The following procedures will be used for monitoring well groundwater sampling:

- Wear appropriate personal protective equipment as specified in the site-specific HASP Addendum (Appendix B-1). In addition, samplers will use new nitrile sampling gloves for the collection of each sample.

- Unlock and remove the well cap.

- Measure the static water level in the well with an electronic water level indicator.

- The water level indicator will be washed with Alconox detergent and water, then rinsed with deionized water between individual monitoring wells to prevent cross-contamination.

- Calculate the volume of water in the well.

- Place polyethylene sheeting around the well casing to prevent contamination of sampling equipment in the event sampling equipment is dropped.

- Purge 3-5 well volumes of water from the well or until water quality parameters are stabilized, using the method described below.

- Pump with a submersible pump equipped with new polyethylene tubing dedicated to each well. Set pump intake at the approximate mid-point of the monitoring wells screened interval and start pump.

- Allow field parameters of pH, reduction-oxidation potential (Eh), dissolved oxygen, specific conductivity, turbidity, and temperature to stabilize before sampling. Purging will be considered complete if the following conditions are met:
  - Consecutive pH readings are ±0.1 pH units of each other
  - Consecutive dissolved oxygen readings are ±10 percent of each other
  - Consecutive Redox readings are ±0.10 units of each other
  - Consecutive measured specific conductance is ±3 percent of each other
3.3.1.2 Monitoring Well Repairs, Replacement, and Decommissioning

If biofouling or silt accumulation occurs in the onsite and/or offsite monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), if an event renders the wells unusable.

Well decommissioning procedures are as follows:

- Measure total depth of the well to ensure the well depth is consistent with the recorded construction depth.

- Remove the steel manhole or steel stickup protective casing with an effort being made to ensure that the riser does not splinter and/or become structurally unstable for pulling.

- The bottom of the casing shall be punctured and the casing freed from the hole using suitable equipment (i.e., drill rig cable system). Well materials shall be disposed of at a licensed disposal facility.

- The well shall be tremie-grouted with a cement bentonite grout while removing the casing. The grout shall be completed to a depth of approximately 5 ft below grade.
• A bentonite seal shall be placed on top of the grout.

• The remaining riser shall be sealed with a Portland cement plug to the ground surface.

In the event the casing or well screen is severed during casing pulling, or if a borehole collapse occurs, the remaining materials will be removed by over-drilling using the conventional augering method described below:

• Overdrilling shall be conducted by either using a hollow-stem auger with outward facing carbide cutting teeth with a diameter 2 in. larger than the casing and/or using a hollow-stem auger fitting with a plug used to grind the well materials which will be brought to the surface by the auger. Spoils shall be drummed and disposed of at a licensed disposal facility.

• Overdrilling shall be advanced 0.5 ft beyond the original bore depth.

• Once the desired drilling depth has been completed (using open ended hollow-stem auger method) the casing and screen shall be retrieved from the center of the augers.

• As the augers are being retracted, cement-bentonite grout shall be pumped down the center of the augers.

• Bore hole shall be grouted and sealed with bentonite and Portland cement as described above.

Replacement wells shall be constructed using methods consistent with those used during the RI. Monitoring well construction logs are provided in Appendix C.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC’s Commissioner Policy – 43 Groundwater Monitoring Well Decommissioning Policy (NYSDEC 2009)\(^5\). Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

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3.3.2 Indoor Air Monitoring

Indoor air sampling is to take place in the existing office building and warehouse (Figure 14), as discussed in Section 1.3 of this plan, onsite on an annual basis to monitor effectiveness of SSDSs and potential SVI. Samples are to be analyzed by an Environmental Laboratory Analytical Program-certified laboratory for VOCs using U.S. Environmental Protection Agency (EPA) Method TO-15. In accordance with the NYSDOH guidance for evaluating SVI, the analysis for the indoor air samples is to achieve detection limits of 0.25 μg/m³ for each compound.

Prior to collection of indoor air, an inspection of general site conditions is to be performed. The inspection is to include the following activities:

- Completion of the NYSDOH Indoor Air Quality Questionnaire and Building Inventory included in Indoor Air Sampling and Analysis Guidance (NYSDOH 2006). A sample of the questionnaire is provided in Appendix D. As directed by NYSDEC, a limited product inventory will be prepared. Sections 1 through 12 of the questionnaire will be completed with the exception of Section 4. In addition, a floor plan sketch of the first floor will not be required.

- Documentation of weather conditions outside and temperature inside.

- Ambient air (indoor and outdoor) screening using field equipment (i.e., parts per billion photoionization detector).

- Selection of air sampling locations.

An active approach, utilizing laboratory batch-certified Summa canisters, regulated for a 24-hour sample collection, will be used to monitor the indoor air conditions. The following procedures will be used for all indoor air sampling:

- Visually assess the building to be sampled. Select an area for sampling that is approximately 3-4 ft above the floor surface, out of the line of traffic, and away from any vents or windows.

- Place a canister in the selected sample location. The canister must be certified clean in accordance with EPA Method TO-15 and under a vacuum pressure of no more than -30 in. of mercury in Hg. Flow controllers must be set for a 24-hour collection period.

- Record the serial number of the canister and associated regulator on the chain-of-custody form and field notebook/sample form. Assign a sample identification on the canister identification tag and record this on chain-of-custody and field notebook/sample form. For the property owner’s privacy, do not use a sample identifier containing the name of the property owner or the address of the property.
Metal Etching Site (130110) Site Management Plan
Freeport, New York

- Record the gauge pressure; the vacuum gauge pressure must read -25 in Hg or less, or the canister cannot be used.

- Record the start time on the chain-of-custody form and on the air sampling form (Appendix D), and take a digital photograph of canister setup and the surrounding area.

To terminate the sample collection:

- Close the canister valve; record the stop time on the chain-of-custody form and in the field notebook/sample form.

- Record the final gauge pressure and disconnect the pressure gauge/flow controller from the canister.

- Install the plug on the canister inlet fitting and place the sample container in the original box.

- Complete the sample collection log with the appropriate information, and log each sample on the chain-of-custody form.

3.4 SITE-WIDE INSPECTION

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed (Appendix D). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage

- An evaluation of the condition and continued effectiveness of ECs

- General site conditions at the time of the inspection

- The site management activities being conducted including, where appropriate, sampling and a health and safety inspection

- Compliance with permits and schedules included in the Operation and Maintenance Plan

- Confirm that site records are up to date.

- Confirm that site use has not changed since the previous inspection.
SSDS inspections will take place as part of the annual site-wide inspection and are discussed in Section 4.0 of this plan.

3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the site (Appendix E). Main components of the QAPP include:

- QA/QC Objectives for Data Measurement

- Sampling Program:
  - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
  - Sample holding times will be in accordance with the NYSDEC Analytical Services Protocol requirements.
  - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.

- Sample Tracking and Custody

- Calibration Procedures:
  - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
  - The laboratory will follow all calibration procedures and schedules as specified in EPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.

- Analytical Procedures

- Preparation of a Data Usability Summary Report, which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.

- Internal QC and Checks

- QA Performance and System Audits

- Preventative Maintenance Procedures and Schedules

- Corrective Action Measures.
3.6 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be prepared subsequent to each sampling event. The report will include, at a minimum:

- Date of event
- Personnel conducting sampling
- Description of the activities performed
- Type of samples collected (e.g., groundwater, indoor air, etc.)
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.)
- Sampling results in comparison to appropriate standards/criteria
- A figure illustrating sample type, sampling locations, and analytical results
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format)
- Any observations, conclusions, or recommendations
- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized below.

<table>
<thead>
<tr>
<th>Task</th>
<th>Reporting Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter Inspection and Monitoring Report</td>
<td>Twice a year for the first year only</td>
</tr>
<tr>
<td>Periodic Review Report</td>
<td>January 2014 (first), annually after</td>
</tr>
</tbody>
</table>

(1) The frequency of events will be conducted as specified until otherwise approved by NYSDEC
4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

This Operation and Maintenance Plan describes the measures necessary to operate, monitor, and maintain the mechanical components of the remedy in place at the site. This Operation and Maintenance Plan:

- Includes the steps necessary to allow individuals unfamiliar with the site to operate and maintain the SSDSs
- Includes an operation and maintenance contingency plan
- Will be updated periodically to reflect changes in site conditions or the manner in which the SSDSs are operated and maintained.

Information on non-mechanical ECs (i.e., soil cover system) is provided in Section 2 - Engineering and Institutional Control Plan. A copy of this Operation and Maintenance Plan, along with the complete SMP, will be kept at the site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP.

4.2 SUB-SLAB DEPRESSURIZATION SYSTEM OPERATION AND MAINTENANCE

There are two SSDSs onsite: one in the small office building and another in the larger warehouse building. The systems serve to reduce sub-slab pressure and vent built-up soil gas outside of the building. The systems consist of slotted screen installed beneath the slabs, connected to polyvinyl chloride pipe, an in-line ventilation fan, and an exterior exhaust point. The pipe for the smaller office building runs up the exterior wall and vents above the roof of the building. The pipe for the larger warehouse building runs up an interior wall, along the ceiling, and out through an existing hole in a window. Both vent fans are outside of the buildings. Both exhaust points are covered with rain caps. System locations are shown on Figure 14. Both systems have run continuously since March 2005.

4.2.1 Scope

The SSDSs are continuously operational, and require minimal maintenance and oversight; however, annual inspections are required to verify continuous and effective operation. The following sections detail system startup, inspections, and maintenance.

4.2.1.2 System Startup and Testing

Prior to system startup, the building slab, including the system slab and wall penetration and any gaps between the slab and the walls are to be sealed with a polyurethane sealant. After the fan is
turned on, the operating pressure is to be marked on the pressure gauge located on the vertical pipe. The pressure is to be checked weekly during continuous operation, until the pressure is observed to be the same during two consecutive weeks.

Following system startup, a field test is to be conducted to check negative pressure beneath the slab. Starting approximately 5 ft from the system, a ¼-in. diameter hole is to be drilled completely through the concrete slab. The vacuum is to be measured using a handheld electric manometer at the test location. This is to be repeated an additional 5 ft from each previous test hole, until the furthest possible point on the slab has been tested. Each previously tested hole is to be filled with fast-setting concrete prior to the succeeding test. The system is working properly if all points tested show a pressure drop of 0.5 Pa or higher.

The system testing described above will be conducted if, in the course of the SSDS lifetime, significant changes are made to the system, and the system must be restarted.

4.2.1.3 System Operation: Equipment Maintenance

In the event that the annual inspection discussed in Section 4.3 reveals system failure or potential for system failure, the building owner and NYSDEC SSDS contact should be notified immediately. Faulty parts of the system should be replaced if possible, or cracks should be sealed using a polyurethane sealant. Depending on the complexity of the problem, an experienced professional should be consulted to return the system to service.

4.3 ENGINEERING CONTROL SYSTEM PERFORMANCE MONITORING

Sub-slab depressurization systems have been installed to mitigate possible SVI into occupied buildings. While the systems involve very little in the way of operation and maintenance, monitoring is necessary to verify system functionality and effectiveness. An annual inspection described in Section 4.3.1 will serve to verify that the system components are in working condition and are not compromised in any way. Annual air sampling as discussed in Section 4.3.2 will serve to verify that the system is effectively mitigating vapor intrusion.

4.3.1 General Equipment Monitoring

An annual inspection will be performed on both systems in conjunction with the annual site-wide inspection discussed in Section 3.4 of this plan. The inspection is to include the following:

- Inspect all visible system components, including the system piping, fans, manometer, etc. Note any cracks in piping or other operational issues
- Inspect slab for cracks, noting location and size of gaps, or where seals have begun to fail
- Make sure that contact information on the SSDS is up to date
Note changes in building use and changes in heating, ventilation and air conditioning.

Inspection frequency is subject to change with the approval of the NYSDEC. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSDS has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the SSDS are specified later in this plan.

A complete list of components to be checked is provided in the Inspection Checklist, which is part of the site-wide inspection form presented in Appendix D. If any equipment readings are not within their typical range, if any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the Operation and Maintenance Plan are required immediately, and the SSDS is to be restarted.

4.3.2 Sampling Event Protocol

Indoor air monitoring is to take place on an annual basis, and is discussed in Section 3.3.2 of this plan. In the event that indoor air monitoring indicates VOC contamination in the air, or per NYSDEC’s request, a full sub-slab soil vapor intrusion evaluation is to be completed. This would include the collection of an indoor air sample, a sub-slab air sample, and an outdoor air sample. The indoor sample is to be collected as discussed in Section 3.3.2. The following procedures will be used for collection of sub-slab soil vapor samples:

- Visually assess the condition of the floor. Select an area for sampling that is out of the line of traffic and away from major cracks and other floor penetrations (sumps, pipes, etc.). Refer to historical sample forms (Appendix F) for ideal sample locations.

- Drill a ¾-in. diameter hole completely through the concrete floor slab using an electric hammer drill.

- Sweep concrete dust away from the drill hole and wipe the floor with a dampened towel. Concrete dust can be cleaned up with a vacuum equipped with a high efficiency particulate air filter only after the sample tubing is properly sealed and sample collection has begun.

- Insert the Teflon-lined polyethylene tubing (¼-in. inside diameter × ¾-in. outside diameter, approximately 3-ft long) into the hole drilled in the floor, extending no further than 2 in. below the bottom of the floor slab.

- Pour the melted beeswax around the tubing at the floor penetration, packing it in tightly around the tubing.

- Attach a syringe to the sample tube and purge approximately 100 mL of air/vapor. The syringe will be capped and the air released outside the building as to not interfere with the indoor air sample collection.
• Place a canister on the floor adjacent to the sample tube. The canister will be a 6-L canister (provided by an independent laboratory) with a vacuum gauge and flow controller. The canister must be certified clean in accordance with EPA Method TO-15 and under a vacuum pressure of no more than -30 in. of mercury in HG. Flow controllers must be set for a 24-hour collection period.

• Record the serial number of the canister and associated regulator on the chain-of-custody form and field notebook/sample form. Assign a sample identification on the canister identification tag and record this on the chain-of-custody form and field notebook/sample form. For the property owner’s privacy, do not use a sample identifier containing the name of the property owner or the address of the property.

• Record the gauge pressure; the vacuum gauge pressure must read -25 in Hg or less, or the canister cannot be used.

• Record the start time on the chain-of-custody form and on the field record of air sampling (Appendix D), and take a digital photograph of canister setup and the surrounding area.

To complete the sample collection:

• Close the canister valve and record the stop time on the chain-of-custody form and in the field notebook/sample form.

• Record the final gauge pressure and disconnect the sample tubing and the pressure gauge/flow controller from the canister, if applicable.

• Install the plug on the canister inlet fitting and place the sample container in the original box.

• Complete the sample collection log with the appropriate information, and log each sample on the chain-of-custody form.

• Remove the temporary subsurface probe and properly seal the hole in the slab with hydraulic cement.

Field QC samples will include duplicates and trip blanks. Field duplicates will be collected at the rate of 1 duplicate per 20 original samples (20 percent). Field duplicates will be collected by installing an in-line “tee,” which will essentially split the flow coming from the sample tubing penetrating the floor to two canisters set up adjacent to each other and each collecting vapors at identical flow rates.

Concurrently with the indoor air and sub-slab soil vapor monitoring program, one outdoor ambient air sample will be collected each day that indoor air monitoring occurs. The ambient air samples will be collected during the same 24-hour period as the indoor air samples, which
represent outdoor air conditions for the sampling area. The ambient air samples will be collected in a laboratory batch-certified Summa canister regulated for a 24-hour sample collection. A section of Teflon or polyethylene tubing that is identified as laboratory- or food-grade will be extended from the Summa canister to collect the ambient air sample from the breathing zone at approximately 3-5 ft above ground surface. Consistent with the indoor and sub-slab vapor sampling, the collecting rate of the outdoor air sample will be less than 0.2 L per minute.

Air samples will be analyzed by an Environmental Laboratory Analytical Program-certified laboratory for VOCs using EPA Method TO-15. In accordance with the NYSDOH Indoor Air Sampling and Analysis Guidance, the analysis for indoor and outdoor air samples will achieve a minimum reporting limit of 0.25 μg/m³. The analysis for sub-slab soil vapor samples will achieve minimum reporting limit of 5 μg/m³ for structures with full slab foundations, and a minimum 1 μg/m³ for structures with less than a full slab foundation. For specific parameters identified by NYSDOH, where the selected parameters may have a higher detection limit (e.g., acetone), the higher detection limits will be designated by NYSDOH. The analytical turnaround time will be 14 days from receipt of sample containers. Analytical results will be provided as an electronic data deliverable.

4.4 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS

Maintenance reports and any other information generated during regular operations at the site will be filed onsite. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Periodic Review Report, as specified in the Section 5 of this SMP.

4.4.1 Maintenance Reports

During each maintenance event, a form will be completed which will include, but not be limited to, the following information:

- Date
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities
- Presence of leaks
- Date of leak repair
- Other repairs or adjustments made to the system
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet)
• Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).
5. INSPECTIONS, REPORTING AND CERTIFICATIONS

5.1 SITE INSPECTIONS

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedule provided in Section 3 Monitoring Plan of this SMP. At a minimum, a site-wide inspection will be conducted twice a year. Inspections of remedial components (SSDS in this case) will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

A general site-wide inspection form will be completed during the site-wide inspection (Appendix D). This form is subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective
- The Monitoring Plan is being implemented
- Operation and maintenance activities are being conducted properly; and, based on the above items
- The site remedy continues to be protective of public health and the environment and is performing as designed in the Remedial Action Work Plan and Final Engineering Report.

5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a qualified environmental professional will prepare the following certification:

For each IC/EC identified for the site, I certify that all of the following statements are true:
The inspection of the site to confirm the effectiveness of the ICs and ECs required by the remedial program was performed under my direction.

The IC and/or EC employed at this site is unchanged from the date the control was put in place, or last approved by the NYSDEC.

Nothing has occurred that would impair the ability of the control to protect the public health and environment.

Nothing has occurred that would constitute a violation or failure to comply with any SMP for this control.

Access to the site will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.

If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document.

Use of the site is compliant with the EE.

The EC systems are performing as designed and are effective.

To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program.

The information presented in this report is accurate and complete.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner’s Designated Site Representative]. The signed certification will be included in the Periodic Review Report described below.

For each IC identified for the site, I certify that all of the following statements are true:

- The IC employed at this site is unchanged from the date the control was put in place, or last approved by the NYSDEC.
- Nothing has occurred that would impair the ability of the control to protect the public health and environment.
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control.
• Access to the site will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control

• If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document

• Use of the site is compliant with the EE.

• The information presented in this report is accurate and complete.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner’s Designated Site Representative]

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be submitted to the NYSDEC every year, beginning 18 months after approval of the Final Engineering Report. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix A (ALTA Survey). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of each certification period. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

• Identification, assessment, and certification of all ECs/ICs required by the remedy for the site

• Results of the required annual site inspections and severe condition inspections, if applicable

• All applicable inspection forms and other records generated for the site during the reporting period in electronic format

• A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions

• Data summary tables and graphical representations of contaminants of concern by media (e.g., groundwater, soil vapor), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends
• Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format

• A site evaluation, which includes the following:
  o The compliance of the remedy with the requirements of the site-specific Remedial Action Work Plan, ROD or Decision Document;
  o The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
  o Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
  o Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
  o The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in electronic-copy format, to the NYSDEC Central Office and Regional Office in which the site is located, and in electronic format to NYSDEC Central and Regional Offices, and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 CORRECTIVE MEASURES PLAN

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an IC/EC, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.
FIGURE 1
Site Location and Boundary Map

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

SOURCE: NYS GIS Clearing House

Legend
- Site Boundary
- Property Parcels
- Existing Buildings
- Approximate Locations of Former Buildings

Section 62
Block 45
Lot 157

Section 62
Block 45
Lot 155

Ray Street

Office

Warehouse

Other

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

DESIGNED BY: RSC
CREATED BY: MEM
CHECKED BY: RSC

SCALE: AS SHOWN
DATE: AUGUST 2012
PROJECT NO: 147437
FILE NO: G:\Projects\SMP\FIG1

Source: NYS GIS Clearing House
CROSS SECTION OF NON-POOROUS ASPHALT CAP

3" TYPE 7 ASPHALT TOP COURSE
3" TYPE 3 ASPHALT BINDER COURSE
6" SUBBASE

POROUS PAVEMENT SYSTEM AND BACKFILL FOR MAX. 5 FOOT DEPTH EXCAVATION AREAS

4.5" POROUS ASPHALT PAVEMENT
12.5" RESERVOIR COURSE AASHTO NO.3 STONE VARIOUS THICKNESS GRANULAR FILL

HIGH TIDE GROUNDWATER TABLE
LOW TIDE GROUNDWATER TABLE

STONE COVER NON-WOVEN GEOTEXTILE

3" TYPE 7 ASPHALT TOP COURSE
3" TYPE 3 ASPHALT BINDER COURSE
6" SUBBASE

CROSS SECTION OF NON-POOROUS ASPHALT CAP

FREEPORT METAL ETCHING SITE MONITORING PLAN FREEPORT, NEW YORK

PROJECT NO: 1474.37
DATE: AUGUST 2012
SCALE: AS SHOWN
FILE NO: G:Projects/Fig2

Source: NYS GIS Clearing House
FIGURE 5
Remedial Investigation Soil and Sediment Sample Locations

Source: ERM Remedial Investigation (2007) Figure 2-2
Documentation Sample Locations with Exceedences of Unrestricted Levels in EX-3

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

PROJECT MGR: RSC
DESIGNED BY: RSC
CREATED BY: MEM
CHECKED BY: RSC
PROJECT NO: 147437
DATE: AUGUST 2012
SCALE: AS SHOWN
FILE NO: G:\Projects\Fig8

Legend
- Documentation Sample Location
--- Excavation Area Boundaries

EX3 B1 mg/kg
Chromium 4.17
Nickel 47.2

EX3 B2 mg/kg
Chromium 5.35
Nickel 33

EX3 SW1 mg/kg
Chromium 5.33

EX3 SW2 mg/kg
Chromium 4.63

EX3 SW3 mg/kg
Chromium 6.97

EX3 SW4 mg/kg
Chromium 5.24

EX3 SW5 mg/kg
Chromium 3.98

EX3 SW6 mg/kg
Chromium 2.5

T1 B1 mg/kg
Chromium 6.75
Nickel 47.2

T1 B2 mg/kg
Chromium 5.35

T2 B1 mg/kg
Chromium 5.05
Lead 120

T2 B2 mg/kg
Chromium 4.01

Source: NYS GIS Clearing House

0 5 10 20 Feet
Documentation Sample Locations with Exceedences of Unrestricted Levels in EX-1, -4, & -5

EX5 SW10 mg/kg
Chromium 218
Copper 1190
Lead 227
Methoxy 0.191
Nickel 110
Silver 8.75
Zinc 311

EX5 B6 mg/kg
Chromium 61.3
Copper 953
Nickel 56.4
Zinc 345

EX5 SW11 mg/kg
Chromium 15.8
Copper 152
Nickel 116
Zinc 166

EX5 B8 mg/kg
Chromium 34.2
Copper 53.7
Lead 117

EX5 SW13 mg/kg
Chromium 10.8
Copper 458
Lead 458

EX5 SW9 mg/kg
Chromium 6.75
Nickel 31.8
Lead 65.8

EX5 B5 mg/kg
Chromium 4.33
Copper 7.24
Lead 80.3

EX5 B7 mg/kg
Chromium 30.3
Copper 114
Lead 117

EX5 SW6 mg/kg
Chromium 7.3
Copper 120

EX5 SW8 mg/kg
Chromium 7.24
Copper 266
Lead 80.3
Nickel 42.6
Zinc 193

EX5 B4 mg/kg
Chromium 6.3
Cis 1,2-DCE 390
m,p-Xylene 1500
o-Xylene 460
Toluene 1600

EX5 SW5 mg/kg
Chromium 12.6
Copper 221
Zinc 133

EX5 B2 mg/kg
Chromium 18.4
Copper 168
Zinc 166
m,p-Xylene 780

Legend
- Documentation Sample Location
- Excavation Area Boundaries

Source: NYS GIS Clearing House
FIGURE 8C
Documentation Sample Locations with Exceedences of Unrestricted Levels in EX-2 & -6

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

DESIGNED BY: RSC
CREATED BY: MEM
CHECKED BY: RSC
PROJECT NO: 14474.37
DATE: AUGUST 2012
SCALE: AS SHOWN
FILE NO: G:\Projects\Fig8C

Source: NYS GIS Clearing House

Legend
- Documentation Sample Location
- Excavation Area Boundaries
FIGURE 10
Location of Cover System Types
FREEPORT METAL ETCHING
SITE MONITORING PLAN
FREEPORT, NEW YORK
DESIGNED BY: RSC
CREATED BY: MEM
CHECKED BY: RSC
SCALE: AS SHOWN
DATE: AUGUST 2012
PROJECT NO: 14474.37
FILE NO: G:\Projects\Fig10
Legend
- Asphalt Cover
- Stone Cover
- New Slotted Storm Drains
- New Monitoring Wells

Source: NYS GIS Clearing House
FIGURE 14
Location of Remedial Treatment Systems

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

DESIGNED BY:
RSC
CREATED BY:
MEM
CHECKED BY:
RSC

SCALE:
AS SHOWN
DATE:
AUGUST 2012
PROJECT NO:
14474.37
FILE NO:
G:\Projects\SMP\FIG12

Source: NYS GIS Clearing House

Legend
Feet
20
40
80

Location of Sub Slab Depressurization System
# TABLE 1: REMEDIAL INVESTIGATION SOIL CONTAMINATION SUMMARY

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Maximum Detected Concentration</th>
<th>TAGM RSCO Level</th>
<th>Direct Contact Criteria</th>
<th>Protection of Groundwater Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trans-1,2-dichloroethene</td>
<td>300</td>
<td>300</td>
<td>2,000,000</td>
<td>300</td>
</tr>
<tr>
<td>Benzene</td>
<td>1,400</td>
<td>60</td>
<td>24,000</td>
<td>60</td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>3,700</td>
<td>2,700</td>
<td>2,000,000</td>
<td>1,700</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>14,000</td>
<td>5,500</td>
<td>8,000,000</td>
<td>5,500</td>
</tr>
<tr>
<td>Methyl-tert-butyl ether</td>
<td>1,500</td>
<td>120</td>
<td>-</td>
<td>120</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>25,000</td>
<td>13,000</td>
<td>300,000</td>
<td>13,000</td>
</tr>
<tr>
<td>Tetrachloroethene</td>
<td>4,300</td>
<td>1,400</td>
<td>800,000</td>
<td>1,400</td>
</tr>
<tr>
<td>Toluene</td>
<td>78,000</td>
<td>1,500</td>
<td>20,000,000</td>
<td>1,500</td>
</tr>
<tr>
<td>Trichloroethene</td>
<td>10,000</td>
<td>700</td>
<td>64,000</td>
<td>700</td>
</tr>
<tr>
<td>Xylene</td>
<td>15,000</td>
<td>1,200</td>
<td>200,000,000</td>
<td>1,200</td>
</tr>
<tr>
<td>Vinyl Chloride</td>
<td>1,800</td>
<td>200</td>
<td>-</td>
<td>120</td>
</tr>
</tbody>
</table>

**NOTE:**
- TAGM = Technical and Administrative Guidance Memorandum
- RSCO = Recommended Soil Cleanup Objective
- VOC = Volatile Organic Compound
- µg/kg = Micrograms per kilogram
- Direct Contact Criteria Values obtained from TAGM #4046 EPA Health Based Column.
- Protection of Groundwater Criteria obtained from the TAGM #4046 Protection of Groundwater.
<table>
<thead>
<tr>
<th>Constituent</th>
<th>Maximum Detected Concentration (mg/kg)</th>
<th>Eastern US Background(^1) (mg/kg)</th>
<th>New York Region(^2) (mg/kg)</th>
<th>NYSDEC RSCO (mg/kg)</th>
<th>Frequency of Detection Above RSCOs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>29</td>
<td>&lt;0.1 - 73</td>
<td>3 - 12</td>
<td>7.5 or SB</td>
<td>11/273</td>
</tr>
<tr>
<td>Barium</td>
<td>970</td>
<td>10 - 1500</td>
<td>15 - 600</td>
<td>300 or SB</td>
<td>1/273</td>
</tr>
<tr>
<td>Beryllium</td>
<td>1</td>
<td>&lt;1 - 7</td>
<td>0 - 1.75</td>
<td>0.16 or SB</td>
<td>12/273</td>
</tr>
<tr>
<td>Cadmium</td>
<td>78</td>
<td>N/A</td>
<td>0.1 - 1</td>
<td>10</td>
<td>2/273</td>
</tr>
<tr>
<td>Calcium</td>
<td>72000</td>
<td>100 - 280000</td>
<td>130 - 35000</td>
<td>SB</td>
<td>5/273</td>
</tr>
<tr>
<td>Chromium</td>
<td>2200</td>
<td>1 - 1000</td>
<td>1.5 - 40</td>
<td>50</td>
<td>40/273</td>
</tr>
<tr>
<td>Chromium-Hexavalent</td>
<td>218</td>
<td></td>
<td></td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>Cobalt</td>
<td>91</td>
<td>0.3 - 70</td>
<td>2.5 - 60</td>
<td>30 or SB</td>
<td>3/273</td>
</tr>
<tr>
<td>Copper</td>
<td>5700</td>
<td>&lt;1 - 700</td>
<td>&lt;1 - 50</td>
<td>25 or SB</td>
<td>91/273</td>
</tr>
<tr>
<td>Iron</td>
<td>43000</td>
<td>100 - &gt;100000</td>
<td>2000 - 550000</td>
<td>2000 or SB</td>
<td>239/273</td>
</tr>
<tr>
<td>Lead</td>
<td>3900</td>
<td>&lt;10 - 300</td>
<td>200 - 500</td>
<td>SB</td>
<td>6/273</td>
</tr>
<tr>
<td>Magnesium</td>
<td>22000</td>
<td>50 - 50000</td>
<td>100 - 50000</td>
<td>SB</td>
<td>0/273</td>
</tr>
<tr>
<td>Nickel</td>
<td>1300</td>
<td>&lt;5 - 700</td>
<td>0.5 - 25</td>
<td>13 or SB</td>
<td>52/273</td>
</tr>
<tr>
<td>Selenium</td>
<td>6.7</td>
<td>&lt;0.1 - 3.9</td>
<td>&lt;0.1 - 3.9</td>
<td>2 or SB</td>
<td>11/273</td>
</tr>
<tr>
<td>Zinc</td>
<td>3600</td>
<td>&lt;5 - 2900</td>
<td>9 - 50</td>
<td>20 or SB</td>
<td>126/273</td>
</tr>
</tbody>
</table>

2. Background Concentrations of 20 Elements in Soils with Special Regard for New York State, E. Carol McGovern, NYSDEC Wildlife Resources Center. These values are the same as the background concentrations listed in TAGM 4046.

NOTE: NYSDEC = New York State Department of Environmental Conservation

\(^{mg/kg}\) = Milligram per kilogram

\(^{SB}\) = Site Background

Shaded cells represent chemicals detected above both Eastern US Background and New York Region Background.
## TABLE 2 REMEDIAL INVESTIGATION GROUNDWATER CONTAMINATION SUMMARY

<table>
<thead>
<tr>
<th>Constituents</th>
<th>VOLATILE ORGANIC COMPOUNDS (μg/L)</th>
<th>SEMIVOLATILE ORGANIC COMPOUNDS (μg/L)</th>
<th>METALS (μg/L)</th>
<th>PESTICIDES (μg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scanning Levels</td>
<td>MW-01</td>
<td>MW-02D</td>
<td>MW-02S</td>
</tr>
<tr>
<td>Benzene</td>
<td>1500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzene, 1-methylethyl-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bromoform</td>
<td>2 J</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cis-1,2-Dichloroethylene</td>
<td>7 J</td>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>na</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethene, 1,2-dichloro- (E)</td>
<td>1 J</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td>920</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vinyl chloride</td>
<td>3 J</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Methylnaphthalene</td>
<td>42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bis(2-ethylhexyl)phthalate (BEHP)</td>
<td>3 J</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbazole</td>
<td>na</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dibenzofuran</td>
<td>3 J</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluorene</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naphthalene</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N-Nitrosodiphenylamine</td>
<td>na</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>26.4</td>
<td>999</td>
<td>1170</td>
<td>158</td>
</tr>
<tr>
<td>Antimony</td>
<td>5.1</td>
<td>38</td>
<td>23.9</td>
<td>3.1</td>
</tr>
<tr>
<td>Arsenic</td>
<td>630</td>
<td>2.4</td>
<td>2.5</td>
<td>3.1</td>
</tr>
<tr>
<td>Barium</td>
<td>51.1</td>
<td>37</td>
<td>64.2</td>
<td>37.1</td>
</tr>
<tr>
<td>Cadmium</td>
<td>17.7</td>
<td>3.1</td>
<td>15.9</td>
<td>3.8</td>
</tr>
<tr>
<td>Calcium</td>
<td>3600</td>
<td>56500</td>
<td>59700</td>
<td>24400</td>
</tr>
<tr>
<td>Chloride</td>
<td>0.73</td>
<td>23.8</td>
<td>9.6</td>
<td>4</td>
</tr>
<tr>
<td>Chromium</td>
<td>540</td>
<td>2.7</td>
<td>2.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Cobalt</td>
<td>0.34</td>
<td>3.1</td>
<td>0.31</td>
<td>0.33</td>
</tr>
<tr>
<td>Copper</td>
<td>1.4</td>
<td>38.3</td>
<td>1.3</td>
<td>1.3</td>
</tr>
<tr>
<td>Iron</td>
<td>462.2</td>
<td>14700</td>
<td>79800</td>
<td>892</td>
</tr>
<tr>
<td>Lead</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnesium</td>
<td>3000</td>
<td>10200</td>
<td>9670</td>
<td>15400</td>
</tr>
<tr>
<td>Manganese</td>
<td>1100</td>
<td>1220</td>
<td>859</td>
<td>380</td>
</tr>
<tr>
<td>Nickel</td>
<td>82.3</td>
<td>654.2</td>
<td>21.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Potassium</td>
<td>15400</td>
<td>6810</td>
<td>5020</td>
<td>6450</td>
</tr>
<tr>
<td>Selenium</td>
<td>7.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>209</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>3E-05</td>
<td>82300</td>
<td>42000</td>
<td>1E-05</td>
</tr>
<tr>
<td>Vanadium</td>
<td>4600</td>
<td>1.1</td>
<td>48.2</td>
<td>29</td>
</tr>
<tr>
<td>Endrin ketone</td>
<td>na</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**
- μg/L = Micrograms per liter
- na = Not Available
- a = Human Consumption of Fish (saline) value used
- J = Estimated value. The value was designated as estimated as a result of the data validation criteria. Also used to indicate when an organic compound is present, but the concentration is less than the Contract Required Quantitation Limit (CRQL). The value is usable as an estimated result.
- ns = Not Available
- Value was designated as estimated as a result of the data validation criteria. Also used to indicate when an organic compound is present, but the concentration is less than the Contract Required Quantitation Limit (CRQL). The value is usable as an estimated result.

**Endrin ketone**
- 0.079 J

**Endrin ketone**
- 0.079 J
### TABLE 3 REMEDIAL INVESTIGATION SOIL VAPOR DATA SUMMARY

<table>
<thead>
<tr>
<th>Soil Gas Survey Sample Point Identification</th>
<th>Sample Serial Number</th>
<th>Installation Date/Time</th>
<th>Initial Reading</th>
<th>Sustained Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gore Sorbers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GS-01</td>
<td>452988</td>
<td>7/15/2004 / 8:16:00 AM</td>
<td>0.0 ppm</td>
<td>0.0 ppm</td>
</tr>
<tr>
<td>GS-02</td>
<td>452989</td>
<td>7/16/2004 / 9:00:00 AM</td>
<td>9.5 ppm</td>
<td>9.5 ppm</td>
</tr>
<tr>
<td>GS-03</td>
<td>452990</td>
<td>7/16/2004 / 9:15:00 AM</td>
<td>0.6 ppm</td>
<td>0.6 ppm</td>
</tr>
<tr>
<td>GS-04</td>
<td>452991</td>
<td>7/16/2004 / 10:20:00 AM</td>
<td>0.0 ppm</td>
<td>0.0 ppm</td>
</tr>
<tr>
<td>GS-05</td>
<td>452992</td>
<td>7/16/2004 / 10:30:00 AM</td>
<td>0.0 ppm</td>
<td>0.0 ppm</td>
</tr>
<tr>
<td>GS-06</td>
<td>452993</td>
<td>7/16/2004 / 11:00:00 AM</td>
<td>0.0 ppm</td>
<td>0.0 ppm</td>
</tr>
<tr>
<td>GS-07</td>
<td>452994</td>
<td>7/16/2004 / 11:30:00 AM</td>
<td>0.9 ppm</td>
<td>0.9 ppm</td>
</tr>
<tr>
<td>GS-08</td>
<td>452995</td>
<td>7/16/2004 / 11:45:00 AM</td>
<td>0.0 ppm</td>
<td>0.0 ppm</td>
</tr>
<tr>
<td>GS-09</td>
<td>452996</td>
<td>7/16/2004 / 12:50:00 PM</td>
<td>30 ppm</td>
<td>30 ppm</td>
</tr>
<tr>
<td>GS-10</td>
<td>452997</td>
<td>7/16/2004 / 1:29:00 PM</td>
<td>1.5 ppm</td>
<td>1.5 ppm</td>
</tr>
</tbody>
</table>

**NOTE:** ppm = parts per million.
<table>
<thead>
<tr>
<th>ER-L</th>
<th>ER-M</th>
</tr>
</thead>
<tbody>
<tr>
<td>mg/kg (Metals)</td>
<td>ug/kg (PCBs, VOCs, SVOCs)</td>
</tr>
<tr>
<td>Primary</td>
<td>Duplicate</td>
</tr>
<tr>
<td>----------</td>
<td>-----------</td>
</tr>
<tr>
<td><strong>VOCs (mg/kg)</strong></td>
<td></td>
</tr>
<tr>
<td>Acetone</td>
<td>NA</td>
</tr>
<tr>
<td>Carbon disulfide</td>
<td>NA</td>
</tr>
<tr>
<td>Methylene chloride</td>
<td>NA</td>
</tr>
<tr>
<td>Methyl tert-butyl ether</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Sum of constituents</strong></td>
<td>24</td>
</tr>
<tr>
<td><strong>SVOCs (ug/kg)</strong></td>
<td></td>
</tr>
<tr>
<td>Chlorinated phenols</td>
<td></td>
</tr>
<tr>
<td>Dibenzofuran</td>
<td>NA</td>
</tr>
<tr>
<td>Anthracene</td>
<td>85.3</td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>16.3</td>
</tr>
<tr>
<td>Carbazole</td>
<td>NA</td>
</tr>
<tr>
<td>Zinc</td>
<td>150</td>
</tr>
<tr>
<td>Chlorinated aromatics</td>
<td></td>
</tr>
<tr>
<td>4-Methylphenol</td>
<td>NA</td>
</tr>
<tr>
<td>4-Chloroaniline</td>
<td>2.5</td>
</tr>
<tr>
<td>Bis(2-ethylhexyl)phthalate</td>
<td>NA</td>
</tr>
<tr>
<td>Fluorene</td>
<td>19</td>
</tr>
<tr>
<td>Aroclor 1254</td>
<td>100</td>
</tr>
<tr>
<td><strong>Sum of Constituents</strong></td>
<td>23316</td>
</tr>
<tr>
<td><strong>Pesticides</strong>:</td>
<td></td>
</tr>
<tr>
<td>Endrin ketone</td>
<td>0.02</td>
</tr>
<tr>
<td>Endrin aldehyde</td>
<td>NA</td>
</tr>
<tr>
<td>Bis(2-ethylhexyl)phthalate</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Summary</strong></td>
<td>25</td>
</tr>
<tr>
<td><strong>Metals (mg/kg)</strong></td>
<td></td>
</tr>
<tr>
<td>Antimony</td>
<td>1.7</td>
</tr>
<tr>
<td>Arsenic</td>
<td>8.2</td>
</tr>
<tr>
<td>Barium</td>
<td>1.2</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.02</td>
</tr>
<tr>
<td>Chromium</td>
<td>2.5</td>
</tr>
<tr>
<td>Copper</td>
<td>2.5</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.02</td>
</tr>
<tr>
<td>Nickel</td>
<td>2.5</td>
</tr>
<tr>
<td>Selenium</td>
<td>2.5</td>
</tr>
<tr>
<td>Thallium</td>
<td>0.02</td>
</tr>
<tr>
<td>Zinc</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Note: The table shows the concentrations of various substances in different locations, with columns indicating ER-L (Environmentally Relevant Level) and ER-M (Environmentally Relevant Maximum). The units are mg/kg for metals and ug/kg for PCBs, VOCs, and SVOCs. The table includes a summary of constituents and metals, with values ranging from detection limits to concentrations exceeding the ER-M levels. The data is useful for environmental monitoring and regulatory compliance.
### TABLE 5A SITE-SPECIFIC SOIL AND GROUNDWATER CLEANUP OBJECTIVES

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Standards, Criteria, and Guidance</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VOLATILE ORGANIC COMPOUNDS - SOIL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetrachloroethylene (PCE)</td>
<td>1.4</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Trichloroethylene (TCE)</td>
<td>0.7</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>1,2-Dichloroethylene (DCE)</td>
<td>0.3</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Vinyl Chloride</td>
<td>0.2</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Benzene</td>
<td>0.06</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Toluene</td>
<td>1.5</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>5.5</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Xylene</td>
<td>1.2</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>13</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>17</td>
<td>mg/Kg</td>
</tr>
</tbody>
</table>

| **INORGANICS (METALS) - SOIL**     |                                   |         |
| Chromium                           | 50                                | mg/Kg   |
| Copper                             | 25                                | mg/Kg   |
| Nickel                             | 13                                | mg/Kg   |
| Zinc                               | 20                                | mg/Kg   |

| **VOLATILE ORGANIC COMPOUNDS - GROUNDWATER** | | |
| Tetrachloroethylene (PCE)             | 5                                  | μg/L    |
| Trichloroethylene (TCE)               | 5                                  | μg/L    |
| 1,2-Dichloroethylene (DCE)            | 5                                  | μg/L    |
| Vinyl Chloride                       | 2                                  | μg/L    |
| Methyl Tert Butyl Ether (MTBE)         | 10                                 | μg/L    |

| **INORGANICS (METALS) - GROUNDWATER**  | | |
| Chromium                           | 50                                 | μg/L    |
| Copper                             | 200                                | μg/L    |
| Nickel                             | 100                                | μg/L    |
| Zinc                               | 2000                               | μg/L    |

NOTE: Soil Cleanup Objectives developed for 2007 Record of Decision
<table>
<thead>
<tr>
<th>Constituent</th>
<th>Effects Range-Low</th>
<th>Effects Range-High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INORGANICS (METALS)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arsenic</td>
<td>8.2</td>
<td>70</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.2</td>
<td>9.6</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Chromium</td>
<td>81</td>
<td>370</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Copper</td>
<td>34</td>
<td>270</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Iron&lt;sup&gt;(a)&lt;/sup&gt;</td>
<td>2%</td>
<td>4%</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Lead</td>
<td>46.7</td>
<td>218</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Manganese&lt;sup&gt;(a)&lt;/sup&gt;</td>
<td>460</td>
<td>1100</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.15</td>
<td>0.71</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Nickel</td>
<td>20.9</td>
<td>51.6</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Silver</td>
<td>1</td>
<td>3.7</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Zinc</td>
<td>150</td>
<td>410</td>
<td>mg/Kg</td>
</tr>
</tbody>
</table>

## TABLE 6A SUMMARY OF REMAINING SOIL CONTAMINATION ABOVE UNRESTRICTED LEVELS FOR VOCs

### Parameter List

**EPA Method 8260B**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Sample ID</th>
<th>Soil Type</th>
<th>Sample Date</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>EX1SW1</td>
<td>Soil</td>
<td>8/25/2011</td>
<td>260 μg/kg</td>
</tr>
<tr>
<td>cis-1,2-Dichloroethylene</td>
<td>EX1SW2</td>
<td>Soil</td>
<td>8/25/2011</td>
<td>250 μg/kg</td>
</tr>
<tr>
<td>o-Xylene</td>
<td>T6B1</td>
<td>Soil</td>
<td>8/25/2011</td>
<td>700 μg/kg</td>
</tr>
<tr>
<td>Toluene</td>
<td>EX2B1</td>
<td>Soil</td>
<td>7/21/2011</td>
<td>700 μg/kg</td>
</tr>
</tbody>
</table>

**EPA Method 8260B**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Sample ID</th>
<th>Soil Type</th>
<th>Sample Date</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>EX1B1</td>
<td>Soil</td>
<td>7/19/2011</td>
<td>260 μg/kg</td>
</tr>
<tr>
<td>Toluene</td>
<td>EX1B2</td>
<td>Soil</td>
<td>7/19/2011</td>
<td>700 μg/kg</td>
</tr>
</tbody>
</table>

**EPA Method 8260B**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Sample ID</th>
<th>Soil Type</th>
<th>Sample Date</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>EX5W4</td>
<td>Soil</td>
<td>7/19/2011</td>
<td>260 μg/kg</td>
</tr>
<tr>
<td>Toluene</td>
<td>EX5W5</td>
<td>Soil</td>
<td>7/19/2011</td>
<td>700 μg/kg</td>
</tr>
</tbody>
</table>

**EPA Method 8260B**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Sample ID</th>
<th>Soil Type</th>
<th>Sample Date</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>T3B1</td>
<td>Soil</td>
<td>7/27/2011</td>
<td>75 μg/kg</td>
</tr>
<tr>
<td>Toluene</td>
<td>T3B2</td>
<td>Soil</td>
<td>7/27/2011</td>
<td>700 μg/kg</td>
</tr>
</tbody>
</table>

**EPA Method 8260B**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Sample ID</th>
<th>Soil Type</th>
<th>Sample Date</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>EX8B1</td>
<td>Soil</td>
<td>8/22/2011</td>
<td>7,300 μg/kg</td>
</tr>
<tr>
<td>Toluene</td>
<td>EX8B2</td>
<td>Soil</td>
<td>8/22/2011</td>
<td>700 μg/kg</td>
</tr>
</tbody>
</table>

**EPA Method 8260B**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Sample ID</th>
<th>Soil Type</th>
<th>Sample Date</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>T8B1</td>
<td>Soil</td>
<td>8/22/2011</td>
<td>7,300 μg/kg</td>
</tr>
<tr>
<td>Toluene</td>
<td>T8B2</td>
<td>Soil</td>
<td>8/22/2011</td>
<td>700 μg/kg</td>
</tr>
</tbody>
</table>

### Notes:

- **μg/kg** = micrograms per kilogram = parts-per-billion (ppb).
- **D** = Indicates the reported value was obtained by analysis at a secondary dilution factor.
- **U** = Non-detect, detection below the method detection limit.
- **J** = Indicates the reported value was less than the Contract Required Detection Limit, but greater than or equal to the Instrument Detection Limit.

Data provided by Chemtech Consulting Group. Only analytes included in Table 1 of the ROD are included.

**Freeport, New York**
<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Lab ID</th>
<th>Sample Type</th>
<th>Sample Date</th>
<th>Parameter</th>
<th>Concentration (μg/kg)</th>
<th>Use Soil Cleanup Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>EX5SW1</td>
<td>C3265-01</td>
<td>Soil</td>
<td>8/4/2011</td>
<td>o-Xylene</td>
<td>3,600</td>
<td>Part 375 Unrestricted</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Toluene</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>cis-1,2-Dichloroethylene</td>
<td>260**(a)</td>
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</tr>
<tr>
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<td>m,p-Xylene</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>EX5SW2</td>
<td>C3265-02</td>
<td>Soil</td>
<td>8/4/2011</td>
<td>o-Xylene</td>
<td>3,600</td>
<td>Part 375 Unrestricted</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Toluene</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>cis-1,2-Dichloroethylene</td>
<td>260**(a)</td>
<td></td>
</tr>
<tr>
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<td>m,p-Xylene</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>EX5SW3</td>
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<td>8/4/2011</td>
<td>o-Xylene</td>
<td>3,600</td>
<td>Part 375 Unrestricted</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Toluene</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>cis-1,2-Dichloroethylene</td>
<td>260**(a)</td>
<td></td>
</tr>
<tr>
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<td></td>
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<td>m,p-Xylene</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>EX5SW4</td>
<td>C3355-01</td>
<td>Soil</td>
<td>8/11/2011</td>
<td>o-Xylene</td>
<td>3,600</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Toluene</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>cis-1,2-Dichloroethylene</td>
<td>260**(a)</td>
<td></td>
</tr>
<tr>
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<td></td>
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<td></td>
<td>m,p-Xylene</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>EX5SW5</td>
<td>C3355-02</td>
<td>Soil</td>
<td>8/11/2011</td>
<td>o-Xylene</td>
<td>3,600</td>
<td>Part 375 Unrestricted</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Toluene</td>
<td>250</td>
<td></td>
</tr>
<tr>
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<td></td>
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<td></td>
<td>cis-1,2-Dichloroethylene</td>
<td>260**(a)</td>
<td></td>
</tr>
<tr>
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<td></td>
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<td>m,p-Xylene</td>
<td>700</td>
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</tr>
<tr>
<td>EX5SW6</td>
<td>C3355-03</td>
<td>Soil</td>
<td>8/11/2011</td>
<td>o-Xylene</td>
<td>3,600</td>
<td>Part 375 Unrestricted</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Toluene</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>cis-1,2-Dichloroethylene</td>
<td>260**(a)</td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>m,p-Xylene</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>EX5SW7</td>
<td>C3355-04</td>
<td>Soil</td>
<td>8/11/2011</td>
<td>o-Xylene</td>
<td>3,600</td>
<td>Part 375 Unrestricted</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Toluene</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>cis-1,2-Dichloroethylene</td>
<td>260**(a)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>m,p-Xylene</td>
<td>700</td>
<td></td>
</tr>
</tbody>
</table>

**(a)** Indicates significant exceedance of regulatory limit.
### TABLE 6B: SUMMARY OF REMAINING SOIL CONTAMINATION ABOVE UNRESTRICTED LEVELS FOR METALS

<table>
<thead>
<tr>
<th>Parameter List</th>
<th>Sample ID</th>
<th>Lab ID</th>
<th>Sample Type</th>
<th>Sample Date</th>
<th>Part 375 Unrestricted Use Soil Cleanup Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic (mg/kg)</td>
<td>4.49 2</td>
<td>5.41 2</td>
<td>3.10 2</td>
<td>1.84 2</td>
<td>3.08 2</td>
</tr>
<tr>
<td>Baryum (mg/kg)</td>
<td>14.8</td>
<td>2.53</td>
<td>57.0</td>
<td>7.40</td>
<td>32.6</td>
</tr>
<tr>
<td>Chromium (Total) (mg/kg)</td>
<td>7.6 2</td>
<td>15.8</td>
<td>29.8</td>
<td>12.0</td>
<td>22.4</td>
</tr>
<tr>
<td>Copper (mg/kg)</td>
<td>107</td>
<td>54.3</td>
<td>105</td>
<td>7.00</td>
<td>133</td>
</tr>
<tr>
<td>Lead (mg/kg)</td>
<td>22.2</td>
<td>68.8</td>
<td>70.7</td>
<td>2.44 2</td>
<td>61.6</td>
</tr>
<tr>
<td>Manganese (mg/kg)</td>
<td>0.056</td>
<td>0.105</td>
<td>0.227</td>
<td>0.028 2</td>
<td>0.121</td>
</tr>
<tr>
<td>Nickel (mg/kg)</td>
<td>12.7 2</td>
<td>12.3 2</td>
<td>28.6 2</td>
<td>5.20 2</td>
<td>21.2 2</td>
</tr>
<tr>
<td>Silver (mg/kg)</td>
<td>0.143 J</td>
<td>0.437 J</td>
<td>0.542 J</td>
<td>0.272 J</td>
<td>0.263 J</td>
</tr>
<tr>
<td>Zinc (mg/kg)</td>
<td>45.2</td>
<td>135</td>
<td>103</td>
<td>365</td>
<td>109</td>
</tr>
</tbody>
</table>

(1) Value is for hexavalent Chromium but is considered to be met if the analysis for total Chromium is below the specific SCO. **BOLD** concentrations exceed this specific SCO.

(2) Value is for trivalent Chromium but is considered to be met if the analysis for total Chromium is below the specific SCO. *ITALICIZED* concentrations exceed this specific SCO.

**NOTE**: EPA = U.S. Environmental Protection Agency.

Identification:

- **mg/kg** = Milligrams per kilogram
- * = Indicates the duplicate analysis was not within the control limits.
- U = Non-detect, detection below the method detection limit.
- J = Indicates the reported value was less than the Contract Required Detection Limit, but greater than or equal to the Method Detection Limit.
- N = Indicates the spiked sample recovery was not within the control limits.

Data provided by Chemtech Consulting Group. Only analytes that were detected in at least one sample are shown.

Concentration values in **BOLD** indicate that analyte was detected above the site specific standards, criteria, and guidance.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Sample ID</th>
<th>Lab ID</th>
<th>Sample Type</th>
<th>Sample Date</th>
<th>EPA Method 6010B/7471A</th>
<th>Part 375 Unrestricted Use Soil Cleanup Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>T2B1</td>
<td>C3153-03</td>
<td>Soil</td>
<td>7/27/2011</td>
<td>2.340</td>
<td>J</td>
</tr>
<tr>
<td>Chromium (Total)</td>
<td>EX4B1</td>
<td>C3473-03</td>
<td>Soil</td>
<td>8/22/2011</td>
<td>5.050</td>
<td>J</td>
</tr>
<tr>
<td>Copper</td>
<td>EX4W1</td>
<td>C3473-02</td>
<td>Soil</td>
<td>8/22/2011</td>
<td>4.010</td>
<td>J</td>
</tr>
<tr>
<td>Lead</td>
<td>EX4W2</td>
<td>C3473-01</td>
<td>Soil</td>
<td>8/22/2011</td>
<td>0.16</td>
<td>J</td>
</tr>
<tr>
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Table 7A Summary of Remaining Soil Contamination Above Site-Specific Soil Cleanup Objectives for VOCs

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<th>Ethylbenzene (μg/kg)</th>
<th>Methyl tert-butyl ether (μg/kg)</th>
<th>Naphthalene (μg/kg)</th>
<th>Tetrachloroethylene (PCE) (μg/kg)</th>
<th>Toluene (μg/kg)</th>
<th>Trichloroethylene (TCE) (μg/kg)</th>
<th>Vinyl chloride (μg/kg)</th>
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(a) SCG is for the sum of cis 1,2-DCE and trans 1,2-DCE
(b) SCG is for total Xylenes

NOTE: EPA = U.S. Environmental Protection Agency.
ID = Identification
μg/kg = micrograms per kilogram = parts per billion (ppb).
U = Non-detect, detection below the method detection limit.
D = Indicates the reported value was obtained by analysis at a secondary dilution factor.
J = Indicates the reported value was less than the Contract Required Detection Limit, but greater than or equal to the Instrument Detection Limit.

Data provided by Chemtech Consulting Group. Only analytes included in Table 1 of the ROD are included.

Concentration values in **BOLD** indicate that analyte was detected above the site specific standards, criteria, and guidance.
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**Metal Etching Site (130110)**
Freeport, New York

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- **Methyl tert-butyl ether** (μg/kg): U
- **Naphthalene** (μg/kg): U
- **Tetrachloroethylene (PCE)** (μg/kg): U
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- **trans 1,2-Dichloroethylene** (μg/kg): U
- **Ethylbenzene** (μg/kg): U
- **Methyl tert-butyl ether** (μg/kg): U
- **Naphthalene** (μg/kg): U
- **Tetrachloroethylene (PCE)** (μg/kg): U
- **Toluene** (μg/kg): U
- **Trichloroethylene (TCE)** (μg/kg): U
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<th>Chromium (total) (mg/kg)</th>
<th>Copper (mg/kg)</th>
<th>Nickel (mg/kg)</th>
<th>Zinc (mg/kg)</th>
<th>Site Specific Standards, Criteria, and Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EX1SW1</td>
<td>C3524-03</td>
<td>Soil</td>
<td>8/25/2011</td>
<td>71.6</td>
<td>107</td>
<td>32.7</td>
<td>45.2</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>EX1SW2</td>
<td>C3524-04</td>
<td>Soil</td>
<td>8/25/2011</td>
<td>71.6</td>
<td>107</td>
<td>32.7</td>
<td>45.2</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>T3B1</td>
<td>C3524-01</td>
<td>Soil</td>
<td>8/25/2011</td>
<td>71.6</td>
<td>107</td>
<td>32.7</td>
<td>45.2</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>T4B1</td>
<td>C3524-02</td>
<td>Soil</td>
<td>8/25/2011</td>
<td>71.6</td>
<td>107</td>
<td>32.7</td>
<td>45.2</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>EX2B1</td>
<td>C3109-07</td>
<td>Soil</td>
<td>7/21/2011</td>
<td>91.5</td>
<td>21.2</td>
<td>52.4</td>
<td>96.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EX2B2</td>
<td>C3109-08</td>
<td>Soil</td>
<td>7/21/2011</td>
<td>91.5</td>
<td>21.2</td>
<td>52.4</td>
<td>96.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EX2B3</td>
<td>C3109-09</td>
<td>Soil</td>
<td>7/21/2011</td>
<td>91.5</td>
<td>21.2</td>
<td>52.4</td>
<td>96.5</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 7B: SUMMARY OF REMAINING SOIL CONTAMINATION ABOVE SITE-SPECIFIC SOIL CLEANUP OBJECTIVES FOR METALS**

**NOTE:**
- EPA = U.S. Environmental Protection Agency.
- ID = Identification
- mg/kg = Milligrams per kilogram
- U = Non-detect, detection below the method detection limit.
- Data provided by Chemtech Consulting Group. Only analytes that were detected in at least one sample are shown.
- Concentration values in **BOLD** indicate that analyte was detected above the site specific standards, criteria, and guidance.

EA Engineering, P.C. and Its Affiliate
EA Science and Technology

EA Project No.: 14474.37
Table 7B, Page 1
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### Table 7B

<table>
<thead>
<tr>
<th>Parameter List</th>
<th>Sample ID</th>
<th>Lab ID</th>
<th>Sample Type</th>
<th>Sample Date</th>
<th>Site Specific Standards, Criteria, and Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium (total) (mg/kg)</td>
<td>EXSB3</td>
<td>C3355-04</td>
<td>Soil</td>
<td>8/11/2011</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>EXSB4</td>
<td>C3355-05</td>
<td>Soil</td>
<td>8/11/2011</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>EXSB5</td>
<td>C3473-08</td>
<td>Soil</td>
<td>8/22/2011</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>EXSB6</td>
<td>C3622-04</td>
<td>Soil</td>
<td>9/7/2011</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>EXSB7</td>
<td>C3622-05</td>
<td>Soil</td>
<td>8/4/2011</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>EXSSW1</td>
<td>C3355-07</td>
<td>Soil</td>
<td>8/4/2011</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>EXSSW2</td>
<td>C3355-02</td>
<td>Soil</td>
<td>8/4/2011</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

| Copper (mg/kg) | EXSB3 | C3355-04 | Soil | 8/11/2011 | 25 |
| | EXSB4 | C3355-05 | Soil | 8/11/2011 | 25 |
| | EXSB5 | C3473-08 | Soil | 8/22/2011 | 25 |
| | EXSB6 | C3622-04 | Soil | 9/7/2011 | 25 |
| | EXSB7 | C3622-05 | Soil | 8/4/2011 | 25 |
| | EXSSW1 | C3355-07 | Soil | 8/4/2011 | 25 |
| | EXSSW2 | C3355-02 | Soil | 8/4/2011 | 25 |
| | | | | | 20 |

| Nickel (mg/kg) | EXSB3 | C3355-04 | Soil | 8/11/2011 | 13 |
| | EXSB4 | C3355-05 | Soil | 8/11/2011 | 13 |
| | EXSB5 | C3473-08 | Soil | 8/22/2011 | 13 |
| | EXSB6 | C3622-04 | Soil | 9/7/2011 | 13 |
| | EXSB7 | C3622-05 | Soil | 8/4/2011 | 13 |
| | EXSSW1 | C3355-07 | Soil | 8/4/2011 | 13 |
| | EXSSW2 | C3355-02 | Soil | 8/4/2011 | 13 |
| | | | | | 20 |

| Zinc (mg/kg) | EXSB3 | C3355-04 | Soil | 8/11/2011 | 20 |
| | EXSB4 | C3355-05 | Soil | 8/11/2011 | 20 |
| | EXSB5 | C3473-08 | Soil | 8/22/2011 | 20 |
| | EXSB6 | C3622-04 | Soil | 9/7/2011 | 20 |
| | EXSB7 | C3622-05 | Soil | 8/4/2011 | 20 |
| | EXSSW1 | C3355-07 | Soil | 8/4/2011 | 20 |
| | EXSSW2 | C3355-02 | Soil | 8/4/2011 | 20 |
| | | | | | 20 |

### Metal Etching Site (130110)

Freeport, New York

Site Management Plan

October 2012
### TABLE 8 SUMMARY OF REMAINING SEDIMENT CONTAMINATION ABOVE SITE-SPECIFIC CLEANUP OBJECTIVES FOR METALS

<table>
<thead>
<tr>
<th>Parameter List</th>
<th>Sample ID</th>
<th>Lab ID</th>
<th>EX7P1</th>
<th>EX7P2</th>
<th>EX7P3</th>
<th>EX7P4</th>
<th>EX7P5</th>
<th>Effects Range-Low (mg/kg)</th>
<th>Effects Range-Median (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>(mg/kg)</td>
<td></td>
<td>13.3</td>
<td>17.2</td>
<td>10.9</td>
<td>3.81</td>
<td>8.48</td>
<td>8.2</td>
<td>70</td>
</tr>
<tr>
<td>Cadmium</td>
<td>(mg/kg)</td>
<td></td>
<td>0.512</td>
<td>0.981</td>
<td>4.04</td>
<td>0.123</td>
<td>J</td>
<td>0.309</td>
<td>J</td>
</tr>
<tr>
<td>Chromium</td>
<td>(mg/kg)</td>
<td></td>
<td>40.7</td>
<td>55.2</td>
<td>97.4</td>
<td>17.4</td>
<td>42.6</td>
<td>81</td>
<td>370</td>
</tr>
<tr>
<td>Copper</td>
<td>(mg/kg)</td>
<td></td>
<td>177</td>
<td>299</td>
<td>134</td>
<td>42.2</td>
<td>91.5</td>
<td>34</td>
<td>270</td>
</tr>
<tr>
<td>Iron$^{(a)}$</td>
<td>(mg/kg)</td>
<td></td>
<td>14000</td>
<td>21100</td>
<td>21900</td>
<td>5630</td>
<td>11900</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>Lead</td>
<td>(mg/kg)</td>
<td></td>
<td>46.8</td>
<td>76.1</td>
<td>228</td>
<td>24.5</td>
<td>40.9</td>
<td>46.7</td>
<td>218</td>
</tr>
<tr>
<td>Mercury</td>
<td>(mg/kg)</td>
<td></td>
<td>0.373</td>
<td>0.492</td>
<td>1.86</td>
<td>D</td>
<td>0.152</td>
<td>0.202</td>
<td>0.15</td>
</tr>
<tr>
<td>Nickel</td>
<td>(mg/kg)</td>
<td></td>
<td>15.8</td>
<td>16.7</td>
<td>23.3</td>
<td>5.28</td>
<td>15.3</td>
<td>15.3</td>
<td>51.6</td>
</tr>
<tr>
<td>Silver</td>
<td>(mg/kg)</td>
<td></td>
<td>U</td>
<td>U</td>
<td>4.05</td>
<td>U</td>
<td>U</td>
<td>1</td>
<td>3.7</td>
</tr>
<tr>
<td>Zinc</td>
<td>(mg/kg)</td>
<td></td>
<td>141</td>
<td>318</td>
<td>206</td>
<td>44.8</td>
<td>100</td>
<td>150</td>
<td>410</td>
</tr>
</tbody>
</table>

**NOTE:**
- EPA = U.S. Environmental Protection Agency.
- mg/kg = Milligrams per kilogram
- J = Indicates the reported value was less than the Contract Required Detection Limit, but greater than or equal to the Method Detection Limit.
- D = Indicates the reported value is from a dilution.
- U = Non-detect, detection below the method detection limit.

Data provided by Chemtech Consulting Group. Only analytes that were detected in at least one sample are shown.

Concentration values in **BOLD** indicate that analyte was detected above the Effects Range-Low. Concentration values in *ITALICS* indicate that analyte was detected above the Effects Range-Median.

---

**EX7P1**

Metal Etching Site (130110)
Freeport, New York

Site Management Plan
### TABLE 9A  SUMMARY OF GROUNDWATER CONTAMINATION ABOVE SITE-SPECIFIC CLEANUP OBJECTIVES FOR VOCs

<table>
<thead>
<tr>
<th>Parameter List</th>
<th>Sample ID</th>
<th>EPA Method 8260B</th>
<th>Lab ID</th>
<th>Sample Type</th>
<th>Sample Date</th>
<th>Trip Blank</th>
<th>QA/QC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>MW-09S</td>
<td>C5040-01</td>
<td>12/14/2011</td>
<td>Groundwater</td>
<td>8.4</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>cis,1,2-Dichloroethene</td>
<td>MW-08D</td>
<td>C5040-02</td>
<td>12/14/2011</td>
<td>Groundwater</td>
<td>50</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Methyl tert-butyl ether (μg/L)</td>
<td>MW-09S</td>
<td>C5040-03</td>
<td>12/14/2011</td>
<td>Groundwater</td>
<td>82</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Tetrachloroethene (PCE) (μg/L)</td>
<td>MW-08D</td>
<td>C5040-04</td>
<td>12/14/2011</td>
<td>Groundwater</td>
<td>51</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>trans,1,2-Dichloroethene (μg/L)</td>
<td>MW-08D</td>
<td>C5040-05</td>
<td>12/14/2011</td>
<td>Groundwater</td>
<td>(5.0)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Vinyl chloride (μg/L)</td>
<td>MW-09S</td>
<td>C5040-06</td>
<td>12/14/2011</td>
<td>Groundwater</td>
<td>(&lt;5.0)</td>
<td>NA</td>
<td>4</td>
</tr>
<tr>
<td>Acetone</td>
<td>MW-10S</td>
<td>C5040-07</td>
<td>12/14/2011</td>
<td>Groundwater</td>
<td>75</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>cis,1,2-Dichloroethene</td>
<td>MW-10D</td>
<td>C5040-21</td>
<td>12/14/2011</td>
<td>Groundwater</td>
<td>50</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**
- EPA = U.S. Environmental Protection Agency.
- ID = Identification
- QA/QC = Quality assurance/quality control
- NA = Not applicable
- NYSDEC = New York State Department of Environmental Conservation
- μg/L = micrograms per Liter = parts per billion (ppb).
- U = Non-detect, detection below the method detection limit.
- J = Indicates the reported value was less than the Contract Required Detection Limit, but greater than or equal to the Instrument Detection Limit.
- D = Indicates the reported value was obtained by analysis at a secondary dilution factor.
- Duplicate sample collected at MW-09S.

Data provided by Chemtech Consulting Group. Only analytes that were detected in at least one sample are shown.

Concentration values in **BOLD** indicate that analyte was detected above the NYSDEC Ambient Water Quality Standard (g) guidance value, (s) standard value.
<table>
<thead>
<tr>
<th>Parameter List</th>
<th>EPA Method 6010/7470</th>
<th>Sample ID</th>
<th>MW-08S</th>
<th>MW-08D</th>
<th>MW-09S</th>
<th>MW-09D</th>
<th>MW-10S</th>
<th>MW-10D</th>
<th>Duplicate</th>
<th>NYSDEC Ambient Water Quality Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab ID</td>
<td>C5040-01</td>
<td>C5040-02</td>
<td>C5040-03</td>
<td>C5040-04</td>
<td>C5040-05</td>
<td>C5040-06</td>
<td>C5040-07</td>
<td></td>
<td></td>
<td>Class GA (μg/L)</td>
</tr>
<tr>
<td>Sample Type</td>
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<td>Groundwater</td>
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<td>Groundwater</td>
<td>Groundwater</td>
<td>Groundwater</td>
<td>Groundwater</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>(μg/L)</td>
<td>485</td>
<td>65.5</td>
<td>1,010</td>
<td>1,570</td>
<td>903</td>
<td>550</td>
<td>995</td>
<td>25 (s)</td>
<td>950 (s)</td>
</tr>
<tr>
<td>Arsenic</td>
<td>(μg/L)</td>
<td>(&lt;10) U</td>
<td>(&lt;10) U</td>
<td>(&lt;10) U</td>
<td>(&lt;10) U</td>
<td>5.76 J</td>
<td>(&lt;10) U</td>
<td>U</td>
<td>U</td>
<td>1,000 (s)</td>
</tr>
<tr>
<td>Boron</td>
<td>(μg/L)</td>
<td>81.6</td>
<td>35.5 J</td>
<td>119</td>
<td>46.2 J</td>
<td>71.1 J</td>
<td>13.2 J</td>
<td>J</td>
<td>J</td>
<td>1,000 (s)</td>
</tr>
<tr>
<td>Cadmium</td>
<td>(μg/L)</td>
<td>0.709 J</td>
<td>1.41 J</td>
<td>1.37 J</td>
<td>0.853 J</td>
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<td>(&lt;3) U</td>
<td>U</td>
<td>1.46 J</td>
<td>5 (s)</td>
</tr>
<tr>
<td>Chrome</td>
<td>(μg/L)</td>
<td>32,700</td>
<td>100,000</td>
<td>60,300</td>
<td>36,000</td>
<td>33,200</td>
<td>13,500</td>
<td>58,300</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>(μg/L)</td>
<td>11,800</td>
<td>21,500</td>
<td>21,900</td>
<td>14,500</td>
<td>3.950 J</td>
<td>2,080 J</td>
<td>22,000</td>
<td>200 (s)</td>
<td></td>
</tr>
<tr>
<td>Iron</td>
<td>(μg/L)</td>
<td>11,000</td>
<td>21,500</td>
<td>21,900</td>
<td>14,500</td>
<td>3.950 J</td>
<td>2,080 J</td>
<td>22,000</td>
<td>200 (s)</td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>(μg/L)</td>
<td>3 J</td>
<td>10.200</td>
<td>19,600</td>
<td>7,740</td>
<td>3,430 J</td>
<td>6,010 J</td>
<td>19,200</td>
<td>35,000 (g)</td>
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</tr>
<tr>
<td>Magnesium</td>
<td>(μg/L)</td>
<td>3,480</td>
<td>10,200</td>
<td>19,600</td>
<td>7,740</td>
<td>3,430 J</td>
<td>6,010 J</td>
<td>19,200</td>
<td>35,000 (g)</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>(μg/L)</td>
<td>239</td>
<td>1,050 J</td>
<td>807</td>
<td>1,980 J</td>
<td>106</td>
<td>227</td>
<td>778</td>
<td>300 (s)</td>
<td></td>
</tr>
<tr>
<td>Potassium</td>
<td>(μg/L)</td>
<td>20.4</td>
<td>10.4 J</td>
<td>(-20) U</td>
<td>7.17 J</td>
<td>6.11 J</td>
<td>(-20) U</td>
<td>30.9</td>
<td>100 (s)</td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>(μg/L)</td>
<td>4,150.0</td>
<td>7,370</td>
<td>14,000</td>
<td>3,880</td>
<td>6,950</td>
<td>3,340</td>
<td>14,200</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>(μg/L)</td>
<td>105,000</td>
<td>106,000</td>
<td>227,000</td>
<td>63,600</td>
<td>144,000</td>
<td>66,400</td>
<td>225,000</td>
<td>20,000 (s)</td>
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</tr>
<tr>
<td>Vanadium</td>
<td>(μg/L)</td>
<td>2.55 J</td>
<td>2.43 J</td>
<td>(-20) U</td>
<td>U</td>
<td>8.46 J</td>
<td>U</td>
<td>2.73 J</td>
<td>U</td>
<td>0.5 (g)</td>
</tr>
<tr>
<td>Zinc</td>
<td>(μg/L)</td>
<td>22.8</td>
<td>21 J</td>
<td>24.1</td>
<td>13.9 J</td>
<td>15.7 J</td>
<td>18.3 J</td>
<td>17.3 J</td>
<td>2,000 (g)</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**
- EPA = U.S. Environmental Protection Agency.
- ID = Identification
- NYSDEC = New York State Department of Environmental Conservation.
- μg/L = micrograms per Liter = parts per billion (ppb).
- --- = No applicable standard
- U = Non-detect, detection below the method detection limit.
- J = Indicates the reported value was less than the Contract Required Detection Limit, but greater than or equal to the Instrument Detection Limit.
- Duplicate was collected at MW-09S.

Data provided by Chemtech Consulting Group. Only analytes that were detected in at least one sample are shown.

Concentration values in **BOLD** indicate that the analyte was detected above the NYSDEC Ambient Water Quality Standard (g) guidance value, (s) standard value.
APPENDIX B

EXCAVATION WORK PLAN
APPENDIX B – EXCAVATION WORK PLAN

B-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the Department. Currently, this notification will be made to:

    David Chiusano, Project Manager
    Site Remediation Engineer
    New York State Department of Conservation
    625 Broadway 12th Floor
    Albany, New York 12233-7017

    Email: djchiusa@gw.dec.state.ny.us

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control,

- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;

- A schedule for the work, detailing the start and completion of all intrusive work,

- A summary of the applicable components of this EWP,

- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120,
- A copy of the contractor’s health and safety plan, in electronic format, if it differs from the HASP provided in Appendix B-1 of this document,

- Identification of disposal facilities for potential waste streams,

- Identification of sources of any anticipated backfill, along with all required chemical testing results.

B-2 SOIL SCREENING METHODS

Prior to intrusive soil screening, on-site utilities shall be field located. Soil screening is to take place prior to any excavation or disposal of soil from within the site boundaries. Soil boring methods are recommended for soil screening at the site, due to asphalt/porous pavement cover; however, depending on the extent of the planned excavation, test pit methods may be used, following saw-cutting of asphalt. Soil samples shall be collected at a minimum of one per 500 cubic yards of planned soil excavation, and analyzed for VOCs by EPA Method 8260B, SVOCs by EPA Method 8270C, and TAL Metals and mercury by EPA Method 6010/7470, or per the disposal facility’s requirements, if applicable.

Visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil.

B-3 STOCKPILE METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.
Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC.

B-4 MATERIALS EXCAVATION AND LOAD OUT

Asphalt, porous pavement, or concrete shall be saw-cut, removed and stockpiled prior to excavation of underlying soil. Excavated soil shall be stockpiled separate from asphalt or concrete debris prior to load out. Excavations left open overnight or longer shall be surrounded by temporary construction fencing. A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material. The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

If site conditions during excavation activities require that trucks drive over bare soil, a truck wash will be operated on-site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete. Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.
The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

**B-5 MATERIALS TRANSPORT OFF-SITE**

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the site if necessary. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Trucks leaving the site shall go north on S Main Street and turn right on Mill Road. Continue right onto East Avenue, and then straight onto Guy Lombardo Avenue. Turn onto Sunrise Highway in either direction, depending on destination.
All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development. Trucks will be prohibited from stopping and idling in the neighborhood outside the project site. Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

**B-6 MATERIALS DISPOSAL OFF-SITE**

All soil/fill/solid waste excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of
soil/fill from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

B-7 MATERIALS REUSE ON-SITE

Analytical results from soil screening activities which are completed in accordance with section B-2 of this EWP will be used to determine if reuse is appropriate. Chemical criteria for on-site reuse of material have been approved by NYSDEC and are listed in Table 4 of the SMP. The qualified environmental professional will ensure that procedures defined for materials reuse in the SMP are followed and that unacceptable material does not remain on-site. Soil slated for reuse is to be stockpiled distinctly separate from soil to be disposed off-site.

On-site material, including historic fill and contaminated soil, that is acceptable for re-use on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.
Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

B-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, but will be managed off-site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

B-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the Contract Documents. The demarcation layer, consisting of non-woven geotextile or equivalent material will be replaced to provide a visual reference to the top of the ‘Remaining Contamination Zone’, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this Site Management Plan. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the ‘Remaining Contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan.

B-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior
to receipt at the site. The source of backfill supply shall be approved by the NYSDEC.
The facility shall be operating under a valid NYSDEC Mining Permit or other applicable regulatory authority for the duration of the site work.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site. Material shall not contain man-made fills, trash, refuse, backfills from previous construction, root or other organic matter, frozen material, or any other deleterious materials. Material shall not contain free liquids when delivered, or placed and compacted.

All materials shall be sampled for Target Compound List (TCL) VOCs by USEPA Method 8260, TCL SVOCs by USEPA Method 8270, polychlorinated biphenyls (PCBs) by USEPA Method 8082, and TAL Metals by USEPA Method 6010/7000 series. All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.8(d) included as Table B-1. Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Table 1 of the SMP. Soils that meet ‘exempt’ fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

**B-11 STORMWATER POLLUTION PREVENTION**

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.
Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

**B-12 CONTINGENCY PLAN**

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

All UST removal work shall be performed in accordance with Section 5.5 of the NYSDEC DER-10: Technical Guidance for Site Investigation and Remediation (May 2010). All UST removal work shall also comply with applicable local, county, state, and federal regulations. Ten days’ notice must be provided to the NYSDEC DER prior to the closure of a regulated UST.

The contractor shall monitor the site with an explosimeter and an organic vapor detector to indicate the presence and concentration of flammable vapors and gas. The atmosphere in the bottom, middle, and top of the excavation shall be monitored with the explosimeter regularly until the tank is removed from the site. If unsafe working conditions exist at any point during removal, work shall be suspended immediately until it is determined that conditions are acceptable for resuming work.

During excavation, extreme caution shall be exercised in order to maintain the integrity of the UST. The contractor shall provide shoring and bracing where necessary to support existing structures. Excavated material shall be placed in a separate stockpile, sampled, and submitted for acceptance by an approved disposal facility.

Removal of each tank shall consist of opening the tank, cleaning the interior, removal of tank from the site, and disposal. This includes removal and disposal of all
service lines associated with each UST back to their source. Disposal shall be in strict accordance with NYSDEC and applicable local, county, state, and federal regulations. The contractor shall remove all liquid and sludge from the tank using explosion proof pumps. All equipment must be bonded to the tank and the tank must be grounded to a separate ground when purging the tank with compressed air or inert gas under pressure. The contractor shall avoid leakage from the tanks onto the surrounding soil by properly pumping the contents of the tanks into permitted transport vehicles. Transport vehicles for tank contents shall not remain on-site for more than 24 hours. The removed contents shall be disposed of according to appropriate federal, state, and local laws. If leakage or spillage occurs, the contractor shall immediately notify the NYSDEC Spill Case Hotline, and the Nassau County health department within 15 minutes.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for full a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC’s Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 5 of the SMP.

**B-13 COMMUNITY AIR MONITORING PLAN**

Community air monitoring will be implemented to monitor for VOC and particulate levels at the perimeter of the work area. Total VOCs will be monitored continuously at the downwind perimeter of the work area daily using approved instrumentation. If total VOC levels exceed 5 parts per million (ppm) above background at the work area perimeter, work activities will be halted and monitoring continued. All
readings will be recorded and available to the NYSDEC and New York State Department of Health (NYSDOH) personnel to review.

Because the site is in a densely populated area, with active commercial buildings adjacent to the site, a fixed monitoring station shall be located at the site perimeter, regardless of wind direction.

Exceedances of action levels listed in the Community Air Monitoring Plan will be reported to NYSDEC and NYSDOH Project Managers.

**B-14 ODOR CONTROL PLAN**

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used as necessary will include odor masking agents. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner’s Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by
sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

**B-15 DUST CONTROL PLAN**

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.

- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.

- Gravel will be used on roadways to provide a clean and dust-free road surface.

- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

**B-16 OTHER NUISANCES**

A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work. A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.
### TABLE B-1 CRITERIA FOR IMPORTED SOILS

<table>
<thead>
<tr>
<th>Constituent</th>
<th>NYCRR Part 375-6.8 (d) Unrestricted Use</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VOLATILE ORGANIC COMPOUNDS - SOIL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,1,1-Trichlorethane</td>
<td>680</td>
<td>μg/kg</td>
</tr>
<tr>
<td>1,1-Dichloroethane</td>
<td>270</td>
<td>μg/kg</td>
</tr>
<tr>
<td>1,1-Dichloroethylene</td>
<td>330</td>
<td>μg/kg</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>3,600</td>
<td>μg/kg</td>
</tr>
<tr>
<td>1,2-Dichlorobenzene</td>
<td>1,100</td>
<td>μg/kg</td>
</tr>
<tr>
<td>1,2-Dichloroethane</td>
<td>20</td>
<td>μg/kg</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>8,400</td>
<td>μg/kg</td>
</tr>
<tr>
<td>1,3-Dichlorobenzene</td>
<td>2,400</td>
<td>μg/kg</td>
</tr>
<tr>
<td>1,4-Dichlorobenzene</td>
<td>1,800</td>
<td>μg/kg</td>
</tr>
<tr>
<td>Acetone</td>
<td>50</td>
<td>μg/kg</td>
</tr>
<tr>
<td>Benzene</td>
<td>60</td>
<td>μg/kg</td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
<td>760</td>
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</tr>
<tr>
<td>Chlorobenzene</td>
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<td>μg/kg</td>
</tr>
<tr>
<td>Chloroform</td>
<td>370</td>
<td>μg/kg</td>
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<tr>
<td>cis-1,2-Dichloroethylene</td>
<td>250</td>
<td>μg/kg</td>
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<tr>
<td>Ethylbenzene</td>
<td>1,000</td>
<td>μg/kg</td>
</tr>
<tr>
<td>m,p-Xylene</td>
<td>260(a)</td>
<td>μg/kg</td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
<td>120</td>
<td>μg/kg</td>
</tr>
<tr>
<td>Methylene chloride</td>
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<td>μg/kg</td>
</tr>
<tr>
<td>n-Butylbenzene</td>
<td>12,000</td>
<td>μg/kg</td>
</tr>
<tr>
<td>n-Propylbenzene</td>
<td>3,900</td>
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</tr>
<tr>
<td>o-Xylene</td>
<td>260(a)</td>
<td>μg/kg</td>
</tr>
<tr>
<td>sec-Butylbenzene</td>
<td>11,000</td>
<td>μg/kg</td>
</tr>
<tr>
<td>trans-Butylbenzene</td>
<td>5,900</td>
<td>μg/kg</td>
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<tr>
<td>Tert-Butyl Methyl Ether</td>
<td>930</td>
<td>μg/kg</td>
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<tr>
<td>Tetrachloroethylene</td>
<td>1,300</td>
<td>μg/kg</td>
</tr>
<tr>
<td>Toluene</td>
<td>700</td>
<td>μg/kg</td>
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<tr>
<td>trans-1,2-Dichloroethylene</td>
<td>190</td>
<td>μg/kg</td>
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<tr>
<td>Trichloroethylene</td>
<td>470</td>
<td>μg/kg</td>
</tr>
<tr>
<td>Vinyl chloride</td>
<td>20</td>
<td>μg/kg</td>
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## INORGANICS (METALS) - SOIL

<table>
<thead>
<tr>
<th>Element</th>
<th>Value (mg/Kg)</th>
<th>Unit</th>
</tr>
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<tbody>
<tr>
<td>Arsenic</td>
<td>13</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Barium</td>
<td>350</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Beryllium</td>
<td>7.2</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Cadmium</td>
<td>2.5</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Chromium (Total)</td>
<td>1(a), 30(b)</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Copper</td>
<td>50</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Lead</td>
<td>63</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Manganese</td>
<td>1,600</td>
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</tr>
<tr>
<td>Mercury</td>
<td>0.18</td>
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</tr>
<tr>
<td>Nickel</td>
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<tr>
<td>Selenium</td>
<td>3.9</td>
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</tr>
<tr>
<td>Silver</td>
<td>2</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Zinc</td>
<td>109</td>
<td>mg/Kg</td>
</tr>
</tbody>
</table>

(a) Value is for hexavalent Chromium but is considered to be met if the analysis for total Chromium is below the specific SCO.

(b) Value is for trivalent Chromium but is considered to be met if the analysis for total Chromium is below the specific SCO.

## PCBs/PESTICIDES

<table>
<thead>
<tr>
<th>Compound</th>
<th>Value (mg/Kg)</th>
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</thead>
<tbody>
<tr>
<td>2,4,5-tp Acid (Silvex)</td>
<td>3.80</td>
</tr>
<tr>
<td>4,4'-DDE</td>
<td>0.0033</td>
</tr>
<tr>
<td>4,4'-DDT</td>
<td>0.0033</td>
</tr>
<tr>
<td>4,4'-DDD</td>
<td>0.0033</td>
</tr>
<tr>
<td>Aldrin</td>
<td>0.005</td>
</tr>
<tr>
<td>alpha-BHC</td>
<td>0.02</td>
</tr>
<tr>
<td>beta-BHC</td>
<td>0.036</td>
</tr>
<tr>
<td>Chlordane (alpha)</td>
<td>0.094</td>
</tr>
<tr>
<td>delta-BHC</td>
<td>0.04</td>
</tr>
<tr>
<td>Dibenzofuran</td>
<td>7</td>
</tr>
<tr>
<td>Dieldrin</td>
<td>0.005</td>
</tr>
<tr>
<td>Endosulfan I</td>
<td>2.4</td>
</tr>
<tr>
<td>Endosulfan II</td>
<td>2.4</td>
</tr>
<tr>
<td>Endosulfan sulfate</td>
<td>2.4</td>
</tr>
<tr>
<td>Endrin</td>
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</tr>
<tr>
<td>Heptachlor</td>
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<tr>
<td>Lindane</td>
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</tr>
<tr>
<td>Polychlorinated biphenyls</td>
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</table>
### SEMI-VOLATILE ORGANIC COMPOUNDS - SOIL

<table>
<thead>
<tr>
<th>Compound</th>
<th>Concentration (mg/Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acenaphthene</td>
<td>20</td>
</tr>
<tr>
<td>Acenaphthylene</td>
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</tr>
<tr>
<td>Anthracene</td>
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</tr>
<tr>
<td>Benz(a)anthracene</td>
<td>1</td>
</tr>
<tr>
<td>Benzo(a)pyrene</td>
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</tr>
<tr>
<td>Benzo(b)fluoranthene</td>
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</tr>
<tr>
<td>Benzo(g,h,i)perylene</td>
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<tr>
<td>Benzo(k)fluoranthene</td>
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<td>Chrysene</td>
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<tr>
<td>Dibenz(a,h)anthracene</td>
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</tr>
<tr>
<td>Fluoranthene</td>
<td>100</td>
</tr>
<tr>
<td>Fluorene</td>
<td>30</td>
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<tr>
<td>Indeno(1,2,3-cd)pyrene</td>
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</tr>
<tr>
<td>m-Cresol</td>
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</tr>
<tr>
<td>Naphthalene</td>
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</tr>
<tr>
<td>o-Cresol</td>
<td>0.33</td>
</tr>
<tr>
<td>p-Cresol</td>
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</tr>
<tr>
<td>Pentachlorophenol</td>
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</tr>
<tr>
<td>Phenanthrene</td>
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</tr>
<tr>
<td>Phenol</td>
<td>0.33</td>
</tr>
<tr>
<td>Pyrene</td>
<td>100</td>
</tr>
</tbody>
</table>
Appendix B-1

Health and Safety Plan
HEALTH & SAFETY PLAN

Metal Etching Co. Inc.
435 South Main Street, Freeport, NY

Site No. 1-30-110
Contract No. D007938

Prepared for:

New York State Department of Environmental Conservation
Remedial Section A, Remedial Bureau E
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233-7017

Prepared by:

EnviroTrac Ltd.
5 Old Dock Road
Yaphank, NY 11980

October 2010

A Full Service Environmental Consulting and Contracting Firm
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2.0 SITE BACKGROUND ..................................................................................................1
3.0 OBJECTIVES ............................................................................................................1
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APPENDICES
1. Affidavit
2. HSO and Alternate Summary of Experience

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3. Current OSHA 1910.120 Training Certificates for Site Personnel
4. HASP Amendment Form
5. Safety Regulations
6. Safety Reminder for Toxic Chemicals
7. Daily Tailgate Safety Logs
8. First-Aid Equipment List
9. Accident Report Form
10. Hospital Direction and Location Map

Attachments:
Community Health and Safety Plan
Confined Space Entry Plan
1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been prepared to identify the health and safety precautions, methods, and construction activities to take place at the Metal Etching Co. Inc. site located on the at 435 South Main Street, Freeport, NY, and ensure the protection of site workers, neighboring tenants businesses and the environment. This plan applies to the activities set forth in the Work Plan to be submitted under a separate cover. This plan addresses specific health and safety issues related to the presence of Semi-Volatilize Organic Compounds (SVOCs), metals, and other hazards that may be encountered during intrusive field activities. The procedures were developed in accordance with Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard 29 CFR 1910.120.

2.0 SITE BACKGROUND

The Site currently is used as a boat dealership, marina, and boat storage. Currently there are two buildings on the site; a 1,200-square foot building utilized as dealership office space, and 2,400 square foot building used to perform various boat restoration activities.

Prior to 1966 the Site was operated as Flores Manufacturing, which processed handbags. This operation utilized various decorative plating procedures including nickel, chromium, and cadmium plating. From 1966 to 1999, Metal Etching Corporation manufactured various metal products that were etched or printed. The processes included anodizing, chromate conversion, and chromate/nickel plating.

3.0 OBJECTIVES

The prime objective of this HASP is to protect on-site worker health and safety during field activities at the Site. General guidelines in the HASP are provided to assure that safe working conditions exist at the Site. The health and safety procedures set forth in this plan have been established based on analysis of potential hazards and protection measures have been selected in response to these potential risks. The HASP will be modified if unforeseen changes occur while work is in progress.

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This plan includes health and safety procedures required for field activities performed at the site. It has been designed to meet the following objectives:

- Evaluate the risk associated with each operation;
- Provide for identification, recognition, evaluation, and control of health, safety, and environmental hazards;
- Provide the requirements for an optimum, safe, and healthful work environment, in which personnel are not exposed to avoidable risks, accidents, or injuries in the performance of their duties;
- Identify the roles and responsibilities of on-site personnel; and
- Establish personnel protection standards and mandatory safety practices and procedures for all on-site personnel.
- This document will be periodically reviewed to ensure that it is current and technically correct.

4.0 HEALTH AND SAFETY ORGANIZATION

The Health and Safety Coordinator (HSC), Michael Clark is responsible for the development and implementation of the HASP. The Safety Officer (SO), Robert Gimbel will be responsible for the day to day implementation of the HASP as specified in Site Work Plan. In addition, the SO is responsible for the distribution of this HASP to all field personnel and discussion of the plan prior to the start of field activities. The Health and Safety Technician (HST) will work directly under the SO. The HST will be responsible for the calibration and operation of all field equipment. The field personnel will sign Appendix 1 of this HASP certifying that they have read, are familiar with, and understand the contents of this HASP. The SO will also have the following authority and responsibilities:

- Responsibility for the field implementation of this HASP;
- Responsibility for the indoctrination and periodic training of all site personnel
- Authority to make necessary field modifications to this HASP with approval of authorized State representatives;
- Responsibility to ensure that at a minimum the following safety equipment is available at the Site prior to start of the work: fire extinguisher, eye wash station and personal protective equipment and first aid supplies.

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• Authority to suspend field operations due to potential health and safety concerns;
• Responsibility to supervise emergency response activities;
• Implementation and documentation of daily pre-task field briefings (tailgate safety meetings).

A Project Organization Chart is provided below:

SO alternates will be designated to act accordingly when the primary SO is not present at the Site. All site personnel and contract workers working within the exclusion zone will have received the appropriate level of training necessary to perform applicable duties and comply with 29 CFR 1910.120.

Robert Gimbel – Sr. Environmental Technician of EnviroTrac is designated as the site SO; Ted Masters, of EnviroTrac, is designated as the SO alternate. Other site personnel may be called upon to perform SO duties. SO and Alternate summaries of experience is included in Appendix 2. The SO or alternate will be on site at all times during intrusive work activities. Certificates of OSHA 1910.120 40 hour Hazardous Materials Training are included in Appendix 3.

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All EnviroTrac personnel who will be working at the Site will be provided with a copy of this HASP. All subcontractors and site visitors shall read and comply with EnviroTrac's HASP, and be required to sign the Affidavit (Appendix 1). Personnel responsible for HASP monitoring during on-site activities will be responsible for informing the field workers and subcontractors of any changes in conditions and/or levels of protection required in the affected work area. This HASP must be modified or amended when circumstances or conditions develop that are beyond the scope of the operations described in this HASP. Any changes in project work scope and/or site conditions as described must be amended in writing using the Amendment Sheet included in Appendix 4.

All personnel working on-site will supply documentation of compliance with 29 CFR 1910.120 in advance of undertaking any physical activities at the site.

5.0 SITE DESCRIPTION AND HAZARD ASSESSMENT

The primary scopes of work developed as part of the contract includes the excavation of contaminated soils, removal of sediments from a storm drain, Freeport Creek sediment removal, transportation and disposal of contaminated materials, Underground Storage Tank (UST) removal, decommissioning and installation of monitoring wells, and perimeter air monitoring.

The following section identifies the hazards associated with site tasks, and provides suggestions for hazard prevention on-site.

PERIMETER MONITORING:
The Site boundaries clearly mark off the “clean” off-site areas, from the “contaminated” on-site areas, and so chemical contamination from the site should not be a hazard associated with perimeter and off-site monitoring.

Perimeter monitoring and off-site monitoring will be performed once the site boundaries have been established. Hazards specific to perimeter and off-site monitoring include encounters with non-project personnel. This is a unique hazard, in that untrained personnel prove to be a risk when performing any type of site work. Inquisitive and/or hostile persons may interfere with the monitoring/sampling effort, jeopardizing their safety as well as the safety of the field team.

HASP October 2010
HAZARD PREVENTION DURING PERIMETER MONITORING:
To minimize public involvement in perimeter monitoring/off-site monitoring, the most effective preventative measure is to inform all interested parties. Notifying state and local police, the fire department, and any local/state governmental officials of the project’s purpose and scope will allows those authorities to answer questions posed to them by local residents and the media by preparing statements on the project's purpose or by informing the public where to call for further information. This alleviates the problem of work stoppage due to field personnel answering questions.

AIR MONITORING:
General hazards frequently encountered during air monitoring include:
- Electrical hazards as a result of power sources to charge/run air monitoring equipment.
- Placing air monitoring equipment in elevated areas as close to the breathing zone as possible, or areas where slip/trip and fall hazards exist.
- Hazards associated with ambient environment being sampled.
- Readings indicating non-explosive atmospheres, low concentrations of toxic substances, or other conditions may increase or decrease suddenly, changing the associated risks.
- Air sampling matrix solutions may be acidic or basic, causing a corrosive hazard, and broken glass collection tubes can cut hands if mishandled.

HAZARD PREVENTION DURING AIR MONITORING:
Grounded plugs should be used when a power source is needed to reduce the hazard of electric shock.
- Generators or air monitoring equipment should be used in dry areas, away from possible ignition sources. Do not stand in water or other liquids when handling equipment. Electrical equipment shall conform to OSHA 1910.303(a), 1910.305(a),(f),(f)(3).
- Ground fault interrupters are used in the absence of properly grounded circuitry or when portable tools must be used in wet areas.
- Extension cords should be protected from damage and maintained in good condition.
- Air monitoring equipment should be placed within easy reach.
- Personnel should be thoroughly familiar with the use, limitations and operating characteristics of the monitoring instruments.

HASP: October 2010
- Perform continuous monitoring in variable atmospheres.
- Use intrinsically safe instruments until the absence of combustible gases or vapors is anticipated.

**WELL INSTALLATION:**

Hazards generally associated with drilling operations include the following:

- Noise levels exceeding the OSHA PEL of 90 dBA are both a hazard and a hindrance to communication. Hearing conservation measures shall be implemented if noise levels exceed 85 dBA.
- Fumes (carbon monoxide) from the drill rig.
- Overhead utility wires, i.e., electrical and telephone, can be hazardous when the drill rig boom is in the upright position.
- Underground pipelines and utility lines can be ruptured or damaged during active drilling operations. Dig safe laws shall be complied with prior to beginning site activity.
- Moving parts, i.e. augers, on the drill rig may catch clothing. Free or falling parts from the cat head may cause head injury.
- Moving the drill rig over uneven terrain may cause the vehicle to roll over or get stuck in a rut or mud. Be aware of hazards associated with moving heavy machinery and other associated injury.
- High pressure hydraulic lines and air lines used on drill rigs are hazardous when they are in ill repair or incorrectly assembled.

**HAZARD PREVENTION DURING WELL INSTALLATION:**

- Review the contaminants suspected to be on-site and perform air monitoring as required.
- Continuously monitor carbon monoxide levels during machinery operation and shut down drill rig and/or divert engine exhaust.
- All chains, lines, cables should be inspected daily for weak spots, frays, etc. Daily inspection will be recorded.
- Emergency shutdown procedures of the drill rig should be reviewed each day and tested.
- Ear muffs and ear plugs effectively reduce noise levels and must be worn during drilling operation. A sound meter will be on-site to monitor levels.
- Hard hats should be worn at all times when working around a drill rig. Secure loose clothing. Check boom prior to approaching drill rig.
• To avoid contact with any overhead lines, the drill rig boom shall be lowered prior to moving the rig. Overhead utilities should be considered “live” until determined otherwise.

• The rig mast shall not be erected within 10 feet of an overhead electrical line until the line is de-energized, grounded, or shielded and an electrician has certified that arcing cannot occur.

• Maintaining working distances of at least 10 feet around “live” overhead power lines in accord with 29 CFR 1926.550(a)(15)(i);

• A thorough underground utilities search shall be conducted in accordance with applicable local, state and federal laws before the commencement of a drilling project.

• All high pressure lines shall be checked prior to and during use.

SITE ACTIVITIES – EXCAVATION/SEDIMENT REMOVAL, AND UST REMOVAL:

Excavation activities utilizing heavy machinery and removal of USTs will include trenching for underground system lines, over-excavation for structures and soils and removal of solids and liquids. Hazards may include:

• Contact with or inhalation of contaminants, potentially in high concentrations in sampling media.

• Noise levels exceeding the OSHA PEL of 90 dBA are both a hazard and a hindrance to communication. Hearing conservation measures shall be implemented if noise levels exceed 85 dBA.

• Engine exhaust (carbon monoxide, diesel particulates) from machinery.

• Underground pipelines and utility lines can be ruptured or damaged during trenching operations. A thorough underground utilities search shall be conducted in accordance with applicable local, state and federal laws before the commencement of a excavation project.

• Moving parts on the equipment may catch clothing.

• Moving the equipment over uneven terrain may cause the vehicle to roll over or get stuck in a rut or mud. Be aware of hazards associated with moving heavy machinery such as collision with personnel and structures.

• High pressure hydraulic lines and air lines used on the equipment are hazardous when they are in ill repair or incorrectly assembled.

• Back strain and muscle fatigue due to improper lifting and shoveling techniques.

• Working with power tools.

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• Electrical hazards when energizing equipment.
• Slipping or tripping in the vicinity of open excavations.
• Heaving in open excavations.

HAZARD PREVENTION DURING EXCAVATION ACTIVITIES:
• Review the contaminants suspected to be on-site and perform air monitoring as required.
• Continuously monitor carbon monoxide levels during machinery operation. Shut down backhoe and/or divert engine exhaust.
• All chains, lines, cables should be inspected daily for weak spots, frays, etc.
• Daily backhoe/personnel lift safety inspections (e.g. backup alarm) will be documented.
• A spotter on the ground will direct backhoe during operation.
• Safety vests will be worn to increase visibility of personnel.
• Ear muffs and ear plugs effectively reduce noise levels and will be worn during installation activities that have noise levels above 90 dBA. Hearing conservation measures shall be implemented if noise levels exceed 85 dBA.
• Hard hats shall be worn at all times when working around heavy equipment. Secure loose clothing.
• Proper lifting (pre-lift weight assessment, use of legs, multiple personnel) techniques will prevent back strain. Use slow easy motions when shoveling and digging to decrease muscle strain.
• A thorough underground utilities search shall be conducted before the commencement of a trenching project.
• All high pressure lines should be checked prior to and during use.
• Electric tools shall be inspected daily for damage to safety guards and wires.
• All electric tools shall be properly grounded in accordance with manufacturers specifications. Tools in disrepair shall be immediately tagged and removed from service.
• To minimize exposure to chemical contaminants, a thorough review of suspected contaminants shall be completed and implementation of an adequate protection program.
• Follow lookout/tag out procedures when working with electrical components of the system during testing.
• No excavations shall be left open unnecessarily, to reduce the risk of falling into open excavation and reduce the number of tripping hazards.
• All open excavations shall be fenced off to prevent unnecessary entrance into the work areas. Temporary fencing will be placed around all open excavations.
• Open excavations shall be shored or sloped in response to site conditions to prevent heaving or collapse as per OSHA 1926.650.

General Hazard Evaluation

In addition, there are several site activities which do not involve the potential contact with hazardous constituents and therefore have low associated hazard for exposure. While these activities do not involve significant exposure risks, various physical hazards do exist. General hazards associated with these activities include the following:

• Personnel slipping, tripping, and falling as a result of improperly stored equipment and materials;
• Puncture wounds and lacerations from sharp edges of hand tools;
• Personnel being struck by equipment, tools, and vehicles; injuries to feet from falling objects, or sharp objects;
• And back or other muscle injuries or strains from improper or excessive lifting.

To protect against accidental mechanical hazards, safe work practices shall be followed and personal protective equipment such as hard hat, gloves, appropriate eye/face protection, and durable work boots that conform to OSHA regulations and ANSI Z41 American National Standard for Personal Protection shall be worn when working around heavy equipment, as detailed in Section 9.

Adverse weather conditions are also important considerations in planning and conducting site operations. Cold or hot weather can cause physical discomfort, loss of efficiency, and personnel injury. To protect against injury due to cold or hot weather, appropriate control measures will be taken.

All the active site personnel will be protected against potential exposure to the constituents of concern using suitable personal protection as discussed below. Potential routes by which workers could be exposed to these or other hazardous constituents include:
- Inhalation
- Ingestion
- Dermal Contact

1. Inhalation

Environmental air monitoring for organic vapors and particulates will be conducted through the use of photoionization detectors and particulate monitors (PID s) within and at the perimeter of the exclusion zone and work areas during all on-site construction and sampling activities. At a minimum, Level D personal protective equipment (PPE) will be required, as detailed in Section 11.

Environmental air monitoring for organic vapors and particulates will be conducted using real-time monitoring and documentation sampling to determine if off-site emission, as a result of site work, poses a threat to the surrounding community and on-site personnel.

If PID monitoring readings exceed 5 ppm above background, work activities shall be halted and engineering controls will be initiated as detailed in Section 13.

PARTICULATES

Particulates shall be continuously monitored at four (4) documentation sampling stations. If the downwind particulate level is 150 μg/m³ greater than the upwind particulate level, dust suppression techniques shall be employed.

2. Ingestion

There is also a possibility of ingestion of soil materials during field activities. Safe work practices and good personal hygiene shall be followed to avoid potential ingestion of soil materials. No food, drink or smoking will be allowed in the exclusion zone.

3. Dermal Contact

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Due to the potential for dermal contact with soils containing VOCs, SVOCs, pesticides, polychlorinated biphenyls, metals, asbestos or other hazardous constituents, all active site personnel performing construction and sampling activities will be required to wear at a minimum, the appropriate Level D personal protective clothing, as detailed in Section 11, including work boots, hard hats, eye protection and appropriate work gloves. Work boots should conform to OSHA 1910.136 and meet ANSI Z41 American National Standard for Personal Protection – Protective Footwear. As a precautionary measure, extra skin protective gear will be available on site in the field office, to include tyvek suits, to be worn if necessary. In addition, safety regulations will be posted throughout the site and are included as Appendices 5 and 6.

Toxicological and physical characteristics information is provided below for the contaminants of concern.

GENERAL DESCRIPTION

VOCs
Volatile organic compounds (VOCs) are compounds that have a high vapor pressure and may have low water solubility. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, pharmaceuticals, and refrigerants. VOCs are often industrial solvents, such as trichloroethylene (TCE); fuel oxygenates, such as methyl tert-butyl ether (MTBE); or by-products produced by chlorination in water treatment, such as chloroform. VOCs are often components of petroleum fuels, hydraulic fluids, paint thinners, and dry cleaning agents. VOCs are common ground-water contaminants.

SVOCs
Semi volatile organic compounds (SVOCs) are a group of compounds that include polycyclic aromatic hydrocarbons. PAHs are may formed through the incomplete burning of fossil fuels, and present in soot, cigarette smoke, and other charred materials. In industry PAHs have been used in the manufacture of plastics, dyes, consumer products, and pesticides.

Metals
Metals are widely used in many industries. The chemical industry is based on catalysts and these are often metals or metal compounds. New applications in the electronic industry and in HASP October 2010
nanotechnology are expanding. Human exposure as a result of industrial uses occur in the working environment and general environment in the vicinity of industries and sometimes due to the use of metal containing industrial products.

HEALTH HAZARDS:

SVOC/VOCs
Short Term: Exposure can cause eye, ear and nose irritation, drowsiness, dizziness, unconsciousness and death.
Long Term: Exposure may affect bone marrow, liver, kidney, central nervous system, and blood production resulting in leukemia or other types of cancer.

METALS
Short Term: Exposure can cause dizziness, drowsiness, fatigue, and emotional disturbances.
Long Term: Exposure to metals often has a bioaccumulative effect which can impair mental, neurological, and kidney function and alter numerous metabolic body processes, and could possibly result in mental retardation.

FIRE/EXPLOSION HAZARDS:

VOCs
Various compounds where many are flammable and combustible. Often poisonous gases are produced when heated. Toxic, irritating gases may be generated in fires.

Metals
Many metals are flammable and combustible.

The evaluation of hazards is based upon the knowledge of site background presented in the Work Plan, and anticipated risks posed by the specific operation.

The following subsections describe each task/operation in terms of the specific hazards associated with it. In addition, the protective measures to be implemented during completion of those operations are also identified. Tables 5-1 and 5-2, provide a summary of task analysis and chemical hazards for each task at the Site. The Permissible Exposure Limit (PEL), Threshold HASP October 2010
Limit Value (TLV) and Immediately Dangerous to Life and Health (IDLH) levels are listed on Table 5-1 & 5-2 for the contaminant of concern. In general OSHA PELs are regulatory requirements that must be met and are legally enforceable. TLVs are guidance values recommended by the American Conference of Governmental Industrial Hygienists (ACGIH). The PEL represents the maximum exposure concentration an individual can be exposed to as a time weighted average of 8 hours. TLVs represent the exposure concentration which an individual can be exposed to eight hours a day, five days a week (40 hours). The IDLH represents the maximum concentration of a contaminant for which an individual can be exposed to for thirty minutes without any "escape impairing" symptoms or irreversible health effects.

**TABLE 5-1 Task Analysis - Perimeter and Air Monitoring Chemical Hazards of Concern**

<table>
<thead>
<tr>
<th>CONTAMINANT</th>
<th>PEL/TLV/IDLH</th>
<th>ROUTES OF EXPOSURE</th>
<th>EXPOSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLATILE ORGANIC COMPOUNDS</td>
<td>PEL: 100 ppm</td>
<td>AIR</td>
<td>INHALATION</td>
</tr>
<tr>
<td></td>
<td>TLV: 25 ppm</td>
<td>SUBSURFACE SOIL</td>
<td>INGESTION CONTACT</td>
</tr>
<tr>
<td></td>
<td>IDLH: Not Applicable,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Potential Human</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carcinogen (NIOSH, 1987)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: (PEL=Permissible Exposure Limit, TLV=Threshold Limit Value, IDLH=Immediately Dangerous to Life and Health)

**TABLE 5-2 Task Analysis - Well Installation, Demolition, Excavation and Drainage Structure Cleanout Chemical Hazards of Concern**

<table>
<thead>
<tr>
<th>CONTAMINANT</th>
<th>TLV/IDLH</th>
<th>ROUTES OF EXPOSURE</th>
<th>EXPOSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLATILE ORGANIC COMPOUNDS</td>
<td>PEL: 100 ppm</td>
<td>AIR</td>
<td>INHALATION</td>
</tr>
<tr>
<td></td>
<td>TLV: 25 ppm</td>
<td>SUBSURFACE SOIL</td>
<td>INGESTION CONTACT</td>
</tr>
<tr>
<td></td>
<td>IDLH: Not Applicable,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Potential Human</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carcinogen (NIOSH, 1987)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SVOC</td>
<td>0.2 mg/m³</td>
<td>SUBSURFACE SOIL</td>
<td>INHALATION</td>
</tr>
</tbody>
</table>

HASP October 2010
<table>
<thead>
<tr>
<th>METALS</th>
<th>VARIOUS: Dependent on Compounds.</th>
<th>AIR</th>
<th>CONTACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCBs</td>
<td>$5 \text{ mg/m}^3$</td>
<td>SUBSURFACE SOIL</td>
<td>INHALATION CONTACT</td>
</tr>
<tr>
<td>PESTICIDES</td>
<td>$500 \text{ mg/m}^3$</td>
<td>SUBSURFACE SOIL</td>
<td>INHALATION INGESTION CONTACT</td>
</tr>
</tbody>
</table>

Notes: (PEL=Permissible Exposure Limit, TLV=Threshold Limit Value, IDLH=Immediately Dangerous to Life and Health)

6.0 TRAINING / MEDICAL SURVEILLANCE

Personnel Training

Field team personnel associated with those activities in which the potential for exposure to hazardous substances exists are required to participate in a health and safety training program that complies with the OSHA standard 29 CFR 1910.120. This program instructs employees on general health and safety principles and procedures, proper operation of monitoring instruments, and use of personnel protective equipment. All personnel shall have completed an OSHA 10 hour Construction Health and Safety Training class and received certification.

In addition, field team personnel must undergo site-specific training as part of a daily tailgate meeting led by the SO prior to the start-up of any given project or task. As activities change at a particular work site, related training must be provided as necessary. The site-specific training will address potential hazards and associated risks, site operating procedures, emergency response and site control methods to be employed. All employees will be informed of the potential carcinogenic, teratogenic, and mutagenic hazards of toxic chemicals associated with the site and other health hazards. Personnel failing to complete the required training will not be permitted on site. All work site personnel will document their review of the HASP with their

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signature on the Affidavit (Appendix 1).

Medical Surveillance
The contractor shall utilize the services of a physician to perform physical examination of all personnel anticipated to work within the hazardous or transition zones for more than 16 hours during the length of the contract. Personnel will be examined again immediately at the conclusion of field work, or at any time in which excessive exposure is suspected.

7.0 SITE CONTROL

Security
The contractor will be responsible for maintaining site security. Periodic security patrols will be conducted to ensure that adequate security is being maintained. All workers required to be on-site will sign the “Sign in Sheet” and will present proper identification upon entry. Most of the work performed at Site will be within the fenced portion of the site. The entry gate will be secured by chains and padlocks. Warning signs will be attached to the fence to discourage entry by unauthorized personnel. While work activities are being implemented within fenced areas, existing security will be maintained. The SO or alternative SO will brief all visitors of all security and safety plans. A log will be maintained detailing visitors granted access as well as any security breaches encountered.

Work Areas
Construction activities will be performed at several locations throughout the site. The work area is the location in which the actual activity will occur. Only authorized personnel, including personnel conducting the work activities involved, and specialized personnel such as subcontractors, heavy equipment operators, laborers and technicians will be allowed in the work area. Within the work area, the levels of protection will be determined based on the degree of hazard present, as detected by the measurements obtained with the photoionization detector (PID), and/or other activity-specific monitoring equipment.

Work Zones
Work zones will be defined with the Engineer’s approval prior to the commencement of work activities and be clearly marked off with traffic cones and/or caution tape. These work zones will limit equipment, operations and personnel in the areas as defined below:

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Exclusion Zone - This shall include all areas where potential environmental monitoring has shown or is suspected that a potential chemical hazard may exist to workers. The level of PPE required in these areas shall be determined by the site SO after air monitoring and on-site inspection has been conducted. The area shall be clearly delineated from the decontamination area. As work proceeds, the delineation boundary shall be relocated as necessary to prevent the accidental contamination of nearby people and equipment.

Contamination Reduction Zone - This zone will occur at the interface between the Exclusion Zone “Hot Zone” and Support Zone “Clean Zone” and shall provide a transfer of personnel and equipment to and from the Support Zone to the Exclusion Zone, the decontamination of personnel and equipment prior to entering the Support Zone, and for the physical segregation of the Support Zone and Exclusion Zone.

Support Zone - This area is the remainder of the work site and project site. The function of the Support Zone includes:
- An entry area for personnel, material and equipment to the Exclusion Zone of site operations through the Contamination Reduction Zone;
- An Exit for decontamination personnel, materials and equipment from the “Decon” area of site operations;
- The Housing of site special services;
- A storage area for clean safety and work equipment.

Small decontamination areas may be set up adjacent to the work area to facilitate decontamination of equipment that is reused throughout the field activity.

8.0 STANDARD OPERATING PROCEDURES (SOSP), ENGINEERING CONTROLS

General Work Rules

To protect against the occurrence of accidents and dangerous situations, as well as to minimize

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the potential for emergency events, all on-site personnel shall:

- Attend a daily tailgate safety meeting, read this HASP and sign the Affidavit (Appendix 1) attesting to this, prior to beginning of site activities. The HASP will be reviewed periodically by all on-site personnel conducting field activities. Daily Tailgate Safety Logs are included in Appendix 7.

- Field work will only be conducted during daylight hours unless adequate artificial lighting is provided and community/residential zoning laws permit operation after certain hours.

- No eating, drinking or smoking will be permitted within the exclusion or contamination reduction zone.

- All personnel shall be knowledgeable in the use of the first-aid equipment outlined in Appendix 8. Personnel will be advised of the precautions to be taken against sunburn, heat stroke, frostbite, and hypothermia.

- Only authorized personnel will be allowed on site.

- Fire extinguishers shall be available at the work site for immediate availability in an emergency.

To minimize the possibility of injuries, the following general precautions will be taken:

- All hand and power tools will be maintained in a safe condition.

- Safety guards will be kept in place during use.

- Power tools will be double-insulated and/or properly grounded.

- Walkways will be kept clear of equipment, vegetation, excavated material, or other obstructions.

- Proper work gloves will be provided and used when the possibility of burns, lacerations, or other injury exists.

- Hard hats and work boots shall be worn.

- Employees exposed to vehicular traffic on public roads and working around heavy machinery shall don reflective vests.

- Employees will observe proper lifting techniques and obey sensible lifting limits.

- Heavy equipment will be used in accordance with the manufacturer’s specifications and guidelines.
General SOSP

- Hazardous work areas shall be delineated with signage and caution tape
- All equipment and PPE shall be kept clean and in good repair
- All prescription eyeglasses shall be safety glasses
- HST shall approve all gloves
- Respirators will be changed prior to breakthrough based on observed concentration levels and implemented changeout schedule
- Overboots shall be worn in affected work areas
- All PPE shall be decontaminated accordingly
- Respirators will be individually assigned
- All personnel requiring respirators shall be medically cleared for respirator use and be fit tested prior to commencement of work activities
- 20/40 vision must be achieved in at least one eye
- HST can bar an personnel out of compliance of this HASP
- Disposable or torn outerwear shall not be re-used
- Proper hygiene will be conducted prior to eating, drinking, etc.
- No alcohol or firearms will be permitted on site
- HST shall determine if personnel on medication is fit for work as directed by personnel’s personal physician
- All equipment and personnel required to monitor and control air emissions will be provided.

Health and Safety Responsibilities

All Project Personnel are responsible for the following:

- Taking all reasonable precautions to prevent injury to themselves and to their fellow employees.
- Implementing the requirements of this HASP and reporting any deviations from the anticipated conditions described herein.
- Performing only those tasks that they believe they can do safely, and immediately reporting any accidents and/or unsafe conditions to the work supervisor.
- Filling out an accident report form included in Appendix 8 and for all injuries regardless
of severity. The form will be submitted to the work supervisor. Subcontractor is required to notify contractor within 24 hours of any work related injury.

**Engineering Controls**

Equipment and personnel require to monitor and control air emissions will be the provided by the Contractor.

## 9.0 PERSONAL PROTECTIVE EQUIPMENT

**Personal Protective Equipment Selection:**

Based on available data, it is anticipated that all field activities will be performed at Level D protection. All personnel will be properly trained and qualified to use the respective level of PPE. Level D

The following Personal Protective Equipment (PPE) for Level D will be necessary for all field personnel on site:

- boots (should be safety toe when working near heavy machinery) in conformance to OSHA 1910.136
- hard hat, in conformance with OSHA 1910.135
- Safety glasses, in conformance to OSHA 1910.133. Prescription eyeglasses used on-site must be ANSI approved safety glasses with sided shields. In the absence of meeting this requirement, prescription eyewear must have protective goggles over them.
- Hearing protection, as needed.
- Reflective vest
- work gloves; and
- dust mask (if required by the activity)
- splash goggles
- two (2) sets of work clothing
- coveralls and/or chemical-resistant outer for those in affected areas, as necessary
- rubber overshoes
- full face mask with appropriate canisters for those in affected areas

If contaminated soil is exposed by any intrusive activity, safety glasses, and overboots will be
used.

Additionally, if and when free phase liquids are encountered, the following equipment will be necessary for all field personnel in the affected work area or dealing with the affected soil material:

- Tyvek (e.g., Saranex) disposable coveralls;
- safety glasses/goggles/face shield;
- chemically resistant overboots; and
- protective gloves.

Level C

An upgrade of PPE to Level C may be necessary for all personnel in the work area when engineering controls do not lower the exposure levels to within acceptable limits. Fit test documentation is required if Level C respiratory protection is to be worn.

The upgrade will consist of donning:

- laminated-type Tyvek (e.g., Saranex) disposable coveralls (if not already donned);
- nitrile or PVC gloves;
- full-face respirator equipped with approved cartridges suitable for expected hazards;
- and, chemically resistant overboots.

Level B

An upgrade of PPE to Level B will be necessary for all personnel in the work area if Level C protection does not adequately protect worker exposure.

The upgrade will consist of donning:

- pressure demand, full-facepiece SCBA or pressure-demand supplied-air respirator with escape SCBA
- inner gloves

10.0 PERSONAL HYGIENE AND DECONTAMINATION
A portable boot and eye wash station will be provided at each hazardous work zone. These stations will be moved as the hazardous locations change. All disposable clothing and cartridges shall be properly disposed of.

In the case of ingesting particulates, it is recommended that the site workers have, at a minimum a separate facility away from site work/excavations equipped with a full wash station, restroom facility, and lunch area. It is generally accepted that ingestion may occur when particulates on the hands are transferred to a food item and then ingested, and that thorough washing prior to meal can remove or eliminate this particular threat of exposure. Furthermore, in much the same way particles may be transferred from hands to food items, particles may be transferred from one body part or area to another. Therefore, thorough washing prior to using restroom facilities is encouraged.

Contaminated Clothing and spent respirator cartridges and other disposable items will be put into drums for proper disposal in accordance with TSCA and RCRA requirements.

11.0 EQUIPMENT DECONTAMINATION

11.1 General

An equipment and worker decontamination area will be set up in a designated area adjacent to the work area. The equipment decontamination procedures described herein include in-the-field and post-field decontamination. Rinse water from equipment that comes in contact with contaminated soil will be contained on site for later disposal.

11.2 Safety Procedures During Equipment Decontamination

1. Personnel will wear the following safety equipment when decontaminating smaller equipment (i.e., shovels):
   - Safety glasses, goggles, and/or a splash shield; and
   - Nitrile or PVC gloves.

2. Personnel will wear the following additional safety equipment when decontamination larger equipment with a high-pressure water/steam decontamination unit (i.e., drill rigs):
   - Tyvek (e.g., Saranex) disposable coveralls;

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- Safety glasses, goggles, and/or a splash shield
- Chemically resistant overboots.
- Hard hat

11.3 Decontamination Procedures

Excavation Equipment (Backhoes, shovels, etc.) - All excavation equipment that has had direct contact with contaminated soil will be decontaminated utilizing high pressure, hot water, and proper detergents before leaving the site. Rinse water from equipment that comes in contact with contaminated soil will be contained on site for later disposal.

1) Potable water scrub to remove excess soil;
2) Potable water rinse; and
3) Air dry

Meters and Probes - All meters and probes that are used in the field (other than those used solely for air monitoring purposes, e.g., PID) will be decontaminated between use as follows:

1) Non-phosphate detergent and water scrub to remove visual contamination;
2) Potable water rinse; and
3) Air dry

Disposal Method

PPE solids (e.g., disposable gloves, disposable clothing, and other disposable equipment) and all polyethylene sheeting used for decontamination purposes will be containerized and disposed of at permitted facilities accepting such waste. Rinse water generated during decontamination of equipment or PPE that comes in contact with contaminated soil or water will be contained in properly labeled drums, on site, for later disposal as necessary and as directed by the Department.

12.0 AIR MONITORING PROGRAM, COMMUNITY PROTECTION PLAN

Real-time air monitoring for VOCs and particulates in the work zone and at the perimeter of the work area will performed during work activities. The following describes the air monitoring plan for the work zone and perimeter areas during intrusive and non-intrusive activities.

Air Monitoring Program - Work Zone (All Intrusive Activities)

- VOCs will be monitored in the breathing zone of the work area with real-time instrumentation

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prior to personnel entering the area. Sampling at the hazardous work site will be conducted on a continuous basis. Any departures from background will be reported to the SO prior to entering the area. The SO will determine when and if operations will be shut down.

- Real-time air monitoring shall be conducted by a minimum of one dedicated person with communication to the foreman when intrusive activities (such as excavation, tank removal, soil treatment, demolition) are performed in an exclusion zone.
- Air monitoring equipment will be operated by personnel trained in the use of specific equipment provided and will be under the control of the SO. A log of the location, time, type and value of each reading will be maintained. Copies of log sheets will be provided on a daily basis to the Engineer’s representative.

**Perimeter Air Monitoring / Community Protection Plan**

Four (4) perimeter air monitoring stations shall be utilized to collect data to document the amount if any, of particulate matter less than 10 microns in diameter (PM10) or VOC concentrations greater than 25 ppm along the perimeter of the work area. For security, access, and air flow reasons, the perimeter air monitoring station shall be 15 feet within the Site temporary fencing but no closer than 10 feet from the fencing. Every effort will be made such that each of the perimeter air monitoring stations shall be located so that it is not shielded or otherwise obstructed from collecting samples representative of the air leaving the Site. The perimeter air monitoring station shall be established upwind and downwind of the active work area. At least one air monitoring station shall be established upwind of the active work area.

**Duration**

Air monitoring shall be continuous during activities in the active work area. Air monitoring shall begin at least 30 minutes before work begins in the active work area and continue for at least 60 minutes after work ceases.

**Equipment**

Air monitoring at each station shall be conducted with the direct reading instrument for VOC concentration, MiniRAE 2000. Particulate matter will be documented using DataRAM 4 – Model DR-4000 real-time airborne particulate concentration and size measurement monitors.

A weather station or wind direction indicator will be erected in the work area.

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RECORDS
The readings of the air monitoring instruments shall be recorded at least every 30 minutes during instrument operation. These records as well as the records of calibration, according to the instrument manufacturer’s instructions, shall be available for inspection.

ACTION LEVELS

Vapor Emission Response Plan:
If PID monitoring readings exceed 5 ppm above background, work activities shall be halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background, work activities may resume. If the organic vapor levels are greater than 5 ppm over background but less than 225 ppm over background at the perimeter of the work area, activities may resume provided the organic vapor level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities shall be shutdown and engineering controls will be initiated as detailed in Section 13.

Major Vapor Emission:
If any organic vapor greater than 5ppm above background are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property, all work will be halted. Should organic vapors not subside to 5 ppm above background after halting work or abating the emissions source, the Major Vapor Emission Response Plan will be immediately set in Place.

The Major Vapor Emission Response Plan includes the following:

- Notification of all Emergency Contacts included in Section 14
- The SO will notify the local police
- Frequent air monitoring conducted at 30 minute intervals within the 20 Foot zone until two consecutive readings below action levels are recorded. At this point the SO will be notified and air monitoring may halted or modified.
Particulates shall be continuously monitored at four (4) documentation sampling stations. If the downwind PM10 level exceeds the particulate level of 150 ug/m³ for more than 15 minutes, dust suppression techniques shall be employed to reduce the level at the perimeter to below 100 ug/m³ within 15 minutes.

**DUST SUPPRESSION METHODS**

Every effort will be made to minimize the generation of dust. Appropriate methods consist of:
- Use of tarps or polyethylene sheeting to cover disturbed areas and stockpiled materials.
- Limiting the amount of exposed areas.
- Water spray.
- Manufactured dust suppressing foams or agents.

**Table 12-1 Action Levels for Work Zone Perimeter Monitoring**

<table>
<thead>
<tr>
<th>HAZARD</th>
<th>Monitoring Method</th>
<th>Action Level</th>
<th>Protective Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulates</td>
<td>Particulate Monitor</td>
<td>150 ug/m³ greater than upwind particulate level</td>
<td>Stop work, initiate engineering controls.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.5 times background and/or 150 ug/m³</td>
<td>Stop Work, evacuate work area, and initiate integrated work zone and perimeter air sampling and engineering controls.</td>
</tr>
<tr>
<td>Volatiles</td>
<td>Photo Ionization Detector</td>
<td>&gt;5 ppm</td>
<td>Initiate engineering controls, continue operations, workers use respirators</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;25 ppm</td>
<td>Stop Work, evacuate work area, and initiate integrated work zone and perimeter air sampling and engineering controls.</td>
</tr>
</tbody>
</table>

The SO or alternate will be designated to perform air monitoring. All readings will be recorded by hand in the field notebook and transcribed and be available for State (NYSDEC) personnel.

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review. All meters used for air monitoring will be checked against standard gas concentrations daily and calibrated, if necessary by the designated SO. A calibration log will be kept with each instrument used for air monitoring.

The work area shall be foamed should odor complaints be received. Other masking agents or control methods may be used upon Engineers review. Odor suppression will be utilized each day a complaint is received.

In accordance with the current OSHA noise regulation, 29 CFR 1910.95, the 8-hour occupational noise PEL for most occupational settings is 90 dBA, and the action level is 85 dBA.

A good hearing protection device (HPD) is an excellent means of attenuating noise exposure to workers even before engineering or administrative controls are implemented, or in the event that engineering and administrative controls are not feasible, or unable to adequately reduce noise exposure. Important considerations in choosing the appropriate HPD are the level and dominant frequencies of noise present before intervention, the noise reduction rating (NRR), compatibility with other safety equipment, ease of use, cost, and comfort. In order to be effective, the HPD must be used.

Due to the nature of the proposed excavation and drilling work at the subject site, this HASP requires the use of an appropriate HPD (e.g., foam earplugs or earmuffs, or a combination of the two) during on-site operations.

13.0 EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS

Site Communications
Communications on-site will be conducted through verbal communications. When out of audible range, verbal communications may be assisted using portable telephones and personal pagers.

First-Aid supplies will be located within the contamination reduction zone. The first-aid equipment list is included in Appendix 8. An emergency contact telephone list has been included in Section 14.0.

Safety equipment in addition to the PPE may be required depending upon the specific site.

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activity. A list of safety equipment that may be required is included in Appendix 8.

14.0 EMERGENCY RESPONSES/CONTINGENCY PLAN AND PROCEDURES

14.1 General

During work the contractor will monitor the quality of the air in and around each active hazardous operation. Immediate access to emergency vehicles shall be granted should an emergency arise. The SO will be made aware of any injured person. The SO will assess the situation. If necessary they will consult with a physician and arrange for an ambulance.

An Emergency Contact List is provided below:

Fire Department (City of Glen Cove) 911
Police Department 911
Ambulance 911
South Nassau Community Hospital 4513-632-3000
New York Poison Control 4513-542-2323
Chemical Emergency Advice (CHEMTREC) 4513-424-9300
Nassau County Department of Health 4513-227-9697
NYSDEC Region 1 Office 631-444-0350
New York State Department of Health 866-881-2809
Utility one call center 800-272-4480
Federal
  National Response Center 800-424-8802
  National Poison Control 800-926-1253

14.2 Fire Prevention

To protect and prevent against accidental fire hazards, safe work practices will be followed and:

1. Fire extinguishers shall be available in each vehicle and system shed and should only be used in accordance with the manufacturer's specifications and guidelines.
2. The Health and Safety Officer shall notify the Fire department, Engineer and NYSDEC in the

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event that a fire cannot be controlled by the available on-site equipment.

3. System electric shall satisfy all National Electric Code (NEC) criteria.

4. Smoking is prohibited in the exclusion and contamination reduction zone.

Should a fire arise, the SO shall be made immediately aware and notify the local fire authority. The air downwind will be monitored immediately in order to protect workers and the nearby community.

**14.3 Major Vapor Emission Response Plan**

Local authorities and emergency agencies will be informed, if necessary, of the purpose, schedule and scope of the construction activities 5 days prior to the initiation of construction. The exclusion zone will be delineated and air monitoring activities started prior to invasive work. Results of air monitoring at the perimeter of the exclusion zone will be monitored by the Health and Safety Officer and recorded in the on-site logbook. All work activities shall be halted and the Engineer notified if any of the following levels of organic vapors are exceeded at the exclusion zone perimeter:

- Organic vapor levels greater than 25 ppm
- Explosive atmosphere 10% of the lower explosive limit

If any of the above conditions persists after cessation of work activities, and cannot be alleviated by the implementation of engineering controls, then the following contingency plan shall be placed into effect:

- All Emergency Contacts listed in Section 14.1 will be notified.
- The local police authorities shall be immediately contacted by the SO and advised of the situation. Coordinate with local officials to arrange for notification and evacuation of the surrounding community.
- Frequent air monitoring shall be conducted at 30 minute intervals with the 20 foot zone (within 20 feet of the nearest residential or commercial structure). If 2 successive readings below action levels are measured, air monitoring may be halted or modified by the SO.
14.4 Personal Injury Plan

In the event of a medical emergency in which Hospital / Emergency care is necessary, personnel will be taken to the nearest Hospital. A hospital direction map is included below and has also been provided as Appendix 11.

Driving directions to South Nassau Community Hospital

Suggested routes

1. 8 mins
   NY-27 W/Sunrise Hwy
   3.8 mi

2. 9 mins
   W Merrick Rd
   3.5 mi

3. 9 mins
   NY-27 W/Sunrise Hwy and Merrick Rd
   3.8 mi

   435 S Main St
   Freeport, NY 11520

   1. Head north on S Main St toward Ray St

   2. Continue onto Henry St

   3. Turn left at NY-27 W/Sunrise Hwy

   4. Turn left at N Oceanside Rd

   5. Take the 2nd left onto Merrick Rd

   6. Take the 1st right onto Mt Ave

South Nassau Community Hospital
1 Healthy Way
Oceanside, New York 11572

15.0 HEAT / COLD STRESS

Heat Stress

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One of the most frequently encountered problems associated with operations conducted under PPE Safety Level C is heat stress. Heat stress manifests itself in two forms: heat stroke and heat exhaustion. Depending on ambient conditions, the worker and the work being performed, heat stress can adversely affect a worker in as little as 15 minutes. This is especially important as ambient temperatures exceed approximately 89°F at high humidity.

Heat stroke is a much more dangerous form of heat stress. Symptoms of heat stroke include high body temperatures and red or flushed hot, dry skin. There may be dizziness, nausea, headache, rapid pulse, and unconsciousness. First-aid for all forms of heat stress includes cooling the body by removing PPE, moving to a safe area, and allowing the worker to rest in a cooler environment. Heat stroke is a critical medical emergency. If this condition is suspected, dial 911 immediately and move the affected worker to a cool area in preparation for transport to the nearest emergency medical facility.

To guard against injury by heat stress, the following control measures will be employed in hot weather:

Provision for adequate liquids to replace lost body fluids. Employees must replace water and salt lost through perspiration.

Employees will be encouraged to drink more than the amount required to satisfy thirst, since thirst satisfaction is not an accurate indicator of adequate salt and fluid replacement. Replacement fluids can be a 0.1 percent salt solution, although salt solutions are not necessary for acclimatized personnel as most balanced diets contain sufficient salt. Commercial mixes such as Gatorade or Quick Kick, or a combination of these with fresh water are readily available sources for replacement fluid.

- Establishment of a work regimen that will provide adequate rest periods for cooling down. Rest breaks are to be taken in a cool, shaded area during hot weather.
- Employees shall not be assigned other tasks during rest periods.
- All employees shall be informed of the importance of adequate rest, acclimation, and proper diet in the prevention of heat stress.

Frostbite

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Frostbite may be categorized into three types:

1. Frostbite or incipient frostbite characterized by sudden blanching or whitening of the skin.
2. Superficial frostbite - skin has a waxy or white appearance, is firm to the touch but tissue beneath is resilient.
3. Deep frostbite - tissues are cold and hard indicating an extremely serious injury.

Signs and symptoms of frostbite include:
- The skin changes to white or grayish-yellow in appearance.
- Pain is sometimes felt early but subsides later (often there is no pain).
- Blisters may appear later.
- The affected part feels intensely cold and numb.
- The person frequently is not aware of frostbite until someone tells him or her that they observe the pale, glossy skin.

As time passes, the affected worker may become confused, stagger, experience eyesight impairment, become unconscious, and breathing may stop.

First-aid frostbite will include protecting the frozen area from further injury, bringing the victim indoors, and maintaining respiration according to the first-aid procedures. Warming the affected area with warm water should only be conducted under the direction of a physician. Medical assistance should be obtained immediately.

Frostbite may be prevented by the use of insulated gloves, socks and other protective clothing capable of keeping moisture away from the skin. All protective clothing should be chosen so that it is compatible with any chemical-resistant clothing required for the site activities involved.

16. LOGS, REPORTS, AND RECORD KEEPING

The SO will brief all potential visitors prior to granting access to the site. All visitors will be required to sign a visitors log.

All workers will be required to sign a tailgate safety log at the end of each morning tailgate safety meeting.

Should an emergency or accident arise, the SO will notify the Engineer immediately and submit within 24 hours a written report detailing the occurrence.

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Daily Work Reports will be compiled detailing work performed, level of PPE, air monitoring results, safety related problems, and corrective actions.

17.0 CONFINED SPACE PROCEDURES

By OSHA definition, 29 CRF 1910.146(b), a confined space is "a space that is (1) is large enough and so configured that an employee can bodily enter and perform assigned work; and (2) has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and (3) is not designed for continuous employee occupancy." If encountered, any confined space entry will be performed by only individuals that have been trained and successfully completed OSHA course 1910.146. Any confined space entry shall be in strict accordance to this protocol and no deviation shall be made.
Appendix 1

Affidavit

I, ___________________________ (name), of ____________________________ (company name) have read the Health and Safety Plan (HASP).

I agree to conduct all on-site work in accordance with the requirements set forth in this HASP and understand that failure to comply with this HASP could lead to my removal from this site.

Signed:

______________________________
Date: ________________________
Robert Gimbel
Senior Environmental Technician

Mr. Gimbel has been employed with EnviroTrac for thirteen (13) years and is a Senior Environmental Technician. Specific experience includes: environmental compliance audits of petroleum systems and maintenance facilities, groundwater and soil sample collection, environmental data collection, Operation & Maintenance (O&M) of soil and ground-water remediation systems, UST and AST removals and closures, installation of remediation systems, waste sampling and management, pilot testing, and operation of mobile remediation equipment.

Robert currently is responsible for the construction and O&M of complex remediation equipment including soil vapor extraction, air sparging, high vacuum extraction, oxygen diffusion, LNAPL recovery, groundwater extraction and treatment. Robert coordinates all field activities, performs routine preventative maintenance, performs facility audits, and troubleshoots equipment failures.

As Site Safety Supervisor, Mr. Gimbel has been responsible for the overall safety at multiple construction and demolition projects. His duties have included the oversight of subcontractors and his crew. He has been the lead for on site safety meetings, and insured that all personnel are in compliance with the safe work practices outlined in the site specific health and safety plan.

Professional Certifications / Training
OSHA Certification, 40 hr Health & Safety HAZWOPER Training

OSHA Certification, 8 hr Refresher HAZWOPER

OSHA Certification – Confined Space Entry and Supervision

OSHA 29 CFR 126 Certification, 30 hr Construction H&S
Railway Protection Training, 49 CFR Part 214 Subpart C; 4-9-07

RAD Worker I Radioactive Waste Handling Training (BNL)

Red Cross CPR & First Aid Certification

Smith System Drivers Safety Training

Professional Highlights and Selected Projects

Environmental Compliance Audits: Mr. Gimbel is experienced in conducting Environmental Compliance Audits at retail petroleum sites in New York. The audits included a check on procedures, monitoring equipment, UST's, and dispensers at each site to determine compliance with applicable state and federal guidelines. Responsibilities included the identification of compliance issues, photo-documentation, data entry and reporting of results.

Groundwater and Soil Sampling: Mr. Gimbel has experience collected soil samples using various techniques including hand augering, backhoes, and direct push drilling technologies. He also has sampled hundreds of ground-water monitoring wells for Major Petroleum and Industrial clients throughout the Northeast. Well purging and sampling procedures were in accordance with both state and federal ground-water sampling guidelines. He is familiar with a variety of sampling pump equipment operation, maintenance, troubleshooting and repairs.

NYSDEC Project (Division of Environmental Remediation, Region 3): Mr. Gimbel was part of a team that installed multiple soil and ground-water remediation systems at various active petroleum spill sites. These systems were installed to remediate groundwater impacted with MTBE. Robert was responsible for the excavation, trenching, and subsurface piping along roadways and crossing multiple utilities. Responsibilities included the traffic control and setting up signage and barriers as per the approved traffic control plan.

New York City Department of Design and Construction (DDC) Remediation Projects: Mr. Gimbel
has worked at more than 20 NYC owned properties including police precincts, firehouses, sanitation yards and parks installing soil and groundwater remediation systems. Remediation systems include Pump & Treat, Soil-Vapor Extraction, Bioremediation, and High Vacuum Extraction (Bioslurping). These projects have a high safety requirement due to the on-going activities and pedestrian traffic associated with the sites. Among Robert's responsibilities are to insure that access to sensitive areas is restricted to authorized personnel, and that the work does not interfere with emergency workers.

Robert has participated in approximately 25 remediation system demolition and site closure projects for the NYCCDC which have included contaminated soil excavation, operation of fork lifts, supervision of boom trucks, removal of piping, electrical conduit, small buildings, and equipment. The work also included the restoration of the sites which consisted of concrete and asphalt work, brick work, and landscaped areas.

**Radioactive Facility Demolition:** Mr. Gimbel was an Equipment Operator, and Laborer for this project. The team at EnviroTrac successfully completed the demolition and removal of a spent fuel canal as part of the Graphite Research Reactor Decommissioning Project at Brookhaven National Laboratory in Upton, NY. The project consisted of carefully cutting away and excavating an approximate 30-foot section of the reinforced concrete canal structure that was attached to the reactor building and removal of associated radioactively contaminated soils to 25-feet deep. Robert completed a 24-hour RAD Worker and Construction Safety course prior to the initiation of work and participated in daily safety meetings at the facility. This project was completed in October 2005.
Theodore F. Masters

Mr. Masters has over 12 years experience as a Hydrogeologist and Health and Safety manager in the environmental consulting field and has been involved in managing health and safety operations at hazardous waste and petroleum release sites at varying levels of assessment, containment and remediation. He has extensive experience in health and safety operations for: hydrogeologic investigations and site characterization; phase I and II property assessments; remedial investigation/feasibility studies; soil and ground-water remediation systems at active and closed underground storage tank facilities; risk assessment site evaluation; and, Federally mandated agricultural chemical soil and ground-water monitoring studies design and implementation.

As the Senior Project Manager for EnviroTrac Ltd., Mr. Masters is responsible for the overall management and health and safety of personnel conducting soil and ground-water investigations, selecting remedial technologies and installing and operating remediation systems for over 50 active retail service stations in New York City. Some of the systems include soil-vapor extraction (SVE), SVE / air sparging, and pump and treat.

Education:

Candidate MS Hydrogeology, State University of New York at Stony Brook, 2000.
BA Geology, State University of New York at Binghamton, 1986.
AS Conservation, Herkimer County Community College, 1982.

Professional Certifications:

American Red Cross Community First Aid and Safety Certification
American Red Cross Adult, Infant, and Child CPR Certification
Professional Geologist, PG-002657-G, Commonwealth of Pennsylvania
Licensed Environmental Professional, State of Connecticut Dept. of Environmental Protection
Licensed Subsurface Evaluator, Lic.#0015659, State of New Jersey Dept. Environmental Protection
OSHA Certification, 40 hr Health & Safety Training at Hazardous Waste Sites

Project Experience:

- Managed health and safety operations at over 35 soil and ground-water investigations at various utility companies in New York. Responsibilities included coordinating with the NYSDEC, the Fire Marshal, the building and health department.

- Site Health and Safety Officer at a PCB contaminated facility in West Virginia. Responsibilities included preparation of health and safety plan, managing maintenance of respiratory protection equipment and confined space entry permitting.

- Prepared health and safety plans at various soil and ground-water remediation systems in NY. Remediation systems include: product recovery; soil-vapor extraction with and without vapor treatment using catalytic oxidation or carbon adsorption; air sparging; pumping and treatment using oil/water separation, air stripping and carbon adsorption; bioremediation; and, dual phase extraction using high vacuum technology.

- Performed health and safety oversight at over 40 UST and UST system closures in NY, NJ and CT. Responsibilities included coordinating with the State, local health departments, local Fire Marshals and contractors to remove petroleum USTs.
Appendix 3
Current OSHA 1910.120 Training Certificates for Site Personnel
(To be provided)
Appendix 4
Amendment Sheet

Site Name: ____________________________________________

Site Location: __________________________________________

Project Manager: _________________________________________

HSO: _________________________________________

Description of changes of field activities and hazards.

Requested By: __________________________ HSO Approval: ______________________

Date: __________________________ Date: __________________________
Appendix 5

The main safety emphasis is on preventing personal contact with gasses, soils, sludge and water. Towards that end, the following rules have been established.

Regulations
A. Eating on the site is PROHIBITED except in specifically designated areas.
B. All project personnel on the site must wear clean or new gloves daily.
C. If you get wet to the skin, you must wash the affected area with soap and water immediately.
   If cloths in touch with the skin are wet, these must be changed.
D. You must wash your hands and face before eating, drinking or smoking.

Recommendations
A. Do not smoke with dirty hands; better yet, do not smoke.
B. Check personal habit which could get soil or water into your body. Examples: food off your fingers, wiping your face or nose with a dirty hand or running a dirty hand through your hair.
C. Check that any regularly worn clothing is clean. Examples: dirty watchbands, neck chains and a dirty liner on your safety helmet. Safety practices with toxic chemicals can be summed up with a few words:
   • Don’t breathe in chemical odors and don’t touch the water, soil, and sludge.
   • If you do get dirty or wet, clean up as soon as possible.
Appendix 6

SAFETY REMINDER FOR TOXIC CHEMICALS

- Chemicals can't cause problems unless you breathe, eat or put them on your skin.

Chemicals in Gases, Soils, Sludge and Water

- Don't let them go into your mouth, nose, or stay on your skin.

- Use common sense personal hygiene
  A. Don't eat or drink on the site.
  B. No smoking in the work area.
  C. Wear protective clothing.
  D. Keep your hands clean whenever practical. Wash before eating, drinking, or smoking.
  E. Don't carry chemicals home to your family. (For example, on clothing, mud in the car, dirty hands.)
  F. Follow strictly to the HASP.
Appendix 7

Daily Tailgate Safety Meeting Log
(to be completed on site)

Site Name

Location

Weather

Topics

Employee Names:

Signatures
Signature of SS (or designee)  Date
FIRST-AID EQUIPMENT LIST

- First-Aid Handbook
- A Standard First-Aid Kit, containing:
  - Compresses
  - Gauze and gauze roller bandage
  - Triangular bandages
  - Eye dressing packet
  - Ammonia inhalant
  - Salt or other emetic
  - Band aids
  - Tape
  - Scissors
  - Tweezers
  - First-aid cream
  - Antiseptic wipes
  - Instant cold packs
  - Eye irrigation solution
  - Burn cream
  - Sterile gloves
  - Rescue blanket
  - Non-aspirin pain reliever
EMERGENCY EQUIPMENT LIST

- Electrolyte replacement drink, stored in a clean area and used to prevent heat stress
- Type ABC multipurpose fire extinguisher
- Portable emergency shower / eyewash station
- Washable coveralls
- Glove (outer and inner)
- SCBA
- Face shields
- Safety glasses
- Respirators and appropriate cartridges
- Disposable coveralls
- Chemical-resistant boots and boot covers
- Hard hats
Appendix 9

ACCIDENT REPORT FORM

Name of Reporter: __________________________ Date: __________________________

Name(s) of Victim(s): __________________________ Date of Accident: __________________________

Witnesses: __________________________ Time of Accident: __________________________

Location on Accident: __________________________

Description of Accident: __________________________

Cause of Accident: __________________________

Persons/Agencies Notified Time Time of Arrival (if Applicable)

Corrective Actions: __________________________

Duration of Accident: __________________________

Comments: __________________________
Appendix 10

METAL ETCHING SITE

HOSPITAL DIRECTIONS & LOCATION MAP

Hospital Address and Emergency Phone #’s

South Nassau Community Hospital (516)632-3000
Directions to South Nassau Community Hospital
1 Healthy Way, Oceanside, New York 11572 - (516) 632-3000
3.8 mi - about 8 mins

http://maps.google.com/maps?f=d&source=s_d&addr=435+South+Main+Street,+Freeport... 10/14/2010
435 S Main St, Freeport, NY 11520

1. **Head north on S Main St toward Ray St**  
   About 2 mins  
   go 0.6 mi  
   total 0.6 mi

2. **Continue onto Henry St**  
   About 1 min  
   go 0.3 mi  
   total 0.9 mi

3. **Turn left at NY-27 W/Sunrise Hwy**  
   About 4 mins  
   go 2.6 mi  
   total 3.5 mi

4. **Turn left at N Oceanside Rd**  
   About 1 min  
   go 0.2 mi  
   total 3.7 mi

5. **Take the 2nd left onto Merrick Rd**  
   go 260 ft  
   total 3.8 mi

6. **Take the 1st right onto Mt Ave**  
   go 23 ft  
   total 3.8 mi

**South Nassau Community Hospital**  
1 Healthy Way, Oceanside, New York 11572 - (516) 632-3000

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map date: 2010

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

http://maps.google.com/maps?f=d&source=s_d&saddr=435+South+Main+Street,+Free... 10/14/2010
APPENDIX C

MONITORING WELL CONSTRUCTION DETAILS
## MONITORING WELL CONSTRUCTION LOG

**Project Name & Location:** Metal Etching

**Project No.:** 0011475.2

**PVC Casing Elevation (feet):** 5

<table>
<thead>
<tr>
<th>Drilling Company</th>
<th>Foreman</th>
<th>Date and Time of Completion</th>
<th>Drilling Company Foreman</th>
<th>Date and Time of Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delta Well And Pump</td>
<td>Donald G. Dekenipp</td>
<td>7/14/2004 3:00</td>
<td>Delta Well And Pump</td>
<td>Donald G. Dekenipp</td>
</tr>
</tbody>
</table>

**Surveyor:** Mike Mattern

**Geologist:** Donald G. Dekenipp

**Date and Time of Completion:** 7/14/2004 3:00

**Top of Protective Steel Cap Elevation (feet):** 4.96

**Top of Riser Pipe Elevation (feet):** 3.95

### CONSTRUCTION DETAILS

**Generalized Soil Description**

<table>
<thead>
<tr>
<th><em>Elevation (feet)</em></th>
<th><strong>Depth (feet)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>4.96</td>
<td>0.00</td>
</tr>
<tr>
<td>3.96</td>
<td>1.00</td>
</tr>
<tr>
<td>-8.04</td>
<td>13.00</td>
</tr>
<tr>
<td>-10.04</td>
<td>15.00</td>
</tr>
<tr>
<td>-14.04</td>
<td>19.00</td>
</tr>
<tr>
<td>-16.04</td>
<td>21.00</td>
</tr>
<tr>
<td>-26.04</td>
<td>31.00</td>
</tr>
</tbody>
</table>

- **WATER TIGHT CAP WITH LOCK**
- **PROTECTIVE STEEL CASING CEMENTED IN PLACE**
- **BENTONITE SEAL**
- **#1 MORRIE SAND**
- **BENTONITE SEAL**
- **RISER**
- **WELL SCREEN**
  - **SLOT SIZE:** .010
  - **DIAMETER:** 1"
  - **MATERIAL:** PVC
- **SAND PACK**
  - **TYPE:** #1 Morrie Sand
- **BOTTOM CAP**

**Remarks:** This well is one in a cluster of two installed in the same bore hole.

---

* Elevation (feet) above mean sea level unless noted
** Depth in feet below ground surface
# Monitoring Well Construction Log

**Project Name & Location:** Metal Etching  
**Site Number:** 0011475.2

## Project Details

- **Drilling Company Foreman:** Donald G. Dekenipp
- **Surveyor:** 9/13/04 \ 13:54  
  - **Top of Protective Steel Cap Elevation (feet):** 7.41
- **Geologist:** 10/7/2004 7:53  
  - **Top of Riser Pipe Elevation (feet):** 7.07

### Generalized Soil Description

<table>
<thead>
<tr>
<th>Elevation (feet)</th>
<th>Depth (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.07</td>
<td>0.00</td>
</tr>
<tr>
<td>6.07</td>
<td>1.00</td>
</tr>
<tr>
<td>5.07</td>
<td>2.00</td>
</tr>
<tr>
<td>4.07</td>
<td>3.00</td>
</tr>
<tr>
<td>-5.93</td>
<td>13.00</td>
</tr>
</tbody>
</table>

**Remarks:**

* Elevation (feet) above mean sea level unless noted  
** Depth in feet below ground surface

---

**Construction Details**

- **Ground Surface:** 7.07 feet
- **Water Tight Cap with Lock:** 6.07 feet
- **Protective Steel Casing Cemented In Place:** 5.07 feet
- **Bentonite-Cement Grout:** 4.07 feet
- **Riser Seal:** 3.00 feet
- **Riser:** 2.00 feet
- **Well Screen:** 1.00 feet
- **Diameter:** 2"  
  - **Material:** PVC
- **Sand Pack:** 1.00 feet
  - **Type:** #1 Morrie Sand
- **Bottom Cap:** 0.00 feet

---

**Bottom of Borehole**

---

---
**MONITORING WELL CONSTRUCTION LOG**

**Project Name & Location**
Metal Etching

**Project No.**
0011475.2

**Projecting Company**
Wellsite

**WELL:**
520 Broadhallow Road, Melville, NY 11747

**MONITORING WELL CONSTRUCTION LOG**

<table>
<thead>
<tr>
<th>Water Level(s)</th>
<th>Site Elevation Datum (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Metal Etching</th>
<th>0011475.2</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Delta Well And Pump</th>
<th>5.48</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Date and Time of Completion</th>
<th>9/13/04 \ 14:59</th>
</tr>
</thead>
</table>

**CONSTRUCTION DETAILS**

**Generalized Soil Description**

<table>
<thead>
<tr>
<th>*Elevation</th>
<th>**Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.16</td>
<td>0.00</td>
</tr>
<tr>
<td>4.16</td>
<td>1.00</td>
</tr>
<tr>
<td>3.16</td>
<td>2.00</td>
</tr>
<tr>
<td>2.16</td>
<td>3.00</td>
</tr>
</tbody>
</table>

**Remarks**

* Elevation (feet) above mean sea level unless noted
** Depth in feet below ground surface
## Monitoring Well Construction Log

### ERM-Northeast
520 Broadhollow Road, Melville, NY 11747

### WELL: MW-06

#### Project Name & Location
- **Metal Etching**: 0011475.2
- **Delta Well And Pump**

#### Drilling Company
- **Foreman**: Donald G. Dekenipp
- **Surveyor**: Geoist
- **Date and Time of Completion**: 9/14/04 11:40

#### Monitor Well Construction Log

<table>
<thead>
<tr>
<th>Generalized Soil Description</th>
<th><em>Elevation</em></th>
<th><strong>Depth</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>GROUND SURFACE</td>
<td>5.37</td>
<td>0.00</td>
</tr>
<tr>
<td>WATER TIGHT CAP WITH LOCK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROTECTIVE STEEL CAP FLUSH WITH GROUND</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BENTONITE-CEMENT GROUT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BENTONITE SEAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RISER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIAMETER: 2”, MATERIAL: PVC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WELL SCREEN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLOT SIZE: .010, DIAMETER: 2”, MATERIAL: PVC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAND PACK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TYPE: #1 Morrie Sand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOTTOM OF BOREHOLE</td>
<td>-7.63</td>
<td>13.00</td>
</tr>
<tr>
<td>BOTTOM CAP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Remarks

* Elevation (feet) above mean sea level unless noted
** Depth in feet below ground surface
# Geologic Log and Well Construction Details

**MW-08 D/S**

**EnviroTrac Ltd.**

5 Old Dock Road, Yaphank, New York 11980

<table>
<thead>
<tr>
<th>Client</th>
<th>Depth to Water (ft. from measuring pt.)</th>
<th>Str Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYSDEC Haz Waste</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Name:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mailing Address:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>437 South Main Street, Freeport, NY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drilling Company:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AARCO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drilling Method:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geoprobe equipped w/rcrly auger</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date Started:</td>
<td>Date Completed:</td>
<td>Measuring Point Elevation</td>
</tr>
<tr>
<td>11/10/03</td>
<td>11/10/11</td>
<td></td>
</tr>
<tr>
<td>Completion Depth:</td>
<td>ENVIRONMENTAL Geologist:</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Michael Rose</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WELL CONSTRUCTION</th>
<th>DEPTH (feet below grade)</th>
<th>RECOVERY</th>
<th>BLOWN</th>
<th>PID</th>
<th>SOIL DESCRIPTION</th>
</tr>
</thead>
</table>
| MW-03/5 | 0 | NA | NA | NA | 0'-0" (Pre-cleaned)  
fill material, concrete and brick alternated with brown to black coarse to medium grained sand. Dry to moist, pellucide odor |
| | 1 | NA | NA | 31.2 | 0'-30"  
fill material, brown to black medium to fine grained sand with some gravel. Wet at 0" |
| | 2 | NA | NA | NM | |

**Legend:**

- Concrete
- Bentonite Seal
- Gravel Pack
- Screen
- End Cap

**Well Construction Details:**

- Bottom of Well: 31" - 34"
- Screen material: 7", 10-slot schedule 40 PVC
- Casing material: 2" schedule 40 PVC
- Sand Pack: 10" filter pack
- Bentonite Seal: 1'-4"
- Surface Seal: 10" bolts down standpipe

**NOTES:**

- NTS - Not to Scale
- NA - Not Applicable
- NM - Not Measured
- DTW - Depth to Water
- DTP - Depth to Product
# Geologic Log and Well Construction Details

**MW-09 S/D**  
*EnviroTrac Ltd.*  
5 Old Dock Road, Yaphank, New York 11980

<table>
<thead>
<tr>
<th>Depth to Water (ft. from measuring pl.)</th>
<th>Site Elevation</th>
<th>Moisture Point Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>DTW</td>
<td></td>
</tr>
</tbody>
</table>

### WELL CONSTRUCTION DETAILS

<table>
<thead>
<tr>
<th>WELL CONSTRUCTION (NTS)</th>
<th>DEPTH (feet below grade)</th>
<th>SAMPLES</th>
<th>SOIL DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW-009/35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>NA</td>
<td>NA</td>
<td>0'-6' (Pre-cleaned) Fill material, concrete and brick, w/ mixed w/ brown to black coarse to medium-grained sand, Dry to moist, petroleum odor</td>
</tr>
<tr>
<td>10</td>
<td>NA</td>
<td>313.2</td>
<td>6'-30' Fill material, brown to black medium to fine-grained sand w/ some gravel, Wet at 8'</td>
</tr>
<tr>
<td>20</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>NA</td>
<td>NM</td>
<td></td>
</tr>
</tbody>
</table>

### LEGEND

- Concrete
- Bentonite Seal
- Gravel Pack
- Screen
- End Cap

---

**Well Construction Details:**

- **Bottom of Well:** 32' 14"
- **Screen material:** 2" 10-slot schedule 40 PVC
- **Casing material:** 2" schedule 40 PVC
- **Sand Pack:** Manta #1
- **Bentonite Seal:** 1" d-1
- **Surface Seal:** 10" bolt-down manhole

---

*NTS - Not to Scale, NA - Not Applicable, NM - No Measurement, DTW - Depth to Water, DTP - Depth to Product*
# Geologic Log and Well Construction Details

**MW-10S**

**EnviroTrac Ltd.**
5 Old Dock Road, Yaphank, New York 11980

<table>
<thead>
<tr>
<th>Client</th>
<th>NYSDEC Haz Waste</th>
<th>Well Depth</th>
<th>Site Name: Freeport Metal Etching</th>
<th>Address: 455 South Main Street, Freeport, NY</th>
<th>Measuring Point Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Drilling Company: AARCO</td>
<td>Geoprobe equipped w/rotary auger</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Date Blasted: 11/10/2011</td>
<td>Date Completed: 11/10/2011</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Completion Depth: 16'</td>
<td>ENVIROTAC Geologist: Michael Rose</td>
<td></td>
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</table>

## WELL CONSTRUCTION (NTS)

<table>
<thead>
<tr>
<th>Depth (feet below grade)</th>
<th>Recovery (inches)</th>
<th>Blows per 8 inches</th>
<th>PID (ppm)</th>
<th>SOIL DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>6'-30' (pre-cleaning) Fill material, concrete, and brick intermixed with brown to black coarse to medium grained sand. Dry to moist, petroleum odor.</td>
</tr>
<tr>
<td>10</td>
<td>NA</td>
<td>NA</td>
<td>3132</td>
<td>6'-30' Fill material brown to black medium to fine grained sand with some gravel. Wet at 6'.</td>
</tr>
<tr>
<td>20</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Legend**

- Concrete
- Bentonite Seal
- Gravel Pack
- Screen
- End Cap

**Well Construction Details:**

- Bottom of Well: 14'
- Screen material: 2" 10-std schedule 40 PVC
- Grouting material: 2" schedule 40 PVC
- Sand Pack: None #1
- Bentonite Seal: 1'-4'
- Surface Seal: 10" bolt-down method
- Special Note: Deep Well Not Utilized

NTS - Not to Scale
NA - Not Applicable
NTM - Not Measured
DTW - Depth to Water
STP - Depth to Product
# Geologic Log and Well Construction Details

**MW-10D**

**EnviroTrac Ltd.**

5 Old Dock Road, Yaphank, New York 11980

<table>
<thead>
<tr>
<th>Client</th>
<th>NYSDEC Haz Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Name</td>
<td>Freeport Metals Refining</td>
</tr>
<tr>
<td>Address</td>
<td>435 South Main Street, Freeport, NY</td>
</tr>
<tr>
<td>Drilling Company</td>
<td>AARCO</td>
</tr>
<tr>
<td>Method</td>
<td>Geoprobe equipped w/ rotary auger</td>
</tr>
<tr>
<td>Date Started</td>
<td>11/11/2011</td>
</tr>
<tr>
<td>Date Completed</td>
<td>11/14/11</td>
</tr>
<tr>
<td>Completion Depth</td>
<td>32</td>
</tr>
<tr>
<td>Geologist</td>
<td>ENVIROTRAC Geologist</td>
</tr>
<tr>
<td>Michael Rosa</td>
<td></td>
</tr>
</tbody>
</table>

## WELL CONSTRUCTION (NTS)

<table>
<thead>
<tr>
<th>Depth (feet below grade)</th>
<th>Recovery (inches)</th>
<th>Blows per 6 inches</th>
<th>PID</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW-10D 0</td>
<td>NA</td>
<td>NA</td>
<td>NM</td>
</tr>
<tr>
<td>10</td>
<td>NA</td>
<td>NA</td>
<td>NM</td>
</tr>
<tr>
<td>20</td>
<td>NA</td>
<td>NA</td>
<td>NM</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## SOIL DESCRIPTION

- **0'-5'** (Fired CLear):
  - Fill material, concrete and brick intermixed with brown to black coarse to medium grained sand. Dry to moist, petroleum odor.
- **6'-9'**
  - Fill material, brown to black medium to fine grained sand with some gravel. Wet at 6'.

---

**Well Construction Details**

- **Bottom of Well**: 32'
- **Screen material**: 2", 10-schl. schedule 40 PVC
- **Casing material**: 2" schedule 40 PVC
- **Sand Pack**: Mono #1
- **Bentonite Seal**: 1'-4"
- **Surface Seal**: 10" bolt down manhole
APPENDIX D

FIELD FORMS
## SITE-WIDE INSPECTION

<table>
<thead>
<tr>
<th>NYSDEC</th>
<th>Temperature: (F)</th>
<th>(am)</th>
<th>(pm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wind Direction:</td>
<td>(am)</td>
<td>(pm)</td>
</tr>
</tbody>
</table>

### METAL ETCHING SITE

| Weather: | (am) | (pm) |

### NYSDEC Site # 130110

<table>
<thead>
<tr>
<th>Contract #</th>
<th>Arrive at site</th>
<th>(am)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeport, New York</td>
<td>Leave site:</td>
<td>(pm)</td>
</tr>
</tbody>
</table>

### Site Security

- Evidence of vandalism (wells, protective cover damage):
- Evidence of cover system intrusion (ruts, burrows, excavations):
- Evidence of penetrations (poles, posts, stakes):
- General site condition (gates, access, storm drains):

### Additional Comments:
### Asphalt Cover

| Evidence of settlement, rutting, potholes: |
| Evidence of cracking, distortion, or disintegration: |
| Additional Comments: |

### Drainage System

| Evidence of damage to storm drains: |
| Evidence of stockpiles on porous pavement areas: |
| Evidence of ponding on porous pavement areas: |
| Evidence of spilled liquids (well tampering/vent blowout): |
| Additional Comments: |

### Sub-Slab Depressurization Systems

| Are there any new cracks in the slab that have not been sealed? If so, describe: |
| Are there any new cracks in structure walls? If so, describe: |
| Question                                                                 | Answer
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Does system PVC pipe appear to be compromised in any way? If so, describe:</td>
<td></td>
</tr>
<tr>
<td>Does manometer read within range marked?</td>
<td></td>
</tr>
<tr>
<td>Is fan making any abnormal noises?</td>
<td></td>
</tr>
<tr>
<td>Is contact information on SSDS up to date?</td>
<td></td>
</tr>
<tr>
<td>Has the building use changed since the last inspection?</td>
<td></td>
</tr>
<tr>
<td>Has building heating, ventilation and air conditioning changed since the last inspection?</td>
<td></td>
</tr>
</tbody>
</table>

**Inspection Photolog**
<table>
<thead>
<tr>
<th>Well I.D.:</th>
<th>Personnel:</th>
<th>Client:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location: Metal Etching Co., Inc. Site</td>
<td>Well Condition:</td>
<td>Weather:</td>
</tr>
<tr>
<td>Sounding Method:</td>
<td>Gauge Date:</td>
<td>Measurement Ref:</td>
</tr>
<tr>
<td>Purge Date:</td>
<td>Purge Time:</td>
<td></td>
</tr>
<tr>
<td>Purge Method:</td>
<td>Field Technician:</td>
<td></td>
</tr>
</tbody>
</table>

**Groundwater Sampling Purge Form**

**Well Volume**
- A. Well Depth (ft):
- B. Depth to Water (ft):
- C. Liquid Depth (ft) (A-B):
- D. Well Volume (ft):
- E. Well Volume (gal) C*D):
- F. Three Well Volumes (gal) (E3):

**Water Quality Parameters**

<table>
<thead>
<tr>
<th>Time (hrs)</th>
<th>DTW (ft btoc)</th>
<th>Volume (Gal)</th>
<th>Rate (Lpm)</th>
<th>pH (pH units)</th>
<th>ORP (mV)</th>
<th>Temp. (°C)</th>
<th>Cond. (mS/cm)</th>
<th>DO (mg/L)</th>
<th>Turbidity (ntu)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

- Total Quantity of Water Removed (gal): 
- Sampling Time:
- Samplers:
- Split Sample With:
- Sampling Date:
- Sample Type:

**Comments and Observations:**
This form must be completed for each residence involved in indoor air testing.

Preparer’s Name ___________________________ Date/Time Prepared ______________

Preparer’s Affiliation _________________________ Phone No._____________________

Purpose of Investigation _____________________

1. OCCUPANT: Interviewed: Y / N

Last Name: _____________________________ First Name: ___________________________

Address: _______________________________________________________________

County: _____________________________

Home Phone: __________________________ Office Phone: ______________________ 

Number of Occupants/persons at this location _____ Age of Occupants ______________________ 

2. OWNER OR LANDLORD: (Check if same as occupant ___ )

Interviewed: Y / N

Last Name: _____________________________ First Name: ___________________________

Address: _______________________________________________________________

County: _____________________________

Home Phone: __________________________ Office Phone: ______________________ 

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

- Residential
- School
- Commercial/Multi-use
- Industrial
- Church
- Other: _________________

If the property is residential, type? (Circle appropriate response)

- Ranch
- 2-Family
- 3-Family
- Raised Ranch
- Split Level
- Colonial
- Cape Cod
- Contemporary
- Mobile Home
- Duplex
- Apartment House
- Townhouses/Condos
- Modular
- Log Home
- Other: _________________

If multiple units, how many? 

If the property is commercial, type?

- Business Type(s) _____________________________________
- Does it include residences (i.e., multi-use)? Y / N
- If yes, how many? ______

Other characteristics:

- Number of floors______ Building age______
- Is the building insulated? Y / N
- How air tight? Tight / Average / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

- Airflow between floors
- Airflow near source
- Outdoor air infiltration
- Infiltration into air ducts
5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction: wood frame concrete stone brick

b. Basement type: full crawlspace slab other ________

c. Basement floor: concrete dirt stone other ________

d. Basement floor: uncovered covered covered with ________________

e. Concrete floor: unsealed sealed sealed with ________________

f. Foundation walls: poured block stone other ________

g. Foundation walls: unsealed sealed sealed with ________________

h. The basement is: wet damp dry moldy

i. The basement is: finished unfinished partially finished

j. Sump present? Y / N

k. Water in sump? Y / N / not applicable

Basement/Lowest level depth below grade: ___________(feet)
Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

6. HEATING, VENTING and AIR CONDITIONING

Type of heating system(s) used in this building: (circle all that apply –note primary)
- Hot air circulation - Heat pump - Hot water baseboard - Space Heaters -
- Stream radiation - Radiant floor - Electric baseboard - Wood stove -
- Outdoor wood boiler - Other ____________

The primary type of fuel used is:
- Natural Gas - Fuel Oil - Kerosene - Electric - Propane - Solar - Wood - Coal

Domestic hot water tank fueled by: ________________

Boiler/furnace located in: Basement - Outdoors - Main Floor - Other ____________

Air conditioning: Central Air - Window units - Open Windows - None

Are there air distribution ducts present? Y / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.
7. OCCUPANCY
Is basement/lowest level occupied? Full-time - Occasionally - Seldom - Almost Never

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basement</td>
<td>____________________________</td>
</tr>
<tr>
<td>1st Floor</td>
<td>____________________________</td>
</tr>
<tr>
<td>2nd Floor</td>
<td>____________________________</td>
</tr>
<tr>
<td>3rd Floor</td>
<td>____________________________</td>
</tr>
<tr>
<td>4th Floor</td>
<td>____________________________</td>
</tr>
</tbody>
</table>

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / N
b. Does the garage have a separate heating unit? Y / N / NA
c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car)? Y / N / NA
   Please specify _______________
d. Has the building ever had a fire? Y / N When? _______________
e. Is a kerosene or unvented gas space heater present? Y / N Where? _______________
f. Is there a workshop or hobby/craft area? Y / N Where & Type? _______________
g. Is there smoking in the building? Y / N How frequently? _______________
h. Have cleaning products been used recently? Y / N When & Type? _______________
i. Have cosmetic products been used recently? Y / N When & Type? _______________
j. Has painting/staining been done in the last 6 months? Y / N When & Type? _______________
k. Is there new carpet, drapes or other textiles? Y / N Where & When? _______________
l. Have air fresheners been used recently? Y / N When & Type? _______________
   If yes, where vented?
m. Is there a kitchen exhaust fan? Y / N __________________
   If yes, where vented?
n. Is there a bathroom exhaust fan? Y / N __________________
o. Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N
p. Has there been a pesticide application? Y / N When & Type? _______________

Are there odors in the building? Y / N
   If yes, please describe:
   ____________________________________________________________________________________
Do any of the building occupants use solvents at work?  Y / N

(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist)

If yes, what types of solvents are used? ____________________________________________

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No

Yes, use dry-cleaning infrequently (monthly or less) Unknown

Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure?  Y / N Date of Installation:

Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply:  Public Water Drilled Well Driven Well Dug Well Other: _______

Sewage Disposal:  Public Sewer Septic Tank Leach Field Dry Well Other: _______

10. RELOCATION INFORMATION (for oil spill residential emergency)

.a. Provide reasons why relocation is recommended:____________________________________

.b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

.c. Responsibility for costs associated with reimbursement explained? Y / N

.d. Relocation package provided and explained to residents? Y / N
11. FLOOR PLANS
Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

First Floor:
12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings. Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.
13. PRODUCT INVENTORY FORM

Make & Model of field instrument used:

List specific products found in the residences that have the potential to affect indoor air quality.

<table>
<thead>
<tr>
<th>Location</th>
<th>Product Description</th>
<th>Size (units)</th>
<th>Condition*</th>
<th>Chemical Ingredients</th>
<th>Field Instrument Reading (units)</th>
<th>Photo **</th>
<th>Y / N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

BTSA/Sections/SIS/Oil Spills/Guidance Docs/Aiprot04.doc
### Field Air Sampling Form

**Consultant**

**Address**

**Location**

**Sample Location Information:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site ID Number:</td>
<td></td>
</tr>
<tr>
<td>PID Meter Used:</td>
<td>(Model, Serial #)</td>
</tr>
<tr>
<td>Building ID No.:</td>
<td></td>
</tr>
<tr>
<td>Project #:</td>
<td></td>
</tr>
<tr>
<td>Project Name:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Project Manager:</td>
<td></td>
</tr>
</tbody>
</table>

**SUMMA Canister Record:**

<table>
<thead>
<tr>
<th>INDOOR AIR - FIRST FLOOR</th>
<th>INDOOR AIR - BASEMENT</th>
<th>SUBSLAB SOIL GAS</th>
<th>OUTDOOR AIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Regulator No.:</td>
<td>Flow Regulator No.:</td>
<td>Flow Regulator No.:</td>
<td>Flow Regulator No.:</td>
</tr>
<tr>
<td>Canister Serial No.:</td>
<td>Canister Serial No.:</td>
<td>Canister Serial No.:</td>
<td>Canister Serial No.:</td>
</tr>
<tr>
<td>Start Date/Time:</td>
<td>Start Date/Time:</td>
<td>Start Date/Time:</td>
<td>Start Date/Time:</td>
</tr>
<tr>
<td>Start Pressure:</td>
<td>Start Pressure:</td>
<td>Start Pressure:</td>
<td>Start Pressure:</td>
</tr>
</tbody>
</table>

(inches Hg)                                          (inches Hg)                        (inches Hg)                                          (inches Hg)
| Stop Date/Time:         | Stop Date/Time:       | Stop Date/Time:  | Stop Date/Time: |
| Stop Pressure:          | Stop Pressure:        | Stop Pressure:  | Stop Pressure: |

(inches Hg)                                          (inches Hg)                        (inches Hg)                                          (inches Hg)
| Sample ID:              | Sample ID:            | Sample ID:       | Sample ID:     |

**Other Sampling Information:**

<table>
<thead>
<tr>
<th>Story/Level</th>
<th>Story/Level</th>
<th>Basement or Crawl Space?</th>
<th>Direction from Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room</td>
<td>Room</td>
<td>Floor Slab Thickness (inches) [if present]</td>
<td>Distance from Building</td>
</tr>
<tr>
<td>Indoor Air Temp (°F)</td>
<td>Indoor Air Temp</td>
<td>Potential Vapor Entry Points Observed?</td>
<td>Intake Height Above Ground Level (ft.)</td>
</tr>
<tr>
<td>Barometric Pressure?</td>
<td>Barometric Pressure?</td>
<td>Ground Surface Condition (Crawl Space Only)</td>
<td>Intake Tubing Used?</td>
</tr>
<tr>
<td>Intake Height Above Floor Level (ft.)</td>
<td>Intake Height Above Floor Level (ft.)</td>
<td>If slab, intake Depth If Crawl Space, intake height</td>
<td>Distance to nearest Roadway</td>
</tr>
<tr>
<td>PID Reading (ppb)</td>
<td>PID Reading (ppb)</td>
<td>PID Reading (ppb)</td>
<td>PID Reading (ppb)</td>
</tr>
<tr>
<td>Duplicate Sample?</td>
<td>Duplicate Sample?</td>
<td>Duplicate Sample?</td>
<td>Duplicate Sample?</td>
</tr>
</tbody>
</table>

**Comments:**

| Comments | |
|----------||
|          | |
|          | |
|          | |
|          | |
|          | |
|          | |

**Sampler Signature:**
1. PURPOSE AND OBJECTIVES

1.1 PURPOSE

This Quality Assurance Project Plan (QAPP) is for the site management work done for the Metal Etching site in the city of Freeport, Nassau County, New York (New York State Department of Environmental Conservation [NYSDEC] Site No. 130110). This QAPP contains site-specific procedures for the collection, analysis, and evaluation of data that will be legally and scientifically defensible.

1.2 QUALITY ASSURANCE PROJECT PLAN OBJECTIVES

This QAPP provides site-specific information and standard operating procedures applicable to all work performed at the site that. The information includes definitions and goals for data quality and required types and quantities of quality assurance (QA)/quality control (QC) samples. The procedures address sampling protocols; field documentation; sample handling, custody, and shipping; instrument calibration and maintenance; auditing; data reduction, validation, and reporting; corrective action requirements; and QA reporting. The Site Management Plan contains a site description and information on site field activities; such as, sample locations, sampling procedures, analytical methods, and reporting limits.
2. PROJECT ORGANIZATION AND RESPONSIBILITIES

While all personnel involved in an investigation and the generation of data are implicitly a part of the overall project management and QA/QC program, certain members of the Project Team have specifically designated responsibilities. Project responsibilities are summarized below.

2.1 CONSULTANT

The consultant responsible for site management will provide field support during groundwater sampling activities and evaluation of analytical data. The roles required in this project include:

- **Project QA/QC Officer**—The QA/QC Officer provides guidance on technical matters and reviews technical documents relating to the project. They assess the effectiveness of the QA/QC program and recommend modifications when applicable. Additionally, the QA/QC Officer may delegate technical guidance to specially trained individuals under his direction.

- **Project Manager**—The Project Manager provides overall coordination and preparation of the project activities. This includes coordination with NYSDEC, budget control, subcontractor performance, implementation of the QAPP, and allocation of resources and staffing to implement both the QA/QC program and the site Health and Safety Plan.

- **Site Manager**—The Site Manager will serve as the on-site contact person for field activities and tests. They will be responsible for coordinating the field activities, including inspecting and replacing equipment, preparing daily and interim reports, scheduling sampling and inspections, and coordinating shipment and receipt of samples and containers.

2.2 LABORATORY

Laboratory analyses for this project will be performed by an Environmental Laboratory Analytical Program (ELAP) certified laboratory. The laboratory will have its own provisions for conducting an internal QA/QC review of the data before they are released. The laboratories’ contract supervisors will contact the consultant’s Project Manager with any sample discrepancies or data concerns.

Electronic data deliverable formatted QA/QC reports will be filed by the analytical laboratories when data are submitted to the consultant. Corrective actions will be reported to the consultant’s Project Manager along with the QA/QC report. The laboratories may be contacted directly by the consultant or NYSDEC personnel to discuss QA concerns. The consultant will act as laboratory coordinator on this project and all correspondence from the laboratories will be coordinated with the consultant’s Project Manager.
3. SAMPLING RATIONALE, DESIGNATION, AND CONTAINERS

3.1 SAMPLING RATIONALE

The sampling rationale is presented for groundwater monitoring in the Site Management Plan. Laboratory quality control samples including field duplicates, matrix spike, and matrix spike duplicates are to be collected at a frequency of 1 per 20 samples. Field duplicates are two samples of the same matrix, which are collected, to the extent possible, from the same location at the same time using the same techniques. Field duplicates provide information on the precision of the sampling and analysis process. Matrix spike and matrix spike duplicates are two additional samples of the same matrix fortified with the analyte(s) of interest and analyzed to monitor measurement bias associated with the sample matrix.

The remedial investigation laboratory program includes the number of samples for each sample location, as well as QA/QC samples (Table 1).

3.2 SAMPLE DESIGNATION

Field samples collected from the site will be assigned a unique sample tracking number. Sample/designation will be an alpha-numeric code, which will identify each sample by the site identification, matrix sampled, location number, and date of collection.

The following terminology will be used for the sample identification:

- **Groundwater Samples**
  - NYSDEC SITE ID-MW-XX

3.3 SAMPLE CONTAINERS

Types of sample containers and preservatives required for sample collection will be determined by the analyzing laboratory. Sample containers will be properly washed, decontaminated, and the appropriate preservative will be added by the analytical laboratory. Containers with preservative will be labeled accordingly.

3.4 SAMPLE HOLDING TIMES

Sample holding times will be in accordance with the NYSDEC Analytical Services Protocol (ASP) requirements. All samples shall be transferred to the analytical laboratory with enough time for the lab to process the samples before the holding time is expired.
3.5 SAMPLE TRACKING AND CUSTODY

The laboratory must satisfy the sample chain-of-custody requirements by implementing the following Standard Operating Procedures for laboratory/sample security:

- Samples are stored in a secure area
- Access to the laboratory is through a monitored area
- Visitors sign a visitor’s log and are escorted while in the laboratory
- Only the designated sample custodians have keys to sample storage area(s)
- Transfers of samples in and out of storage are documented.
4. ANALYTICAL LABORATORY

The data collected during this investigation will be used to determine the presence and concentration of volatile organic compounds (VOCs) and metals in groundwater.

Groundwater samples collected during execution of the QAPP will be submitted to the approved analytical laboratory. The laboratory must be a New York State Department of Health ELAP-certified laboratory, meeting specifications for documentation, data reduction, and reporting. Preliminary analytical results will be provide within 14 days of sample receipt and full NYSDEC Analytical Services Protocol Category B deliverables and associated electronic data deliverables (EDDs) in Equis format will be provided to the consultant within 30 days of sample receipt.

4.1 CALIBRATION PROCEDURES AND FREQUENCY

Instruments and equipment used in this investigation are controlled by a formal calibration program, which verifies that equipment is of the proper type, range, accuracy, and precision to provide data compatible with specified requirements. Instruments and equipment that measure a quantity, or whose performance is expected at a stated level, are subject to calibration. Calibration is performed using reference standards or externally by calibration agencies or equipment manufacturers.

4.1.1 Calibration System

The following sections contain a discussion of the elements comprising the calibration system.

4.1.1.1 Calibration Procedures

Written procedures are used for all instruments and equipment subject to calibration. Whenever possible, recognized procedures, such as those published by the American Society of Testing and Materials or United States Environmental Protection Agency (USEPA), or procedures provided by manufacturers, are adopted. If established procedures are not available, a procedure is developed considering the type of equipment, stability characteristics of the equipment, required accuracy, and the effect of operational error on the quantities measured.

4.1.1.2 Calibration Frequency

Calibration frequency is based on the type of equipment, inherent stability, manufacturer’s recommendations, values provided in recognized standards, intended data use, specified analytical methods, effect of error upon the measurement process, and prior experience.

4.1.1.3 Calibration Reference Standards

Two types of reference standards will be used by the standby laboratories for calibration:
• **Physical standards**, such as weights for calibrating balances and certified thermometers for calibrating working thermometers, refrigerators and ovens, are generally used for periodic calibration.

• **Chemical standards**, such as Standard Reference Materials provided by the National Institute of Standards and Technology or USEPA. These may include vendor-certified materials traceable to National Institute of Standards and Technology or USEPA Standard Reference Materials. These are primarily used for operational calibration.

### 4.1.1.4 Calibration Failure

Equipment that cannot be calibrated or becomes inoperable is removed from service. Such equipment must be repaired and satisfactorily recalibrated before re-use. For laboratory equipment that fails calibration, analysis cannot proceed until appropriate corrective action is taken and the analyst achieves an acceptable calibration.

Laboratory managers are responsible for development and implementation of a contingency plan for major equipment failure. The plan includes guidelines on waiting for repairs, use of other instrumentation, subcontracting analyses, and evaluating scheduled priorities.

### 4.1.1.5 Calibration Records

Records are prepared and maintained for each piece of equipment subject to calibration. Records demonstrating accuracy of preparation, stability, and proof of continuity of reference standards are also maintained. Copies of the raw calibration data are kept with the analytical sample data.

### 4.1.2 Operational Calibration

Operational calibration is generally performed as part of the analytical procedure and refers to those operations in which instrument response (in its broadest interpretation) is related to analyte concentration. Included is the preparation of a standard response (calibration) curve and often the analysis of blanks.

#### 4.1.2.1 Preparation of Calibration Curve

Preparation of a standard calibration curve is accomplished by the analysis of calibration standards, which are prepared by adding the analyte(s) of interest to the solvent that is introduced into the instrument. The concentrations of the calibration standards are chosen to cover the working range of the instrument or method. Sample measurements are made within this working range. The calibration curve is prepared by plotting or regressing the instrument responses versus the analyte concentrations. Concentrations of the analyzed samples are back-calculated from the calibration curve.
4.1.2.2 Blanks

Reagent and/or solvent blanks are analyzed to assess if the materials used to prepare the standards are free from interfering substances that could affect the analysis. A method blank is prepared whenever samples are processed through steps that are not applied to the calibration standards.

4.1.3 Periodic Calibration

Periodic calibrations are performed for equipment (e.g., balances, thermometers) that is required in the analytical method, but that is not routinely calibrated as part of the analytical procedure.

4.2 FIELD EQUIPMENT CALIBRATION

The procedures and frequencies for the calibration of field equipment are provided below in the table below.

<table>
<thead>
<tr>
<th>FIELD INSTRUMENTATION CALIBRATION FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instrument</strong></td>
</tr>
<tr>
<td>pH Meter</td>
</tr>
<tr>
<td>Conductivity Meter</td>
</tr>
<tr>
<td>Water Level Meter</td>
</tr>
<tr>
<td>Dissolved Oxygen Meter</td>
</tr>
<tr>
<td>Photoionization Detector</td>
</tr>
<tr>
<td>Turbidity</td>
</tr>
</tbody>
</table>

**NOTE:** NTU = Nephelometric turbidity units.
5. ANALYTICAL TEST PARAMETERS

This QAPP will require the analysis of aqueous samples using USEPA Method 8260B for VOCs, and USEPA Method 6010/7470 for metals. Compound lists for each analytical method are included in Table 2.
6. ANALYTICAL DATA VALIDATION

The laboratory will review data prior to its release from the laboratory. Objectives for review are in accordance with the QA/QC objectives stated in the NYSDEC Division of Environmental Remediation-10 (DER-10). The laboratories are required to evaluate their ability to meet these objectives. Outlying data will be flagged in accordance with laboratory standard operating procedures and corrective action will be taken to rectify the problem.

In order to ensure the validity of analytical data generated by a project, it will be validated by an entity independent from the analysts and the project. The resumes of the personnel providing the data validation services shall be submitted for approval under a separate cover.
<table>
<thead>
<tr>
<th>Sample Matrix</th>
<th>VOCs (USEPA 8260B) and Metals (USEPA 6010/7470)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Samples</td>
<td>10</td>
</tr>
<tr>
<td>Field Duplicate</td>
<td>Aqueous</td>
</tr>
<tr>
<td>MS/MSD</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Total No. of Analyses</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>

NOTE: USEPA = U.S. Environmental Protection Agency.
MS/MSD = Matrix spike/matrix spike duplicate.
Laboratory quality control samples will be collected at a rate of 1 per 20 samples, per matrix.
### TABLE 2  ANALYTE LIST AND ANALYTICAL REPORTING LIMITS

<table>
<thead>
<tr>
<th>USEPA METHOD 8260B (VOCs)</th>
<th>Reporting Limit $\mu$g/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,2-Tetrachloroethane</td>
<td>0.07</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane</td>
<td>0.04</td>
</tr>
<tr>
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<td>Zinc</td>
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APPENDIX F

HISTORICAL SOIL VAPOR INTRUSION AIR MONITORING FORMS
11. FLOOR PLANS
Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

First Floor:
12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings. Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.
The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Nassau County, New York
Survey Area Data: Version 11, Sep 15, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 26, 2011—Apr 16, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
## Map Unit Legend

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<th>Map Unit Symbol</th>
<th>Map Unit Name</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
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<td>Urban land</td>
<td>5.3</td>
<td>49.2%</td>
</tr>
<tr>
<td>Us</td>
<td>Urban land-Sudbury complex</td>
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<td>0.5%</td>
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<tr>
<td>Uw</td>
<td>Urban land-Udipsamments, wet substratum complex</td>
<td>3.8</td>
<td>35.2%</td>
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<tr>
<td>W</td>
<td>Water</td>
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<td><strong>Totals for Area of Interest</strong></td>
<td></td>
<td><strong>10.7</strong></td>
<td><strong>100.0%</strong></td>
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</table>
Farmland Classification—Nassau County, New York
(Freeport)

MAP INFORMATION

Streams and Canals

Transportation
- Rail
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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Soil Survey Area: Nassau County, New York
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The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
Farmland Classification

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<th>Acres in AOI</th>
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<td></td>
<td></td>
<td>10.7</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower
This Floodplain Management Plan meets the requirements of 24 CFR Part 55.20 and Executive Order 11988—Floodplain Management—for the Broad Channel Resiliency Improvements Project (Project) in Broad Channel, Queens County, New York. This Floodplain Management Plan documents the eight-step decision making for the Project and pertains to activities within the Special Flood Hazard Area (SFHA) as defined by the Federal Emergency Management Agency (FEMA), or its successors, pursuant to the National Flood Insurance Program (NFIP), or a successor program, whether advisory, preliminary, or final.

Description of Proposed Program Activities

The Village of Freeport is requesting $3,000,000 in CDBG-DR funding to replace electrical transmission infrastructure that was damaged during Superstorm Sandy. The project is located in the eastern part of Freeport, bisected by the Freeport Channel (also known as South Oyster Bay). Freeport is an incorporated village located in the Town of Hempstead on the south shore of Nassau County’s mainland on Long Island, New York.

The project would include the following improvements:

- Replace the existing conduits and tie lines originally installed below the Freeport Channel in 1967;
- Extend the underwater tie lines further inland on the western side of the Freeport Channel;
- Remove the two riser poles on the western side and extend the lines underground from the channel through the right-of-way to the intersection of Ray Street and South End Place;
- Install four new riser poles at Ray Street/South End Place and Ray Street/Bedell Street to diversify locations.

The existing cross-channel cable is a direct-buried armor type cable that is close to the channel bed. The new conduits would be installed at a depth greater than that of the existing cable. The maximum depth is anticipated to be approximately 40 feet below ground surface and 25 to 30 feet below the channel mudline.

The conduits would carry 15kV EPR Insulated Copper electrical cable and fiber optic cable. On the west side of the Freeport Channel, the cable/conduits would be extended further underground to overhead lines/riser poles located on Ray Street/South End Place and Ray Street/Bedell Street.
On the east side of the Freeport Channel, the cable/conduits would be extended to an existing electrical vault on Hanse Avenue. Construction of the project would involve excavating a launching pit on one side of the Freeport Channel and a receiving pit on the opposite side of the channel. One of these (it is not known from which direction the drilling would occur) would be located at the juncture of Ray Street and South End Place. The pit on the east side of the channel would be located at the existing tie-in located in a Village of Freeport parking lot at the bend of Hanse Avenue. Directional horizontal boring would be used to drill a tunnel beneath the Freeport Channel between the two pits, and the conduits would be installed through the tunnel.

Freeport Electric will permanently abandon the existing four submarine cable feeder circuits in place, and all in-water submarine cable will rest on the bottom of the Freeport Creek in perpetuity. Since the existing submarine cables are direct-buried cables, there are no conduits or pipes to be filled to complete the abandonment. Cables will be cut within the existing manholes, and the penetrations within the manholes will be permanently plugged.

With exception to one geotechnical water boring in the channel—to be conducted over an approximate 2 to 3 day time period for the purposes of collecting soil samples prior to construction—no construction activity would occur in Freeport Channel, and no construction equipment or construction materials would be staged from the water of Freeport Channel. A non-toxic drilling fluid, comprised of a mixture of bentonite clay and water with additives used to improve performance, would be used in the process. Drilling fluid would be pumped into the excavation through the boring machine cutter head. The fluid would then be pumped back out of the bore hole and the cuttings carried back out to the surface where the cuttings would settle out in a pit or removed mechanically via a cleaning system. The spent drilling fluid will be disposed of according to all applicable regulations and manufacturer recommendations. All material excavated during the horizontal directional drilling process would be disposed of offsite.

Two additional pits, approximately 10 feet by 10 feet, and approximately 10 feet deep, would be excavated within the public right-of-way along Ray Street; one just east of the intersection at South Main Street, and one just east of the intersection at Bedell Street. Electric vaults would be constructed in these two pits as well as the pit located on the east side of the Freeport Channel.

Outside of the horizontal directional drilling crossing the channel, an open-cut trench would be excavated along Ray Street to the intersection at Bedell Street on the west side of the Freeport Channel. Similarly, an open-cut trench would be excavated to the existing electrical vault at Hanse Avenue on the east side of the channel. Both open-cut trenches would be approximately 1,000 feet long. Additionally, three electrical vaults, each approximately 16 feet long by 10 feet wide by 10 feet deep, would installed; two on the west side and one on the east side of the Freeport Channel. Suitable excavated material would be used as backfill and any surplus excavated material or unsuitable backfill material (clay, etc.) would be disposed of offsite.

Freeport Electric, the largest municipal-owned utility on Long Island, serves more than 43,000 people. During Superstorm Sandy, infrastructure maintained by Freeport Electric and located adjacent to the Freeport Channel was damaged by untethered vessels and floating debris, tripping the electrical grid in the area. The resulting outage disrupted power to 3,700 residential and commercial customers, and to critical village assets, including three flood sirens, two fire houses, two sewer pump stations, and two schools, as well as the Nautical Mile, the Village’s primary economic district.
The proposed project would replace a submarine cable beneath the Freeport Channel that carries Freeport Electric’s power serving one-quarter of the Village of Freeport’s residents. The conduit, and the risers connecting electric cables to the overhead transmission lines, are vulnerable to tidal inundation and are susceptible to damage from floating debris and drifting vessels during coastal surges and storms. The purpose of the project is to make this infrastructure less susceptible to damage and thereby protect residents and businesses from future loss of power, and to reduce the risk of injury and fire due to downed electric lines.

Step ONE: Determine whether the proposed action is located in a 100-year floodplain (or a 500-year floodplain for a Critical Action).

The geographic scope for the Proposed Action is located within the Village of Freeport in Nassau County (see Figures 1 and 2 for project location and FIRM Panel No. 36059C0239G, respectively). Specifically, it includes the Freeport Channel, located in southeastern Freeport, bounded by the Industrial Park to the east, South Main Street to the west, Mill Road to the north, and residential properties to the south. The Channel is located in FEMA Zone “AE” (Base Flood Elevation is 8 feet).

Step TWO: Notify the public at the earliest possible time of a proposal to consider an action in a floodplain (or in the 500-year floodplain for a Critical Action), and involve the affected and interested public in the decision making process.

Because a portion of the Proposed Action activities would be located in the floodplain, GOSR must publish an early notice that allows the public an opportunity to provide input into the decision to provide funding for the Proposed Action activities in this area. Once the early public notice and comment period is complete, GOSR will assess, consider, and respond to the comments received individually and collectively for the Proposed Action file, then proceed to Step Three.

A 15-day “Early Notice and Public Explanation of a Proposed Activity in a 100-Year Floodplain” was published in both the English language newspaper Freeport Leader and the Spanish language newspaper Noticia on October 20, 2016 (see EXHIBIT 1 for the notice). The 15-day period expired on November 4, 2016. The notice addressed residents who live in the floodplain. The notice was also sent to the following state and federal agencies on October 20, 2016: Federal Emergency Management Agency (FEMA); U.S. Department of Housing and Urban Development; U.S. Environmental Protection Agency (EPA); U.S. Department of Homeland Security (DHS); U.S Fish and Wildlife Service (FWS); NYS Department Environmental Conservation; the NYS Office of Parks, Recreation and Historic Preservation; NYS Department of Transportation; and the NYS Division of Homeland Security and Emergency Services. The notice was also sent to various tribal entities, the Village of Freeport, the Nassau County Planning Commission and the Nassau County Department of Public Works.

GOSR received 0 public comments on this notice.
Step Three: Identify and evaluate practicable alternatives to locating the proposed action in a floodplain (or the 500-year floodplain for a Critical Action).

After a consideration of the following alternatives, Nassau County and GOSR have determined the best practicable alternative is the Proposed Action. The alternative actions considered are as follows: No Action, Limited Action Alternative, and Alternative Routing Options.

**No Action Alternative**
Under a No Action alternative, conditions of the environment would remain unchanged. Still subject to the existing potential for flood-related damage.

**Limited Action Alternative**
There is no limited action alternative action since the line has specific length.

**Alternative Routing Options**
Given the location of the critical components involved in the Proposed Action, there are no alternative routing options proposed in the Project Area.

Step Four: Identify the potential direct and indirect impacts associated with the occupancy or modification of the floodplain (or 500-year floodplain for a Critical Action).

GOSR has evaluated the alternatives to the Proposed Action activities in the floodplain, and has determined that the proposed activities must take place in the floodplain.

Given that the Proposed Action components located within the floodplain will be located underground and are not susceptible to damage from flooding and will not exacerbate flooding, there are no direct or indirect impacts anticipated as a result of the Proposed Action activities. The Proposed Action seeks to reduce the risk of damage to two of Freeport Electric’s substations and a critical distribution network link across the Freeport Channel by removing riser poles and extending buried lines from the channel through the street right-of-way to new riser pole locations. This will reduce the chances that electricity will be interrupted to critical services including flood sirens, firehouses, sewer pump stations, and schools.

Horizontal directional drilling would occur below grade and would impact the floodplain values. The directionally-drilled bore hole is expected to be approximately 825 feet in length and 36 inches in diameter, extending east from a 150 square foot entrance pit located 200 feet to the east of the Freeport Channel to a 150 square foot exit pit located 360 feet to the west of the channel. Outside of the horizontal directional drilling across the Freeport Channel, excavation of an open cut trench approximately 800 feet in length will be performed. Temporary impacts from the Proposed Activity as a result of trenching required for cable installation will occur to less than 0.1 acres of 100-Year Floodplain and less than 0.1 acres of National Wetland Inventory (NWI) and (New York State Department of Environmental Conservation (DEC) mapped tidal wetlands and tidal wetland adjacent areas. The potential adverse impacts to the floodplain and wetlands will be weighed against the benefits of the Proposed Activity.
The Proposed Action actions will have a beneficial outcome for the residents of the Village of Freeport. Implementation of the Proposed Action would provide better protection for power distribution for more than 10,000 residents and 450 businesses.

**Step Five: Where practicable, design or modify the proposed action to minimize the potential adverse impacts within the floodplain (including the 500-year floodplain for a Critical Action) and to restore and preserve its natural and beneficial values.**

As proposed, the Action activities will replace existing electrical lines. Activities include:

- Replace the existing conduits and tie lines originally installed below the Freeport Channel in 1967;
- Extend the underwater tie lines further inland on the western side of the Freeport Channel;
- Remove the two riser poles on the western side and extend the lines underground from the channel through the right-of-way to the intersection of Ray Street and South End Place;
- Install four new riser poles at Ray Street/South End Place and Ray Street/Bedell Street to diversify locations.

During the design process, the project engineer will be required to implement measures that protect the improvements from future storms and wave toppings, use storm and wave barrier best management practices, and incorporate resiliency measures in infrastructure design.

**Step Six: Reevaluate the proposed action to determine: (1) Whether it is still practicable in light of its exposure to flood hazards in the floodplain, the extent to which it will aggravate the current hazards to other floodplains, and its potential to disrupt floodplain values; and (2) Whether alternatives preliminarily rejected at Step Three are practicable in light of the information gained in Steps Four and Five.**

GOSR has reevaluated the Proposed Action and determined that the action is still practicable in light of its potential exposure to flood hazards in the floodplain. There is no practicable alternative to the Proposed Action. As the only activity located within the floodplain is replacing and extending existing conduits and tie lines buried beneath the channel bed, the Proposed Action would not aggravate current hazards to the floodplain, nor will the Proposed Action disrupt floodplain values. The extension of buried lines from the channel through the street right-of-way to new riser pole locations will reduce the risk and enhance protection of the electrical system.

GOSR and the project engineer will take the following steps to mitigate the effects of the Proposed Action on the floodplain and to preserve natural and beneficial properties of the floodplain:

1) Installation of conduit in floodplain will be achieved through a horizontal directional drilling process;
2) Site-specific hazard mitigation measures will be taken, including BMPs to reduce erosion and sedimentation, and proper disposal of debris and demolition and construction waste.

GOSR has also reconsidered the alternatives discussed in Step Three and determined the best practicable alternative is the Proposed Action. The alternative actions considered was the No Action alternative. Therefore, there is no practicable alternative to locating the Proposed Action in the floodplain.

**Step Seven: If the reevaluation results in a determination that there is no practicable alternative to locating the proposal in the floodplain (or the 500-year floodplain for a Critical Action), publish a final notice.**

It is GOSR’s determination that the preferred alternative is the Proposed Action, the Freeport Channel Crossing Electrical Improvements Project. Among the numerous benefits of the Project are less frequent power disruptions, immediate threat to public health, safety and welfare of Freeport residents, and the lowered potential of electrical and vessel fires that can have damaging effects. The electrical cable improvements will improve certainty and reliability of service for the businesses along the Nautical Mile. Maintenance and disaster recovery costs could also be mitigated with the extension of the buried portion of the cables to points further from floodwaters. These improvements help create community-wide economic revitalization that benefits all residents of the Village of Freeport.

A “Combined Notice of Finding of No Significant Impact (FONSI), Notice of Intent to Request Release of Funds and Final Notice and Public Explanation of a Proposed Activity in a 100-year Floodplain and Wetland” was published in the *Freeport Leader*, on May 18, 2017, and the Spanish language newspaper *Noticia* on May 17, 2017. The 7-day period for comments on the Floodplains and Wetland Management Plan expires on May 26, 2017. The notice targeted local residents, including those in the floodplain. The notice was also sent to the following state and federal agencies on May 16, 2017: Federal Emergency Management Agency (FEMA); U.S. Department of Housing and Urban Development; U.S. Environmental Protection Agency (EPA); U.S. Department of Homeland Security (DHS); U.S Fish and Wildlife Service (FWS); NYS Department Environmental Conservation; the NYS Office of Parks, Recreation and Historic Preservation; NYS Department of Transportation; and the NYS Division of Homeland Security and Emergency Services. The notice was also sent to various tribal entities, the Village of Freeport, the Nassau County Planning Commission and the Nassau County Department of Public Works (see [EXHIBIT 2](#) for the notice).

**Step Eight: Implement the Action**

Step eight is implementation of the proposed action. GOSR will ensure that all mitigation measures prescribed in the steps above will be adhered to. Also, prior to Proposed Action implementation, GOSR will conduct a National Environmental Policy Act (NEPA) review in accordance with 24 CFR Part 58 and a New York State Environmental Quality Review Act (SEQR) review in accordance with 6 NYCRR Part 617.
FIGURES
FIGURE 1: Project Location
FIGURE 2: FIRM Panel 36059C0239G

EXHIBITS
EXHIBIT 1: Copy of Notice Transmitting Early Public Review and Proof of Publication
EXHIBIT 2: Copy of Notice Transmitting Final Public Review and Proof of Publication
EXHIBIT 3: Public Comments Received and Response, if applicable
EXHIBIT 1
Copy of Notice Transmitting Early Public Review and Proof of Publication
AFFIDAVIT OF PUBLICATION

JOSHUA SCHNABEL, Environmental
Planner/Planning, Facilities and Resource
Management
Bureau of Environmental Review &
Assessment
Governor's Office of Storm Recovery
25 Beaver Street, 5th Floor
New York, NY 10004
STATE OF NEW YORK SS:

Silyana Diaz.

OF NASSAU, Nassau County, being duly sworn, says that such
person is, and at the time of publication of the aforesaid
notice was a duly authorized editor of the Nassau |

Notice is the publisher of Noticia, a newspaper published
weekly in the county of Nassau and Suffolk, a true copy
was published in the following editions) of said newspaper
on the following date:

3rd week October 19, 2016

Notary Public

AMANDA C. ORZIGLANA
Notary Public, State of New York
Affidavit of Mailing

STATE OF NEW JERSEY  

City of Morristown  

ALLISON FAHEY, being duly sworn, deposes and says:

1. I am over the age of 18 years.
2. On October 18, 2016, I mailed true and correct copies of the notice of proposed activity in a 100-year floodplain dated October 23, 2016 by placing in first class, post-paid envelopes addressed: SEE ATTACHED LIST.
3. On said day, I deposited said envelopes in a mailbox at Louis Hesper's Morristown office.

[Signature]

Allison Fahey

Sworn to before me this  

OCT 19 2016  

Day of  , 2016

[Signature]

Brian Duval

Notary Public

BRIAN C. DUVAL  

ID #2387292  

NOTARY PUBLIC  

STATE OF NEW JERSEY  

My Commission Expires April 30, 2020
EXHIBIT 2
Copy of Notice Transmitting Final Public Review and Proof of Publication
PUBLIC NOTICE

COMBINED NOTICE OF FINDING OF NO SIGNIFICANT IMPACT (FONSI),
NOTICE OF INTENT TO REQUEST RELEASE OF FUNDS and
FINAL NOTICE AND PUBLIC EXPLANATION OF
A PROPOSED ACTIVITY IN A 500- and 100-YEAR FLOODPLAIN and WETLAND

Village of Freeport Channel Crossing Electrical Improvements
VILLAGE OF FREEPORT, NY

May 18, 2017

Name of Responsible Entity and Recipient: New York State Homes and Community Renewal (HCR), 38-40 State Street, Hampton Plaza, Albany, NY 12207, in cooperation with the New York State Housing Trust Fund Corporation (HTFC), of the same address. Contact: Lori A. Shirley (518) 474-0755.

Pursuant to 24 CFR Section 58.43 and 24 CFR part 55, this combined Notice of Finding of No Significant Impact, Notice of Intent to Request Release of Funds (FONSI/NOIRROF), and Final Notice and Public Explanation of a Proposed Activity in a 500- and 100-year floodplain and wetland satisfies three separate procedural requirements for project activities proposed to be undertaken by HCR.

Project Description: The Governor’s Office of Storm Recovery (GOSR), an office of HCR’s HTFC, is responsible for the direct administration of the United States Department of Housing and Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) program in New York State. GOSR proposes to provide $6,500,000 in CDBG-DR funding to replace electrical transmission infrastructure that was damaged during Superstorm Sandy (“Proposed Project”). Freeport is an incorporated village located in the Town of Hempstead on the south shore of Nassau County’s mainland on Long Island, New York. The Proposed Project would replace a submarine cable beneath the Freeport Channel that carries Freeport Electric’s power serving one-quarter of the Village of Freeport’s residents. The conduit, and the risers connecting electric cables to the overhead transmission lines, are vulnerable to...
tidal inundation and are susceptible to damage from floating debris and drifting vessels during coastal surges and storms. The purpose of the project is to make this infrastructure less susceptible to damage and thereby protect residents and businesses from future loss of power, and to reduce the risk of injury and fire due to downed electric lines.

**Public Explanation of a Proposed Activity in a 100-year Floodplain and Wetland**
The Proposed Project would involve ground disturbance and excavation in the vicinity of Freeport Channel, which is located in southeastern Freeport. The Channel is located in FEMA Zone “AE” (Base Flood Elevation is 8 feet). Temporary impacts from the Proposed Activity as a result of trenching required for cable installation will occur to less than 0.1 acres of 100-Year Floodplain and less than 0.1 acres of National Wetland Inventory (NWI) and New York State Department of Environmental Conservation (DEC) mapped tidal wetlands and tidal wetland adjacent areas.

There are three primary purposes for this notice. First, people who may be affected by activities in floodplains or wetlands and those who have an interest in the protection of the natural environment should be given an opportunity to express their concerns and provide information about these areas. Second, adequate public notice is an important public education tool. The dissemination of information about floodplains and wetlands facilitates and enhances Federal efforts to reduce the risks associated with the occupancy and modification of these special areas. Third, as a matter of fairness, when the Federal government determines it will participate in actions taking place in floodplains or wetlands, it must inform those who may be put at greater or continued risk.

**Finding of No Significant Impact**
An Environmental Assessment (EA) for the Proposed Project has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) and HUD environmental review regulations at 24 CFR Part 58. The EA is incorporated by reference into this FONSI. Subject to public comments, no further review of the Proposed Project is anticipated. HCR has determined that the EA for the project identified herein complies with the requirements of HUD environmental review regulations at 24 CFR Part 58. HCR has determined that the Proposed Project will have no significant impact on the human environment and therefore does not require the preparation of an environmental impact statement under NEPA.

**Public Review:** Public viewing of the EA is available online at [http://stormrecovery.ny.gov/environmental-docs](http://stormrecovery.ny.gov/environmental-docs) and is also available in person Monday – Friday, 9:00 AM – 5:00 PM at the following address: Governor’s Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, New York 12260. Contact: Lori A. Shirley (518) 474-0755.

Further information may be requested by writing to the above address, emailing NYSCDBG_DR_ER@nyshcr.org or by calling (518) 474-0755. This combined notice is being sent to individuals and groups known to be interested in these activities, local news media,
appropriate local, state and federal agencies, the regional office of the U.S. Environmental Protection Agency having jurisdiction, and to the HUD Field Office, and is being published in a newspaper of general circulation in the affected community.

**Request for the Release of Funds and Certification**
On or about June 3, 2017, the HCR certifying officer will submit a request and certification to HUD for the release of CDBG-DR funds as authorized by related laws and policies for the purpose of implementing this part of the New York CDBG-DR program.

HCR certifies to HUD that Lori A. Shirley, in her capacity as Certifying Officer, consents to accept the jurisdiction of the U.S. federal courts if an action is brought to enforce responsibilities in relation to the environmental review process and that these responsibilities have been satisfied. HUD’s approval of the certification satisfies its responsibilities under NEPA and related laws and authorities, and allows GOSR to use CDBG-DR program funds.

**Public Comments on FMWMP, FONSI and/or NOIRROF:** Any individual, group or agency may submit written comments on the Project. The public is hereby advised to specify in their comments which “notice” their comments address. Comments should be submitted via email, in the proper format, on or before June 2, 2017 at NYSCDBG_DR_ER@nyshcr.org. Written comments may also be submitted at the following address, or by mail, in the proper format, to be received on or before June 2, 2017: Governor’s Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, New York 12260. Comments may be received by telephone by contacting Lori A. Shirley at (518) 474-0755. All comments must be received on or before 5pm on June 2, 2017 or they will not be considered. If modifications result from public comment, these will be made prior to proceeding with the expenditure of funds.

**Objection to Release of Funds:** HUD will accept objections to its release of funds and GOSR’s certification for a period of fifteen days following the anticipated submission date or its actual receipt of the request (whichever is later). Potential objectors may contact HUD or the GOSR Certifying Officer to verify the actual last day of the objection period.
The only permissible grounds for objections claiming a responsible entity’s non-compliance with 24 CFR Part 58 are: (a) Certification was not executed by HCR’s Certifying Officer; (b) the responsible entity has omitted a step or failed to make a decision or finding required by HUD regulations at 24 CFR Part 58; (c) the responsible entity or has committed funds or incurred costs not authorized by 24 CFR Part 58 before release of funds and approval of environmental certification; or (d) another Federal agency acting pursuant to 40 CFR Part 1504 has submitted a written finding that the project is unsatisfactory from the standpoint of environmental quality.

Objections must be prepared and submitted in accordance with the required procedures (24 CFR Part 58) and shall be addressed to Tennille Smith Parker, Director, Disaster Recovery and Special Issues Division, Office of Block Grant Assistance, U.S. Department of Housing & Urban Development, 451 7th Street SW, Washington, DC 20410, Phone: (202) 402-4649.

Lori A. Shirley
Certifying Officer
March 8, 2017
EXHIBIT 3
Public Comments Received and Response
November 7, 2016

Mr. Steve Papa  
U.S. Fish and Wildlife Service  
Long Island Ecological Services Field Office  
340 Smith Road  
Shirley, NY 11967

Re: Section 7 Project Review - ESA/MBTA/BGSPA Consultation  
Freeport Channel Crossing Electrical Improvements  
Village of Freeport, Nassau County, New York

Dear Mr. Papa:

The Governor's Office of Storm Recovery (GOSR), acting under the auspices of New York State Homes and Community Renewal’s (HCR) Housing Trust Fund Corporation (HTFC), on behalf of the Department of Housing & Urban Development (HUD), is conducting environmental reviews under HUD’s environmental review regulations (24 CFR Part 58) and New York State’s Environmental Quality Review Act (SEQRA) for the Freeport Channel Crossing Electrical Improvements project located in the Village of Freeport, Nassau County, New York.

The purpose of this letter is to provide the U.S. Fish and Wildlife Service – Long Island Field Office (USFWS) notice of the proposed project and to document compliance with Section 7 of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), as well as the Migratory Bird Treaty Act of 1918 (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703-712), and the Bald and Golden Eagle Protection Act of 1940 (BGEPA) (54 Stat. 240, as amended; 16 U.S.C. 668-668c). As discussed below, we have reviewed the project and found that the proposed project does not jeopardize the continued existence of ESA species or destroy or adversely modify their critical habitat. This letter requests acknowledgement from the USFWS that they have received our No Effect Determination regarding the subject project provided in this letter.
1.0 PROJECT DESCRIPTION

As depicted on the project area maps provided in Attachment 1, the project area is located in the Village of Freeport, bisected by the Freeport Channel. The Village of Freeport is proposing to replace electrical transmission infrastructure installed below the channel in 1967 that was damaged during Superstorm Sandy. The proposed project would replace a submarine cable beneath Freeport Channel that carries a substantial load of Freeport Electric’s power, serving one-quarter of Freeport’s residents. The conduit, and the risers connecting electric cables to the overhead transmission lines, are vulnerable to tidal inundation and are susceptible to damage from floating debris and drifting vessels during coastal surges and storms. The purpose of the project is to make this infrastructure less susceptible to damage and thereby protect residents and businesses from future loss of power and to reduce the risk of injury and fire due to downed electric lines.

Construction of the project would involve excavating a launching pit on one side of the Freeport Channel and a receiving pit on the other side of the channel. One of these (it is not known from which direction the drilling would occur) would be located at the juncture of Ray Street and South End Place, the western side of Freeport Channel. The eastern pit on the east side of the channel would be located at the existing tie-in located in the parking lot at the inside bend in Freeport Channel. The existing cross-channel cable is a direct buried armor type cable that is close to the channel bed. The new conduit would be installed at a depth greater than that of the existing cable.

A horizontal directional drilling method would be used to bore a tunnel between the two exit/entrance pits, and conduit would be installed in the tunnel. No drilling activity would occur in Freeport Channel, and no construction equipment or construction materials would be staged from the water of Freeport Channel. Drilling fluid, comprised of a mixture of bentonite clay and water with additives used to improve performance, would be used during the process. Drilling fluid would be pumped into the excavation through the boring machine cutter head. The fluid would then be pumped back out of the bore hole and the cuttings carried back out to the surface where they would be allowed to settle out in a pit or removed mechanically in a cleaning system. The drilling fluid used would be non-toxic and would be disposed of according to all applicable regulations.

One (1) geotechnical boring is proposed within the channel to collect soil samples. The vertical geotechnical boring would take approximate 2 to 3 days to complete. The geotechnical sampling is conditioned upon issuance of applicable permits and would be carried out in accordance with permit conditions.

The improvements also include removal of two riser poles and extending the underwater tie lines inland on the western side of the channel through the right-of-way where they currently emerge. Two additional pits, approximately 10 feet by 10 feet, and approximately 10 feet deep, would be excavated on the west side of the channel within the public right-of-way along Ray Street, one just east of the intersection with South Main Street, and one just east of the intersection with Bedell Street. Electric vaults would be constructed in these two pits, and in the pit located on the east side of the channel. A trench would be excavated connecting the pits on the west side of the channel,
and conduit and transmission cables would be laid to connect the vaults. Four new riser poles would be installed to diversify exit locations.

A site plan depicting the location of proposed project activities described above is included in Attachment 2. Construction of the project would begin in January of 2017 and is expected to be complete approximately 9 months later.

2.0 ESA, MIGRATORY BIRD TREATY ACT, AND BALD AND GOLDEN EAGLE PROTECTION ACT SPECIES

The USFWS, Long Island Ecological Services Field Office was contacted through the Information, Planning, and Conservation System (IPaC) regarding the potential presence of species under the jurisdiction of the USFWS within the project area. The IPaC Trust Resources Report is included as Attachment 3, and the USFWS Official Species List is included as Attachment 4. According to the USFWS IPaC Trust Resource Report and Official Species Lists, six listed species may occur or could potentially be affected by activities within the project area: Charadrius melanurus (piping plover – threatened); Calidris canutus rufa (red knot - threatened); Sterna dougallii dougallii (roseate tern – endangered); Agalinis acuta (sandplain gerardia – endangered); Amaranthus pumilus (seabeach amaranth – threatened); and Myotis septentrionalis (northern long-eared bat - threatened). USFWS documentation indicates that there is no critical habitat for these or any other species within the project area. The IPaC Trust Resources Report also indicates that there are eighteen species of migratory birds that are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act that could potentially be affected by the proposed project, including Haliaeetus leucocephalus (bald eagle).

A request for species records within the vicinity of the project area was sent to the New York State Natural Heritage Program (NYSNHP). A response letter from NYSNHP dated June 28, 2016 (included as Attachment 5) states that there are no records of concern of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity.

3.0 ANALYSIS AND DETERMINATION OF EFFECTS

According to the USFWS IPaC Trust Resource Report and Official Species List of threatened and endangered species, there are six species under USFWS jurisdiction that may potentially occur within the project area, and eighteen migratory birds of concern that could potentially be affected by the proposed project. There is no critical habitat designated within the project area.

3.1 Endangered Species Act

A description of each federally endangered or threatened species identified by USFWS, and the likelihood that the species occurs within the project area, is provided below. Species’ descriptions are summarized from New York State Department of Environmental Conservation (NYSDEC) fact sheets and USFWS species profiles.
**Piping plover** - The piping plover is a small shorebird that is listed as federally threatened and state endangered. Habitat is only found at the shore, on barrier islands, sandy beaches, and dredged material disposal islands. The piping plover diet consists principally of marine worms, insect larvae, beetles, crustaceans, and mollusks and is obtained by foraging on beaches, dunes, and in tidal wrack. In New York, this species breeds on Long Island’s sandy beaches, from Queens to the Hamptons, in the eastern bays and in the harbors of northern Suffolk County. Piping plovers arrive to the New York area in early to mid-March and establish nesting territories by early April. Nests are usually placed well above the high tide line on open sandy beaches or in areas that have been filled with dredged sand, often near dunes in areas with little or no beach grass. By early September, most have departed for their wintering areas.

Suitable habitat for piping plover is not present within the project area.

**Red knot** - The red knot is a large, bulky sandpiper that is listed as federally threatened. Red knots feed on invertebrates, especially small clams, mussels, and snails, but also crustaceans, marine worms, and horseshoe crab eggs. The red knot can fly more than 9,300 miles from south to north every spring and repeat the trip in reverse every autumn. Red knots need to encounter favorable habitat, food, and weather conditions within narrow seasonal windows because the birds stopover between wintering and breeding areas. Habitat in the northeastern U.S. includes Atlantic and bay beaches and mudflats.

Suitable habitat for red knot is not present within the project area.

**Roseate tern** - The roseate tern is a waterbird listed as federally and state endangered. Foraging habitat includes shallow coastal waters, inlets, and offshore seas. Roseate terns feed primarily on the American sand lance, a small marine fish. In the northeastern U.S., roseate tern nest on beaches, barrier islands, and offshore islands. Open sandy beaches isolated from human activity are its optimal nesting habitat. In New York, this species breeds only at a few Long Island colonies and is always found nesting with common terns. Roseate terns arrive on the breeding grounds in late April or early May and begin nesting one month later. The nest is usually placed in dense grass clumps or even under boulders or rip-rap, and may be only a depression in sand, shell, or gravel and may be lined with bits of grass and other debris. Migration to wintering grounds begins in late summer.

Suitable habitat for roseate tern is not present within the project area.

**Sandplain gerardia** - The only federally endangered plant species in New York State, sandplain gerardia is a small annual plant with delicate pink blossoms. Six of the twelve known natural populations in the world can be found in coastal grassland areas on Long Island. It now survives in remnant grasslands in pine barrens with broad, grassy swaths; remnants of the Hempstead Plains dominated by grasses and composites with scattered shrubs and bare areas scraped by a bulldozer; and other remnant grasslands of the South Fork including those around golf courses, and along roadsides and railroads.

Suitable habitat for sandplain gerardia is not present within the project area.
**Seabeach amaranth** - Seabeach amaranth is an annual plant that is listed as federally endangered and state threatened. The plant grows on a nearly pure sand substrate above the high tide line and is intolerant of even occasional flooding during its growing season. The habitat of seabeach amaranth consists of sparsely vegetated areas with annual herbs and, less commonly, perennial herbs, and scattered shrubs. The plant does not compete well in areas of established growth but will potentially stabilize in disturbed areas. Flowering and seed production usually start in July and continue until the plants die in the fall. It is only known from Long Island, ranging from Coney Island to near the east end of the South Fork along the southern shore.

Suitable habitat for seabeach amaranth is not present within the project area.

**Northern long-eared bat** - The northern long-eared bat is a medium-sized bat distinguished by its long ears, particularly as compared to other bats in its genus. The northern long-eared bat is found across much of the eastern and north central United States. White-nose syndrome is the predominant threat to this bat, especially throughout the northeast where the species has declined by up to 99 percent from pre-white-nose syndrome levels at many hibernation sites. During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees, using tree species based on suitability to retain bark or provide cavities or crevices. They emerge at dusk to fly through the understory of forested hillsides and ridges feeding on moths, flies, leafhoppers, caddisflies, and beetles or by gleaning insects from vegetation and water surfaces. Northern long-eared bats spend winter hibernating in caves and mines.

Suitable habitat for northern long-eared bat is not present within the project area.

As depicted on the site plan (Attachment 2), proposed project activities would take place in areas of existing development. No drilling activity would occur in Freeport Channel and no construction equipment or construction materials would be staged from the water of Freeport Channel. Based on the proposed project activities and the lack of suitable habitat for listed species, GOSR has determined that the proposed project would have no effect on ESA species under USFWS jurisdiction.

**3.2 Migratory Bird Treaty Act**

Due to the presence of dense development, human activity, and the dominance of landscape vegetation, the project area does not support quality foraging or nesting habitat for migratory birds. The proposed project does not include tree removal. GOSR has determined that the project would have no effect on migratory birds or their habitat.

**3.3 Bald and Golden Eagle Protection Act**

There are no known bald eagle nests within the vicinity of the project area. Due to the presence of dense development, human activity, and the dominance of landscape vegetation, the project area does not support quality foraging or nesting habitat for bald eagle. GOSR has determined that the project would have no effect on bald eagles.
4.0 CONCLUSION

According to the USFWS IPaC Trust Resource Report and Official Species List of threatened and endangered species, there are six listed species that may potentially occur within the project area (piping plover, red knot, roseate tern, sandplain gerardia, seabeach amaranth, and northern long-eared bat), and eighteen migratory birds of concern that could potentially be affected by the proposed project. There is no critical habitat designated within the project area.

Proposed project activities would take place in areas of existing development and no drilling activity would occur in Freeport Channel. The project area is highly developed and does not provide suitable habitat for any listed species. In addition, the immediate vicinity of the project area is subject to frequent human activity that is not conducive to use by protected species. Due to the presence of dense development, human activity, and the dominance of landscape vegetation, the project area does not support quality foraging or nesting habitat for bald eagles or other migratory birds. The proposed project does not include tree removal and would not affect migratory birds or listed bat species.

Project implementation is conditioned upon issuance of applicable federal and state permits and would be constructed in accordance with federal and state permit conditions. The proposed projects would not jeopardize the continued existence of ESA species or destroy or adversely modify their critical habitat. Therefore, GOSR has determined that the proposed action would have no effect on listed species, bald eagle, or migratory birds.

GOSR is submitting the above information to request acknowledgement from USFWS that they have received the No Effect Determination made by GOSR regarding the above proposed project. If USFWS does not respond within 30 days from submittal of this letter, then GOSR may presume that its determination for this project is informed by the best available information, and its project responsibilities under Section 7 of the ESA have been fulfilled. GOSR understands that the USFWS presumes that all activities will be implemented as described herein. GOSR will promptly report any departures from the described activities to the Long Island Field Office.

If you have any questions, please feel free to contact me at (518) 473-0015. Thank you for your consideration and cooperation.

Sincerely,

Matt Accardi
Governor’s Office of Storm Recovery
25 Beaver Street, 5th Floor
New York, New York 10004
Enclosures

Attachment 1: Project Location Maps
Attachment 2: Site Plan
Attachment 3: IPaC Trust Resources Report
Attachment 4: USFWS Official Species Lists
Attachment 5: NYSNHP Response
Attachment 1
Freeport Channel Crossing
Electrical Improvements
Nassau County, New York

Regional Location
Freeport Channel Crossing
Electrical Improvements
Nassau County, New York

Legend
🌟 Project Area

Source: ESRI World Imagery; ESRI Street Map
Attachment 2
Attachment 3
This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.
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Migratory Birds .................................................................................. 4
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Wetlands ............................................................................................. 7
The Village of Freeport is proposing to replace electrical transmission infrastructure installed below the channel in 1967 that was damaged during Superstorm Sandy. Construction of the project would involve excavating a launching pit on one side of the Freeport Channel and a receiving pit on the other side of the channel. Horizontal directional drilling would be used to drill a tunnel between the two, and conduit would be installed in the tunnel. The improvements also include removal of two riser poles and extending the underwater tie lines inland on the western side of the channel through the right-of-way where they currently emerge. Four new riser poles will be installed to diversify exit locations.

https://ecos.fws.gov/ipac/project/
YJIOV-LWJ7B-A3VC7-TITCQ-VESI5U
Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Birds

**Piping Plover**  Charadrius melodus

- Threatened

  CRITICAL HABITAT
  
  There is final critical habitat designated for this species.


**Red Knot**  Calidris canutus rufa

- Threatened

  CRITICAL HABITAT
  
  No critical habitat has been designated for this species.


**Roseate Tern**  Sterna dougallii dougallii

- Endangered

  CRITICAL HABITAT
  
  No critical habitat has been designated for this species.

Flowering Plants

**Sandplain Gerardia**  *Agalinis acuta*  
**CRITICAL HABITAT**  
*No critical habitat* has been designated for this species.  

**Seabeach Amaranth**  *Amaranthus pumilus*  
**CRITICAL HABITAT**  
*No critical habitat* has been designated for this species.  

Mammals

**Northern Long-eared Bat**  *Myotis septentrionalis*  
**CRITICAL HABITAT**  
*No critical habitat* has been designated for this species.  

Critical Habitats

There are no critical habitats in this location
Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
- Conservation measures for birds
- Year-round bird occurrence data
  [http://www.birdscanada.org/birdmon/default/datasummaries.jsp](http://www.birdscanada.org/birdmon/default/datasummaries.jsp)

The following species of migratory birds could potentially be affected by activities in this location:

**American Oystercatcher**  Haematopus palliatus  
On Land Season: Year-round  

**Bald Eagle**  Haliaeetus leucocephalus  
On Land Season: Year-round  

**Black-billed Cuckoo**  Coccyzus erythropthalmus  
On Land Season: Breeding  

**Canada Warbler**  Wilsonia canadensis  
On Land Season: Breeding  

**Fox Sparrow**  Passerella iliaca  
On Land Season: Wintering
**Gull-billed Tern**  Gelochelidon nilotica
On Land Season: Breeding  

**Hudsonian Godwit**  Limosa haemastica
At Sea Season: Migrating

**Least Tern**  Sterna antillarum
On Land Season: Breeding

**Marbled Godwit**  Limosa fedoa
On Land Season: Wintering 

**Peregrine Falcon**  Falco peregrinus
On Land Season: Wintering  

**Purple Sandpiper**  Calidris maritima
On Land Season: Wintering

**Red Knot**  Calidris canutus rufa
On Land Season: Wintering  

**Saltmarsh Sparrow**  Ammodramus caudacutus
On Land Season: Breeding

**Seaside Sparrow**  Ammodramus maritimus
On Land Season: Year-round

**Short-eared Owl**  Asio flammeus
On Land Season: Wintering  

**Snowy Egret**  Egretta thula
On Land Season: Breeding

**Upland Sandpiper**  Bartramia longicauda
On Land Season: Breeding  

**Willow Flycatcher**  Empidonax traillii
On Land Season: Breeding  
Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location
Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberificid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Wetland data is unavailable at this time.
Attachment 4
Consultation Code: 05E1LI00-2016-SLI-0206
Event Code: 05E1LI00-2017-E-00038
Project Name: Freeport Channel Crossing Electrical Improvements

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having
similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment
Project name: Freeport Channel Crossing Electrical Improvements

Official Species List

Provided by:
Long Island Ecological Services Field Office
340 SMITH ROAD
SHIRLEY, NY 11967
(631) 286-0485

Consultation Code: 05E1LI00-2016-SLI-0206
Event Code: 05E1LI00-2017-E-00038

Project Type: POWER GENERATION

Project Name: Freeport Channel Crossing Electrical Improvements

Project Description: The Village of Freeport is proposing to replace electrical transmission infrastructure installed below the channel in 1967 that was damaged during Superstorm Sandy. Construction of the project would involve excavating a launching pit on one side of the Freeport Channel and a receiving pit on the other side of the channel. Horizontal directional drilling would be used to drill a tunnel between the two, and conduit would be installed in the tunnel. The improvements also include removal of two riser poles and extending the underwater tie lines inland on the western side of the channel through the right-of-way where they currently emerge. Four new riser poles will be installed to diversify exit locations.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.
Project Location Map:

**Project Coordinates:** MULTIPOLYGON (((-73.57792854309082 40.64450323018245, -73.57805728912354 40.64533357353796, -73.57153415679932 40.64603365892857, -73.57127666473387 40.645121918369526, -73.57792854309082 40.64450323018245)))

**Project Counties:** Nassau, NY
Endangered Species Act Species List

There are a total of 6 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the Has Critical Habitat column may or may not lie within your project area. See the Critical habitats within your project area section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

<table>
<thead>
<tr>
<th>Birds</th>
<th>Status</th>
<th>Has Critical Habitat</th>
<th>Condition(s)</th>
</tr>
</thead>
</table>
| Piping Plover (*Charadrius melodus*)  
  Population: except Great Lakes watershed | Threatened     | Final designated     |              |
| Red Knot (*Calidris canutus rufa*)  
  Population: Wherever found | Threatened     |                      |              |
| Roseate tern (*Sternula dougallii dougallii*)  
  Population: northeast U.S. nesting pop. | Endangered     |                      |              |
| **Flowering Plants**            |                |                      |              |
| Sandplain gerardia (*Agalinis acuta*)  
  Population: Wherever found | Endangered     |                      |              |
| Seabeach amaranth (*Amaranthus pumilus*)  
  Population: Wherever found | Threatened     |                      |              |
| **Mammals**                     |                |                      |              |
| Northern long-eared Bat (*Myotis septentrionalis*)  
  Population: Wherever found | Threatened     |                      |              |

http://ecos.fws.gov/ipac, 11/03/2016 06:34 PM
Critical habitats that lie within your project area

There are no critical habitats within your project area.
Attachment 5
June 28, 2016

Alicia Shultz
Governor’s Office of Storm Recovery
38-40 State Street, 408N, Hampton Plaza
Albany, NY 12207

Re: Freeport Channel Crossing Electrical Improvements, Village of Freeport
Town/City: Hempstead County: Nassau

Dear Alicia Shultz:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of concern of rare or state-listed animals or plants, or significant natural communities at your site or in its immediate vicinity.

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage Database. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 1 Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program
To: [Matt Accardi]  Date: 11/8/2016

USFWS File No: 

Regarding your: ❑ letter ❑ FAX ❑ E-mail dated: 11/7/2016

For project: Freeport Channel Crossing Electrical Improvements

Located: Freeport

In Town/County: Nassau


❑ Acknowledges receipt of your "no effect" determination. No further ESA coordination or consultation is required.

❑ Acknowledges receipt of your determination. Please provide copy of your determination and supporting materials to any involved Federal agency for their final ESA determination.

❑ Is taking no action pursuant to ESA or any other legislation at this time but would like to be kept informed of project developments.

As a reminder, until the proposed project is complete, we recommend that you check our website (http://www.fws.gov/northeast/nyfo/es/section7.htm) every 90 days from the date of this letter to ensure that listed species presence/absence information for the proposed project area is current. Should project plans change or additional information on listed or proposed species or critical habitat become available, this determination may be reconsidered.

Pursuant to the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.),

❑ Requests additional time for review. ❑ Is taking no action pursuant to FWCA due to lack of funding.

❑ Is providing FWCA comments (see attached). ❑ Has no objection pursuant to the FWCA.

❑ Will provide FWCA comments separately. ❑ Is taking no action pursuant to the FWCA at this time but would like to be kept informed of project developments.

USFWS Contact(s): [Signature] Date 11/8/2016

 Supervisor: ________________________ Date ________________________
April 28, 2016

Mr. Larry Moss
Historic Preservation Technical Specialist
New York State Office of Parks, Recreation and Historic Preservation
Division of Historic Preservation
Peebles Island
P.O. Box 189
Waterford, New York 12188-0189

RE: Section 106 Compliance for the Village of Freeport: Freeport Channel Crossing
Electrical Improvements, Freeport, Nassau County, New York

Dear Mr. Moss:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR), an office of New York State Homes and Community Renewal’s Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery (“CDBG-DR”) funds from the United States Department of Housing and Urban Development (“HUD”), is serving as the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and request for consultation.

GOSR processes environmental reviews for projects funded with HUD CDBG-DR on a case-by-case basis. A consultation request for the project described herein will also be sent to the Tribal Historic Preservation Offices for the Delaware Nation, Delaware Tribe of Indians, Stockbridge-Munsee Community Band of Mohicans, Shinnecock Indian Nation, and the Unkechaug. In accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (54 U.S.C. 302706(b)), and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, this letter serves as notification of the proposed action.

Area of Potential Effect: The project involves project activities at Ray Street and South End Place and Bedell Street in the Village of Freeport, Nassau County, New York.

Proposed Project Description: Please see the attached letter from our historian that describes in detail the project description and assessment of potential effects.

Request for Comment: The purpose of this letter is to initiate consultation pursuant to Section 106 of the NHPA per the implementing regulations at 36 Code of Federal Regulations (CFR) Part 800. GOSR respectfully requests your review of the proposed project described herein. If you have any questions or
require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel

Enclosures:
Historian Review of Project
Project Map
Project Site Plan
April 28, 2016

Larry K. Moss, Historic Preservation Technical Specialist
Technical Assistance & Compliance Unit, Division for Historic Preservation
New York State Office of Parks, Recreation & Historic Preservation
Peebles Island, P.O. Box 189
Waterford, New York 12188-0189

RE: New York State CDBG Disaster Recovery Program
New York State Sandy Recovery
Village of Freeport: Freeport Channel Crossing Electrical Improvements, Freeport, Nassau County, NY

Mr. Moss,

The New York State Governor’s Office of Storm Recovery is to replace electrical transmission infrastructure that was damaged during Superstorm Sandy. The project is located in the eastern part of Freeport, bisected by the Freeport Channel (Figure 1). Improvements to be funded through the Community Development Block Grant – Disaster Recovery (CDBG-DR) program including replacement of the existing conduits and tie lines originally installed below the channel in 1967; extension of the underwater tie lines further inland on the western side; removal of the two riser poles on the western side and bury the lines from the channel through the right-of-way to the intersection of Ray Street and South End Place; and installation of four new riser poles at Ray Street/South End Place and Ray Street/Bedell Street to diversify locations.

Project Description
Construction of the project would involve excavating a launching pit on one side of the Freeport Channel and a receiving pit on the other side of the channel. One of these (it is not known from which direction the drilling would occur) would be located at the juncture of Ray Street and South End Place. The eastern pit on the east side of the channel would be located at the existing tie-in located in the parking lot at the inside bend in Freeport Channel. Directional horizontal boring would be used to drill a tunnel between the two, and conduit would be installed in the tunnel. No construction activity would occur in Freeport Channel and no construction equipment or construction materials would be staged from the water of Freeport Channel. Drilling fluid, comprised of a mixture of bentonite clay and water with additives used to improve performance, would be used in the process. Drilling fluid would be pumped into the excavation through the boring machine cutter head. The fluid would then be pumped back out of the bore hole and the cuttings carried back out to the surface where they would be allowed to settle out in a pit or removed mechanically in a
cleaning system. The drilling fluid used would be non-toxic and would be disposed of according to all applicable regulations.

Two additional pits, approximately 10 feet by 10 feet, and approximately 10 feet deep, would be excavated within the public right-of-way along Ray Street, one just east of the intersection with South Main Street, and one just east of the intersection with Bedell Street. Electric vaults would be constructed in these two pits, and in the pit located on the east side of the channel. A trench would be excavated connecting the pits on the west side of the channel, and conduit and transmission cables would be laid to connect the vaults.

The existing cross-channel cable is a direct buried armor type cable that is close to the channel bed. The new conduit would be installed at a depth greater than that of the existing cable. Construction of the project would begin in November of 2016 and is expected to be complete approximately 9 months later. Project construction would comply with local and state building codes, including the Village of Freeport noise ordinance.

Near the end of project construction, when power is transferred from the old transmission lines to the new lines, a brief period of power outage for some customers in the area is expected. The utility provider (Freeport Electric) would notify affected customers in advance of the outage.

The project would introduce new visual elements consisting of four new distribution risers (similar to the existing poles that line the streets in the neighborhood), two on Ray Street just east of Bedell Street, and two on Bedell just north of Ray Street. The existing risers at the intersection of Ray Street and South End Place and in the marina parking lot would be removed. No other elements of the project would be visible when the project is complete.

Some public streets may be temporarily closed during construction of the project. The project would incorporate restrictions on construction equipment to reduce air emissions. Construction documents would restrict unnecessary idling on roadways, and on-site vehicle idle time will also be restricted to five minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., drilling machine) or otherwise required for the proper operation of the engine.

The contract document would provide for utilization of newer equipment. EPA’s Tier 1 through 4 standards for nonroad engines regulates the emission of criteria pollutants from new engines, including PM, CO, NOx, and hydrocarbons (HC). All nonroad construction equipment with a power rating of 50 horsepower (hp) or greater would meet at least the Tier 2 emissions standard to the extent practicable. Non-road diesel engines with a power rating of 50 hp or greater would utilize the best available tailpipe (BAT) technology for reducing DPM emissions.

**NY-CRIS Site File Review**

The Freeport Channel Study Area encompasses primarily residential areas with marinas and light industrial buildings along the channel. The residential area along E. Ray Street on the west side of the channel is a mix of
1920s bungalows and 1950s ranches. Most of the dwellings have been altered with vinyl siding, replacement windows, and enclosed front porches. Large industrial buildings and open parking lots are found along Hanse Avenue on the eastern side of the channel.

Examination of the project area in CRIS indicates that three properties have been previously surveyed (Table 1). There are no National Register listed or eligible properties within the project area. Two of the properties have not been evaluated with respect to National Register criteria. The third property has been recommended as not eligible. No other previously surveyed sites are located within the project area. The project area is within an archaeological sensitive area as depicted in NY-CRIS. However, no archaeological sites are shown within the project area. There is only one unevaluated archaeological site within one mile of the project area that is associated with a National Register eligible mill.

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<th>USN</th>
<th>Resource</th>
<th>National Register Status</th>
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</thead>
<tbody>
<tr>
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<td>House - 34 Ray Street 11520</td>
<td>Undetermined</td>
</tr>
<tr>
<td>5920.000761</td>
<td>House - 55 Ray St</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>5920.000782</td>
<td>House - 3 Ray Street 11520</td>
<td>Undetermined</td>
</tr>
</tbody>
</table>

Summary and Recommendations

Ground disturbing activities for the electrical transmission lines would be limited to the previously-disturbed right of way except for the directional boring from the end of E. Ray Street below the channel to the existing tie-in located in the parking lot on the east side of the channel. New disturbance will be limited to the channel bed, which has likely been dredged several times. The channel bank has also been disturbed by the existing transmission line. While there is a slight potential for submerged resources, any existing sites would have possibly already been disturbed by the existing line on the bottom of the channel. Given that the project area is predominantly within previously disturbed soils, Louis Berger recommends that no additional archaeological survey is warranted. Louis Berger also recommends that no architectural survey is necessary as there is very little potential for the project to affect architectural resources. The proposed work in the vicinity of above-ground resources is limited to the right of way and the only new above-ground structures consists of four new distribution risers that are similar to the existing power poles that line the streets in the neighborhood.

Sincerely,

Camilla Deiber
Senior Architectural Historian
May 3, 2016

Thomas King
Governor’s Office of Storm Recovery
99 Washington Ave, Suite 1224
Albany, NY 12231

Re: HTF/ GOSR/ Freeport Channel Crossing Electrical Improvements
34 Ray Street, 55 Ray Street, 3 Ray Street; Freeport/ Nassau County

16PR2868

Dear Mr. King:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Title 54, Section 306108 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/ Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based on this review, the opinion of the SHPO is that there will be No Historic Properties Affected by the proposed undertaking.

If I can be of further assistance, please contact me at (518) 268-2187 or Larry.moss@parks.ny.gov

Sincerely,

Larry K Moss, Historic Preservation Technical Specialist
CC: Mary Barthelme
Matt Accardi
May 26, 2016

Ms. Grace Musemeci
Chief of the Environmental Review Section
U.S. Environmental Protection Agency
Region 2 Main Regional Office
290 Broadway
New York, NY 10007-1866

Re: Sole Source Aquifer Analysis – CDBG-DR Funding Application
Village of Freeport: Freeport Channel Crossing Electrical Improvements

Dear Ms. Musemeci:

The New York State Governor’s Office of Storm Recovery (“GOSR”) received a funding application for the proposed “Village of Freeport: Freeport Channel Crossing Electrical Improvements” project located in the Village of Freeport, Nassau County, New York. The project area is located on the east and west sides of the Freeport Channel, as illustrated in Figure 1. The proposed project involves the replacement of electrical transmission infrastructure that was damaged during Superstorm Sandy. The project includes the replacement of the existing conduits and tie lines originally installed below the channel in 1967; extending the underwater tie lines further inland on the western side; removal of the two existing riser poles on the western side and burying of the lines from the channel through the right-of-way to the intersection of Ray Street and South End Place; and installation of four new riser poles at Ray Street/South End Place and Ray Street/Bedell Street to diversify locations.

Construction of the project would involve excavating a launching pit on one side of the Freeport Channel and a receiving pit on the other side of the channel. Horizontal directional drilling would be used to drill a tunnel between the two, and conduit would be installed in the tunnel. Drilling fluid, comprised of a mixture of bentonite clay and water with additives used to improve performance, would be used in the process. Drilling fluid would be pumped into the excavation through the boring machine cutter head. The fluid would then be pumped back out of the bore hole and the cuttings carried back out to the surface where they would be allowed to settle out in a pit or removed mechanically in a cleaning system. The drilling fluid used would be non-toxic and would be disposed of according to all applicable regulations.

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), GOSR is acting under the auspices of New York State Homes and Community Renewal’s Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery (“CDBG-DR”) funds from the United States Department of Housing and Urban Development (“HUD”) and is the entity responsible for compliance with the HUD NEPA environmental review procedures set forth in 24 C.F.R. Part 58. 24 C.F.R. Part 58 requires GOSR to review projects for conformance with the Safe Drinking Water Act of 1974 (42 U.S.C. 201, 300(f) et seq., and 21 U.S.C. 349) as amended, and Environmental Protection Agency (“EPA”) regulations pertaining to Sole Source Aquifers found at 40 C.F.R. Part 149.

In accordance with the Memorandum of Understanding (“MOU”) between EPA and HUD dated August 24, 1990, GOSR hereby requests an Initial Screen/Preliminary Review for the Village of Freeport: Freeport Channel Crossing Electrical Improvements. Please review the attached documentation, including Attachment 2.A to the MOU.
Responses can be sent to me via email at Thomas.King@StormRecovery.NY.Gov. In accordance with the MOU, a non-response within fifteen days shall constitute a favorable review of the project/activity. If you have any questions, please feel free to contact me at (518) 473-0015. Thank you for your consideration and cooperation.

Sincerely,

Thomas J. King  
Assistant General Counsel and Certifying Officer

Encl.
Attachment 2.A
Non-Housing/Project Activity Initial Screen Criteria
Sole Source Aquifer Checklist
New York Governor’s Office of Storm Recovery
Village of Hewlett Harbor Stormwater Infrastructure Upgrades
Thomas J. King, Certifying Environmental Officer
May 26, 2016

The following list of criteria questions are to be used as an initial screen to determine which non-housing projects/activities should be forwarded to the Environmental Protection Agency (EPA) for Preliminary Sole Source Aquifer (SSA) Review. If any of the questions are answered affirmatively, Attachment 3, SSA Preliminary Review Requirements, should also be completed. The application/final statement, this Attachment, Attachment 3, and any other pertinent information should than be forwarded to EPA at the address below. Any project/activity not meeting the criteria in this Attachment, but suspected of having a potential adverse effect on the Sole Source Aquifer should also be forwarded.

Chief, Environmental Impacts Branch
USEPA Region II
26 Federal Plaza, Room 500
New York, New York 10278
(212) 264-1840

CRITERIA QUESTIONS

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Maybe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the project/activity located within a currently designated or proposed groundwater sensitive area such as a special Ground Water Protection Area, Critical Supply Area, Wellhead Protection Area etc.? [This information can be obtained from the County or Regional planning board, the local health department, the State health department or the State environmental agency]</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Maybe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the project/activity located within a one half mile radius (2,640 feet) of a current or proposed public water supply well or wellfield? [This information can be obtained from the local health department, the State health department or the State environmental agency.]</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Maybe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will the project/activity include or directly cause: (check appropriate items)</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>- construction or expansion of solid waste disposal, recycling or conversion facilities</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>- construction or expansion or closure of landfills</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>- construction or expansion of water supply facilities [define]</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>- construction or expansion of on-site wastewater treatment plants or sewage trunk lines [define]</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>
- construction or expansion of gas or petroleum trunk lines greater than 1320 feet
  - construction or expansion of gas or petroleum trunk lines greater than 1320 feet
  - construction or expansion of railroad spurs or similar extensions
  - construction or expansion of municipal sewage treatment plants

Will the project/activity include storage or handling of any hazardous constituents as listed in Attachment 4, Hazardous Constituents?

Will the project/activity include bulk storage of petroleum in underground or above ground tanks in excess of 1100 gallons? (Please give what assurance they are done in a proper manner)

Will the project/activity require a federal or state discharge elimination permit or modification of an existing permit?

This attachment was completed by:

Name: Thomas J. King
Title: Certifying Environmental Officer
Address: 99 Washington Avenue Suite 1224
        Albany, New York 12260
Telephone: (518) 473-0015
Date: May 26, 2016

Signature of Certifying Officer
Laura,

Please see responses below:

--The narrative refers to the "replacement of the existing conduits" (implying more than one conduit) but the new tunnel being drilled will apparently accommodate only a single conduit. So is the number of conduits being reduced? The existing electrical cable crossing the channel is direct burial armored electrical cable. The new crossing will have multiple conduits installed within a casing pipe.

--Will the old conduit(s) be left in place? If so, will the new borehole and conduit be north or south of the old one(s), and how many feet will separate them? The existing cables will be abandoned in place. It is anticipated that the new casing pipe and conduits will run approximately 5-15 feet to the south of the existing cables.

--What will be the diameter and the wall thickness of the new conduit and its material of construction? Will it be rigid or flexible? What will be its total length and how will segments be joined? The diameter and material of construction of the casing pipe is rigid HDPE, the segments are typically fused together (minimum 20" diameter anticipated). The maximum total length of the casing pipe is anticipated to be 600 feet.

--What will be the approximate depth of the conduit beneath the channel bed? The depth of the conduit beneath the channel bed will be approximately 20 to 25 feet. See the attached preliminary profile showing the preliminary horizontal directional drilling alignment across the channel.

--What is the elevation of the ground water table on each side of the Freeport Crossing Channel—that is, at the "launching pit" and at the "receiving pit"? Will the boring machine encounter ground water? Ground water elevation on the West Side and East Side of the Freeport Channel is approximately +6.8 feet and +7.5 feet respectively. The horizontal directional drilling operation will start near the ground surface and will extend below the ground water table. Drilling fluids will be employed by the Contractor to stabilize the HDD borehole.

--What kind of wire or cables will the conduits carry? What are they connected to on each side of the channel? The conduits will carry 15kV EPR Insulated Copper electrical cable and fiber optic cable. The cable/conduits on the West side of the channel will be extended to overhead lines/riser poles located on Ray Street/South End Place and Ray Street/Bedell Street. On the East side of the channel the cable/conduits will be extended to an existing electrical vault on Hanse Avenue.

--Please describe what the "tie lines" and the "riser poles" are. What are their respective functions? The tie lines are referring to the underground cables running from the East side of the channel to the West side of the channel. The riser poles are utility poles where the underground conduits emerge about grade and are routed up the pole to the overhead electrical lines.

Additionally, the following details are needed to finalize our Environmental Assessment:

1. Were any project alternatives identified during the design process that we can incorporate into the EA (per 24 CFR 58.40(e))? The alternatives identified were micro-tunneling vs. horizontal directional drilling and the casing diameters.
2. Are there other foreseeable projects in the area that would be considered from a cumulative impacts perspective (per 24 CFR 58.32)? The Village is not aware of any projects.
3. Please visit(s) conducted by the design engineers? Field visits have been conducted by the design engineer. Additionally a topographic and hydrographic survey of the site area was completed.
4. The exact area of ground disturbance is still an outstanding item. If we could at least get the approximate trench dimensions we could estimate the amount of ground disturbance (as well as excavated material that will need to be hauled off-site and, thus, potential traffic impacts). The approximate trench dimensions for the open cut excavations will be 5 feet wide by 6 feet deep. The open cut excavation will be approximately 1000 feet long. Additionally there will be four (4) electrical vaults installed approximately 16 feet long by 10 feet wide by 10 feet high. Suitable excavated material will be used as backfill and any surplus excavated material or unsuitable backfill material (clay, etc.) will be disposed of offsite by the contractor.

Last, but not least, we intend to publish an early floodplain notice relatively soon. Al, do you have a publication of choice for public notices? Yes, the Village does have a publication of choice. Please forward what needs to be published and I will have it done and send receipts of the same.

Thanks,

Al Livingston Jr.
Superintendent of Electric Utilities

Inc. Village of Freeport - Freeport Electric
O: (516) 377-2220
Email: alivingston@freeportelectric.com

Above email is for intended recipient only and may be confidential. If you are not the intended recipient, please advise the sender immediately. Unauthorized use or distribution is prohibited and may be unlawful
Good Morning All:

Can you please provide an ETA on responses to the below? Thank you!

Thank you,
Laura Munafo
Nassau County Senior Program Manager, Community Reconstruction Program
Governor’s Office of Storm Recovery
500 Bi-County Blvd., Suite 300
Farmingdale, NY 11735
Office: 631-665-9679
Mobile: 518-421-7620
Laura.Munafo@stormrecovery.ny.gov
http://stormrecovery.ny.gov

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From: Accardi, Matt (STORMRECOVERY)
Sent: Tuesday, May 31, 2016 12:02 PM
To: Al Livingston <alivingston@freeportelectric.com>; McAllister, James (STORMRECOVERY) <James.McAllister@stormrecovery.ny.gov>; mneuberger@DB.Eng.com
Cc: Munafo, Laura (STORMRECOVERY) <Laura.Munafo@stormrecovery.ny.gov>; Schnabel, Joshua <jschnabel@louisberger.com>
Subject: RE: Freeport Channel Crossing

Al and/or Michael,

We are very close to completing the environmental review record. Our initial consultation with the EPA regarding the Sole Source Aquifer Program under the Safe Drinking Water Act has generated the following response:

I’m going to need some clarification of the narrative--and some additional details--to complete my review. If you would just forward these questions to the engineer assigned to this project, I’d be most appreciative. (He or she can just insert answers, preferably in red text, beneath each question.)

--The narrative refers to the “replacement of the existing conduits” (implying more than one conduit) but the new tunnel being drilled will apparently accommodate only a single conduit. So is the number of conduits being reduced?

--Will the old conduit(s) be left in place? If so, will the new borehole and conduit be North or South of the old one(s), and how many feet will separate them?

--What will be the diameter and the wall thickness of the new conduit and its material of construction? Will it be rigid or flexible? What will be its total length and how will segments be joined?

--What will be the approximate depth of the conduit beneath the channel bed?

--What is the elevation of the ground water table on each side of the Freeport Crossing Channel—that is, at the “launching pit” and at the “receiving pit”? Will the boring machine encounter ground water?

--What kind of wire or cables will the conduits carry? What are they connected to on each side of the channel?

--Please describe what the “tie lines” and the “riser poles” are. What are their respective functions?

Additionally, the following details are needed to finalize our Environmental Assessment:

1. Were any project alternatives identified during the design process that we can incorporate into the EA (per 24 CFR 58.40(e))?  
2. Are there other foreseeable projects in the area that would be considered from a cumulative impacts perspective (per 24 CFR 58.32)?  
3. Please visit(s) conducted by the design engineers?  
4. The exact area of ground disturbance is still an outstanding item. If we could at least get the approximate trench dimensions we could estimate the amount of ground disturbance (as well as excavated material that will need to be hauled off-site and, thus, potential traffic impacts).

Last, but not least, we intend to publish an early floodplain notice relatively soon. Al, do you have a publication of choice for public notices?

Feel free to contact me anytime to discuss any of the above.

Thanks,
Matt

Matt Accardi
Bureau of Environmental Review and Assessment
Governor’s Office of Storm Recovery
25 Beaver Street, 5th Floor
New York, New York 10004
Office: (212) 480-6265
Mobile: (646) 830-6902
matt.accardi@stormrecovery.ny.gov
Mr. Matt Accardi  
Bureau of Environmental Review and Assessment  
Governor’s Office of Storm Recovery  
25 Beaver Street, 5th Floor  
New York, NY 10004

Dear Mr. Accardi:

This is in response to your letter dated November 1, 2016 to the Environmental Protection Agency (EPA) requesting a Sole Source Aquifer review of the “Freeport Channel Crossing Electrical Improvements” project located in in the Village of Freeport, Nassau County, New York. The project involves the replacement of electrical power lines beneath the Freeport Channel Crossing. We had initially received a letter dated May 26, 2016, from Mr. Tom King of your office, requesting a review of this project. We were then told to put that review on hold. We have since received the aforementioned updated review request, as well as additional information pertaining to questions we had about the project, and we have completed our review. The project is to receive funding from the U.S. Department of Housing and Urban Development’s Community Development Block Grant – Disaster Recovery program (CDBG-DR). The project is located in the Long Island Nassau/Suffolk Aquifer System, designated by the EPA as a Sole Source Aquifer on June 21, 1978 (citation 43 FR 26611). Therefore, our review has been conducted in accordance with Section 1424(e) of the Safe Drinking Water Act (SDWA).

The proposed project aims to protect residents and businesses from future loss of power, and to reduce the risk of injury and fire due to downed electric lines, by making the electrical infrastructure less susceptible to damage. The project area is located on the east and west sides of the Freeport Channel. The project would replace an underwater cable beneath the Freeport Channel that transmits a substantial portion of Freeport Electric’s power. The information provided states that the current conduits, and the risers connecting electric cables to the overhead transmission lines, are vulnerable to tidal inundation and are susceptible to damage from floating debris and drifting vessels during coastal surges and storms. We understand that the current cables are beneath the channel bed but are not deep, and although they are armored, they are not within a conduit; this project will place the cables in a conduit that is much deeper in the channel bed, reducing the damage risk. The project involves the following:

- Replacing the existing cabling and associated conduits and tie lines originally installed below the channel in 1967;
- Extending the new conduits and tie lines further inland;
- Removing riser poles;
- Extending buried lines from the channel to new riser pole locations; and
- Installing three electrical vaults approximately 16 feet long by 8 feet wide by 10 feet high.

Construction of the project involves horizontal directional drilling which would entail creating a borehole beneath the Freeport Channel. Groundwater is 4 feet below grade on the west side of the channel and 6 feet below grade on the east side. The information provided indicates that the borehole is expected to be approximately 34 inches in diameter and 825 feet in length, extending from an entrance pit 200 feet to the east of the channel to a pit located 360 feet to the west of the channel. The borehole will be drilled approximately 35 feet beneath the channel bed. We note that the borehole is stabilized from collapse by virtue of the bentonite-based drilling fluid that fills the borehole; the drilling fluid would be pumped into the excavation through the boring machine cutter head. High-density polyethylene (HDPE) conduits will be pulled through the drilling fluid filled borehole. Based on the information provided, it is our understanding that the it is up to the Contractor whether or not to fill the HDPE conduits with clean water in order to make them less buoyant to assist in pulling them through the borehole. We further understand that the end of the HDPE conduit that will be pulled through the borehole will be sealed by the pulling head and the trailing end of the conduit will be above the ground surface so drilling fluid will not enter. It is our understanding that the ends of the new conduit will extend further out from the channel on both sides than the current conduit, which will be abandoned in place. We understand that the drilling fluid used will be non-toxic and will be disposed of according to all applicable regulations.

We note that a total of eight 6-5/8-inch (outer) diameter HDPE conduits will be pulled through the 34-inch diameter borehole. Four of these conduits will each have three 15-kv, copper cables pulled through them after installation. Two of the conduits will be empty to be available as spares for future 15-kv cables. The other two conduits will also be empty to be available to accommodate future fiber optic cables. The information provided indicates that at each end of the conduit, the cables will emerge from the ground and these "tie lines" will be connected to 40-feet high poles - essentially wooden telephone poles whose positioning and installation will be handled by the Village of Freeport. We trust that the Village has experience with wood preservatives used in telephone poles and will use wood from which those preservatives are not likely to leach into soil and water.

Based on the information provided, the project satisfies the requirements of Section 1424(e) of the SDWA. Please be advised that meeting the requirements of 1424(e) does not preclude the need to meet National Environmental Policy Act (NEPA) requirements to address direct, indirect, and cumulative impacts. This review does not constitute a review under Section 309 of the Clean Air Act; EPA therefore reserves the right to review additional environmental documents on this project.
EPA offers the following for your consideration to reduce environmental impacts and to create a more sustainable project.

**Clean Diesel:**
Implement diesel controls, cleaner fuel, and cleaner construction practices for on-road and off-road equipment used for transportation, soil movement, or other construction activities, including:
- Strategies and technologies that reduce unnecessary idling, including auxiliary power units, the use of electric equipment, and strict enforcement of idling limits; and
- Use of clean diesel through add-on control technologies like diesel particulate filters and diesel oxidation catalysts, repowers, or newer, cleaner equipment.
For more information on diesel emission controls in construction projects, please see:

**Stormwater:**
We emphasize the importance of Low Impact Development (LID) principles such as minimizing effective imperviousness to create site drainage, and the planting of native and non-invasive vegetation on the project site for stormwater management purposes. Other LID practices can include bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. For further information, please see the following website:
http://water.epa.gov/pollwaste/green/

**Encourage cost-efficient, environmentally-friendly landscaping:**
There are many benefits to making greener landscaping choices. For additional information, please see the following website:
http://www2.epa.gov/greenerproducts/identifying-greener-landscaping-choices

**Energy-Efficiency:**
Energy-efficient technologies should be incorporated into all aspects of the project. Please see the following website: http://www.energystar.gov

**Water conservation and efficiency:**
Promote water conservation and efficiency through the use of water efficient products and practices. We recommend considering the use of products with the WaterSense label where appropriate. Please refer to the WaterSense website for tips on water efficiency, a WaterSense labeled product search tool, a list of WaterSense Partners, and access to the Water Budget Tool at: http://www.epa.gov/watersense/

In addition to using WaterSense labeled products and certified professionals, there are many water conservation strategies and best management practices that can be used in new construction. Here are some useful links to water conservation information:
http://www.wbdg.org/resources/water_conserviation.php
http://www.allianceforwaterefficiency.org/
If you have any questions concerning this matter or would like additional information, please feel free to contact Rajini Ramakrishnan of my staff at (212) 637-3731.

Sincerely yours,

[Signature]

Grace Musumeci, Chief
Environmental Review Section
TO: Environmental Review Record  
FROM: Thomas J. King, GOSR Certifying Officer  
RE: REVISED - SEQRA Type II Determination - Freeport Channel Crossing Electrical Improvements - Village of Freeport, Nassau County, New York  
DATE: August 19, 2016

The below SEQRA Type II Determination made pursuant to 6 NYCRR 617.5(c)(2) has been revised and supersedes the previous version executed on August 3, 2016.

The Freeport Channel Crossing Electrical Improvements project is located in the incorporated village Freeport, in the Town of Hempstead on the south shore of Nassau County’s mainland on Long Island, New York. Freeport Electric, the largest municipally-owned utility on Long Island, serves more than 43,000 people. During Superstorm Sandy, infrastructure maintained by Freeport Electric and located adjacent to the Freeport Channel was damaged by untethered vessels and floating debris, tripping the electrical grid in the area. The resulting outage disrupted power to 3,700 residential and commercial customers, and to critical village assets, including three flood sirens, two fire houses, two sewer pump stations, and two schools, as well as the Nautical Mile, the Village’s primary economic district.

The proposed project would replace a submarine cable beneath Freeport Channel that carries a substantial load of Freeport Electric’s power, serving one-quarter of Freeport’s residents. The conduit, and the risers connecting electric cables to the overhead transmission lines, are vulnerable to tidal inundation and are susceptible to damage from floating debris and drifting vessels during coastal surges and storms. The purpose of the project is to make this infrastructure less susceptible to damage and thereby protect residents and businesses from future loss of power and to reduce the risk of injury and fire due to downed electric lines.

Proposed electrical improvements include: replacing the existing circuits and tie lines originally installed below the channel in 1967; extending the underwater circuits and tie lines further inland; removing riser poles; and extending buried lines from the channel through the street right-of-way to new riser pole locations. The Proposed Project would be accomplished through a horizontal directional drilling technique, which would create a bore hole beneath the Freeport Channel. The bore hole is expected to be approximately 825 feet in length and 36 inches in diameter extending east from a 150 square foot entrance pit located 200 feet to the east of the Channel to a 150 square foot exit pit located 360 feet to the west of the Channel.
Outside of the trenchless channel crossing, excavation of an open cut trench approximately 800 feet in length will be performed. Additionally, it is anticipated that there will be three (3) electrical vaults installed approximately 16 feet long by 8 feet wide by 10 feet high. Suitable excavated material will be used as backfill and any surplus excavated material or unsuitable backfill material (clay, etc.) will be disposed of offsite. Construction of the project would begin in February of 2017 and is expected to be complete approximately 9 months later. Project construction would comply with local and state building codes, including the Village of Freeport noise ordinance.

The Governor’s Office of Storm Recovery (GOSR), acting under the auspices of New York State Homes and Community Renewal’s (HCR) Housing Trust Fund Corporation (HTFC), on behalf of the Department of Housing & Urban Development (HUD), has determined that the proposed project meets the requirements for Type II classification under SEQR regulations. Pursuant to 6 NYCRR Part 617.5(c)(2), the proposed project would result in replacement of a structure on the same site. Therefore, pursuant to 6 NYCRR 617.5(c)(2), the proposed project is statutorily exempted from SEQRA.

This determination has been prepared in accordance with Article 8 of the Environmental Conservation Law. Should you have any questions pertaining to this Type II determination, you may contact me at (518) 473-0015 or Thomas.King@stormrecovery.ny.gov.

Thomas J. King, Esq.
Certifying Officer
Governor’s Office of Storm Recovery
NYS Homes and Community Renewal