LINDENHURST DRAINAGE IMPROVEMENTS: NEWARK STREET CULVERT PROJECT

INC. VILLAGE OF LINDENHURST, TOWN OF BABYLON SUFFOLK COUNTY, NEW YORK

ENVIRONMENTAL ASSESSMENT

New York State Governor's Office of Storm Recovery
New York State Homes and Community Renewal
U.S. Department of Housing and Urban Development

JULY 17, 2019

LINDENHURST DRAINAGE IMPROVEMENTS: NEWARK STREET CULVERT PROJECT

Environmental Assessment

JULY 17, 2019

Project Name:	Lindenhurst Drainage Improvements: Newark Street Culvert Project
Project Location:	Newark Street, Village of Lindenhurst, Town of Babylon, Suffolk County, New York
Federal Agency:	U.S. Department of Housing & Urban Development (HUD)
Responsible Entity:	New York State Homes and Community Renewal (HCR) Governor's Office of Storm Recovery (GOSR)
Responsible Agency's Certifying Officer:	Lori A. Shirley, Certifying Environmental Officer 38-40 State Street, Hampton Plaza Albany, New York 12207 Phone: (518) 474-0755 E-mail: Lori.Shirley@nyshcr.org
Project Sponsor: **Primary Contact:**	Village of Lindenhurst Douglas Madlon, Village Clerk/Treasurer 430 S. Wellwood Ave. Lindenhurst, NY 11757 Phone: (631) 957-7503 E-mail: dmadlon@villageoflindenhurstny.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

Environmental Review Prepared By:	Tectonic Engineering & Surveying PO Box 37, 70 Pleasant Hill Road Mountainville, NY 10953	GOSR 500 Bi-County Blvd. Farmingdale NY 11735

CERTIFICATION OF NEPA CLASSIFICATION

It is the finding of the New York State Housing Trust Fund Corporation that the activity(ies) proposed in this 2019 CDBG-DR project, Lindenhurst Drainage Improvements: Newark Street Culvert Project, are:
Project Year Project Name

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.

Lori A Shirley
Signature of Certifying Officer

July 17, 2019
Date

Lori A. Shirley
Print Name

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 this 2019 CDBG-DR project, Lindenhurst Drainage Improvements: Newark Street Culvert Project, are:
Project Year Project Name

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

Lori A Shirley
Signature of Certifying Officer

July 17, 2019
Date

Lori A. Shirley
Print Name

Certifying Officer
Title

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:
The Village of Lindenhurst is requesting $1,033,137.00 in CDBG-DR funds for the Lindenhurst Drainage Improvements: Newark Street Culvert Project (Project), which will involve decommissioning an existing culvert and installation of a new, larger culvert to increase the capacity of the existing drainage system within a low lying area that was impacted during Superstorm Sandy. The Project is located along Newark Street, immediately west of the intersection of Newark Street and Heiling Boulevard in the Village of Lindenhurst, Town of Babylon, Suffolk County, NY. Project location maps are included in **Attachment 1** and Project design plans are included in **Attachment 2**.

Construction activities on Newark Street will include the removal of existing catch basins and associated drainage pipe; excavation of a trench in the roadway; and installation of a new box culvert, new drainage catch basins and drainage pipe, a new headwall with wingwalls and stone rip-rap splash pad as part of erosion control prevention and stormwater speed control upstream of Newark Street, a new headwall and stone rip-rap splash pad as part of erosion control prevention and stormwater speed control downstream of Newark Street, and stone gabion baskets along the creek side slopes for erosion control. The impacted asphalt roadway, driveway aprons, and concrete curbs will be restored to grade. In order to perform the proposed Project activities, water from Heiling Creek will be diverted from the construction area. In order to temporarily divert water from the Project area during the installation of the new culvert, the Project will involve the installation of a temporary headwall with wingwalls and a spillway, and sandbags for pond banking and downstream sediment control in a temporary stormwater diversion. The temporary diversion area will be restored upon completion of the Project. The existing culvert will be used to divert water from the construction area during construction and will be capped and filled upon the completion of Project activities. Trees, shrubs, and grass will be planted in disturbed areas upon the completion of Project activities for wetland restoration. An existing chain link fence south of Newark Avenue will be removed and replaced and a new chain link fence will be installed north of Newark Avenue.

The Project will involve the incorporation of best management practices (BMPs) to prevent the potential runoff of construction-related pollutants and sediment. All work will be completed in accordance with site plans and in accordance with all applicable Federal, State and local regulations, laws and permit requirements and conditions.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:
Superstorm Sandy ravaged the Village of Lindenhurst with immense waves and storm surge that overwhelmed canals, creeks, and shoreline protection and produced up to five feet of floodwater, which lifted cars off streets and boats off moorings and pushed them into homes. Nearly all of the structures south of Montauk Highway flooded, with the most significant damages occurring close to Great South Bay. Portions of Montauk Highway adjacent to the northern most canals were substantially flooded, cutting off access to critical facilities. Boats and debris from storm-battered bulkheads, docks, and other structures were tossed on land, further damaging property along the Bay and the canals. Electricity and communications systems failed due to the water inundation. Tidal flooding during Hurricane Irene exacerbated storm sewer overflow conditions, resulting in flooding of low-lying areas throughout the community.

The Project directly addresses the impacts of Superstorm Sandy and Hurricane Irene. The existing culvert beneath Newark Street is under-sized and cannot allow the runoff north of Newark Street to pass through the existing pipes. Runoff builds up on the north side of Newark Street and overtops the roadway, flooding the road and adjacent properties. The improvements to Newark Street will permit the runoff to adequately pass under the roadway to alleviate flooding that impedes traffic flow and increases flood risk.

The proposed Project would reduce serious and immediate threats to the health and welfare of the community posed by future extreme weather events and would generally reduce the vulnerability of

residences, businesses, and community facilities to flooding that occurs through the storm drainage system. The Project would reduce recurring seasonal flooding and enable the frequently flooded portions of the Village to recover more rapidly after a major weather event. The Project would reduce vulnerability of all residents who must travel through the area during a severe weather event. The occurrence of standing water and the high-water level would be reduced as well as potentially reducing mosquito breeding areas. Flooding created from existing conditions creates unsanitary conditions for both the natural and developed environment that would be improved with the replacement of the culvert. The Project would improve the quality of life for property owners and their families by reducing the threat of flood impacts and increasing safety and would also result in reduced recovery and reconstruction costs following future flooding events.

Existing Conditions and Trends [24 CFR 58.40(a)]:
The proposed Project is located in the Village of Lindenhurst, which is situated on the southwestern end of Suffolk County. Residential properties located in the vicinity of the Project area were impacted by flooding during Superstorm Sandy and other storm events. According to the 2014 Update of the 2008 Suffolk County Multi-Jurisdictional Multi-Hazard Mitigation Plan (the Updated Plan), 13.1 % of the population of the Village of Lindenhurst resides within the 100-year Special Flood Hazard Area (SFHA) and 12.9 % of the land area in the Town of Babylon is located in the 1% annual chance flood zone.

The proposed Project is being undertaken to increase the economic and environmental resiliency of the community for future climate related events. According to the New York Rising Community Reconstruction Plan for the Village of Lindenhurst, the Project would reduce frequently-recurring seasonal flooding and would enable the frequently flooded portions of the Village to recover more rapidly after a major weather event (i.e., severe high tides, nor'easters, 100-year storm or combinations of these events).

Funding Information
Estimated Total HUD Funded Amount: $1,033,137.00

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]**: $1,033,137.00**

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.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Airport Hazards 24 CFR Part 51 Subpart D	Yes ☐ No ☒	Based on guidance provided by HUD via Fact Sheet #D1[1], the National Plan of Integrated Airport Systems (NPIAS) was reviewed for civilian, commercial service and military airports located near the Project area. An Airport Hazards map showing the Project area, airport locations, heliport locations, and their associated buffers is included in **Attachment 3**. There are no civilian, commercial service airports located within 2,500 feet of the proposed Project area. There are no military airports located within 15,000 feet of the Project area. No additional review is required.
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes ☐ No ☒	Based on the USFWS Coastal Barrier Resources System Map[2], the Project is not located in, or immediately adjacent to (within 150 feet), a Coastal Barrier Resource System Unit or Otherwise Protected Area. USFWS Coastal Barrier Resources System Map is included in **Attachment 3**. No additional review is required.

[1] Fact Sheet #D1: Siting HUD-Assisted Projects in Accident Potential Zones. https://www.michigan.gov/documents/mshda/mshda_cd_nsp2_air_accident_315724_7.pdf

[2] USFWS Coastal Barrier Resources System mapper. https://www.fws.gov/ecological-services/habitat-conservation/cbra/maps/mapper.html

Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes ☐ No ☒	Based on the FEMA National Flood Hazard Layer Map included in *Appendix II* of **Attachment 4**, the Project is not located within a FEMA[3] Special Flood Hazard Area. Additionally, proof of National Flood Insurance Program insurance is not required, as the proposed Project does not involve insurable structures. No additional review is required.
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5		
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes ☐ No ☒	The proposed Project is located in Suffolk County, which is listed as a Former Subpart 1 maintenance area[4] for inhalable particulate matter (PM2.5) and a moderate non-attainment area for the 8-hour Ozone standard. Temporary emissions would result from equipment during construction with no increased emissions occurring due to the operation of the proposed Project. Therefore, a conformity and screening analysis was performed according to the requirements of 40 CFR 93, Subpart B (federal general conformity regulations). The screening analysis assumed that the emissions intensity per expenditure (tons per dollar) for the proposed Project would be similar to the average intensity of the construction sector in the county. Projects with a projected construction expenditure substantially lower than the average construction de minimis expenditure would not exceed de minimis emissions levels for general conformity purposes. Based on the screening analysis, the construction expenditure threshold for Suffolk County is $440 million before a project may be expected to exceed the de minimis expenditure thresholds requiring further analysis or conformity determination (**Attachment 5**). The estimated construction cost of the Project is approximately $1,033,137.00, which is less than the $440 million threshold; thus, the Project would not require further analysis for a conformity determination.

[3] FEMA https://msc.fema.gov/portal

[4] EPA, *Nonattainment Areas for Criteria Pollutants*. https://www.epa.gov/green-book
EPA, *Recent Updates: Federal Register Notices Published or Effective After September 22, 2016* http://www.epa.gov/airquality/greenbook/adden.html

Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93		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 Project will not result in siting any new source of air pollutants. The Project will 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. Additionally, the following measures are recommended to 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

Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93		original equipment manufacturer (OEM) or retrofitted. Retrofitted DPFs must be verified by EPA. Active DPFs or other technologies proven to achieve an equivalent reduction may also be used. No additional review is required.
Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes ☐ No ☒	Based on the USFWS CBRS Map, the Project is not located in or immediately adjacent (within 150 feet) to a Coastal Barrier Resource System Unit or Otherwise Protected Area, as documented in **Attachment 3**. The Project is not located within the New York State Coastal Boundary[5] or a Local Waterfront Revitalization Program Community as shown in the NYS Department of State (DOS) Coastal Boundary map, included as part of **Attachment 3**. No additional review is required.
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes ☐ No ☒	Based on a review of available environmental records for the Project area and surrounding area, the Project area is unlikely to contain hazardous materials, contamination, toxic chemicals and gases, or radioactive substances, which would constitute a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Project area. Therefore, a Phase I Environmental Site Assessment (ESA) or Phase II Investigation is not warranted. Maps, EPA documents, and NYSDEC documents are included in **Attachment 6**. No additional review is required.
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes ☐ No ☒	According to the NYSDEC Environmental Resource Mapper (ERM) and Environmental Assessment Form (EAF) Mapper, there are no documented occurrences of rare plants or animals in the vicinity of the Project area (**Attachment 7**). According to the NYSDEC ERM, there are old or potential records of the flax-leaf whitetop, Collins' sedge, velvety bush-clover, orange milkwort, and Barratt's sedge in Lindenhurst and/or Babylon; however, these records are historic and do not have precise locations, and the

[5] New York Department of State Geographic Information Gateway. https://appext20.dos.ny.gov/coastal_map_public/map.aspx

Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402		proposed Project is located in a disturbed area that does not provide potential habitat for these species. Therefore, the Project is anticipated to have no effect on NYSDEC regulated threatened or endangered plants or animals. The U.S. Fish and Wildlife Service (USFWS) lists the northern long-eared bat (threatened), piping plover (threatened), red knot (threatened, roseate tern (endangered), sandplain gerardia (endangered) and seabeach amaranth (threatened) as the only threatened, endangered, proposed, or candidate species that may occur within the boundary of the proposed Project. The Project will involve construction in developed residential areas that do not support or provide habitat for any rare, threatened or endangered plant or animal species. Therefore, GOSR determined that the proposed Project would have "no effect" on species under the jurisdiction of the USFWS. The USFWS response was not received within 30 days from submission of the no effect determination to USFWS. Thus, GOSR may presume that its "no effect" determination is informed by the best available information and its project responsibilities under Section 7 of the ESA have been fulfilled. The USFWS Consultation Package is included in **Attachment 7**. The Project does not involve activities below the high tide line or any activities that would introduce stressors to listed species or their designated critical habitats under the jurisdiction of National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) pursuant to the ESA. Therefore, GOSR has determined that the proposed Project would have "no effect" on species under the jurisdiction of the NMFS. No additional review is required.
Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes ☐ No ☒	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 involve these activities,

Explosive and Flammable Hazards 24 CFR Part 51 Subpart C		nor does it involve the introduction of bulk storage of hazardous materials. No additional review is required.
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	Yes ☐ No ☒	Not applicable. The Project is not located within an Agricultural District as identified by New York State and the University of Cornell in **Attachment 8**. Additionally, the Project activities occur in a densely developed residential area, the USDA NRCS notes that the soil is rated as "Not Prime Farmland", and the Project does not involve the conversion of farmland to non-agricultural use. No additional review required.
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	Yes ☐ No ☒	The Project is not located within a FEMA SFHA, according to the FEMA National Flood Hazard Layer Map (FIRM 36103C0842H, effective 9/25/2009), included in *Appendix I* of **Attachment 4**. Therefore, a formal floodplain review process is not required for compliance with Executive Order 11988 Floodplain Management. However, since the Project involves construction in wetlands, a 5-step review of the proposed Project pursuant to 24 CFR Part 55 was undertaken. The Floodplain Management & Wetlands Protection Determination is included in **Attachment 4**.
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800; Tribal notification for new ground disturbance.	Yes ☐ No ☒	On November 2, 2018, the New York State Historic Preservation Office (SHPO) reviewed the proposed Project and provided a 'No Historic Properties Affected' determination for the proposed undertaking. This determination is included as part of **Attachment 9**. Additionally, as the construction work solely involves work in previously disturbed soils, there is no adverse effect on tribal resources; no consultation with the applicable Tribal Historic Preservation Officers is required. In the event of any inadvertent discoveries of human remains and/or cultural resources including, but not limited to, funerary objects, sacred objects and objects of cultural patrimony are made during execution of the project scope, then work shall be halted immediately and the SHPO and THPO of all appropriate Tribes,

		Nations and Communities shall be consulted before work can be resumed. No additional review is required.
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes ☐ No ☒	The Project use is not a noise-sensitive use, and the funded scope of work is defined as minor, or non-substantial. The proposed activities are not expected to generate excessive noise during the short-term construction work and will adhere to local noise control standards. The proposed Project will be completed in accordance with all applicable federal, state and local permit requirements and conditions. Therefore, the proposed Project would not generate any significant adverse noise impacts. No additional review is required.
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes ☐ No ☒	The Project is located above the Nassau-Suffolk Sole Source Aquifer. The Project activities were reviewed according to the non-housing project activity initial screen criteria form included in **Attachment 10**. Based on this review, the Project does not meet criteria which would require the Project to be forwarded to the EPA for preliminary sole source aquifer review. No additional review is required.
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes ☒ No ☐	The proposed Project is located within and adjacent to both federally mapped and state designated wetlands as shown in *Appendix I* of **Attachment 4**. A formal wetland management review process is required for compliance with Executive Order 11990 Protection of Wetlands. The 5-step decision making process is included in **Attachment 4**.
Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes ☐ No ☒	The Proposed Project is not located within proximity of any wild, scenic or recreational rivers, as designated by the U.S. Department of the Interior, Congress, or NYSDEC[6]; the Proposed Project is not located within the proximity of any waterway included in the National Wild and Scenic Rivers System[7] or Nationwide Rivers Inventory[8] (NRI). A

[6] NYSDEC Wild, Scenic, and Recreational Rivers. http://www.dec.ny.gov/permits/32739.html
[7] U.S. Department of Interior: National Wild and Scenic Rivers System. http://www.rivers.gov/new-york.php
[8] U.S. Department of Interior: Nationwide Rivers Inventory. http://www.nps.gov/ncrc/programs/rtca/nri/states/ny.html

		NYSDEC & NPS Wild and Scenic Rivers Map is included as part of **Attachment 3**. No additional review is required.
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	Yes ☐ No ☒	The Project is not located in an area defined by the NYSDEC as a potential environmental justice area[9], as shown by the map included in **Attachment 3**. Therefore the proposed Project does not contribute to, or promote, environmental injustice. No additional review is required.

[9] NYSDEC Environmental Justice. https://www.dec.ny.gov/public/333.html

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

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	2	One of the Priority Actions listed in the *Framework for the Future: Suffolk County Comprehensive Master Plan 2035* is developing effective tools to make communities more resilient to the effects of natural events, including implementing measures and systems that can serve as buffers or barriers to the effects of storms and flooding. The proposed Project involves the decommissioning of an existing undersized culvert and installation of a new, larger culvert to increase the capacity of the existing drainage system within a low lying area that was impacted by Superstorm Sandy. The Project is consistent with the existing land use and is in accordance with local zoning. Therefore, the Project is compatible with local land use and zoning and is in accordance with the current land use.
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	1	Per the topographic map for the Project area, the Project is located in an area of minimal topographic relief. The proposed Project activities would not significantly alter the slope of the Project area. The existing culvert beneath Newark Street is under-sized and cannot allow the runoff north of Newark Street to pass through the existing pipes. Runoff builds up on the north side of Newark Street and overtops the roadway, flooding the road and adjacent properties. The improvements to Newark Street will permit runoff to adequately pass under the roadway to alleviate flooding that impedes traffic flow and increases flood risk.

Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff		Therefore, the Project will improve the area's ability to handle stormwater runoff. The Project will involve the incorporation of best management practices (BMPs) to prevent the potential runoff of construction-related pollutants and sediment. All work will be completed in accordance with site plans and in accordance with all applicable federal, state and local regulations, laws and permit requirements and conditions.
Hazards and Nuisances including Site Safety and Noise	2	Based on a review of available environmental records for the proposed Project and surrounding area, the proposed Project is unlikely to be impacted by hazardous materials, contamination, toxic chemicals and gases, and radioactive substances. No hazards are anticipated to affect the health and safety of occupants or conflict with the intended utilization of the proposed Project. An in depth review of New York State and Federal records, including maps, NYSDEC reports, and EPA reports, are included as part of **Attachment 6**. The proposed Project is not a noise-sensitive use. The proposed activities are not expected to generate excessive noise during the short-term construction work and will adhere to local noise control standards. The proposed Project will be completed in accordance with all applicable federal, state and local permit requirements and conditions. Therefore, the proposed Project would not generate any significant adverse noise impacts.
Energy Consumption	2	The proposed Project will cause a temporary increase in energy consumption in the form of fossil fuels for construction equipment necessary for project site construction activities. However, the proposed Project will not increase long-term energy consumption.

Environmental Assessment Factor	Impact Code	Impact Evaluation
SOCIOECONOMIC		
Employment and Income Patterns	2	The proposed Project would not adversely affect employment opportunities or income patterns, would not impact traffic and potential customer access to residences and businesses in the area, either during construction or operation.
Demographic Character Changes, Displacement	2	The Project is not expected to cause any change in the demographic character of the area. This Project does not involve residential development or activities. There is no known potential for the Project to cause the displacement of individuals

Demographic Character Changes, Displacement		or families, destroy jobs, local businesses or public community facilities, or disproportionately affect particular populations.

Environmental Assessment Factor	Impact Code	Impact Evaluation
COMMUNITY FACILITIES AND SERVICES		
Educational and Cultural Facilities	2	The proposed Project will not introduce any new populations that would increase the student population of the area. As such, the proposed Project would not have an impact on educational or cultural facilities.
Commercial Facilities	2	The proposed Project will not introduce any new commercial development that would require additional retail services or other commercial facilities.
Health Care and Social Services	2	The proposed Project will not introduce any new development that would require the availability of additional routine or emergency health services.
Solid Waste Disposal / Recycling	2	The proposed Project will not introduce any new development that would generate waste water. Mitigative measures and BMPs will be utilized during construction to prevent soil and/or debris from being washed off-site. No additional waste water will be generated during construction.
Waste Water / Sanitary Sewers	2	The proposed Project will not introduce any new development that would generate waste water. Mitigative measures and BMPs will be utilized during construction to prevent soil and/or debris from being washed off-site. No additional waste water will be generated during construction.
Water Supply	2	The proposed Project will not increase demand for water. As such, the proposed Project will not have an impact on local water supplies.
Public Safety - Police, Fire and Emergency Medical	2	The proposed Project will not generate new demand for police, fire, or emergency services. The proposed Project will not impact traffic. Therefore, there will be no adverse effect on the access and travel time for emergency services.
Parks, Open Space and Recreation	2	This Project will not introduce new development that would generate new demand for open space resources or impede open space access. The Project is located adjacent to Firemen's Memorial Park and Training Ground; however, the Project will not encroach onto parkland nor is it expected to have adverse effects on park resources, including visual, ecological, and recreational resources. The Project will permit runoff to adequately pass under the roadway to alleviate flooding of the

Parks, Open Space and Recreation		surrounding area, including Firemen's Memorial Park and Training Ground.
Transportation and Accessibility	2	Besides limited trips generated by construction vehicles during a short window of construction, the proposed Project will not introduce new development that generates continuing demand for transportation access or transportation services.

Environmental Assessment Factor	Impact Code	Impact Evaluation
NATURAL FEATURES		
Unique Natural Features, Water Resources	2	According to the NYSDEC, there are no unique geological features located on or adjacent to the proposed Project. According to NYSDEC's Environmental Resource Map, the proposed Project is not located in or adjacent to "Significant Natural Communities." This data layer identifies locations within ½ mile of an identified significant natural community as shown in **Attachment 3**. The proposed Project will involve construction in USFWS mapped and NYSDEC regulated freshwater wetlands (NYSDEC Wetland ID: A-8) and the regulated 100-foot adjacent area. The Project will contribute to community resiliency and reduce its vulnerability to flooding. Project activities will be completed in accordance with all applicable federal, state and local permit requirements and conditions. Permits required for this project will be obtained by the Village of Lindenhurst before commencing work. Additionally, BMPs and erosion control measures will be incorporated into the proposed Project. Silt fencing will be utilized around construction related ground disturbance and downstream check dams are proposed to capture sediment from the work area. The streambank will be stabilized with gabion baskets and stacked envirolok sacks that will be planted. Landscape planting is included as part of the proposed Project. All disturbed areas will be hydroseeded and replanted and biodegradable matting will be used to assist in stabilizing the streambank while the plantings mature. Upon Project completion, the Project area will be regraded and revegetated with appropriate native species, which will lead to improved bank stabilization. The Project will involve landscape planting of native species and removal of invasive species. The new box culvert will be partially submerged and the bottom will be backfilled with soil and stone to replicate natural stream bottom conditions.

Unique Natural Features, Water Resources		**Watershed Analysis** The Project is not located within and will impact any of the 47 identified watersheds with watershed plans in NYS[10] The proposed Project will not introduce new demand for groundwater or surface water, nor would the proposed Project introduce septic flows that may affect groundwater. Additionally, the proposed Project will not significantly increase impervious surfaces or impede waters during future storm or flooding events. Therefore, unique natural features or water resources are not expected to be permanently affected by this proposed Project. No adverse impacts to water resources are anticipated from the proposed Project.
Vegetation, Wildlife	1	The proposed Project will not introduce nuisance or non-indigenous species of vegetation. After the new culvert is installed, the Project will involve landscape planting of native species and removal of invasive species. The new box culvert will be partially submerged and the bottom will be backfilled with soil and stone to replicate natural stream bottom conditions. The Project will not damage or destroy rare, threatened, or endangered species or their habitat. The Project will have no effect on state or federally threatened species, endangered species or species of concern. The NYSDEC ERM and EAF mapper documents, USFWS Official Species List and IPaC Resource List, and USFWS No Effect Determination letter are annexed in **Attachment 7**. For a detailed Endangered Species analysis, see the Endangered Species section above (Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402).
Other Factors		There are no other factors identified or evaluated for the proposed Project.

[10] NYSDEC Watershed Plans. http://www.dec.ny.gov/chemical/99985.html

Additional Studies Performed:
The Culvert, and Leaching Structures, Project was selected from the *Comprehensive Drainage Infrastructure Master Plan for the Village of Lindenhurst*, prepared by Nelson & Pope Engineers and Surveyors, July 2016.

Attachments:

- **Attachment 1:** Project Location Maps
  - Street Map
  - Topographic Map
  - Aerial Photograph
- **Attachment 2:** Project Design Plans
- **Attachment 3:** Project Reference Maps
  - FAA Airport Hazards Map
  - USFWS Coastal Barrier Resources System Map
  - NYSDOS Coastal Boundary Map
  - NYSDEC & NPS Wild and Scenic Rivers Map
  - NYSDEC Critical Environmental Areas Map
  - NYSDEC Potential Environmental Justice Areas Map
- **Attachment 4:** Floodplain Management and Protection of Wetlands Determination
  - Appendix I
    - USFWS NWI Map
    - NYSDEC Wetlands and Waterways Map
    - NYSDEC Tidal Wetlands Map
  - Appendix II
    - FEMA National Flood Hazard Layer Map
- **Attachment 5:** CAA De Minimis Threshold Analysis & General Conformity Worksheet
- **Attachment 6:** HUD Environmental Standards Review
  - HUD Environmental Report Maps and EPA NEPAssist Map
  - NYSDEC Reports for Spills, Environmental Remediation Sites, or Bulk Storage Sites located on, or in close proximity to, the Project Area
  - US EPA Permitted Facilities Located on or Within 3,000 Feet of the Project Area and in Non-compliance with the EPA Permit Requirements
- **Attachment 7:** Endangered Species Compliance Documents
  - NYSDEC Environmental Resource Map
  - NYSDEC Environmental Resource Map Information
  - USFWS Consultation Letter
- **Attachment 8:** Agricultural and NRCS Soil Resource Documents
  - New York State Agricultural Districts Map
  - USDA NRCS Soil Resource Report
  - USDA NRCS Shallow Excavation Report
  - USDA NRCS Farmland Classification Report
- **Attachment 9:** SHPO Documentation
  - SHPO Response
- **Attachment 10:** US EPA Sole Source Aquifer Analysis
  - EPA Sole Source Aquifer Map
  - Non-Housing / Project Activity Initial Screen
- **Attachment 11:** Environmental Permits
  - NYSDEC Permit

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

- Federal Aviation Administration (FAA)
- Federal Emergency Management Agency (FEMA)
- United States Environmental Protection Agency (USEPA)
- United States Fish and Wildlife Service (USFWS)
- National Marine Fisheries Service (NMFS)
- United States Department of Agriculture (USDA)
- Natural Resources Conservation Service (NRCS)
- United States Department of Interior (USDOI)
- National Parks Service (NPS)
- United States Geological Survey (USGS)
- New York State Department of Environmental Conservation (NYSDEC)
- Natural Heritage Program (NHP)
- New York State Department of State (NYSDOS)
- New York State Historic Preservation Office (SHPO)
- Framework for the Future: Suffolk County Comprehensive Master Plan 2035 (2015).
- Village of Lindenhurst Drainage Improvements: Pre-Application Report (8/9/2017).
- Village of Lindenhurst, NY Rising Community Reconstruction Program Plan, March 2014.

List of Environmental Permits Obtained or Required:

- NYSDEC Article 24 – Freshwater Wetlands Permit
- NYSDEC Excavation & Fill in Navigable Waters – Under Article 15, Title 5
- NYSDEC Section 401 Water Quality Certification
- USACE Section 404 of the Clean Water Act Permit

Public Outreach [24 CFR 50.23 & 58.43]**:**

- October 1, 2018 – Progress Update Meeting
- February 11, 2016 – Village Hall Public Meeting to discuss Drainage Infrastructure Projects

Cumulative Impact Analysis [24 CFR 58.32]**:**

This Project was evaluated according to the Project Design Plans included as **Attachment 2**. Two other projects in the Village of Lindenhurst that are designed to alleviate future storm damage and flooding are currently being reviewed. These projects are separated geographically (located in different parts of the Village of Lindenhurst) and differ in scope of work, so they are being reviewed independently. There are no other known future projects in the vicinity of the Project that would create environmental or social impacts in the area. The Project is compatible with the existing land use and will contribute to community resiliency and its reduced vulnerability to flooding.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]

One potential alternative is to conduct an in-place culvert replacement instead of decommissioning the existing culvert and installing a new culvert. This alternative would involve additional disturbance to wetlands and the NYSDEC regulated freshwater wetlands adjacent area, as it would require the installation of a culvert as a temporary stream diversion, as opposed to the current proposed Project design, which utilizes the existing culvert to temporarily divert water during the installation of the new culvert. There are no reasonable alternatives. The current proposed Project plans are the least environmentally damaging potential alternative and the Project involves the implementation of BMPs to prevent the potential runoff of construction-related pollutants and sediment.

No Action Alternative [24 CFR 58.40(e)]:
The primary alternative for the proposed Project is the "no action" alternative. This alternative means that there would be no work undertaken to alleviate the flood problem, rehabilitate the Project area, or mitigate the future flooding. This would leave the surrounding community vulnerable to future flood damage. The "no action" alternative would provide no protection to the residential neighborhoods and greater community from future flood events, as mitigation would be compromised due to lack of financial support. Thus, the "no action" alternative is not feasible in relation to the desired objective of creating area resiliency to future flooding events.

Under the no action alternative, the culvert will continue to fail during rain events, causing flooding issues to the surrounding roadways and adjoining properties. Continued undermining of the adjacent banks will lead to a deterioration of infrastructure. The Project represents the optimal opportunity to improve infrastructure to allow continued use of the surrounding residential area.

Summary of Findings and Conclusions:
The preceding Statutory Checklist, Environmental Assessment Checklist and the discussion below document that the proposed work will comply with regulations in 24 CFR part 58 and that there are no direct or cumulative adverse environmental impacts anticipated as a result of the proposed action.

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.

Any change to the approved scope of work will require re-evaluation by the Certifying Officer for compliance with NEPA and other laws and Executive Orders.

This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize federal funding.

If there is any unanticipated discovery of endangered or threatened species, cultural resources, soils contamination, or any other conditions affecting the factors, executive orders, stipulations, and/ or regulations discussed within this assessment, work shall be halted immediately and the appropriate agency will be consulted before work can be resumed.

Law, Authority, or Factor	Mitigation Measure
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	The proposed Project is located within and adjacent to federally mapped and state designated wetlands. The following wetland-related permits will be required prior to commencement of project activities: • NYSDEC Article 24 - Freshwater Wetlands Permit • NYSDEC Excavation & Fill in Navigable Waters – Under Article 15, Title 5 • NYSDEC Section 401 Water Quality Certification

Wetlands Protection Executive Order 11990, particularly sections 2 and 5	• USACE Section 404 of the Clean Water Act Permit Permits required for the Project will be obtained by the Village of Lindenhurst before commencing work. Additionally, BMPs and erosion control measures will be incorporated into the proposed Project. Silt fencing will be utilized around construction related ground disturbance and downstream check dams are proposed to capture sediment from the work area. The streambank will be stabilized with gabion baskets and stacked envirolok sacks that will be planted. Landscape planting is included as part of the proposed Project. All disturbed areas will be hydroseeded and replanted and biodegradable matting will be used to assist in stabilizing the streambank while the plantings mature. Upon Project completion, the Project area will be regraded and revegetated with appropriate native species, which will lead to improved bank stabilization. The Project will involve landscape planting of native species and removal of invasive species. The new box culvert will be partially submerged and the bottom will be backfilled with soil and stone to replicate natural stream bottom conditions. Project activities will be completed in accordance with all applicable federal, state and local laws, regulations, and permit requirements and conditions. Required NYSDEC permit authorizations for the Project have been obtained and the NYSDEC permit is included in **Attachment 11**.

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.

Standard Conditions for All Projects

Any change to the approved scope of work will require re-evaluation by the Certifying Officer for compliance with NEPA and other laws and Executive Orders.

This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize federal funding.

Preparer Signature: _____ Date: July 17, 2019

Name/Title/Organization: Kristofer Mierisch, Senior Environmental Analyst

Certifying Officer Signature: _____ Date: July 17, 2019

Name/Title: Lori A. Shirley – Environmental Certifying Officer

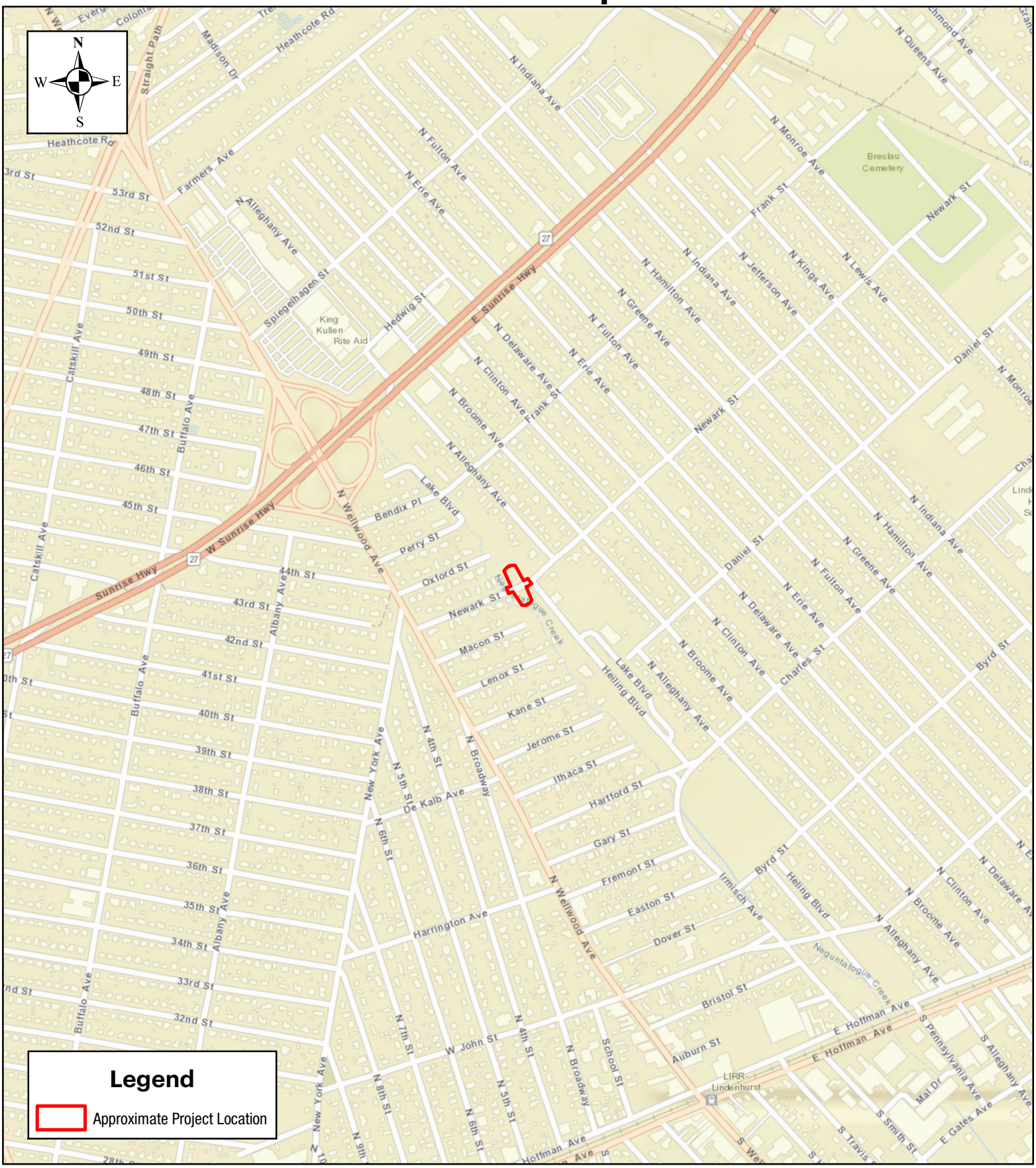
This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

Attachment 1

Project Location Maps

Street Map
Topographic Map
Aerial Photograph

Street Map



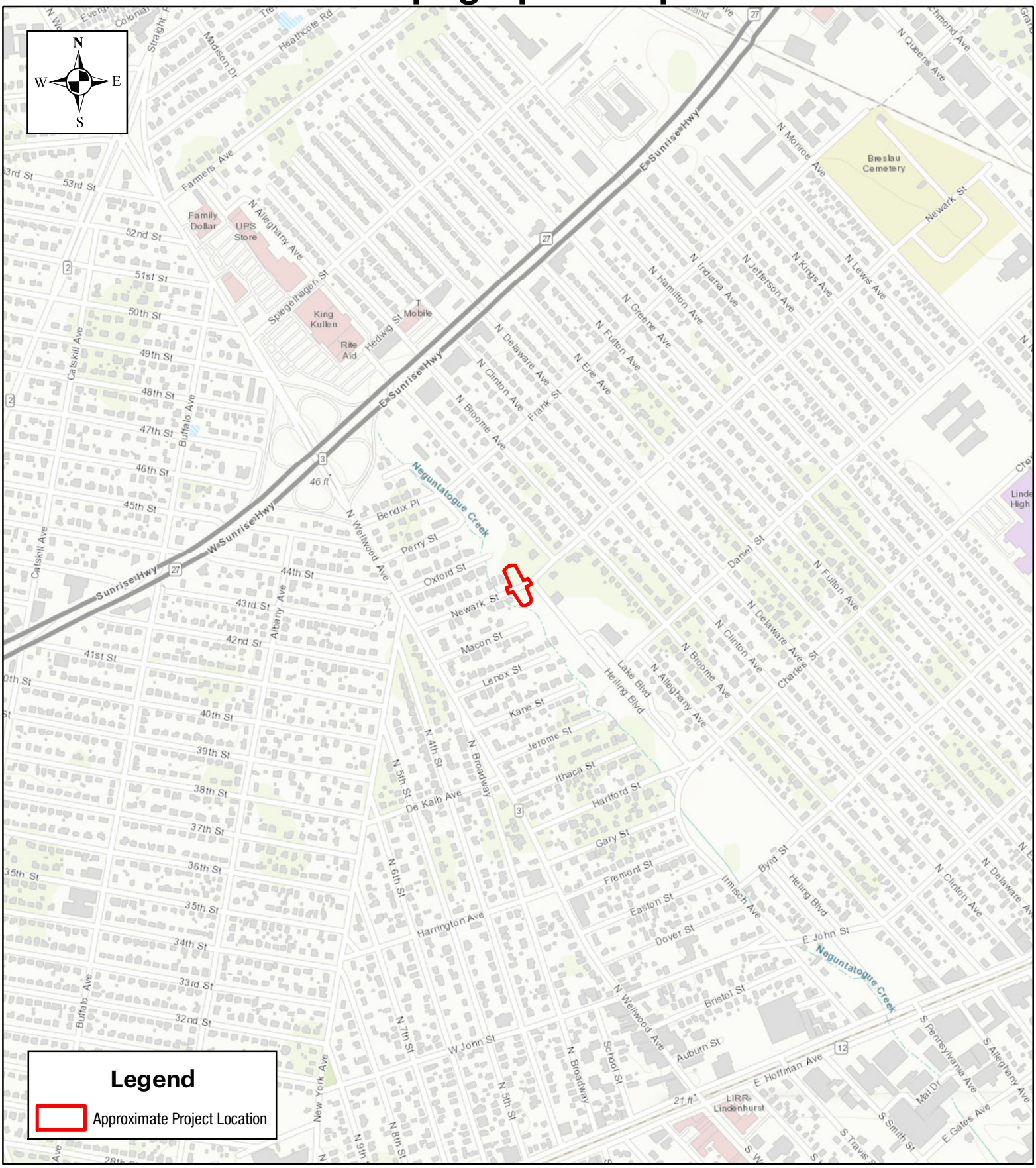
Tectonic

1:10,000

0 500 1,000 2,000 Feet

Lindenhurst Drainage Improvements:
Newark Street Culvert Project
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

Topographic Map



Tectonic

1:10,000

0 500 1,000 2,000 Feet

Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

Aerial Map

Tectonic

1:3,000

0 125 250 500 Feet

Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

Attachment 2

Project Design Plans

KEY MAP
NTS

VILLAGE OF LINDENHURST

PLANS FOR THE DEC

RECONSTRUCTION OF

NEWARK AVE DRAINAGE CULVERT

SUFFOLK COUNTY, NEW YORK

A PROJECT FUNDED BY AND CONCEIVED THROUGH THE NY RISING COMMUNITY RECONSTRUCTION PROGRAM OF THE GOVERNOR'S OFFICE OF STORM RECOVERY

NELSON & POPE No. 18197
FEBRUARY 2019

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, PROFESSIONAL ENGINEERING AND LAND SURVEYING, SECTION 7209 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

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NELSON & POPE
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WWW.NELSONPOPE.COM

No.	DATE	REVISION	BY:
-	-	-	-/-

DWN. BY:	JD
CHK'D BY:	JD/RZS
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197COV.DWG
SCALE:	NONE
DRAWING NUMBER:	C-1
SHEET:	1 OF 14

MISCELLANEOUS NOTES:

1. THE LOCAL FIRE DEPARTMENTS, EMERGENCY SQUADS, AND THE LOCAL POLICE DEPARTMENT SHALL BE NOTIFIED A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE CONTRACTOR COMMENCING CONSTRUCTION. THE ABOVE LISTED AGENCIES OR DEPARTMENTS SHALL BE NOTIFIED A MINIMUM OF ONE (1) WORKING DAY IN ADVANCE OF THE CONTRACTOR CONDUCTING WORK THAT WILL HAVE AN IMPACT ON THE TRAVEL ROUTES OR RESPONSE ROUTES.

2. DRAINAGE FRAMES AND GRATES SHALL NOT BE ADJUSTED IN A TRAVEL LANE UNLESS THE FINAL COURSE IS PLACED PRIOR TO THE ONSET OF SNOW AND ICE WEATHER. STEEL PLATES, ETC., SHALL NOT PROTRUDE ABOVE THE ADJACENT PAVEMENT. IF ANY OF THESE PROTRUSIONS EXIST IN A NON-TRAVEL LANE PRIOR TO SNOW AND ICE CONDITION, THEN TEMPORARY ASPHALT RAMPS MUST BE PLACED SO THAT FOR EVERY ONE INCH OF RISE THERE IS A SIX FOOT RUN OF RAMP.

3. ALL WORK WITHIN THE VILLAGE OF LINDENHURST RIGHT-OF-WAY (ROW), AS SHOWN ON THE PLANS, SHALL CONFORM TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) SPECIFICATIONS, STANDARD DETAILS, AND PERMITS, OR AS ORDERED BY THE VILLAGE OF LINDENHURST REPRESENTATIVE.

4. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH FIELD CONDITIONS.

5. THE CONTRACTOR SHALL TAKE PRECAUTIONS NOT TO LEAVE DEBRIS, MATERIALS, AND TOOLS, ETC., ON THE ROADWAY SURFACE WHEN LEAVING THE WORK AREA. IN ADDITION, THE CONTRACTOR SHALL TAKE PRECAUTIONS THAT NO DEBRIS, ETC., INTERFERES WITH ADJACENT OPEN TRAFFIC LANES AND PEDESTRIAN WALKS.

6. ALL OPERATIONS SHALL BE CONDUCTED SO AS NOT TO INTERFERE WITH, INTERRUPT, OR ENDANGER THE OPERATION OF TRAFFIC, NOR DAMAGE, DESTROY, OR ENDANGER THE INTEGRITY OF VILLAGE FACILITIES OR ADJACENT PROPERTIES .

7. THE VILLAGE OF LINDENHURST WILL NOT UNDERTAKE OR ACCEPT FINANCIAL RESPONSIBILITY FOR ANY REMEDIATION OR SIMILAR ACTIVITY WITH RESPECT TO THE REMOVAL OF HAZARDOUS WASTES AND NON-HAZARDOUS SOLID INDUSTRIAL WASTES. WHICH UNDER LAW WOULD NOT BE REQUIRED AT THE TIME BUT FOR THE ACCOMMODATION OF UTILITY FACILITIES WITHIN THE RIGHT-OF-WAY. SUCH RESPONSIBILITY AND COSTS SHALL BE SOLELY THOSE OF THE OWNER OR PERMITTEE.

8. PAVEMENT AND SHOULDER REMOVAL SHALL BE DONE IN A MANNER THAT PROVIDES FOR PROPER RESTORATION OF THE REPLACEMENT SECTION. GENERALLY, STRAIGHT, VERTICAL CUTS OF THE PAVEMENT AND SHOULDER WILL BE REQUIRED. SHEETING MAY BE REQUIRED. PAVEMENT THAT BECOMES UNDERMINED SHALL BE CUT BACK AND REMOVED. ALTERNATIVE REPAIR METHODS MAY BE USED IF PRIOR APPROVAL IS GRANTED BY THE VILLAGE.

9. THE LIMIT OF PAVEMENT REPLACEMENT SHALL BE SUCH THAT THE REPLACED PAVEMENT IS SUPPORTED BY THOROUGHLY COMPACTED SUBBASE MATERIAL AND THE PAVEMENT IS RESTORED TO THE PROPER GRADE, SURFACE TOLERANCE AND SURFACE TEXTURE.

10. TEMPORARY PAVEMENTS AND SHOULDERS SHALL BE PLACED AS SOON AS A CROSSOVER INSTALLATION IS COMPLETED. IF PERMANENT PAVEMENT PLACEMENT IS TO BE DELAYED, TEMPORARY PAVEMENT RESTORATION SHALL CONSIST OF A MINIMUM COMPACTED THICKNESS OF THREE INCHES (75MM) OF ASPHALT CONCRETE, AND APPROVED BASE MATERIAL OF A DEPTH TO PROVIDE FOR PERMANENT PAVEMENT. IN SITUATIONS WHERE HEAVY TRAFFIC LOADS ARE ANTICIPATED OR CASES WHERE THE TEMPORARY PAVEMENT IS REQUIRED FOR A PROTRACTED PERIOD, MORE SUBSTANTIAL PAVEMENT AND BACKFILL DESIGN MAY BE REQUIRED. THE ASPHALT CONCRETE SHALL BE MAINTAINED FLUSH WITH THE EXISTING PAVEMENT UNTIL THE PAVEMENT IS RESTORED PERMANENTLY.

11. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS (CURB, SIDEWALK, ASPHALT, GUTTER, SOD, PAVEMENT, ETC.) IN-KIND.

12. ALL EXISTING PAVEMENT MARKINGS THAT ARE DAMAGED OR REMOVED BY CONSTRUCTION PROCESSES UNDER THIS WORK SHALL BE RESTORED AS REQUIRED OR AS ORDERED BY THE ENGINEER RESPONSIBLE FOR CONSTRUCTION INSPECTION. SEE PAVEMENT MARKING LEGEND FOR DETAILS AND ITEMS.

13. ALL EXISTING SIGNS THAT ARE DAMAGED OR REMOVED BY CONSTRUCTION PROCESSES UNDER THIS WORK SHALL BE RESET OR REPLACED AS REQUIRED OR AS ORDERED BY THE ENGINEER RESPONSIBLE FOR CONSTRUCTION INSPECTION.

14. NEW CURB NOT ABUTTING EXISTING CURB, SHALL BE RAMPED DOWN TO ZERO HEIGHT REVEAL IN THE LAST 10 FEET.

15. TREES AND SHRUBS ARE TO BE PRUNED IN ACCORDANCE WITH BOTH SECTION 201 AND THE FOLLOWING REQUIREMENTS. ALL COSTS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 201.06 M.

(A) THE CONTRACTOR SHALL CAREFULLY CUT OFF ALL BRANCHES OF PLANTS HANGING WITHIN 16 FEET ABOVE ANY PART OF THE ROADWAY OR WITHIN 2 FEET OF THE EDGE OF THE SHOULDER. BRANCHES SHALL BE TRIMMED AT THE TRUNK TO MAINTAIN A CALLOUS RIDGE.

(B) PRUNING MAY BE REQUIRED BEYOND THE LIMITS INDICATED IN ORDER TO MAINTAIN ADEQUATE SIGHT DISTANCE FOR ALL TRAFFIC SIGNS AND SIGNALS. ADDITIONAL BRANCH PRUNING MAY ALSO BE REQUIRED ON ANY TREE WHERE BRANCHES ARE REMOVED IN ORDER TO MAINTAIN AN ESTHETIC BALANCE. ALL SUCH ADDITIONAL PRUNING SHALL BE AS ORDERED BY THE ENGINEER.

(C) ALL WORK SHALL BE DONE ACCORDING TO ACCEPTABLE HORTICULTURAL AND PRUNING PRACTICES.

(D) THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY EXISTING TREES THAT ARE TO REMAIN. ANY DAMAGE THROUGH CARELESSNESS OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE, AOBE.

16. IN LOCATIONS WHERE NARROW VEGETATIVE BUFFERS EXIST BETWEEN PARKWAYS AND ADJACENT BUILDINGS (RESIDENCIES) THE CONTRACTOR SHALL NOT REMOVE VEGETATION AS TO CREATE SIGHT LINES FROM ADJACENT BUILDINGS TO THE PARKWAY OR FROM THE PARKWAY TO ADJACENT BUILDINGS.

17. AREAS TO BE SEEDED ON THIS PROJECT MAY BE SUBJECT TO VEHICLE INTRUSIONS WHICH MAY RESULT IN THE NECESSITY OF RESEEDING. THE CONTRACTOR IS ADVISED TO TAKE ADEQUATE PROTECTIVE MEASURES TO MINIMIZE SUCH VEHICLE INTRUSIONS. THE FOLLOWING PROTECTIVE MEASURES ARE SUGGESTED:

A. ORANGE PAINTED 1-1/2 X 1-1/2 WOODEN STAKES EXTENDING 1 FOOT ABOVE THE GROUND SURFACE SHOULD BE PLACED IMMEDIATELY IN BACK OF THE CURB AT 50 FOOT INTERVALS.

B. SIGNS APPROXIMATELY 18 INCH x 6 INCH IN SIZE, PROJECTING 1 FOOT ABOVE THE GROUND, WITH THE WORDS "SEEDED AREA" SHOULD BE PLACED AT MAXIMUM 200 FEET INTERVALS AND 7 FOOT OFFSET FROM THE CURB THROUGHOUT THE SEEDED AREA SUBJECT TO INTRUSION.

C. REFLECTORIZED DRUMS, AT A 7 FOOT OFFSET FROM THE CURB, SHALL BE PLACED AT 200 FEET LONGITUDINAL INTERVAL. THESE DRUMS SHOULD ALTERNATE WITH THE SIGNS SUGGESTED UNDER B ABOVE.

19. THE DISTURBED AREAS SHALL BE SEEDED, FERTILIZED AND MULCHED AS SPECIFIED FOR THE STANDARD SEEDING ITEM, TURF ESTABLISHMENT, EXCEPT THE SEED SHALL BE TALL FESCUE, COMMERCIAL IMPROVED VARIETIES, 85% MINIMUM GERMINATION, 140 LB OF PURE LIVE SEED PER ACRE, RED FESCUE, COMMERCIAL, 85% MINIMUM GERMINATION, 25 LB OF PURE LIVE SEED PER ACRE, AND PERENNIAL RYE GRASS COMMERCIAL IMPROVED VARIETIES, 80% MINIMUM GERMINATION, 100 LB OF PURE LIVE SEED PER ACRE, TOTAL 250 LB OF PURE LIVE SEED PER ACRE, UNLESS OTHERWISE DIRECTED BY THE REGIONAL LANDSCAPE ARCHITECT.

WHEN SMALL AMOUNTS OF SEEDING, LESS THAN 1 ACRE, IS REQUIRED FOR RESTORATION AND THE SEED MIX AS SPECIFIED ABOVE IS NOT AVAILABLE AT THE TIME OF SEEDING, EQUIVALENT SEED MIX MAY BE APPROVED BY THE REGIONAL LANDSCAPE ARCHITECT.

NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK, BUT THE COST SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS CONTRACT ITEMS.

20. ONLY THOSE TREES DESIGNATED FOR REMOVAL ON AN EACH BASIS IN THE PLANS SHALL BE REMOVED AND PAID FOR UNDER THE CONTRACT ITEM(S) FOR TREE REMOVAL. ALL OTHER TREE REMOVALS SHALL BE PAID FOR UNDER THE CLEARING AND GRUBBING ITEM. THE CONTRACTOR SHALL NOTIFY THE E.I.C TWO (2) WEEKS PRIOR TO REMOVAL OF ANY TREES AND SHALL NOT START HIS OPERATION UNTIL APPROVED BY THE E.I.C.

21. CLEARING AND GRUBBING WILL BE REQUIRED FOR THE FULL LENGTH OF THE CONTRACT. THE PLANS SHOW ONLY CERTAIN SPECIFIC WORK REQUIREMENTS.

22. CLEARING AND GRUBBING SHALL INCLUDE THE REMOVAL OF ALL TREES 6 INCH IN DIAMETER OR LESS. TREES LARGER THAN 6 INCH IN DIAMETER SHALL BE REMOVED UNDER ITEM 614.03XX, AS SHOWN AND TABULATED ON THE PLANS OR AS ORDERED BY THE ENGINEER. THE CONTRACTOR SHALL NOTIFY THE E.I.C TWO (2) WEEKS PRIOR TO REMOVAL OF ANY TREES AND SHALL NOT START HIS OPERATION UNTIL APPROVED BY THE E.I.C.

23. IN AREAS OF ROW ACQUISITION EXISTING FENCING, GUIDE RAIL, SIGNS, ETC. MAY NOT BE SHOWN ON THE PLANS. THESE ITEMS SHALL BE REMOVED UNDER CLEARING AND GRUBBING UNLESS OTHERWISE SHOWN ON THE PLANS. THEY SHALL BE REMOVED TO THE ROW TAKING LINE AND STOCKPILED ON THE ADJACENT PROPERTY IF REQUESTED TO DO SO BY THE ADJACENT PROPERTY OWNER; OR IT SHALL BE REMOVED FROM THE JOB SITE AS DIRECTED BY THE ENGINEER. THE REMAINING PORTION ON PRIVATE PROPERTY SHALL BE PROPERLY RESTORED AOBE. EXAMPLE: WHEN REMOVING CHAIN LINK FENCE, A NEW END POST SHALL BE INSTALLED AT THE ROW LINE WITH THE REMAINING FENCE PROPERLY ATTACHED. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK, BUT THE COST SHALL BE INCLUDED IN THE PRICE BID FOR CLEARING & GRUBBING _ ITEM 201.06.

24. SOIL BORINGS HAVE BEEN TAKEN AT SPECIFIED LOCATIONS AS SHOWN ON THE CONSTRUCTION PLANS.

25. GROUND WATER MAY BE ENCOUNTERED DURING THE INSTALLATION OF THE VARIOUS CONTRACT ITEMS. THE COST FOR NECESSARY DEWATERING SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

UTILITY NOTES:

1. CONTRACTOR SHALL CONTACT UTILITY COMPANIES FOR MARK-OUT OF ALL FACILITIES PRIOR TO CONSTRUCTION. THE UTILITY COMPANIES SHALL BE NOTIFIED A MINIMUM OF FIVE (5) WORKING DAYS BEFORE THE CONTRACTOR COMMENCES WORK. ANY UTILITY RELOCATIONS OR CROSSINGS SHALL BE COORDINATED WITH THE UTILITY COMPANY OWNING THE FACILITY.

2. EXISTING UTILITY FACILITIES REMOVAL, RELOCATION, OR MODIFICATION SHALL BE COMPLETED PRIOR TO COMMENCING PAVEMENT WORK. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF THE MODIFICATION OF ALL UTILITIES WITH THE UTILITY FACILITY OWNER. THE OWNER OF THE UTILITY FACILITY MAY CHOOSE TO PERFORM RELOCATIONS OR MODIFICATIONS WITH OTHER FORCES.

3. EXISTING UNDERGROUND AND OVERHEAD UTILITIES AS SHOWN HEREIN HAVE BEEN DETERMINED BY STANDARD SURVEYING METHODS AND AVAILABLE RECORDS. NEITHER THE EXACT LOCATION NOR THE INFORMATION OF THESE EXISTING UTILITIES IS GUARANTEED TO BE COMPLETE OR CORRECT.

4. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND FACILITIES TO AVOID CONFLICTS WITH ANY NEW UNDERGROUND WORK. THE CONTRACTOR SHALL DIG TEST PITS AS REQUIRED TO DETERMINE EXACT LOCATIONS OF EXISTING UTILITIES. ANY EXISTING DRAINAGE AND TRAFFIC SIGNAL FACILITIES THAT ARE DAMAGED OR REMOVED BY CONSTRUCTION PROCESSES SHALL BE REPLACED IN ACCORDANCE WITH CURRENT VILLAGE OF LINDENHURST STANDARDS AND DETAILS.

5. THE PERMITTEE IS RESPONSIBLE FOR THE COORDINATION OF AND COST OF ALL UTILITY RELOCATIONS OR ADJUSTMENTS THAT ARE SHOWN TO BE DONE BY OTHERS.

6. THE CONTRACTOR IS TO EMPLOY A LICENSED SURVEYOR TO PERFORM ANY REQUIRED LAYOUT, ESTABLISHMENT OF ELEVATIONS AND GRADES, PRIOR TO CONSTRUCTION.

7. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NOT TO DISTURB ANY MONUMENTS AND BENCH MARKS WITHIN PROJECT LIMITS PRIOR TO THE START OF ANY EXCAVATION.

8. ANY EXPENSE INCURRED IN REPLACING MONUMENTS OR BENCHMARKS THAT THE CONTRACTOR, OR ANY EMPLOYEE, MAY HAVE FAILED TO PRESERVE SHALL BE PAID BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE VILLAGE.

SURVEY NOTES:

1. THE CONTRACTOR IS TO EMPLOY A LICENSED SURVEYOR TO PERFORM ANY REQUIRED LAYOUT, ESTABLISHMENT OF ELEVATIONS AND GRADES, PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NOT TO DISTURB ANY MONUMENTS AND BENCH MARKS WITHIN PROJECT LIMITS PRIOR TO THE START OF ANY EXCAVATION.

3. ANY EXPENSE INCURRED IN REPLACING MONUMENTS OR BENCHMARKS THAT THE CONTRACTOR, OR ANY EMPLOYEE, MAY HAVE FAILED TO PRESERVE SHALL BE PAID BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE VILLAGE.

SHEET INDEX

SHEET	DRAWING No.	DESCRIPTION
1	C-1	TITLE, KEY MAP - 1
2	LAN-1	LEGEND, INDEX, ABBREVIATIONS, AND NOTES - 1
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10	DP-1	DIVERSION PLAN - 1
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FEATURE	SYMBOL EXISTING	SYMBOL PROPOSED
BOUNDARIES		
HIGHWAY BOUNDARY LINE		
VILLAGE, CITY OR TOWN LIMITS		
BUILDING		
BUILDING LINE		
ROADWAY AND SIDEWALK		
CURB LINE		
SIDEWALK	SW	
DRIVEWAY APRON		
SIDEWALK RAMP		
TRAFFIC FLOW		
VEGETATION		
TREES, DECIDUOUS		
TREES, CONIFEROUS		
SHRUBS, BUSHES		
TOPSOIL AND SEED	GRASS	
TRAFFIC SIGNAL SYSTEMS		
PULLBOX		
SPAN WIRE	SPAN	
TRAFFIC SIGNAL POLE		
TRAFFIC SIGNAL POLE WITH CONTROLLER CABINET		
CONTROLLER OR DETECTOR CABINET		
TRAFFIC SIGNAL FACE		
PEDESTRIAN SIGNAL FACE		
PEDESTRIAN PUSH BUTTON		
ALUMINUM VEHICLE DETECTOR HOUSING		
AERIAL TRAFFIC SIGNAL COMMUNICATION CABLE		
UNDERGROUND TRAFFIC SIGNAL CONDUIT		
LOOP DETECTOR	LOOP	
SURVEY DATA		
SPOT ELEVATION	X 34.13	X 35.96
BASELINE		
HORIZONTAL CONTROL LINE		
EROSION CONTROL		
DRAINAGE STRUCTURE PROTECTION		

FEATURE	SYMBOL EXISTING	SYMBOL PROPOSED
UTILITIES BELOW GROUND		
STORM DRAIN INLET		
GAS VALVE		
WATER VALVE		
ELECTRIC LINE	E	
FIRE COMMUNICATIONS LINE	FD	
GAS LINE	8"G	
SANITARY SEWER LINE	S	
STORM DRAINAGE LINE	D	D
TELEPHONE LINE	T	
WATER LINE	8"W	
INFORM LINE	INFORM	
CABLEVSION LINE	CA	
ELECTRIC MANHOLE	Ⓔ	
GAS MANHOLE	Ⓖ	
LIPA MANHOLE	Ⓛ	
SANITARY SEWER MANHOLE	Ⓢ	
STORM DRAINAGE MANHOLE	Ⓓ	
TELEPHONE MANHOLE	Ⓣ	
FIRE HYDRANT		
STREET LIGHT		
FIELD INLET		
UTILITIES ABOVE GROUND		
MISCELLANEOUS OVERHEAD WIRES		
GUY WIRE		
UTILITY POLE		
UTILITY POLE WITH RISER		
MISCELLANEOUS FEATURES		
SIGNS		
GUIDE RAIL		
MEDIAN BARRIER		
RETAINING WALL		
FENCE		
NORTH ARROW (TRUE)	NORTH	
TOPOGRAPHY		
CONTOURS	36.5 36.0 37.0	
LIMIT OF RESTORATION, GRADING OR CLEARING AND GRUBBING		

TOPOGRAPHIC ABBREVIATIONS:

E	ELECTRIC
G	GAS
GP	GUY POLE
GSB	GAS SERVICE BOX (HOUSE CONNECTION)
GV	GAS VALVE (MAIN LINE)
HPG	HIGH PRESSURE GAS
HYD	HYDRANT
LP	LIGHT POLE
LPG	LOW PRESSURE GAS
SA	SANITARY SEWER
ST	STORM DRAINAGE DEWRE
T	TELEPHONE
TEL P	TELEPHONE POLE
CA	CABLE TELEVISION
W	WATER
WM	WATER METER
WSB	WATER SERVICE BOX (HOUSE CONNECTION)
WV	WATER VALVE (MAIN LINE)
ABUT	ABUTMENT
AOBE	AS ORDERED BY THE ENGINEER
ASPH	ASPHALT
BLDG	BUILDING
BM	BENCH MARK
BR	BRIDGE
CONC	CONCRETE
CONST	CONSTRUCTION
CR	COUNTY ROAD
DWY	DRIVEWAY
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
FP	FENCE POST
FND	FOUNDATION
FL	FENCE LINE
GAR	GARAGE
GR	GRAVEL
HO	HOUSE
HWY	HIGHWAY
MB	MAIL BOX
MON.	MONUMENT
PAV'T	PAVEMENT
RR	RAILROAD
RTE	ROUTE
ROW	RIGHT OF WAY
RW	RETAINING WALL
ST.	STREET
SW	SIDEWALK
TL	TREELINE
BC	BOTTOM OF CURB
CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CULV.	CULVERT
DI	DROP INLET
EL	ELEVATION

ALIGNMENT ABBREVIATIONS

AH	AHEAD
AZ	AZIMUTH
BK	BACK
℄	BASELINE
BRG	BEARING
℄	CENTERLINE
CS	CURVE TO SPIRAL
D	DEGREE OF CURVE
DIA	DIAMETER
E MAX	MAXIMUM SUPERELEVATION
EQ	EQUALITY
EXT	EXTERNAL
HCL	HORIZONTAL CONTROL LINE
HSD	HEADLIGHT SIGHT DISTANCE
L	LENGTH OF CIRCULAR CURVE
LS	LENGTH OF SPIRAL
LVC	LENGTH OF VERTICAL CURVE
MC	CENTER CORRECTION OF VERTICAL CURVE
ℳ	MAIN LINE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
POI	POINT ON LINE
PSD	PASSING SIGHT DISTANCE
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS
SC	SPIRAL TO CURVE
SSD	STOPPING SIGHT DISTANCE
ST	SPIRAL TO TANGENT
STA	STATION
T	TANGENT LENGTH
TGL	THEORETICAL GRADE LINE
TS	TANGENT TO SPIRAL
VC	VERTICAL CURVE

DRAINAGE ABBREVIATIONS

BB	BOTTOM OF BANK (STREAM)
BC	BOTTOM OF CURB
BO	BOTTOM OF OPENING
CAP	CORRUGATED ALUMINUM PIPE
CB	CATCH BASIN
CI	CURB INLET
CIP	CAST IRON PIPE
℄ STRM	CENTERLINE OF STREAM
CMP	CORRUGATED METAL PIPE
CP	CONCRETE PIPE
CSP	CORRUGATED STEEL PIPE
CULV	CULVERT
DI	DROP INLET
D'XING	DITCH CROSSING
EHW	EXTREME HIGH WATER
ELEV OR EL	ELEVATION
ELW	EXTREME LOW WATER
ES	END SECTION
FI	FIELD INLET
HW	HEADWALL
INV	INVERT
LB	LEACHING BASIN
MH	MANHOLE
MHW	MEAN HIGH WATER
OCMP	OBLATE CORRUGATED METAL PIPE
OHW	ORDINARY HIGH WATER
OLW	ORDINARY LOW WATER
RCP	REINFORCED CONCRETE PIPE
TB	TOP OF BANK
TC	TOP OF CURB
TG	TOP OF GRATE
TO	TOP OF OPENING
VCP	VITRIFIED CLAY PIPE
VTP	VITRIFIED TILE PIPE

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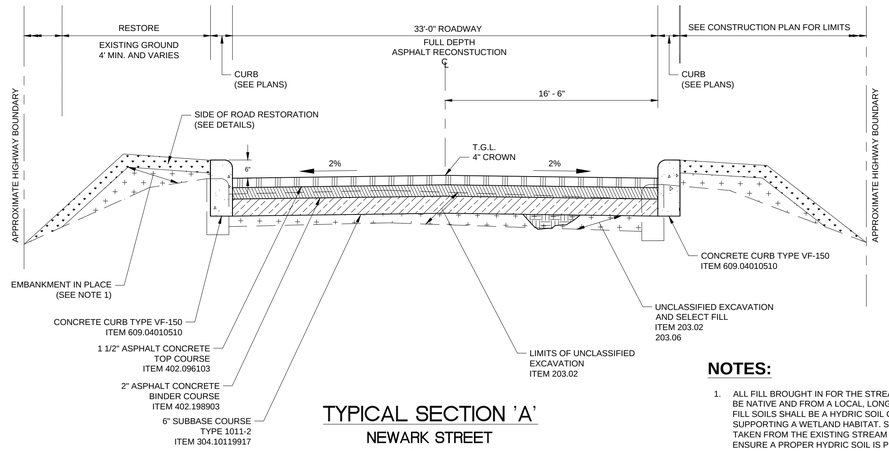
CLIENT:
VILLAGE OF LINDENHURST
430 SOUTH WELLWOOD AVE
LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197COV.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
LEGEND AND NOTES - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE
MASTER STUDY

DRAWING NUMBER:
LAN - 1

SHEET: 2 OF 14



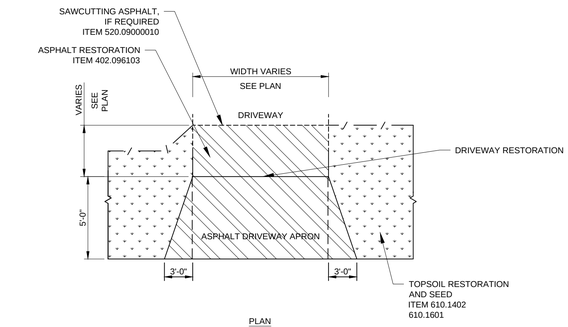
TYPICAL SECTION 'A'

NEWARK STREET

NOT TO SCALE

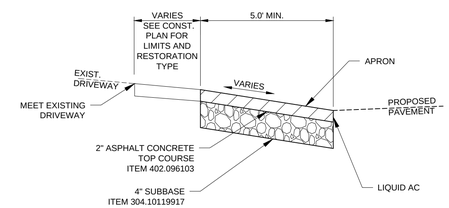
NOTES:

1. ALL FILL BROUGHT IN FOR THE STREAM MITIGATION SHALL BE NATIVE AND FROM A LOCAL, LONG ISLAND, NY SOURCE. FILL SOILS SHALL BE A HYDRIC SOIL CAPABLE OF SUPPORTING A WETLAND HABITAT. SOIL SAMPLES SHALL BE TAKEN FROM THE EXISTING STREAM AND ANALYZED TO ENSURE A PROPER HYDRIC SOIL IS PROVIDED.



PLAN

NOT TO SCALE

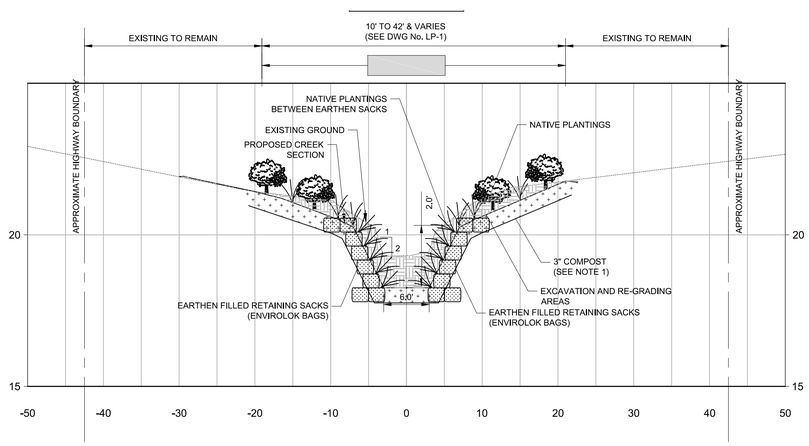


ASPHALT DRIVEWAY SECTION

NOT TO SCALE

ASPHALT DRIVEWAY RESTORATION DETAIL

NOT TO SCALE



HEILING CREEK

TYPICAL SECTION

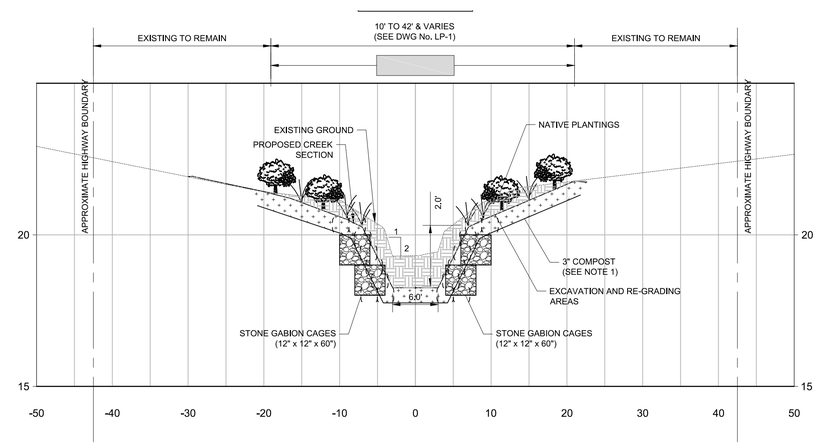
STA. HC 11±25 TO HC 11±55

STA. HC 12±80 TO HC 13±10

NOT TO SCALE

NOTES:

1. THE CONTRACTOR SHALL EXCAVATE AND REPLACE EXISTING SOIL WITH 6" OF A 70% SAND, 30% CLEAN COMPACT MIX.
2. ALL FILL BROUGHT IN FOR THE STREAM MITIGATION SHALL BE NATIVE AND FROM A LOCAL, LONG ISLAND, NY SOURCE. FILL SOILS SHALL BE A HYDRIC SOIL CAPABLE OF SUPPORTING A WETLAND HABITAT. SOIL SAMPLES SHALL BE TAKEN FROM THE EXISTING STREAM AND ANALYZED TO ENSURE A PROPER HYDRIC SOIL IS PROVIDED.



HEILING CREEK

TYPICAL SECTION

STA. HC 11±55 TO HC 11±80

STA. HC 12±60 TO HC 12±80

NOT TO SCALE

No.	DATE	REVISION	BY:
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CLIENT:

VILLAGE OF LINDENHURST
430 SOUTH WELLWOOD AVE
LINDENHURST, NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	OCTOBER 2018
JOB No.:	18197
CADD:	18197DET.DWG
SCALE:	AS SHOWN

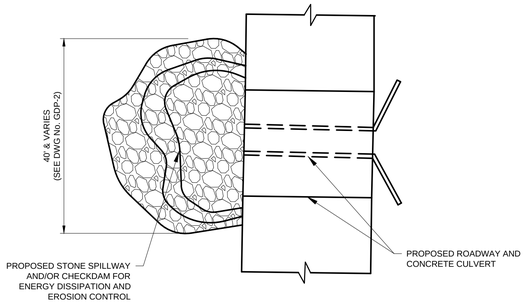
DRAWING TITLE:

TYPICAL SECTION - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE
MASTER STUDY

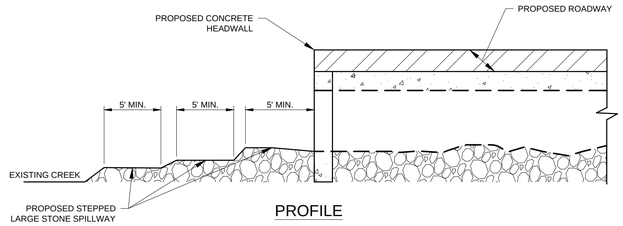
DRAWING NUMBER:

TYP-1

SHEET: 3 OF 14



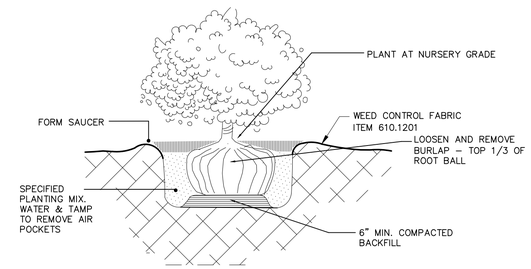
PLAN



PROFILE

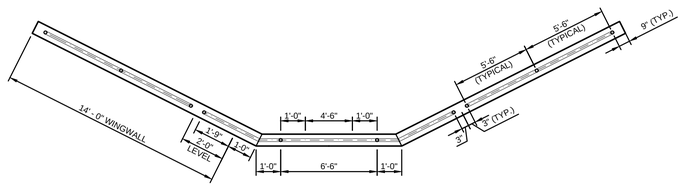
STONE RIP-RAP

NOT TO SCALE



SHRUB PLANTING

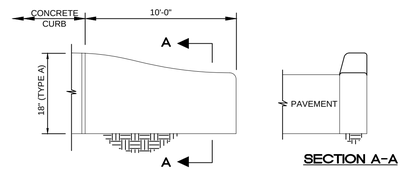
NOT TO SCALE



PLAN

HEADWALL / WINGWALL DETAIL

NOT TO SCALE



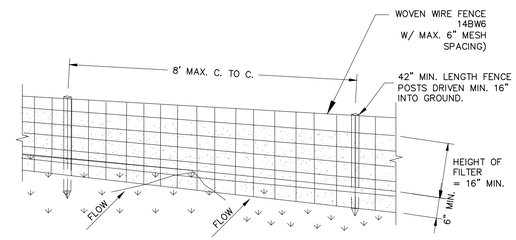
SECTION A-A

CONCRETE CURB END SECTION

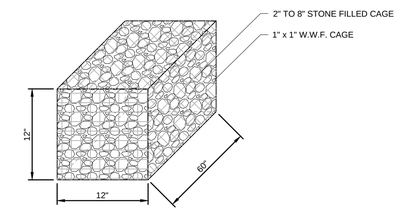
NOT TO SCALE

CURB NOTES:

1. 1/2" PREMOULDED BITUMINOUS JOINT FILLER SHALL BE PLACED IN JOINTS AT 60 FOOT INTERVAL OR EVERY THIRD JOINT ALONG THE LENGTH OF THE CURB AND WHERE THE CURB ABUTS DRAINAGE CASTINGS.

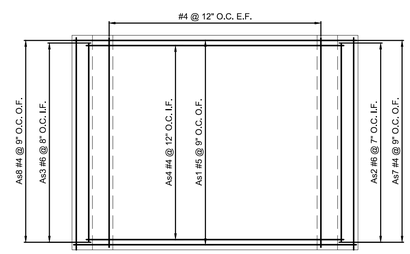


PERSPECTIVE VIEW

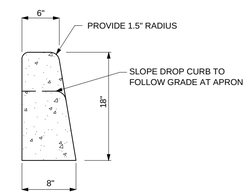


STONE GABION BASKETS

NOT TO SCALE

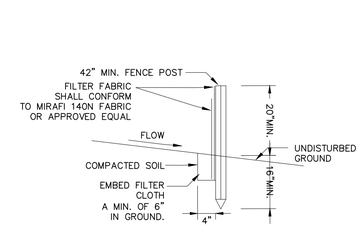


END REINFORCING VIEW



CONCRETE CURB DETAIL

NOT TO SCALE



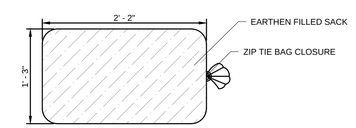
SECTION VIEW

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 14BW6 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

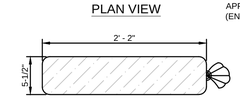
TEMPORARY SILT FENCE

N.T.S.



PLAN VIEW

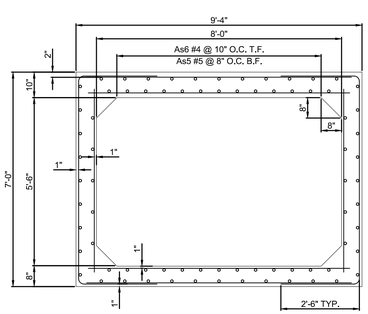
APPROX. VOL: 1.25 CY
(ENVIROLOK OR APPROVED EQUAL)



ELEVATION VIEW

EARTHEN BERM SACKS

NOT TO SCALE



SECTION VIEW

CONCRETE CULVERT

NOT TO SCALE

CULVERT NOTES:

1. DESIGN IS IN ACCORDANCE WITH ASTM C1433 AND AASHTO STANDARD SPECIFICATION, 17TH EDITION.
2. LIVE LOAD = HS20, MAIN REINFORCING PERPENDICULAR TO TRAFFIC..
3. EARTH FILL FOR DESIGN < 2'.
4. EQUIVALENT FLUID PRESSURE = 30PCF MIN 60PCF MAX.
5. CONCRETE STRENGTH = 5,000PSI
6. MATERIALS AND MANUFACTURING SHALL CONFORM TO ASTM C1433 SPECIFICATIONS.
7. OPENINGS, SIZE AND LOCATION, AS REQUIRED. PROVIDE ADDITIONAL REINFORCING EQUAL TO THE BARS INTERRUPTED BY OPENINGS > 8", HALF EACH SIDE AND IN THE SAME PLANE.
   7.1. PROVIDE #4 DIAGONAL TRIM BARS
8. LIFTING AND HANDLING SHALL CONFORM TO OSHA STANDARDS.

No.	DATE	REVISION	BY:
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CLIENT:
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DWN. BY:	MM
CHK'D BY:	JD
DATE:	OCTOBER 2018
JOB No.:	18197
CADD:	18197DET.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
NEWARK STREET CULVERT CONSTRUCTION
MISCELLANEOUS DETAILS - 1
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
DET-1

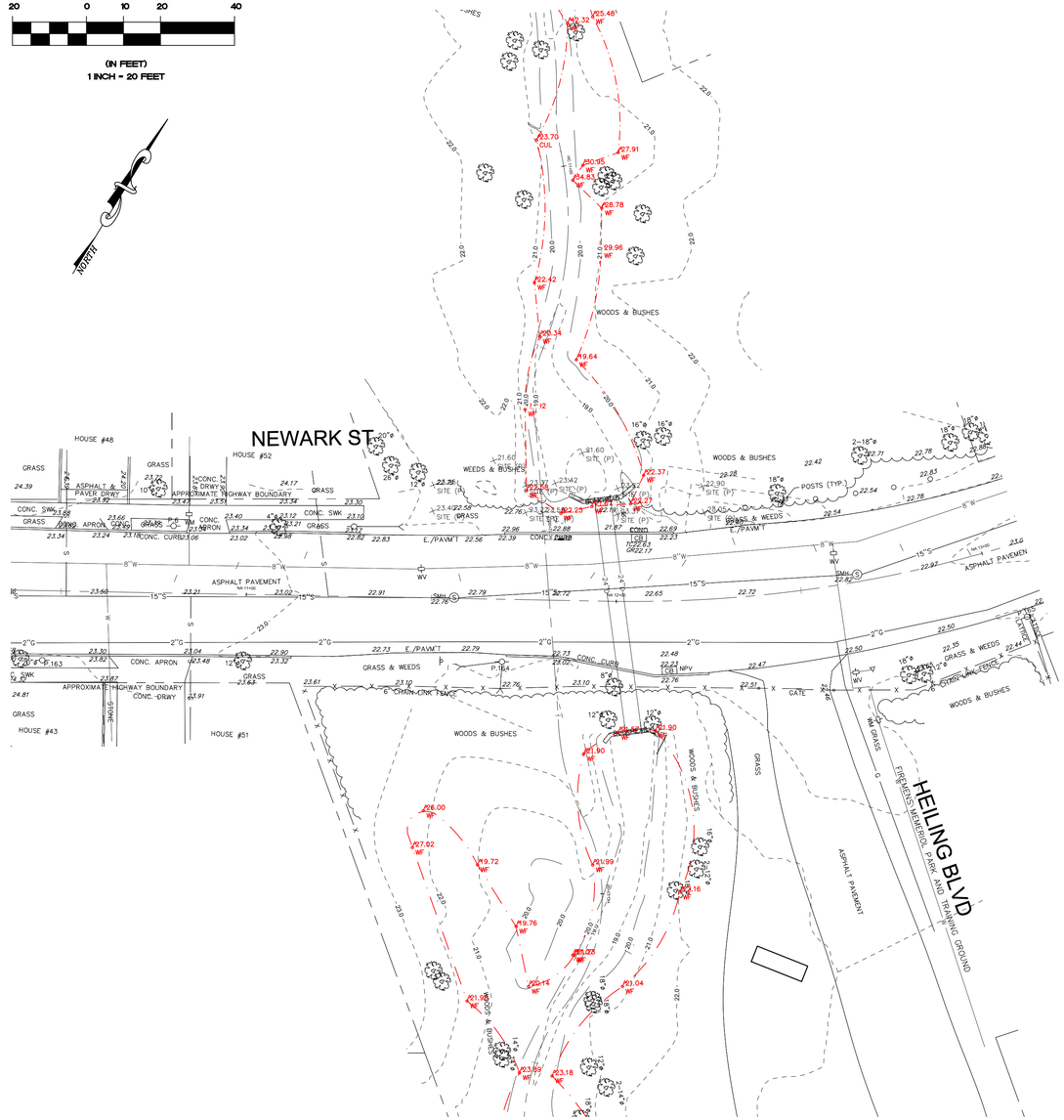
SHEET: 4 OF 14

GRAPHIC SCALE

20 0 10 20 40

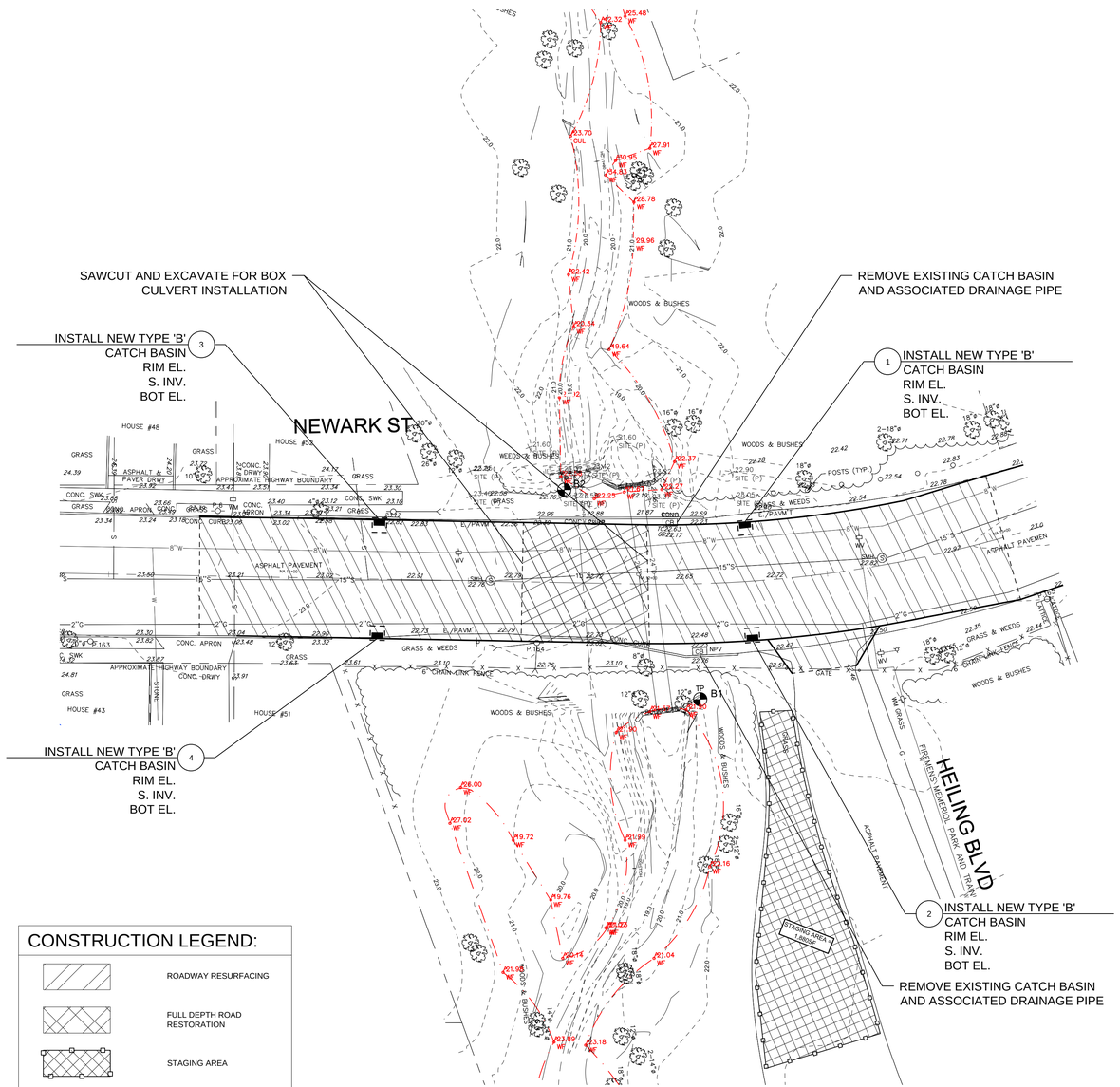
(IN FEET)
1 INCH = 20 FEET

NORTH



EXISTING CONDITIONS

1) **EXISTING DUAL 24" PIPE CROSSING UNDER ROADWAY CONNECTING CREEK STORMWATER DISCHARGE**



CONSTRUCTION LEGEND:

- ROADWAY RESURFACING
- FULL DEPTH ROAD RESTORATION
- STAGING AREA
- CATCH BASIN
- CONCRETE CURB
- SAWCUT / ROADWAY RESURFACING LIMITS
- SILT FENCE
- WETLANDS DELINEATION

PHASE 1
DRAINAGE AND ROAD EXCAVATION/CONSTRUCTION

1) **EXCAVATE AND INSTALL NEW DRAINAGE CATCH BASINS.**
2) **PERFORM SAWCUT FOR CULVERT TRENCH TO BE EXCAVATED**

No.	DATE	REVISION	BY:

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LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
WORK ZONE TRAFFIC CONTROL - 2
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
WZTC-2

SHEET: 6 OF 10

GRAPHIC SCALE

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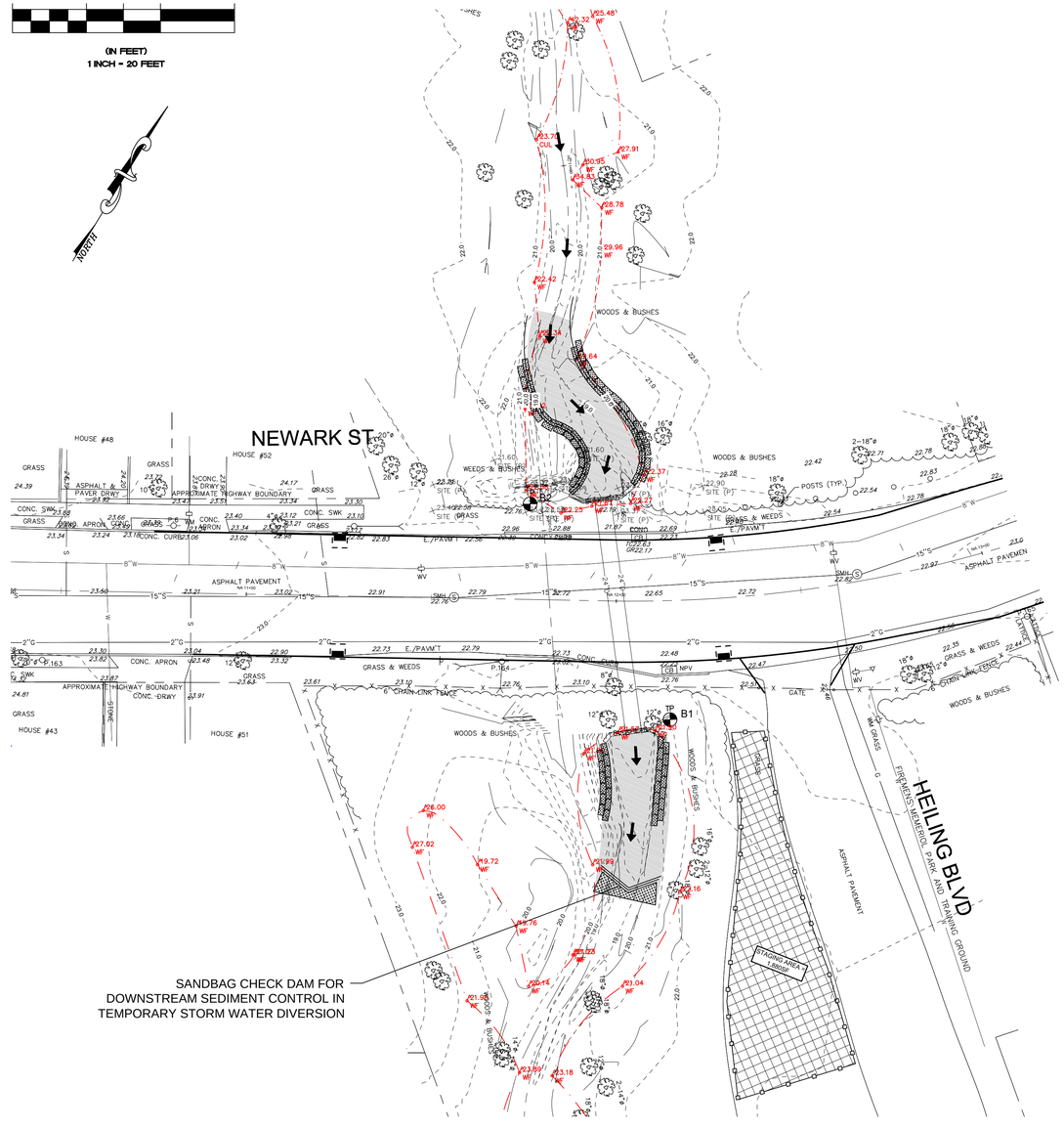
(IN FEET)
1 INCH = 20 FEET

NORTH

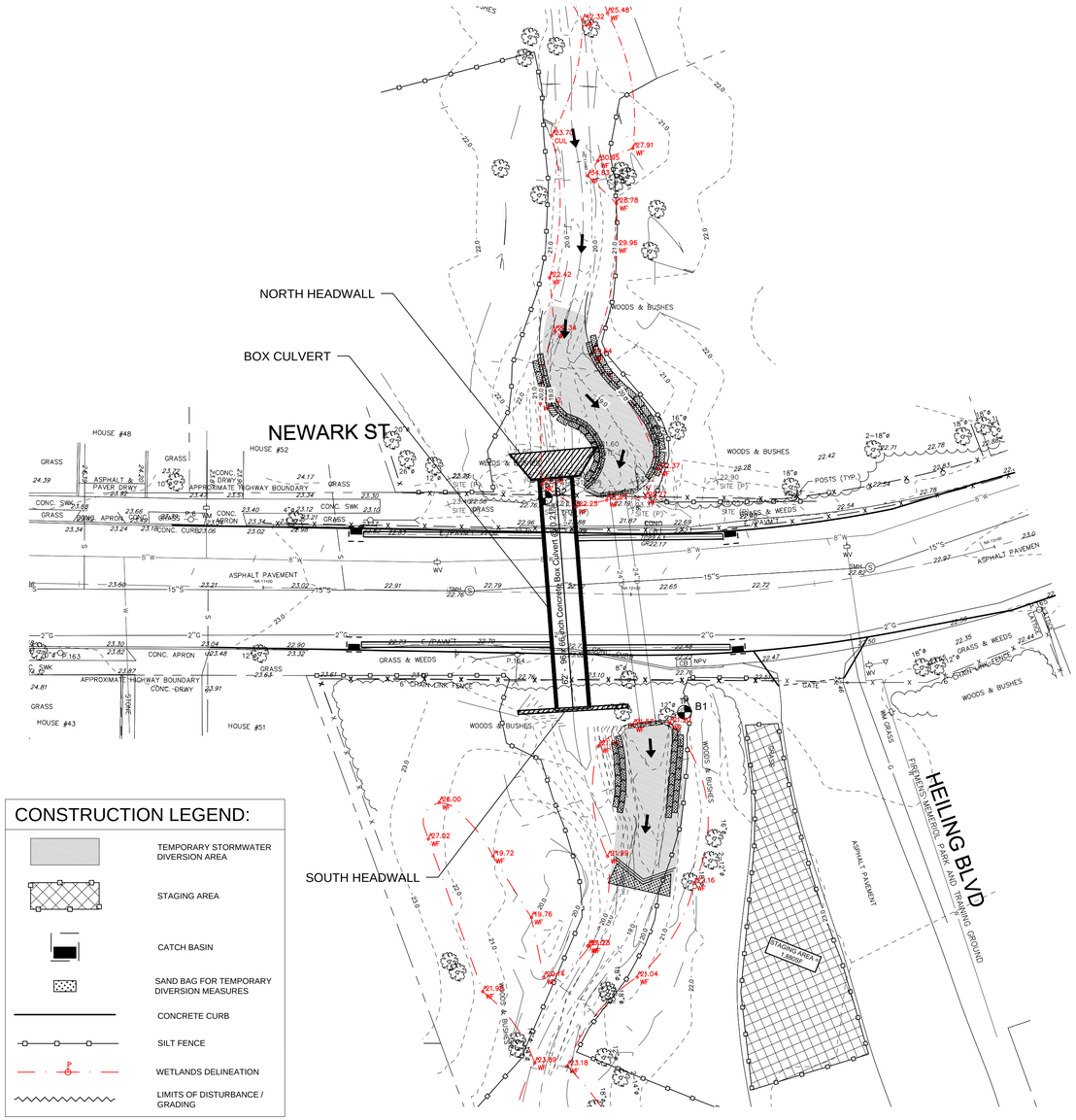


PHASE 2
INSTALL DIVERSION MEASURES

1) **INSTALL SILT FENCE SURROUND CONSTRUCTION AREAS IN THE CREEK.**
2) **INSTALL SANDBAG WITH EARTHEN BERM BACKFILL ALONG DIVERSION PATH (USED TO SEPARATE EXISTING CULVERT TO BE USED FOR DIVERSION FROM AREA OF CONSTRUCTION FOR INSTALLATION OF NEW CULVERT)**

CONSTRUCTION LEGEND:

- TEMPORARY STORMWATER DIVERSION AREA
- STAGING AREA
- CATCH BASIN
- SAND BAG FOR TEMPORARY DIVERSION MEASURES
- CONCRETE CURB
- SILT FENCE
- WETLANDS DELINEATION
- LIMITS OF DISTURBANCE / GRADING



PHASE 3
CULVERT EXCAVATION & PLACEMENT

1) **EXCAVATE TRENCH IN ROADWAY TO ACCOMMODATE INSTALLATION OF 5.5' x 8' CONCRETE BOX CULVERT**
2) **PLACE PRECAST BOX CULVERT**
3) **PLACE PRECAST HEADWALL (SOUTH SIDE OF ROAD IN CREEK)**
4) **PLACE PRECAST HEADWALL & WINGWALLS (NORTH SIDE OF ROAD IN CREEK)**

No.	DATE	REVISION	BY:
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LINDENHURST,NY 11757

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DRAWING TITLE:
WORK ZONE TRAFFIC CONTROL - 3
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
WZTC-3

SHEET: 7 OF 14

GRAPHIC SCALE

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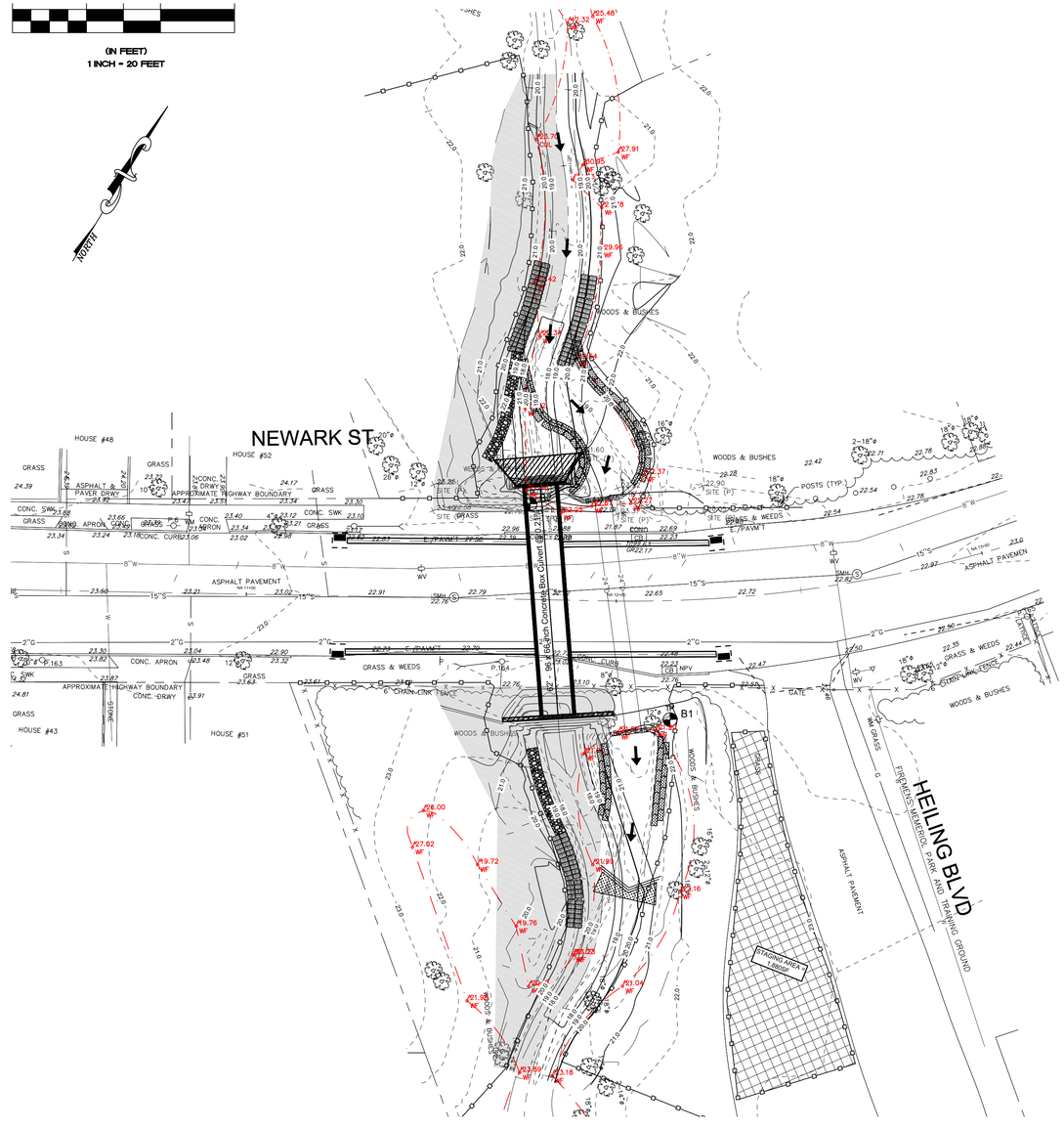
(IN FEET)
1 INCH = 20 FEET

NORTH

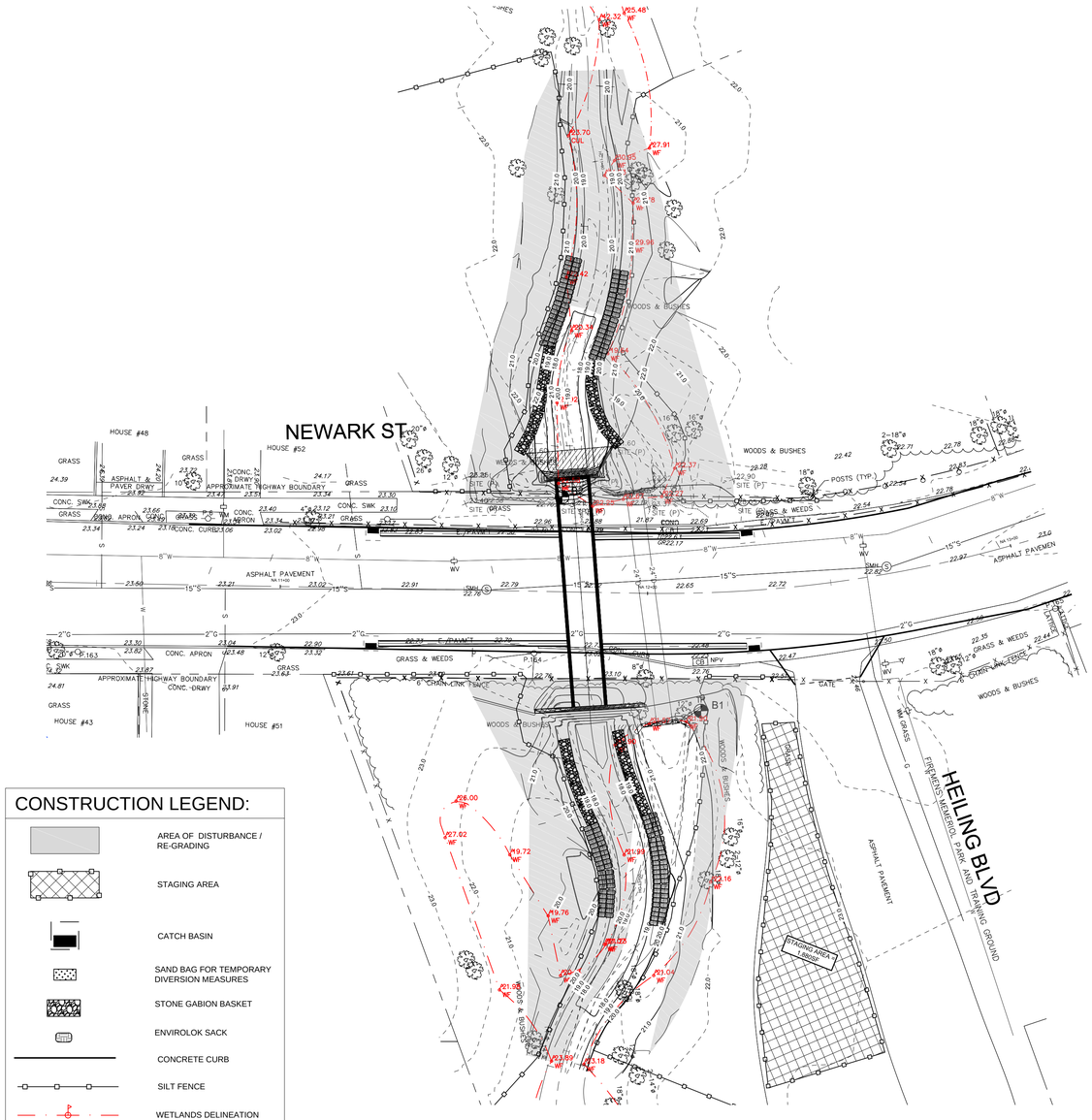


PHASE 4
CREEK RESTORATION (STAGE 1)

1) EXCAVATE & INSTALL STONE GABION BASKETS ALONG WEST SIDE OF CREEK ON NORTH SIDE OF ROADWAY TO ESTABLISH CREEK SIDE SLOPES.
2) BACKFILL AND RESTORE WEST SIDE OF CREEK ON NORTH SIDE.
3) EXCAVATE, INSTALL STONE GABION BASKETS AND RESTORE SOUTH SIDE CREEK ALONG NEW ALIGNMENT SECTION.

CONSTRUCTION LEGEND:

- AREA OF DISTURBANCE / RE-GRADING
- STAGING AREA
- CATCH BASIN
- SAND BAG FOR TEMPORARY DIVERSION MEASURES
- STONE GABION BASKET
- ENVIROLOK SACK
- CONCRETE CURB
- SILT FENCE
- WETLANDS DELINEATION
- LIMITS OF DISTURBANCE / GRADING



PHASE 5
CREEK RESTORATION (STAGE 2)

1) EXCAVATE TEMPORARY DIVERSION MEASURES AS NECESSARY AND INSTALL STONE GABION BASKETS ALONG EAST SIDE OF CREEK ON NORTH SIDE OF ROADWAY TO ESTABLISH CREEK SIDE SLOPES.
2) BACKFILL AND RESTORE EAST SIDE OF CREEK ON NORTH SIDE.

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WORK ZONE TRAFFIC CONTROL - 4
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
WZTC-4

SHEET: 8 OF 14

GRAPHIC SCALE

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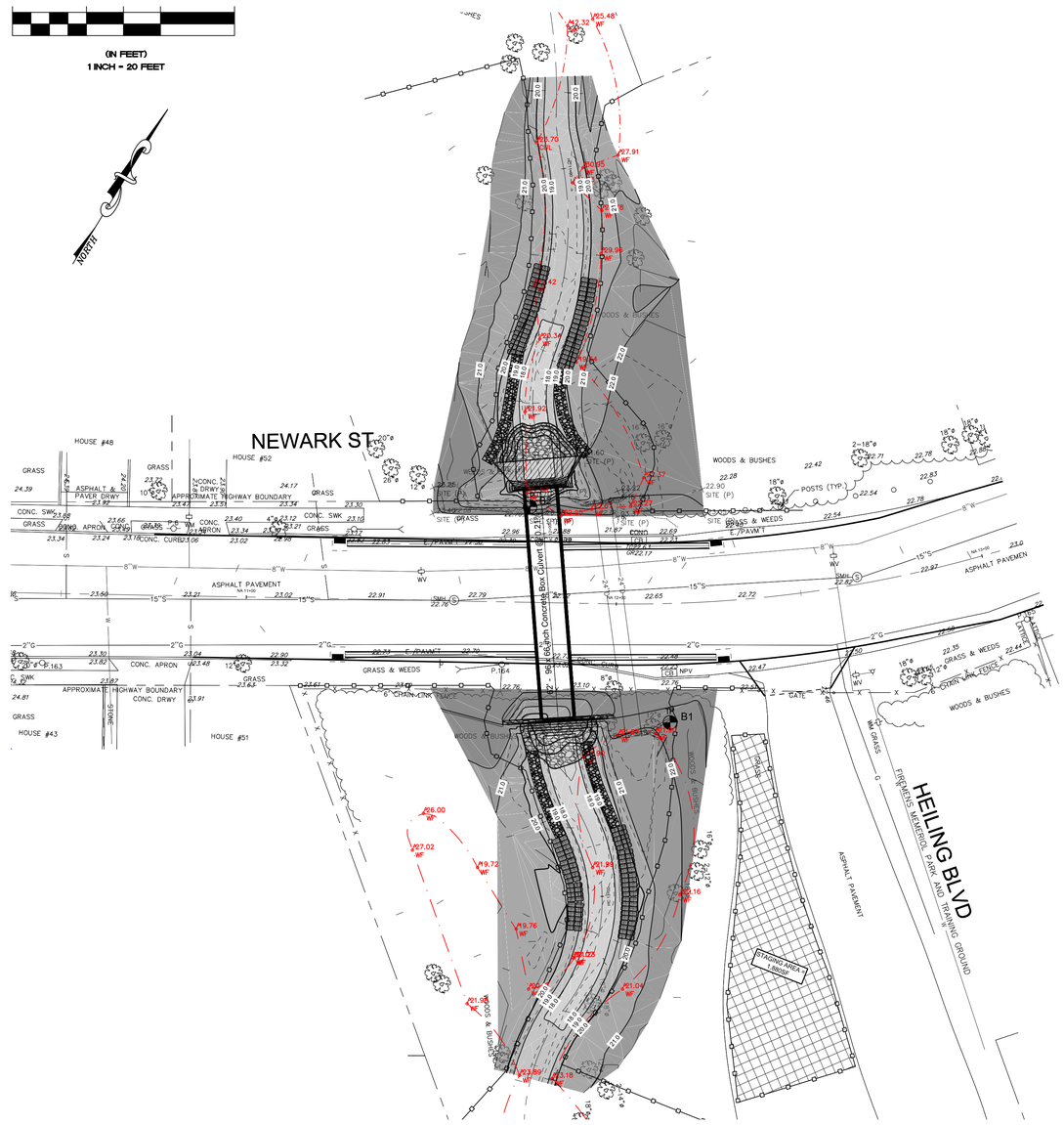
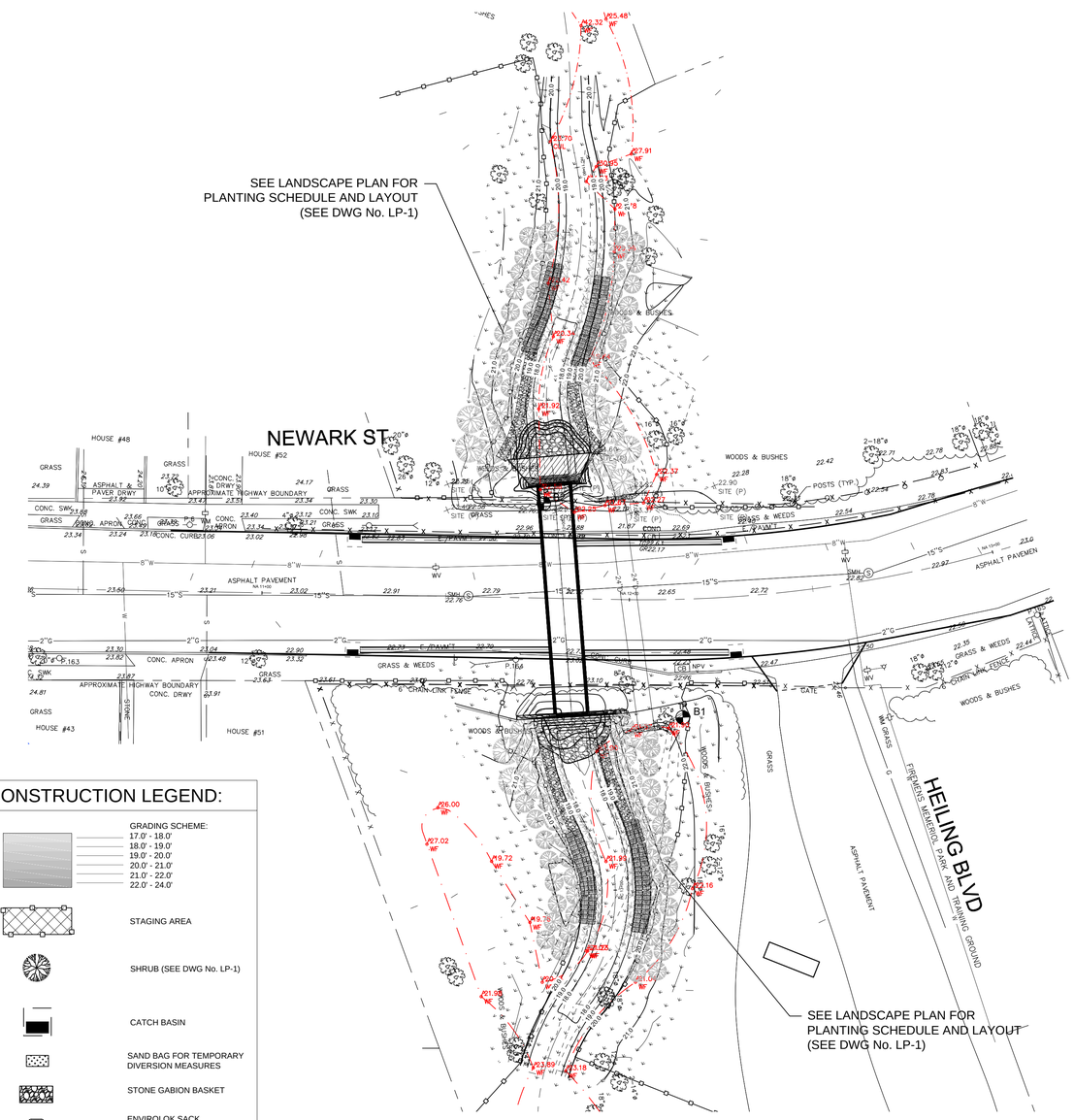


PHASE 6
CREEK RESTORATION (STAGE 3)

1) **RE-GRADE CENTER OF CREEK AND OUTER LIMITS OF RESTORATION AREA AS NECESSARY.**
2) **ESTABLISH PLANTINGS WITHIN LIMITS OF DISTURBANCE AREAS.**

CONSTRUCTION LEGEND:

- GRADING SCHEME: 17.0' - 18.0', 18.0' - 19.0', 19.0' - 20.0', 20.0' - 21.0', 21.0' - 22.0', 22.0' - 24.0'
- STAGING AREA
- SHRUB (SEE DWG No. LP-1)
- CATCH BASIN
- SAND BAG FOR TEMPORARY DIVERSION MEASURES
- STONE GABION BASKET
- ENVIROLOK SACK
- CONCRETE CURB
- SILT FENCE
- WETLANDS DELINEATION
- LIMITS OF DISTURBANCE / GRADING



PHASE 7
CREEK RESTORATION (STAGE 2)

1) **INSTALL 6" SAND/COMPOST/TOPSOIL MIX OVER RESTORATION AREA**
2) **INSTALL SHRUBS & GRASSES PER PLANTING PLAN TO REESTABLISH A NATIVE PLANTING SCHEME.**

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DRAWING TITLE:
WORK ZONE TRAFFIC CONTROL - 5
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
WZTC-5

SHEET: 9 OF 14

GRAPHIC SCALE

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(IN FEET)
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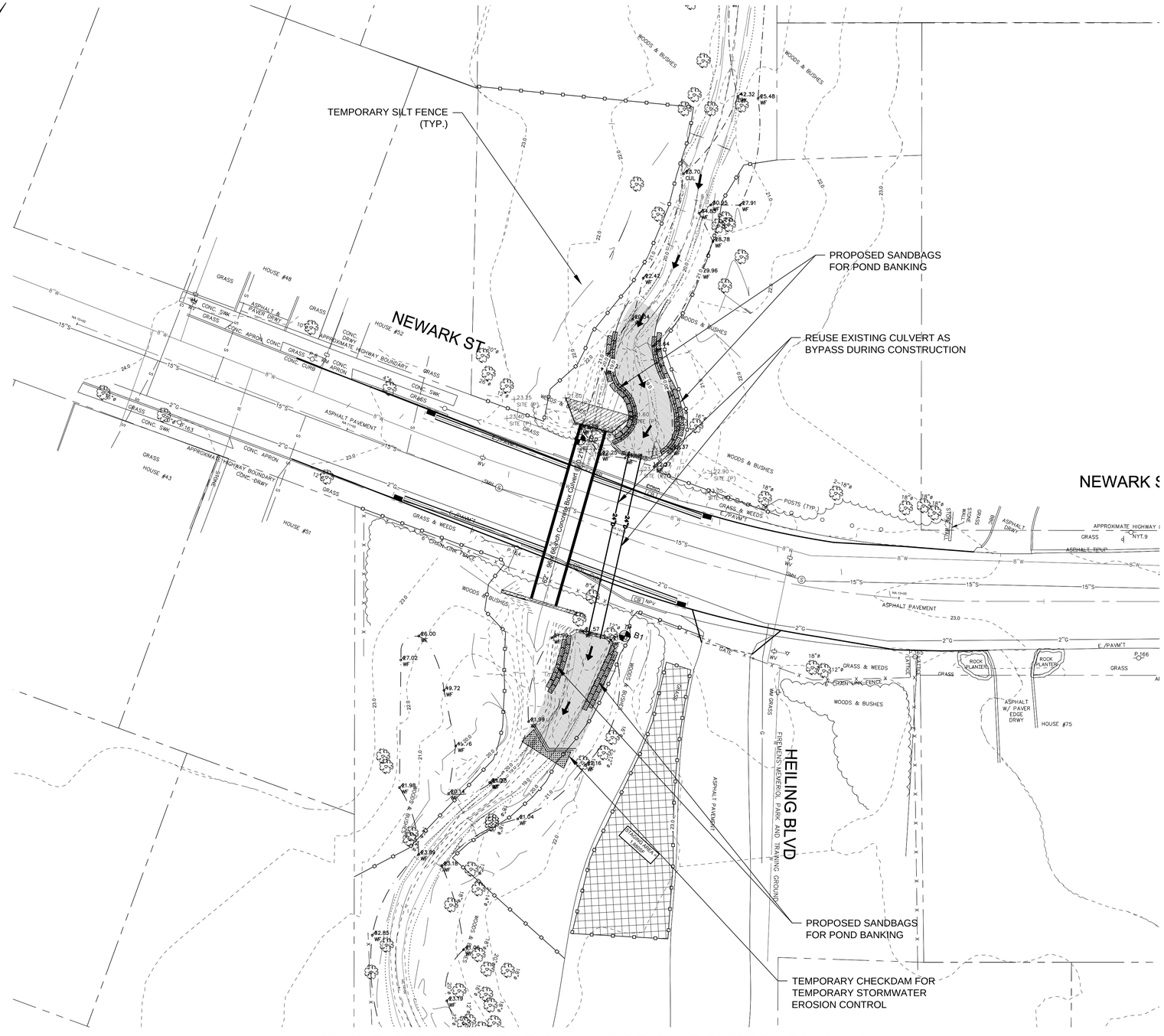
NORTH



LEGEND:

- STORM WATER DIVERSION AREA
- MATERIAL STAGING AREA
- DIRECTION OF STORM WATER FLOW
- SAND BAG FOR TEMPORARY DIVERSION BERM
- B1 BORING LOG LOCATION
- LIMITS OF GRADING
- SILT FENCE
- WETLANDS LIMITS

HEILING CREEK DIVERSION & EROSION CONTROL PLAN - 1

SCALE: 1" = 20'

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DRAWING TITLE:

DIVERSION PLAN - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:

DP-1

SHEET: 10 OF 14

GRAPHIC SCALE

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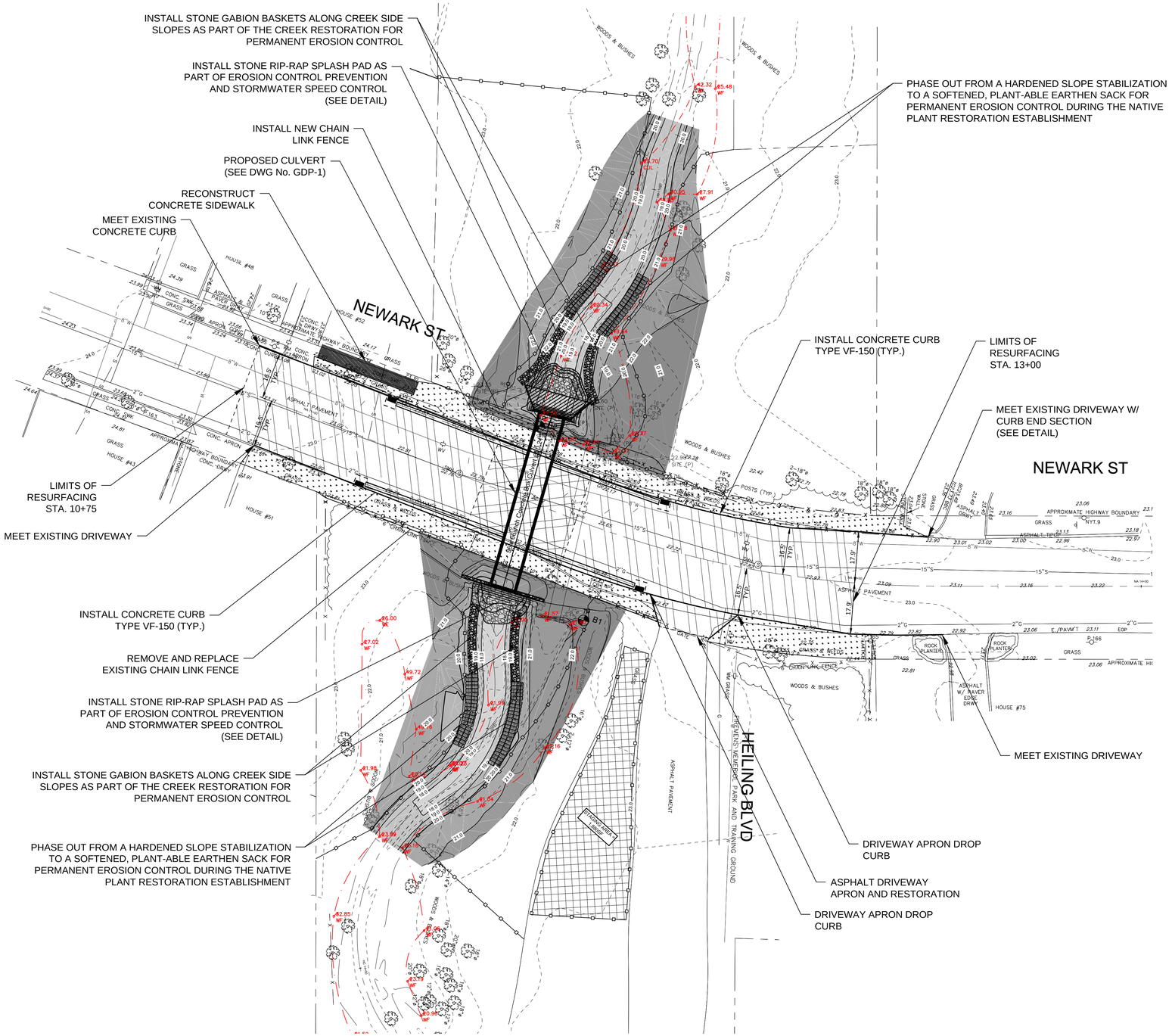
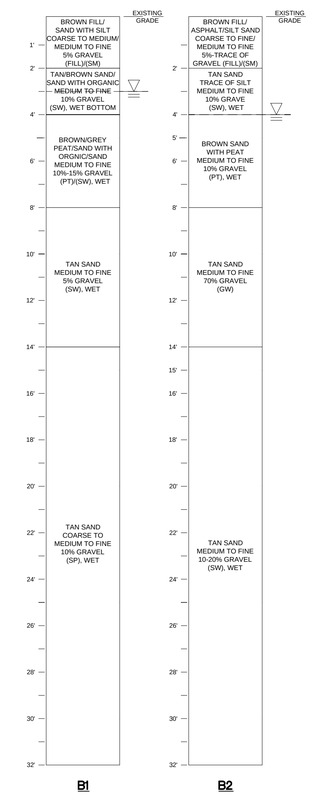
NORTH



CONSTRUCTION LEGEND:

- ROADWAY RESURFACING
- FULL DEPTH ROAD RESTORATION
- CONCRETE SIDEWALK
- TOPSOIL / GRASS RESTORATION
- RIP-RAP
- SAND BAG - TEMP DIVERSION BERM
- STONE GABION CAGE
- EARTHEN BERM FILLED SACK ENVIROLOK
- CATCH BASIN
- B1 BORING LOG LOCATION
- CONCRETE CURB
- SAWCUT / ROADWAY RESURFACING LIMITS
- SILT FENCE
- WETLAND LIMITS



SOIL BORINGS

CONDUCTED BY: LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.
DATE: SEPTEMBER 26, 2018

No.	DATE	REVISION	BY:
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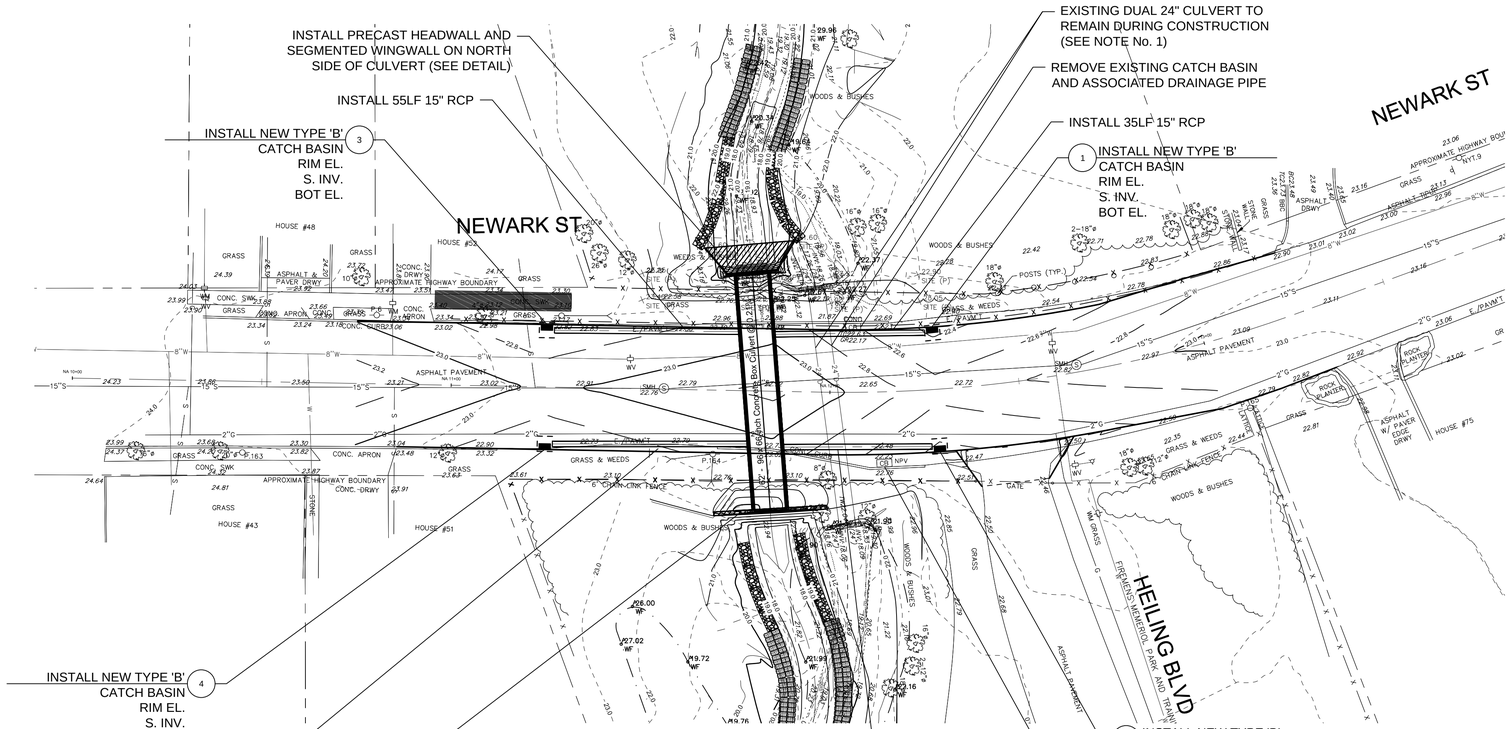
CONSTRUCTION PLAN - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
CP-1

SHEET: 11 OF 14



NEWARK AVE GRADING AND DRAINAGE PLAN - 1

SCALE: 1" = 20'

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FEET

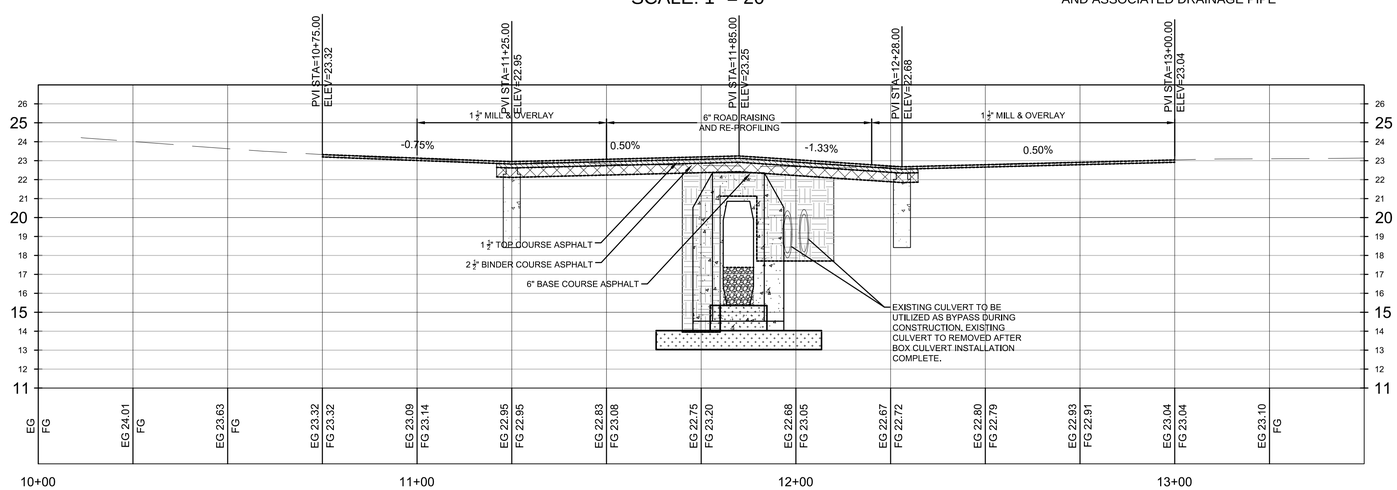
NORTH

GRADING & DRAINAGE LEGEND:

- STONE GABION CAGE
- EARTHEN BERM FILLED SACK ENVIROLOK
- CATCH BASIN
- B1 — BORING LOG LOCATION
- CONCRETE CURB
- LIMITS OF GRADING
- W — WETLAND LIMITS
- 22.2 — EXISTING MINOR CONTOUR
- 22.0 — EXISTING MAJOR CONTOUR
- 22.2 — PROPOSED MINOR CONTOUR
- 22.0 — PROPOSED MAJOR CONTOUR

NOTES:

1. THE EXISTING CULVERT SHALL REMAIN OPERATIONAL DURING CONSTRUCTION TO BE USED AS A BYPASS. THE CULVERT SHALL BE REMOVED AT THE COMPLETION OF INSTALLATION OF THE PROPOSED BOX CULVERT AND ASSOCIATED CONCRETE HEADWALLS. THE NEW CULVERT SHALL BE FULLY OPERATIONAL AT SAID POINT.



NEWARK AVE PROFILE

HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 4'

PROFILE LEGEND:

- ASPHALT TOP COURSE
- ASPHALT BINDER COURSE
- SUBBASE COURSE
- NATURAL RIVER STONE (CULVERT LINING)
- STONE BASE

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NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
GDP-1

SHEET: 12 OF 14

GRAPHIC SCALE

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(IN FEET)
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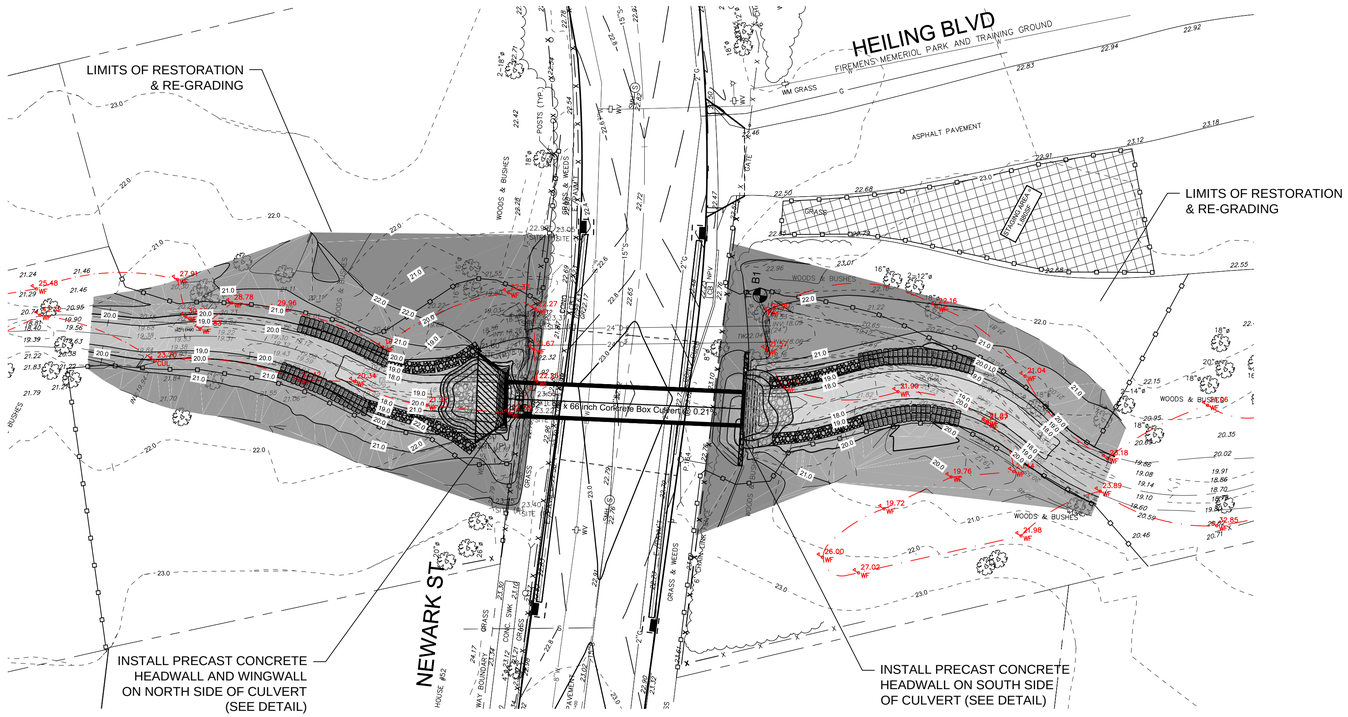
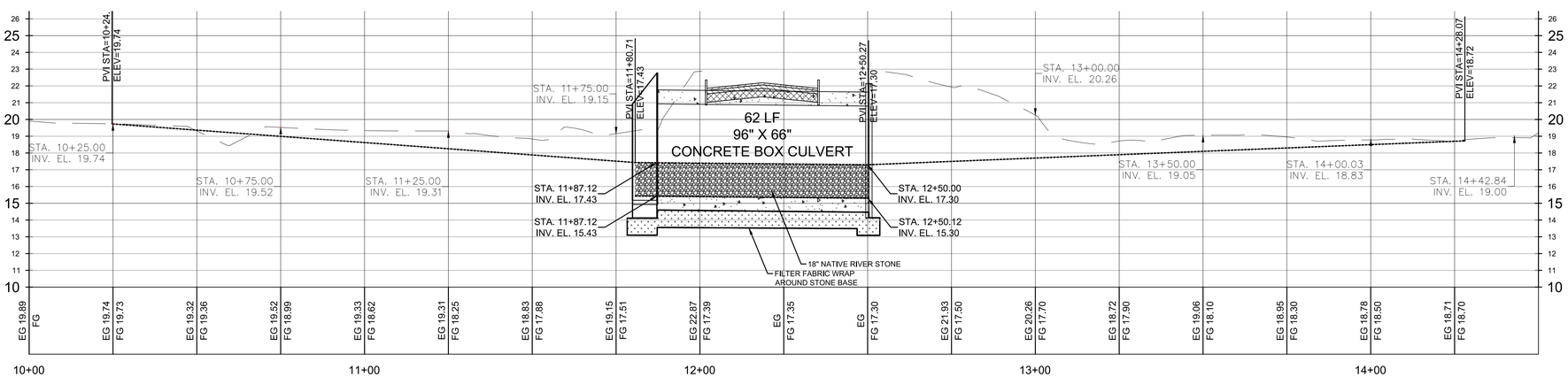


HELING CREEK GRADING AND DRAINAGE PLAN - 1

SCALE: 1" = 20'



HEILING CREEK PROFILE

HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 4'

GRADING & DRAINAGE LEGEND:

- STONE GABION CAGE
- EARTHEN BERM FILLED SACK ENVIROLOK
- CATCH BASIN
- B1 — BORING LOG LOCATION
- CONCRETE CURB
- LIMITS OF GRADING
- WETLAND LIMITS
- 22.2 — EXISTING MINOR CONTOUR
- 22.0 — EXISTING MAJOR CONTOUR
- 22.2 — PROPOSED MINOR CONTOUR
- 22.0 — PROPOSED MAJOR CONTOUR

EARTHWORK QUANTITIES:

CREEK EXCAVATION & RE-HANDLING QUANTITY	VOLUME = 350 CY AREA = 16,500 SF
WETLANDS DISTURBANCE	AREA = 4,500± SF
WETLANDS RESTORATION	AREA = 15,000± SF

NOTES:

1. ALL FILL BROUGHT IN FOR THE STREAM MITIGATION SHALL BE NATIVE AND FROM A LOCAL, LONG ISLAND, NY SOURCE. FILL SOILS SHALL BE A HYDRIC SOIL CAPABLE OF SUPPORTING A WETLAND HABITAT. SOIL SAMPLES SHALL BE TAKEN FROM THE EXISTING STREAM AND ANALYZED TO ENSURE A PROPER HYDRIC SOIL IS PROVIDED.

PROFILE LEGEND:

- ASPHALT TOP COURSE
- ASPHALT BINDER COURSE
- SUBBASE COURSE
- NATURAL RIVER STONE (CULVERT LINING)
- STONE BASE

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GDP-2

SHEET: 13 OF 14

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
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NORTH

OBL WETLAND SEED MIX
ERNMX-131
0.9 LBS OVER 1,785 SF

33.0% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
10.0% SPARGANIUM EURYCARPUM, PA ECOTYPE (GIANT BUR REED, PA ECOTYPE)
8.0% CAREX LUPULINA, PA ECOTYPE (HOP SEDGE, PA ECOTYPE)
8.0% CAREX LURIDA, PA ECOTYPE (LURID (SHALLOW) SEDGE, PA ECOTYPE)
8.0% CAREX SCOPARIA, PA ECOTYPE (BLUNT BROOM SEDGE, PA ECOTYPE)
7.0% SPARGANIUM AMERICANUM (EASTERN BUR REED)
5.0% ELYMUS VIRGINICUS, PA ECOTYPE (VIRGINIA WILDRYE, PA ECOTYPE)
4.0% VERBENA HASTATA, PA ECOTYPE (BLUE VERVAIN, PA ECOTYPE)
3.0% JUNCUS EFFUSUS (SOFT RUSH)
2.5% ASCLEPIAS INCARNATA, PA ECOTYPE (SWAMP MILKWEED, PA ECOTYPE)
1.0% ASTER PUNICEUS, PA ECOTYPE (PURPLESTEM ASTER, PA ECOTYPE)
1.0% ASTER UMBELLATUS, PA ECOTYPE (FLAT TOPPED WHITE ASTER, PA ECOTYPE)
1.0% CINNA ARUNDINACEA, PA ECOTYPE (WOOD REEDGRASS, PA ECOTYPE)
1.0% EUPATORIUM PERFOLIATUM, PA ECOTYPE (BONESET, PA ECOTYPE)
1.0% HELENIUM AUTUMNALE, PA ECOTYPE (COMMON SNEEZEWEED, PA ECOTYPE)
1.0% SCIRPUS ATROVIRENS, PA ECOTYPE (GREEN BULRUSH, PA ECOTYPE)
0.5% ALISMA SUBCORDATUM, PA ECOTYPE (MUD PLANTAIN (WATER PLANTAIN), PA ECOTYPE)
0.5% CAREX CRINITA, PA ECOTYPE (FRINGED (NODDING) SEDGE, PA ECOTYPE)
0.5% CAREX STRICTA, PA ECOTYPE (TUSSOCK SEDGE, PA ECOTYPE)
0.5% IRIS VERSICOLOR, PA ECOTYPE (BLUEFLAG, PA ECOTYPE)
0.5% LOBELIA SIPHILITICA, PA ECOTYPE (GREAT BLUE LOBELIA, PA ECOTYPE)
0.5% LUDWIGIA ALTERNIFOLIA, PA ECOTYPE (SEEDBOX, PA ECOTYPE)
0.5% ONOCLEA SENSIBILIS (SENSITIVE FERN)
0.5% PENTHORUM SEDOIDES, PA ECOTYPE (DITCH STONECROP, PA ECOTYPE)
0.5% SCIRPUS CYPERINUS, PA ECOTYPE (WOOLGRASS, PA ECOTYPE)
0.5% SCIRPUS VALIDUS, PA ECOTYPE (SOFTSTEM BULRUSH, PA ECOTYPE)
0.3% EUPATORIUM FISTULOSUM, PA ECOTYPE (JOE PYE WEED, PA ECOTYPE)
0.1% CHELONE GLABRA, PA ECOTYPE (TURTLEHEAD, PA ECOTYPE)
0.1% MIMULUS RINGENS, PA ECOTYPE (SQUARE STEMMED MONKEYFLOWER, PA ECOTYPE)

NOTE:
- THIS AREA IS TO BE SEEDED WITH PROPOSED MIX AND PLANTED WITH WITH PROPOSED PLUG MIX IDENTIFIED IN THE PLANT SCHEDULE AS "OBL PLUG MIX"
- PLUGS SHOULD BE MIXED AND RANDOMLY SELECTED WHEN PLANTED AT 12" O.C. IN DESIGNATED AREAS

FACW MEADOW SEED MIX
ERNMX-122
2.1 LBS OVER 4,105 SF

33.2% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
20.0% ELYMUS VIRGINICUS, PA ECOTYPE (VIRGINIA WILDRYE, PA ECOTYPE)
8.0% CAREX LUPULINA, PA ECOTYPE (HOP SEDGE, PA ECOTYPE)
8.0% CAREX LURIDA, PA ECOTYPE (LURID (SHALLOW) SEDGE, PA ECOTYPE)
8.0% CAREX SCOPARIA, PA ECOTYPE (BLUNT BROOM SEDGE, PA ECOTYPE)
4.0% VERBENA HASTATA, PA ECOTYPE (BLUE VERVAIN, PA ECOTYPE)
3.0% CINNA ARUNDINACEA, PA ECOTYPE (WOOD REEDGRASS, PA ECOTYPE)
3.0% JUNCUS EFFUSUS (SOFT RUSH)
2.5% ASCLEPIAS INCARNATA, PA ECOTYPE (SWAMP MILKWEED, PA ECOTYPE)
2.0% HELIOPSIS HELIANTHOIDES, PA ECOTYPE (OXEYE SUNFLOWER, PA ECOTYPE)
1.2% ASTER PUNICEUS, PA ECOTYPE (PURPLESTEM ASTER, PA ECOTYPE)
1.2% ASTER UMBELLATUS, PA ECOTYPE (FLAT TOPPED WHITE ASTER, PA ECOTYPE)
1.0% EUPATORIUM PERFOLIATUM, PA ECOTYPE (BONESET, PA ECOTYPE)
1.0% HELENIUM AUTUMNALE, PA ECOTYPE (COMMON SNEEZEWEED, PA ECOTYPE)
0.6% ASTER NOVAE-ANGLIAE (SYMPHYOTRICHUM N.), PA ECOTYPE (NEW ENGLAND ASTER, PA ECOTYPE)
0.5% ALISMA SUBCORDATUM, PA ECOTYPE (MUD PLANTAIN (WATER PLANTAIN), PA ECOTYPE)
0.5% LOBELIA SIPHILITICA, PA ECOTYPE (GREAT BLUE LOBELIA, PA ECOTYPE)
0.5% PENTHORUM SEDOIDES, PA ECOTYPE (DITCH STONECROP, PA ECOTYPE)
0.5% SCIRPUS ATROVIRENS, PA ECOTYPE (GREEN BULRUSH, PA ECOTYPE)
0.5% SCIRPUS CYPERINUS, PA ECOTYPE (WOOLGRASS, PA ECOTYPE)
0.3% EUPATORIUM FISTULOSUM, PA ECOTYPE (JOE PYE WEED, PA ECOTYPE)
0.3% ONOCLEA SENSIBILIS (SENSITIVE FERN)
0.1% CHELONE GLABRA, PA ECOTYPE (TURTLEHEAD, PA ECOTYPE)
0.1% MIMULUS RINGENS, PA ECOTYPE (SQUARE STEMMED MONKEYFLOWER, PA ECOTYPE)

FACU/ UPLAND SEED MIX
PINELANDS RIPARIAN BUFFER MIX
3.3 LBS OVER 6,735 SF

10% CAREX CRINITA (FRINGED SEDGE)
10% CAREX LURIDA (SHALLOW SEDGE)
10% ELYMUS VIRGINICUS (VIRGINIA WILD RYE)
8% ANDROPOGON GERARDII (BIG BLUESTEM)
8% HELIOPSIS HELIANTHOIDES (FALSE SUNFLOWER)
8% RUDBECKIA HIRTA (BLACK-EYED SUSAN)
6% PANICUM VIRGATUM (SWITCHGRASS)
6% SCHIZACHYRIUM SCOPARIUM (LITTLE BLUESTEM)
5% CAREX STRICTA (TUSSOCK SEDGE)
5% SCIRPUS ATROVIRENS (GREEN BULRUSH)
3% JUNCUS EFFUSUS (SOFT RUSH)
2% EUPATORIUM COELESTINUM (BLUE MISTFLOWER)
2% EUPATORIUM PURPUREUM (PURPLE JOE-PYE)
2% GLYCERIA STRIATA (FOWL MANNAGRASS)
2% HELENIUM AUTUMNALE (COMMON SNEEZEWEED)
2% IRIS VERSICOLOR (BLUEFLAG IRIS)
2% SYMPHYOTRICHUM NOVI-BELGII (NEW YORK ASTER)
2% VERBENA HASTATA (BLUE VERVAIN)
2% VERNONIA NOVEBORACENSIS (NEW YORK IRONWEED)
1% ASCLEPIAS INCARNATA (SWAMP MILKWEED)
1% CHAMAECRISTA FASCICULATA (PARTRIDGE PEA)
1% LOBELIA SIPHILITICA (BLUE LOBELIA)
1% SORGHASTRUM NUTANS (INDIAN GRASS)
1% SYMPHYOTRICHUM NOVAE-ANGILAE (NEW ENGLAND ASTER)

FACW PLUG MIX
2,803 SQ FT

- SEE PLANTING SCHEDULE FOR PLANT COMPOSITION
- PLUGS SHOULD BE MIXED AND RANDOMLY SELECTED WHEN PLANTED AT 12" O.C. IN DESIGNATED AREAS

PLANTING SCHEDULE

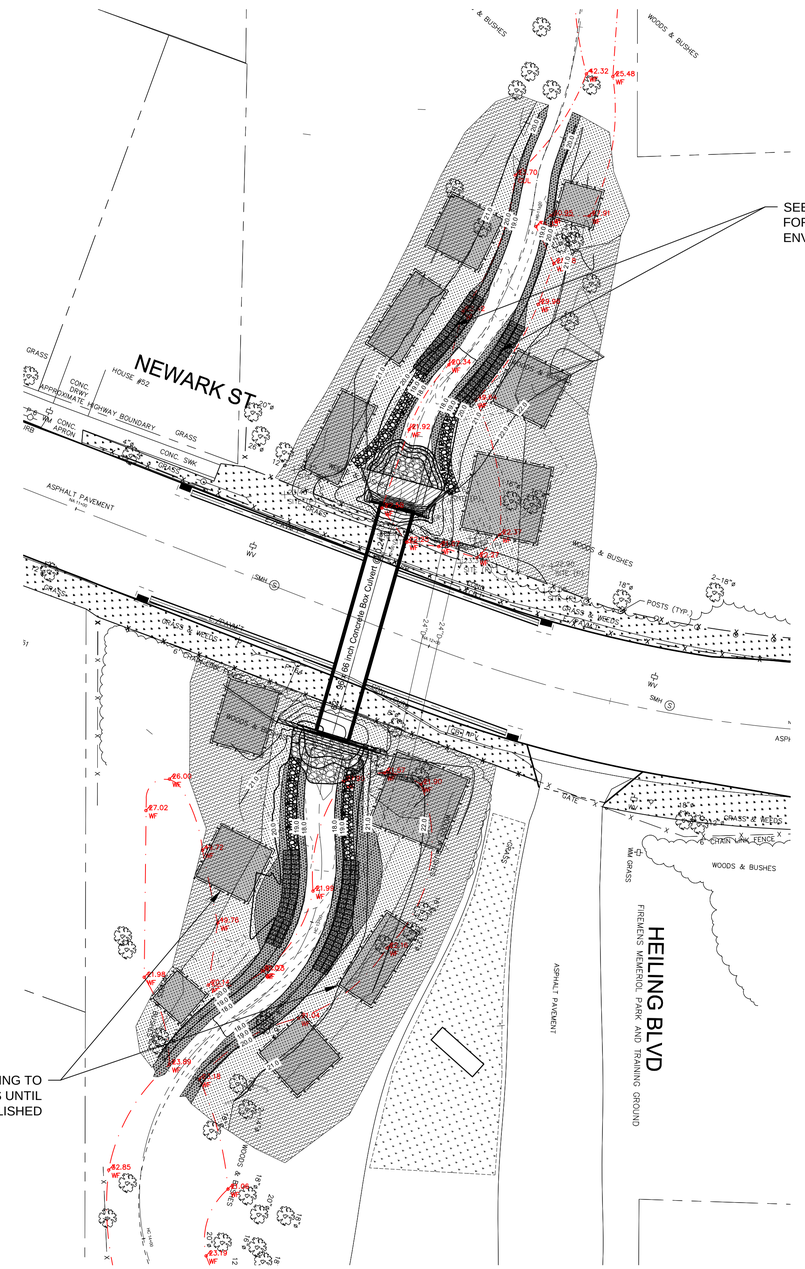
FACW PLUG MIX

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	350	ANDROPOGON GERARDII	BIG BLUE STEM	PLUG	12' O.C.
	300	CAREX STRICTA	TUSSOCK SEDGE	PLUG	12' O.C.
	250	EUPATORIUM PERFOLIATUM	BONESET	PLUG	12' O.C.
	250	EUPATORIUM PURPUREUM	JOE PYE WEED	PLUG	12' O.C.
	200	ONOCLEA SENSIBILIS	SENSITIVE FERN	PLUG	12' O.C.
	350	PANICUM VIRGATUM	SWITCHGRASS	PLUG	12' O.C.
	350	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	PLUG	12' O.C.
	250	SCHOENOPLECTUS PUNGENS	COMMON THREE SQUARE	PLUG	12' O.C.
	250	SORGHASTRUM NUTANS	INDIAN GRASS	PLUG	12' O.C.
	250	VERNONIA NOVEBORACENSIS	NEW YORK IRONWEED	PLUG	12' O.C.

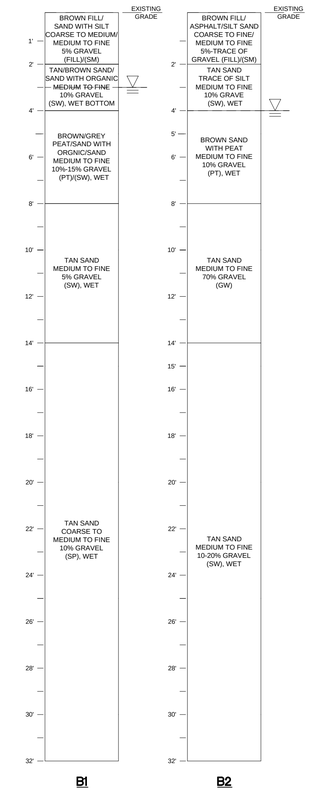
OBL PLUG MIX

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	100	ASCLEPIAS INCARNATA	SWAMP MILKWEED	PLUG	12' O.C.
	200	CALAMAGROSTIS CANADENSIS	BLUEJOINT GRASS	PLUG	12' O.C.
	200	CAREX LURIDA	LURID SEDGE	PLUG	12' O.C.
	200	CAREX VULPINOIDEA	FOX SEDGE	PLUG	12' O.C.
	100	CHELONE GLABRA	TURTLEHEAD	PLUG	12' O.C.
	200	ELEOCHARIS OBTUSA	BLUNT SPIKERUSH	PLUG	12' O.C.
	100	MIMULUS RINGENS	MONKEY FLOWER	PLUG	12' O.C.
	200	SAGITTARIA LATIFOLIA	BROADLEAF ARROWHEAD	PLUG	12' O.C.
	200	SCHOENOPLECTUS ATROVIRENS	GREEN BULRUSH	PLUG	12' O.C.
	200	SPARGANIUM AMERICANUM	EASTERN BUR REED	PLUG	12' O.C.
	100	IRIS VERSICOLOR	BLUEFLAG IRIS	PLUG	12' O.C.

SEEDING NOTES:
- SEED MIXES TO BE HYDROSEEDED DURING THE SPRING OR FALL ONLY.
- SEED MIXES ARE TO BE HYDROSEEDED FOLLOWED BY HERBACEOUS PLANT INSTALLATION IN DESIGNATED AREAS.
- REPLACEMENT OF SPECIES MAY NOT OCCUR WITHOUT APPROVAL BY THE ENGINEER



SEE DWG No. TYP-1 AND DET-1 FOR PLANTING DETAIL ON ENVIROLOK BAGS



SOIL BORINGS

CONDUCTED BY: LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.
DATE: SEPTEMBER 26, 2018

No.	DATE	REVISION	BY:
-	-	-	-

SEAL:

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WWW.NELSONPOPE.COM

CLIENT:
VILLAGE OF LINDENHURST
121 ALBANY AVENUE
LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
LANDSCAPING PLAN - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
LP-1

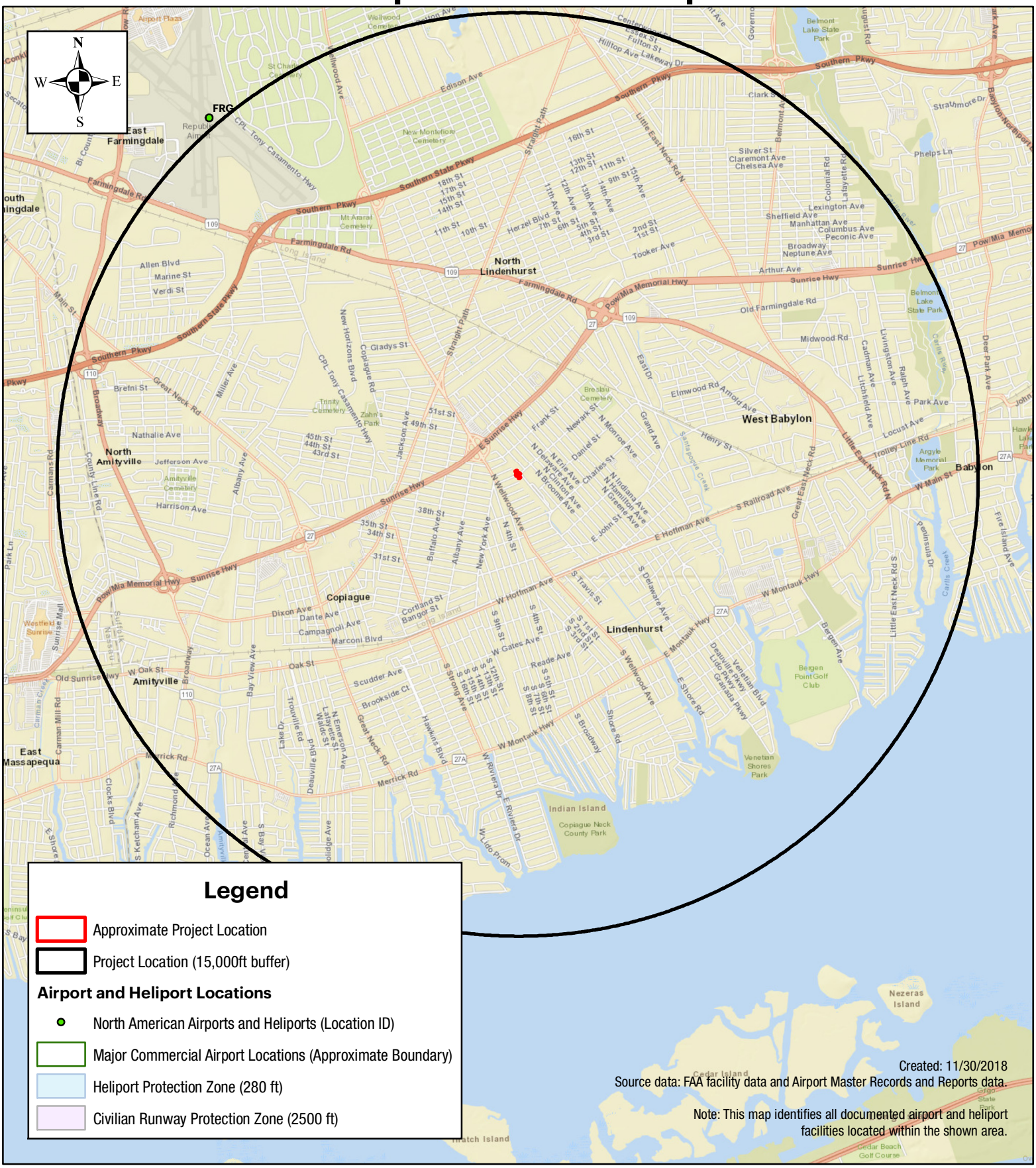
SHEET: 14 OF 14

Attachment 3

Project Reference Maps

FAA Airport Hazards Map
USFWS Coastal Barrier Resources System Map
NYSDOS Coastal Boundary Map
NYSDEC & NPS Wild and Scenic Rivers Map
NYSDEC Critical Environmental Areas Map
NYSDEC Potential Environmental Justice Areas Map

Airport Hazards Map



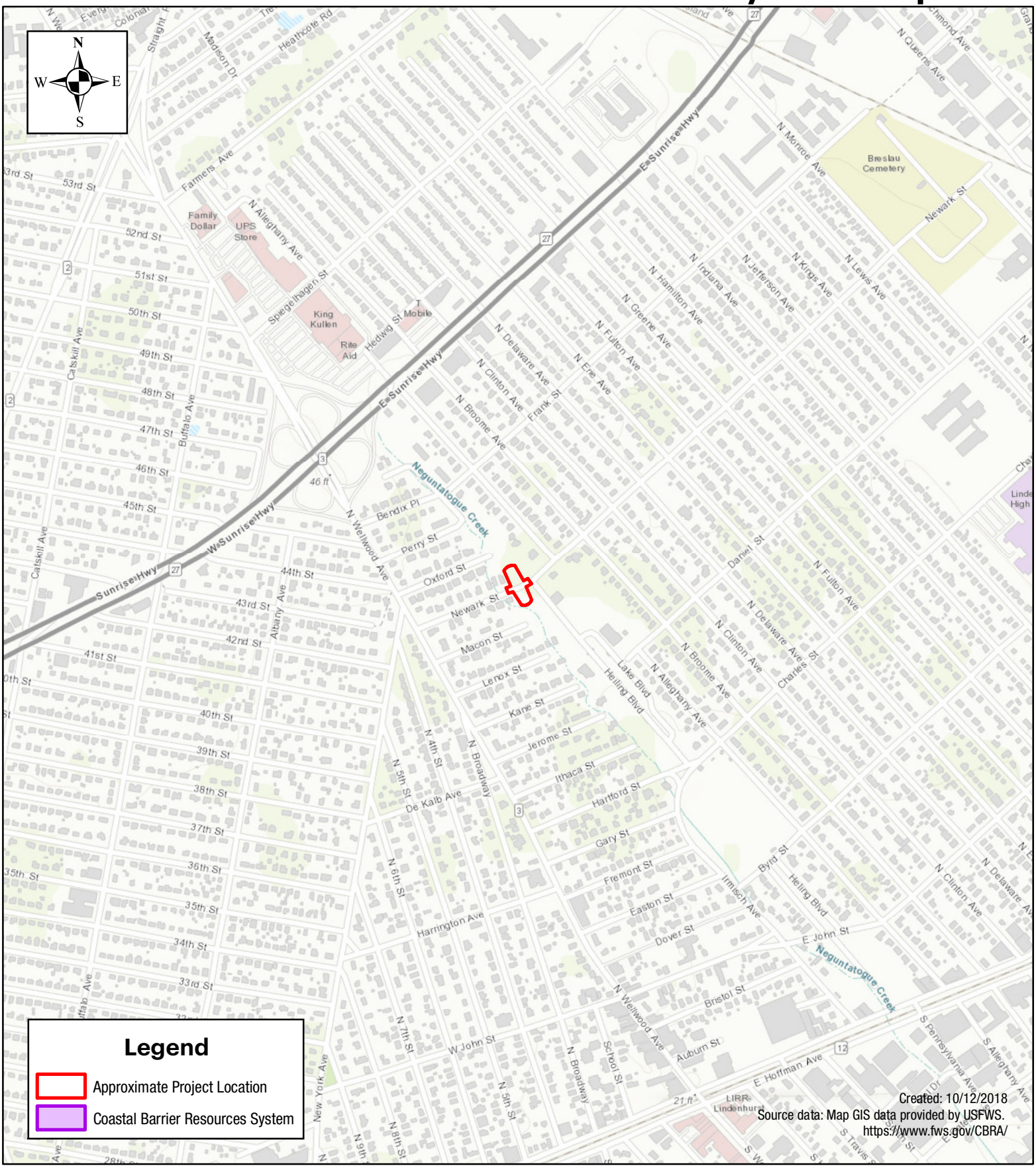
Tectonic

1:50,000

0 2,500 5,000 10,000 Feet

Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

USFWS Coastal Barrier Resources System Map



Tectonic

1:10,000

0 500 1,000 2,000 Feet

Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

NYS DOS Coastal Boundary Map

Tectonic

1:20,000

0 1,000 2,000 4,000 Feet

Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

NYSDEC & NPS Wild and Scenic Rivers Map

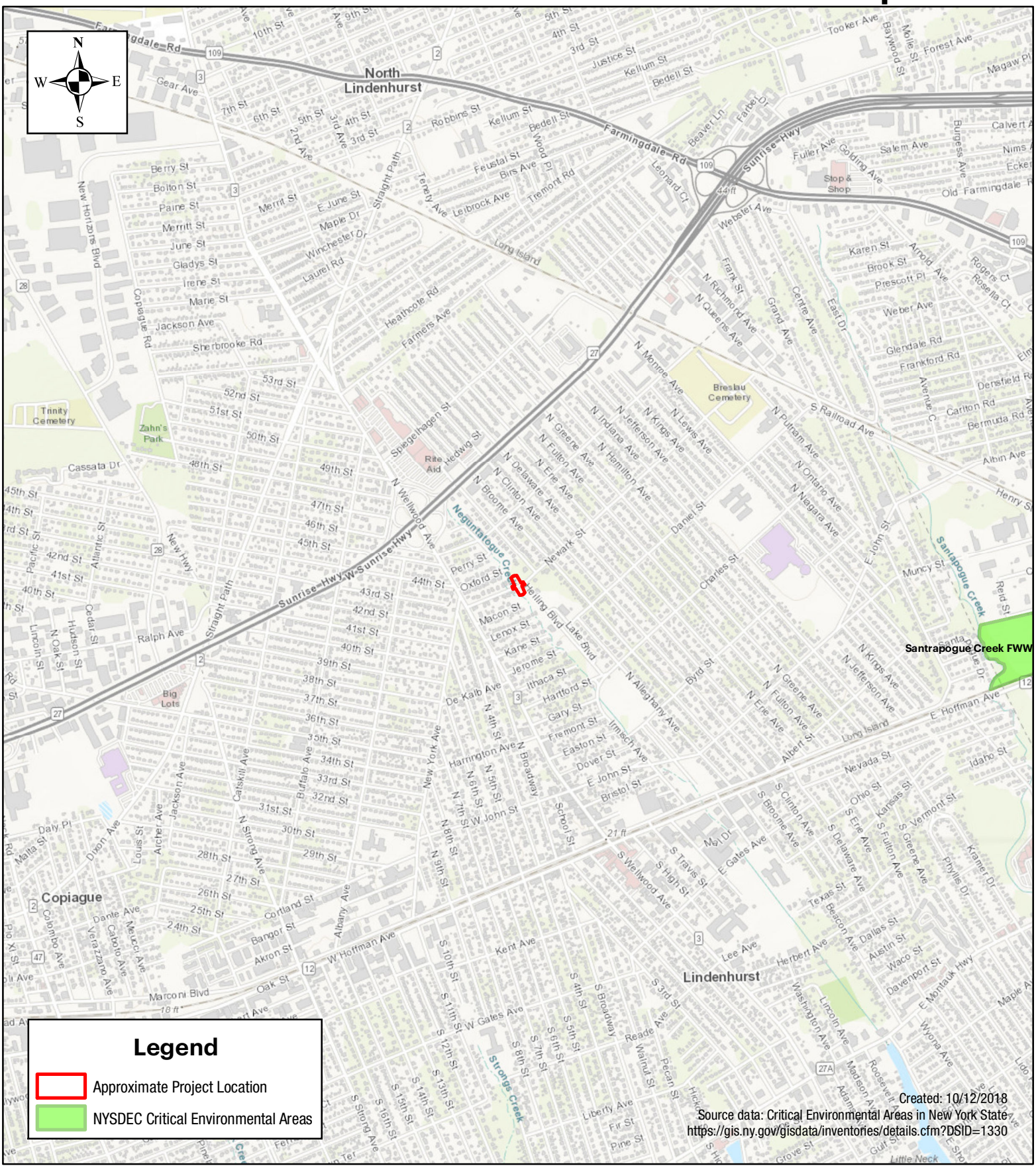
Tectonic

1:50,000

0 2,500 5,000 10,000 Feet

Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

NYSDEC Critical Environmental Areas Map



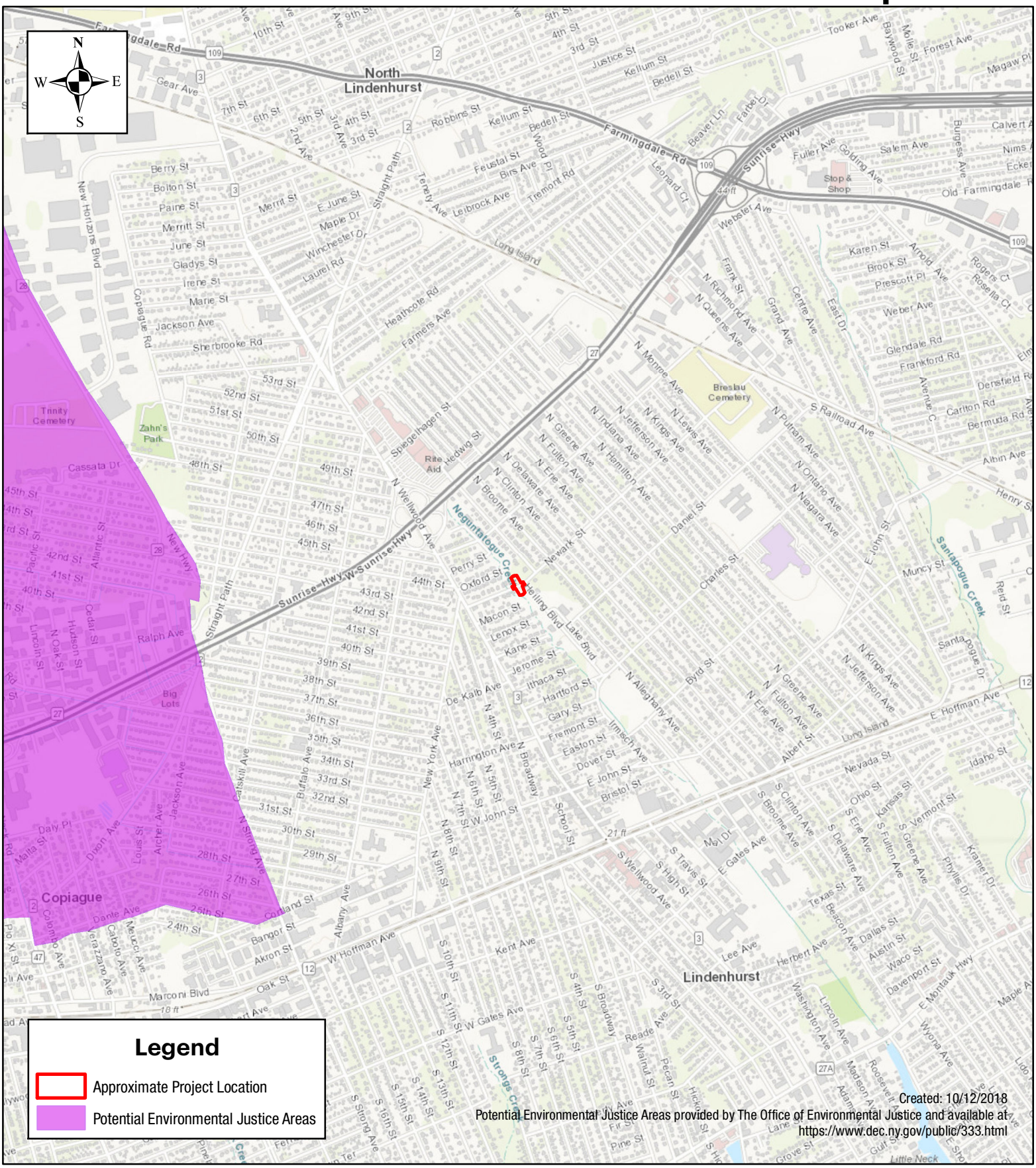
Tectonic

1:20,000

0 1,000 2,000 4,000 Feet

Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

Potential Environmental Justice Areas Map



Tectonic

1:20,000

0 1,000 2,000 4,000 Feet

Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

Attachment 4

Floodplain Management &
Wetlands Protection Determination

LINDENHURST DRAINAGE IMPROVEMENTS PROJECT

Floodplain Management and Wetlands Protection Determination

Commercial & Economic Development Initiative within
NY State Community Development Block Grant Disaster Recovery Program
June 27, 2019

Introduction & Overview

The purpose of Executive Order (EO) 11988 Floodplain Management is "to avoid to the extent possible the long- and short-term adverse impacts associated with occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative." The purpose of EO 11990 Protection of Wetlands is "to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." This report contains the analysis prescribed by 24 CFR Part 55.

This project involves U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant Program – Disaster Recovery (CDBG-DR) funding for the Lindenhurst Drainage Improvements Project (Project). The analysis that follows focuses primarily on wetland impacts, as there are no direct floodplain impacts associated with the Project. The analysis that follows focuses on wetland impacts, as the Project will not result in construction in the 100-year floodplain or floodway. Based on the type of land use and other case characteristics described herein, it is concluded that there is a reasonable basis to proceed with funding for the Project. The CDBG-DR funding is administered through the New York State Rising Community Reconstruction Program which is using bottom-up community participation and State-provided technical expertise to develop resilient and sustainable communities. Thus, alternatives preventing or impeding the development of resilient and sustainable communities are not considered reasonable alternatives.

Description of Proposed Action & Land Use

The Lindenhurst Drainage Improvements Project ("Proposed Action" or "Project") will involve decomissioning an existing culvert and installation of a new, larger culvert to increase the capacity of the existing drainage system within a low lying area that was impacted during Superstorm Sandy. The Proposed Action is located along Newark Street, immediately west of the intersection of Newark Street and Heiling Boulevard in the Village of Lindenhurst, Town of Babylon, Suffolk County, NY.

Construction activities on Newark Street will include the removal of existing catch basins and associated drainage pipe; excavation of a trench in the roadway; and installation of a new box culvert, new drainage catch basins and drainage pipe, a new headwall with wingwalls and stone rip-rap splash pad as part of erosion control prevention and stormwater speed control upstream of Newark Street, a new headwall and stone rip-rap splash pad as part of erosion control prevention and stormwater speed control downstream of Newark Street, and stone gabion baskets along the creek side slopes for erosion control. The impacted asphalt roadway, driveway aprons, and concrete curbs will be restored to grade. In order to perform the Proposed Action, water from Heiling Creek will be diverted from the construction area. In order to temporarily divert water from the Proposed Action area during the installation of the new culvert, the Proposed Action will involve the installation of a temporary headwall with wingwalls and a spillway, and sandbags for pond banking and downstream sediment control in a temporary stormwater diversion. The temporary diversion area will be restored upon completion of the Proposed Action. The existing culvert will be used to divert water from the construction area during construction and will be capped and filled upon the completion of the Proposed Action activities. Trees, shrubs, and grass will be planted in disturbed areas upon the completion of the Proposed Action for wetland restoration. An existing chain link fence south of Newark Avenue will be removed and replaced and a new chain link fence will be installed north of Newark Avenue.

The Proposed Action will involve the incorporation of best management practices (BMPs) to prevent the potential runoff of construction-related pollutants and sediment. All work will be completed in accordance with site plans and in accordance with all applicable Federal, State and local regulations, laws and permit requirements and conditions.

Applicable Regulatory Procedure Per EO 11988
The proposed action corresponds with a noncritical action not excluded under 24 CFR §55.12(b) or (c). Funding is permissible for the use in the floodplain if the Proposed Action is processed under §55.20 and the findings of the determination are affirmative to suggest that the project may proceed.

Based on online data, including data managed and updated by the U.S. Fish & Wildlife Service (USFWS) and New York Department of Environmental Conservation (NYSDEC) included as **Appendix I**, there are mapped wetlands at the Proposed Action area. The existing culvert conveys water from a USFWS National Wetlands Inventory (NWI) designated riverine wetland (R4SBC) and a NYSDEC regulated freshwater wetland (NYSDEC Wetland ID: A-8). Project activities will involve temporary impacts to the NYSDEC regulated freshwater wetlands and USFWS NWI designated wetlands. Project activities will be undertaken in previously disturbed areas that are not located within or adjacent to tidal or freshwater wetlands or any associated wetland buffer areas as designated by the NYSDEC.

According to 24 CFR §55, the Proposed Action occurs in a community (Village of Lindenhurst) that is in the regular program of the National Flood Insurance Program (NFIP) and the community is currently in good standing. The proposed funding is for the replacement of existing infrastructure along a public roadway. The Proposed Action involves the improvement of an existing nonresidential structure and the footprint of the structure and paved areas will not be significantly increased. The proposed culvert replacement activities do not involve activities or structures that would be included in a substantial improvement calculation. As such, the abbreviated five-step floodplain determination process in §55.20 is allowed.

The Proposed Action corresponds with a noncritical action not excluded under 24 CFR §55.12(b) or (c). Funding is permissible if the Proposed Action is processed under §55.20 and the findings of the determination are affirmative to suggest that the Proposed Action may proceed.

***Step 1.* Determine Whether the Proposed Action is Located in the 100-year Floodplain (500-year for Critical Actions) or results in New Construction in Wetlands.**
The Proposed Action, per the FEMA National Flood Hazard Layer Map, is not located within the 100-year floodplain, as shown in **Appendix II**. Per the USFWS and NYSDEC, included in **Appendix I**, there are mapped wetlands located within the Project area. The Proposed Action does not require an individual Section 404 permit under the Clean Water Act (see 55.20(a)(1)).

As the Project triggers abbreviated process, there was not a requirement to perform ***Step 2*. Initiate Public Notice for Early Review of Proposal** and ***Step 3*. Identify and Evaluate Practicable Alternatives to Locating the Proposed Action in a 100-year Floodplain (or 500-year Floodplain if a Critical Action) or Wetland**.

***Step 4.* Identify & Evaluate Potential Direct & Indirect Impacts Associated with Occupancy or Modification of 100-year Floodplain and Potential Direct & Indirect Support of Floodplain and Wetland Development that Could Result from Proposed Action.**
The focus of floodplain and wetland evaluation should be on adverse impacts to lives and property, and on natural and beneficial floodplain values. Natural and beneficial values include consideration of potential for adverse impacts on water resources such as natural moderation of floods, water quality maintenance,

and groundwater recharge.

According to the FEMA Report - A Unified National Program for Floodplain Management, two definitions commonly used in evaluating actions in floodplain are "structural" and "non-structural" activities. Per the report, structural activity is usually intended to mean adjustments that modify the behavior of floodwaters through the use of measures such as public works dams, levees and channel work. Non-structural is usually intended to include all other adjustments (e.g., regulations, insurance, etc.) in the way society acts when occupying or modifying a floodplain. These definitions are used in describing impacts that may arise in association with potential advancement of this case.

Natural moderation of floods
In the Village of Lindenhurst, the storm surge from Superstorm Sandy reached nearly six and a half feet. Structures along canals and the Great South Bay experienced the most severe damage. Some of these properties began contending with water the morning of the storm's high tide. As the storm intensified and the evening high tide approached, most roadways south of Montauk Highway, residences, and businesses were flooded. Portions of Montauk Highway adjacent to the northern most canals were substantially flooded, cutting off access to critical facilities. Boats and debris from storm-battered bulkheads, docks, and other structures were tossed on land, further damaging property along the Bay and the canals. Electricity and communications systems failed due to the water inundation.

The Project directly addresses the impacts of Superstorm Sandy and Hurricane Irene. The existing culvert beneath Newark Street is under-sized and cannot allow the runoff north of Newark Street to pass through the existing pipes. Runoff builds up on the north side of Newark Street and overtops the roadway, flooding the road and adjacent properties. The improvements to Newark Street will permit the runoff to adequately pass under the roadway to alleviate flooding that impedes traffic flow and increases flood risk.

The proposed Project would reduce serious and immediate threats to the health and welfare of the community posed by future extreme weather events and would generally reduce the vulnerability of residences, businesses, and community facilities to flooding that occurs through the storm drainage system. The Project would reduce recurring seasonal flooding and enable the frequently flooded portions of the Village to recover more rapidly after a major weather event. The Project would reduce vulnerability of all residents who must travel through the area during a severe weather event. The occurrence of standing water and the high-water level would be reduced as well as potentially reducing mosquito breeding areas. Flooding created from existing conditions creates unsanitary conditions for both the natural and developed environment that would be improved with the replacement of the culvert. The Project would improve the quality of life for property owners and their families by reducing the threat of flood impacts and increasing safety and would also result in reduced recovery and reconstruction costs following future flooding events.

Living resources such as flora and fauna
A potential impact that may arise is that during construction there could be disturbance in the waterbody and the associated wetlands during the culvert replacement. This would be more likely if there are not construction best management practices (BMP) implemented during the construction period and the return of disturbed areas to pre-existing and/or improved conditions upon completion of project activities. However, a qualitative evaluation suggests the potential would be relatively minor, and if such releases do occur, it would likely be part of an area wide impact. Given the nature of the project, the potential for an acute or chronic level of water quality impact from this proposed project is low.

Impacts to Property & Lives
The Project will result in long-term benefits by mitigating flooding impacts. The Proposed Action does not present potential to impact occupancy of floodplain. The proposed Project consists of improving existing stormwater drainage imfrastructure in order to reduce the potential flooding in a developed residential area

during future storm events.

Occupancy of this floodplain in this developed residential coastal area has taken place over an extended recent history. The land in Lindenhurst is primarily developed. According to Suffolk County's 2014 Draft Update: Multi-Jurisdictional Hazard Mitigation Plan, the Village of Lindenhurst is at risk for frequent flooding, nor'easters, and severe winter storms; and occasional hurricanes and severe storms (page 9.5-4). The Village of Lindenhurst has a total population of 27,253, of which 3,571 (13.1%) are in the 100-year flood zone and 3,858 (14.2%) are in the 500-year flood zone[1]. Considering the context of the area, this action represents an activity at only one parcel among others that are located within the contiguous floodplain. Thus, funding the Project does constitute indirect continued support of floodplain occupancy and development. It is anticipated that the replacement infrastructure will be capable of adequately conveying stormwater and drainage during flood events, which will alleviate flooding of the roadway, residences, and critical community assets. If the Project were not funded, flooding in the vicinity of the Project area would continue and there would likely be other undefined, undesirable indirect impacts to lives and the area economy, on a short- and long-term basis.

Cultural resources such as archaeological, historic & recreational aspects
There are no recorded historic properties listed on or deemed eligible for the State and National Register of Historic Places adjacent to the Project site. The New York State Historic Preservation Office confirmed on November 2, 2018 that there will be no historic properties affected by the Project. The letter documenting this determination is included in the environmental review record in **Attachment 9** of the *Lindenhurst Drainage Improvements Project* Environmental Assessment (*Lindenhurst Drainage Improvements Project* EA) document.

Agricultural, aquacultural, & forestry resources
The Suffolk County area has several agricultural sites located in the flood zone, as well as undeveloped woodlands. In December 2013, the Suffolk County Department of Economic Development & Planning released a report entitled, "The State of the Suffolk County Agriculture Industry" states that Suffolk County is the top region in New York State for the sale of nursery, greenhouse, floriculture and sod which accounts for half of all statewide sales in these products. There is substantial agriculture and fishing industry in Nassau and Suffolk Counties on Long Island, including aquaculture in the form of oyster farming. While there appears to be a higher concentration of aquaculture on Eastern Long Island, per the 2012 State Comptrollers Report Agriculture in Long Island and Agricultural Production by Commodity Group in Long Island (2007), aquaculture represents 2.9% of the economy at a $7.5 million sales revenue. It is possible that if there is a materials release from Project site during construction, it could potentially affect natural resources including agricultural and forestry. However, a qualitative analysis suggests that the impact would be small as mitigative measures and BMPs will be utilized during construction. Silt fencing will be utilized around construction related ground disturbance and downstream check dams are proposed to capture sediment from the work area. The streambank will be stabilized with gabion baskets and stacked envirolok sacks that will be planted. Landscape planting is included as part of the proposed Project. All disturbed areas will be hydroseeded and replanted and biodegradable matting will be used to assist in stabilizing the streambank while the plantings mature. Upon Project completion, the Project area will be regraded and revegetated with appropriate native species, which will lead to improved bank stabilization.

It is possible that if there is a materials release from this property which is proposed to receive funding support this could contribute to an undefined cumulative influence on degradation of water quality, which in-turn could influence natural resources including agriculture and forestry. It is possible during the short-

[1] Suffolk County 2014 All-Hazards Mitigation Plan: Section 5.4.5: Risk Assessment – Flood, April 2014

term construction activities, the disturbance could impact local water quality and this economic sector, although the impact attributable to this use could not be quantitatively derived. However, a qualitative analysis suggests that the impact would be very small as mitigative measures and BMPs will be utilized during construction. Silt fencing will be utilized around construction related ground disturbance and downstream check dams are proposed to capture sediment from the work area. The streambank will be stabilized with gabion baskets and stacked envirolok sacks that will be planted. Landscape planting is included as part of the proposed Project. All disturbed areas will be hydroseeded and replanted and biodegradable matting will be used to assist in stabilizing the streambank while the plantings mature. Upon Project completion, the Project area will be regraded and revegetated with appropriate native species, which will lead to improved bank stabilization.

***Step 5.* Where Practicable, Design or Modify the Proposed Action to Minimize the Potential Adverse Impacts To and From the 100-Year Floodplain and to Restore and Preserve its Natural and Beneficial Functions and Values.**

The objective of the Project is to provide a replacement culvert that will adequately convey stromwate in order to mitigate the flood risk and minimize potential impacts to the surrounding community. However, it is still reasonable to promote awareness of future risks of natural hazards, including flooding, plus the physical, social and economic impacts that potential storm events could convey, including the potential for future physical damage to the surrounding property.

***Step 6.* Reevaluate the Alternatives and Proposed Action.**

The "no action" alternative for not funding this project would not address the purpose and need of the Proposed Action. Without the Proposed Action, the impacted community would be left more susceptible to future flooding events in this area than it would after the implementation of the Proposed Action. Therefore, the "no action" alternative examined is not considered desirable and the Proposed Action is still practicable in light of exposure to flood hazards, possible adverse impacts on wetlands, and the potential to disrupt natural and beneficial functions and values of wetlands. Additionally, implementation of the Proposed Action will abide by all applicable state and local codes. As such, the impact of the Proposed Action on a floodplain would be less the "no action" alternative.

As the Project triggers the abbreviated process, there was not a requirement to perform ***Step 7*. Issue Findings and Public Explanation**. This means that a final notice, formally known as a "Notice of Policy Determination" will not be published.

***Step 8.* Continuing Responsibility of Responsible Entity & Recipient.**

The Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York State Homes and Community Renewal's (NYSHCR) Housing Trust Fund Corporation, is the responsible entity. The responsible entity will make available educational materials regarding best practices for any structures located in floodplains. It is acknowledged there is a continuing responsibility by the responsible entity to ensure, to the extent feasible and necessary, compliance with the steps herein.

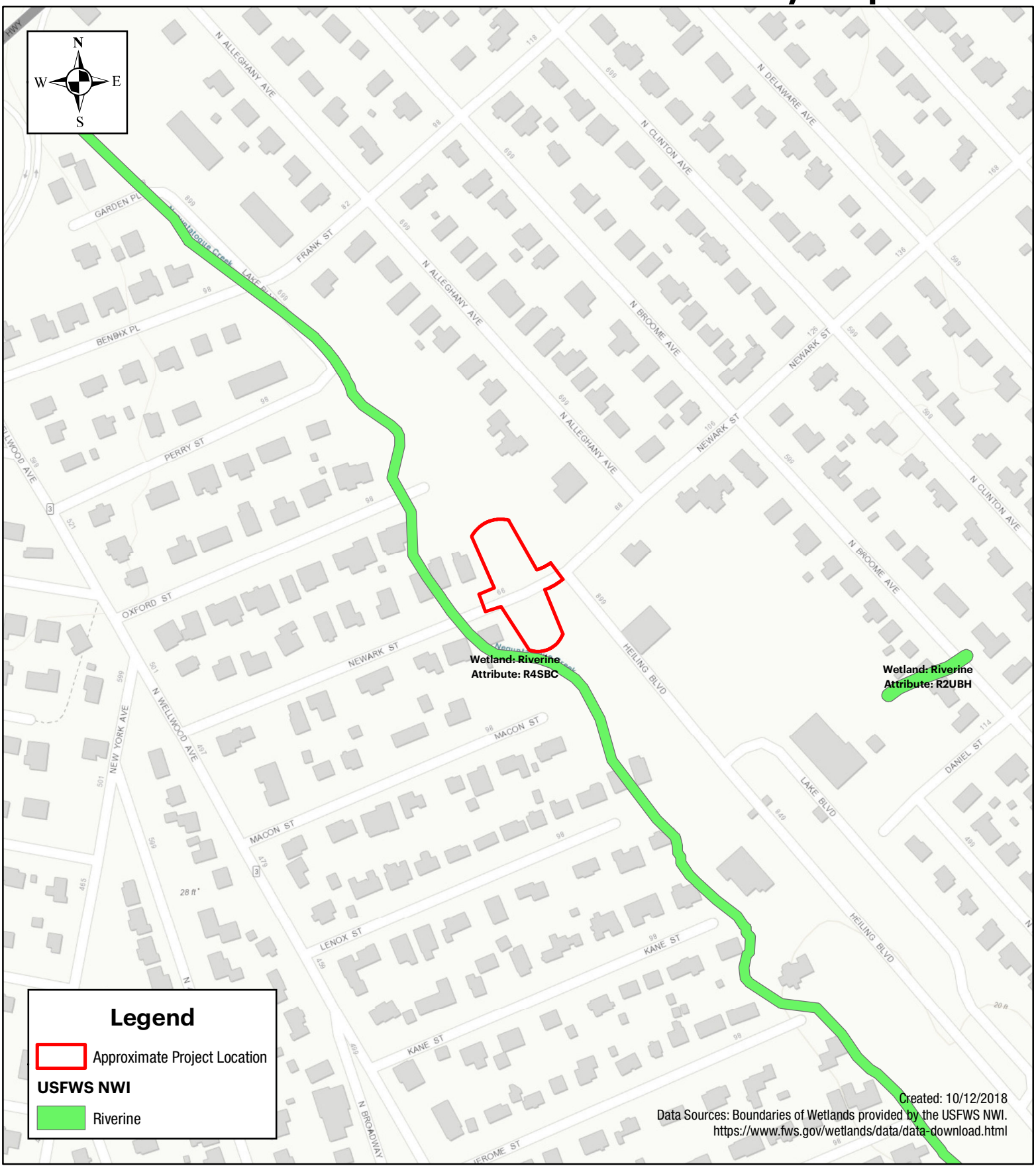
Appendix I

USFWS NWI Map

NYSDEC Wetlands and Waterways Map

NYSDEC Tidal Wetlands Map

USFWS National Wetlands Inventory Map



Tectonic

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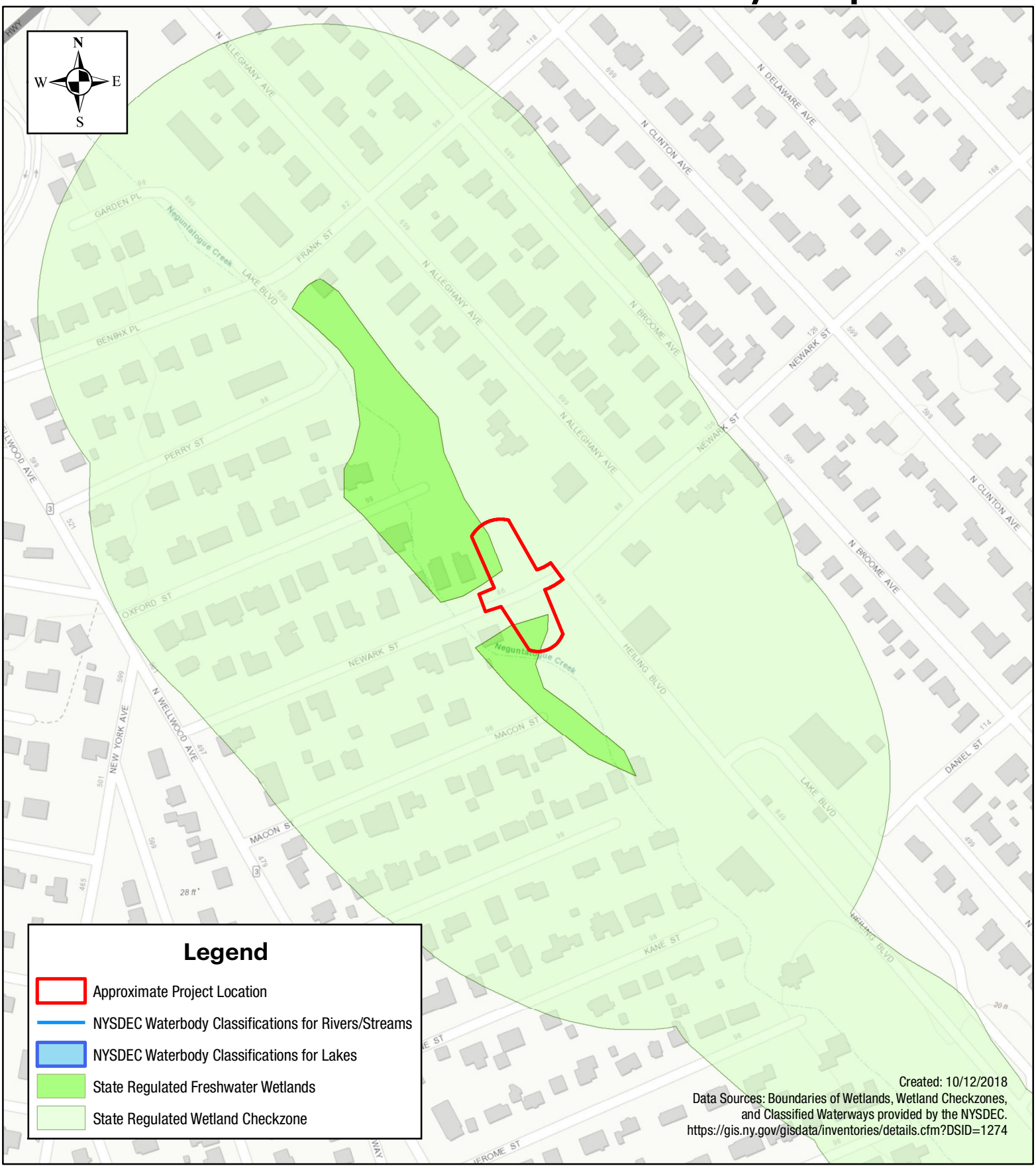
Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

NYSDEC Wetlands and Waterways Map



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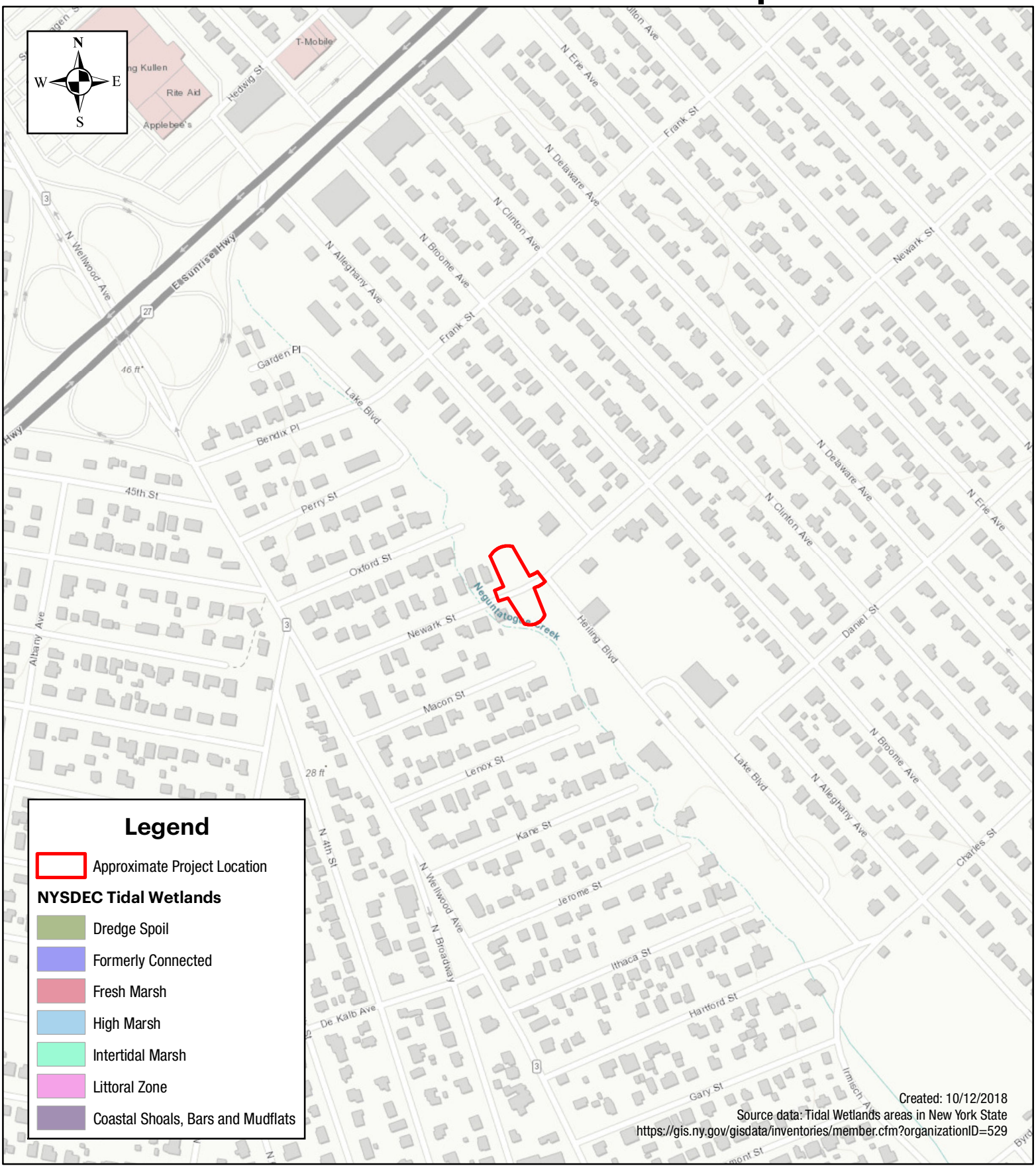
Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

NYSDEC Tidal Wetlands Map



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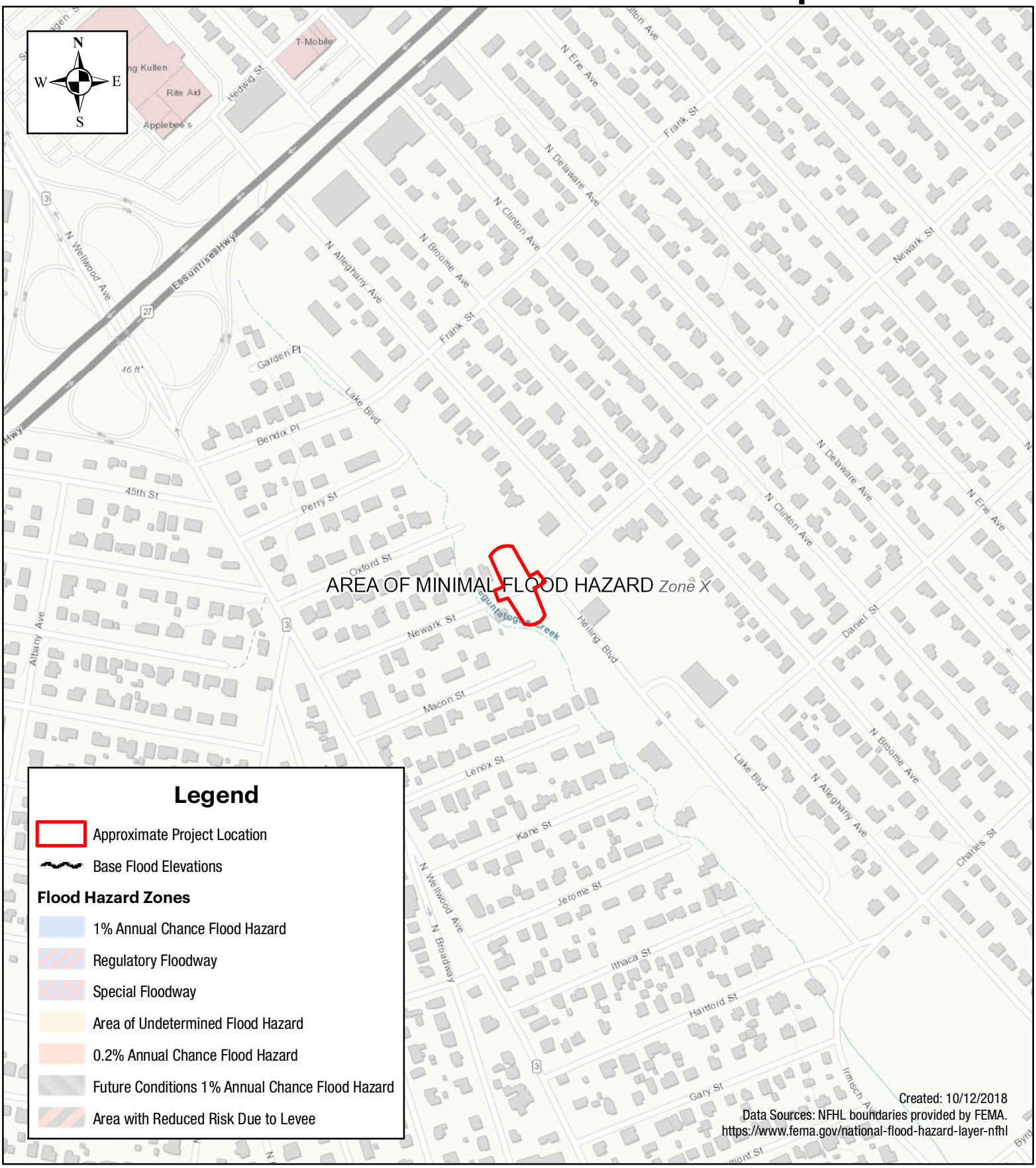
Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

Appendix II

FEMA National Flood Hazard Layer Map

FEMA National Flood Hazard Map



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Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

Attachment 5

CAA De Minimis Threshold Analysis & General Conformity Worksheet

Evaluation of de minimis levels for General Conformity of Construction Projects with New York State Implementation Plans

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 1: General Conformity Threshold Levels

Non-Attainment Area and Pollutants	**Threshold** (tons/year)
ozone, other non-attainment areas inside an ozone transport region:	
volatile organic compounds (VOC)	50
nitrogen oxides (NO_x)	100
carbon monoxide (CO), maintenance areas:	
direct emissions	100
inhalable particulate matter (PM_{10}), nonattainment areas:	
direct emissions	100
fine particulate matter ($PM_{2.5}$), maintenance areas:	
direct emissions	100
SO_2	100

Source: 40 CFR § 93.153(b)

Notes: NO_x and VOCs also limited at 100 tpy in $PM_{2.5}$ 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 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 –

- de minimis as fraction of total emissions: 50 tpy ÷ 2,401.6tpy = 2.08%
- de minimis fraction of total expenditure: 2.08% × $71.8 bn = **$1.5 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**.

[1] U.S. Census Bureau. 2007 Survey of Business Owners, Statistics for All U.S. Firms by Industry, Gender, Ethnicity, and Race for the U.S., States, Metro Areas, Counties, and Places: 2007; SB0700CSA01.
[2] NYSDEC. 2007 SIP data. (provided by DEC, 2014).

Table 2: Regional SIP Emissions and de minimis Construction Expenditure

Pollutant	Region	2007 SIP Emissions (tpy)	De Minimis (tpy)	Average Construction De Minimis Expenditure (million $)
VOC	Downstate Upstate	2,401.6 1,464.3	50 50	1,496 789
NO_x	Downstate Upstate	16,332.1 9,745.2	100 100	440 237
CO	Downstate Upstate	17,522.1 11,746.2	100 100	410 197
PM_{10}	Downstate	1,489.6	100	4,823
$PM_{2.5}$	Downstate	1,442.3	100	4,981
SO_2	Downstate	1,251.9	100	5,738
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

County	Nonattainment / Maintenance Area				Critical Pollutant	De Minimis Expenditure Threshold (million $)
	Ozone	CO	$PM_{2.5}$	PM_{10}		
Upstate:						
Albany	X				NO_x	237
Erie	X				NO_x	237
Genesee	X				NO_x	237
Greene	X				NO_x	237
Livingston	X				NO_x	237
Monroe	X				NO_x	237
Montgomery	X				NO_x	237
Niagara	X				NO_x	237
Onondaga		X			CO	197
Ontario	X				NO_x	237
Orleans	X				NO_x	237
Rensselaer	X				NO_x	237
Saratoga	X				NO_x	237
Schenectady	X				NO_x	237
Schoharie	X				NO_x	237
Wayne	X				NO_x	237
Downstate:						
Bronx	X	X	X		CO	410
Dutchess	X				NO_x	440
Kings	X	X	X		CO	410
Nassau	X	X	X		CO	410
New York	X	X	X	X	CO	410
Orange	X		X		NO_x	440
Putnam	X				NO_x	440
Queens	X	X	X		CO	410
Richmond	X	X	X		CO	410
Rockland	X		X		NO_x	440
Suffolk	X		X		NO_x	440
Westchester	X	X	X		CO	410

GENERAL CONFORMITY WORKSHEET

Air Emissions Information

PROJECT NAME _____

LOCATION (COUNTY, STATE)_____

FOR CALENDAR YEAR _____

Estimated Construction Start Date: _____ End Date: _____

A. ON-ROAD VEHICLES

ACTIVITY	VEHICLE TYPE	# OPERATING	ON / OFF SITE	GVWR PER VEHICLE	TOTAL MILES PER VEHICLE	TOTAL MILES ALL VEHICLES
Example: Demolition	Truck	2	ON	33,000	36	72

B. OFF-ROAD VEHICLES

ACTIVITY	EQUIPMENT TYPE	# OPERATING	HORSE-POWER	GAS/ DIESEL	TOTALHRS PER VEHICLE	TOTAL HRS ALL VEHICLES
Example: Site Clearing	Backhoe	3	90	Diesel	80	240

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-dity diesel vehicles, as tehse 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).

Attachment 6

HUD Environmental Standards Review

Lindenhurst Drainage Improvements Project

HUD Environmental Standards Review

Project Area: Newark Street Bridge,
Village of Lindenhurst, Town of Babylon, Suffolk County, New York

Introduction:
The purpose of this review is to ensure that the project complies with HUD environmental standards in relation to 24 CFR Part 58.5. Properties that are proposed for use in HUD programs "must be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property."

A desktop review was performed to identify whether the Property referenced in the title of this document complies with the following criteria:

(i) is not Listed on an U.S. Environmental Protection Agency (EPA) Superfund National Priorities or Comprehensive Environmental Response Superfund National Priorities or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) List, or equivalent State list;
(ii) is not located within 3,000 feet of a toxic or solid waste landfill site;
(iii) does not have an underground storage tank; and
(iv) is not known or suspected to be contaminated by toxic chemicals or radioactive materials.

Summary of Findings

Project Area Records Review
The Village of Lindenhurst Drainage Improvements Project (Project) will involve the replacement of an undersized culvert to increase the capacity of the existing drainage system in a low lying area within Lindenhurst. The Project is located along Newark Street, immediately west of the intersection of Newark Street and Heiling Boulevard in the Village of Lindenhurst, Town of Babylon, Suffolk County, NY; this location is documented on the HUD Environmental Report maps appended to the end of this report and will be referred to as the Project Area or Project Site.

New York State Department of Environmental Conservation (NYSDEC) Records:
The Project Area is not listed on the NYSDEC Bulk Storage or Environmental Site Remediation Database; the Project Area is listed on the NYSDEC Spill Incident Database. It should be noted that, as accurate spill locations in some of the NYSDEC Incident Reports were not always provided in the Report itself, a decision was made to err on the side of caution and assume that these spill incidents were on or near the Project Area.

The NYSDEC Spill Incident Database indicates that there is one (1) closed spill located in the Project Area. A spill closure means that the records and the data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial actions are necessary or the case was closed for administrative reasons (e.g. multiple reports of a single spill consolidated into a single spill number). As such, these spills are not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Project Site.

EPA Records:
The Project Area is not listed on an EPA Superfund National Priorities or CERCLA list or equivalent State list or EPA Resource Conservation and Recovery (RCRA) database. The Project Area is not located within 3,000 feet of a toxic or solid waste landfill site. The Project Area is not known or suspected to be contaminated by toxic chemicals or radioactive materials.

Surrounding Properties Records Review

NYSDEC Records:

A search of the NYSDEC Spill Incidents Database resulted in the identification of 16 closed spills within 1,000 feet of the Project Area. A spill closure means that the records and the data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial actions are necessary or the case was closed for administrative reasons (e.g. multiple reports of a single spill consolidated into a single spill number). As such, these spills are not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Project Area.

According to NYSDEC Bulk Storage Database, there is one (1) Bulk Storage site located within 3,000 feet of the Project Area. These three (3) facilities are discussed in detail below.

Ronalds (Site No: 1-000229) is an unregulated/closed Petroleum Bulk Storage (PBS) facility located at 641 North Wellwood Avenue, approximately 630 feet northwest and up-gradient of the Project Area. This facility has one (1) underground storage tank (UST) that has been converted to non-regulated use; five (5) closed spills have been reported for this location. Due to the distance of this facility from the Project Area, the status of the reported spills, and the nature of the proposed Project, this facility is not considered a hazard that could conflict with the intended utilization of the Project Area.

According to the NYSDEC Environmental Site Remediation Database, there are no environmental remediation sites within 3,000 feet of the Project Area.

EPA Records:

According to the EPA's Enforcement and Compliance History Online (ECHO) search, there are sixteen (16) hazardous waste sites (RCRA) and five (5) air emissions (CAA) facilities within 3,000 feet of the Project Area. None of the facilities had violations reported. Facilities with no violations are not considered a hazard as the facilities are in compliance with permit conditions that are enforced and meet standards that protect public health and the environment by preventing releases to the environment. As such, these facilities are not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Project Area.

Conclusion:

Based on a review of available environmental records for the Project Area and surrounding area, the Project Area is unlikely to contain hazardous materials, contamination, toxic chemicals and gases, or radioactive substances, which would constitute a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Project Area. Therefore, a Phase I Environmental Site Assessment (ESA) or Phase II Investigation is not warranted. Maps, NYSDEC reports, and EPA reports are included at the end of this report.

Data Sources:

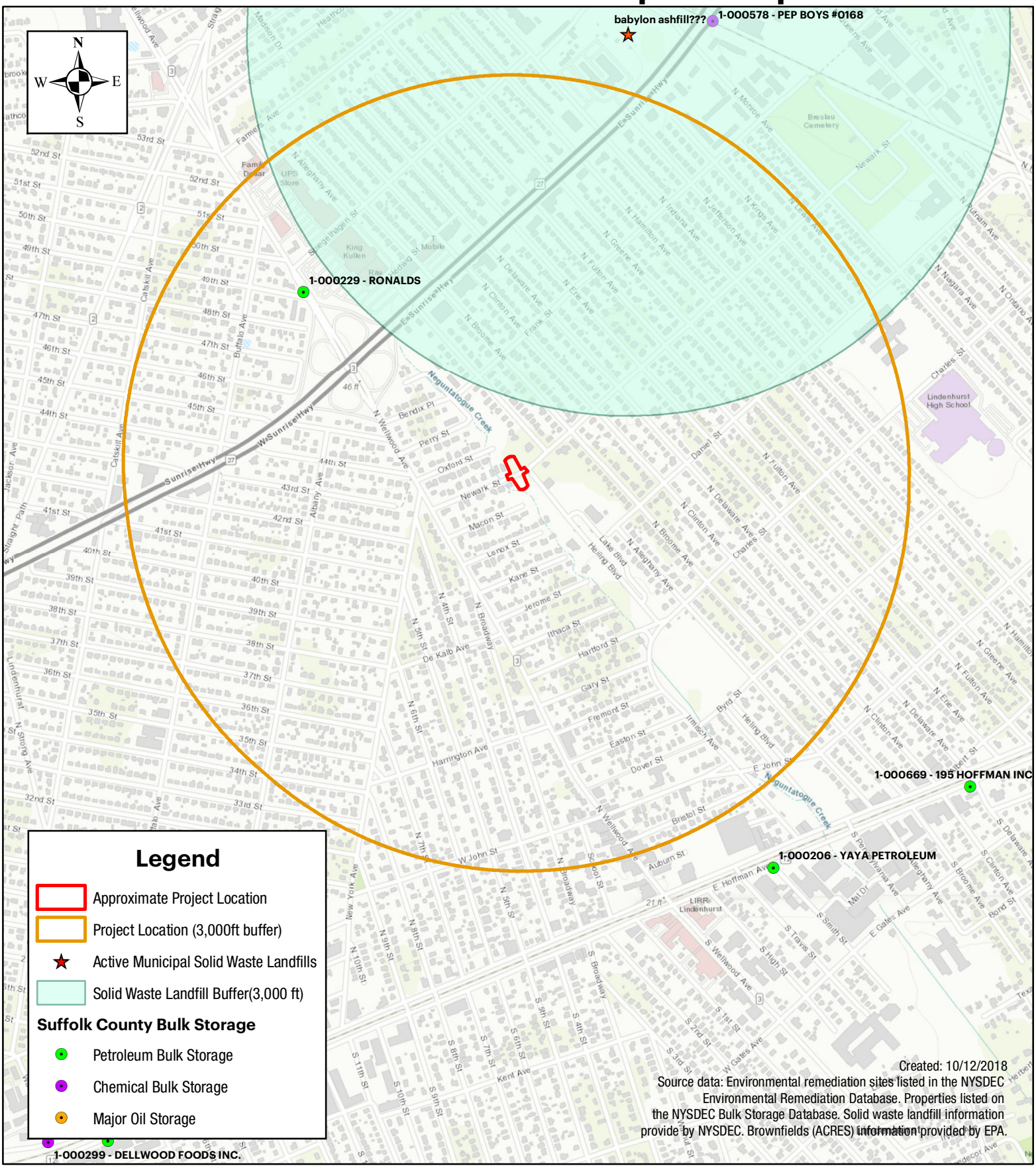
Tectonic Engineering and Surveying Consultants, P.C. (Tectonic) has reviewed the following sources to make the above determinations: Hazardous Waste records contained in the Resource Conservation and Recovery Act (RCRA) Information System, the Superfund Enterprise Management System (SEMS) for sites listed under CERCLA (otherwise known as Superfund), EPA's Toxic Release Inventory database (TRI), and the EPA Radiation Information Database (RADInfo). RCRA includes data on small and large quantity hazardous waste material generators and handlers. EPA's Toxic Release Inventory provides information on toxic chemical releases and waste management activities by certain industries. The RADInfo database provides information about facilities that are regulated by the U.S. EPA for radiation and radioactivity.

Tectonic reviewed the NYSDEC Environmental Site Remediation Database to assess whether the site is registered as a NYS Superfund or Environmental Restoration site. The NYSDEC Environmental Site Remediation Database includes records of sites that are part of the NYS Superfund, Brownfield Cleanup, Environmental Restoration, and Voluntary Cleanup Programs. The Database also includes a Registry of Inactive Hazardous Waste Disposal Sites. Tectonic reviewed the Small Business Program Supplemental Environmental Checklist to determine if the Project Site has an underground storage tank (which is not a residential fuel tank), or other registered storage tanks. The NYSDEC Bulk Storage Database was reviewed for records of facilities that are or have been regulated according to one of the Bulk Storage Programs - Petroleum Bulk Storage, Chemical Bulk Storage, or Major Oil Facility. The NYSDEC Spill Incidents Database was used to determine the potential effects of spills on or near the Project Site. A desktop review of Google Earth was used in conjunction with a map of active municipal landfills (provided by the NYSDEC), and a list of landfills provided by the NYSDEC to determine whether a non-active or active landfill is located within 3,000 feet of the Project Site.

Maps

HUD Environmental Report Maps
EPA NEPAssist Map

HUD Environmental Report Maps



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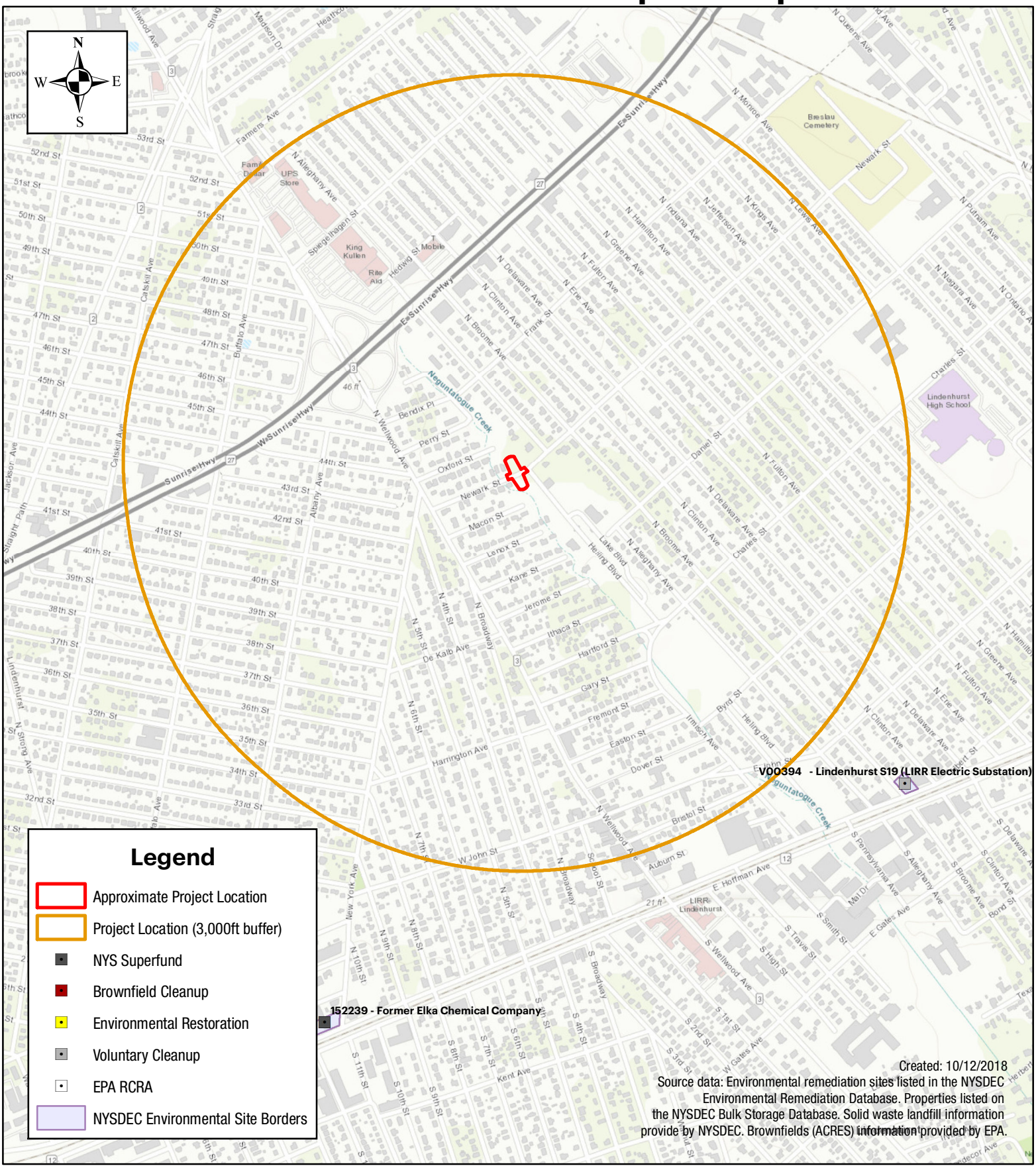
Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

HUD Environmental Report Maps



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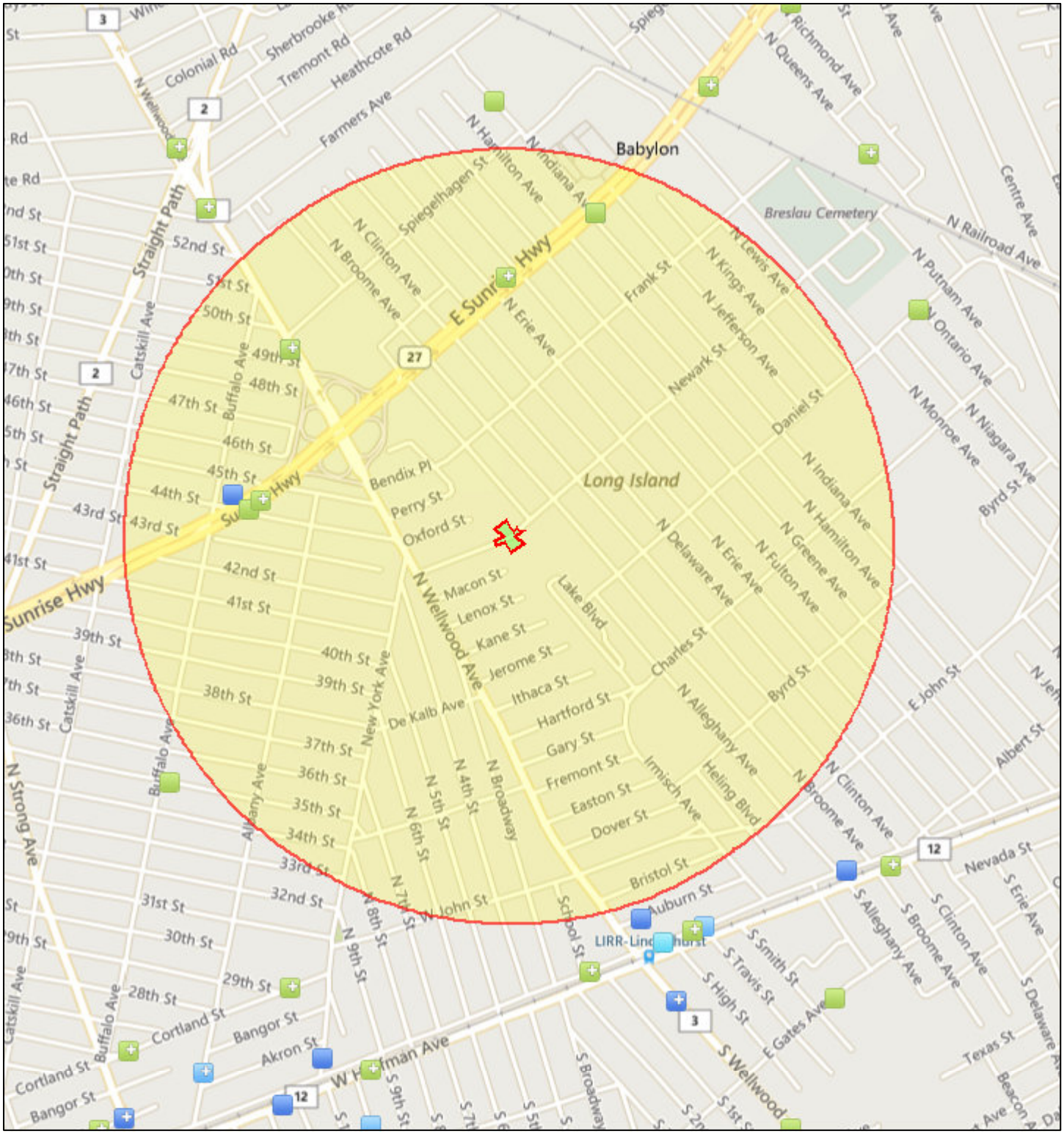
Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York



May 31, 2019

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0 0.25 0.5 1 km

- RCRAINFO (clustered)
- RCRAINFO (single)
- AIRS (clustered)
- AIRS (single)
- PCS (clustered)
- PCS (single)
- TRI (single)
- Project 1
- Buffer Area

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Environmental Reports

NYSDEC Reports for Spills, Environmental Remediation Sites, or Bulk Storage Sites Located on, or within close proximity to, the Project Area

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 1 Rows: 1 to 1

Export XLS Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	0605085	08/02/2006	UNKNOWN	Suffolk	LINDENHURST	NEWARK STREET / HELING BLVD

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 36 Rows: 1 to 36

Export XLS Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	8901644	05/18/1989	GUS AUTO SERVICE/TEXACO	Suffolk	LINDENHURST	136 NORTH WELLWOOD AVENUE
2.	8901740	05/20/1989	GUS'S AUTO SERVICE STATION	Suffolk	LINDENHURST	136 NORTH WELLWOOD AVENUE
3.	8901790	05/22/1989	GUS'S AUTO SERVICE STATION	Suffolk	LINDENHURST	136 NORTH WELLWOOD AVENUE
4.	8902412	06/08/1989	TEXACO S/S	Suffolk	LINDENHURST	136 NORTH WELLWOOD AVENUE
5.	8908626	07/15/1989	ARROW	Suffolk	LINDENHURST	188 NORTH WELLWOOD AVENUE
6.	9009714	12/06/1990	MOBIL S/S	Suffolk	LINDENHURST	624 NORTH WELLWOOD AVENUE
7.	9010376	12/26/1990	DAIRY BARN	Suffolk	NORTH LINDENHURST	691 NORTH WELLWOOD AVE
8.	9303374	06/15/1993	KEYSTONE TIRE	Suffolk	LINDENHURST	677 NORTH WELLWOOD AVENUE
9.	9314116	03/03/1994	UNK VEHICLE	Suffolk	LINDENHURST	910 NORTH WELLWOOD AVE
10.	9400920	04/19/1994	RONALDS S/S	Suffolk	LINDENHURST	641 NORTH WELLWOOD
11.	9404738	07/06/1994	MOBIL	Suffolk	LINDENHURST	624 NORTH WELLWOOD AVENUE
12.	9613810	02/25/1997	MARTIN AND MARTIN MNGMT C	Suffolk	LINDENHURST	208 NORTH WELLWOOD AVENUE
13.	0025333	12/11/2000	UNKNOWN	Suffolk	LINDENHURST	261 NORTH WELLWOOD/EASTON
14.	0010203	12/11/2000	RESIDENCE	Suffolk	LINDENHURST	261 NORTH WELLWOOD/EASTON
15.	0101264	05/02/2001	MOBIL STATION	Suffolk	LINDENHURST	624 NORTH WELLWOOD AVENUE
16.	0104302	07/23/2001	NUNEZ RESIDENCE	Suffolk	LINDENHURST	516 NORTH WELLWOOD AVENUE
17.	0200854	04/23/2002	MOBIL GAS	Suffolk	LINDENHURST	624 NORTH WELLWOOD AVENUE
18.	0300972	04/28/2003	SALLY BEAUTY SUPPLY	Suffolk	LINDENHURST	565B NORTH WELLWOOD AVE
19.	0409744	12/01/2004	RONALDS SERVICE STATION	Suffolk	NORTH LINDENHURST	641 NORTH WELLWOOD AVENUE
20.	0510968	12/19/2005	ALL SUFFOLK GROOMING	Suffolk	LINDENHURST	718 NORTH WELLWOOD AVENUE

21.	0604495	07/21/2006	MOBIL STATION	Suffolk	LINDENHURST	624 NORTH WELLWOOD
22.	0651587	11/16/2006	BUSINESS	Suffolk	LINDENHURST	218 NORTH WELLWOOD AVENUE
23.	0612833	02/27/2007	RESIDENCE	Suffolk	LINDENHURST	506 NORTH WELLWOOD AVENUE
24.	0700329	04/11/2007	OLGA PATRICO RESIDENCE	Suffolk	LINDENHURST	506 NORTH WELLWOOD AVENUE
25.	0709736	12/10/2007	USA GAS	Suffolk	LINDENHURST	188 NORTH WELLWOOD AVENUE
26.	0810939	12/31/2008	MOBIL GAS	Suffolk	LINDENHURST	624 NORTH WELLWOOD AVENUE
27.	0812585	02/18/2009	MOBIL GAS #10934	Suffolk	LINDENHURST	624 NORTH WELLWOOD AVENUE
28.	0902820	06/09/2009	MOBIL SERVICE STATION	Suffolk	LINDENHURST	624 NORTH WELLWOOD AVENUE
29.	0902897	06/11/2009	MOBIL	Suffolk	LINDENHURST	624 NORTH WELLWOOD AVE
30.	0903690	06/29/2009	MOBIL SERVICE STATION	Suffolk	LINDENHURST	624 NORTH WELLWOOD AVENUE
31.	0912365	02/25/2010	EXXON MOBIL #10934	Suffolk	LINDENHURST	624 NORTH WELLWOOD AVENUE
32.	1000806	04/20/2010	RONALDS S/S	Suffolk	LINDENHURST	641 NORTH WELLWOOD/49TH ST
33.	1104221	07/17/2011	ROADWAY	Suffolk	LINDENHURST	600 NORTH WELLWOOD AVENUE
34.	1110842	12/06/2011	RONALDS GAS STATION	Suffolk	LINDENHURST	641 NORTH WELLWOOD AVENUE
35.	1410422	01/26/2015	FORMER EXXON MOBIL	Suffolk	LINDENHURST	624 NORTH WELLWOOD AVENUE
36.	1506768	09/26/2015	UNKNOWN	Suffolk	LINDENHURST	624 NORTH WELLWOOD AVENUE

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 1 Rows: 1 to 1

Export XLS Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	9510413	11/18/1995	SEI RESIDENCE	Suffolk	LINDENHURST	24 OXFORD STREET

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 3 Rows: 1 to 3

Export XLS Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	8606439	01/16/1987	UNKNOWN	Suffolk	LINDENHURST	64 JEROME STREET
2.	9602983	06/02/1996	Spill Number 9602983	Suffolk	LINDENHURST	64 JEROME STREET
3.	9803947	06/28/1998	UNKNOWN	Suffolk	LINDENHURST	64 JEROME STREET

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 5 Rows: 1 to 5

Export XLS Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	8500984	06/18/1985	GUMB RESIDENCE	Suffolk	LINDENHURST	648 NORTH BROOME AVENUE
2.	9313198	02/07/1994	LODATO RESIDENCE	Suffolk	NORTH LINDENHURST	214 NORTH BROOME AVE
3.	9707609	09/27/1997	LANDI RESIDENCE	Suffolk	LINDENHURST	915 NORTH BROOME
4.	0750442	06/21/2007	UNKNOWN	Suffolk	LINDENHURST	150 NORTH BROOME/HOFFMAN
5.	0903653	06/29/2009	THEVENIN RESIDENCE	Suffolk	LINDENHURST	816 NORTH BROOME

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 12 Rows: 1 to 12

Export XLS Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	8606100	12/29/1986	UNKNOWN	Suffolk	LINDENHURST	575 NORTH CLINTON AVENUE
2.	9212457	02/03/1993	UNK	Suffolk	LINDENHURST	CLINTON & BAHAMA STREETS
3.	9510811	11/28/1995	LAIRD RESIDENCE	Suffolk	LINDENHURST	189 SOUTH CLINTON AVENUE
4.	9511076	12/04/1995	MANN RESIDENCE	Suffolk	LINDENHURST	308 SOUTH CLINTON AVENUE
5.	9512385	01/04/1996	MANN RESIDENCE	Suffolk	LINDENHURST	308 SOUTH CLINTON AVENUE
6.	9906775	09/07/1999	AV DELISI RESIDENCE	Suffolk	LINDENHURST	319 NORTH CLINTON AVENUE
7.	0010010	12/05/2000	AMOCO STATION 1098	Suffolk	LINDENHURST	86 EAST SUNRISE/NORTH CLINTON
8.	0301497	05/11/2003	UNK	Suffolk	LINDENHURST	CLINTON AVE/BAHAMA STREET
9.	0612824	02/27/2007	GEIGER RESIDENCE	Suffolk	LINDENHURST	801 NORTH CLINTON STREET
10.	0811553	01/21/2009	UNKNOWN	Suffolk	LINDENHURST	165 SOUTH CLINTON AVENUE
11.	1406845	09/29/2014	BRADY RESIDENCE	Suffolk	LINDENHURST	491 NORTH CLINTON AVENUE
12.	1602869	06/22/2016	ROADSIDE	Suffolk	LINDENHURST	696 NORTH CLINTON/FRANK STREET

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Bulk Storage Database Search Details

First Site | Previous Site | Next Site | Last Site

Facility Information

Site No.: 1-000229
Status: Unregulated/Closed
Expiration Date:
Site Type: PBS
Facility Type: Retail Gasoline Sales
Site Name: RONALDS
Address: 641 N. WELLWOOD AVE
Locality: NORTH LINDENHURST
State: NY
Zipcode: 11757
County: Suffolk

Tank Information

1 Tanks Found

Tank No	Tank Location	Status	Capacity (Gal.)
1	Underground including vaulted with no access for inspection	Tank Converted to Non-Regulated use	0

Return To Results

Refine This Search

Attachment 7

Endangered Species Compliance Documents

NYSDEC Environmental Resource Map
NYSDEC Environmental Resource Map Information
USFWS Consultation Letter

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Environmental Resource Mapper

Base Map: Satellite with Labels Using this map

Search

Tools

Layers and Legend

All Layers

- Unique Geological Features
- Waterbody Classifications for Rivers/Streams
- Waterbody Classifications for Lakes
- State Regulated Freshwater Wetlands
  - State Regulated Wetland Checkzone
- Significant Natural Communities
  - Natural Communities Near This Location
- Rare Plants or Animals

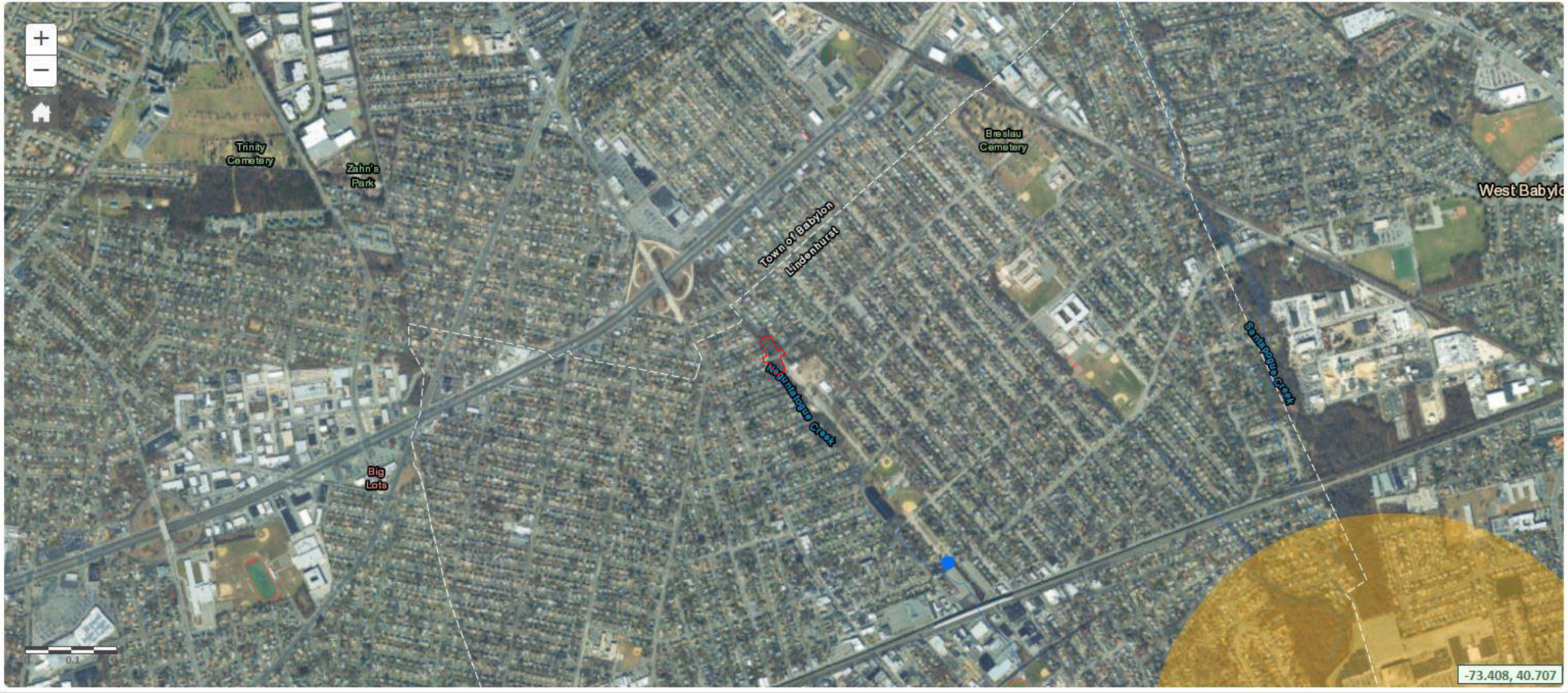
Other Wetland Layers

Reference Layers

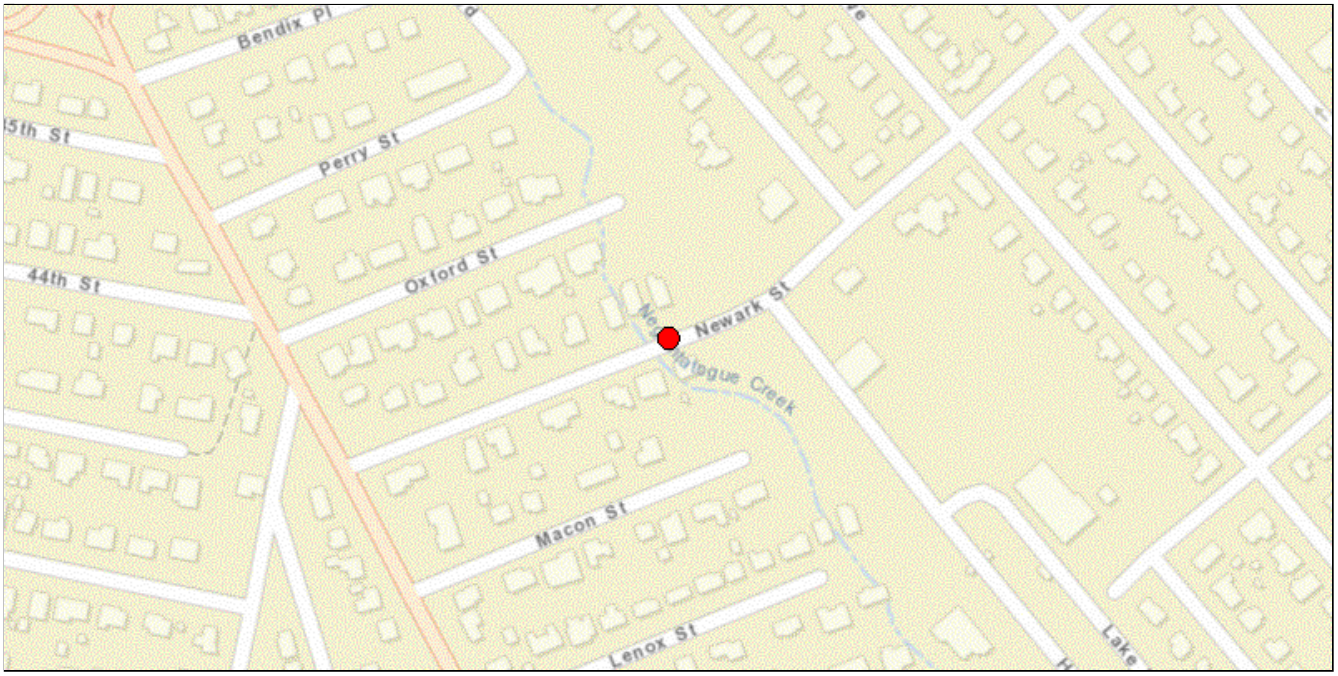
Tell Me More...

Need A Permit?

Contacts



Environmental Resource Mapper



The coordinates of the point you clicked on are:

UTM 18	**Easting:**	637031.763	**Northing:**	4506286.089
Longitude/Latitude	**Longitude:**	-73.378	**Latitude:**	40.696

The approximate address of the point you clicked on is:
52 Newark St, Lindenhurst, New York, 11757

County: Suffolk
Town: Babylon
Village: Lindenhurst
USGS Quad: AMITYVILLE

DEC Region

Region 1:
(Long Island) Nassau and Suffolk counties. For more information visit **http://www.dec.ny.gov/about/603.html**.

Old or Potential Records (Not displayed on the map)

Common Name: Flax-leaf Whitetop
Scientific Name: Sericocarpus linifolius
Date Last Documented: 1927-07-21
Location: Lindenhurst
NYS Protected: Threatened

Common Name: Collins' Sedge
Scientific Name: Carex collinsii
Date Last Documented: 1927-06-18
Location: Lindenhurst
NYS Protected: Endangered

Common Name: Velvety Bush-clover
Scientific Name: Lespedeza stuevei
Date Last Documented: 1926-09-03
Location: Lindenhurst
NYS Protected: Threatened

Common Name: Orange Milkwort
Scientific Name: Polygala lutea
Date Last Documented: 1935-08-20
Location: Babylon
NYS Protected: Endangered

Common Name: Barratt's Sedge
Scientific Name: Carex barrattii
Date Last Documented: 1927-05-28
Location: Lindenhurst
NYS Protected: Endangered

Freshwater Wetlands Checkzone

This location is in the vicinity of one or more Regulated Freshwater Wetlands.

National Wetands Inventory

Attribute: undefined
Type: undefined
Acres: undefined

For more information about the National Wetands Inventory wetlands visit **http://www.fws.gov/wetlands/**

If your project or action is within or near an area with a rare animal, a permit may be required if the species is listed as endangered or threatened and the department determines the action may be harmful to the species or its habitat.

If your project or action is within or near an area with rare plants and/or significant natural communities, the environmental impacts may need to be addressed.

The presence of a unique geological feature or landform near a project, unto itself, does not trigger a requirement for a NYS DEC permit. Readers are advised, however, that there is the chance that a unique feature may also show in another data layer (ie. a wetland) and thus be subject to permit jurisdiction.

Please refer to the "Need a Permit?" tab for permit information or other authorizations regarding these natural resources.

Disclaimer: If you are considering a project or action in, or near, a wetland or a stream, a NYS DEC permit may be required. The Environmental Resources Mapper does not show all natural resources which are regulated by NYS DEC, and for which permits from NYS DEC are required. For example, Regulated Tidal Wetlands, and Wild, Scenic, and Recreational Rivers, are currently not included on the maps.

Governor's Office of
Storm Recovery

ANDREW M. CUOMO
Governor

May 1, 2019

Mr. Steve Papa
U.S. Fish and Wildlife Service
Long Island Field Office
340 Smith Road
Shirley, NY 11967

VIA EMAIL: steve_papa@fws.gov

Re: ESA/MBTA/BGEPA consultation for the Lindenhurst Drainage Improvements Project, Newark Street, Village of Lindenhurst, Town of Babylon, Suffolk County, New York.

Dear Mr. Papa:

The Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York State Homes and Community Renewal's (NYSHCR) 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 New York Rising Community Reconstruction (NYRCR) Program. The environmental review for projects funded under the NYRCR Program are processed on a case by case basis in accordance with the United States Fish and Wildlife Service (USFWS) New York Field Office's online project review process.

The purpose of this letter is to provide the USFWS Long Island Field Office 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. We are submitting project materials to document that GOSR has made a "**No Effect**" determination for the project described herein. If the USFWS does not respond within 30 days from submittal of this form, then GOSR may presume that its determination for the project is informed by the best available information and its project responsibilities under Section 7 of the ESA have been fulfilled.

1.0 PROJECT DESCRIPTION

The Village of Lindenhurst is requesting CDBG-DR funds for the Lindenhurst Drainage Improvements Project (Project), which will involve retiring an existing culvert and installation of a new, larger culvert to increase the capacity of the existing drainage system within a low lying area that was impacted during

Superstorm Sandy. The Project is located along Newark Street, immediately west of the intersection of Newark Street and Heiling Boulevard in the Village of Lindenhurst, Town of Babylon, Suffolk County, NY.

Construction activities on Newark Street will include the removal of existing catch basins and associated drainage pipe; excavation of a trench in the roadway; and installation of a new box culvert, new drainage catch basins and drainage pipe, a new headwall with wingwalls and stone rip-rap splash pad as part of erosion control prevention and stormwater speed control upstream of Newark Street, a new headwall and stone rip-rap splash pad as part of erosion control prevention and stormwater speed control downstream of Newark Street, and stone gabion baskets along the creek side slopes for erosion control. The impacted asphalt roadway, driveway aprons, and concrete curbs will be restored to grade. In order to perform the proposed Project activities, water from Heiling Creek will be diverted from the construction area. In order to temporarily divert water from the Project area during the installation of the new culvert, the Project will involve the installation of a temporary headwall with wingwalls and a spillway, and sandbags for pond banking and downstream sediment control in a temporary stormwater diversion. The temporary diversion area will be restored upon completion of the Project. The existing culvert will be used to divert water from the construction area during construction and will be capped and filled upon the completion of Project activities. Trees, shrubs, and grass will be planted in disturbed areas upon the completion of Project activities for wetland restoration. An existing chain link fence south of Newark Avenue will be removed and replaced and a new chain link fence will be installed north of Newark Avenue.

The Project will involve the incorporation of best management practices (BMPs) to prevent the potential runoff of construction-related pollutants and sediment. All work will be completed in accordance with site plans and in accordance with all applicable Federal, State and local regulations, laws and permit requirements and conditions. Project location maps are included in **Appendix A** and project design plans are included in **Appendix B**.

The Project directly addresses the impacts of Superstorm Sandy and Hurricane Irene. The existing culvert beneath Newark Street is under-sized and cannot allow the runoff north of Newark Street to pass through the existing pipes. Runoff builds up on the north side of Newark Street and overtops the roadway, flooding the road and adjacent properties. The improvements to Newark Street will permit the runoff to adequately pass under the roadway to alleviate flooding that impedes traffic flow and increases flood risk.

2.0 ENDANGERED SPECIES ACT, MIGRATORY BIRD TREATY ACT, AND BALD AND GOLDEN EAGLE PROTECTION ACT PROTECTED SPECIES

The USFWS Long Island 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. According to the USFWS Official Species List, four (4) federally threatened species (northern long-eared bat, piping plover, red knot, and seabeach amaranth) and two (2) federally endangered species (roseate tern and sandplain gerardia) may potentially be associated with the Project area (see USFWS Official Species List in **Appendix C**). According to the USFWS Official Species List, there is no critical habitat for federally protected threatened and endangered species in the Project area.

The IPaC Resource List indicates that there are migratory birds protected under the Migratory Bird Treaty Act and/or the Bald and Golden Eagle Protection Act that could potentially be affected by the Project (see USFWS IPaC Resource List in **Appendix D**). Any transient migratory birds that may be found within the Project area would temporarily leave the area during construction. GOSR has determined that the Project will have "**No Effect**" on migratory birds.

According to the NYSDEC Environmental Resource Mapper, there are no records of rare plants or animals, including federally listed species, in the vicinity of the Project area (**Appendix E**). Descriptions of the northern long-eared bat (NLEB), piping plover, red knot, roseate tern, sandplain gerardia, and seabeach amaranth and an evaluation of the likelihood that these species occur within the Project area and would be affected by the Project is provided below. The species descriptions are summarized from the New York State Department of Environmental Conservation (NYSDEC) fact sheet and USFWS species profiles.

2.1 NORTHERN LONG-EARED BAT (NLEB)

The NLEB is a medium-sized bat that is distinguished by its long ears, particularly as compared to other bats in its genus. The NLEB 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, NLEBs 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. NLEBs spend winter hibernating in caves and mines. This bat prefers habitat with abundant stands of trees with sufficient bark crevices and snags for roosting habitat.

The Project is located in a developed residential area. The Project will not involve tree removal and there is no contiguous forested/wooded habitat located in the vicinity of the Project area. Also, based on the NYSDEC Environmental Resource Mapper, there are no records of rare plants or animals, including the northern long-eared bat, in the vicinity of the Project area (**Appendix E**). Therefore, GOSR has determined that the proposed Project would have "**No Effect**" on the NLEB.

2.1 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. 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.

The Project is located in a developed residential area. There are no open sandy beaches or otherwise suitable piping plover habitats that will be disturbed by Project activities. Therefore, GOSR has determined that the proposed Project would have "**No Effect**" on the piping plover.

2.2 RED KNOT

The red knot is a large, bulky sandpiper that is listed as federally threatened. The red knot breeds in the tundra region. During migration, the red knot prefers coastal beaches that are usually at or near the mouth of bays, estuaries, or tidal inlets. Wintering areas are generally intertidal habitats such as beaches with significant wave action or currents. The red knot can fly more than 9,300 miles from south to north every spring and repeat the trip in reverse every autumn, making this bird one of the longest-distance migrants in the animal kingdom. Red knots need to encounter favorable habitat, food, and weather conditions within narrow seasonal windows because the birds stopover between wintering and breeding areas. The red knot is sensitive to human disturbance.

The Project is located in a developed residential area. There are no coastal beaches, tidal flats, or coastal mudflats or otherwise suitable red knot habitats that will be disturbed by Project activities. Therefore, GOSR has determined that the proposed Project would have "**No Effect**" on the red knot.

2.3 ROSEATE TERN

The roseate tern is a waterbird listed as federally and state endangered. The roseate tern prefers coastal beach and island habitats along salt bays, estuaries, and oceans. Roseate terns nest on sandy or rocky islands, especially in protected bays and estuaries, with some low plant cover that is close to shallow waters for feeding. It forages in coastal waters and sometimes well offshore. The roseate tern is sensitive to human disturbance.

The Project is located in a developed residential area. There are no sandy or rocky islands, protected bays and estuaries, or otherwise suitable roseate tern habitats that will be disturbed by Project activities. Therefore, GOSR has determined that the proposed Project would have "**No Effect**" on the roseate tern.

2.4 SANDPLAIN GERARDIA

The sandplain gerardia is a flowering plant that is listed as federally and state endangered. The sandplain gerardia can be found on Long Island in dry, sandy soils and in sandy plains. It was traditionally a maritime grassland species maintained by fire and grazing. In New York, it currently occurs in remnant grasslands, shrublands, and along roadsides and railroads.

The Project is located in a developed residential area. No grassland habitats, shrubland habitats, or otherwise suitable sandplain gerardia habitats will be disturbed by Project activities. Therefore, GOSR has determined that the proposed Project would have "**No Effect**" on the sandplain gerardia.

2.5 SEABEACH AMARANTH

The seabeach amaranth is an annual plant that is listed as federally endangered and state threatened. The seabeach amaranth is a flowering plant that usually grows on a nearly pure sand substrate. It is primarily found on overwash flats at accreting ends of islands, lower fore-dunes, and upper strands of non-eroding beaches.

The Project is located in a developed residential area. No sandy dune, beach, or otherwise suitable seabeach amaranth habitats will be disturbed by Project activities. Therefore, GOSR has determined that the proposed Project would have "**No Effect**" on the seabeach amaranth.

3.0 CONCLUSION

Project implementation would be conditioned upon issuance of applicable federal and State permits and would be constructed in accordance with federal and state permit requirements and their conditions. The proposed Project would not jeopardize the continued existence of ESA species or destroy or adversely modify their critical habitat. GOSR is submitting the above information as notification of its "**No Effect**" determination and requests acknowledgement from USFWS that they have received this determination that the proposed Project would have **No Effect** on endangered/threatened species, migratory birds, or critical habitat for species under USFWS jurisdiction.

For additional information, please contact me by e-mail at James.McAllister@stormrecovery.ny.gov or by telephone at (631) 465-9677.

Sincerely,

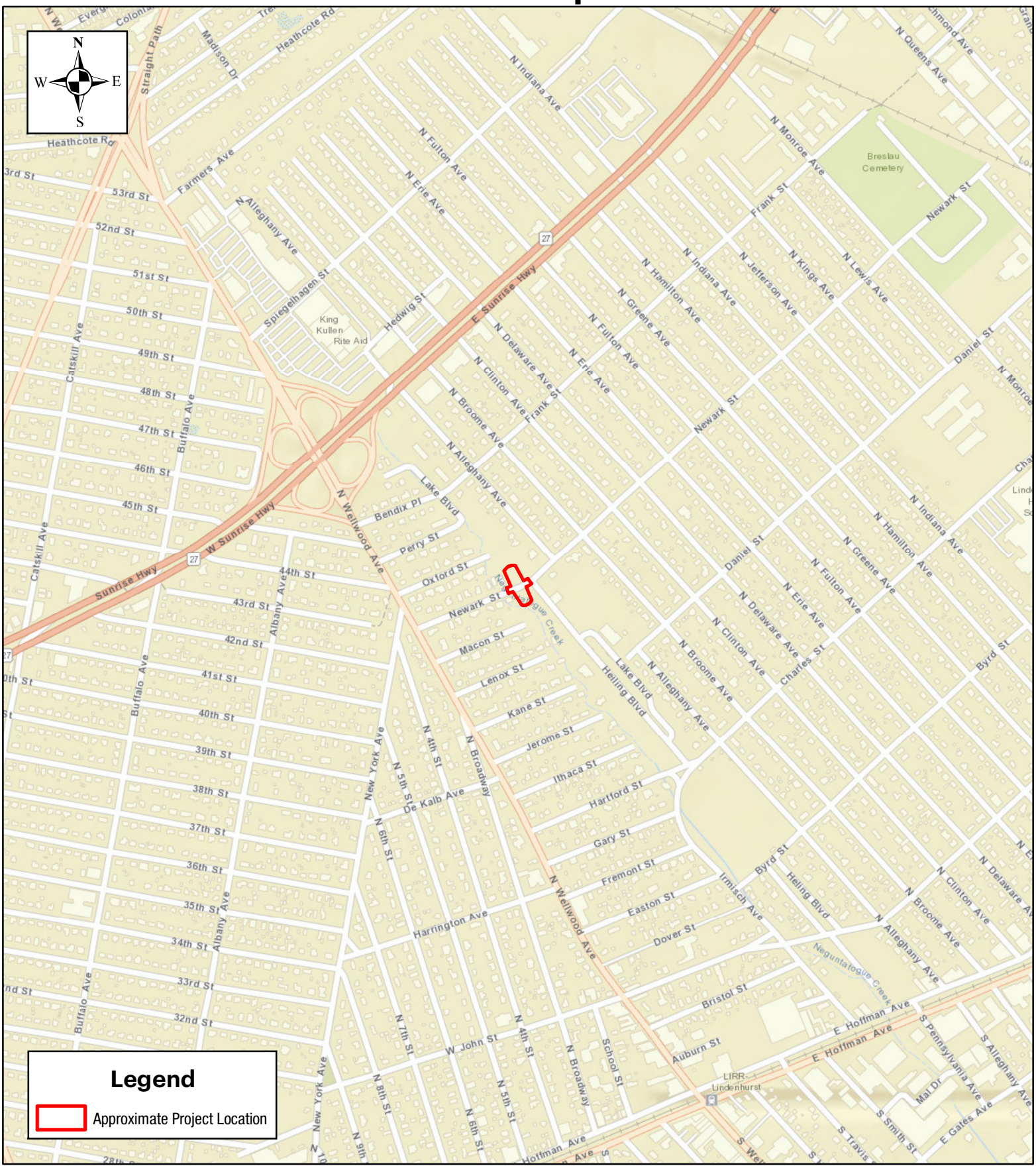
James McAllister
Senior Environmental Project Manager
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery

Attachments:

Appendix A: Proposed Project Location Maps
(Street Map, USGS Topographic Map, and Aerial Map)
Appendix B: Project Design Plans
Appendix C: USFWS Official Species List
Appendix D: USFWS IPaC Resource List
Appendix E: NYSDEC Environmental Resource Map and Map Information

Appendix A

Street Map



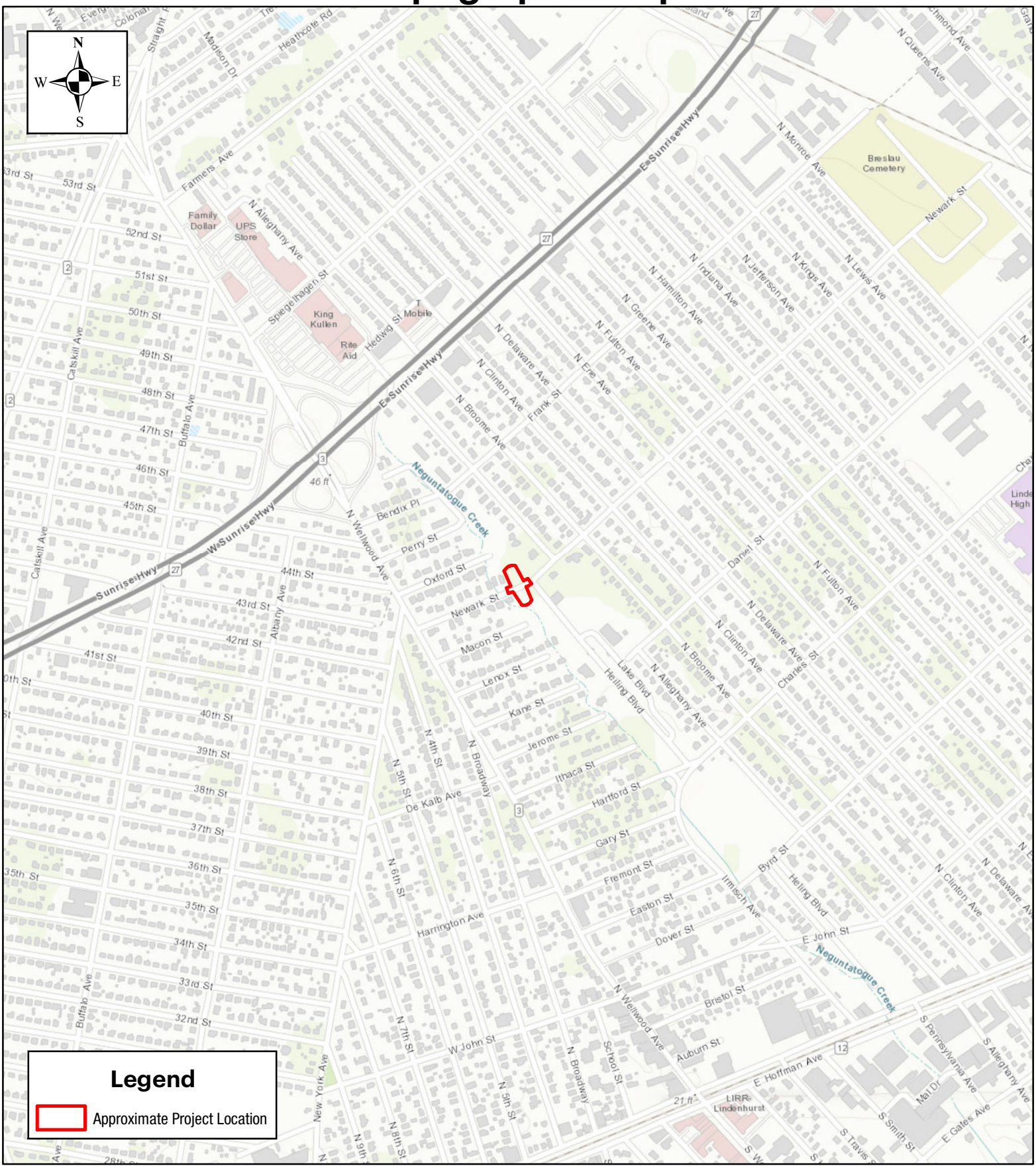
Tectonic

1:10,000

0 500 1,000 2,000 Feet

Lindenhurst Drainage Improvements Project
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

Topographic Map



Tectonic

1:10,000

0 500 1,000 2,000 Feet

Lindenhurst Drainage Improvements Project
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

Aerial Map

Tectonic

1:3,000

0 125 250 500 Feet

Lindenhurst Drainage Improvements Project
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

Appendix B

KEY MAP
NTS

VILLAGE OF LINDENHURST

PLANS FOR THE DEC

RECONSTRUCTION OF

NEWARK AVE DRAINAGE CULVERT

SUFFOLK COUNTY, NEW YORK

A PROJECT FUNDED BY AND CONCEIVED THROUGH THE NY RISING COMMUNITY RECONSTRUCTION PROGRAM OF THE GOVERNOR'S OFFICE OF STORM RECOVERY

NELSON & POPE No. 18197
FEBRUARY 2019

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, PROFESSIONAL ENGINEERING AND LAND SURVEYING, SECTION 7209 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

CONSULTANT
NELSON & POPE
ENGINEERS • SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747-2188
(631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

No.	DATE	REVISION	BY:
-	-	-	-/-

DWN. BY:	JD
CHK'D BY:	JD/RZS
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197COV.DWG
SCALE:	NONE
DRAWING NUMBER:	C-1
SHEET:	1 OF 14

MISCELLANEOUS NOTES:

1. THE LOCAL FIRE DEPARTMENTS, EMERGENCY SQUADS, AND THE LOCAL POLICE DEPARTMENT SHALL BE NOTIFIED A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE CONTRACTOR COMMENCING CONSTRUCTION. THE ABOVE LISTED AGENCIES OR DEPARTMENTS SHALL BE NOTIFIED A MINIMUM OF ONE (1) WORKING DAY IN ADVANCE OF THE CONTRACTOR CONDUCTING WORK THAT WILL HAVE AN IMPACT ON THE TRAVEL ROUTES OR RESPONSE ROUTES.

2. DRAINAGE FRAMES AND GRATES SHALL NOT BE ADJUSTED IN A TRAVEL LANE UNLESS THE FINAL COURSE IS PLACED PRIOR TO THE ONSET OF SNOW AND ICE WEATHER. STEEL PLATES, ETC., SHALL NOT PROTRUDE ABOVE THE ADJACENT PAVEMENT. IF ANY OF THESE PROTRUSIONS EXIST IN A NON-TRAVEL LANE PRIOR TO SNOW AND ICE CONDITION, THEN TEMPORARY ASPHALT RAMPS MUST BE PLACED SO THAT FOR EVERY ONE INCH OF RISE THERE IS A SIX FOOT RUN OF RAMP.

3. ALL WORK WITHIN THE VILLAGE OF LINDENHURST RIGHT-OF-WAY (ROW), AS SHOWN ON THE PLANS, SHALL CONFORM TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) SPECIFICATIONS, STANDARD DETAILS, AND PERMITS, OR AS ORDERED BY THE VILLAGE OF LINDENHURST REPRESENTATIVE.

4. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH FIELD CONDITIONS.

5. THE CONTRACTOR SHALL TAKE PRECAUTIONS NOT TO LEAVE DEBRIS, MATERIALS, AND TOOLS, ETC., ON THE ROADWAY SURFACE WHEN LEAVING THE WORK AREA. IN ADDITION, THE CONTRACTOR SHALL TAKE PRECAUTIONS THAT NO DEBRIS, ETC., INTERFERES WITH ADJACENT OPEN TRAFFIC LANES AND PEDESTRIAN WALKS.

6. ALL OPERATIONS SHALL BE CONDUCTED SO AS NOT TO INTERFERE WITH, INTERRUPT, OR ENDANGER THE OPERATION OF TRAFFIC, NOR DAMAGE, DESTROY, OR ENDANGER THE INTEGRITY OF VILLAGE FACILITIES OR ADJACENT PROPERTIES .

7. THE VILLAGE OF LINDENHURST WILL NOT UNDERTAKE OR ACCEPT FINANCIAL RESPONSIBILITY FOR ANY REMEDIATION OR SIMILAR ACTIVITY WITH RESPECT TO THE REMOVAL OF HAZARDOUS WASTES AND NON-HAZARDOUS SOLID INDUSTRIAL WASTES. WHICH UNDER LAW WOULD NOT BE REQUIRED AT THE TIME BUT FOR THE ACCOMMODATION OF UTILITY FACILITIES WITHIN THE RIGHT-OF-WAY. SUCH RESPONSIBILITY AND COSTS SHALL BE SOLELY THOSE OF THE OWNER OR PERMITTEE.

8. PAVEMENT AND SHOULDER REMOVAL SHALL BE DONE IN A MANNER THAT PROVIDES FOR PROPER RESTORATION OF THE REPLACEMENT SECTION. GENERALLY, STRAIGHT, VERTICAL CUTS OF THE PAVEMENT AND SHOULDER WILL BE REQUIRED. SHEETING MAY BE REQUIRED. PAVEMENT THAT BECOMES UNDERMINED SHALL BE CUT BACK AND REMOVED. ALTERNATIVE REPAIR METHODS MAY BE USED IF PRIOR APPROVAL IS GRANTED BY THE VILLAGE.

9. THE LIMIT OF PAVEMENT REPLACEMENT SHALL BE SUCH THAT THE REPLACED PAVEMENT IS SUPPORTED BY THOROUGHLY COMPACTED SUBBASE MATERIAL AND THE PAVEMENT IS RESTORED TO THE PROPER GRADE, SURFACE TOLERANCE AND SURFACE TEXTURE.

10. TEMPORARY PAVEMENTS AND SHOULDERS SHALL BE PLACED AS SOON AS A CROSSOVER INSTALLATION IS COMPLETED. IF PERMANENT PAVEMENT PLACEMENT IS TO BE DELAYED, TEMPORARY PAVEMENT RESTORATION SHALL CONSIST OF A MINIMUM COMPACTED THICKNESS OF THREE INCHES (75MM) OF ASPHALT CONCRETE, AND APPROVED BASE MATERIAL OF A DEPTH TO PROVIDE FOR PERMANENT PAVEMENT. IN SITUATIONS WHERE HEAVY TRAFFIC LOADS ARE ANTICIPATED OR CASES WHERE THE TEMPORARY PAVEMENT IS REQUIRED FOR A PROTRACTED PERIOD, MORE SUBSTANTIAL PAVEMENT AND BACKFILL DESIGN MAY BE REQUIRED. THE ASPHALT CONCRETE SHALL BE MAINTAINED FLUSH WITH THE EXISTING PAVEMENT UNTIL THE PAVEMENT IS RESTORED PERMANENTLY.

11. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS (CURB, SIDEWALK, ASPHALT, GUTTER, SOD, PAVEMENT, ETC.) IN-KIND.

12. ALL EXISTING PAVEMENT MARKINGS THAT ARE DAMAGED OR REMOVED BY CONSTRUCTION PROCESSES UNDER THIS WORK SHALL BE RESTORED AS REQUIRED OR AS ORDERED BY THE ENGINEER RESPONSIBLE FOR CONSTRUCTION INSPECTION. SEE PAVEMENT MARKING LEGEND FOR DETAILS AND ITEMS.

13. ALL EXISTING SIGNS THAT ARE DAMAGED OR REMOVED BY CONSTRUCTION PROCESSES UNDER THIS WORK SHALL BE RESET OR REPLACED AS REQUIRED OR AS ORDERED BY THE ENGINEER RESPONSIBLE FOR CONSTRUCTION INSPECTION.

14. NEW CURB NOT ABUTTING EXISTING CURB, SHALL BE RAMPED DOWN TO ZERO HEIGHT REVEAL IN THE LAST 10 FEET.

15. TREES AND SHRUBS ARE TO BE PRUNED IN ACCORDANCE WITH BOTH SECTION 201 AND THE FOLLOWING REQUIREMENTS. ALL COSTS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 201.06 M.

(A) THE CONTRACTOR SHALL CAREFULLY CUT OFF ALL BRANCHES OF PLANTS HANGING WITHIN 16 FEET ABOVE ANY PART OF THE ROADWAY OR WITHIN 2 FEET OF THE EDGE OF THE SHOULDER. BRANCHES SHALL BE TRIMMED AT THE TRUNK TO MAINTAIN A CALLOUS RIDGE.

(B) PRUNING MAY BE REQUIRED BEYOND THE LIMITS INDICATED IN ORDER TO MAINTAIN ADEQUATE SIGHT DISTANCE FOR ALL TRAFFIC SIGNS AND SIGNALS. ADDITIONAL BRANCH PRUNING MAY ALSO BE REQUIRED ON ANY TREE WHERE BRANCHES ARE REMOVED IN ORDER TO MAINTAIN AN ESTHETIC BALANCE. ALL SUCH ADDITIONAL PRUNING SHALL BE AS ORDERED BY THE ENGINEER.

(C) ALL WORK SHALL BE DONE ACCORDING TO ACCEPTABLE HORTICULTURAL AND PRUNING PRACTICES.

(D) THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY EXISTING TREES THAT ARE TO REMAIN. ANY DAMAGE THROUGH CARELESSNESS OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE, AOBE.

16. IN LOCATIONS WHERE NARROW VEGETATIVE BUFFERS EXIST BETWEEN PARKWAYS AND ADJACENT BUILDINGS (RESIDENCIES) THE CONTRACTOR SHALL NOT REMOVE VEGETATION AS TO CREATE SIGHT LINES FROM ADJACENT BUILDINGS TO THE PARKWAY OR FROM THE PARKWAY TO ADJACENT BUILDINGS.

17. AREAS TO BE SEEDED ON THIS PROJECT MAY BE SUBJECT TO VEHICLE INTRUSIONS WHICH MAY RESULT IN THE NECESSITY OF RESEEDING. THE CONTRACTOR IS ADVISED TO TAKE ADEQUATE PROTECTIVE MEASURES TO MINIMIZE SUCH VEHICLE INTRUSIONS. THE FOLLOWING PROTECTIVE MEASURES ARE SUGGESTED:

A. ORANGE PAINTED 1-1/2 X 1-1/2 WOODEN STAKES EXTENDING 1 FOOT ABOVE THE GROUND SURFACE SHOULD BE PLACED IMMEDIATELY IN BACK OF THE CURB AT 50 FOOT INTERVALS.

B. SIGNS APPROXIMATELY 18 INCH x 6 INCH IN SIZE, PROJECTING 1 FOOT ABOVE THE GROUND, WITH THE WORDS "SEEDED AREA" SHOULD BE PLACED AT MAXIMUM 200 FEET INTERVALS AND 7 FOOT OFFSET FROM THE CURB THROUGHOUT THE SEEDED AREA SUBJECT TO INTRUSION.

C. REFLECTORIZED DRUMS, AT A 7 FOOT OFFSET FROM THE CURB, SHALL BE PLACED AT 200 FEET LONGITUDINAL INTERVAL. THESE DRUMS SHOULD ALTERNATE WITH THE SIGNS SUGGESTED UNDER B ABOVE.

19. THE DISTURBED AREAS SHALL BE SEEDED, FERTILIZED AND MULCHED AS SPECIFIED FOR THE STANDARD SEEDING ITEM, TURF ESTABLISHMENT, EXCEPT THE SEED SHALL BE TALL FESCUE, COMMERCIAL IMPROVED VARIETIES, 85% MINIMUM GERMINATION, 140 LB OF PURE LIVE SEED PER ACRE, RED FESCUE, COMMERCIAL, 85% MINIMUM GERMINATION, 25 LB OF PURE LIVE SEED PER ACRE, AND PERENNIAL RYE GRASS COMMERCIAL IMPROVED VARIETIES, 80% MINIMUM GERMINATION, 100 LB OF PURE LIVE SEED PER ACRE, TOTAL 250 LB OF PURE LIVE SEED PER ACRE, UNLESS OTHERWISE DIRECTED BY THE REGIONAL LANDSCAPE ARCHITECT.

WHEN SMALL AMOUNTS OF SEEDING, LESS THAN 1 ACRE, IS REQUIRED FOR RESTORATION AND THE SEED MIX AS SPECIFIED ABOVE IS NOT AVAILABLE AT THE TIME OF SEEDING, EQUIVALENT SEED MIX MAY BE APPROVED BY THE REGIONAL LANDSCAPE ARCHITECT.

NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK, BUT THE COST SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS CONTRACT ITEMS.

20. ONLY THOSE TREES DESIGNATED FOR REMOVAL ON AN EACH BASIS IN THE PLANS SHALL BE REMOVED AND PAID FOR UNDER THE CONTRACT ITEM(S) FOR TREE REMOVAL. ALL OTHER TREE REMOVALS SHALL BE PAID FOR UNDER THE CLEARING AND GRUBBING ITEM. THE CONTRACTOR SHALL NOTIFY THE E.I.C TWO (2) WEEKS PRIOR TO REMOVAL OF ANY TREES AND SHALL NOT START HIS OPERATION UNTIL APPROVED BY THE E.I.C.

21. CLEARING AND GRUBBING WILL BE REQUIRED FOR THE FULL LENGTH OF THE CONTRACT. THE PLANS SHOW ONLY CERTAIN SPECIFIC WORK REQUIREMENTS.

22. CLEARING AND GRUBBING SHALL INCLUDE THE REMOVAL OF ALL TREES 6 INCH IN DIAMETER OR LESS. TREES LARGER THAN 6 INCH IN DIAMETER SHALL BE REMOVED UNDER ITEM 614.03XX, AS SHOWN AND TABULATED ON THE PLANS OR AS ORDERED BY THE ENGINEER. THE CONTRACTOR SHALL NOTIFY THE E.I.C TWO (2) WEEKS PRIOR TO REMOVAL OF ANY TREES AND SHALL NOT START HIS OPERATION UNTIL APPROVED BY THE E.I.C.

23. IN AREAS OF ROW ACQUISITION EXISTING FENCING, GUIDE RAIL, SIGNS, ETC. MAY NOT BE SHOWN ON THE PLANS. THESE ITEMS SHALL BE REMOVED UNDER CLEARING AND GRUBBING UNLESS OTHERWISE SHOWN ON THE PLANS. THEY SHALL BE REMOVED TO THE ROW TAKING LINE AND STOCKPILED ON THE ADJACENT PROPERTY IF REQUESTED TO DO SO BY THE ADJACENT PROPERTY OWNER; OR IT SHALL BE REMOVED FROM THE JOB SITE AS DIRECTED BY THE ENGINEER. THE REMAINING PORTION ON PRIVATE PROPERTY SHALL BE PROPERLY RESTORED AOBE. EXAMPLE: WHEN REMOVING CHAIN LINK FENCE, A NEW END POST SHALL BE INSTALLED AT THE ROW LINE WITH THE REMAINING FENCE PROPERLY ATTACHED. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK, BUT THE COST SHALL BE INCLUDED IN THE PRICE BID FOR CLEARING & GRUBBING _ ITEM 201.06.

24. SOIL BORINGS HAVE BEEN TAKEN AT SPECIFIED LOCATIONS AS SHOWN ON THE CONSTRUCTION PLANS.

25. GROUND WATER MAY BE ENCOUNTERED DURING THE INSTALLATION OF THE VARIOUS CONTRACT ITEMS. THE COST FOR NECESSARY DEWATERING SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

UTILITY NOTES:

1. CONTRACTOR SHALL CONTACT UTILITY COMPANIES FOR MARK-OUT OF ALL FACILITIES PRIOR TO CONSTRUCTION. THE UTILITY COMPANIES SHALL BE NOTIFIED A MINIMUM OF FIVE (5) WORKING DAYS BEFORE THE CONTRACTOR COMMENCES WORK. ANY UTILITY RELOCATIONS OR CROSSINGS SHALL BE COORDINATED WITH THE UTILITY COMPANY OWNING THE FACILITY.

2. EXISTING UTILITY FACILITIES REMOVAL, RELOCATION, OR MODIFICATION SHALL BE COMPLETED PRIOR TO COMMENCING PAVEMENT WORK. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF THE MODIFICATION OF ALL UTILITIES WITH THE UTILITY FACILITY OWNER. THE OWNER OF THE UTILITY FACILITY MAY CHOOSE TO PERFORM RELOCATIONS OR MODIFICATIONS WITH OTHER FORCES.

3. EXISTING UNDERGROUND AND OVERHEAD UTILITIES AS SHOWN HEREIN HAVE BEEN DETERMINED BY STANDARD SURVEYING METHODS AND AVAILABLE RECORDS. NEITHER THE EXACT LOCATION NOR THE INFORMATION OF THESE EXISTING UTILITIES IS GUARANTEED TO BE COMPLETE OR CORRECT.

4. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND FACILITIES TO AVOID CONFLICTS WITH ANY NEW UNDERGROUND WORK. THE CONTRACTOR SHALL DIG TEST PITS AS REQUIRED TO DETERMINE EXACT LOCATIONS OF EXISTING UTILITIES. ANY EXISTING DRAINAGE AND TRAFFIC SIGNAL FACILITIES THAT ARE DAMAGED OR REMOVED BY CONSTRUCTION PROCESSES SHALL BE REPLACED IN ACCORDANCE WITH CURRENT VILLAGE OF LINDENHURST STANDARDS AND DETAILS.

5. THE PERMITTEE IS RESPONSIBLE FOR THE COORDINATION OF AND COST OF ALL UTILITY RELOCATIONS OR ADJUSTMENTS THAT ARE SHOWN TO BE DONE BY OTHERS.

6. THE CONTRACTOR IS TO EMPLOY A LICENSED SURVEYOR TO PERFORM ANY REQUIRED LAYOUT, ESTABLISHMENT OF ELEVATIONS AND GRADES, PRIOR TO CONSTRUCTION.

7. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NOT TO DISTURB ANY MONUMENTS AND BENCH MARKS WITHIN PROJECT LIMITS PRIOR TO THE START OF ANY EXCAVATION.

8. ANY EXPENSE INCURRED IN REPLACING MONUMENTS OR BENCHMARKS THAT THE CONTRACTOR, OR ANY EMPLOYEE, MAY HAVE FAILED TO PRESERVE SHALL BE PAID BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE VILLAGE.

SURVEY NOTES:

1. THE CONTRACTOR IS TO EMPLOY A LICENSED SURVEYOR TO PERFORM ANY REQUIRED LAYOUT, ESTABLISHMENT OF ELEVATIONS AND GRADES, PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NOT TO DISTURB ANY MONUMENTS AND BENCH MARKS WITHIN PROJECT LIMITS PRIOR TO THE START OF ANY EXCAVATION.

3. ANY EXPENSE INCURRED IN REPLACING MONUMENTS OR BENCHMARKS THAT THE CONTRACTOR, OR ANY EMPLOYEE, MAY HAVE FAILED TO PRESERVE SHALL BE PAID BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE VILLAGE.

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FEATURE	SYMBOL EXISTING	SYMBOL PROPOSED
BOUNDARIES		
HIGHWAY BOUNDARY LINE		
VILLAGE, CITY OR TOWN LIMITS		
BUILDING		
BUILDING LINE		
ROADWAY AND SIDEWALK		
CURB LINE		
SIDEWALK	SW	
DRIVEWAY APRON		
SIDEWALK RAMP		
TRAFFIC FLOW		
VEGETATION		
TREES, DECIDUOUS		
TREES, CONIFEROUS		
SHRUBS, BUSHES		
TOPSOIL AND SEED	GRASS	
TRAFFIC SIGNAL SYSTEMS		
PULLBOX		
SPAN WIRE	SPAN	
TRAFFIC SIGNAL POLE		
TRAFFIC SIGNAL POLE WITH CONTROLLER CABINET		
CONTROLLER OR DETECTOR CABINET		
TRAFFIC SIGNAL FACE		
PEDESTRIAN SIGNAL FACE		
PEDESTRIAN PUSH BUTTON		
ALUMINUM VEHICLE DETECTOR HOUSING		
AERIAL TRAFFIC SIGNAL COMMUNICATION CABLE		
UNDERGROUND TRAFFIC SIGNAL CONDUIT		
LOOP DETECTOR	LOOP	
SURVEY DATA		
SPOT ELEVATION	X 34.13	X 35.96
BASELINE		
HORIZONTAL CONTROL LINE		
EROSION CONTROL		
DRAINAGE STRUCTURE PROTECTION		

FEATURE	SYMBOL EXISTING	SYMBOL PROPOSED
UTILITIES BELOW GROUND		
STORM DRAIN INLET		
GAS VALVE		
WATER VALVE		
ELECTRIC LINE	E	
FIRE COMMUNICATIONS LINE	FD	
GAS LINE	8"G	
SANITARY SEWER LINE	S	
STORM DRAINAGE LINE	D	D
TELEPHONE LINE	T	
WATER LINE	8"W	
INFORM LINE	INFORM	
CABLEVSION LINE	CA	
ELECTRIC MANHOLE	Ⓔ	
GAS MANHOLE	Ⓖ	
LIPA MANHOLE	Ⓛ	
SANITARY SEWER MANHOLE	Ⓢ	
STORM DRAINAGE MANHOLE	Ⓓ	
TELEPHONE MANHOLE	Ⓣ	
FIRE HYDRANT		
STREET LIGHT		
FIELD INLET		
UTILITIES ABOVE GROUND		
MISCELLANEOUS OVERHEAD WIRES		
GUY WIRE		
UTILITY POLE		
UTILITY POLE WITH RISER		
MISCELLANEOUS FEATURES		
SIGNS		
GUIDE RAIL		
MEDIAN BARRIER		
RETAINING WALL		
FENCE		
NORTH ARROW (TRUE)	NORTH	
TOPOGRAPHY		
CONTOURS	36.5 36.0 37.0	
LIMIT OF RESTORATION, GRADING OR CLEARING AND GRUBBING		

TOPOGRAPHIC ABBREVIATIONS:

E	ELECTRIC
G	GAS
GP	GUY POLE
GSB	GAS SERVICE BOX (HOUSE CONNECTION)
GV	GAS VALVE (MAIN LINE)
HPG	HIGH PRESSURE GAS
HYD	HYDRANT
LP	LIGHT POLE
LPG	LOW PRESSURE GAS
SA	SANITARY SEWER
ST	STORM DRAINAGE DEWRE
T	TELEPHONE
TEL P	TELEPHONE POLE
CA	CABLE TELEVISION
W	WATER
WM	WATER METER
WSB	WATER SERVICE BOX (HOUSE CONNECTION)
WV	WATER VALVE (MAIN LINE)
ABUT	ABUTMENT
AOBE	AS ORDERED BY THE ENGINEER
ASPH	ASPHALT
BLDG	BUILDING
BM	BENCH MARK
BR	BRIDGE
CONC	CONCRETE
CONST	CONSTRUCTION
CR	COUNTY ROAD
DWY	DRIVEWAY
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
FP	FENCE POST
FND	FOUNDATION
FL	FENCE LINE
GAR	GARAGE
GR	GRAVEL
HO	HOUSE
HWY	HIGHWAY
MB	MAIL BOX
MON.	MONUMENT
PAV'T	PAVEMENT
RR	RAILROAD
RTE	ROUTE
ROW	RIGHT OF WAY
RW	RETAINING WALL
ST.	STREET
SW	SIDEWALK
TL	TREELINE
BC	BOTTOM OF CURB
CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CULV.	CULVERT
DI	DROP INLET
EL	ELEVATION

ALIGNMENT ABBREVIATIONS

AH	AHEAD
AZ	AZIMUTH
BK	BACK
℄	BASELINE
BRG	BEARING
℄	CENTERLINE
CS	CURVE TO SPIRAL
D	DEGREE OF CURVE
DIA	DIAMETER
E MAX	MAXIMUM SUPERELEVATION
EQ	EQUALITY
EXT	EXTERNAL
HCL	HORIZONTAL CONTROL LINE
HSD	HEADLIGHT SIGHT DISTANCE
L	LENGTH OF CIRCULAR CURVE
LS	LENGTH OF SPIRAL
LVC	LENGTH OF VERTICAL CURVE
MC	CENTER CORRECTION OF VERTICAL CURVE
ℳ	MAIN LINE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
POI	POINT ON LINE
PSD	PASSING SIGHT DISTANCE
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS
SC	SPIRAL TO CURVE
SSD	STOPPING SIGHT DISTANCE
ST	SPIRAL TO TANGENT
STA	STATION
T	TANGENT LENGTH
TGL	THEORETICAL GRADE LINE
TS	TANGENT TO SPIRAL
VC	VERTICAL CURVE

DRAINAGE ABBREVIATIONS

BB	BOTTOM OF BANK (STREAM)
BC	BOTTOM OF CURB
BO	BOTTOM OF OPENING
CAP	CORRUGATED ALUMINUM PIPE
CB	CATCH BASIN
CI	CURB INLET
CIP	CAST IRON PIPE
℄ STRM	CENTERLINE OF STREAM
CMP	CORRUGATED METAL PIPE
CP	CONCRETE PIPE
CSP	CORRUGATED STEEL PIPE
CULV	CULVERT
DI	DROP INLET
D'XING	DITCH CROSSING
EHW	EXTREME HIGH WATER
ELEV OR EL	ELEVATION
ELW	EXTREME LOW WATER
ES	END SECTION
FI	FIELD INLET
HW	HEADWALL
INV	INVERT
LB	LEACHING BASIN
MH	MANHOLE
MHW	MEAN HIGH WATER
OCMP	OBLATE CORRUGATED METAL PIPE
OHW	ORDINARY HIGH WATER
OLW	ORDINARY LOW WATER
RCP	REINFORCED CONCRETE PIPE
TB	TOP OF BANK
TC	TOP OF CURB
TG	TOP OF GRATE
TO	TOP OF OPENING
VCP	VITRIFIED CLAY PIPE
VTP	VITRIFIED TILE PIPE

No.	DATE	REVISION	BY:
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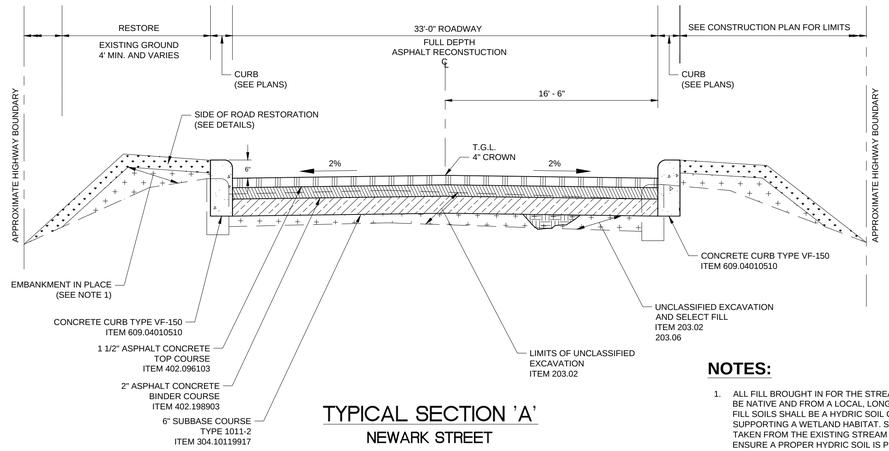
CLIENT:
VILLAGE OF LINDENHURST
430 SOUTH WELLWOOD AVE
LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197COV.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
LEGEND AND NOTES - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE
MASTER STUDY

DRAWING NUMBER:
LAN - 1

SHEET: 2 OF 14



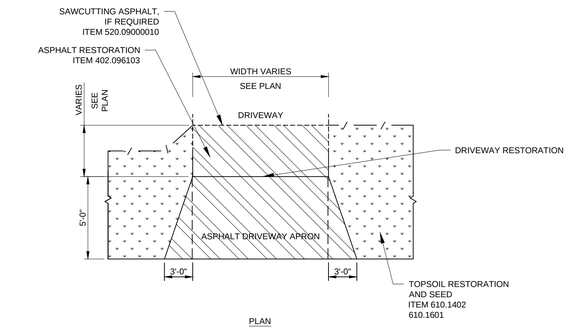
TYPICAL SECTION 'A'

NEWARK STREET

NOT TO SCALE

NOTES:

1. ALL FILL BROUGHT IN FOR THE STREAM MITIGATION SHALL BE NATIVE AND FROM A LOCAL, LONG ISLAND, NY SOURCE. FILL SOILS SHALL BE A HYDRIC SOIL CAPABLE OF SUPPORTING A WETLAND HABITAT. SOIL SAMPLES SHALL BE TAKEN FROM THE EXISTING STREAM AND ANALYZED TO ENSURE A PROPER HYDRIC SOIL IS PROVIDED.



PLAN

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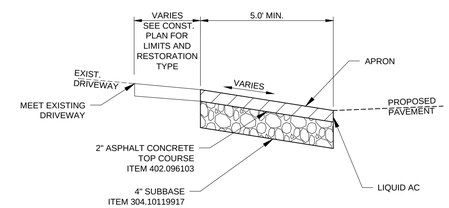
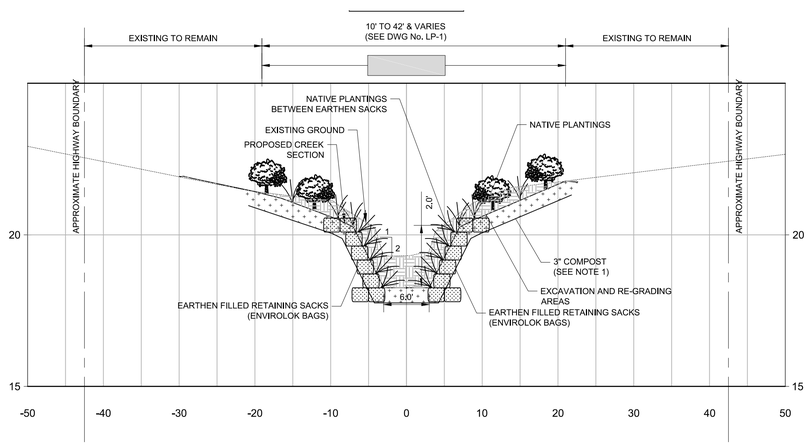


ASPHALT DRIVEWAY SECTION

NOT TO SCALE

ASPHALT DRIVEWAY RESTORATION DETAIL

NOT TO SCALE



HEILING CREEK

TYPICAL SECTION

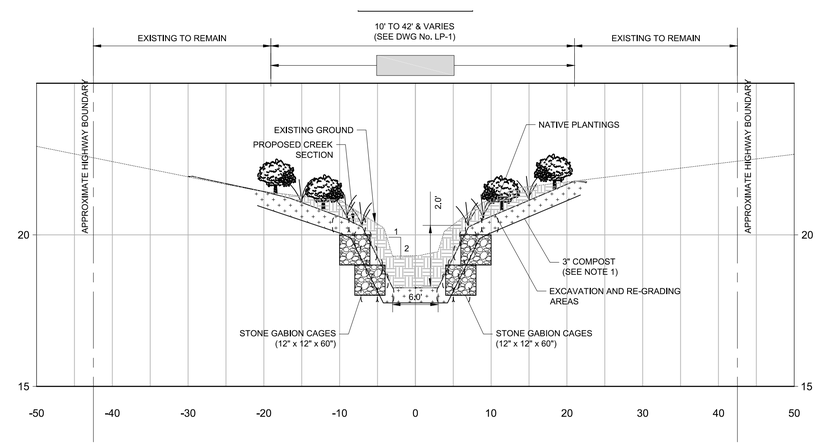
STA. HC 11±25 TO HC 11±55

STA. HC 12±80 TO HC 13±10

NOT TO SCALE

NOTES:

1. THE CONTRACTOR SHALL EXCAVATE AND REPLACE EXISTING SOIL WITH 6" OF A 70% SAND, 30% CLEAN COMPACT MIX.
2. ALL FILL BROUGHT IN FOR THE STREAM MITIGATION SHALL BE NATIVE AND FROM A LOCAL, LONG ISLAND, NY SOURCE. FILL SOILS SHALL BE A HYDRIC SOIL CAPABLE OF SUPPORTING A WETLAND HABITAT. SOIL SAMPLES SHALL BE TAKEN FROM THE EXISTING STREAM AND ANALYZED TO ENSURE A PROPER HYDRIC SOIL IS PROVIDED.



HEILING CREEK

TYPICAL SECTION

STA. HC 11±55 TO HC 11±80

STA. HC 12±60 TO HC 12±80

NOT TO SCALE

No.	DATE	REVISION	BY:
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CLIENT:

VILLAGE OF LINDENHURST
430 SOUTH WELLWOOD AVE
LINDENHURST, NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	OCTOBER 2018
JOB No.:	18197
CADD:	18197DET.DWG
SCALE:	AS SHOWN

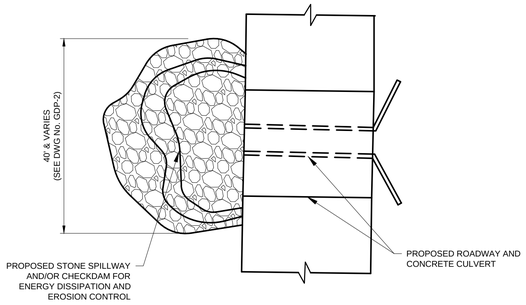
DRAWING TITLE:

TYPICAL SECTION - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE
MASTER STUDY

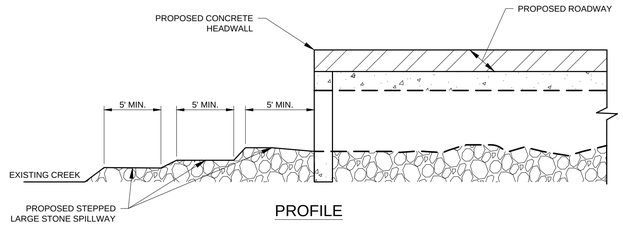
DRAWING NUMBER:

TYP-1

SHEET: 3 OF 14



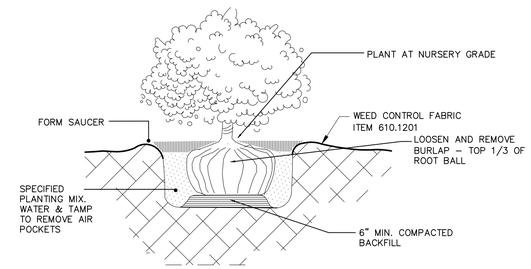
PLAN



PROFILE

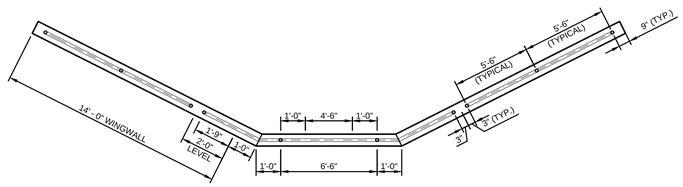
STONE RIP-RAP

NOT TO SCALE



SHRUB PLANTING

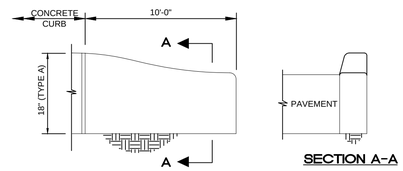
NOT TO SCALE



PLAN

HEADWALL / WINGWALL DETAIL

NOT TO SCALE



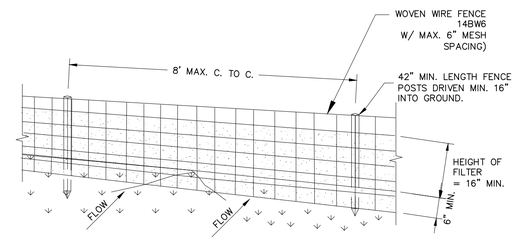
SECTION A-A

CONCRETE CURB END SECTION

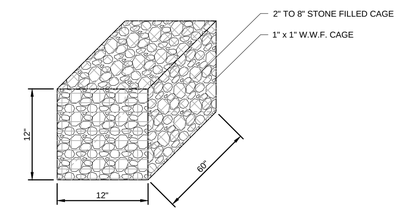
NOT TO SCALE

CURB NOTES:

1. 1/2" PREMOULDED BITUMINOUS JOINT FILLER SHALL BE PLACED IN JOINTS AT 60 FOOT INTERVAL OR EVERY THIRD JOINT ALONG THE LENGTH OF THE CURB AND WHERE THE CURB ABUTS DRAINAGE CASTINGS.

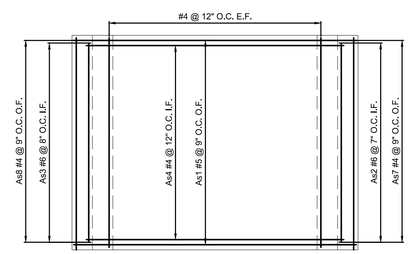


PERSPECTIVE VIEW

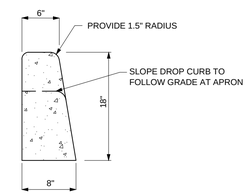


STONE GABION BASKETS

NOT TO SCALE

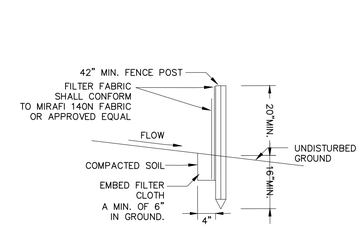


END REINFORCING VIEW



CONCRETE CURB DETAIL

NOT TO SCALE



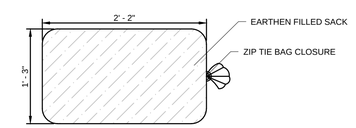
SECTION VIEW

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 14BW6 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

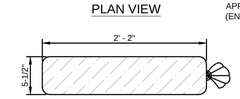
TEMPORARY SILT FENCE

N.T.S.



PLAN VIEW

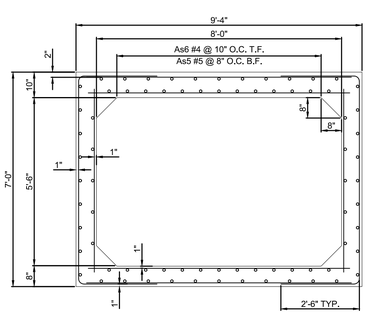
APPROX. VOL: 1.25 CY
(ENVIROLOK OR APPROVED EQUAL)



ELEVATION VIEW

EARTHEN BERM SACKS

NOT TO SCALE



SECTION VIEW

CONCRETE CULVERT

NOT TO SCALE

CULVERT NOTES:

1. DESIGN IS IN ACCORDANCE WITH ASTM C1433 AND AASHTO STANDARD SPECIFICATION, 17TH EDITION.
2. LIVE LOAD = HS20, MAIN REINFORCING PERPENDICULAR TO TRAFFIC..
3. EARTH FILL FOR DESIGN < 2'.
4. EQUIVALENT FLUID PRESSURE = 30PCF MIN 60PCF MAX.
5. CONCRETE STRENGTH = 5,000PSI
6. MATERIALS AND MANUFACTURING SHALL CONFORM TO ASTM C1433 SPECIFICATIONS.
7. OPENINGS, SIZE AND LOCATION, AS REQUIRED. PROVIDE ADDITIONAL REINFORCING EQUAL TO THE BARS INTERRUPTED BY OPENINGS > 8", HALF EACH SIDE AND IN THE SAME PLANE.
   7.1. PROVIDE #4 DIAGONAL TRIM BARS
8. LIFTING AND HANDLING SHALL CONFORM TO OSHA STANDARDS.

No.	DATE	REVISION	BY:
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CLIENT:
VILLAGE OF LINDENHURST
430 SOUTH WELLWOOD AVE
LINDENHURST, NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	OCTOBER 2018
JOB No.:	18197
CADD:	18197DET.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
NEWARK STREET CULVERT CONSTRUCTION
MISCELLANEOUS DETAILS - 1
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
DET-1

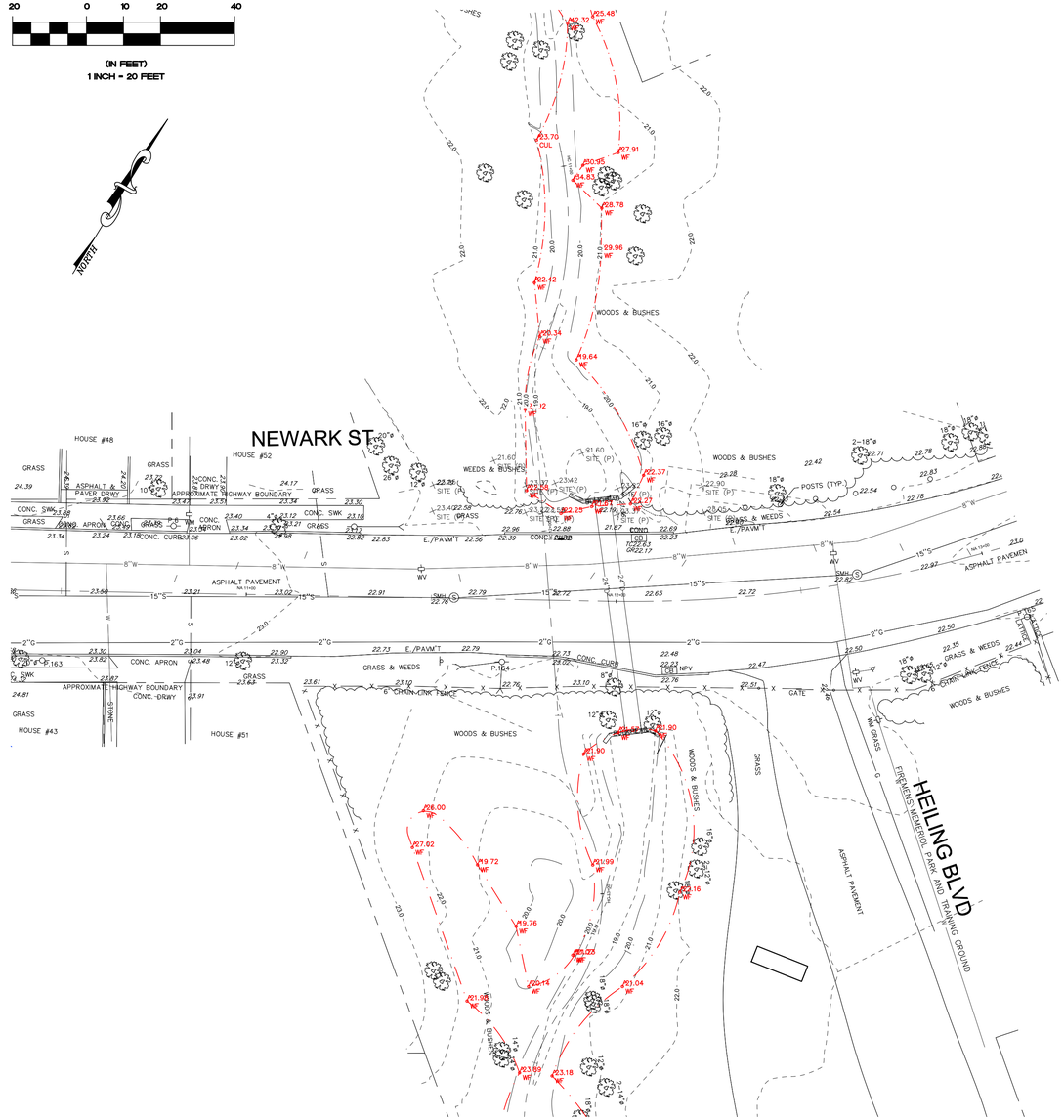
SHEET: 4 OF 14

GRAPHIC SCALE

20 0 10 20 40

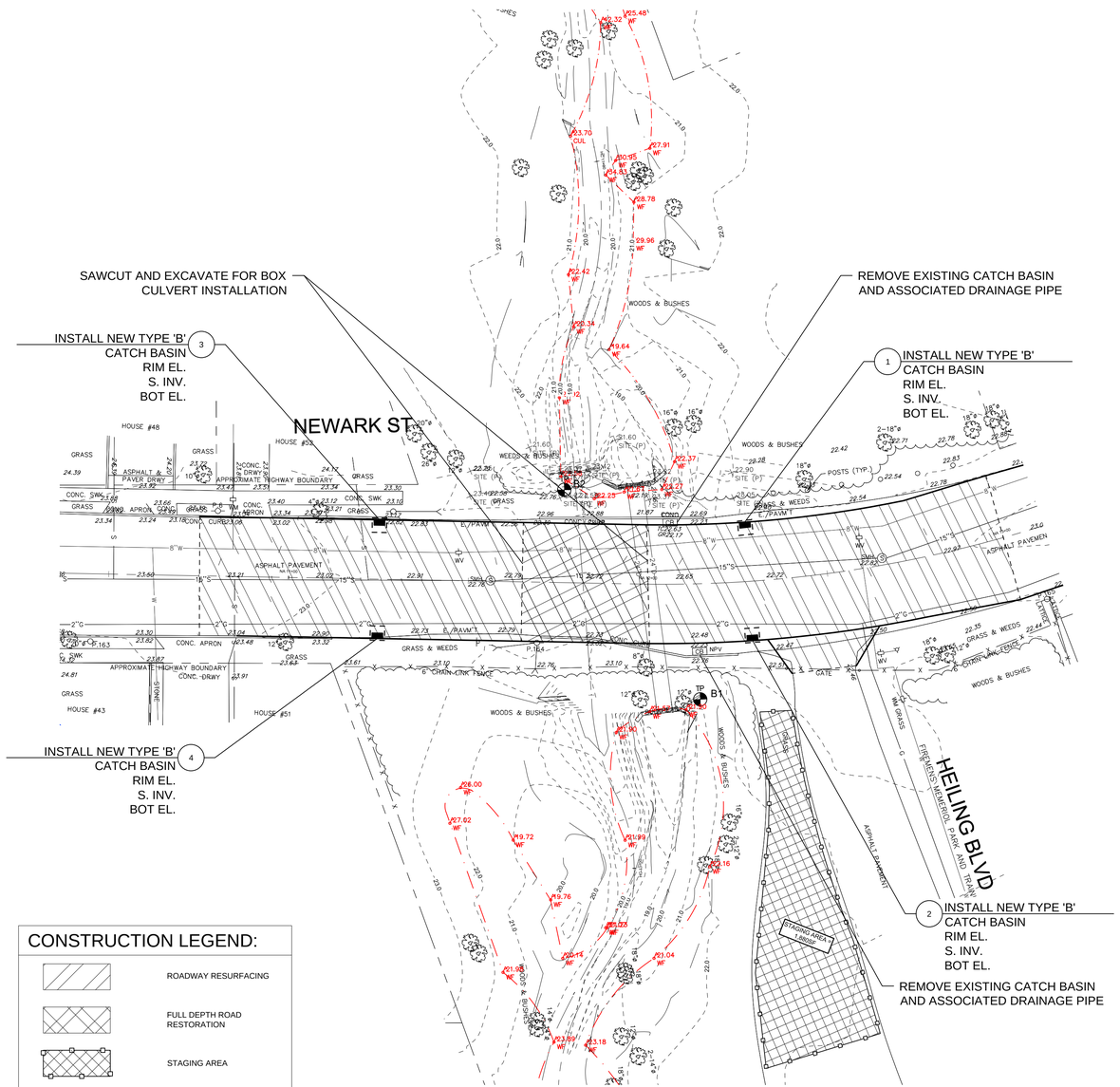
(IN FEET)
1 INCH = 20 FEET

NORTH



EXISTING CONDITIONS

1) **EXISTING DUAL 24" PIPE CROSSING UNDER ROADWAY CONNECTING CREEK STORMWATER DISCHARGE**



CONSTRUCTION LEGEND:

- ROADWAY RESURFACING
- FULL DEPTH ROAD RESTORATION
- STAGING AREA
- CATCH BASIN
- CONCRETE CURB
- SAWCUT / ROADWAY RESURFACING LIMITS
- SILT FENCE
- WETLANDS DELINEATION

PHASE 1
DRAINAGE AND ROAD EXCAVATION/CONSTRUCTION

1) **EXCAVATE AND INSTALL NEW DRAINAGE CATCH BASINS.**
2) **PERFORM SAWCUT FOR CULVERT TRENCH TO BE EXCAVATED**

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CLIENT:
VILLAGE OF LINDENHURST
121 ALBANY AVENUE
LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
WORK ZONE TRAFFIC CONTROL - 2
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
WZTC-2

SHEET: 6 OF 10

GRAPHIC SCALE

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(IN FEET)
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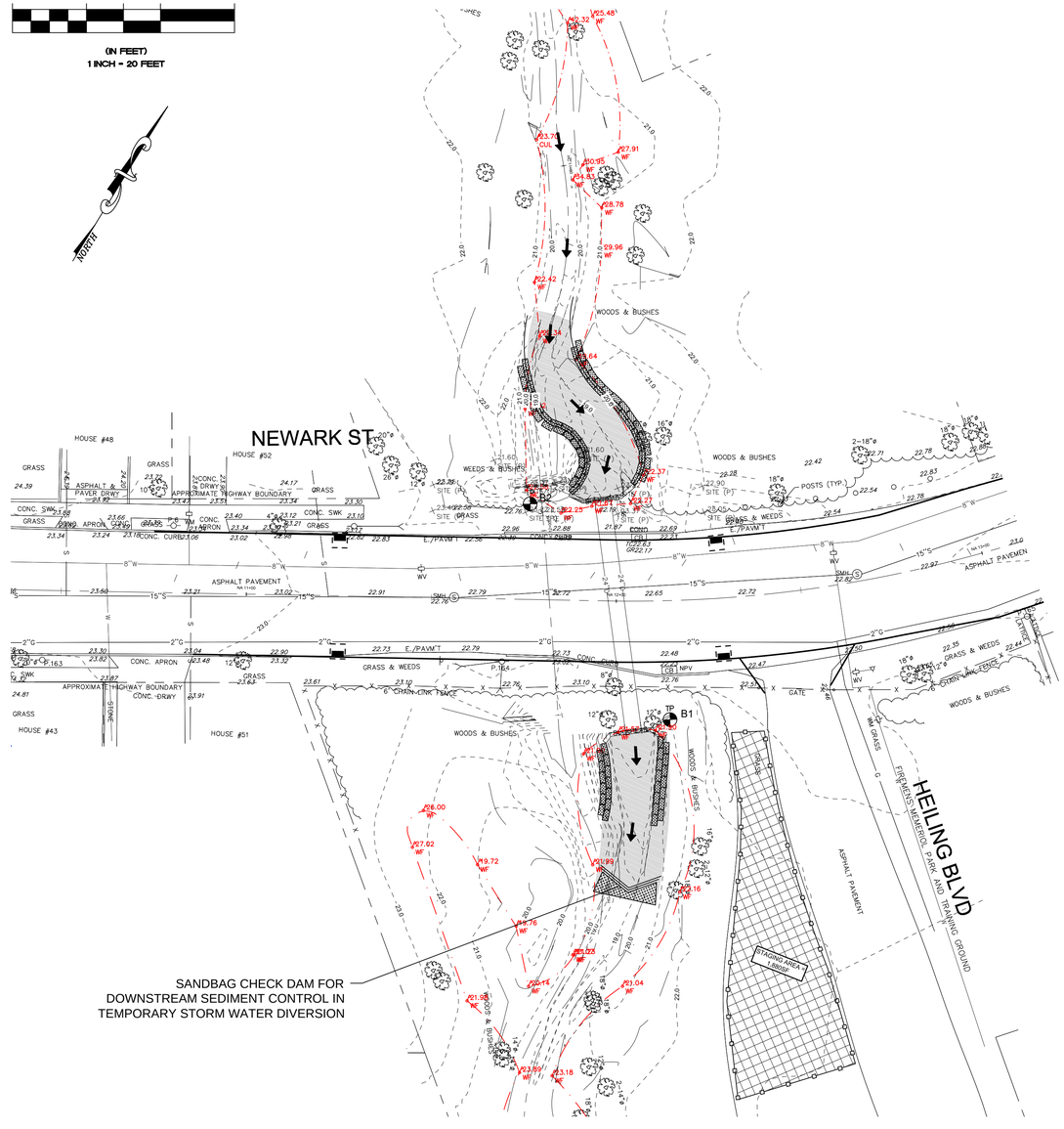
NORTH

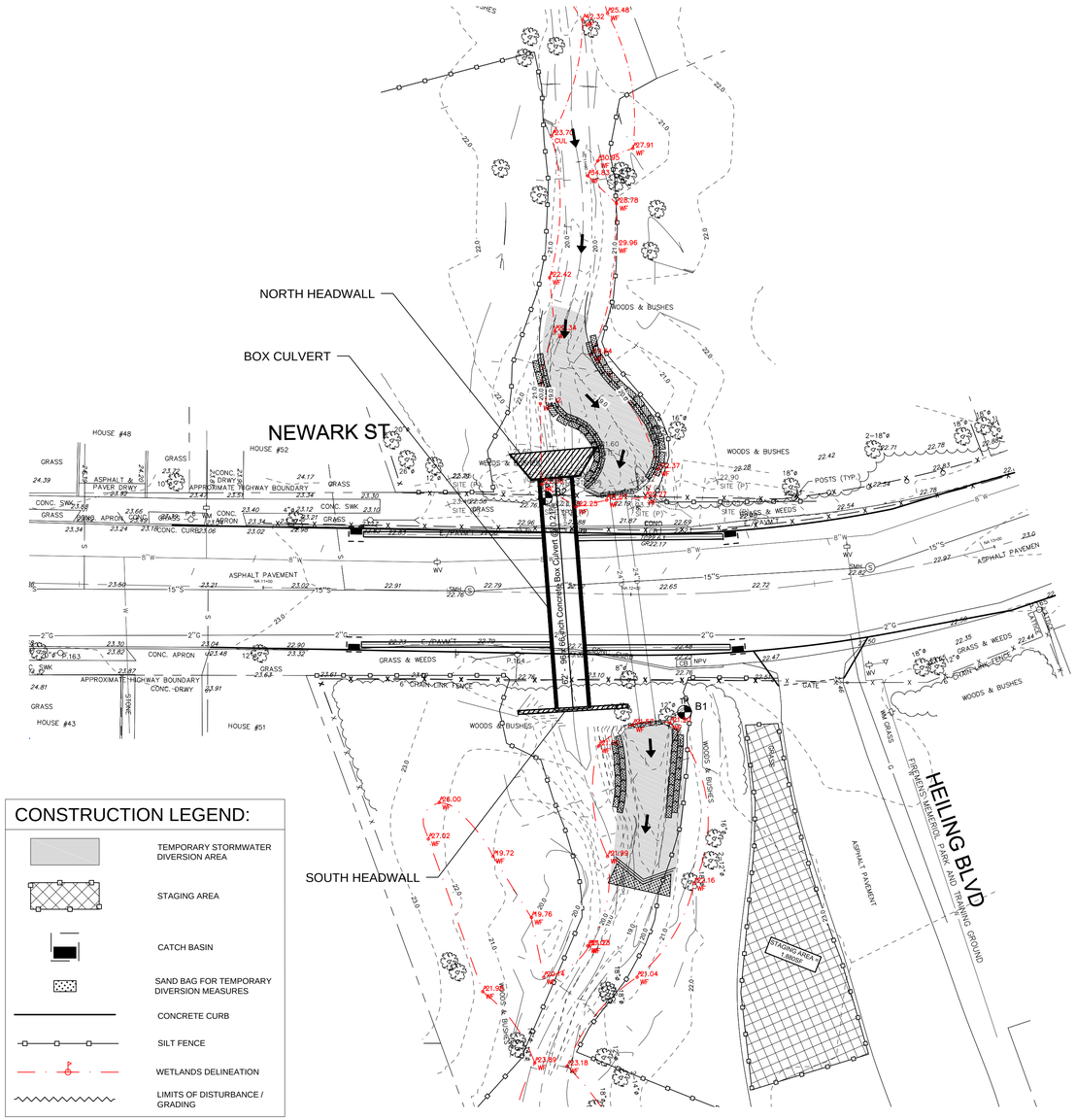


PHASE 2
INSTALL DIVERSION MEASURES

1) **INSTALL SILT FENCE SURROUND CONSTRUCTION AREAS IN THE CREEK.**
2) **INSTALL SANDBAG WITH EARTHEN BERM BACKFILL ALONG DIVERSION PATH (USED TO SEPARATE EXISTING CULVERT TO BE USED FOR DIVERSION FROM AREA OF CONSTRUCTION FOR INSTALLATION OF NEW CULVERT)**

CONSTRUCTION LEGEND:

- TEMPORARY STORMWATER DIVERSION AREA
- STAGING AREA
- CATCH BASIN
- SAND BAG FOR TEMPORARY DIVERSION MEASURES
- CONCRETE CURB
- SILT FENCE
- WETLANDS DELINEATION
- LIMITS OF DISTURBANCE / GRADING



PHASE 3
CULVERT EXCAVATION & PLACEMENT

1) **EXCAVATE TRENCH IN ROADWAY TO ACCOMMODATE INSTALLATION OF 5.5' x 8' CONCRETE BOX CULVERT**
2) **PLACE PRECAST BOX CULVERT**
3) **PLACE PRECAST HEADWALL (SOUTH SIDE OF ROAD IN CREEK)**
4) **PLACE PRECAST HEADWALL & WINGWALLS (NORTH SIDE OF ROAD IN CREEK)**

No.	DATE	REVISION	BY:
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CLIENT:
VILLAGE OF LINDENHURST
121 ALBANY AVENUE
LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
WORK ZONE TRAFFIC CONTROL - 3
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
WZTC-3

SHEET: 7 OF 14

GRAPHIC SCALE

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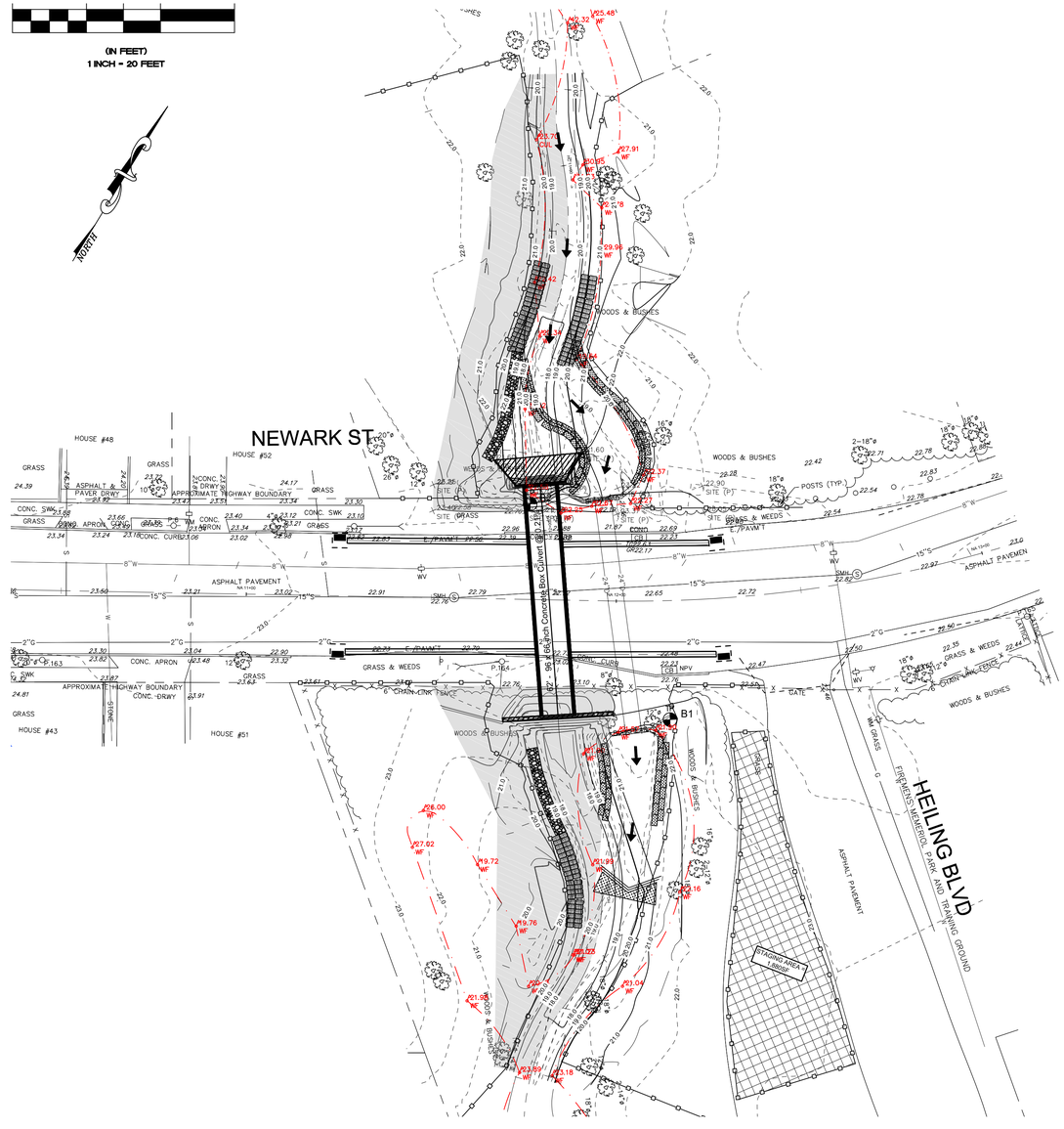
(IN FEET)
1 INCH = 20 FEET

NORTH

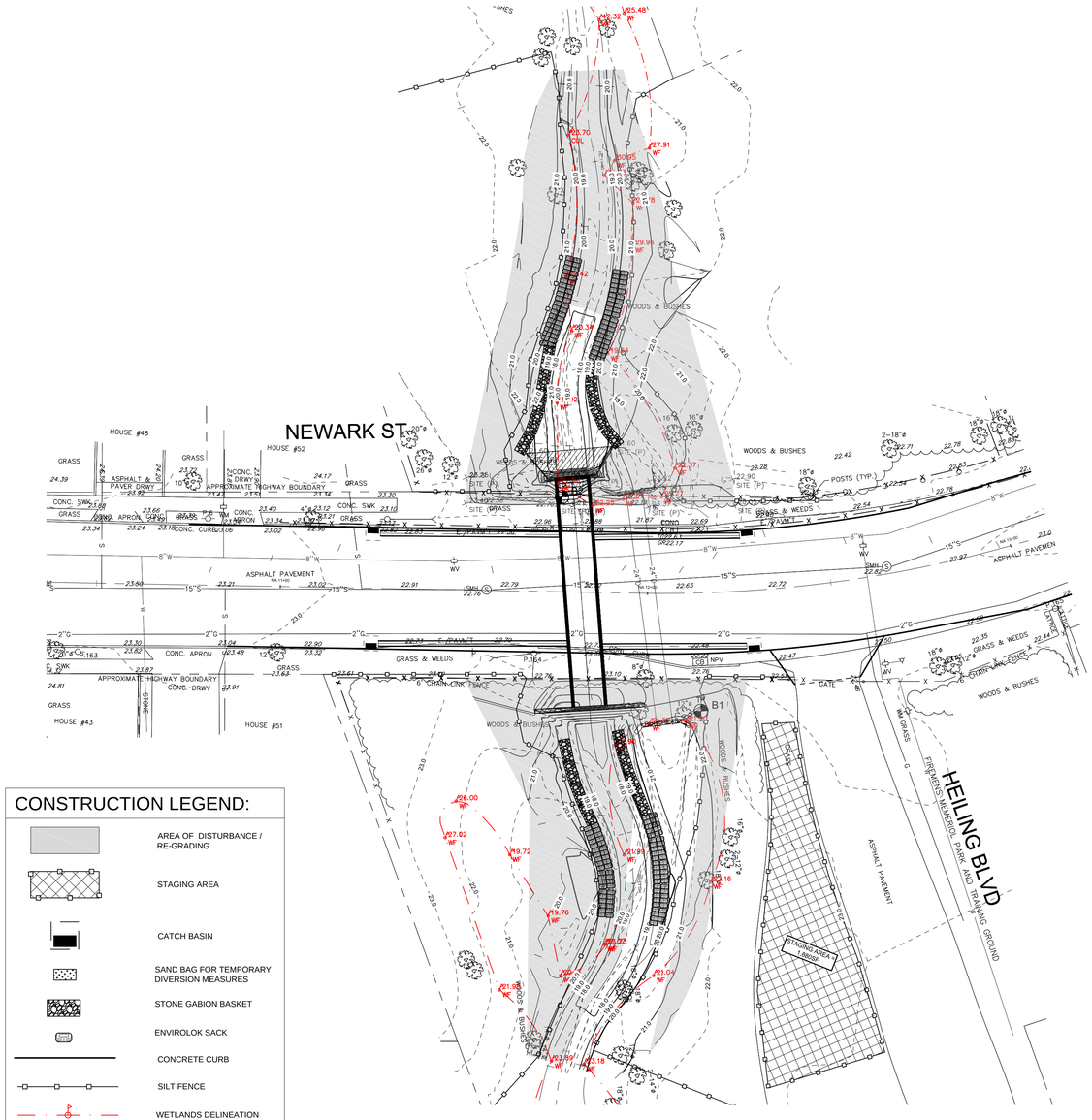


PHASE 4
CREEK RESTORATION (STAGE 1)

1) EXCAVATE & INSTALL STONE GABION BASKETS ALONG WEST SIDE OF CREEK ON NORTH SIDE OF ROADWAY TO ESTABLISH CREEK SIDE SLOPES.
2) BACKFILL AND RESTORE WEST SIDE OF CREEK ON NORTH SIDE.
3) EXCAVATE, INSTALL STONE GABION BASKETS AND RESTORE SOUTH SIDE CREEK ALONG NEW ALIGNMENT SECTION.

CONSTRUCTION LEGEND:

- AREA OF DISTURBANCE / RE-GRADING
- STAGING AREA
- CATCH BASIN
- SAND BAG FOR TEMPORARY DIVERSION MEASURES
- STONE GABION BASKET
- ENVIROLOK SACK
- CONCRETE CURB
- SILT FENCE
- WETLANDS DELINEATION
- LIMITS OF DISTURBANCE / GRADING



PHASE 5
CREEK RESTORATION (STAGE 2)

1) EXCAVATE TEMPORARY DIVERSION MEASURES AS NECESSARY AND INSTALL STONE GABION BASKETS ALONG EAST SIDE OF CREEK ON NORTH SIDE OF ROADWAY TO ESTABLISH CREEK SIDE SLOPES.
2) BACKFILL AND RESTORE EAST SIDE OF CREEK ON NORTH SIDE.

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DRAWING TITLE:
WORK ZONE TRAFFIC CONTROL - 4
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
WZTC-4

SHEET: 8 OF 14

GRAPHIC SCALE

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(IN FEET)
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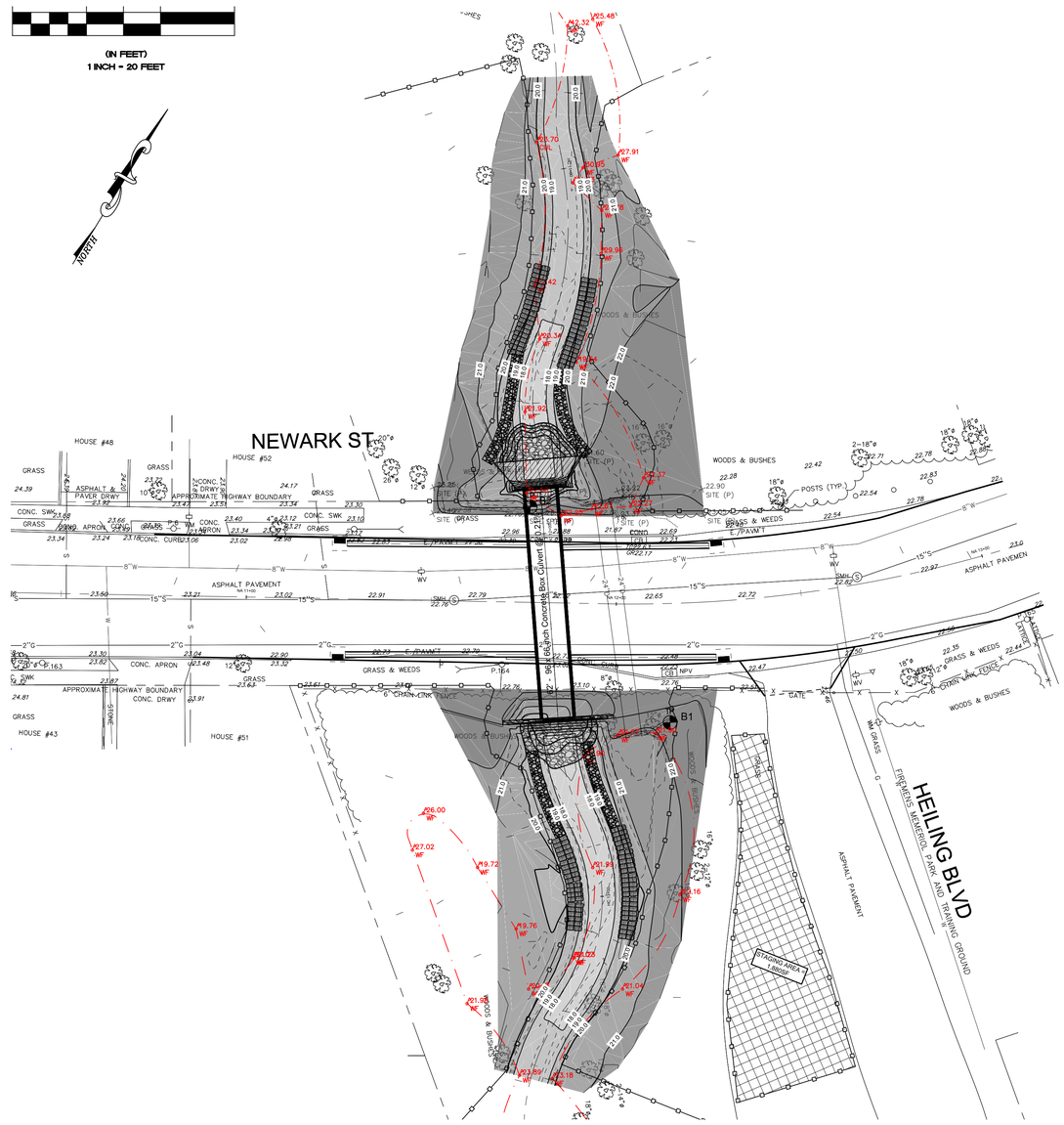
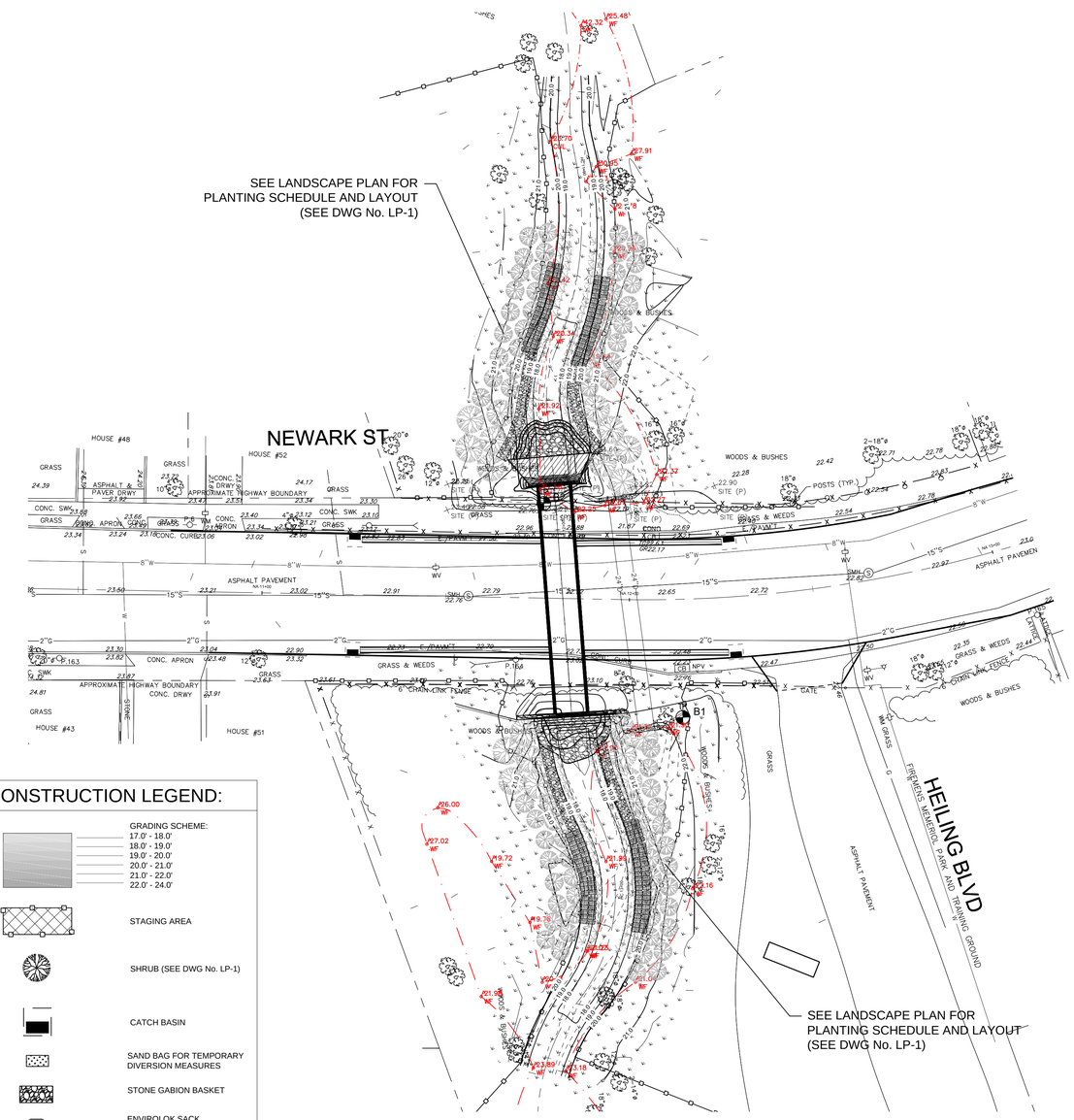


PHASE 6
CREEK RESTORATION (STAGE 3)

1) **RE-GRADE CENTER OF CREEK AND OUTER LIMITS OF RESTORATION AREA AS NECESSARY.**
2) **ESTABLISH PLANTINGS WITHIN LIMITS OF DISTURBANCE AREAS.**

CONSTRUCTION LEGEND:

- GRADING SCHEME: 17.0' - 18.0', 18.0' - 19.0', 19.0' - 20.0', 20.0' - 21.0', 21.0' - 22.0', 22.0' - 24.0'
- STAGING AREA
- SHRUB (SEE DWG No. LP-1)
- CATCH BASIN
- SAND BAG FOR TEMPORARY DIVERSION MEASURES
- STONE GABION BASKET
- ENVIROLOK SACK
- CONCRETE CURB
- SILT FENCE
- WETLANDS DELINEATION
- LIMITS OF DISTURBANCE / GRADING



PHASE 7
CREEK RESTORATION (STAGE 2)

1) **INSTALL 6" SAND/COMPOST/TOPSOIL MIX OVER RESTORATION AREA**
2) **INSTALL SHRUBS & GRASSES PER PLANTING PLAN TO REESTABLISH A NATIVE PLANTING SCHEME.**

No.	DATE	REVISION	BY:

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LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
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SCALE:	AS SHOWN

DRAWING TITLE:
WORK ZONE TRAFFIC CONTROL - 5
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
WZTC-5

SHEET: 9 OF 14

GRAPHIC SCALE

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(IN FEET)
1 INCH = 20 FEET

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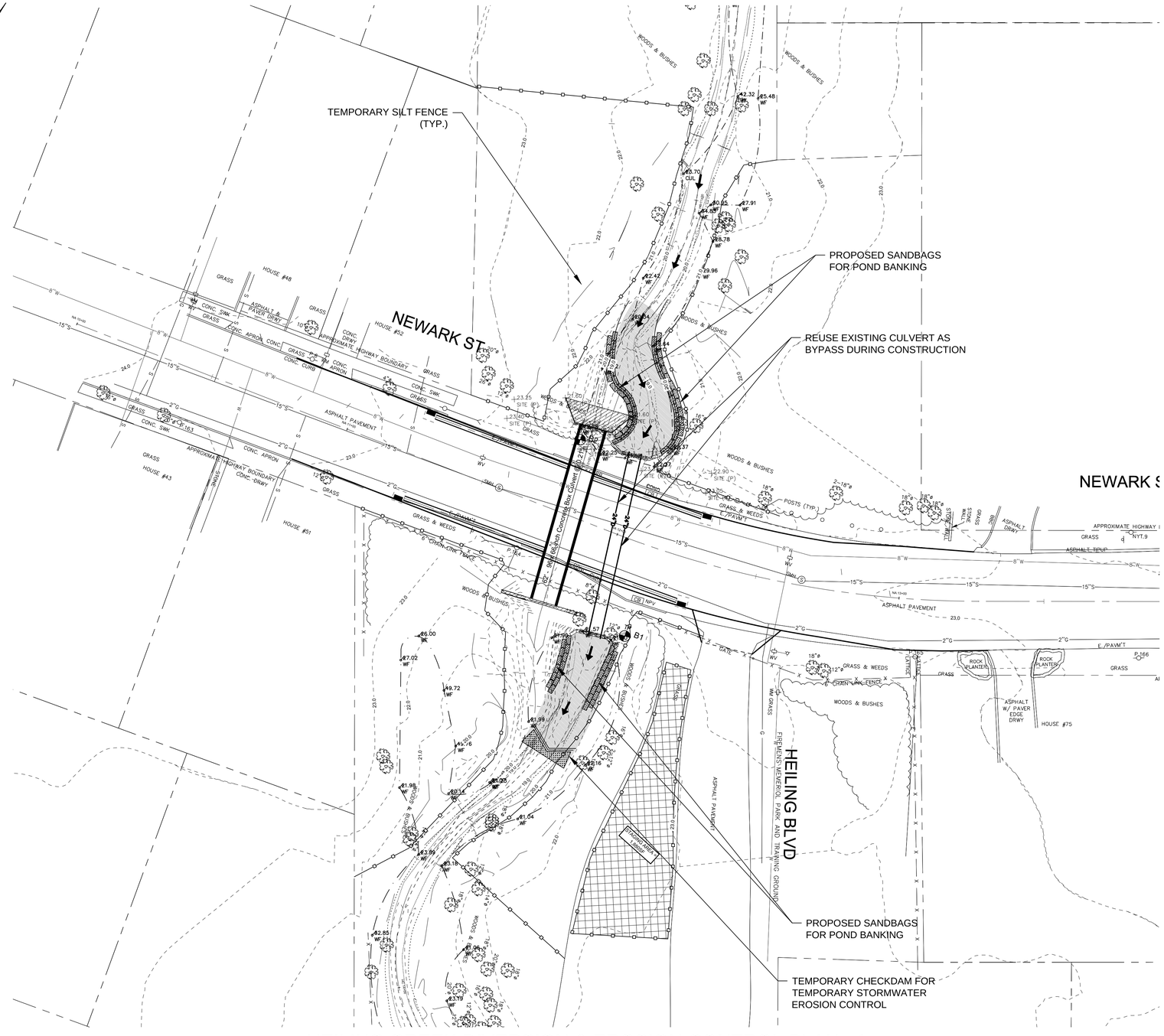

LEGEND:

- STORM WATER DIVERSION AREA
- MATERIAL STAGING AREA
- DIRECTION OF STORM WATER FLOW
- SAND BAG FOR TEMPORARY DIVERSION BERM
- B1 BORING LOG LOCATION
- LIMITS OF GRADING
- SILT FENCE
- WETLANDS LIMITS

HEILING CREEK DIVERSION & EROSION CONTROL PLAN - 1

SCALE: 1" = 20'

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DIVERSION PLAN - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:

DP-1

SHEET: 10 OF 14

GRAPHIC SCALE

20 0 10 20 40

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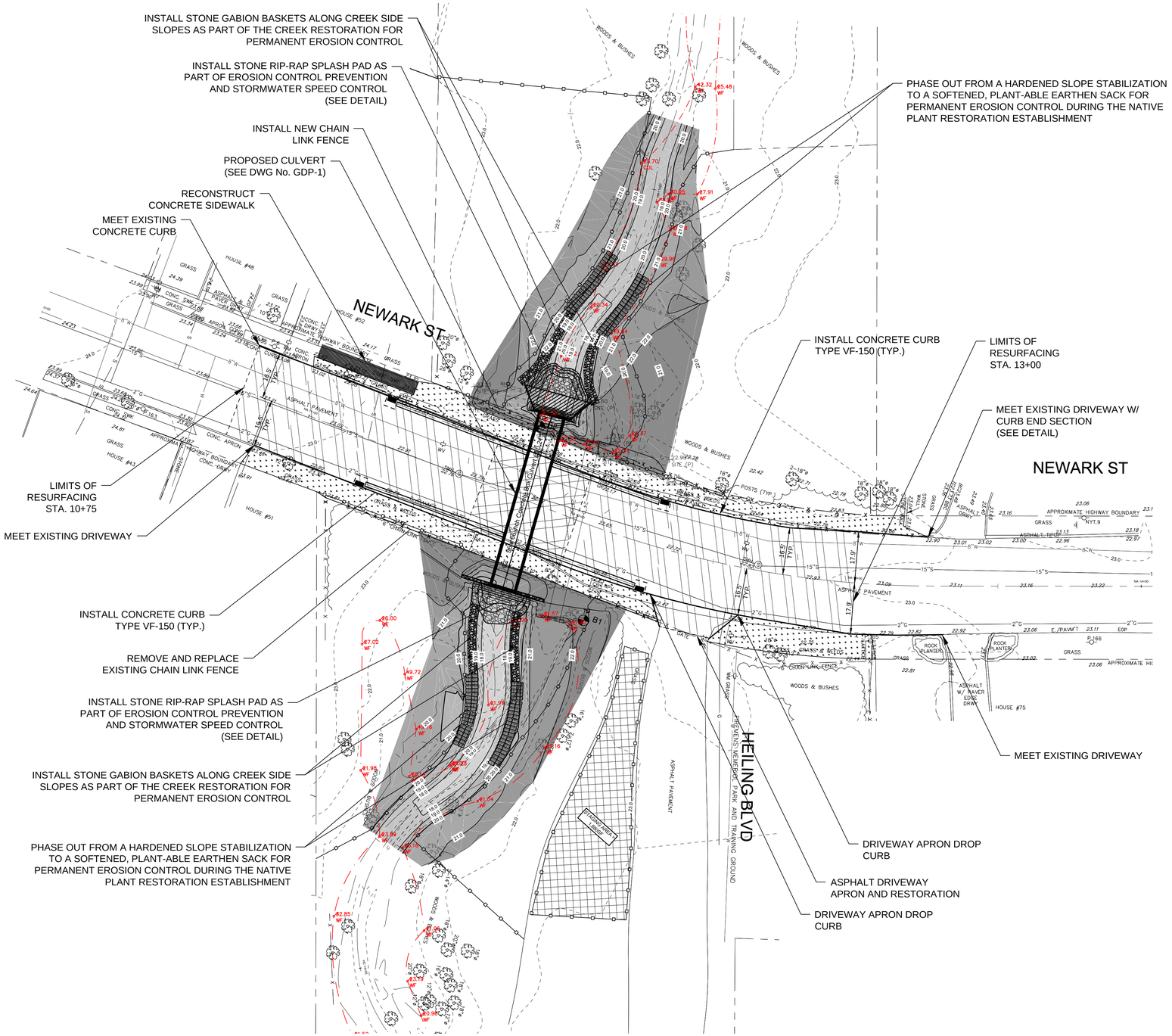
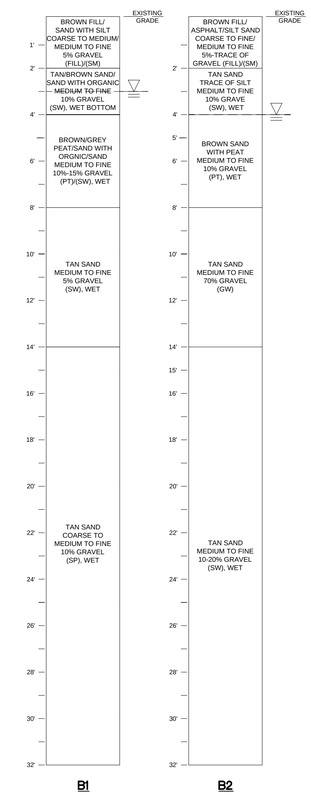


CONSTRUCTION LEGEND:

- ROADWAY RESURFACING
- FULL DEPTH ROAD RESTORATION
- CONCRETE SIDEWALK
- TOPSOIL / GRASS RESTORATION
- RIP-RAP
- SAND BAG - TEMP DIVERSION BERM
- STONE GABION CAGE
- EARTHEN BERM FILLED SACK ENVIROLOK
- CATCH BASIN
- B1 BORING LOG LOCATION
- CONCRETE CURB
- SAWCUT / ROADWAY RESURFACING LIMITS
- SILT FENCE
- WETLAND LIMITS



SOIL BORINGS

CONDUCTED BY: LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.
DATE: SEPTEMBER 26, 2018

No.	DATE	REVISION	BY:
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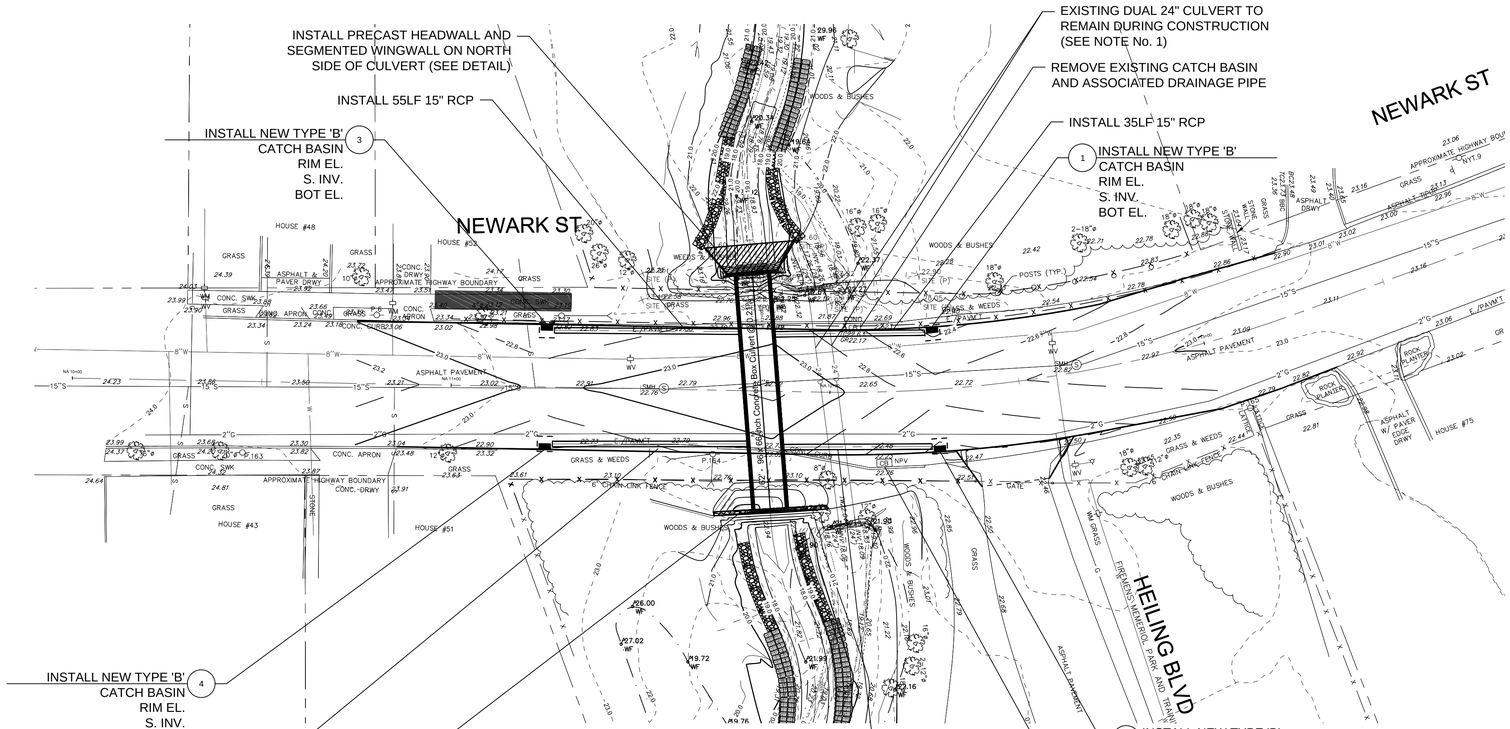
CONSTRUCTION PLAN - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
CP-1

SHEET: 11 OF 14



NEWARK AVE GRADING AND DRAINAGE PLAN - 1

SCALE: 1" = 20'

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FEET

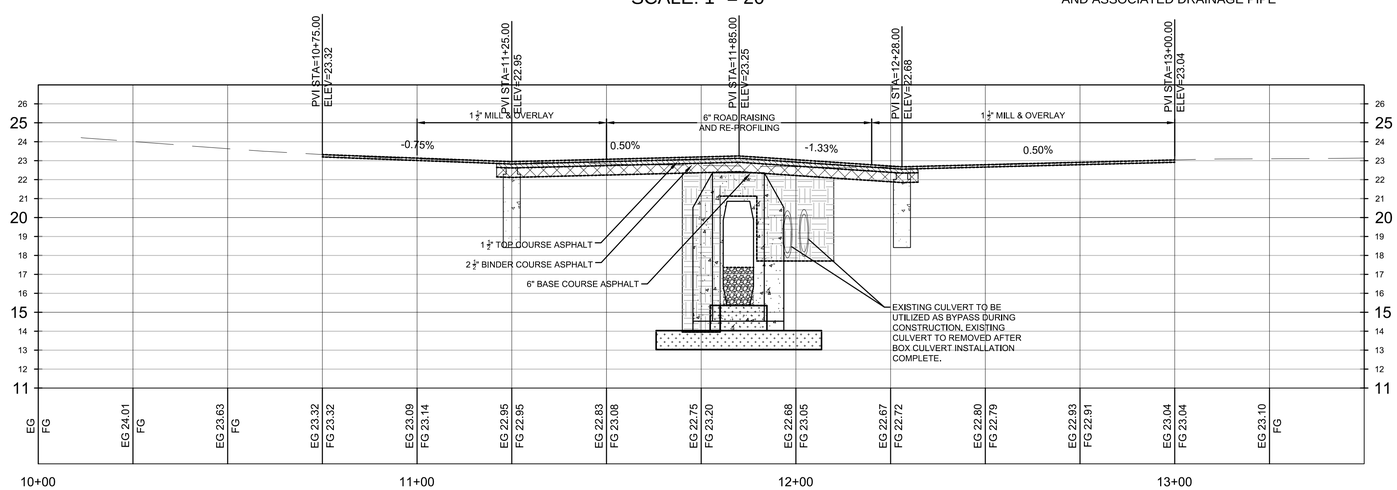
NORTH

GRADING & DRAINAGE LEGEND:

- STONE GABION CAGE
- EARTHEN BERM FILLED SACK ENVIROLOK
- CATCH BASIN
- B1 — BORING LOG LOCATION
- CONCRETE CURB
- LIMITS OF GRADING
- W — WETLAND LIMITS
- 22.2 — EXISTING MINOR CONTOUR
- 22.0 — EXISTING MAJOR CONTOUR
- 22.2 — PROPOSED MINOR CONTOUR
- 22.0 — PROPOSED MAJOR CONTOUR

NOTES:

1. THE EXISTING CULVERT SHALL REMAIN OPERATIONAL DURING CONSTRUCTION TO BE USED AS A BYPASS. THE CULVERT SHALL BE REMOVED AT THE COMPLETION OF INSTALLATION OF THE PROPOSED BOX CULVERT AND ASSOCIATED CONCRETE HEADWALLS. THE NEW CULVERT SHALL BE FULLY OPERATIONAL AT SAID POINT.



NEWARK AVE PROFILE

HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 4'

PROFILE LEGEND:

- ASPHALT TOP COURSE
- ASPHALT BINDER COURSE
- SUBBASE COURSE
- NATURAL RIVER STONE (CULVERT LINING)
- STONE BASE

No.	DATE	REVISION	BY:
.	.	.	.

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572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747-2188
(631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

CLIENT:
VILLAGE OF LINDENHURST
121 ALBANY AVENUE
LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
GRADING & DRAINAGE PLAN - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

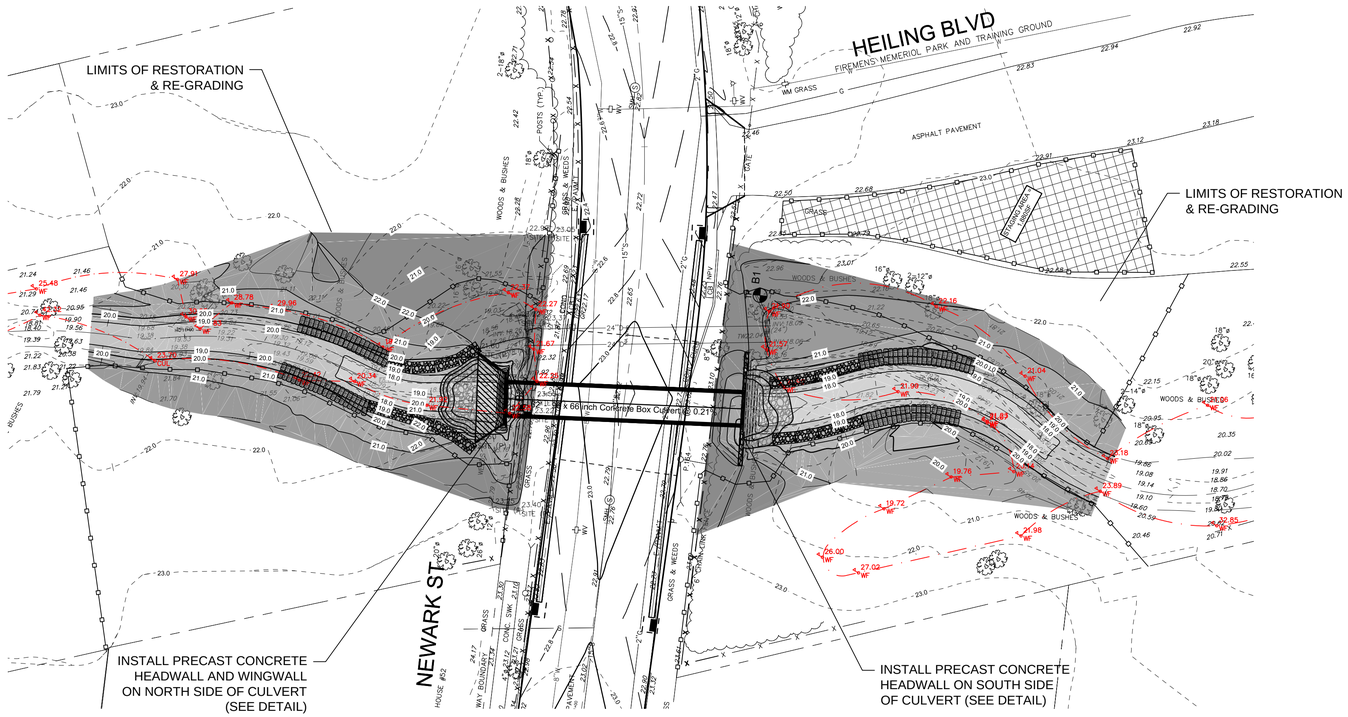
DRAWING NUMBER:
GDP-1

SHEET: 12 OF 14

GRAPHIC SCALE

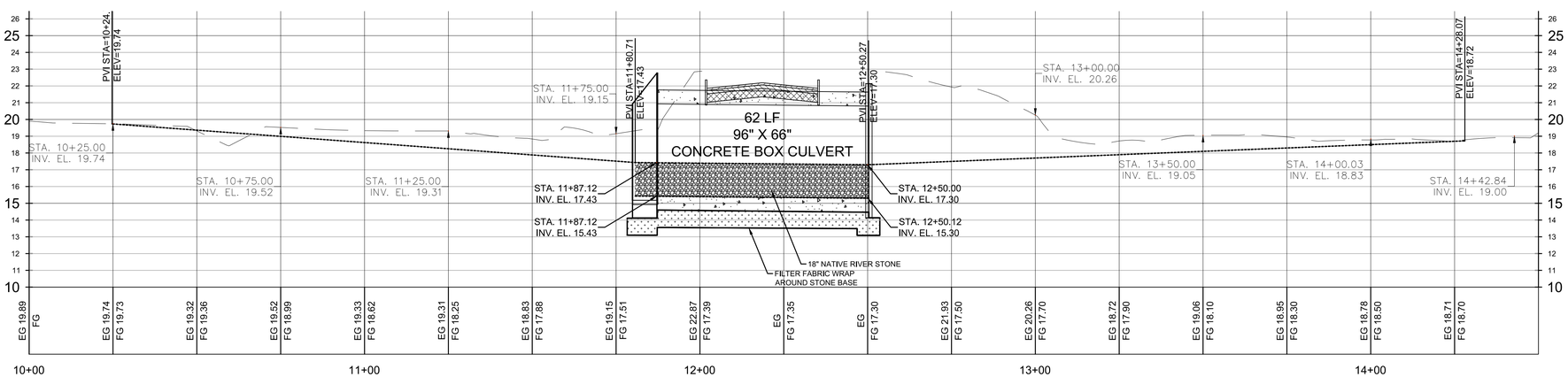
20 0 10 20 40

(IN FEET)
1 INCH = 20 FEET



HELING CREEK GRADING AND DRAINAGE PLAN - 1

SCALE: 1" = 20'



HEILING CREEK PROFILE

HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 4'

GRADING & DRAINAGE LEGEND:

- STONE GABION CAGE
- EARTHEN BERM FILLED SACK ENVIROLOK
- CATCH BASIN
- B1 — BORING LOG LOCATION
- CONCRETE CURB
- LIMITS OF GRADING
- WETLAND LIMITS
- 22.2 — EXISTING MINOR CONTOUR
- 22.0 — EXISTING MAJOR CONTOUR
- 22.2 — PROPOSED MINOR CONTOUR
- 22.0 — PROPOSED MAJOR CONTOUR

EARTHWORK QUANTITIES:

CREEK EXCAVATION & RE-HANDLING QUANTITY	VOLUME = 350 CY AREA = 16,500 SF
WETLANDS DISTURBANCE	AREA = 4,500± SF
WETLANDS RESTORATION	AREA = 15,000± SF

NOTES:

1. ALL FILL BROUGHT IN FOR THE STREAM MITIGATION SHALL BE NATIVE AND FROM A LOCAL, LONG ISLAND, NY SOURCE. FILL SOILS SHALL BE A HYDRIC SOIL CAPABLE OF SUPPORTING A WETLAND HABITAT. SOIL SAMPLES SHALL BE TAKEN FROM THE EXISTING STREAM AND ANALYZED TO ENSURE A PROPER HYDRIC SOIL IS PROVIDED.

PROFILE LEGEND:

- ASPHALT TOP COURSE
- ASPHALT BINDER COURSE
- SUBBASE COURSE
- NATURAL RIVER STONE (CULVERT LINING)
- STONE BASE

No.	DATE	REVISION	BY:
-	-	-	-

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WWW.NELSONPOPE.COM

CLIENT:
VILLAGE OF LINDENHURST
121 ALBANY AVENUE
LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
GRADING & DRAINAGE PLAN - 2
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
GDP-2

SHEET: 13 OF 14

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FEET

NORTH

OBL WETLAND SEED MIX
ERNMX-131
0.9 LBS OVER 1,785 SF

33.0% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
10.0% SPARGANIUM EURYCARPUM, PA ECOTYPE (GIANT BUR REED, PA ECOTYPE)
8.0% CAREX LUPULINA, PA ECOTYPE (HOP SEDGE, PA ECOTYPE)
8.0% CAREX LURIDA, PA ECOTYPE (LURID (SHALLOW) SEDGE, PA ECOTYPE)
8.0% CAREX SCOPARIA, PA ECOTYPE (BLUNT BROOM SEDGE, PA ECOTYPE)
7.0% SPARGANIUM AMERICANUM (EASTERN BUR REED)
5.0% ELYMUS VIRGINICUS, PA ECOTYPE (VIRGINIA WILDRYE, PA ECOTYPE)
4.0% VERBENA HASTATA, PA ECOTYPE (BLUE VERVAIN, PA ECOTYPE)
3.0% JUNCUS EFFUSUS (SOFT RUSH)
2.5% ASCLEPIAS INCARNATA, PA ECOTYPE (SWAMP MILKWEED, PA ECOTYPE)
1.0% ASTER PUNICEUS, PA ECOTYPE (PURPLESTEM ASTER, PA ECOTYPE)
1.0% ASTER UMBELLATUS, PA ECOTYPE (FLAT TOPPED WHITE ASTER, PA ECOTYPE)
1.0% CINNA ARUNDINACEA, PA ECOTYPE (WOOD REEDGRASS, PA ECOTYPE)
1.0% EUPATORIUM PERFOLIATUM, PA ECOTYPE (BONESET, PA ECOTYPE)
1.0% HELENIUM AUTUMNALE, PA ECOTYPE (COMMON SNEEZEWEED, PA ECOTYPE)
1.0% SCIRPUS ATROVIRENS, PA ECOTYPE (GREEN BULRUSH, PA ECOTYPE)
0.5% ALISMA SUBCORDATUM, PA ECOTYPE (MUD PLANTAIN (WATER PLANTAIN), PA ECOTYPE)
0.5% CAREX CRINITA, PA ECOTYPE (FRINGED (NODDING) SEDGE, PA ECOTYPE)
0.5% CAREX STRICTA, PA ECOTYPE (TUSSOCK SEDGE, PA ECOTYPE)
0.5% IRIS VERSICOLOR, PA ECOTYPE (BLUEFLAG, PA ECOTYPE)
0.5% LOBELIA SIPHILITICA, PA ECOTYPE (GREAT BLUE LOBELIA, PA ECOTYPE)
0.5% LUDWIGIA ALTERNIFOLIA, PA ECOTYPE (SEEDBOX, PA ECOTYPE)
0.5% ONOCLEA SENSIBILIS (SENSITIVE FERN)
0.5% PENTHORUM SEDOIDES, PA ECOTYPE (DITCH STONECROP, PA ECOTYPE)
0.5% SCIRPUS CYPERINUS, PA ECOTYPE (WOOLGRASS, PA ECOTYPE)
0.5% SCIRPUS VALIDUS, PA ECOTYPE (SOFTSTEM BULRUSH, PA ECOTYPE)
0.3% EUPATORIUM FISTULOSUM, PA ECOTYPE (JOE PYE WEED, PA ECOTYPE)
0.1% CHELONE GLABRA, PA ECOTYPE (TURTLEHEAD, PA ECOTYPE)
0.1% MIMULUS RINGENS, PA ECOTYPE (SQUARE STEMMED MONKEYFLOWER, PA ECOTYPE)

NOTE:
- THIS AREA IS TO BE SEEDED WITH PROPOSED MIX AND PLANTED WITH WITH PROPOSED PLUG MIX IDENTIFIED IN THE PLANT SCHEDULE AS "OBL PLUG MIX"
- PLUGS SHOULD BE MIXED AND RANDOMLY SELECTED WHEN PLANTED AT 12" O.C. IN DESIGNATED AREAS

FACW MEADOW SEED MIX
ERNMX-122
2.1 LBS OVER 4,105 SF

33.2% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
20.0% ELYMUS VIRGINICUS, PA ECOTYPE (VIRGINIA WILDRYE, PA ECOTYPE)
8.0% CAREX LUPULINA, PA ECOTYPE (HOP SEDGE, PA ECOTYPE)
8.0% CAREX LURIDA, PA ECOTYPE (LURID (SHALLOW) SEDGE, PA ECOTYPE)
8.0% CAREX SCOPARIA, PA ECOTYPE (BLUNT BROOM SEDGE, PA ECOTYPE)
4.0% VERBENA HASTATA, PA ECOTYPE (BLUE VERVAIN, PA ECOTYPE)
3.0% CINNA ARUNDINACEA, PA ECOTYPE (WOOD REEDGRASS, PA ECOTYPE)
3.0% JUNCUS EFFUSUS (SOFT RUSH)
2.5% ASCLEPIAS INCARNATA, PA ECOTYPE (SWAMP MILKWEED, PA ECOTYPE)
2.0% HELIOPSIS HELIANTHOIDES, PA ECOTYPE (OXEYE SUNFLOWER, PA ECOTYPE)
1.2% ASTER PUNICEUS, PA ECOTYPE (PURPLESTEM ASTER, PA ECOTYPE)
1.2% ASTER UMBELLATUS, PA ECOTYPE (FLAT TOPPED WHITE ASTER, PA ECOTYPE)
1.0% EUPATORIUM PERFOLIATUM, PA ECOTYPE (BONESET, PA ECOTYPE)
1.0% HELENIUM AUTUMNALE, PA ECOTYPE (COMMON SNEEZEWEED, PA ECOTYPE)
0.6% ASTER NOVAE-ANGLIAE (SYMPHYOTRICHUM N.), PA ECOTYPE (NEW ENGLAND ASTER, PA ECOTYPE)
0.5% ALISMA SUBCORDATUM, PA ECOTYPE (MUD PLANTAIN (WATER PLANTAIN), PA ECOTYPE)
0.5% LOBELIA SIPHILITICA, PA ECOTYPE (GREAT BLUE LOBELIA, PA ECOTYPE)
0.5% PENTHORUM SEDOIDES, PA ECOTYPE (DITCH STONECROP, PA ECOTYPE)
0.5% SCIRPUS ATROVIRENS, PA ECOTYPE (GREEN BULRUSH, PA ECOTYPE)
0.5% SCIRPUS CYPERINUS, PA ECOTYPE (WOOLGRASS, PA ECOTYPE)
0.3% EUPATORIUM FISTULOSUM, PA ECOTYPE (JOE PYE WEED, PA ECOTYPE)
0.3% ONOCLEA SENSIBILIS (SENSITIVE FERN)
0.1% CHELONE GLABRA, PA ECOTYPE (TURTLEHEAD, PA ECOTYPE)
0.1% MIMULUS RINGENS, PA ECOTYPE (SQUARE STEMMED MONKEYFLOWER, PA ECOTYPE)

FACU/ UPLAND SEED MIX
PINELANDS RIPARIAN BUFFER MIX
3.3 LBS OVER 6,735 SF

10% CAREX CRINITA (FRINGED SEDGE)
10% CAREX LURIDA (SHALLOW SEDGE)
10% ELYMUS VIRGINICUS (VIRGINIA WILD RYE)
8% ANDROPOGON GERARDII (BIG BLUESTEM)
8% HELIOPSIS HELIANTHOIDES (FALSE SUNFLOWER)
8% RUDBECKIA HIRTA (BLACK-EYED SUSAN)
6% PANICUM VIRGATUM (SWITCHGRASS)
6% SCHIZACHYRIUM SCOPARIUM (LITTLE BLUESTEM)
5% CAREX STRICTA (TUSSOCK SEDGE)
5% SCIRPUS ATROVIRENS (GREEN BULRUSH)
3% JUNCUS EFFUSUS (SOFT RUSH)
2% EUPATORIUM COELESTINUM (BLUE MISTFLOWER)
2% EUPATORIUM PURPUREUM (PURPLE JOE-PYE)
2% GLYCERIA STRIATA (FOWL MANNAGRASS)
2% HELENIUM AUTUMNALE (COMMON SNEEZEWEED)
2% IRIS VERSICOLOR (BLUEFLAG IRIS)
2% SYMPHYOTRICHUM NOVI-BELGII (NEW YORK ASTER)
2% VERBENA HASTATA (BLUE VERVAIN)
2% VERNONIA NOVEBORACENSIS (NEW YORK IRONWEED)
1% ASCLEPIAS INCARNATA (SWAMP MILKWEED)
1% CHAMAECRISTA FASCICULATA (PARTRIDGE PEA)
1% LOBELIA SIPHILITICA (BLUE LOBELIA)
1% SORGHASTRUM NUTANS (INDIAN GRASS)
1% SYMPHYOTRICHUM NOVAE-ANGILAE (NEW ENGLAND ASTER)

FACW PLUG MIX
2,803 SQ FT

- SEE PLANTING SCHEDULE FOR PLANT COMPOSITION
- PLUGS SHOULD BE MIXED AND RANDOMLY SELECTED WHEN PLANTED AT 12" O.C. IN DESIGNATED AREAS

PLANTING SCHEDULE

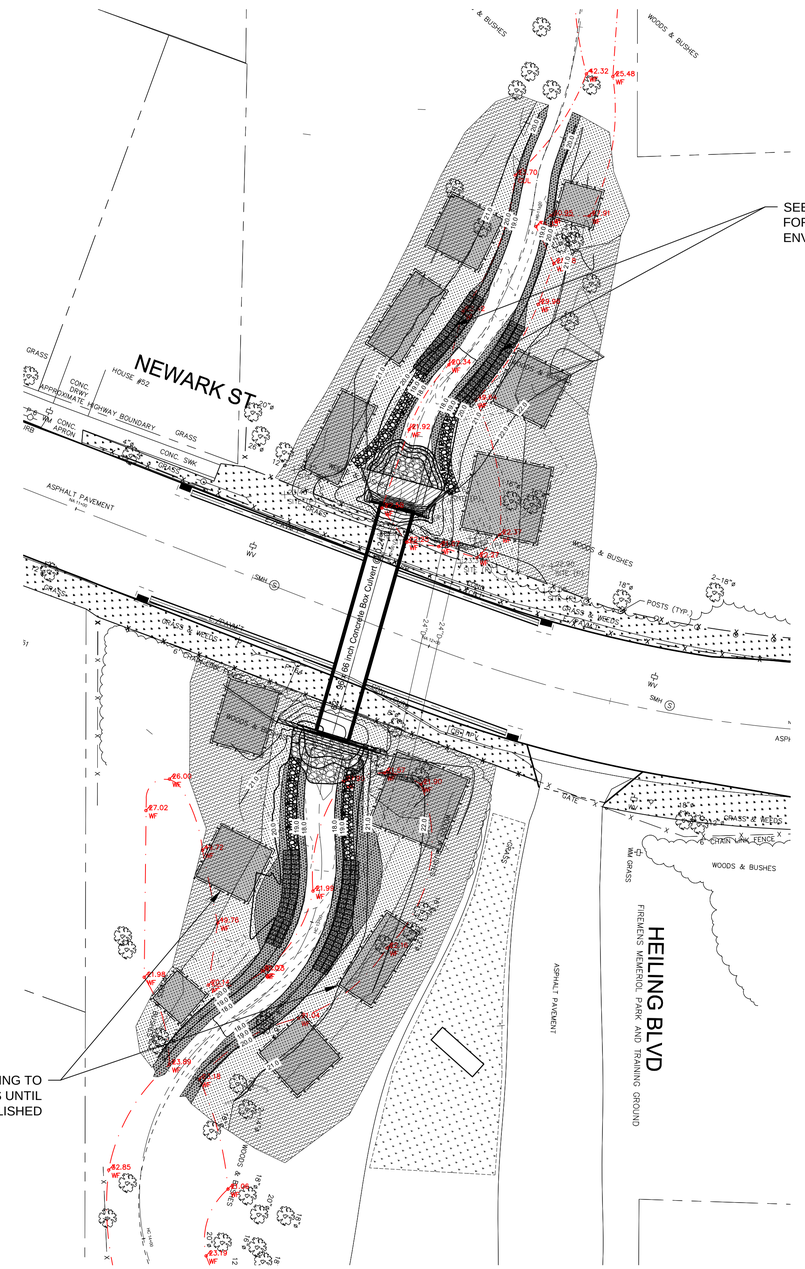
FACW PLUG MIX

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	350	ANDROPOGON GERARDII	BIG BLUE STEM	PLUG	12' O.C.
	300	CAREX STRICTA	TUSSOCK SEDGE	PLUG	12' O.C.
	250	EUPATORIUM PERFOLIATUM	BONESET	PLUG	12' O.C.
	250	EUPATORIUM PURPUREUM	JOE PYE WEED	PLUG	12' O.C.
	200	ONOCLEA SENSIBILIS	SENSITIVE FERN	PLUG	12' O.C.
	350	PANICUM VIRGATUM	SWITCHGRASS	PLUG	12' O.C.
	350	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	PLUG	12' O.C.
	250	SCHOENOPLECTUS PUNGENS	COMMON THREE SQUARE	PLUG	12' O.C.
	250	SORGHASTRUM NUTANS	INDIAN GRASS	PLUG	12' O.C.
	250	VERNONIA NOVEBORACENSIS	NEW YORK IRONWEED	PLUG	12' O.C.

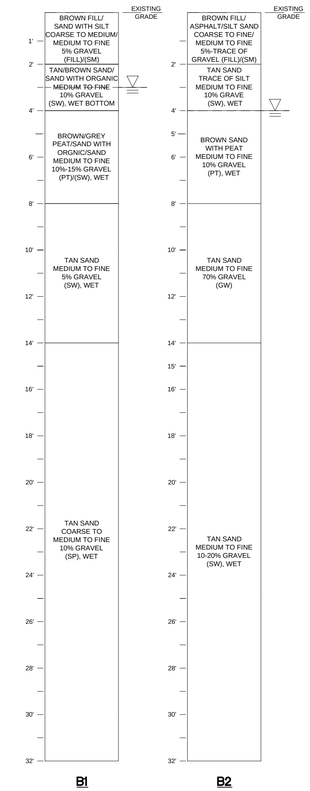
OBL PLUG MIX

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	100	ASCLEPIAS INCARNATA	SWAMP MILKWEED	PLUG	12' O.C.
	200	CALAMAGROSTIS CANADENSIS	BLUEJOINT GRASS	PLUG	12' O.C.
	200	CAREX LURIDA	LURID SEDGE	PLUG	12' O.C.
	200	CAREX VULPINOIDEA	FOX SEDGE	PLUG	12' O.C.
	100	CHELONE GLABRA	TURTLEHEAD	PLUG	12' O.C.
	200	ELEOCHARIS OBTUSA	BLUNT SPIKERUSH	PLUG	12' O.C.
	100	MIMULUS RINGENS	MONKEY FLOWER	PLUG	12' O.C.
	200	SAGITTARIA LATIFOLIA	BROADLEAF ARROWHEAD	PLUG	12' O.C.
	200	SCHOENOPLECTUS ATROVIRENS	GREEN BULRUSH	PLUG	12' O.C.
	200	SPARGANIUM AMERICANUM	EASTERN BUR REED	PLUG	12' O.C.
	100	IRIS VERSICOLOR	BLUEFLAG IRIS	PLUG	12' O.C.

SEEDING NOTES:
- SEED MIXES TO BE HYDROSEEDED DURING THE SPRING OR FALL ONLY.
- SEED MIXES ARE TO BE HYDROSEEDED FOLLOWED BY HERBACEOUS PLANT INSTALLATION IN DESIGNATED AREAS.
- REPLACEMENT OF SPECIES MAY NOT OCCUR WITHOUT APPROVAL BY THE ENGINEER



SEE DWG No. TYP-1 AND DET-1 FOR PLANTING DETAIL ON ENVIROLOK BAGS



SOIL BORINGS

CONDUCTED BY: LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.
DATE: SEPTEMBER 26, 2018

No.	DATE	REVISION	BY:
-	-	-	-

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WWW.NELSONPOPE.COM

CLIENT:
VILLAGE OF LINDENHURST
121 ALBANY AVENUE
LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
LANDSCAPING PLAN - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
LP-1

SHEET: 14 OF 14

Appendix C

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
Phone: (631) 286-0485 Fax: (631) 286-4003

In Reply Refer To: May 01, 2019
Consultation Code: 05E1LI00-2019-SLI-0028
Event Code: 05E1LI00-2019-E-00986
Project Name: Lindenhurst Drainage Improvements Project

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(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
(631) 286-0485

Project Summary

Consultation Code: 05E1LI00-2019-SLI-0028

Event Code: 05E1LI00-2019-E-00986

Project Name: Lindenhurst Drainage Improvements Project

Project Type: Federal Grant / Loan Related

Project Description: Culvert replacement

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.69622832873503N73.3776640422055W

Counties: Suffolk, NY

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Roseate Tern *Sterna dougallii dougallii* Population: northeast U.S. nesting pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

Flowering Plants

NAME	STATUS
Sandplain Gerardia *Agalinis acuta* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8128	Endangered
Seabeach Amaranth *Amaranthus pumilus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8549	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Appendix D

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Project information

NAME

Lindenhurst Drainage Improvements Project

LOCATION

Suffolk County, New York

DESCRIPTION

Culvert replacement

Local office

Long Island Ecological Services Field Office

(631) 286-0485
(631) 286-4003

340 Smith Road
Shirley, NY 11967-2258

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Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

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 from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species

[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

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Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Piping Plover Charadrius melodus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot Calidris canutus rufa No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1864	Threatened
Roseate Tern Sterna dougallii dougallii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2083	Endangered

Flowering Plants

NAME	STATUS
Sandplain Gerardia Agalinis acuta No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8128	Endangered
Seabeach Amaranth Amaranthus pumilus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8549	Threatened

NOT FOR CONSULTATION

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

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NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Least Tern *Sterna antillarum* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 20 to Sep 10
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Red-throated Loon *Gavia stellata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NOT FOR CONSULTATION

Semipalmated Sandpiper Calidris pusilla This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Snowy Owl Bubo scandiacus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5

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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

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The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

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.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

- R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

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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 tuberficid 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.

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Appendix E

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Environmental Resource Mapper

Base Map: Satellite with Labels Using this map

Search

Tools

Layers and Legend

All Layers

- Unique Geological Features
- Waterbody Classifications for Rivers/Streams
- Waterbody Classifications for Lakes
- State Regulated Freshwater Wetlands
  - State Regulated Wetland Checkzone
- Significant Natural Communities
  - Natural Communities Near This Location
- Rare Plants or Animals

Other Wetland Layers

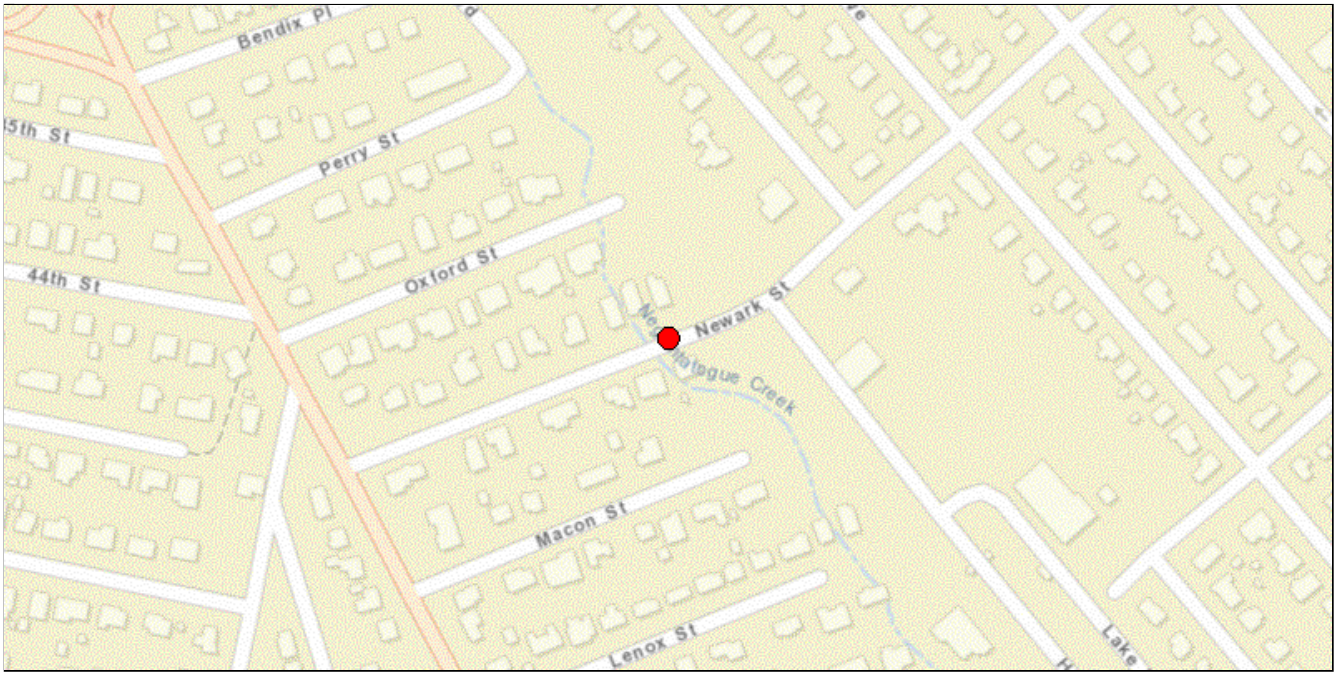
Reference Layers

Tell Me More...

Need A Permit?

Contacts

Environmental Resource Mapper



The coordinates of the point you clicked on are:

UTM 18	**Easting:**	637031.763	**Northing:**	4506286.089
Longitude/Latitude	**Longitude:**	-73.378	**Latitude:**	40.696

The approximate address of the point you clicked on is:
52 Newark St, Lindenhurst, New York, 11757

County: Suffolk
Town: Babylon
Village: Lindenhurst
USGS Quad: AMITYVILLE

DEC Region

Region 1:
(Long Island) Nassau and Suffolk counties. For more information visit **http://www.dec.ny.gov/about/603.html**.

Old or Potential Records (Not displayed on the map)

Common Name: Flax-leaf Whitetop
Scientific Name: Sericocarpus linifolius
Date Last Documented: 1927-07-21
Location: Lindenhurst
NYS Protected: Threatened

Common Name: Collins' Sedge
Scientific Name: Carex collinsii
Date Last Documented: 1927-06-18
Location: Lindenhurst
NYS Protected: Endangered

Common Name: Velvety Bush-clover
Scientific Name: Lespedeza stuevei
Date Last Documented: 1926-09-03
Location: Lindenhurst
NYS Protected: Threatened

Common Name: Orange Milkwort
Scientific Name: Polygala lutea
Date Last Documented: 1935-08-20
Location: Babylon
NYS Protected: Endangered

Common Name: Barratt's Sedge
Scientific Name: Carex barrattii
Date Last Documented: 1927-05-28
Location: Lindenhurst
NYS Protected: Endangered

Freshwater Wetlands Checkzone

This location is in the vicinity of one or more Regulated Freshwater Wetlands.

National Wetands Inventory

Attribute: undefined
Type: undefined
Acres: undefined

For more information about the National Wetands Inventory wetlands visit **http://www.fws.gov/wetlands/**

If your project or action is within or near an area with a rare animal, a permit may be required if the species is listed as endangered or threatened and the department determines the action may be harmful to the species or its habitat.

If your project or action is within or near an area with rare plants and/or significant natural communities, the environmental impacts may need to be addressed.

The presence of a unique geological feature or landform near a project, unto itself, does not trigger a requirement for a NYS DEC permit. Readers are advised, however, that there is the chance that a unique feature may also show in another data layer (ie. a wetland) and thus be subject to permit jurisdiction.

Please refer to the "Need a Permit?" tab for permit information or other authorizations regarding these natural resources.

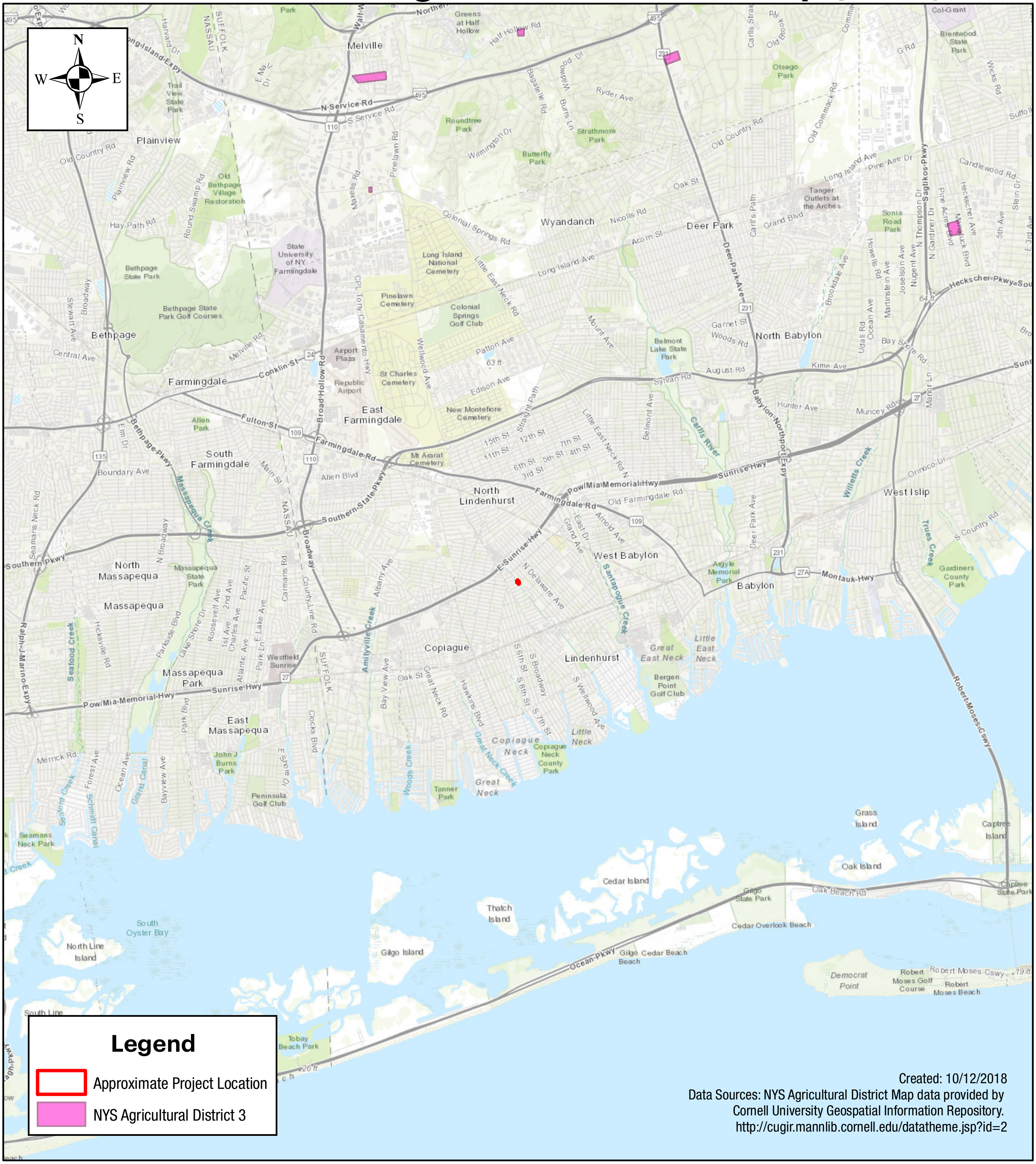
Disclaimer: If you are considering a project or action in, or near, a wetland or a stream, a NYS DEC permit may be required. The Environmental Resources Mapper does not show all natural resources which are regulated by NYS DEC, and for which permits from NYS DEC are required. For example, Regulated Tidal Wetlands, and Wild, Scenic, and Recreational Rivers, are currently not included on the maps.

Attachment 8

Agricultural and NRCS Soil Resource Documents

New York State Agricultural Districts Map (2018)
USDA NRCS Soil Resource Report
USDA NRCS Shallow Excavation Report
USDA NRCS Farmland Classification Report

New York State Agricultural District Map (2018)



Tectonic

1:100,000

0 6,250 12,500 25,000 Feet

Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

United States Department of Agriculture

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Suffolk County, New York

October 4, 2018

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

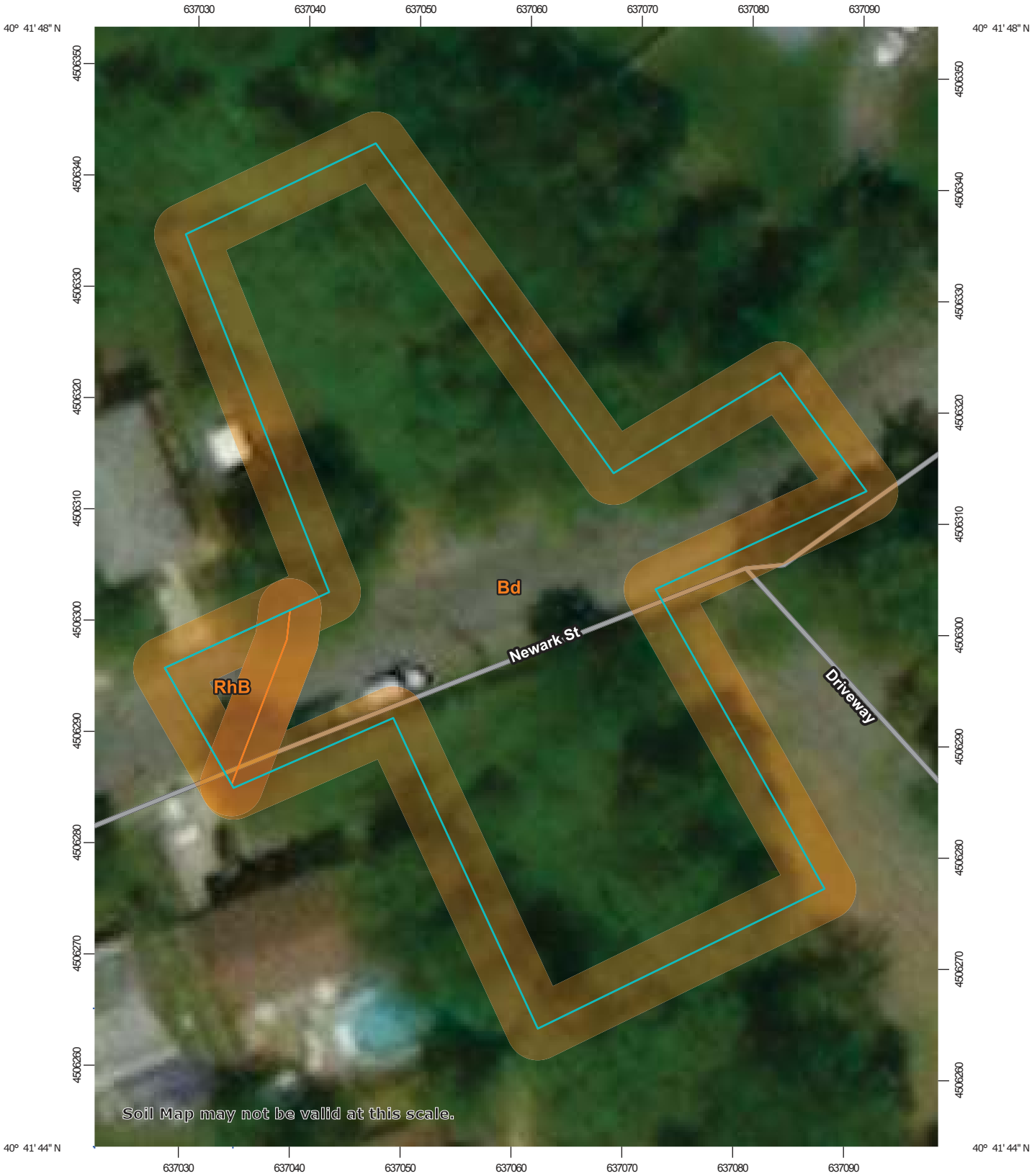
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:491 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 5 10 20 30

Feet: 0 20 40 80 120

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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
Web Soil Survey URL:
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: Suffolk County, New York
Survey Area Data: Version 16, Sep 3, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Oct 5, 2016

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

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Bd	Berryland mucky sand	0.6	96.7%
RhB	Riverhead and Haven soils, graded, 0 to 8 percent slopes	0.0	3.3%
Totals for Area of Interest		**0.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Suffolk County, New York

Bd—Berryland mucky sand

Map Unit Setting

National map unit symbol: 9x67
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Berryland and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Berryland

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Acid sandy marine deposits

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
Oa - 2 to 10 inches: highly decomposed plant material
A - 10 to 15 inches: mucky sand
Bh - 15 to 20 inches: sand
Bs - 20 to 30 inches: sand
BC - 30 to 40 inches: sand
C - 40 to 60 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Atsion

Percent of map unit: 5 percent
Landform: Depressions

Hydric soil rating: Yes

Muck

Percent of map unit: 5 percent
Landform: Marshes, swamps
Hydric soil rating: Yes

Unnamed soils

Percent of map unit: 5 percent
Hydric soil rating: Unranked

Wareham

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

RhB—Riverhead and Haven soils, graded, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9x7w
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Riverhead, graded, and similar soils: 45 percent
Haven, graded, and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverhead, Graded

Setting

Landform: Moraines, outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits overlying stratified sand and gravel

Typical profile

H1 - 0 to 12 inches: sandy loam
H2 - 12 to 27 inches: sandy loam
H3 - 27 to 35 inches: gravelly loamy sand
H4 - 35 to 65 inches: stratified coarse sand to gravelly sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.1 inches)

Description of Haven, Graded

Setting

Landform: Outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 19 inches: loam
BC - 19 to 28 inches: gravelly loam
C - 28 to 60 inches: stratified gravelly sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.6 inches)

Minor Components

Unnamed soils, loamy surface

Percent of map unit: 10 percent
Hydric soil rating: No

Montauk, graded

Percent of map unit: 5 percent
Hydric soil rating: No

Cut and fill

Percent of map unit: 5 percent
Hydric soil rating: Unranked

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Shallow Excavations

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate

maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Map—Shallow Excavations

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Lines

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Points

Very limited

Somewhat limited

Not limited

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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
Web Soil Survey URL:
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: Suffolk County, New York
Survey Area Data: Version 16, Sep 3, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Oct 5, 2016

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.

Tables—Shallow Excavations

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Bd	Berryland mucky sand	Very limited	Berryland (80%)	Depth to saturated zone (1.00)	0.6	96.7%
				Unstable excavation walls (1.00)		
				Flooding (0.80)		
RhB	Riverhead and Haven soils, graded, 0 to 8 percent slopes	Somewhat limited	Riverhead, graded (45%)	Unstable excavation walls (0.83)	0.0	3.3%
				Dusty (0.00)		
			Haven, graded (35%)	Unstable excavation walls (0.14)		
				Dusty (0.01)		
Totals for Area of Interest					**0.6**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Very limited	0.6	96.7%
Somewhat limited	0.0	3.3%
Totals for Area of Interest	**0.6**	**100.0%**

Rating Options—Shallow Excavations

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

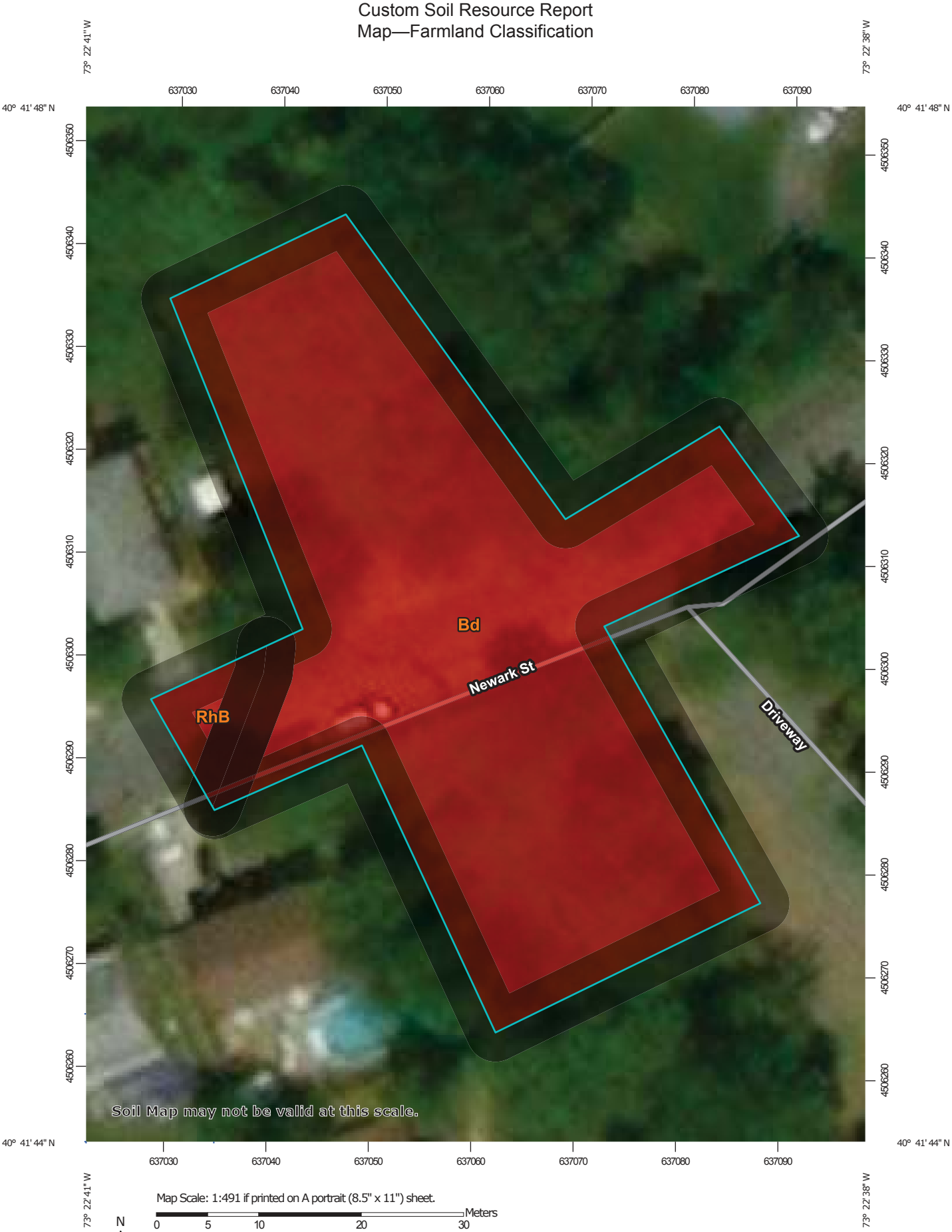
Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Farmland Classification

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.

Map—Farmland Classification



Map Scale: 1:491 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 5 10 20 30

Feet: 0 20 40 80 120

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

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Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Survey Area Data: Version 16, Sep 3, 2018

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Table—Farmland Classification

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Bd	Berryland mucky sand	Not prime farmland	0.6	96.7%
RhB	Riverhead and Haven soils, graded, 0 to 8 percent slopes	Not prime farmland	0.0	3.3%
Totals for Area of Interest			**0.6**	**100.0%**

Rating Options—Farmland Classification

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

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Attachment 9

SHPO Documentation

SHPO Response

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

November 2, 2018

James McAllister
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500 Bi-County Boulevard, Suite 300
Farmingdale, NY 11735

Re: HTF/ GOSR/ NYSHCR/ HUD CDBG-DR/ Drainage Improvements:
Newark St at Heiling Boulevard, Lindenhurst, Town of Babylon/ Suffolk County.
18PR7039

Dear Mr. McAllister:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 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, it is the opinion of SHPO that there will be No Historic Properties Affected by the undertaking.

If I can be of further assistance, please contact me at (518) 268-2187 Larry.moss@parks.ny.gov

Sincerely,

L Moss

Larry K Moss, Historic Preservation Technical Specialist

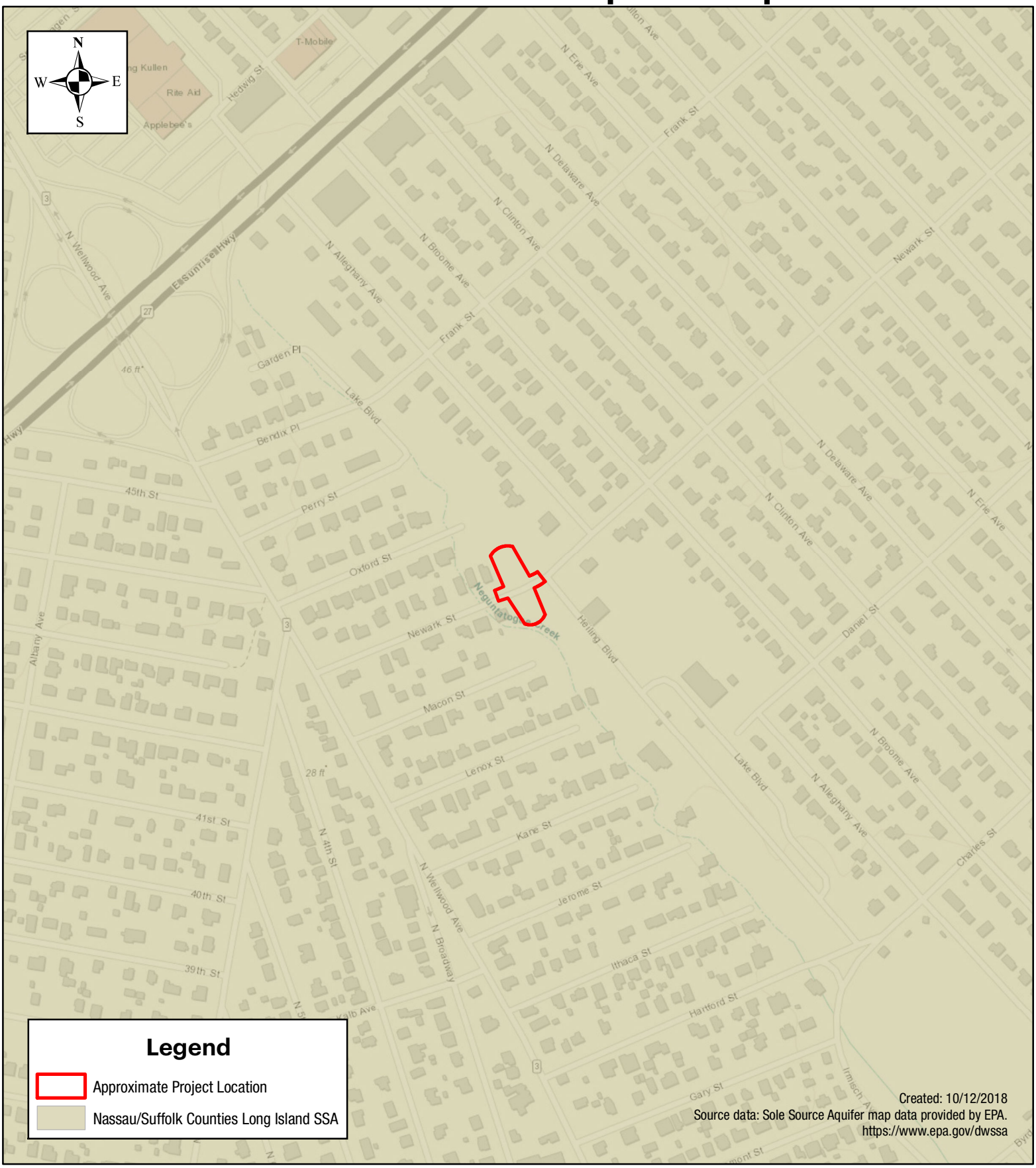
CC: Kim Croshier & Kristofer Mierisch, Tectonic Engineers

Attachment 10

US EPA Sole Source Aquifer Analysis

US EPA Sole Source Aquifer Map
Non-Housing / Project Activity Initial Screen

EPA Sole Source Aquifer Map



Tectonic

1:5,000

0 250 500 1,000 Feet

Lindenhurst Drainage Improvements:
Newark Street Culvert **Project**
Newark Street
Village of Lindenhurst
Town of Babylon
Suffolk County, New York

ATTACHMENT 2.A

NON-HOUSING/PROJECT ACTIVITY INITIAL SCREEN CRITERIA

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. (For housing projects/activities, see Attachment 2.B) If any of the questions are answered affirmatively, then Attachment 3, SSA Preliminary Review Requirements, should also be completed. The application/final statement, this Attachment, Attachment 3, and any other pertinent information should then 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.

CRITERIA QUESTIONS	YES	NO	N/A
1. 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.]	☐	☒	☐
2. Is the project/activity located within a one half mile radius (2640 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.]	☐	☒	☐

3. Will the project/activity include or directly cause (check appropriate items):

	YES	NO	N/A
construction or expansion of solid waste disposal, recycling or conversion facilities	☐	☒	☐
construction or expansion or closure of landfills	☐	☒	☐
construction or expansion of water supply facilities	☐	☒	☐
construction or expansion of on-site wastewater treatment plants or sewage trunk lines	☐	☒	☐
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	☐	☒	☐

4. Will the project/activity include storage or handling of any hazardous constituents as listed in Attachment 4, Hazardous Constituents	☐	☒	☐
5. 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.)	☐	☒	☐
6. Will the project/activity require a federal or state discharge elimination permit or modification of an existing permit?	☐	☒	☐

This attachment was completed by:

Name:	Chris Camacho
Title:	Environmental Scientist
Address:	70 Pleasant Hill Road
	Mountainville, NY 10953
Telephone number:	(845) 534-5959 ext. 2139
Date:	June 20, 2019

Attachment 11

Environmental Permits

NYSDEC Permit

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 1
SUNY @ Stony Brook, 50 Circle Road, Stony Brook, NY 11790
P: (631) 444-0365 I F: (631) 444-0360
www.dec.ny.gov

RECEIVED
JUN 10 2019
NELSON & POPE

June 4, 2019

Douglas Madlon
Village of Lindenhurst
430 S Wellwood Ave.
Lindenhurst, NY 11757

Re: Application #1-4720-03190/00003
Newark Street Culvert

Dear Mr. Madlon:

In conformance with the requirements of the State Uniform Procedures Act (Article 70, ECL) and its implementing regulations (6NYCRR, Part 621) we are enclosing your permit. Please carefully read all permit conditions and special permit conditions contained in the permit to ensure compliance during the term of the permit. If you are unable to comply with any conditions please contact us at the above address.

Also enclosed is a permit sign which is to be conspicuously posted at the project site and protected from the weather.

Sincerely,

Elyssa Hopkins Scott
Environmental Analyst

cc: Nelson, Pope & Voorhis
BMHP
File

PERMIT

Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
VILLAGE OF LINDENHURST
430 S WELLWOOD AVE
LINDENHURST, NY 11757-4926
(631) 957-7500

Facility:
NEWARK ST CULVERT
NEWARK ST @ NEGUNTATOGUE CREEK
LINDENHURST, NY

Facility Application Contact:
NELSON POPE & VOORHIS LLC
572 WALT WHITMAN RD
MELVILLE, NY 11747
(631) 427-5665

Facility Location: in BABYLON in SUFFOLK COUNTY **Village:** Lindenhurst
Facility Principal Reference Point: NYTM-E: 637.064 NYTM-N: 4506.297
Latitude: 40°41'46.3" Longitude: 73°22'39.8"
Authorized Activity: Replacement of an existing culvert at the crossing of Heiling Creek and Newark Street with a new box culvert involving the temporary diversion of the creek, the installation of new catch basins, regrading, and plantings along the stream banks. All work must be done according to the plans prepared by Nelson & Pope, dated February 2019 and stamped NYSDEC approved 6/4/2019. EEH.

Permit Authorizations

Freshwater Wetlands - Under Article 24
Permit ID 1-4720-03190/00003
New Permit Effective Date: 6/4/2019 Expiration Date: 6/3/2024
Water Quality Certification - Under Section 401 - Clean Water Act
Permit ID 1-4720-03190/00004
New Permit Effective Date: 6/4/2019 Expiration Date: 6/3/2024
Excavation & Fill in Navigable Waters - Under Article 15, Title 5
Permit ID 1-4720-03190/00005
New Permit Effective Date: 6/4/2019 Expiration Date: 6/3/2024

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: KEVIN A KISPERT, Deputy Permit Administrator
Address: NYSDEC Region 1 Headquarters
SUNY @ Stony Brook|50 Circle Rd
Stony Brook, NY 11790 -3409

Authorized Signature: _____ Date 6 14 2019

Distribution List

NELSON POPE & VOORHIS LLC
Habitat
Elyssa Hopkins

Permit Components

NATURAL RESOURCE PERMIT CONDITIONS

WATER QUALITY CERTIFICATION SPECIFIC CONDITION

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

NATURAL RESOURCE PERMIT CONDITIONS - Apply to the Following Permits: FRESHWATER WETLANDS; WATER QUALITY CERTIFICATION; EXCAVATION & FILL IN NAVIGABLE WATERS

1. **Notice of Commencement** At least 48 hours prior to commencement of the project, the permittee and contractor shall sign and return the top portion of the enclosed notification form certifying that they are fully aware of and understand all terms and conditions of this permit. Within 30 days of completion of project, the bottom portion of the form must also be signed and returned, along with photographs of the completed work.

2. **Post Permit Sign** The permit sign enclosed with this permit shall be posted in a conspicuous location on the worksite and adequately protected from the weather.

3. **Conformance With Plans** All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such approved plans were prepared by Nelson & Pope, dated February 2019.

4. **Area Limits I** The limits of clearing, grading and ground disturbance for the road and shoulder work is equal to the existing and proposed chain link fence as shown on sheet CP-1.

5. **Area Limits II** The limits of clearing, grading and ground disturbance for the staging area is equal to the silt fence line shown around the staging area on multiple sheets including CP-1.

6. **Area Limits III** The limits of clearing, grading and ground disturbance for the in stream work is equal to the up slope edge of the shaded grading scheme as shown in Phase 6 on sheet WZTC-5.

7. **Work Area Limits** Any work, disturbance and/or storage of construction materials shall be confined to within the limits of clearing, grading and ground disturbance (LCGD) as described above, or greater than 100' from the regulated freshwater wetland.

8. **Materials Disposed at Upland Site** Any demolition debris, excess construction materials, and/or excess excavated materials shall be immediately and completely disposed of on an approved upland site more than 100 feet from any regulated freshwater wetland. These materials shall be suitably stabilized so as not to re-enter any water body, wetland, or wetland adjacent area.

9. **Silt Screen** Prior to commencement of any construction activities, a continuous line of silt screen (maximum opening size of U.S. Sieve #20) shall be staked along the LCGD of Area Limits I and II as described above.

10. **Silt Screen to Be Recessed** Silt screen shall be recessed six inches into the ground.

11. **Maintain Silt Screen** The screen shall be maintained, repaired and replaced as often as necessary to ensure proper function, until all disturbed areas are permanently vegetated. Sediments trapped by the screen shall be removed to an approved upland location before the screen is removed.

12. **Additional Erosion Control Restrictions** No material from the roadway resurfacing is permitted to enter the creek, wetlands or vegetated buffer areas. Additional erosion control measures must be installed as needed to control those materials. Any road surfacing material that does enter those protected areas must be removed immediately.

13. **Clean Fill Only** All fill shall consist of clean soil, sand and/or gravel that is free of the following substances: asphalt, slag, flyash, broken concrete, demolition debris, garbage, household refuse, tires, woody materials including tree or landscape debris, and metal objects. The introduction of materials toxic to aquatic life is expressly prohibited.

14. **Equipment Storage 100' from Wetland, Water Body** All equipment and machinery shall be stored and safely contained greater than 100 feet landward of the regulated wetland or water body at the end of each work day. This will serve to avoid the inadvertent leakage of deleterious substances into the regulated area.

15. **Seed, Mulch Disturbed Areas** All areas of soil disturbance resulting from this project shall be seeded with an appropriate perennial grass, and mulched with straw immediately upon completion of the project, within two days of final grading, or by the expiration of the permit, whichever is first.

16. **Temporary Mulch, Final Seeding** If seeding is impracticable due to the time of year, a temporary mulch shall be applied and final seeding shall be performed at the earliest opportunity when weather conditions favor germination and growth but not more than six months after project completion.

17. **Minimum % Vegetative Cover** Suitable vegetative cover is defined as a minimum of 85 % area vegetative cover with contiguous unvegetated areas no larger than 1 square foot in size.

18. **Grading Requirements** Final grades must reflect what is shown on the approved plans.

19. **Planting Required** All proposed planting must be done as depicted on plan LP-1, with no change in species, spacing or location. Planting must be completed within one year of the submission of the Notice of Commencement.

20. **Turbidity Control Required** In stream turbidity control must be installed as shown on the approved plans, with additional control measures installed as needed. No downstream turbidity is permitted.

21. **Precautions Against Contamination of Waters** All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.

22. **No Interference With Navigation** There shall be no unreasonable interference with navigation by the work herein authorized.

23. **State Not Liable for Damage** The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

24. **State May Order Removal or Alteration of Work** If future operations by the State of New York require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Department of Environmental Conservation it shall cause unreasonable obstruction to the free navigation of said waters or flood flows or endanger the health, safety or welfare of the people of the State, or cause loss or destruction of the natural resources of the State, the owner may be ordered by the Department to remove or alter the structural work, obstructions, or hazards caused thereby without expense to the State, and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the owners, shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable and flood capacity of the watercourse. No claim shall be made against the State of New York on account of any such removal or alteration.

25. **State May Require Site Restoration** If upon the expiration or revocation of this permit, the project hereby authorized has not been completed, the applicant shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may lawfully require, remove all or any portion of the uncompleted structure or fill and restore the site to its former condition. No claim shall be made against the State of New York on account of any such removal or alteration.

WATER QUALITY CERTIFICATION SPECIFIC CONDITIONS

1. **Water Quality Certification** The authorized project, as conditioned pursuant to the Certificate, complies with Section 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act, as amended and as implemented by the limitations, standards, and criteria of state statutory and regulatory requirements set forth in 6 NYCRR Section 608.9(a). The authorized project, as conditioned, will also comply with applicable New York State water quality standards, including but not limited to effluent limitations, best usages and thermal discharge criteria, as applicable, as set forth in 6 NYCRR Parts 701, 702, 703, and 704.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. **Facility Inspection by The Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. **Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. **Applications For Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator
NYSDEC Region 1 Headquarters
SUNY @ Stony Brook|50 Circle Rd
Stony Brook, NY11790 -3409

4. **Submission of Renewal Application** The permittee must submit a renewal application at least 30 days before permit expiration for the following permit authorizations: Excavation & Fill in Navigable Waters, Freshwater Wetlands, Water Quality Certification.

5. **Permit Modifications, Suspensions and Revocations by the Department** The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

NEW YORK
STATE OF
OPPORTUNITY.

Department of
Environmental
Conservation

NOTICE

The Department of Environmental Conservation (DEC) has issued permit(s) pursuant to the Environmental Conservation Law for work being conducted at this site. For further information regarding the nature and extent of work approved and any Departmental conditions on it, contact the Regional Permit Administrator listed below. Please refer to the permit number shown when contacting the DEC.

Regional Permit Advisor

SUSAN ACKERMAN

Permit Number 1-4720-03190/00003

Expiration Date 6/3/2024

NOTE: This notice is **NOT** a permit

NOTICE OF COMMENCEMENT OF CONSTRUCTION

RETURN THIS FORM TO: COMPLIANCE Or Fax to: 631-444-0297
Bureau of Marine Habitat Protection - NYSDEC
50 Circle Road
Stony Brook, NY 11790-3409

ERMIT NUMBER: _____ EXPIRATION DATE: _____

ERMITTEE NAME & PROJECT ADDRESS: _____

_____

CONTRACTOR NAME & ADDRESS: _____

_____ TELEPHONE: _____

ear Sir: _____

ursuant to the special conditions of the referenced permit, you are hereby notified that the authorized activity shall commence on _____
We certify that we have read the referenced permit and approved plans and fully understand the authorized project and all permit conditions. Ve have inspected the project site and can complete the project as described in the permit and as depicted on the approved plans. We can o so in full compliance with all plan notes and permit conditions. The permit, permit sign, and approved plans will be available at the site for ispection in accordance with General Condition No. 1. (Both signatures required)

PERMITEE: _____ DATE _____

CONTRACTOR: _____ DATE _____

HIS NOTICE MUST BE SENT TO THE ABOVE ADDRESS AT LEAST TWO DAYS PRIOR TO COMMENCEMENT OF THE PROJECT ND /OR ANY ASSOCIATED ACTIVITIES. FAILURE TO RETURN THIS NOTICE, POST THE PERMIT SIGN, OR HAVE THE PERMIT AND PPROVED PLANS AVAILABLE AT THE WORK SITE FOR THE DURATION OF THE PROJECT MAY SUBJECT THE PERMITTEE ND/OR CONTRACTOR TO APPLICABLE SANCTIONS AND PENALTIES FOR NON-COMPLIANCE WITH PERMIT CONDITIONS.

ut along this line X X X X X X X

NOTICE OF COMPLETION OF CONSTRUCTION

ETURN THIS FORM TO: COMPLIANCE Or Fax to: 631-444-0297
Bureau of Marine Habitat Protection - NYSDEC
50 Circle Rd.
Stony Brook, NY 11790-3409

ERMIT NUMBER: _____ EXPIRATION DATE: _____

ERMITTEE NAME & PROJECT ADDRESS: _____

_____

ONTRACTOR NAME & ADDRESS:

_____

_____ TELEPHONE: _____

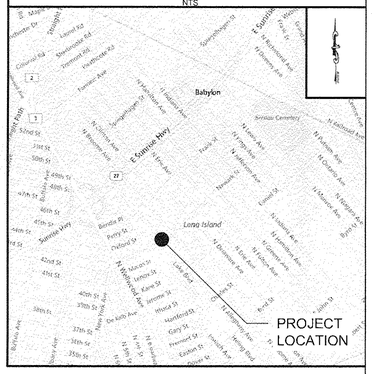
rsuant to special conditions of the referenced permit, you are hereby notified that the authorized activity was completed on _____
Ve have fully complied with the terms and conditions of the permit and approved plans. (Both signatures required)

PERMITEE: _____ DATE _____

CONTRACTOR: _____ DATE _____

IS NOTICE, WITH PHOTOGRAPHS OF THE COMPLETED WORK AND/OR A COMPLETED SURVEY, AS APPROPRIATE, MUST BE NT TO THE ABOVE ADDRESS WITHIN 30 DAYS OF COMPLETION OF THE PROJECT.

KEY MAP
NTS



VILLAGE OF LINDENHURST

PLANS FOR THE DEC

RECONSTRUCTION OF NEWARK AVE DRAINAGE CULVERT

SUFFOLK COUNTY, NEW YORK

A PROJECT FUNDED BY AND CONCEIVED THROUGH THE NY RISING COMMUNITY RECONSTRUCTION PROGRAM OF THE GOVERNOR'S OFFICE OF STORM RECOVERY

NYSDEC
APPROVED AS PER TERMS
AND CONDITIONS OF
PERMIT NO 1-4720-03190/4
DATE 6/4/2019
page 1 of 13

NELSON & POPE No. 18197
FEBRUARY 2019

CONSULTANT
NELSON & POPE
ENGINEERS · SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747-2188
(631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

DWN. BY:	JD
CHK'D BY:	JD/RZS
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197COV.DWG
SCALE:	NONE
DRAWING NUMBER:	C-1
SHEET:	1 OF 14

No.	DATE	REVISION	BY:
-	-	-	-/-

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, PROFESSIONAL ENGINEERING AND LAND SURVEYING, SECTION 7209 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

MISCELLANEOUS NOTES:

1. THE LOCAL FIRE DEPARTMENTS, EMERGENCY SQUADS, AND THE LOCAL POLICE DEPARTMENT SHALL BE NOTIFIED A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE CONTRACTOR COMMENCING CONSTRUCTION. THE ABOVE LISTED AGENCIES OR DEPARTMENTS SHALL BE NOTIFIED A MINIMUM OF ONE (1) WORKING DAY IN ADVANCE OF THE CONTRACTOR CONDUCTING WORK THAT WILL HAVE AN IMPACT ON THE TRAVEL ROUTES OR RESPONSE ROUTES.

2. DRAINAGE FRAMES AND GRATES SHALL NOT BE ADJUSTED IN A TRAVEL LANE UNLESS THE FINAL COURSE IS PLACED PRIOR TO THE ONSET OF SNOW AND ICE WEATHER. STEEL PLATES, ETC., SHALL NOT PROTRUDE ABOVE THE ADJACENT PAVEMENT. IF ANY OF THESE PROTRUSIONS EXIST IN A NON-TRAVEL LANE PRIOR TO SNOW AND ICE CONDITION, THEN TEMPORARY ASPHALT RAMPS MUST BE PLACED SO THAT FOR EVERY ONE INCH OF RISE THERE IS A SIX FOOT RUN OF RAMP.

3. ALL WORK WITHIN THE VILLAGE OF LINDENHURST RIGHT-OF-WAY (ROW), AS SHOWN ON THE PLANS, SHALL CONFORM TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) SPECIFICATIONS, STANDARD DETAILS, AND PERMITS, OR AS ORDERED BY THE VILLAGE OF LINDENHURST REPRESENTATIVE.

4. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH FIELD CONDITIONS.

5. THE CONTRACTOR SHALL TAKE PRECAUTIONS NOT TO LEAVE DEBRIS, MATERIALS, AND TOOLS, ETC., ON THE ROADWAY SURFACE WHEN LEAVING THE WORK AREA. IN ADDITION, THE CONTRACTOR SHALL TAKE PRECAUTIONS THAT NO DEBRIS, ETC., INTERFERES WITH ADJACENT OPEN TRAFFIC LANES AND PEDESTRIAN WALKS.

6. ALL OPERATIONS SHALL BE CONDUCTED SO AS NOT TO INTERFERE WITH, INTERRUPT, OR ENDANGER THE OPERATION OF TRAFFIC, NOR DAMAGE, DESTROY, OR ENDANGER THE INTEGRITY OF VILLAGE FACILITIES OR ADJACENT PROPERTIES .

7. THE VILLAGE OF LINDENHURST WILL NOT UNDERTAKE OR ACCEPT FINANCIAL RESPONSIBILITY FOR ANY REMEDIATION OR SIMILAR ACTIVITY WITH RESPECT TO THE REMOVAL OF HAZARDOUS WASTES AND NON-HAZARDOUS SOLID INDUSTRIAL WASTES. WHICH UNDER LAW WOULD NOT BE REQUIRED AT THE TIME BUT FOR THE ACCOMMODATION OF UTILITY FACILITIES WITHIN THE RIGHT-OF-WAY. SUCH RESPONSIBILITY AND COSTS SHALL BE SOLELY THOSE OF THE OWNER OR PERMITTEE.

8. PAVEMENT AND SHOULDER REMOVAL SHALL BE DONE IN A MANNER THAT PROVIDES FOR PROPER RESTORATION OF THE REPLACEMENT SECTION. GENERALLY, STRAIGHT, VERTICAL CUTS OF THE PAVEMENT AND SHOULDER WILL BE REQUIRED. SHEETING MAY BE REQUIRED. PAVEMENT THAT BECOMES UNDERMINED SHALL BE CUT BACK AND REMOVED. ALTERNATIVE REPAIR METHODS MAY BE USED IF PRIOR APPROVAL IS GRANTED BY THE VILLAGE.

9. THE LIMIT OF PAVEMENT REPLACEMENT SHALL BE SUCH THAT THE REPLACED PAVEMENT IS SUPPORTED BY THOROUGHLY COMPACTED SUBBASE MATERIAL AND THE PAVEMENT IS RESTORED TO THE PROPER GRADE, SURFACE TOLERANCE AND SURFACE TEXTURE.

10. TEMPORARY PAVEMENTS AND SHOULDERS SHALL BE PLACED AS SOON AS A CROSSOVER INSTALLATION IS COMPLETED. IF PERMANENT PAVEMENT PLACEMENT IS TO BE DELAYED, TEMPORARY PAVEMENT RESTORATION SHALL CONSIST OF A MINIMUM COMPACTED THICKNESS OF THREE INCHES (75MM) OF ASPHALT CONCRETE, AND APPROVED BASE MATERIAL OF A DEPTH TO PROVIDE FOR PERMANENT PAVEMENT. IN SITUATIONS WHERE HEAVY TRAFFIC LOADS ARE ANTICIPATED OR CASES WHERE THE TEMPORARY PAVEMENT IS REQUIRED FOR A PROTRACTED PERIOD, MORE SUBSTANTIAL PAVEMENT AND BACKFILL DESIGN MAY BE REQUIRED. THE ASPHALT CONCRETE SHALL BE MAINTAINED FLUSH WITH THE EXISTING PAVEMENT UNTIL THE PAVEMENT IS RESTORED PERMANENTLY.

11. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS (CURB, SIDEWALK, ASPHALT, GUTTER, SOD, PAVEMENT, ETC.) IN-KIND.

12. ALL EXISTING PAVEMENT MARKINGS THAT ARE DAMAGED OR REMOVED BY CONSTRUCTION PROCESSES UNDER THIS WORK SHALL BE RESTORED AS REQUIRED OR AS ORDERED BY THE ENGINEER RESPONSIBLE FOR CONSTRUCTION INSPECTION. SEE PAVEMENT MARKING LEGEND FOR DETAILS AND ITEMS.

13. ALL EXISTING SIGNS THAT ARE DAMAGED OR REMOVED BY CONSTRUCTION PROCESSES UNDER THIS WORK SHALL BE RESET OR REPLACED AS REQUIRED OR AS ORDERED BY THE ENGINEER RESPONSIBLE FOR CONSTRUCTION INSPECTION.

14. NEW CURB NOT ABUTTING EXISTING CURB, SHALL BE RAMPED DOWN TO ZERO HEIGHT REVEAL IN THE LAST 10 FEET.

15. TREES AND SHRUBS ARE TO BE PRUNED IN ACCORDANCE WITH BOTH SECTION 201 AND THE FOLLOWING REQUIREMENTS. ALL COSTS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 201.05 M.

(A) THE CONTRACTOR SHALL CAREFULLY CUT OFF ALL BRANCHES OF PLANTS HANGING WITHIN 16 FEET ABOVE ANY PART OF THE ROADWAY OR WITHIN 2 FEET OF THE EDGE OF THE SHOULDER. BRANCHES SHALL BE TRIMMED AT THE TRUNK TO MAINTAIN A CALLOUS RIDGE.

(B) PRUNING MAY BE REQUIRED BEYOND THE LIMITS INDICATED IN ORDER TO MAINTAIN ADEQUATE SIGHT DISTANCE FOR ALL TRAFFIC SIGNS AND SIGNALS. ADDITIONAL BRANCH PRUNING MAY ALSO BE REQUIRED ON ANY TREE WHERE BRANCHES ARE REMOVED IN ORDER TO MAINTAIN AN ESTHETIC BALANCE. ALL SUCH ADDITIONAL PRUNING SHALL BE AS ORDERED BY THE ENGINEER.

(C) ALL WORK SHALL BE DONE ACCORDING TO ACCEPTABLE HORTICULTURAL AND PRUNING PRACTICES.

(D) THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY EXISTING TREES THAT ARE TO REMAIN. ANY DAMAGE THROUGH CARELESSNESS OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE, AOBE.

16. IN LOCATIONS WHERE NARROW VEGETATIVE BUFFERS EXIST BETWEEN PARKWAYS AND ADJACENT BUILDINGS (RESIDENCIES) THE CONTRACTOR SHALL NOT REMOVE VEGETATION AS TO CREATE SIGHT LINES FROM ADJACENT BUILDINGS TO THE PARKWAY OR FROM THE PARKWAY TO ADJACENT BUILDINGS.

17. AREAS TO BE SEEDED ON "THIS PROJECT" MAY BE SUBJECT TO VEHICLE INTRUSIONS WHICH MAY RESULT IN THE NECESSITY OF RESEEDING. THE CONTRACTOR IS ADVISED TO TAKE ADEQUATE PROTECTIVE MEASURES TO MINIMIZE SUCH VEHICLE INTRUSIONS. THE FOLLOWING PROTECTIVE MEASURES ARE SUGGESTED:

A. ORANGE PAINTED 1-1/2 X 1-1/2 WOODEN STAKES EXTENDING 1 FOOT ABOVE THE GROUND SURFACE SHOULD BE PLACED IMMEDIATELY IN BACK OF THE CURB AT 50 FOOT INTERVALS.

B. SIGNS APPROXIMATELY 18 INCH x 6 INCH IN SIZE, PROJECTING 1 FOOT ABOVE THE GROUND, WITH THE WORDS "SEEDED AREA" SHOULD BE PLACED AT MAXIMUM 200 FEET INTERVALS AND 7 FOOT OFFSET FROM THE CURB THROUGHOUT THE SEEDED AREA SUBJECT TO INTRUSION.

C. REFLECTORIZED DRUMS, AT A 7 FOOT OFFSET FROM THE CURB, SHALL BE PLACED AT 200 FEET LONGITUDINAL INTERVAL. THESE DRUMS SHOULD ALTERNATE WITH THE SIGNS SUGGESTED UNDER B ABOVE.

19. THE DISTURBED AREAS SHALL BE SEEDED, FERTILIZED AND MULCHED AS SPECIFIED FOR THE STANDARD SEEDING ITEM, "URB ESTABLISHMENT, EXCEPT THE SEED SHALL BE TALL FESCUE, COMMERCIAL IMPROVED VARIETIES, 85% MINIMUM GERMINATION, 140 LB OF PURE LIVE SEED PER ACRE, RED FESCUE, COMMERCIAL, 85% MINIMUM GERMINATION, 25 LB OF PURE LIVE SEED PER ACRE, AND PERENNIAL RYE GRASS COMMERCIAL IMPROVED VARIETIES, 80% MINIMUM GERMINATION, 100 LB OF PURE LIVE SEED PER ACRE, TOTAL 250 LB OF PURE LIVE SEED PER ACRE, UNLESS OTHERWISE DIRECTED BY THE REGIONAL LANDSCAPE ARCHITECT.

WHEN SMALL AMOUNTS OF SEEDING, LESS THAN 1 ACRE, IS REQUIRED FOR RESTORATION AND THE SEED MIX AS SPECIFIED ABOVE IS NOT AVAILABLE AT THE TIME OF SEEDING, EQUIVALENT SEED MIX MAY BE APPROVED BY THE REGIONAL LANDSCAPE ARCHITECT.

NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK, BUT THE COST SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS CONTRACT ITEMS.

20. ONLY THOSE TREES DESIGNATED FOR REMOVAL ON AN EACH BASIS IN THE PLANS SHALL BE REMOVED AND PAID FOR UNDER THE CONTRACT ITEM(S) FOR TREE REMOVAL. ALL OTHER TREE REMOVALS SHALL BE PAID FOR UNDER THE CLEARING AND GRUBBING ITEM. THE CONTRACTOR SHALL NOTIFY THE E.I.C TWO (2) WEEKS PRIOR TO REMOVAL OF ANY TREES AND SHALL NOT START HIS OPERATION UNTIL APPROVED BY THE E.I.C.

21. CLEARING AND GRUBBING WILL BE REQUIRED FOR THE FULL LENGTH OF THE CONTRACT. THE PLANS SHOW ONLY CERTAIN SPECIFIC WORK REQUIREMENTS.

22. CLEARING AND GRUBBING SHALL INCLUDE THE REMOVAL OF ALL TREES 6 INCH IN DIAMETER OR LESS. TREES LARGER THAN 6 INCH IN DIAMETER SHALL BE REMOVED UNDER ITEM 614.03XX, AS SHOWN AND TABULATED ON THE PLANS OR AS ORDERED BY THE ENGINEER. THE CONTRACTOR SHALL NOTIFY THE E.I.C TWO (2) WEEKS PRIOR TO REMOVAL OF ANY TREES AND SHALL NOT START HIS OPERATION UNTIL APPROVED BY THE E.I.C.

23. IN AREAS OF ROW ACQUISITION EXISTING FENCING, GUIDE RAIL, SIGNS, ETC. MAY NOT BE SHOWN ON THE PLANS. THESE ITEMS SHALL BE REMOVED UNDER CLEARING AND GRUBBING UNLESS OTHERWISE SHOWN ON THE PLANS. THEY SHALL BE REMOVED TO THE ROW TAKING LINE AND STOCKPILED ON THE ADJACENT PROPERTY IF REQUESTED TO DO SO BY THE ADJACENT PROPERTY OWNER; OR IT SHALL BE REMOVED FROM THE JOB SITE AS DIRECTED BY THE ENGINEER. THE REMAINING PORTION ON PRIVATE PROPERTY SHALL BE PROPERLY RESTORED AOBE. EXAMPLE: WHEN REMOVING CHAIN LINK FENCE, A NEW END POST SHALL BE INSTALLED AT THE ROW LINE WITH THE REMAINING FENCE PROPERLY ATTACHED. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK, BUT THE COST SHALL BE INCLUDED IN THE PRICE BID FOR CLEARING & GRUBBING _ ITEM 201.06.

24. SOIL BORINGS HAVE BEEN TAKEN AT SPECIFIED LOCATIONS AS SHOWN ON THE CONSTRUCTION PLANS.

25. GROUND WATER MAY BE ENCOUNTERED DURING THE INSTALLATION OF THE VARIOUS CONTRACT ITEMS. THE COST FOR NECESSARY DEWATERING SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

UTILITY NOTES:

1. CONTRACTOR SHALL CONTACT UTILITY COMPANIES FOR MARK-OUT OF ALL FACILITIES PRIOR TO CONSTRUCTION. THE UTILITY COMPANIES SHALL BE NOTIFIED A MINIMUM OF FIVE (5) WORKING DAYS BEFORE THE CONTRACTOR COMMENCES WORK. ANY UTILITY RELOCATIONS OR CROSSINGS SHALL BE COORDINATED WITH THE UTILITY COMPANY OWNING THE FACILITY.

2. EXISTING UTILITY FACILITIES REMOVAL, RELOCATION, OR MODIFICATION SHALL BE COMPLETED PRIOR TO COMMENCING PAVEMENT WORK. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF THE MODIFICATION OF ALL UTILITIES WITH THE UTILITY FACILITY OWNER. THE OWNER OF THE UTILITY FACILITY MAY CHOOSE TO PERFORM RELOCATIONS OR MODIFICATIONS WITH OTHER FORCES.

3. EXISTING UNDERGROUND AND OVERHEAD UTILITIES AS SHOWN HEREIN HAVE BEEN DETERMINED BY STANDARD SURVEYING METHODS AND AVAILABLE RECORDS. NEITHER THE EXACT LOCATION NOR THE INFORMATION OF THESE EXISTING UTILITIES IS GUARANTEED TO BE COMPLETE OR CORRECT.

4. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND FACILITIES TO AVOID CONFLICTS WITH ANY NEW UNDERGROUND WORK. THE CONTRACTOR SHALL DIG TEST PITS AS REQUIRED TO DETERMINE EXACT LOCATIONS OF EXISTING UTILITIES. ANY EXISTING DRAINAGE AND TRAFFIC SIGNAL FACILITIES THAT ARE DAMAGED OR REMOVED BY CONSTRUCTION PROCESSES SHALL BE REPLACED IN ACCORDANCE WITH CURRENT VILLAGE OF LINDENHURST STANDARDS AND DETAILS.

5. THE PERMITTEE IS RESPONSIBLE FOR THE COORDINATION OF AND COST OF ALL UTILITY RELOCATIONS OR ADJUSTMENTS THAT ARE SHOWN TO BE DONE BY OTHERS.

6. THE CONTRACTOR IS TO EMPLOY A LICENSED SURVEYOR TO PERFORM ANY REQUIRED LAYOUT, ESTABLISHMENT OF ELEVATIONS AND GRADES, PRIOR TO CONSTRUCTION.

7. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NOT TO DISTURB ANY MONUMENTS AND BENCH MARKS WITHIN PROJECT LIMITS PRIOR TO THE START OF ANY EXCAVATION.

8. ANY EXPENSE INCURRED IN REPLACING MONUMENTS OR BENCHMARKS THAT THE CONTRACTOR, OR ANY EMPLOYEE, MAY HAVE FAILED TO PRESERVE SHALL BE PAID BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE VILLAGE.

SURVEY NOTES:

1. THE CONTRACTOR IS TO EMPLOY A LICENSED SURVEYOR TO PERFORM ANY REQUIRED LAYOUT, ESTABLISHMENT OF ELEVATIONS AND GRADES, PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NOT TO DISTURB ANY MONUMENTS AND BENCH MARKS WITHIN PROJECT LIMITS PRIOR TO THE START OF ANY EXCAVATION.

3. ANY EXPENSE INCURRED IN REPLACING MONUMENTS OR BENCHMARKS THAT THE CONTRACTOR, OR ANY EMPLOYEE, MAY HAVE FAILED TO PRESERVE SHALL BE PAID BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE VILLAGE.

SHEET INDEX

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FEATURE	SYMBOL EXISTING	SYMBOL PROPOSED
BOUNDARIES		
HIGHWAY BOUNDARY LINE		
VILLAGE, CITY OR TOWN LIMITS		
BUILDING		
BUILDING LINE		
ROADWAY AND SIDEWALK		
CURB LINE		
SIDEWALK	SW	
DRIVEWAY APRON		
SIDEWALK RAMP		
TRAFFIC FLOW		
VEGETATION		
TREES, DECIDUOUS		
TREES, CONIFEROUS		
SHRUBS, BUSHES		
TOPSOIL AND SEED	GRASS	
TRAFFIC SIGNAL SYSTEMS		
PULLBOX		
SPAN WIRE	SPAN	
TRAFFIC SIGNAL POLE		
TRAFFIC SIGNAL POLE WITH CONTROLLER CABINET		
CONTROLLER OR DETECTOR CABINET		
TRAFFIC SIGNAL FACE		
PEDESTRIAN SIGNAL FACE		
PEDESTRIAN PUSH BUTTON		
ALUMINUM VEHICLE DETECTOR HOUSING		
AERIAL TRAFFIC SIGNAL COMMUNICATION CABLE		
UNDERGROUND TRAFFIC SIGNAL CONDUIT		
LOOP DETECTOR	LOOP	
SURVEY DATA		
SPOT ELEVATION	X 34.13	X 35.96
BASELINE		
HORIZONTAL CONTROL LINE		
EROSION CONTROL		
DRAINAGE STRUCTURE PROTECTION		

FEATURE	SYMBOL EXISTING	SYMBOL PROPOSED
UTILITIES BELOW GROUND		
STORM DRAIN INLET		
GAS VALVE		
WATER VALVE		
ELECTRIC LINE	E	
FIRE COMMUNICATIONS LINE	FO	
GAS LINE	8"G	
SANITARY SEWER LINE	S	
STORM DRAINAGE LINE	D	D
TELEPHONE LINE	T	
WATER LINE	8"W	
INFORM LINE	INFORM	
CABLEVISION LINE	CA	
ELECTRIC MANHOLE	E	
GAS MANHOLE	G	
LIPA MANHOLE	L	
SANITARY SEWER MANHOLE	S	
STORM DRAINAGE MANHOLE	D	
TELEPHONE MANHOLE	T	
FIRE HYDRANT		
STREET LIGHT		
FIELD INLET		
UTILITIES ABOVE GROUND		
MISCELLANEOUS OVERHEAD WIRES		
GUY WIRE		
UTILITY POLE		
UTILITY POLE WITH RISER		
MISCELLANEOUS FEATURES		
SIGNS		
GUIDE RAIL		
MEDIAN BARRIER		
RETAINING WALL		
FENCE		
NORTH ARROW (TRUE)	NORTH	
TOPOGRAPHY		
CONTOURS	35.0 36.0	
LIMIT OF RESTORATION, GRADING OR CLEARING AND GRUBBING		

TOPOGRAPHIC ABBREVIATIONS:

E	ELECTRIC
G	GAS
GP	GUY POLE
GSB	GAS SERVICE BOX (HOUSE CONNECTION)
GV	GAS VALVE (MAIN LINE)
HPG	HIGH PRESSURE GAS
HYD	HYDRANT
LP	LIGHT POLE
LPG	LOW PRESSURE GAS
SA	SANITARY SEWER
ST	STORM DRAINAGE DEWRE
T	TELEPHONE
TEL P	TELEPHONE POLE
CA	CABLE TELEVISION
W	WATER
WM	WATER METER
WSB	WATER SERVICE BOX (HOUSE CONNECTION)
WV	WATER VALVE (MAIN LINE)
ABUT	ABUTMENT
AOBE	AS ORDERED BY THE ENGINEER
ASPH	ASPHALT
BLDG	BUILDING
BM	BENCH MARK
BR	BRIDGE
CONC	CONCRETE
CONST	CONSTRUCTION
CR	COUNTY ROAD
DWY	DRIVEWAY
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
FP	FENCE POST
FND	FOUNDATION
FL	FENCE LINE
GAR	GARAGE
GR	GRAVEL
HO	HOUSE
HWY	HIGHWAY
MB	MAIL BOX
MON	MONUMENT
PAVT	PAVEMENT
RR	RAILROAD
RTE	ROUTE
ROW	RIGHT OF WAY
RW	RETAINING WALL
ST.	STREET
SW	SIDEWALK
TL	TREELINE
BC	BOTTOM OF CURB
CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CULV.	CULVERT
DI	DROP INLET
EL	ELEVATION

ALIGNMENT ABBREVIATIONS

AH	AHEAD
AZ	AZIMUTH
BK	BACK
BL	BASELINE
BRG	BEARING
℄	CENTERLINE
CS	CURVE TO SPIRAL
D	DEGREE OF CURVE
DIA	DIAMETER
E MAX	MAXIMUM SUPERELEVATION
EQ	EQUALITY
EXT	EXTERNAL
HCL	HORIZONTAL CONTROL LINE
HSD	HEADLIGHT SIGHT DISTANCE
L	LENGTH OF CIRCULAR CURVE
LS	LENGTH OF SPIRAL
LVC	LENGTH OF VERTICAL CURVE
MC	CENTER CORRECTION OF VERTICAL CURVE
ML	MAIN LINE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
POL	POINT ON LINE
PSD	PASSING SIGHT DISTANCE
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS
SC	SPIRAL TO CURVE
SSD	STOPPING SIGHT DISTANCE
ST	SPIRAL TO TANGENT
STA	STATION
T	TANGENT LENGTH
TGL	THEORETICAL GRADE LINE
TS	TANGENT TO SPIRAL
VC	VERTICAL CURVE

DRAINAGE ABBREVIATIONS

BB	BOTTOM OF BANK (STREAM)
BC	BOTTOM OF CURB
BO	BOTTOM OF OPENING
CAP	CORRUGATED ALUMINUM PIPE
CB	CATCH BASIN
CI	CURB INLET
CIP	CAST IRON PIPE
℄ STRM	CENTERLINE OF STREAM
CMP	CORRUGATED METAL PIPE
CP	CONCRETE PIPE
CSP	CORRUGATED STEEL PIPE
CULV	CULVERT
DI	DROP INLET
D'XING	DITCH CROSSING
EHW	EXTREME HIGH WATER
ELEV OR EL	ELEVATION
ELW	EXTREME LOW WATER
ES	END SECTION
FI	FIELD INLET
HW	HEADWALL
INV	INVERT
LB	LEACHING BASIN
MH	MANHOLE
MHW	MEAN HIGH WATER
OCMP	OBLATE CORRUGATED METAL PIPE
OHW	ORDINARY HIGH WATER
OLW	ORDINARY LOW WATER
RCP	REINFORCED CONCRETE PIPE
TB	TOP OF BANK
TC	TOP OF CURB
TG	TOP OF GRATE
TO	TOP OF OPENING
VCP	VITRIFIED CLAY PIPE
VTP	VITRIFIED TILE PIPE

NYSDEC
APPROVED AS PER TERMS AND CONDITIONS OF
PERMIT NO _____
DATE 2-8-19

No.	DATE	REVISION	BY:
–	–	–	–/–

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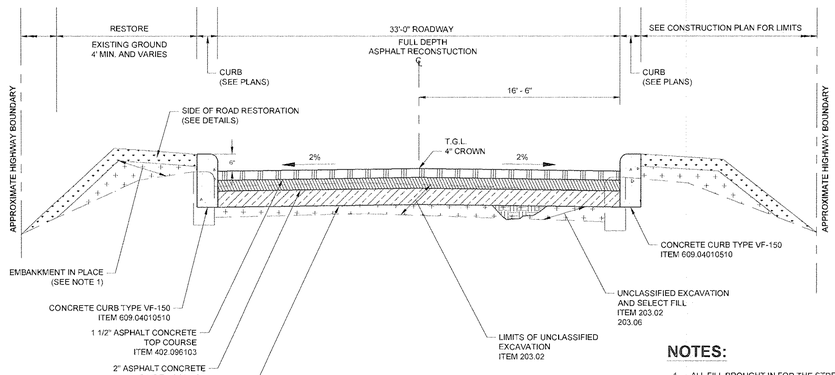
DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CDV.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
LEGEND AND NOTES - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
LAN - 1

SHEET: 2 OF 14



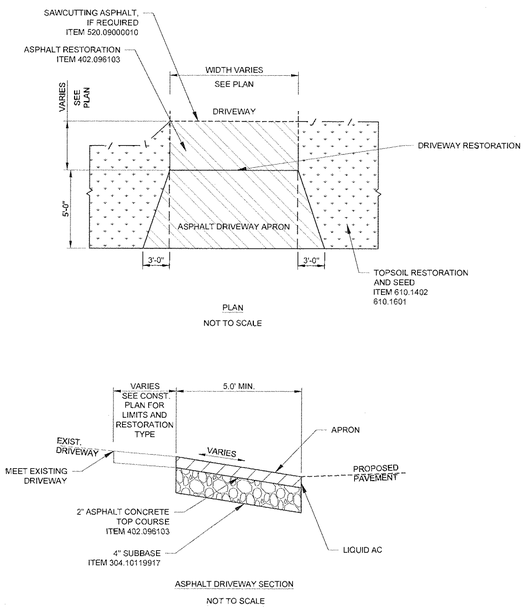
TYPICAL SECTION 'A'

NEWARK STREET

NOT TO SCALE

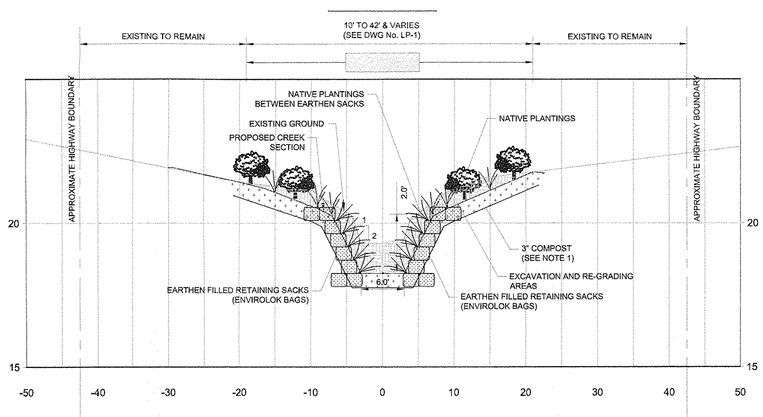
NOTES:

1. ALL FILL BROUGHT IN FOR THE STREAM MITIGATION SHALL BE NATIVE AND FROM A LOCAL, LONG ISLAND, NY SOURCE. FILL SOILS SHALL BE A HYDRIC SOIL CAPABLE OF SUPPORTING A WETLAND HABITAT. SOIL SAMPLES SHALL BE TAKEN FROM THE EXISTING STREAM AND ANALYZED TO ENSURE A PROPER HYDRIC SOIL IS PROVIDED.



ASPHALT DRIVEWAY RESTORATION DETAIL

NOT TO SCALE



HEILING CREEK

TYPICAL SECTION

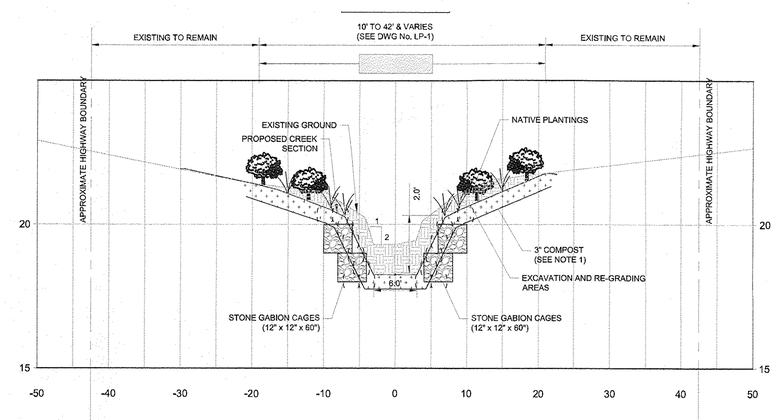
STA. HC 11±25 TO HC 11±55

STA. HC 12±80 TO HC 13±10

NOT TO SCALE

NOTES:

1. THE CONTRACTOR SHALL EXCAVATE AND REPLACE EXISTING SOIL WITH 6" OF A 70% SAND, 30% CLEAN COMPACT MIX.
2. ALL FILL BROUGHT IN FOR THE STREAM MITIGATION SHALL BE NATIVE AND FROM A LOCAL, LONG ISLAND, NY SOURCE. FILL SOILS SHALL BE A HYDRIC SOIL CAPABLE OF SUPPORTING A WETLAND HABITAT. SOIL SAMPLES SHALL BE TAKEN FROM THE EXISTING STREAM AND ANALYZED TO ENSURE A PROPER HYDRIC SOIL IS PROVIDED.



HEILING CREEK

TYPICAL SECTION

STA. HC 11±55 TO HC 11±80

STA. HC 12±60 TO HC 12±80

NOT TO SCALE

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CLIENT:

VILLAGE OF LINDENHURST
430 SOUTH WELLWOOD AVE
LINDENHURST, NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	OCTOBER 2018
JOB No.:	18197
CADD:	18197DET.DWG
SCALE:	AS SHOWN

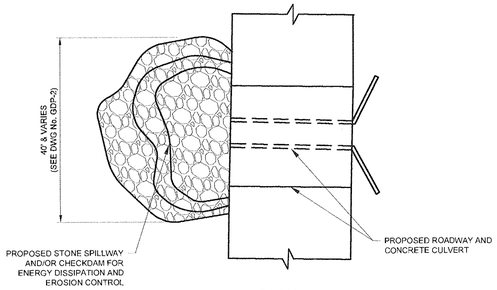
DRAWING TITLE:

TYPICAL SECTION - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE
MASTER STUDY

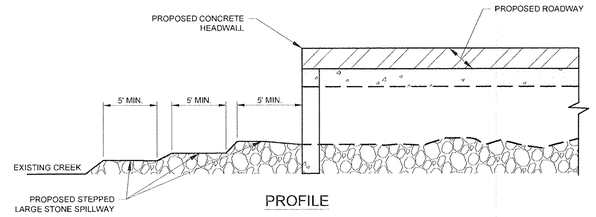
DRAWING NUMBER:

TYP-1

SHEET: 3 OF 14



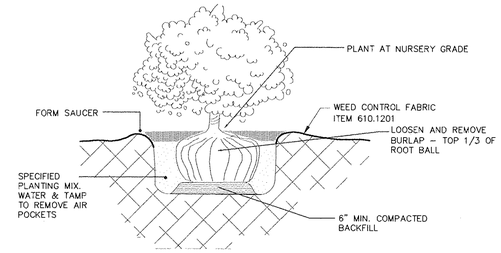
PLAN



PROFILE

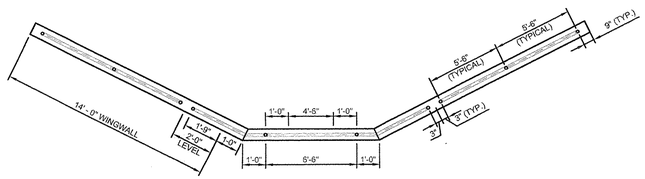
STONE RIP-RAP

NOT TO SCALE



SHRUB PLANTING

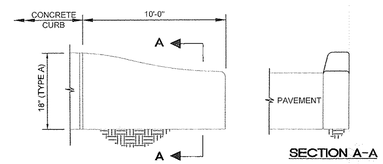
NOT TO SCALE



PLAN

HEADWALL / WINGWALL DETAIL

NOT TO SCALE



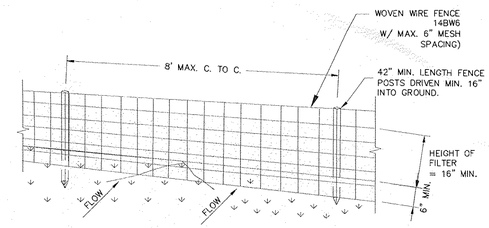
SECTION A-A

CONCRETE CURB END SECTION

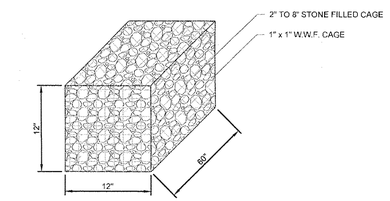
NOT TO SCALE

CURB NOTES:

1. 1/2" PREMOULDED BITUMINOUS JOINT FILLER SHALL BE PLACED IN JOINTS AT 60 FOOT INTERVAL OR EVERY THIRD JOINT ALONG THE LENGTH OF THE CURB AND WHERE THE CURB ABUTS DRAINAGE CASTINGS.

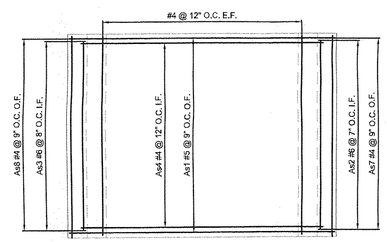


PERSPECTIVE VIEW

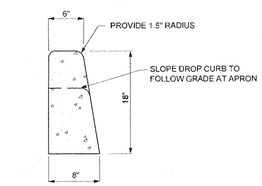


STONE GABION BASKETS

NOT TO SCALE

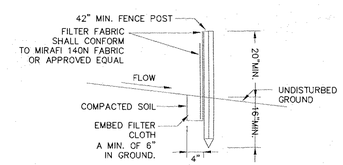


END REINFORCING VIEW

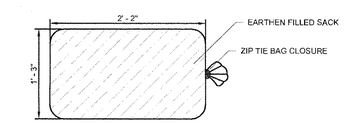


CONCRETE CURB DETAIL

NOT TO SCALE

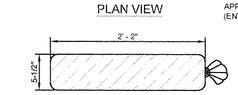


SECTION VIEW



PLAN VIEW

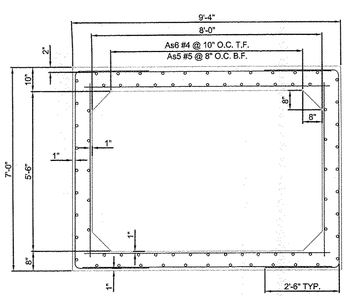
APPROX. VOL: 1.25 CY
(ENVIROLOK OR APPROVED EQUAL)



ELEVATION VIEW

EARTHEN BERM SACKS

NOT TO SCALE



SECTION VIEW

CONCRETE CULVERT

NOT TO SCALE

CULVERT NOTES:

1. DESIGN IS IN ACCORDANCE WITH ASTM C1433 AND AASHTO STANDARD SPECIFICATION, 17TH EDITION.
2. LIVE LOAD = HS20, MAIN REINFORCING PERPENDICULAR TO TRAFFIC..
3. EARTH FILL FOR DESIGN < 2'.
4. EQUIVALENT FLUID PRESSURE = 30PCF MIN 60PCF MAX.
5. CONCRETE STRENGTH = 5,000PSI
6. MATERIALS AND MANUFACTURING SHALL CONFORM TO ASTM C1433 SPECIFICATIONS.
7. OPENINGS, SIZE AND LOCATION, AS REQUIRED. PROVIDE ADDITIONAL REINFORCING EQUAL TO THE BARS INTERRUPTED BY OPENINGS > 8", HALF EACH SIDE AND IN THE SAME PLANE.
   7.1. PROVIDE #4 DIAGONAL TRIM BARS
8. LIFTING AND HANDLING SHALL CONFORM TO OSHA STANDARDS.

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 14BW6 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

TEMPORARY SILT FENCE

N.T.S.

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APPROVED AS PER TERMS AND CONDITIONS OF
PERMIT NO 4-0413
DATE

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(631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

CLIENT:
VILLAGE OF LINDENHURST
430 SOUTH WELLWOOD AVE
LINDENHURST, NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	OCTOBER 2018
JOB No.:	18197
CADD:	18197DET.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
NEWARK STREET CULVERT CONSTRUCTION
MISCELLANEOUS DETAILS - 1
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
DET-1

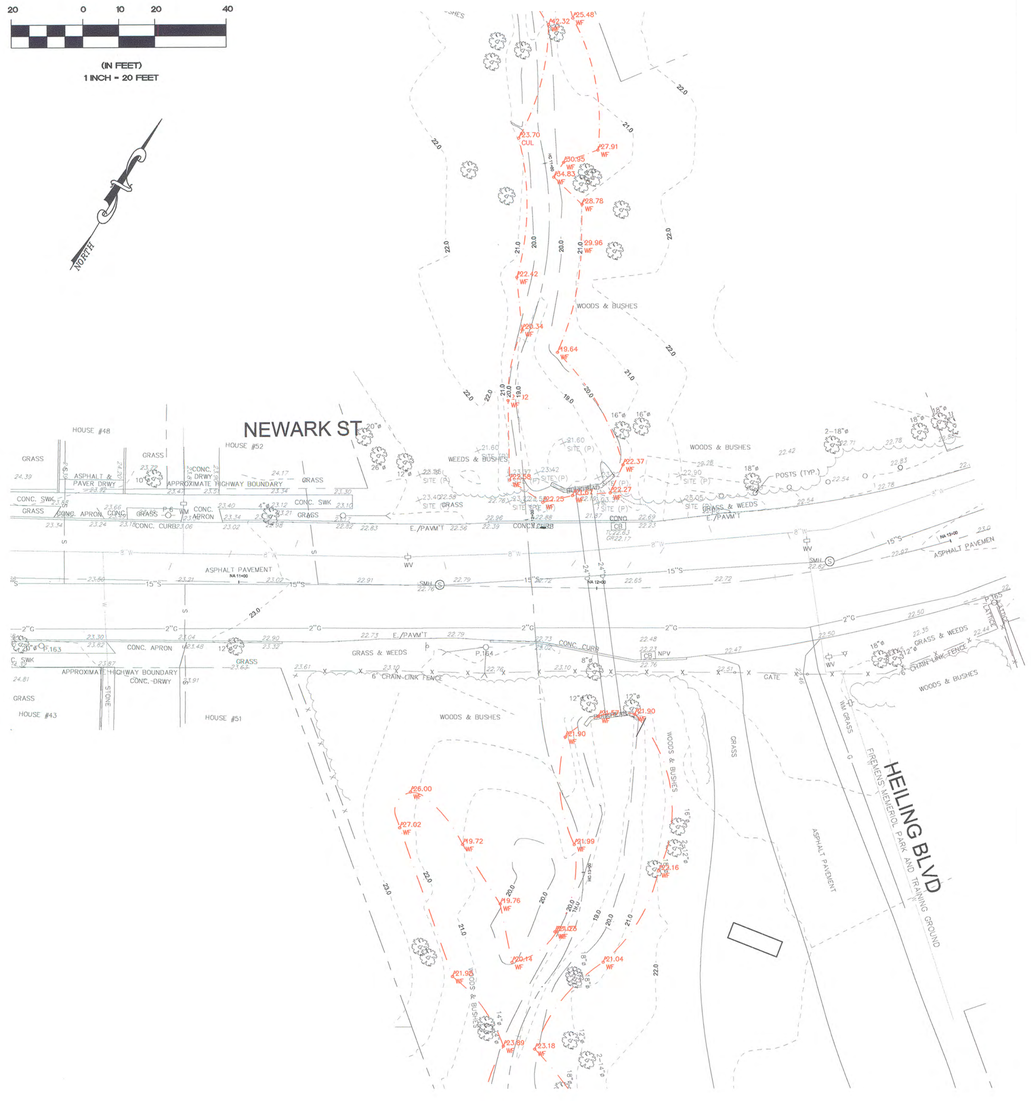
SHEET: 4 OF 14

GRAPHIC SCALE

20 0 10 20 40

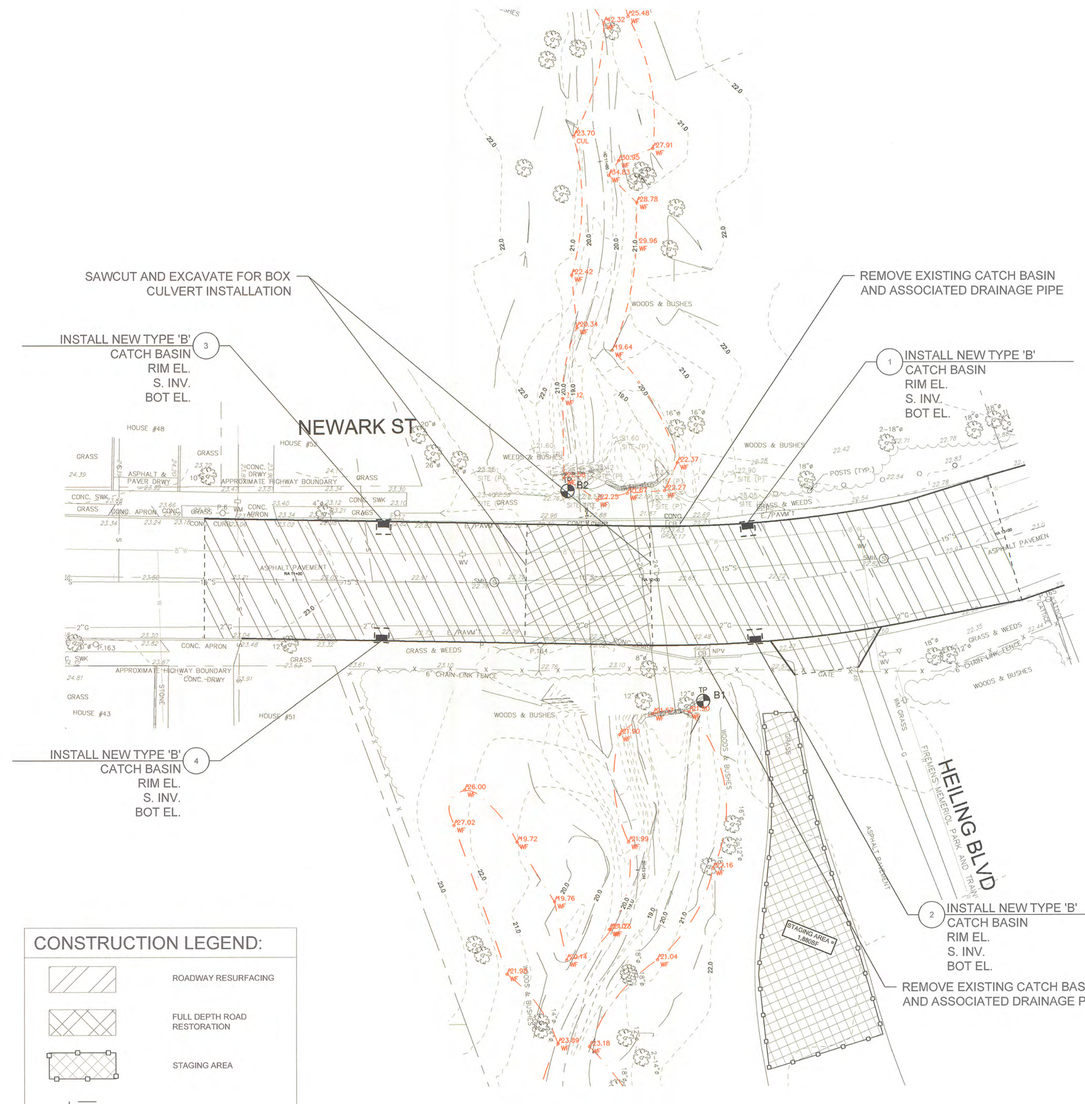
(IN FEET)
1 INCH = 20 FEET

NORTH



EXISTING CONDITIONS

1) EXISTING DUAL 24" PIPE CROSSING UNDER ROADWAY CONNECTING CREEK STORMWATER DISCHARGE



PHASE 1
DRAINAGE AND ROAD EXCAVATION/CONSTRUCTION

1) EXCAVATE AND INSTALL NEW DRAINAGE CATCH BASINS.
2) PERFORM SAWCUT FOR CULVERT TRENCH TO BE EXCAVATED

CONSTRUCTION LEGEND:

- ROADWAY RESURFACING
- FULL DEPTH ROAD RESTORATION
- STAGING AREA
- CATCH BASIN
- CONCRETE CURB
- SAWCUT / ROADWAY RESURFACING LIMITS
- SILT FENCE
- WETLANDS DELINEATION

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PERMIT NO. 5
DATE 5-09-13

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WWW.NELSONPOPE.COM

CLIENT:
VILLAGE OF LINDENHURST
121 ALBANY AVENUE
LINDENHURST,NY 11757

DWN. BY:	MM
CHKD BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
WORK ZONE TRAFFIC CONTROL - 2
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
WZTC-2

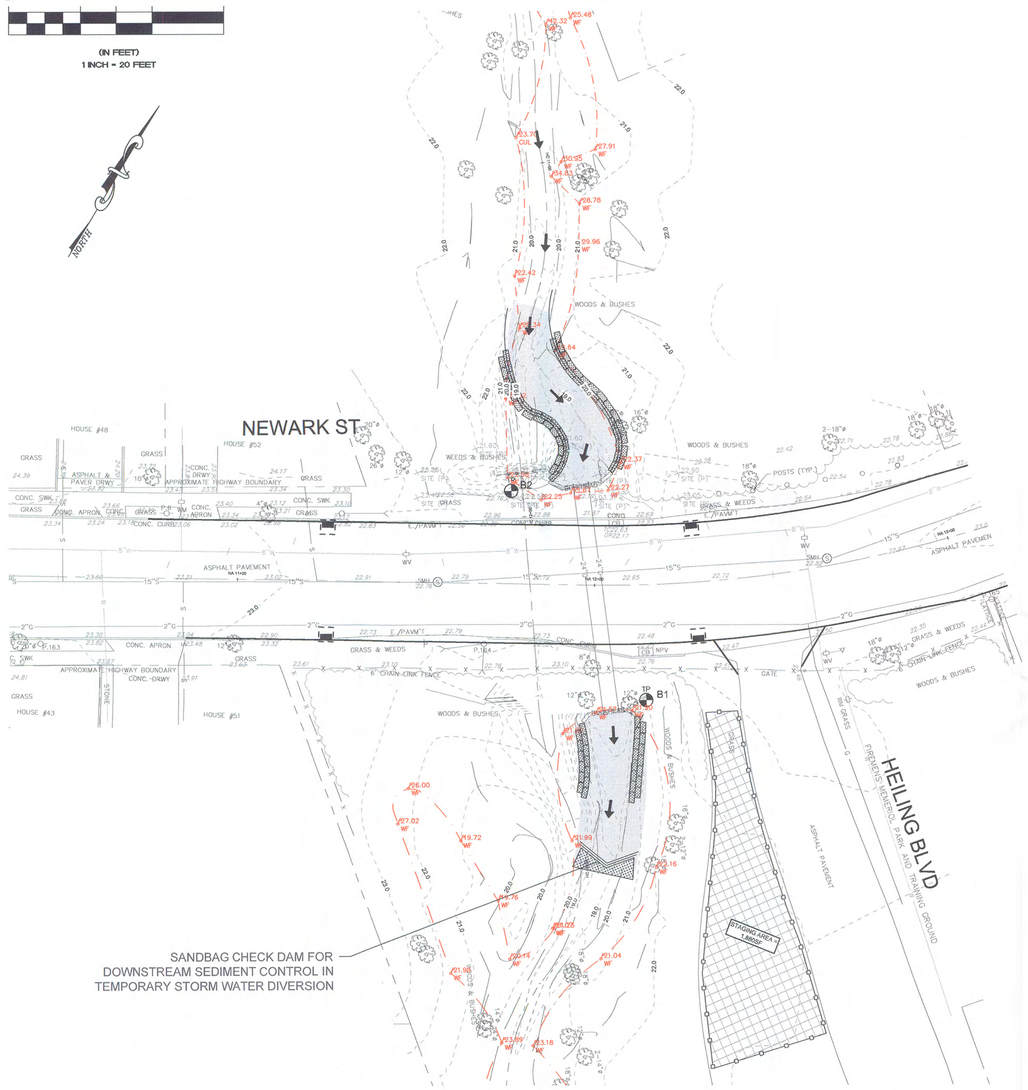
SHEET: 6 OF 10

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FEET

NORTH

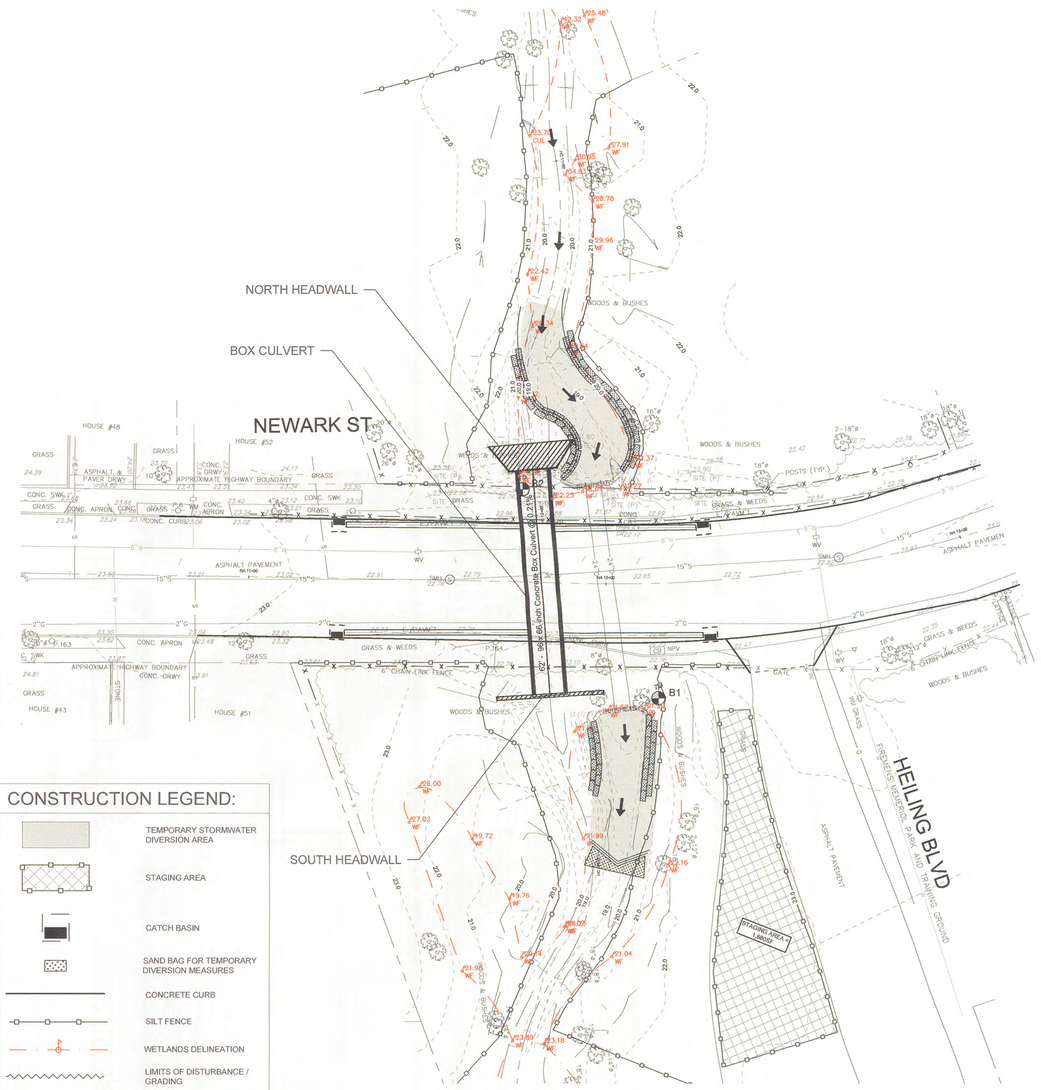


PHASE 2
INSTALL DIVERSION MEASURES

1) INSTALL SILT FENCE SURROUND CONSTRUCTION AREAS IN THE CREEK.
2) INSTALL SANDBAG WITH EARTHEN BERM BACKFILL ALONG DIVERSION PATH (USED TO SEPARATE EXISTING CULVERT TO BE USED FOR DIVERSION FROM AREA OF CONSTRUCTION FOR INSTALLATION OF NEW CULVERT)

CONSTRUCTION LEGEND:

- TEMPORARY STORMWATER DIVERSION AREA
- STAGING AREA
- CATCH BASIN
- SAND BAG FOR TEMPORARY DIVERSION MEASURES
- CONCRETE CURB
- SILT FENCE
- WETLANDS DELINEATION
- LIMITS OF DISTURBANCE / GRADING



PHASE 3
CULVERT EXCAVATION & PLACEMENT

1) EXCAVATE TRENCH IN ROADWAY TO ACCOMMODATE INSTALLATION OF 5.5' x 8' CONCRETE BOX CULVERT
2) PLACE PRECAST BOX CULVERT
3) PLACE PRECAST HEADWALL (SOUTH SIDE OF ROAD IN CREEK)
4) PLACE PRECAST HEADWALL & WINGWALLS (NORTH SIDE OF ROAD IN CREEK)

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CLIENT:
VILLAGE OF LINDENHURST
121 ALBANY AVENUE
LINDENHURST,NY 11757

DWN. BY:	MM
CHKD BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
WORK ZONE TRAFFIC CONTROL - 3
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE
MASTER STUDY

DRAWING NUMBER:
WZTC-3

SHEET: 7 OF 14

GRAPHIC SCALE

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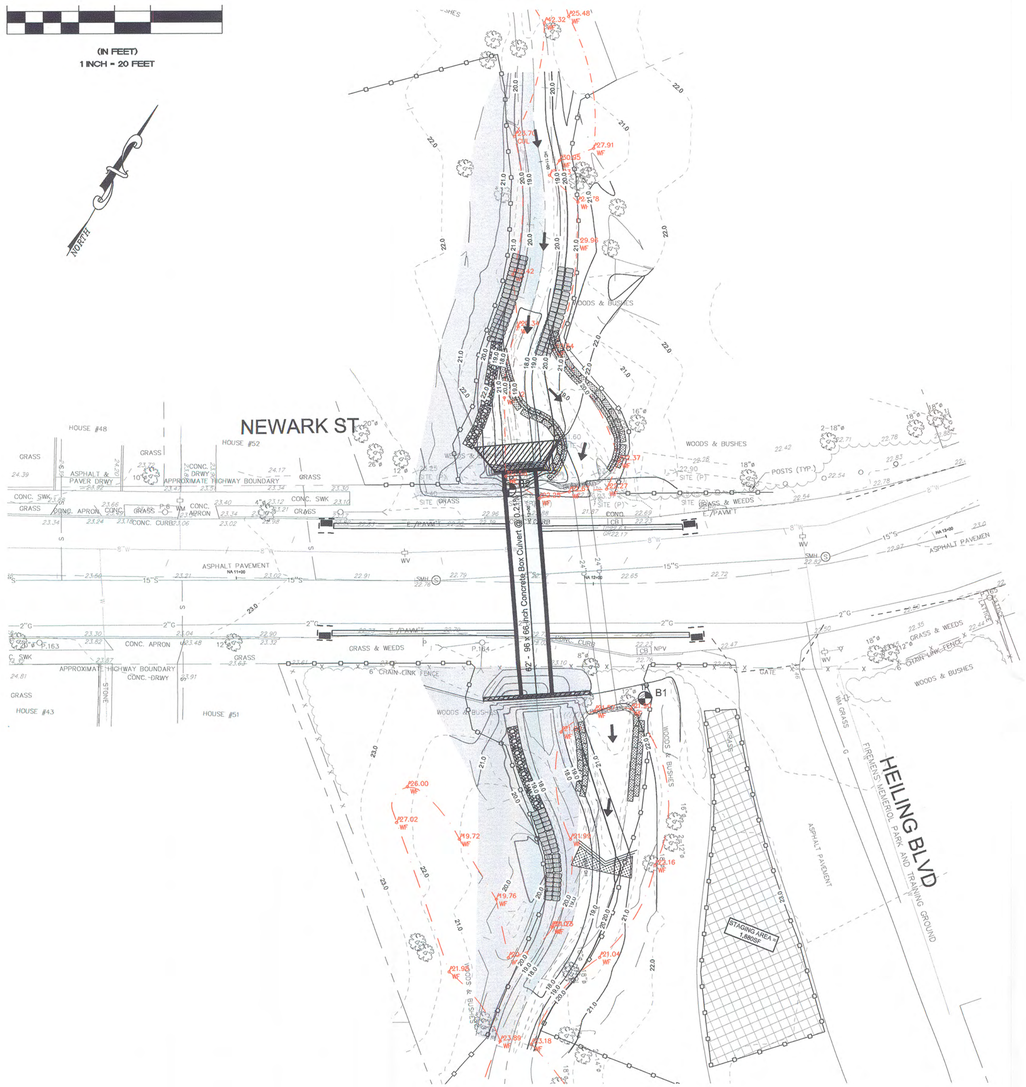
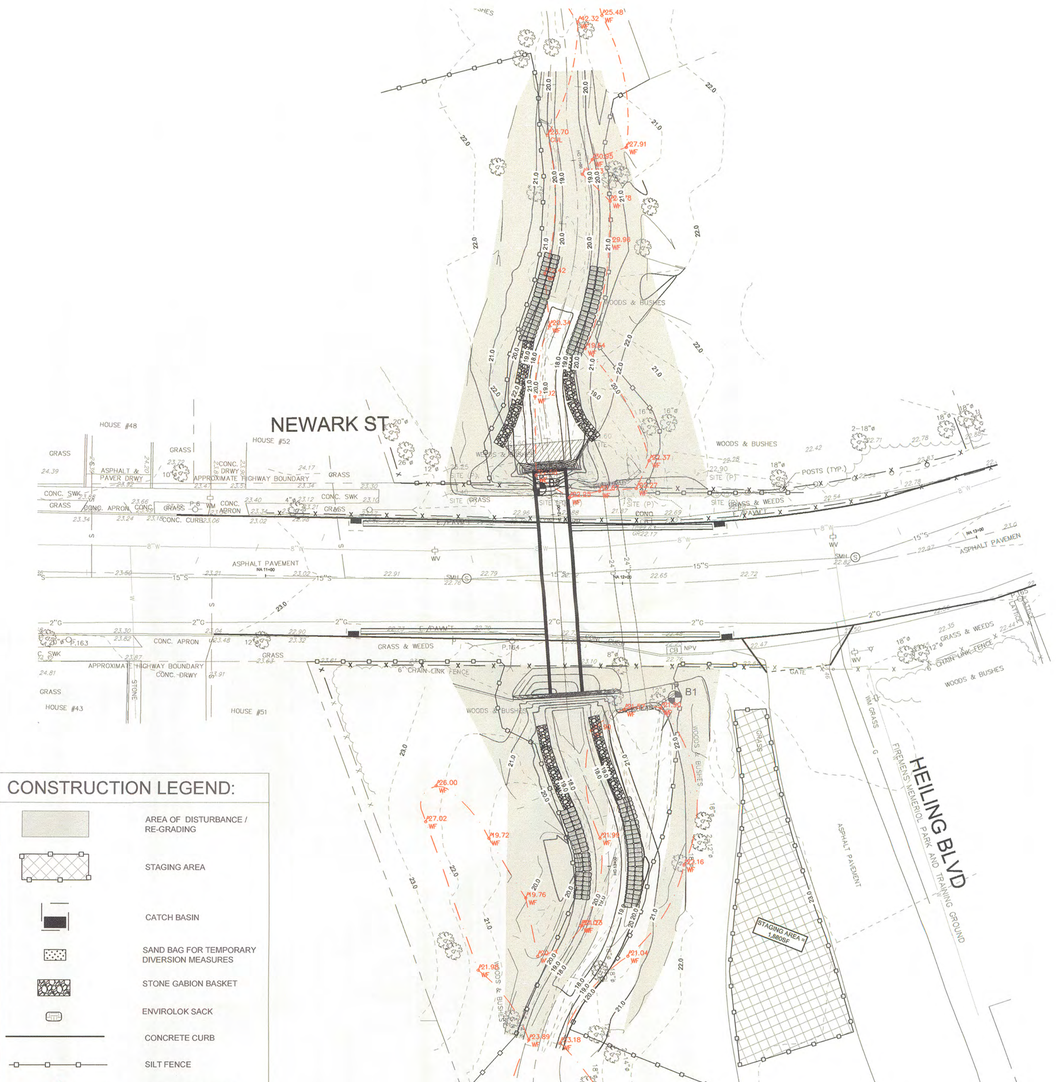
(IN FEET)
1 INCH = 20 FEET





CONSTRUCTION LEGEND:

- AREA OF DISTURBANCE / RE-GRADING
- STAGING AREA
- CATCH BASIN
- SAND BAG FOR TEMPORARY DIVERSION MEASURES
- STONE GABION BASKET
- ENVIROLOK SACK
- CONCRETE CURB
- SILT FENCE
- WETLANDS DELINEATION
- LIMITS OF DISTURBANCE / GRADING

PHASE 4
CREEK RESTORATION (STAGE 1)

1) EXCAVATE & INSTALL STONE GABION BASKETS ALONG WEST SIDE OF CREEK ON NORTH SIDE OF ROADWAY TO ESTABLISH CREEK SIDE SLOPES.
2) BACKFILL AND RESTORE WEST SIDE OF CREEK ON NORTH SIDE.
3) EXCAVATE, INSTALL STONE GABION BASKETS AND RESTORE SOUTH SIDE CREEK ALONG NEW ALIGNMENT SECTION.

PHASE 5
CREEK RESTORATION (STAGE 2)

1) EXCAVATE TEMPORARY DIVERSION MEASURES AS NECESSARY AND INSTALL STONE GABION BASKETS ALONG EAST SIDE OF CREEK ON NORTH SIDE OF ROADWAY TO ESTABLISH CREEK SIDE SLOPES.
2) BACKFILL AND RESTORE EAST SIDE OF CREEK ON NORTH SIDE.

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CLIENT:
VILLAGE OF LINDENHURST
121 ALBANY AVENUE
LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
WORK ZONE TRAFFIC CONTROL - 4
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
WZTC-4

SHEET: 8 OF 14

GRAPHIC SCALE

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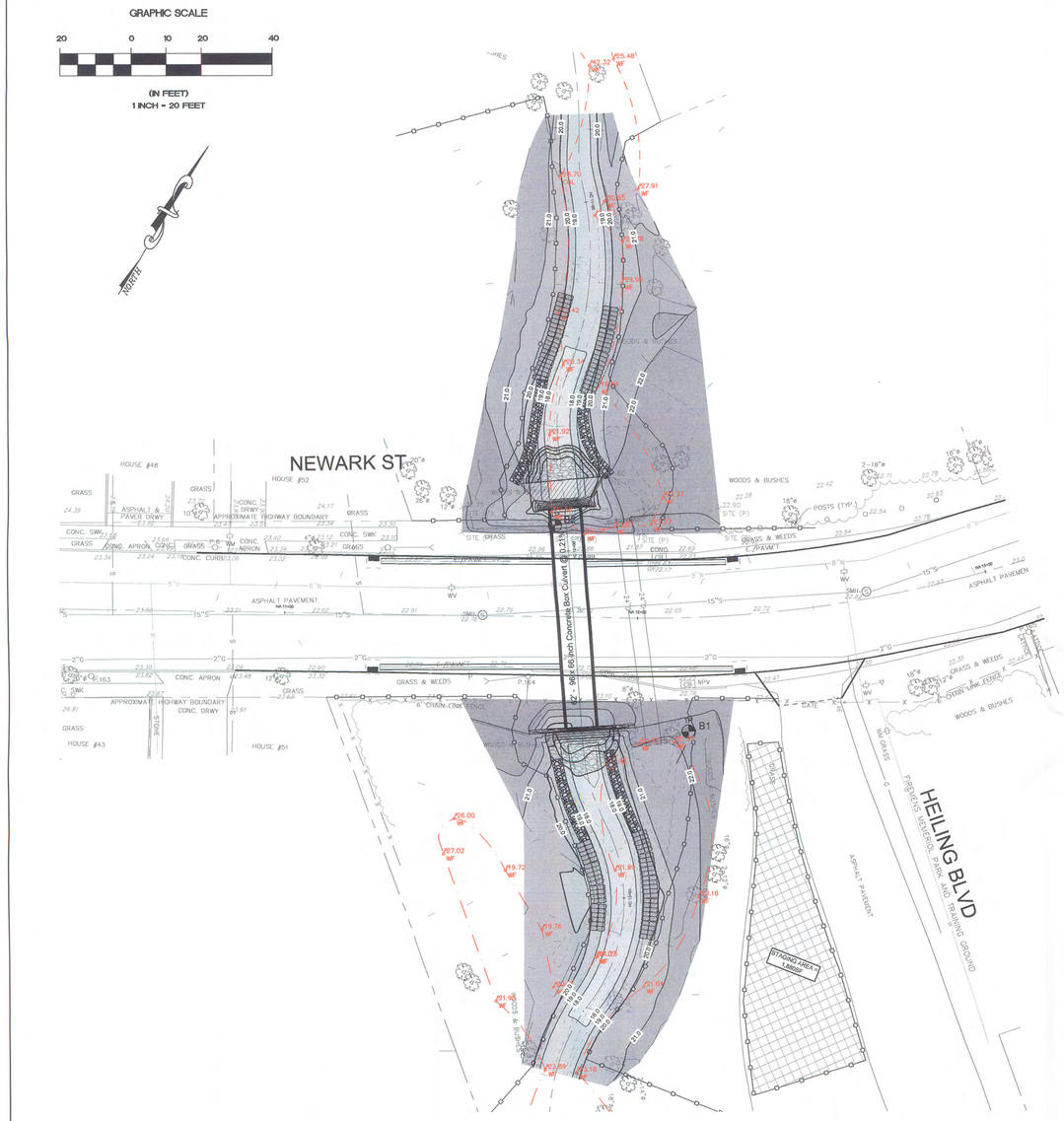
(IN FEET)
1 INCH = 20 FEET

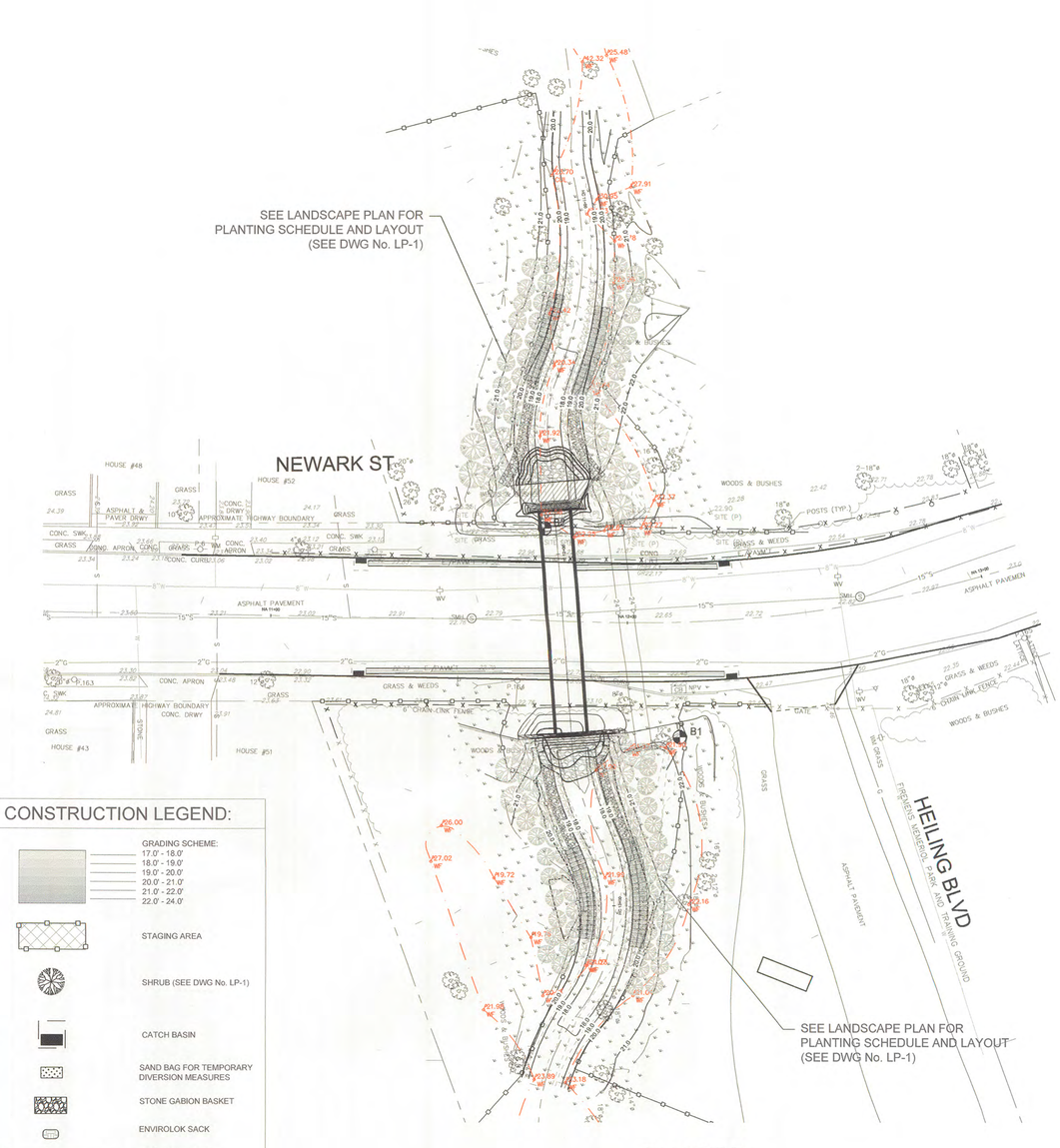


PHASE 6
CREEK RESTORATION (STAGE 3)

1) RE-GRADE CENTER OF CREEK AND OUTER LIMITS OF RESTORATION AREA AS NECESSARY.
2) ESTABLISH PLANTINGS WITHIN LIMITS OF DISTURBANCE AREAS.

CONSTRUCTION LEGEND:

- GRADING SCHEME: 17.0' - 18.0', 18.0' - 19.0', 19.0' - 20.0', 20.0' - 21.0', 21.0' - 22.0', 22.0' - 24.0'
- STAGING AREA
- SHRUB (SEE DWG No. LP-1)
- CATCH BASIN
- SAND BAG FOR TEMPORARY DIVERSION MEASURES
- STONE GABION BASKET
- ENVIROLOK SACK
- CONCRETE CURB
- SILT FENCE
- WETLANDS DELINEATION
- LIMITS OF DISTURBANCE / GRADING



PHASE 7
CREEK RESTORATION (STAGE 2)

1) INSTALL 6" SAND/COMPOST/TOPSOIL MIX OVER RESTORATION AREA
2) INSTALL SHRUBS & GRASSES PER PLANTING PLAN TO REESTABLISH A NATIVE PLANTING SCHEME.

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VILLAGE OF LINDENHURST
121 ALBANY AVENUE
LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
WORK ZONE TRAFFIC CONTROL - 5
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
WZTC-5

SHEET: 9 OF 14

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FEET

NORTH

LEGEND:

- STORM WATER DIVERSION AREA
- MATERIAL STAGING AREA
- DIRECTION OF STORM WATER FLOW
- SAND BAG FOR TEMPORARY DIVERSION BERM
- B1 BORING LOG LOCATION
- LIMITS OF GRADING
- SILT FENCE
- WETLANDS LIMITS

HEILING CREEK DIVERSION & EROSION CONTROL PLAN - 1

SCALE: 1" = 20'

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DATE

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LINDENHURST, NY 11757

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DIVERSION PLAN - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
DP-1

SHEET: 10 OF 14

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
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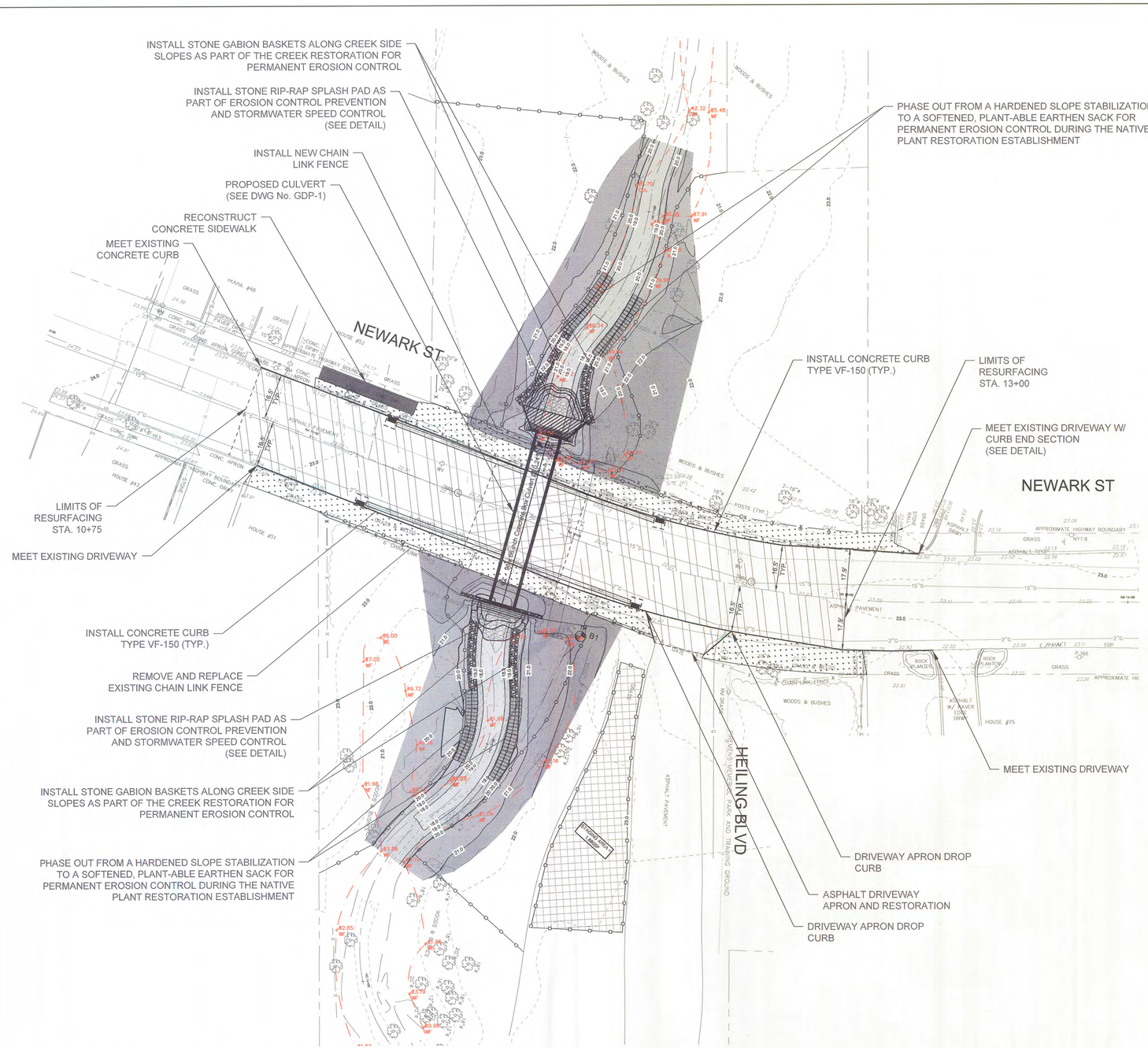
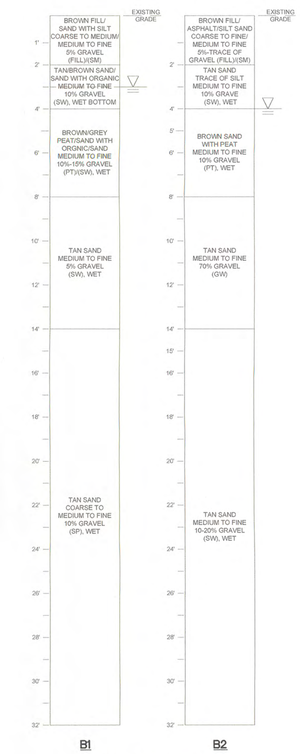
NORTH



CONSTRUCTION LEGEND:

- ROADWAY RESURFACING
- FULL DEPTH ROAD RESTORATION
- CONCRETE SIDEWALK
- TOPSOIL / GRASS RESTORATION
- RIP-RAP
- SAND BAG - TEMP DIVERSION BERM
- STONE GABION CAGE
- EARTHEN BERM FILLED SACK ENVIROLOK
- CATCH BASIN
- B1 BORING LOG LOCATION
- CONCRETE CURB
- SAWCUT / ROADWAY RESURFACING LIMITS
- SILT FENCE
- WETLAND LIMITS



SOIL BORINGS

CONDUCTED BY: LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.
DATE: SEPTEMBER 26, 2018

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PERMIT NO. 10 of 13
DATE

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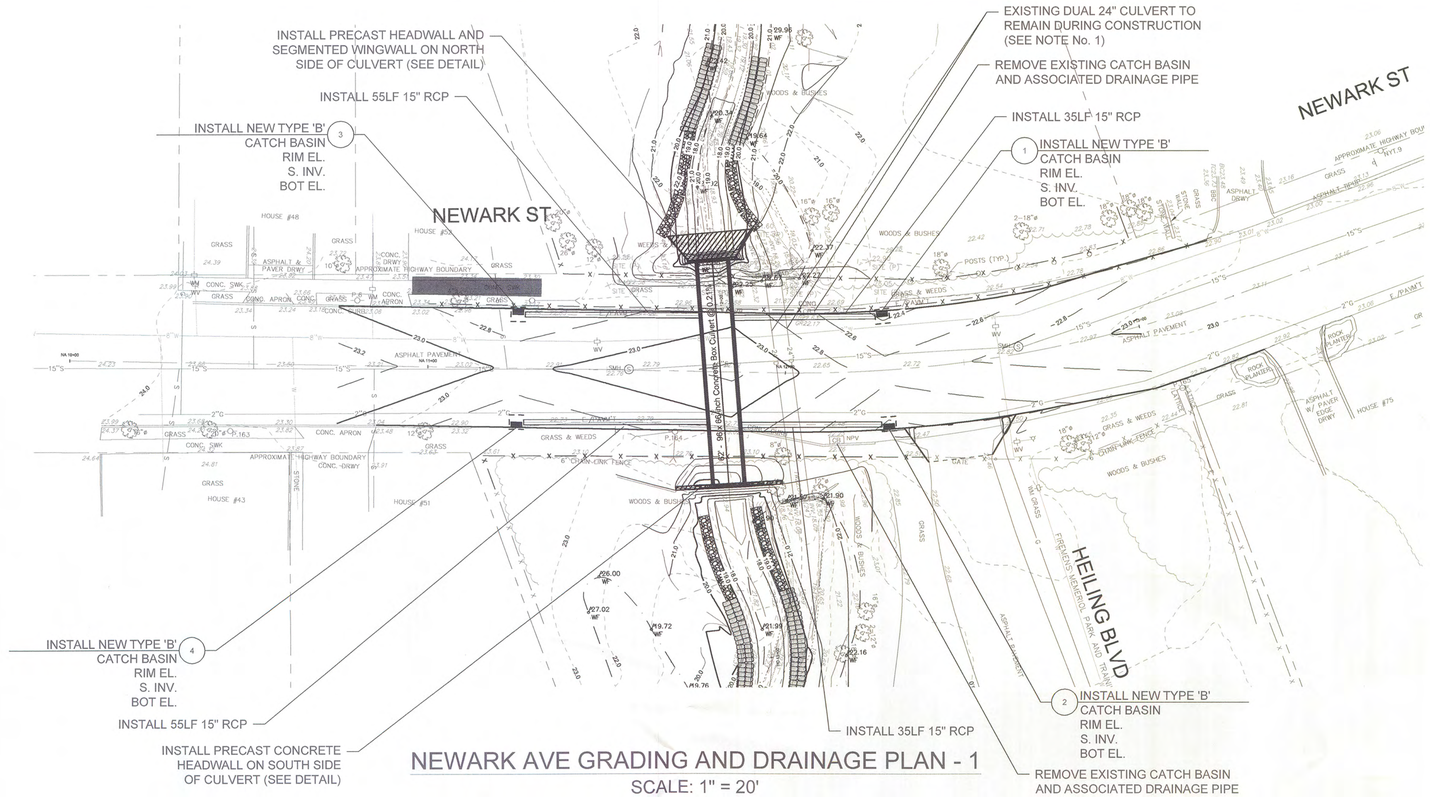
VILLAGE OF LINDENHURST
121 ALBANY AVENUE
LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
CONSTRUCTION PLAN - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
CP-1

SHEET: 11 OF 14



NEWARK AVE GRADING AND DRAINAGE PLAN - 1

SCALE: 1" = 20'

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FEET

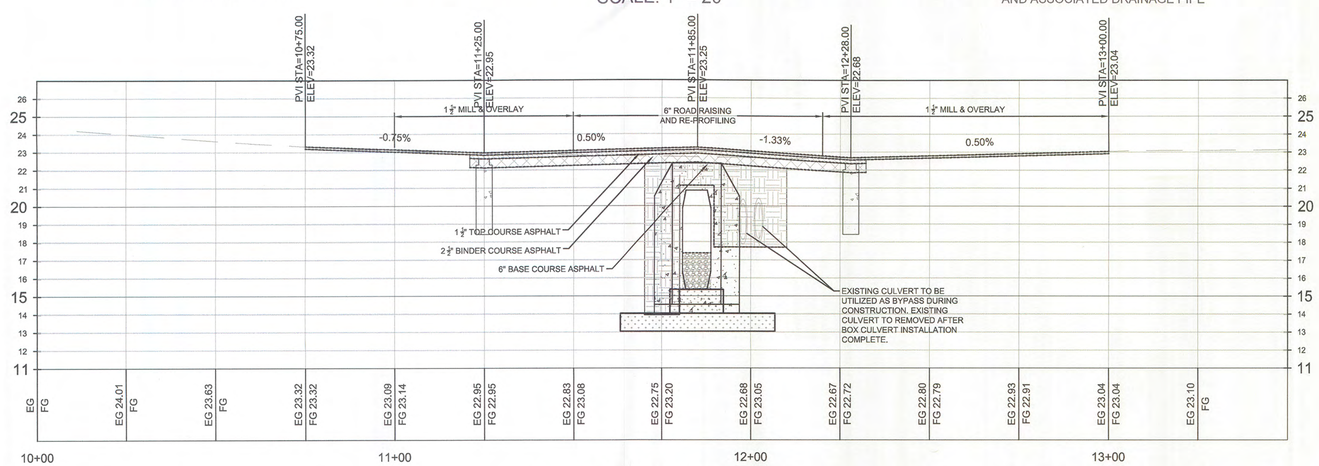
NORTH

GRADING & DRAINAGE LEGEND:

- STONE GABION CAGE
- EARTHEN BERM FILLED SACK ENVIROLOK
- CATCH BASIN
- B1 BORING LOG LOCATION
- CONCRETE CURB
- LIMITS OF GRADING
- WETLAND LIMITS
- 22.2 EXISTING MINOR CONTOUR
- 22.0 EXISTING MAJOR CONTOUR
- 22.2 PROPOSED MINOR CONTOUR
- 22.0 PROPOSED MAJOR CONTOUR

NOTES:

1. THE EXISTING CULVERT SHALL REMAIN OPERATIONAL DURING CONSTRUCTION TO BE USED AS A BYPASS. THE CULVERT SHALL BE REMOVED AT THE COMPLETION OF INSTALLATION OF THE PROPOSED BOX CULVERT AND ASSOCIATED CONCRETE HEADWALLS. THE NEW CULVERT SHALL BE FULLY OPERATIONAL AT SAID POINT.



NEWARK AVE PROFILE

HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 4'

PROFILE LEGEND:

- ASPHALT TOP COURSE
- ASPHALT BINDER COURSE
- SUBBASE COURSE
- NATURAL RIVER STONE (CULVERT LINING)
- STONE BASE

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PERMIT NO. 11 of 13
DATE

No.	DATE	REVISION	BY:

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CLIENT:
VILLAGE OF LINDENHURST
121 ALBANY AVENUE
LINDENHURST,NY 11757

DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
GRADING & DRAINAGE PLAN - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
GDP-1

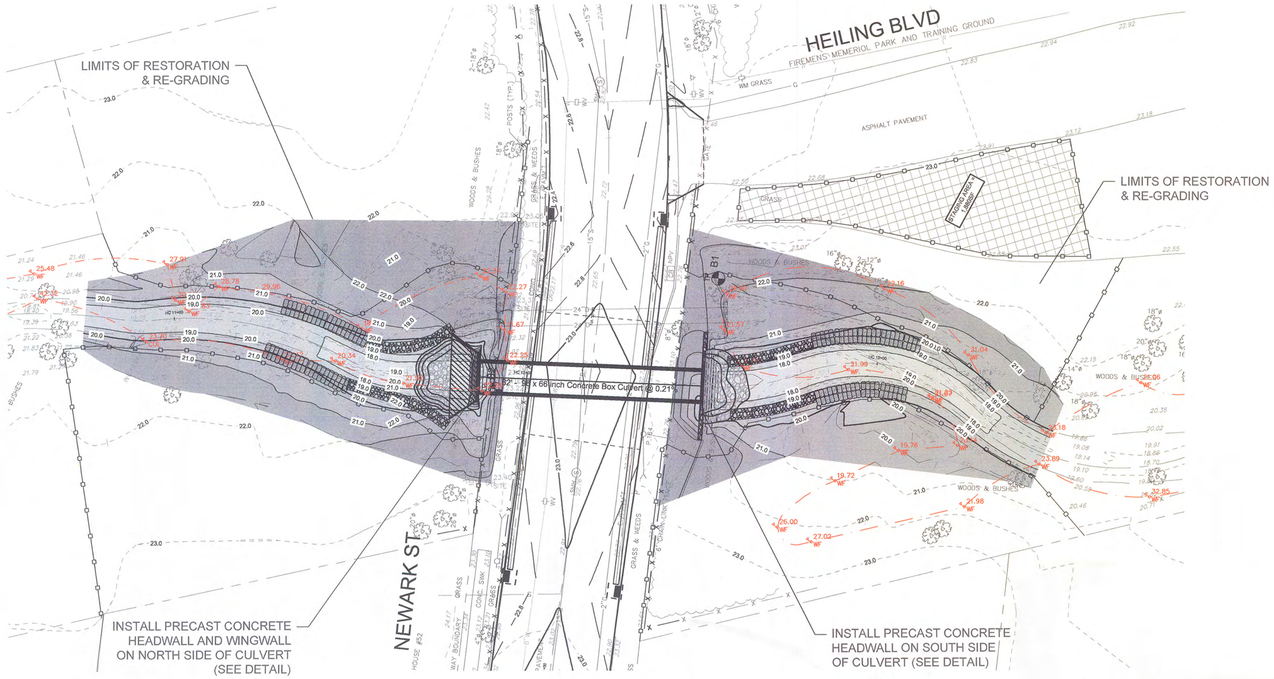
SHEET: 12 OF 14

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FEET

NORTH



HELING CREEK GRADING AND DRAINAGE PLAN - 1

SCALE: 1" = 20'

GRADING & DRAINAGE LEGEND:

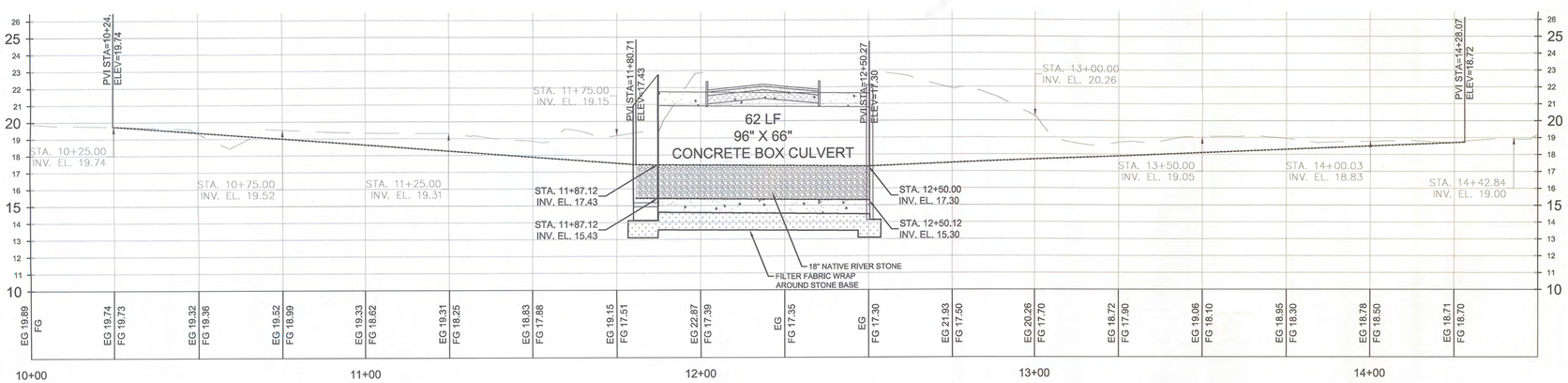
- STONE GABION CAGE
- EARTHEN BERM FILLED SACK ENVIROLOK
- CATCH BASIN
- B1 BORING LOG LOCATION
- CONCRETE CURB
- LIMITS OF GRADING
- WETLAND LIMITS
- 22.2 EXISTING MINOR CONTOUR
- 22.0 EXISTING MAJOR CONTOUR
- 22.2 PROPOSED MINOR CONTOUR
- 22.0 PROPOSED MAJOR CONTOUR

EARTHWORK QUANTITIES:

CREEK EXCAVATION & RE-HANDLING QUANTITY	VOLUME = 350 CY AREA = 16,500 SF
WETLANDS DISTURBANCE	
WETLANDS RESTORATION	

NOTES:

1. ALL FILL BROUGHT IN FOR THE STREAM MITIGATION SHALL BE NATIVE AND FROM A LOCAL, LONG ISLAND, NY SOURCE. FILL SOILS SHALL BE A HYDRIC SOIL CAPABLE OF SUPPORTING A WETLAND HABITAT. SOIL SAMPLES SHALL BE TAKEN FROM THE EXISTING STREAM AND ANALYZED TO ENSURE A PROPER HYDRIC SOIL IS PROVIDED.



HEILING CREEK PROFILE

HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 4'

PROFILE LEGEND:

- ASPHALT TOP COURSE
- ASPHALT BINDER COURSE
- SUBBASE COURSE
- NATURAL RIVER STONE (CULVERT LINING)
- STONE BASE

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DWN. BY:	MM
CHK'D BY:	JD
DATE:	FEBRUARY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
GRADING & DRAINAGE PLAN - 2
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
GDP-2

SHEET: 13 OF 14

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FEET

NORTH

OBL WETLAND SEED MIX
ERNMX-131
1.1 LBS OVER 2,195 SF

33.0% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
10.0% SPARGANIUM EURYCARPUM, PA ECOTYPE (GIANT BUR REED, PA ECOTYPE)
8.0% CAREX LUPULINA, PA ECOTYPE (HOP SEDGE, PA ECOTYPE)
8.0% CAREX LURIDA, PA ECOTYPE (LURID (SHALLOW) SEDGE, PA ECOTYPE)
8.0% CAREX SCOPARIA, PA ECOTYPE (BLUNT BROOM SEDGE, PA ECOTYPE)
7.0% SPARGANIUM AMERICANUM (EASTERN BUR REED)
5.0% ELYMUS VIRGINICUS, PA ECOTYPE (VIRGINIA WILDRYE, PA ECOTYPE)
4.0% VERBENA HASTATA, PA ECOTYPE (BLUE VERVAIN, PA ECOTYPE)
3.0% JUNCUS EFFUSUS (SOFT RUSH)
2.5% ASCLEPIAS INCARNATA, PA ECOTYPE (SWAMP MILKWEED, PA ECOTYPE)
1.0% ASTER PUNICEUS, PA ECOTYPE (PURPLESTEM ASTER, PA ECOTYPE)
1.0% ASTER UMBELLATUS, PA ECOTYPE (FLAT TOPPED WHITE ASTER, PA ECOTYPE)
1.0% CINNA ARUNDINACEA, PA ECOTYPE (WOOD REEDGRASS, PA ECOTYPE)
1.0% EUPATORIUM PERFOLIATUM, PA ECOTYPE (BONESET, PA ECOTYPE)
1.0% HELENIUM AUTUMNALE, PA ECOTYPE (COMMON SNEEZEWEED, PA ECOTYPE)
1.0% SCIRPUS ATROVIRENS, PA ECOTYPE (GREEN BULRUSH, PA ECOTYPE)
0.5% ALISMA SUBCORDATUM, PA ECOTYPE (MUD PLANTAIN (WATER PLANTAIN), PA ECOTYPE)
0.5% CAREX CRINITA, PA ECOTYPE (FRINGED (NODDING) SEDGE, PA ECOTYPE)
0.5% CAREX STRICTA, PA ECOTYPE (TUSSOCK SEDGE, PA ECOTYPE)
0.5% IRIS VERSICOLOR, PA ECOTYPE (BLUEFLAG, PA ECOTYPE)
0.5% LOBELIA SIPHILITICA, PA ECOTYPE (GREAT BLUE LOBELIA, PA ECOTYPE)
0.5% LUDWIGIA ALTERNIFOLIA, PA ECOTYPE (SEEDBOX, PA ECOTYPE)
0.5% ONOCLEA SENSIBILIS (SENSITIVE FERN)
0.5% PENITHORUM SEDOIDES, PA ECOTYPE (DITCH STONECROP, PA ECOTYPE)
0.5% SCIRPUS CYPERINUS, PA ECOTYPE (WOOLGRASS, PA ECOTYPE)
0.5% SCIRPUS VALIDUS, PA ECOTYPE (SOFTSTEM BULRUSH, PA ECOTYPE)
0.3% EUPATORIUM FISTULOSUM, PA ECOTYPE (JOE PYE WEED, PA ECOTYPE)
0.1% CHELONE GLABRA, PA ECOTYPE (TURTLEHEAD, PA ECOTYPE)
0.1% MIMULUS RINGENS, PA ECOTYPE (SQUARE STEMMED MONKEYFLOWER, PA ECOTYPE)

NOTE:
- THIS AREA IS TO BE SEEDED WITH PROPOSED MIX AND PLANTED WITH WITH PROPOSED PLUG MIX IDENTIFIED IN THE PLANT SCHEDULE AS "OBL PLUG MIX"
- PLUGS SHOULD BE MIXED AND RANDOMLY SELECTED WHEN PLANTED AT 12" O.C. IN DESIGNATED AREAS

FACW MEADOW SEED MIX
ERNMX-122
2.0 LBS OVER 3,870 SF

33.2% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
20.0% ELYMUS VIRGINICUS, PA ECOTYPE (VIRGINIA WILDRYE, PA ECOTYPE)
8.0% CAREX LUPULINA, PA ECOTYPE (HOP SEDGE, PA ECOTYPE)
8.0% CAREX LURIDA, PA ECOTYPE (LURID (SHALLOW) SEDGE, PA ECOTYPE)
8.0% CAREX SCOPARIA, PA ECOTYPE (BLUNT BROOM SEDGE, PA ECOTYPE)
4.0% VERBENA HASTATA, PA ECOTYPE (BLUE VERVAIN, PA ECOTYPE)
3.0% CINNA ARUNDINACEA, PA ECOTYPE (WOOD REEDGRASS, PA ECOTYPE)
3.0% JUNCUS EFFUSUS (SOFT RUSH)
2.5% ASCLEPIAS INCARNATA, PA ECOTYPE (SWAMP MILKWEED, PA ECOTYPE)
2.0% HELIOPSIS HELIANTHOIDES, PA ECOTYPE (OXEYE SUNFLOWER, PA ECOTYPE)
1.2% ASTER PUNICEUS, PA ECOTYPE (PURPLESTEM ASTER, PA ECOTYPE)
1.2% ASTER UMBELLATUS, PA ECOTYPE (FLAT TOPPED WHITE ASTER, PA ECOTYPE)
1.0% EUPATORIUM PERFOLIATUM, PA ECOTYPE (BONESET, PA ECOTYPE)
1.0% HELENIUM AUTUMNALE, PA ECOTYPE (COMMON SNEEZEWEED, PA ECOTYPE)
0.6% ASTER NOVAE-ANGLIAE (SYMPHYOTRICHUM N.), PA ECOTYPE (NEW ENGLAND ASTER, PA ECOTYPE)
0.5% ALISMA SUBCORDATUM, PA ECOTYPE (MUD PLANTAIN (WATER PLANTAIN), PA ECOTYPE)
0.5% LOBELIA SIPHILITICA, PA ECOTYPE (GREAT BLUE LOBELIA, PA ECOTYPE)
0.5% PENITHORUM SEDOIDES, PA ECOTYPE (DITCH STONECROP, PA ECOTYPE)
0.5% SCIRPUS ATROVIRENS, PA ECOTYPE (GREEN BULRUSH, PA ECOTYPE)
0.5% SCIRPUS CYPERINUS, PA ECOTYPE (WOOLGRASS, PA ECOTYPE)
0.3% EUPATORIUM FISTULOSUM, PA ECOTYPE (JOE PYE WEED, PA ECOTYPE)
0.3% ONOCLEA SENSIBILIS (SENSITIVE FERN)
0.1% CHELONE GLABRA, PA ECOTYPE (TURTLEHEAD, PA ECOTYPE)
0.1% MIMULUS RINGENS, PA ECOTYPE (SQUARE STEMMED MONKEYFLOWER, PA ECOTYPE)

FACU/ UPLAND SEED MIX
PINELANDS RIPARIAN BUFFER MIX
3.2 LBS OVER 6,565 SF

10% CAREX CRINITA (FRINGED SEDGE)
10% CAREX LURIDA (SHALLOW SEDGE)
10% ELYMUS VIRGINICUS (VIRGINIA WILD RYE)
8% ANDROPOGON GERARDII (BIG BLUESTEM)
8% HELIOPSIS HELIANTHOIDES (FALSE SUNFLOWER)
8% RUDBECKIA HIRTA (BLACK-EYED SUSAN)
6% PANICUM VIRGATUM (SWITCHGRASS)
6% SCHIZACHYRIUM SCOPARIUM (LITTLE BLUESTEM)
5% CAREX STRICTA (TUSSOCK SEDGE)
5% SCIRPUS ATROVIRENS (GREEN BULRUSH)
3% JUNCUS EFFUSUS (SOFT RUSH)
2% EUPATORIUM COELESTINUM (BLUE MISTFLOWER)
2% EUPATORIUM PURPUREUM (PURPLE JOE-PYE)
2% GLYCERIA STRIATA (FOWL MANNAGRASS)
2% HELENIUM AUTUMNALE (COMMON SNEEZEWEED)
2% IRIS VERSICOLOR (BLUEFLAG IRIS)
2% SYMPHYOTRICHUM NOVI-BELGII (NEW YORK ASTER)
2% VERBENA HASTATA (BLUE VERVAIN)
2% VERNONIA NOVEBORACENSIS (NEW YORK IRONWEED)
1% ASCLEPIAS INCARNATA (SWAMP MILKWEED)
1% CHAMAECRISTA FASCICULATA (PARTRIDGE PEA)
1% LOBELIA SIPHILITICA (BLUE LOBELIA)
1% SORGHASTRUM NUTANS (INDIAN GRASS)
1% SYMPHYOTRICHUM NOVAE-ANGILAE (NEW ENGLAND ASTER)

FACW PLUG MIX
2,705 SQ FT

- SEE PLANTING SCHEDULE FOR PLANT COMPOSITION
- PLUGS SHOULD BE MIXED AND RANDOMLY SELECTED WHEN PLANTED AT 12" O.C. IN DESIGNATED AREAS

PLANTING SCHEDULE

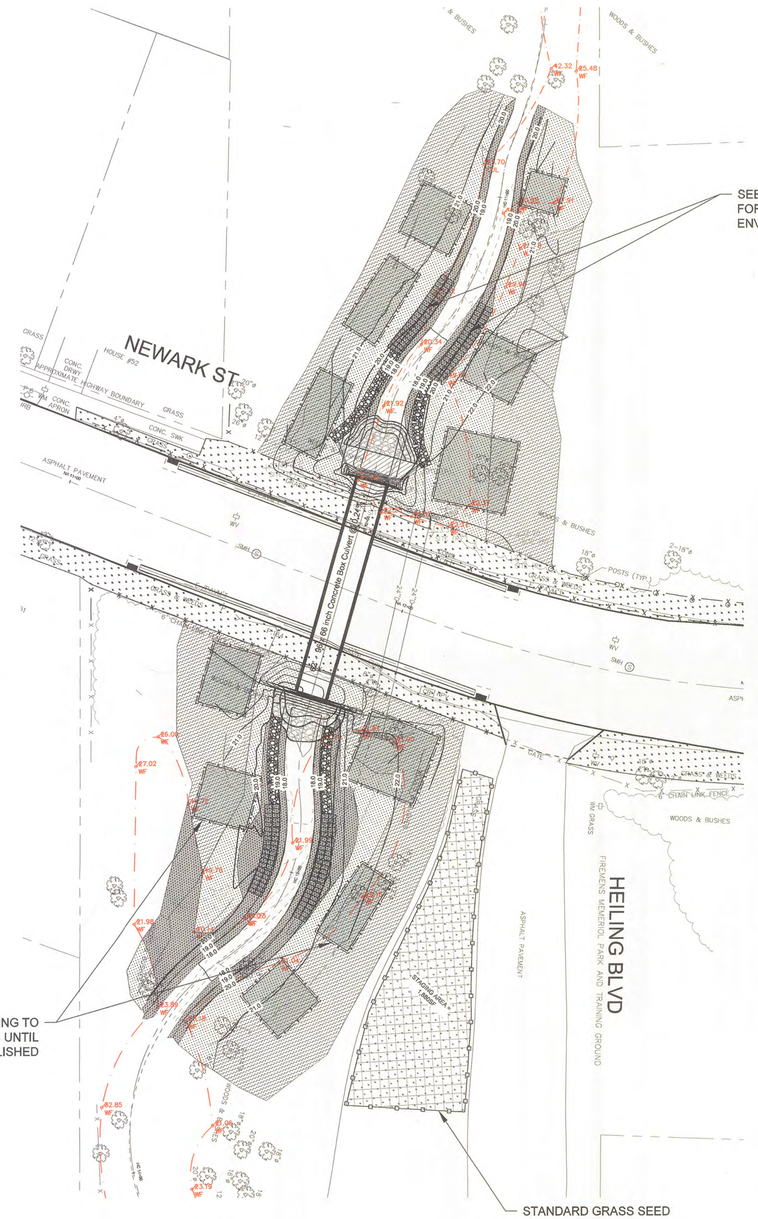
FACW PLUG MIX

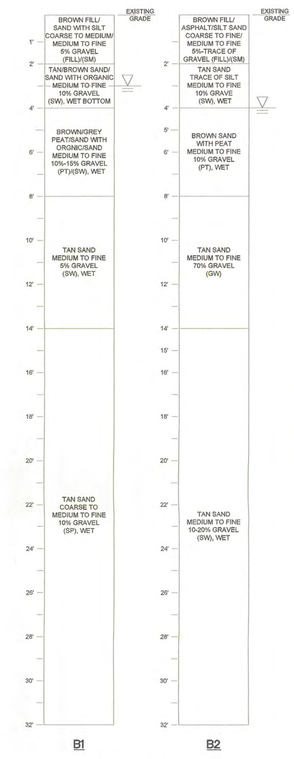
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	350	ANDROPOGON GERARDII	BIG BLUE STEM	PLUG	12' O.C.
	300	CAREX STRICTA	TUSSOCK SEDGE	PLUG	12' O.C.
	250	EUPATORIUM PERFOLIATUM	BONESET	PLUG	12' O.C.
	250	EUPATORIUM PURPUREUM	JOE PYE WEED	PLUG	12' O.C.
	200	ONOCLEA SENSIBILIS	SENSITIVE FERN	PLUG	12' O.C.
	350	PANICUM VIRGATUM	SWITCHGRASS	PLUG	12' O.C.
	350	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	PLUG	12' O.C.
	250	SCHOENOPLECTUS PUNGENS	COMMON THREE SQUARE	PLUG	12' O.C.
	250	SORGHASTRUM NUTANS	INDIAN GRASS	PLUG	12' O.C.
	250	VERNONIA NOVEBORACENSIS	NEW YORK IRONWEED	PLUG	12' O.C.

OBL PLUG MIX

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	150	ASCLEPIAS INCARNATA	SWAMP MILKWEED	PLUG	12' O.C.
	250	CALAMAGROSTIS CANADENSIS	BLUEJOINT GRASS	PLUG	12' O.C.
	250	CAREX LURIDA	LURID SEDGE	PLUG	12' O.C.
	250	CAREX VULPINOIDEA	FOX SEDGE	PLUG	12' O.C.
	150	CHELONE GLABRA	TURTLEHEAD	PLUG	12' O.C.
	250	ELEOCHARIS OBTUSA	BLUNT SPIKERUSH	PLUG	12' O.C.
	150	MIMULUS RINGENS	MONKEY FLOWER	PLUG	12' O.C.
	250	SAGITTARIA LATIFOLIA	BROADLEAF ARROWHEAD	PLUG	12' O.C.
	250	SCHOENOPLECTUS ATROVIRENS	GREEN BULRUSH	PLUG	12' O.C.
	250	SPARGANIUM AMERICANUM	EASTERN BUR REED	PLUG	12' O.C.
	150	IRIS VERSICOLOR	BLUEFLAG IRIS	PLUG	12' O.C.

SEEDING NOTES:
- SEED MIXES TO BE HYDROSEEDED DURING THE SPRING OR FALL ONLY.
- SEED MIXES ARE TO BE HYDROSEEDED FOLLOWED BY HERBACEOUS PLANT INSTALLATION IN DESIGNATED AREAS.
- REPLACEMENT OF SPECIES MAY NOT OCCUR WITHOUT APPROVAL BY THE ENGINEER





SOIL BORINGS

CONDUCTED BY: LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.
DATE: SEPTEMBER 26, 2018

NYSDEC
APPROVED AS PER TERMS AND CONDITIONS OF
PERMIT NO. B-013
DATE

No.	DATE	REVISION	BY:
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121 ALBANY AVENUE
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DWN. BY:	MM
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DATE:	MAY 2019
JOB No.:	18197
CADD:	18197CP.DWG
SCALE:	AS SHOWN

DRAWING TITLE:
LANDSCAPING PLAN - 1
NEWARK STREET CULVERT
VILLAGE OF LINDENHURST
COMPREHENSIVE DRAINAGE INFRASTRUCTURE MASTER STUDY

DRAWING NUMBER:
LP-1

SHEET: 14 OF 14