POINT LOOKOUT SHORELINE STABILIZATION AND REVETMENT PROJECT

HAMLET OF POINT LOOKOUT, TOWN OF HEMPSTEAD NASSAU 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

March 12, 2020

POINT LOOKOUT SHORELINE STABILIZATION AND REVETMENT PROJECT

Environmental Assessment

March 12, 2020

Project Name:	Point Lookout Shoreline Stabilization and Revetment Project
Project Location:	Hamlet of Point Lookout (Eastern End of Long Beach Barrier Island), Town of Hempstead, Nassau County, New York
Federal Agency:	US Department of Housing and 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:	Matt Accardi, Certifying Environmental Officer Governor's Office of Storm Recovery 25 Beaver Street, 5th Floor New York, NY 10004 (212) 480-6265; matt.accardi@stormrecovery.ny.gov
Project Sponsor: **Primary Contact:**	Town of Hempstead Jeffrey M. Tierney, Deputy Commissioner, Engineering Department Town of Hempstead 350 Front Street Hempstead, NY 11550
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	 Matt Accardi, GOSR

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 2020 CDBG-DR project, Point Lookout Shoreline Stabilization and Revetment Project, are:
Project Year Project Name

Check the applicable classification.

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

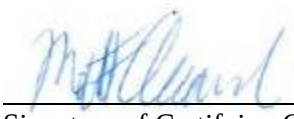
☐ Categorically Excluded as defined in 24 CFR 58.35(b).

☐ 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.



Signature of Certifying Officer

March 12, 2020
Date

Matt Accardi
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 2020 CDBG-DR project, Point Lookout Shoreline Stabilization and Revetment 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

Signature of Certifying Officer

March 12, 2020
Date

Matt Accardi
Print Name

Certifying Officer
Title

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]**:**
The Point Lookout Shoreline Stabilization & Revetment Project (Project) will involve repairing an existing revetment located at the tip of Point Lookout along Reynolds Channel and Jones Inlet. The Project will include the removal of two existing groins, re-use of the stone from the groins to construct a new revetment located between the two groins (designated Zone C), and the construction of a perched revetment to strengthen the existing revetment (designated Zones A and B). The Project will take place wholly within the Town-owned parcels designated as Point Lookout Beach District Park, Hamlet of Point Lookout, Town of Hempstead, New York (Tax ID: 61-A-51). Project location maps are included in **Attachment 1**. Project design plans are included in **Attachment 2**.

A site investigation was completed in October 2016 by COWI that documented and classified the existing structures located in the Project area. The Project area was divided into the following three zones, based on the existing condition of the shoreline:

Zone A – existing revetment in fair condition; this area has a length of approximately 550 feet and extends (from south to north) from the southern limit of Mineola Avenue to the shoreline adjacent to the intersection of Beech Street and Mineola Avenue.

Zone B – existing revetment in serious condition; the area has a length of approximately 1,800 feet and extends (from south to north) from the shoreline adjacent to the intersection of Beech Street and Mineola Avenue to the northern limit of the existing revetment/ the southern groin.

Zone C – a sand beach with two (2) groins (defined as the northern and southern groins), which is located on the northeastern corner of Point Lookout and extends (from south to north) from the northern limit of the existing revetment/ the southern groin to the shoreline adjacent to the eastern limit of Bayside Drive.

In Zones A and B, a perched revetment will be constructed with additional lee side granular fill overtopping protection. This design is intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it. All material is proposed to be placed landward of the existing mean high water spring (MHWS) contour. Therefore, all construction activities for these Zones will be confined to the area above the MHWS. In Zone C, two existing groins will be removed and a new revetment will be constructed to prevent shoreline erosion due to wave and current action. Additional lee side erosion and scour protection was designed due to large volumes of overtopping expected during storm events. Geotextile filter fabric will be utilized as a filter and a separation layer between existing soil and the revetment underlayer in Zone C. The separation layer will prevent filtering of fine soil into the underlayer while allowing for sufficient water flow through it in order to reduce hydrodynamic loads. Groin removal in conjunction with new revetment construction will also eliminate stagnation area between the groins and allow for free seaweed and sediment movement along the shoreline.

Materials will be delivered to the area by trucks. Excavation (groin and derelict revetment removal) and grading within Zone C will be performed during low tide using a land based excavator. Excavated materials (sand and stone) will be stockpiled locally and reused in the reconstruction. Geotextile will be delivered to the area in rolls and then manually placed on top of the post-excavation grade. It will be held down by underlayer stones during the construction period. Smaller stones (underlayer and granular fill) will be placed using a front bucket loader or a bobcat. The excavator with a hydraulic rock placing arm will then be used to individually place large armor stones. Best management practices will be implemented to prevent any equipment, material, or debris from entering the waterway. The contractor will prepare and submit a spill response plan, which will document measures and activities to be performed should any oil or fluid spillage occur during the construction.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:
The Project is intended to repair and extend an existing revetment located around the tip of Point Lookout along Reynolds Channel and Jones Inlet in order to prevent scour and replicate the dunes washed away by Superstorm Sandy. The Project will minimize the loss of human life by stabilizing the shoreline along the community of Point Lookout. If no action is taken, a subsequent storm event could result in catastrophic flooding and destruction of the existing residences and businesses, potentially resulting in the loss of life. Federal financial assistance will support activities representing a long-term public investment in a critical piece of infrastructure that is necessary to protect the community of Point Lookout and the well-being of its residents and local economy, as well as eliminate the need for constant dredge and fill activities. The Project will also minimize the damage to fish and wildlife by stabilizing the shoreline, creating and enhancing wildlife habitats along the coast.

The existing revetment along Jones Inlet functions as a barrier that absorbs wave energy, reflects waves, and reduces wave run- up during storm events. Portions of the landward dune were destroyed by Superstorm Sandy, rendering the area landward of the revetment vulnerable to scour. Until the revetment is repaired, houses along Mineola Avenue adjacent to the Point Lookout Beach District Park will be vulnerable to damage from waves and surge generated by coastal storms.

The sand beach that is situated from the north end of Jones Inlet west around the tip of Point Lookout along Reynolds Channel is subject to an ongoing process of coastal erosion along Jones Inlet. This has resulted in shoreline retreat, which has reduced the distance between the water and structures on Bayside Drive and increased the vulnerability of residences and businesses to coastal erosion. If nothing is done to halt the process of erosion, the foundations of residences and businesses could be undermined, leading to structural collapse and threatening the life and safety of the occupants. The process of erosion occurring at the northeast end of Point Lookout also causes loss of open space in the Point Lookout Beach District Park. Eventually, if left unprotected, erosion along Jones Inlet in the area of the Park will encroach upon additional residences on Mineola Drive. The Project would result in the protection of this Town-owned facility, residential and commercial structures, and the lives of the occupants on Bayside Drive, Mineola Avenue, and the existing open space at the Point Lookout Beach District Park.

Additionally, large masses of sea lettuce (*Ulva lactuca*) accumulate between the groins due to flow stagnation and sediment flow is disrupted by the groins. Tolerant of nutrient loading that would suffocate many other aquatic plants, sea lettuce can actually thrive in moderate levels of nutrient pollution. Excess growth and accumulation of sea lettuce can cause loss of aquatic habitat, thick mats on shorelines that result in odors and disruption of recreation activities, depletion of dissolved oxygen in the water as the sea lettuce decomposes, anoxic events, and the death of aquatic life. Groin removal in conjunction with the construction of the new revetment will eliminate the stagnation area between the groins and allows for free seaweed and sediment movement along the shoreline.

Existing Conditions and Trends [24 CFR 58.40(a)]:
Point Lookout is located along the eastern end of Long Beach Barrier Island in the Town of Hempstead, Nassau County, New York. The Project extends from the bulkhead at 177 Bayside Drive to a residential building at 128 Mineola Avenue. Landward of the revetment there is a weakly established sand dune with vegetation. The U.S. Army Corps of Engineers (USACE) has an ongoing Project to rehabilitate Lido Beach and shoreline structures south of the Project (Jones Inlet to East Rockaway Inlet). An upland and underwater field inspection, consisting of a beach inspection, groins inspection, and a revetment inspection, was conducted on October 26 and October 27, 2016 to recognize the destructive processes at work and to ensure the new section of revetment aligns with the existing system. The beach inspection revealed no buried rock within the depth of 2 feet except for rock lying on the surface, and an increase in soil density was observed at a depth of 1 foot. Two groins were inspected during the groins inspection (North Groin and South Groin), and were given a structural condition assessment rating of “Satisfactory”. Groins consist of solid quarry

rock ranging in size from 2 to 5 feet. The North Groin is approximately 78 feet long and the South Groin is approximately 160 feet long. The revetment inspection was conducted using survey stations spaced at 100-foot intervals from north to south along the Project Area and surveying a cross-section at each station. The revetment survey revealed that the majority of the northern section of the revetment was assigned a structural condition assessment of "Serious", indicating unevenly spaced and irregular sized concrete rubble that will not prevent erosion, as well as currently present erosion areas. Remaining intermittent revetment sections were categorized as "Fair", indicating quarry stone and irregularly sized concrete rubble which may cause instability. Varying crest elevations were also noted. These revetment sections will be examined either for modification in order to comply with design storm condition requirements or complete replacement to ensure stability.

Funding Information
Estimated Total HUD Funded Amount: $3,906,700

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]**: $3,906,700**

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] included in **Attachment 4**, the Project is located in Coastal Barrier Resource System Unit NY-59. A Coastal Barrier Resources Act (CBRA) consultation letter was sent to the USFWS on January 13, 2016 that expressed GOSR's finding that the proposed Project falls within the CBRA's exception for "[t]he maintenance, replacement, reconstruction, or repair, but not the expansion (except with respect to United States Route 1 in the Florida Keys), of publicly owned or publicly operated roads, structures, or facilities that are essential links in a larger network or system" (16

[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. https://www.fws.gov/ecological-services/habitat-conservation/cbra/Maps/index.html

Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]		U.S.C. § 3505(a)(6)(F)). On April 29, 2016, the USFWS sent a response letter that stated that, "[b]ased on the level of detail and information provided by GOSR, concerning the engineering design and location of the proposed project, the Service was unable to determine whether the proposed project is an expansion of an existing structure in CBRA-59." On June 6, 2017, GOSR sent a letter providing additional information and an analysis that supported the conclusion that the proposed Project is consistent with the tripartite purpose of the CBRA and meets the exception under the CBRA for "[t]he maintenance, replacement, reconstruction, or repair, but not the expansion (except with respect to United States Route 1 in the Florida Keys), of publicly owned or publicly operated roads, structures, or facilities that are essential links in a larger network or system" (16 U.S.C. § 3505(a)(6)(F). GOSR did not receive a response from the USFWS and sent a follow-up consultation to the USFWS on October 4, 2017, which stated that, "GOSR has concluded that the Proposed Action meets the above-referenced exceptions and is consistent with the tripartite purpose of the CBRA. GOSR requests that the Service continues its review of the Proposed Action. However, if the service does not respond within 15 days, GOSR will assume the Service concurs with GOSR's exception determination." GOSR did not receive a response from the USFWS and therefore assumes that the USFWS concurs with GOSR's determination that the Project is consistent with the CBRA. The CBRA map and CBRA consultation documentation for the proposed Project are included in **Attachment 4**. No additional review is required.

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 5** (FIRMs 36059C0329G and 36059C0327G, effective 9/11/2009), the Project is located within a FEMA[3] Special Flood Hazard Area (SFHA). However, 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 Nassau County, which is within a maintenance area[4,5] for inhalable particulate matter (PM2.5) and carbon monoxide, a marginal non-attainment area for the 8-hour Ozone standard[6] and considered an area source for hazardous air pollutants (HAPs) emissions. Temporary emissions would result from equipment during construction with no increased emissions occurring due to 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 Nassau County is $410 million before a project may be expected to exceed the de minimis expenditure thresholds requiring further analysis or conformity determination (**Attachment 6**). The estimated construction cost of the Project is approximately

[3] FEMA https://msc.fema.gov/portal
[4] EPA, Nonattainment Areas for Criteria Pollutants. https://www.epa.gov/green-book
[5] EPA, Recent Updates: Federal Register Notices Published or Effective After May 31, 2018. http://www.epa.gov/airquality/greenbook/adden.html
[6] Ozone specific: https://www3.epa.gov/airquality/greenbook/hbca.html#Ozone_8-hr.2008.New_York

Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93		$3,906,700, which is less than the $410 million threshold; thus, the Project would not require further analysis for a conformity determination. Construction of the Project would not generate significant levels of vehicular traffic; therefore, no exceedances of the National Ambient Air Quality Standard (NAAQS) associated with carbon monoxide (CO) or particulate matter (PM) is anticipated occur. The 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

Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93		currently proven to have the highest reduction capability. Construction contracts would specify that all diesel non-road engines rated at 50 hp or greater would utilize DPFs, either installed by the original equipment manufacturer (OEM) or retrofitted. Retrofitted DPFs must be verified by EPA. 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 ☐ ☒	The Project is located within the New York State Coastal Boundary[7]; the Project is not located within a Local Waterfront Revitalization Program Community as shown in the NYS Department of State (DOS) Coastal Boundary map, included as part of **Attachment 7**. On March 5, 2019, a New York State Federal Consistency Assessment was completed and submitted to the NYS DOS Division of Coastal Resources for the proposed Project to determine its consistency with the New York State's Coastal Management Plan. On March 7, 2019, the NYS DOS concurred with GOSR's assessment that the proposed Project was consistent with the State Coastal Consistency requirements, included as **Attachment 7**. 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 8**. No additional review is required.

[7] 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	Yes No ☐ ☒	According to a New York Natural Heritage Program (NYNHP) records request response, the following species have been documented at Point Lookout Beach District Park: piping plover, least tern, and short-eared owl. Additionally, the NYNHP records request response identified the following species across Jones Inlet at the west end of Jones Beach Island: piping plover, common tern, least tern, and black skimmer; and the following species has been documented across Reynolds Channel at Alder Island: piping plover. The NHP records request response is included in **Attachment 9**. NYSDEC permit authorizations for Tidal Wetlands – Under Article 25, Excavation & Fill in Navigable Waters – Under Article 15, Title 5, Water Quality Certification – Under Section 401 – Clean Water Act, and Coastal Erosion Management – under Article 34 (Permit ID 1-2820-02003/00012-00015) were obtained on January 21, 2020. The piping plover is not anticipated to occur at the Project site. The Town of Hempstead Department of Conservation and Waterways has an extensive south shore piping plover management program which identifies and protects piping plover territory in this area and has not identified any piping plover territory at the Project location. The NYSDEC found that the Project, as proposed, would not require any measures to mitigate impacts to threatened or endangered species. The NYSDEC permit and joint application for permit are included in **Attachment 10**. 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 boundaries of the proposed Project. The Project will involve the addition of stone to create a perched revetment in Zones A and B and will not involve excavation or removal of material in Zones A and B. Project activities in Zone C will be performed in the intertidal zone at low tide. The Project will not involve the disturbance of any vegetated dune areas or vegetated tidal wetland areas. There will be a balance between reclaimed and removed intertidal areas.

Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402		Additionally, there will not be any changes in the beach material type. It is not anticipated that the northern long-eared bat, piping plover, red knot, roseate tern, sandplain gerardia, and seabeach amaranth occur at the proposed Project location. Therefore, GOSR has determined that the proposed Project would have "No Effect" on any federally endangered, threatened, proposed, or candidate species regulated by the USFWS. National Marine Fisheries Service (NMFS) Maps for the Atlantic Coast indicate that the Project is located within the range of sea turtles, and within the estimated range of Atlantic sturgeon distinct population segments (DPSs). Since Best Management Practices (BMPs) will be implemented to ensure there are no adverse impacts to species under NMFS jurisdiction, including the use of a turbidity curtain, sediment filter bags, and permit specified BMPs, it has been concluded that there would be "No Effect" on the listed marine species as a result of the proposed Project activities. The NMFS No Effect Determination is included as a memorandum to the record in **Attachment 9**. Due to the Project's proximity to and its potential to impact Essential Fish Habitat (EFH), GOSR prepared an EFH worksheet in order to determine whether a consultation with NOAA Fisheries is necessary to determine whether Project activities may adversely affect EFH. Since BMPs will be implemented to ensure there are no adverse impacts to EFH, including the use of a turbidity curtain, sediment filter bags, and permit specified BMPs, GOSR determined that the proposed Project would have "No Effect" on EFH, and therefore the Project is in compliance with the requirements of 50 CFR §660.920 implementing the Magnuson-Stevens Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267). A memorandum to the record documenting GOSR's determination that there will be "No Effect" on EFH is included in **Attachment 9**. 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-

Explosive and Flammable Hazards 24 CFR Part 51 Subpart C		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, 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 11**. Additionally, the Project activities occur in a 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 located within the 100-year floodplain (FIRMs 36059C0329G and 36059C0327G, effective 9/11/2009), as documented in the FEMA National Flood Hazard Layer Map included in *Appendix II* of **Attachment 5**. The proposed Project will result in approximately 0.50 acres of temporary impacts and 2.85 acres of permanent impacts in the 100-year floodplain. The proposed Project involves shoreline modifications to protect land within the existing floodplain. Construction activities that occur within the floodplain include excavation and fill within the intertidal and subtidal zones. The proposed MHWS contour was designed to balance the removed and created areas below MHWS. Construction activities that occur within the floodplain will include the construction of a perched revetment, which is intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it. The proposed Project will not adversely impact the natural and beneficial functions and values of the floodplain. The proposed Project will stabilize the shoreline of a public area that currently provides recreational fields and an undeveloped area that acts as a buffer between the ocean and a residential community. The intent of the proposed Project is

Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55		not to develop the shoreline to serve a new purpose, but rather to stabilize and protect the shoreline against erosional forces. All applicable permits will be acquired before work is commenced. The funding recipient will be bound by any permit stipulations or mitigation measures listed in permits acquired for the proposed Project. An 8-step Floodplain Management Determination was completed pursuant to 24 CFR 55.20. See Floodplain Management & Wetlands Protection Determination, annexed hereto as **Attachment 5**. The 8-step process concluded that due to the nature of the proposed action, prohibition of this work within a floodplain and wetland area is not practicable. In accordance with 24 CFR 55.20, on August 8, 2019 the "Notice of Early Public Review of a Proposed Activity in Wetlands and 100-Year Floodplain" was published in the Long Island Herald – Long Beach edition newspaper, with the 15-day period expiring on August 26, 2019. No public comments were received. A "Combined Notice of Finding of No Significant Impact, Notice of Intent to Request Release of Funds, and Final Notice and Public Explanation of a Proposed Activity in a 100-Year Floodplain and Wetlands" was published on March 12, 2020.
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 September 20, 2018, the New York State Historic Preservation Office (SHPO) reviewed the proposed Project and provided a determination that "no historic properties will be affected by this undertaking." This determination is included as part of **Attachment 12**. 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,

Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800; Tribal notification for new ground disturbance.		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 13**. 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 5**. The proposed Project will result in approximately zero temporary impacts in wetlands and approximately 0.32 acres of permanent impacts in wetlands. However, the approximately 0.32 acres of permanent impacts in wetlands will be offset by the creation of an additional 0.32 acres of wetlands resulting in zero net permanent effect on wetlands.. Construction activities that occur within wetlands include excavation and fill within the intertidal and subtidal zones. The proposed MHWS contour was designed to balance the removed and created areas below MHWS. Construction activities will include the construction of a perched revetment, which is

Wetlands Protection Executive Order 11990, particularly sections 2 and 5		intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it. The proposed Project will not adversely impact the natural and beneficial functions and values of the wetland. The proposed Project will stabilize the shoreline of a public area that currently provides recreational fields and an undeveloped area that acts as a buffer between the ocean and a residential community. The intent of the proposed Project is not to develop the shoreline to serve a new purpose, but rather to stabilize and protect the shoreline against erosional forces. All applicable permits will be acquired before work is commenced. The funding recipient will be bound by any permit stipulations or mitigation measures listed in permits acquired for the proposed Project. An 8-step Floodplain Management Determination was completed pursuant to 24 CFR 55.20. See Floodplain Management & Wetlands Protection Determination, annexed hereto as **Attachment 5**. The 8-step process concluded that due to the nature of the proposed action, prohibition of this work within a floodplain and wetland area is not practicable. In accordance with 24 CFR 55.20, on August 8, 2019 the "Notice of Early Public Review of a Proposed Activity in Wetlands and 100-Year Floodplain" was published in the Long Island Herald – Long Beach edition newspaper, with the 15-day period expiring on August 26, 2019. No public comments were received. A "Combined Notice of Finding of No Significant Impact, Notice of Intent to Request Release of Funds, and Final Notice and Public Explanation of a Proposed Activity in a 100-Year Floodplain and Wetlands" was published on March 12, 2020. A joint application for permit was sent to the United States Army Corps of Engineers on in August 2018. The NYSDEC issued a permit for the Project with the following permit authorizations on January 21, 2020: Tidal Wetlands – Under Article 25, Excavation & Fill in Navigable Waters – Under Article 15, Title 5, Water Quality Certification – Under Section 401 – Clean Water Act, and Coastal Erosion Management – Under Article 34. All applicable permits from the

Wetlands Protection Executive Order 11990, particularly sections 2 and 5		NYSDEC, USACE, and Town of Hempstead will be obtained prior to the commencement of Project activities, and all permit conditions will be followed. The NYSDEC Permit and permit application documents are included in **Attachment 10**.
Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes No ☐ ☒	Not applicable, as there are no rivers designated by the U.S. Department of the Interior, Congress or NYSDEC as wild and scenic within Nassau County; and the National Wild and Scenic Rivers System and Nationwide Rivers Inventory (NRI) have no wild and scenic rivers located within Nassau County, as documented in **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[8], 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.

[8] 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 potential mitigation action that addresses hazards, identified in the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan, 2014 Update*, is reducing the possibility of damage and losses due to flooding caused by floods and hurricanes. According to the *New York Rising Community Reconstruction Lido Beach / Point Lookout Community Reconstruction Plan, March 2014*; resilient planning, design, and building on Long Island should create a higher degree of protection for existing communities while allowing for growth that is in better balance with the natural features that make Long Island so attractive. The existing revetment along Jones Inlet functions as a barrier that absorbs wave energy, reflects waves, and reduces wave run-up during storm events. Portions of the landward dune were destroyed by Superstorm Sandy, rendering the area landward of the revetment vulnerable to scour. Until the revetment is repaired, houses along Mineola Avenue adjacent to the Point Lookout Beach District Park will be vulnerable to damage from waves and surge generated by coastal storms. The intent of the Project is not to develop the shoreline to serve a new purpose, but rather to repair an existing revetment and stabilize and protect the shoreline against erosional forces. Therefore, the Project is compatible with existing land use at the Project area and in the surrounding area.

Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	1	The purpose of the Project is to provide resilience against future flooding and protect the shoreline against future erosion. Mitigative measures and BMPs will be utilized during construction, including, but not limited to, installing temporary silt fencing on land to prevent soil and/or debris from being washed off-site and installing turbidity curtains in the water to minimize sediment transportation from the area of disturbance to the larger body of water. The soils at the proposed project site(s) will not limit the construction activities and designs. No potential undesirable impacts are anticipated and the area should be improved in terms of its landscape and stability upon completion of the proposed Project. 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 US EPA reports, are included as part of **Attachment 8**. 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 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 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 wastewater. Mitigative measures and BMPs will be utilized during construction to prevent soil and/or debris from being washed off-site. No additional wastewater will be generated during construction.
Waste Water / Sanitary Sewers	2	The proposed Project will not introduce any new development that would generate wastewater. Mitigative measures and BMPs will be utilized during construction to prevent soil and/or debris from being washed off-site. No additional wastewater 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	1	The proposed Project will improve Point Lookout Beach District Park. The project will reduce flooding in the area, help protect private properties from exposure to tidal flows, reduce the vulnerability of assets by increasing the resiliency of the community during future flooding events. Additionally, repair and reconstruction of the revetment would minimize the damage to fish and wildlife by providing a buffer to tidal flows, ultimately stabilizing the shoreline and creating and enhancing wildlife habitats along the coast. This Project will not introduce new development that would generate demand for open space resources or impede open space access. Therefore, the Project is expected to improve existing parkland and have a beneficial impact on park resources, including visual, ecological, and recreational resources.
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	1	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 a "Significant Natural Community," but is located adjacent to salt panne, low salt marsh, high salt marsh, and maritime dunes communities (**Attachment 3**). However, the proposed Project will result in localized disturbance in order to implement the shoreline improvements and will not result in impacts to these natural communities. Currently, sea lettuce (*Ulva lactuca*) accumulates between the groins due to flow stagnation and sediment flow is disrupted by the groins. Excess growth and accumulation of sea lettuce loss of aquatic habitat, thick mats on shorelines that result in odors and disruption of recreation activities, depletion of dissolved oxygen in the water as the sea lettuce decomposes, anoxic events, and the death of aquatic life. Groin removal in conjunction with the construction of the new revetment will eliminate the stagnation area between the groins, which allows

Unique Natural Features, Water Resources		for free seaweed and sediment movement along the shoreline and will result in a decrease anoxic events that result from sea lettuce accumulation. The proposed Project will involve construction in USFWS mapped and NYSDEC regulated wetlands. 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 the Project will be obtained before commencing work. Additionally, BMPs and erosion control measures will be incorporated into the proposed Project. **Watershed Analysis** The Project is not located within and will not impact any of the 47 identified watersheds with watershed plans in NYS[9]. 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 the proposed Project.
Vegetation, Wildlife	1	The proposed Project will not introduce nuisance or non-indigenous species of vegetation. The removal of the two groins will allow for free seaweed and sediment movement along the shoreline, which will decrease sea lettuce accumulation at the Project area. This will result in an increase in oxygen in the water column, which will create conditions that are more favorable for aquatic life. 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, USFWS No Effect Determination, NMFS No Effect Memorandum, and EFH No Effect Memorandum are included in **Attachment 9**. 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.

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

Additional Studies Performed:

- Lido Beach / Point Lookout Shoreline Stabilization & Revetment: Schematic Rehabilitation Design Update (April 2018)
- Lido Beach / Point Lookout Shoreline Stabilization & Revetment: Coastal Hydrodynamic Analysis (March 2018)
- Lido Beach/Point Lookout Shoreline Stabilization & Revetment: Site Investigation Summary Report (December 2016)

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

- Upland and underwater field inspection: Conducted on October 26 and October 27, 2016

Attachments:

- **Attachment 1:** Project Location Maps
  - Street Map
  - Topographic Map
  - Aerial Photograph
- **Attachment 2:** Project Design Plans and Reports
  - Project Design Plans
  - Site Investigations Summary Report
  - Coastal Hydrodynamic Analysis
  - Schematic Rehabilitation Design Update
- **Attachment 3:** Project Reference Maps
  - FAA Airport Hazards Map
  - NYSDEC & NPS Wild and Scenic Rivers Map
  - NYSDEC Potential Environmental Justice Areas Map
  - NYSDEC Environmental Resource Mapper
- **Attachment 4:** Coastal Barrier Resources Act Documents
  - USFWS Coastal Barrier Resources System Map
  - USFWS Coastal Barrier Resources Act Consultation Documentation
- **Attachment 5:** Floodplain Management (EO 11988) and Protection of Wetlands (EO 11990) Determination
  - Appendix I
    - FEMA National Flood Hazard Layer Map
  - Appendix II
    - USFWS NWI Map
    - NYSDEC Tidal Wetlands Map
    - NYSDEC Wetlands and Waterways Map
  - Appendix III
    - Early Notice of a Proposed Activity in a 100-Year Floodplain and Wetland
  - Appendix IV
    - Affidavit for Early Notice of a Proposed Activity in a 100-Year Floodplain and Wetland
- **Attachment 6**: CAA De Minimis Threshold Analysis & General Conformity Worksheet
- **Attachment 7**: NYSDOS Coastal Consistency Documentation
  - NYSDOS Coastal Consistency General Concurrence Letter
  - NYSDOS Coastal Consistency Consultation Package
- **Attachment 8**: 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 within close proximity to, the Project Area
- **Attachment 9:** Endangered Species Compliance Documents
  - NYNHP Records Request Response
  - USFWS Consultation Package
  - NMFS Section 7 No Effect Memorandum
  - NMFS EFH No Effect Memorandum
- **Attachment 10:** Permit Documentation
  - NYSDEC Permit
  - NYSDEC / USACE Joint Permit Application
- **Attachment 11:** Agricultural and NRCS Soil Resource Documents
  - New York State Agricultural Districts Map
  - USDA NRCS Soil Resource Map
  - USDA NRCS Farmland Classification
- **Attachment 12:** SHPO Documentation
  - SHPO Response
- **Attachment 13:** US EPA Sole Source Aquifer Documents
  - US EPA Sole Source Aquifer Map
  - US EPA SSA Consultation Response

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)
- Tribal Historic Preservation Office (THPO)
- Lido Beach/Point Lookout Community Reconstruction Plan: NY Rising Community Reconstruction Program (March 2014)
- Nassau County Multi-Jurisdictional Hazard Mitigation Plan, 2014 Update.

List of Environmental Permits Potentially Required:

- NYSDEC – Excavation and Fill in Navigable Waters – Under Article 15, Title 5
- NYSDEC – Tidal Wetlands – Under Article 25
- NYSDEC – Water Quality Certification – Under Section 401 – Clear Water Act
- NYSDEC – Coastal Erosion Management – Under Article 34
- USACE Section 10 of the Rivers and Harbors Act
- USACE Section 404 of the Clean Water Act Permit
- Town of Hempstead Structures in Waterways Permit
- Town of Hempstead Floodplain Development Permit

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

- March 12, 2020 – Publication of a Combined Final Notice of Finding of No Significant Impact, Notice of Intent to Request Release of Funds, and Final Notice and Public Review of a Proposed Activity in a 100-year Floodplain and Wetland.
- August 8, 2019 – Publication of Notice of Early Public Review of a Proposed Activity in 100-year Floodplain and Wetland.
- February 20, 2014 – NYRCR Public Engagement Event
- October 15, 2013 – NYRCR Public Engagement Event
- November 4, 2013 – NYRCR Public Engagement Event

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

The Project was evaluated according to draft plans which encompassed all proposed actions. 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 will reduce its vulnerability to flooding.

The USACE completed the construction of the Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, New York Storm Damage Reduction Project (NYSDRP), which covered approximately 6.7 miles of Long Beach Island within Nassau County, New York. The NYSDRP spanned

the coastline of Long Beach Island from Jones Inlet and the Point Lookout Terminal Jetty to the East Rockaway Inlet. It covered the community of Point Lookout's beaches and the entire shoreline, including east to west, Town of Hempstead Town Park, Malibu Beach Club, Nickerson Beach, Lido Beach and the City of Long Beach. As a consequence of severe coastal erosion during Hurricane Sandy on October 29, 2012, the dune and berm system between East Rockaway and Jones Inlets became depleted and particularly vulnerable to overwash and potentially breaching during future storm events. This condition resulted in an increase in the potential for devastating storm damage to shore and particularly back-bay communities. Structural components of the project modification include the construction of an engineered beach with extensive and almost continuous dune system, timber/gravel dune walkovers, extensions of existing dune walkovers and vehicle access ways. The Proposed Project is consistent with the NYSDRP, and is a functional extension of NYSDRP, as it implements shoreline stabilization improvements that are consistent with activities performed for the NYSDRP along the coastline of Long Beach Island west of the Project area.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]
One alternative that was considered during the design process was constructing a continuous revetment across all zones (similar to Zone C of the proposed design) with existing revetment removal. This alternative involved complete removal of the existing revetment within Zones A and B, and the removal of groins and derelict revetment within Zone C. After removal, a new revetment, with a MHWS contour similar to the proposed, would be constructed across all zones. The revetment construction would involve granular fill, geotextile placement, underlayer and armor stone placement, land backfill and lee side slope reinforcement. This alternative was discarded due to budget limitations associated with excessive costs of existing revetment removal and construction of new revetment within Zones A and B, which would result in an additional 3,350 linear feet of revetment compared to the proposed design.

Another alternative that was considered was the installation of either a vinyl or steel sheet pile bulkhead with seaward stone scour protection. This alternative involved removal of the existing groins and derelict revetment within Zone C and partial removal of the existing revetment stone along the proposed MHWS contour, forming a trench, with vinyl or steel sheet pile bulkhead being subsequently driven along the centerline of the trench. Stone removed from the groins, derelict revetment, and the trench would be placed along the toe of the bulkhead, providing scour protection. It was discovered during schematic design that a cantilevered bulkhead of any feasible and available material/section would not have enough strength to sustain design loads. Therefore, the bulkhead would need to be supported by structures such as soil anchors or soldier piles. This alternative was discarded due to budget limitations associated with excessive costs of soldier piles and soil anchor installation, and potential construction issues (driving sheet piles along or adjacent to the existing revetment might result in sheet piles running into existing stones, which could significantly increase construction time and cost).

No Action Alternative [24 CFR 58.40(e)]:
Under the no action alternative, the existing shoreline deterioration would be expected to continue due to overtopping and tidal currents. The Zone C shoreline would be particularly vulnerable due to it being an unprotected sand beach and because it was determined during a morphology study that this area is historically unstable. Additionally, seaweed (Sea Lettuce or Ulva lactuca) would continue to get accumulated between the groins due to flow stagnation (vortex) forming, as demonstrated in hydrodynamic numerical modeling, sediment flow would continue to be disrupted by the groins and sand spits would continue to be formed south of Zone C. The "no action" alternative would provide no protection to the Project area and adjacent residential neighborhoods 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.

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
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	An 8-step Floodplain Management and Wetlands Protection Determination was completed pursuant to 24 CFR 55.20. The 8-step process concluded that due to the nature of the proposed action, prohibition of this work within floodplain and wetland area is not practicable A Town of Hempstead Floodplain Development Permit will be required prior to commencement of Project activities. The proposed Project will be completed in accordance with all applicable federal, state and local permit requirements and conditions.
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	An 8-step Floodplain Management and Wetlands Protection Determination was completed pursuant to 24 CFR 55.20. The 8-step process concluded that due to the nature of the proposed action, prohibition of this work within floodplain and wetland area is not practicable The construction activities will be sequenced and conducted in a manner which minimizes turbidity increases in adjacent surface waters. There will be no disturbance to vegetated dune

Wetlands Protection Executive Order 11990, particularly sections 2 and 5	areas or vegetated tidal wetland areas as a result of the Project activities. The following permits have already been obtained: • NYSDEC – Excavation and Fill in Navigable Waters – Under Article 15, Title 5 • NYSDEC – Tidal Wetlands – Under Article 25 • NYSDEC – Water Quality Certification – Under Section 401 – Clear Water Act • NYSDEC – Coastal Erosion Management – Under Article 34 The following permits will be required prior to commencement of Project activities: • USACE – Section 404 of the Clean Water Act Permit • USACE – Section 10 of the Rivers and Harbors Act • Town of Hempstead Structures in Waterways Permit • Town of Hempstead Floodplain Development Permit Permits required for the Project will be obtained before commencing work. Additionally, BMPs and erosion control measures will be incorporated into the proposed Project. Project activities will be completed in accordance with all applicable federal, state and local laws, regulations, and permit requirements and conditions.

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: March 12, 2020

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

Certifying Officer Signature: _____ Date: March 12, 2020

Name/Title: Matt Accardi – Environmental Certifying Officer

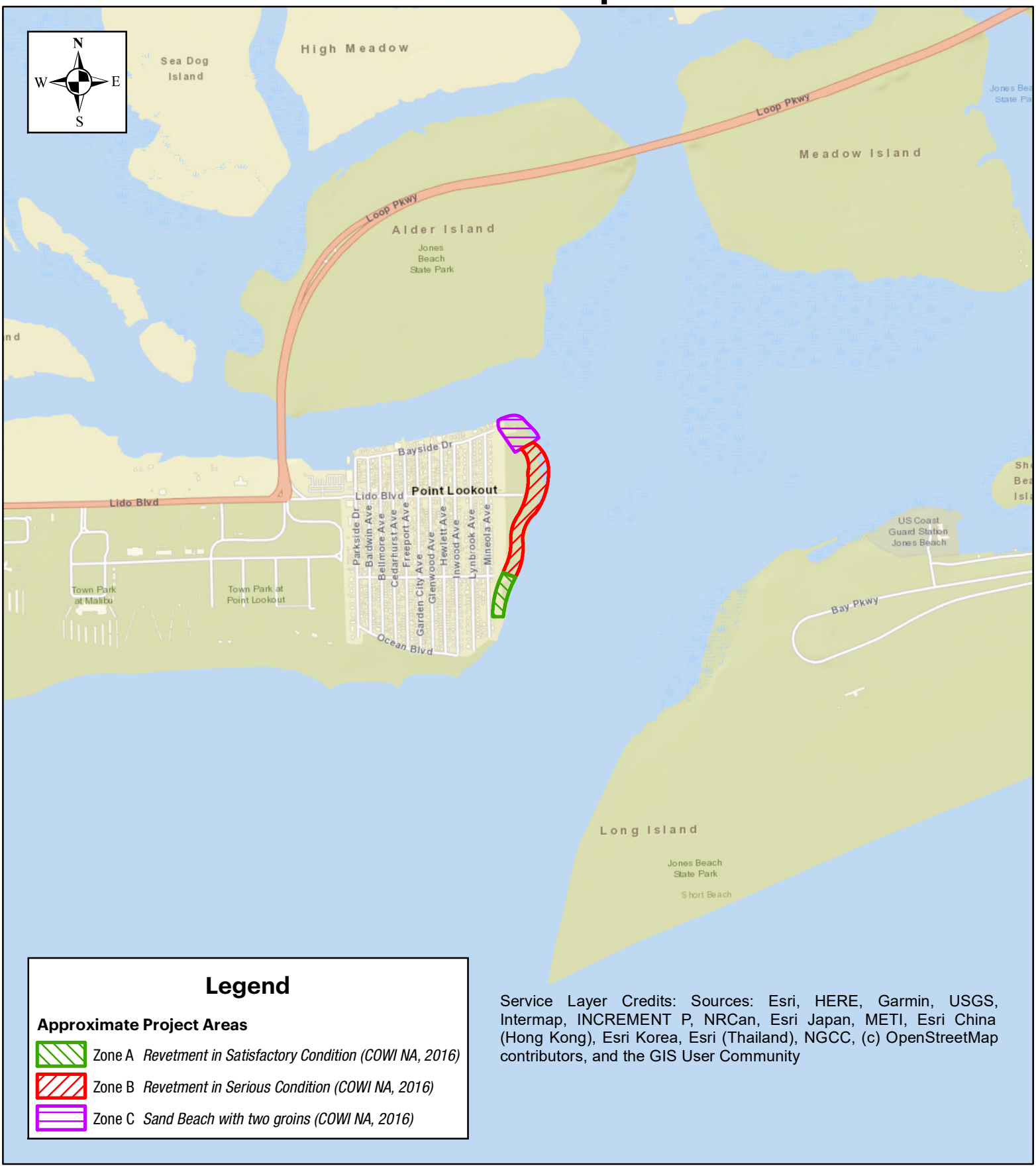
This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

Attachment 1

Project Location Maps

Street Map
Topographic Map
Aerial Photograph

Street Map



Legend

Approximate Project Areas

- Zone A *Revetment in Satisfactory Condition (COWI NA, 2016)*
- Zone B *Revetment in Serious Condition (COWI NA, 2016)*
- Zone C *Sand Beach with two groins (COWI NA, 2016)*

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

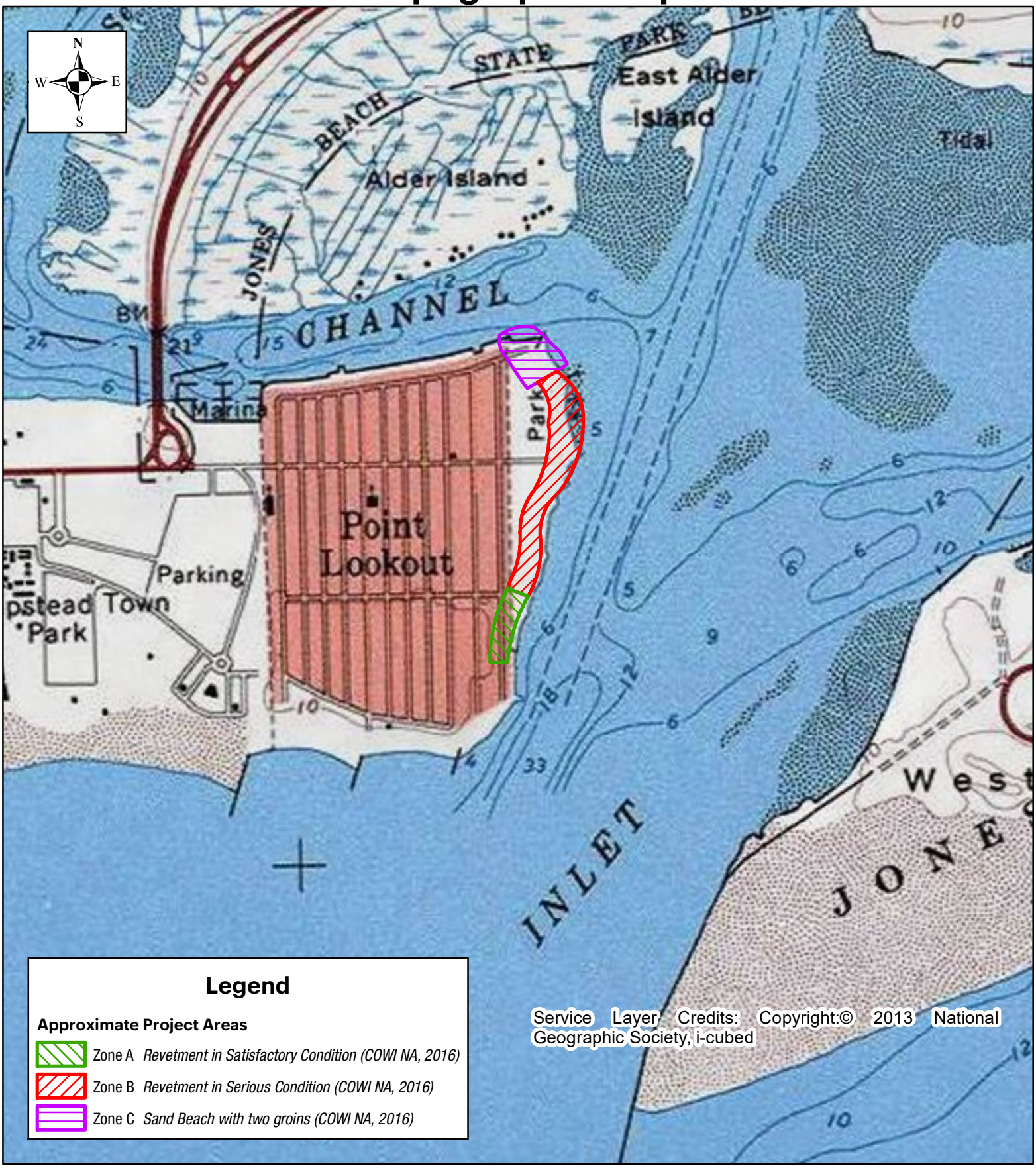
Tectonic

1:20,000

0 1,000 2,000 4,000 Feet

Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

Topographic Map



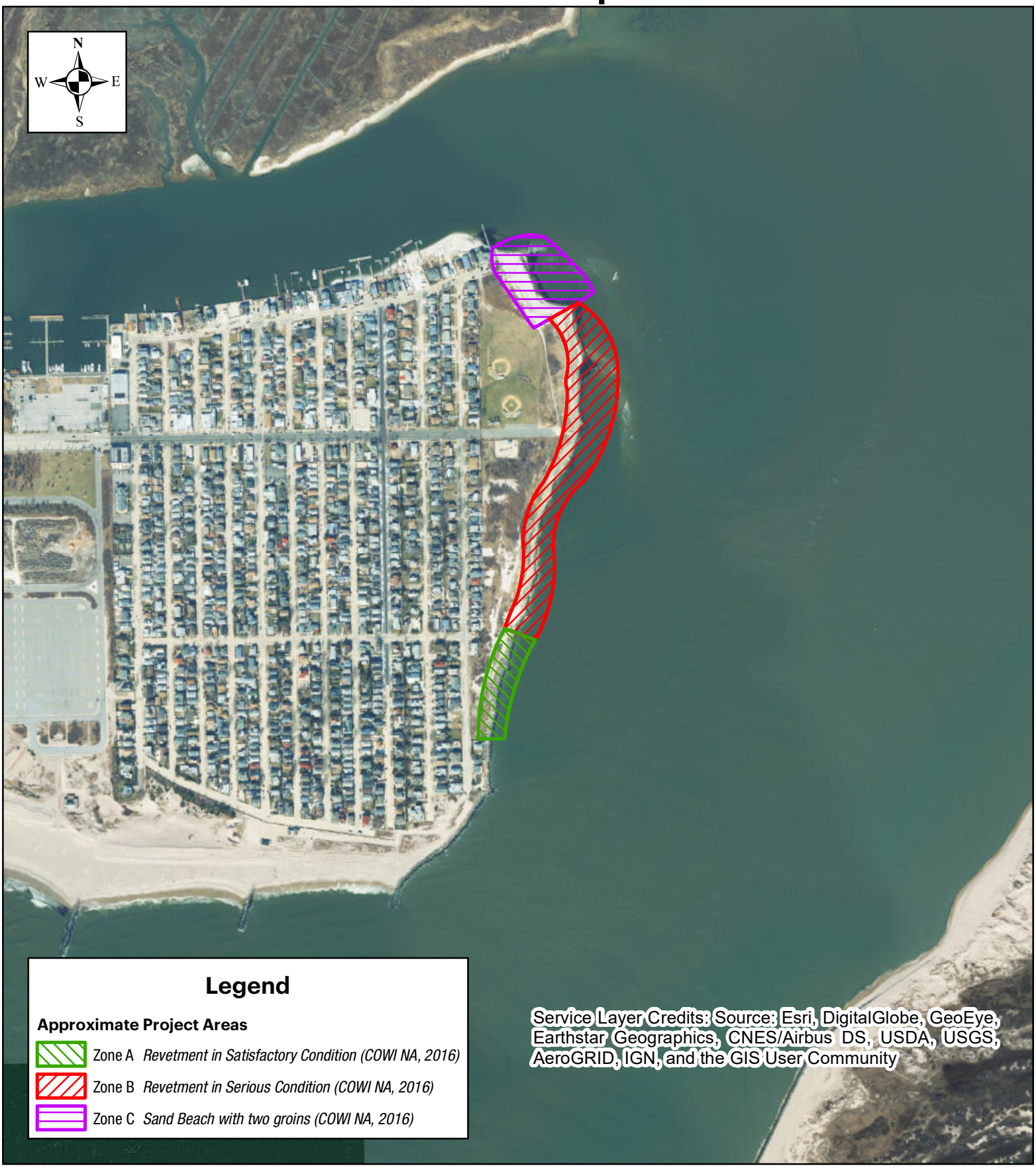
Tectonic

1:12,000

0 625 1,250 2,500 Feet

Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

Aerial Map



Tectonic

1:8,000

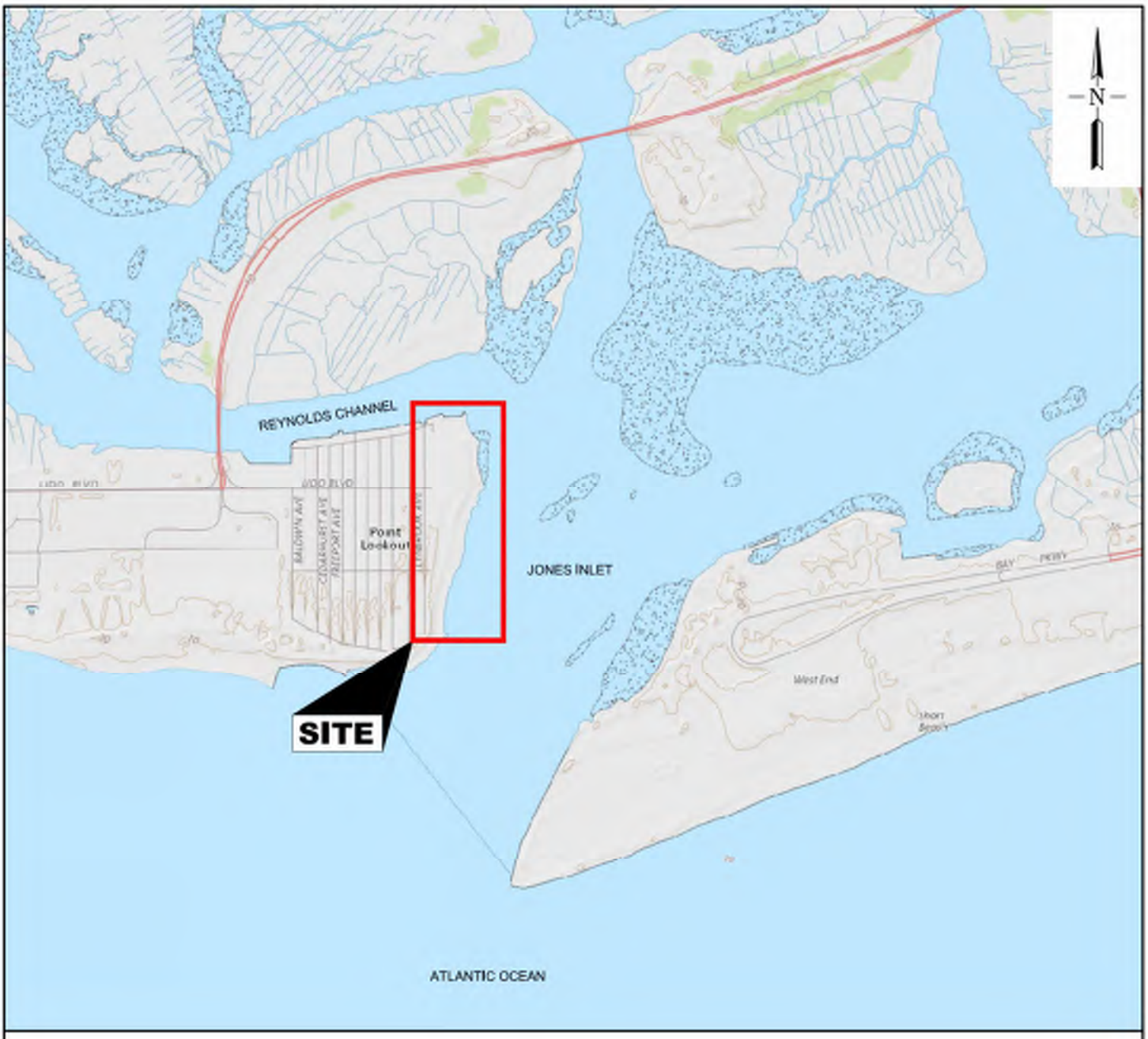
0 415 830 1,660 Feet

Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

Attachment 2

Project Design Plans and Reports

Project Design Plans
Site Investigations Summary Report
Coastal Hydrodynamic Analysis
Schematic Rehabilitation Design Update



USGS THE NATIONAL MAP: NATIONAL BOUNDARIES DATASET, NATIONAL ELEVATION DATASET, GEOGRAPHIC NAMES INFORMATION SYSTEM, NATIONAL HYDROGRAPHY DATASET, NATIONAL LAND COVER DATABASE, NATIONAL STRUCTURES DATASET, AND NATIONAL TRANSPORTATION DATASET; U.S. CENSUS BUREAU - TIGER/LINE; HERE ROAD DATA. DATA REFRESHED JULY, 2017

VICINITY MAP

0 2000 4000 FEET

APPROX. SCALE 1" = 2000'

REVISION 1

FOR PERMIT USE ONLY
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DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

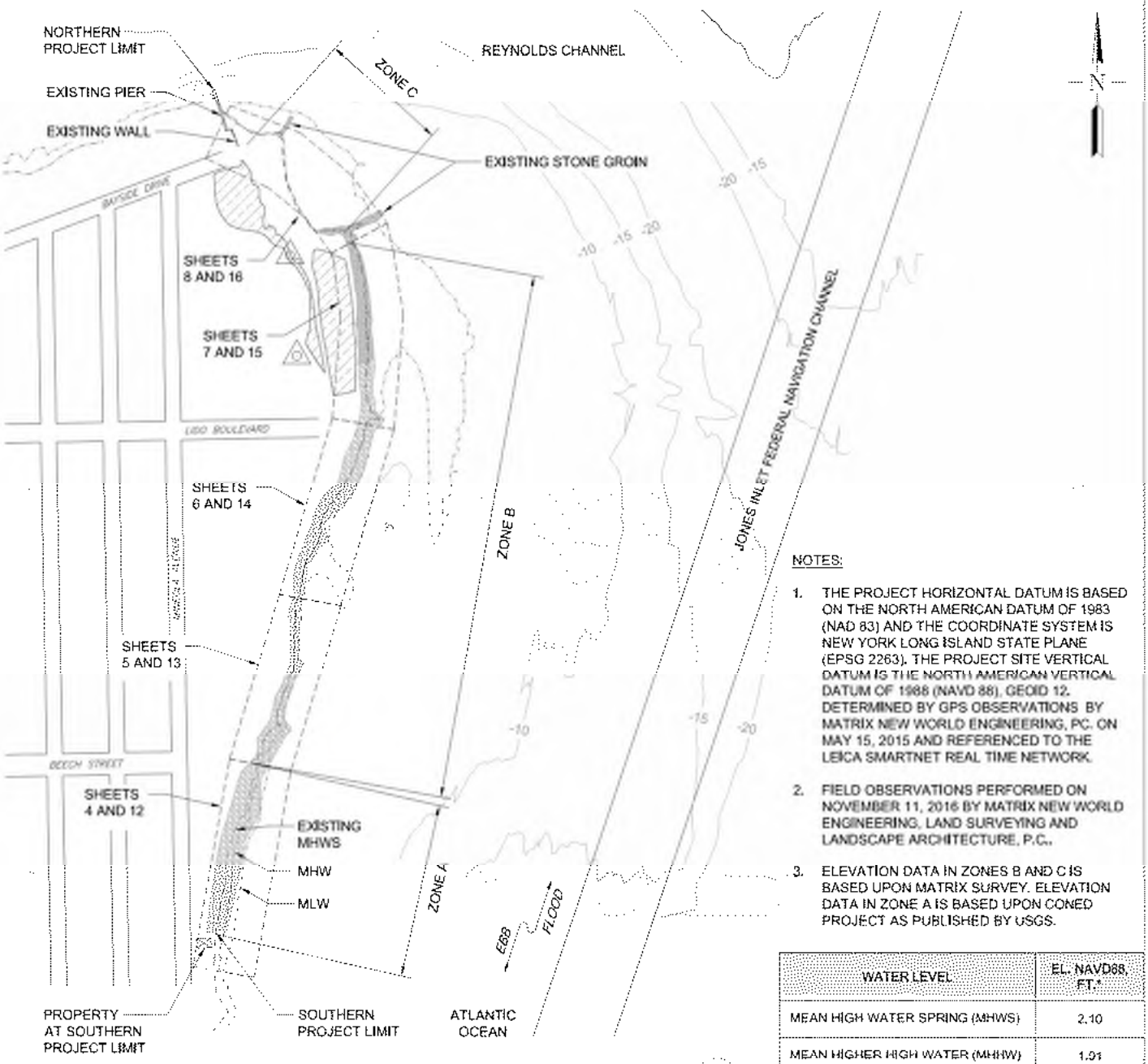
AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

SHEET 1 OF 21



EXISTING SITE PLAN

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

0 500 FEET

SCALE 1" = 500'

NOTES:

1. THE PROJECT HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) AND THE COORDINATE SYSTEM IS NEW YORK LONG ISLAND STATE PLANE (EPSG 2263). THE PROJECT SITE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), GEOID 12, DETERMINED BY GPS OBSERVATIONS BY MATRIX NEW WORLD ENGINEERING, PC. ON MAY 15, 2015 AND REFERENCED TO THE LEICA SMARTNET REAL TIME NETWORK.
2. FIELD OBSERVATIONS PERFORMED ON NOVEMBER 11, 2016 BY MATRIX NEW WORLD ENGINEERING, LAND SURVEYING AND LANDSCAPE ARCHITECTURE, P.C..
3. ELEVATION DATA IN ZONES B AND C IS BASED UPON MATRIX SURVEY. ELEVATION DATA IN ZONE A IS BASED UPON CONED PROJECT AS PUBLISHED BY USGS.

WATER LEVEL	EL. NAVD88, FT.*
MEAN HIGH WATER SPRING (MHWS)	2.10
MEAN HIGHER HIGH WATER (MHHW)	1.91
MEAN HIGH WATER (MHW)	1.59
NAVD88	0.00
MEAN SEA LEVEL (MSL)	-0.50
MEAN LOW WATER (MLW)	-2.56
MEAN LOWER LOW WATER (MLLW)	-2.74

* WATER LEVELS AS PER STATION 8516402 POINT LOOKOUT, NY

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SHEET 2 OF 21

	ZONE A (ABOVE MHWS)	ZONE B (ABOVE MHWS)			ZONE C		TOTAL
		B1	B2	B3	BELOW MHWS	ABOVE MHWS	
ARMOR STONE (D50=40 in; W50=3.05 ton) (yd^3)	1,183	2,123	2,323	2,353	2,904	3,633	14,520
UNDERLAYER STONE (D50=16 in; W50=391 lbm) (yd^3)	0	0	0	0	1,258	1,724	2,981
GRANULAR FILL (D50=7 in; W50=33 lbm) (yd^3)	271	264	289	293	175	248	1,541
GEOTEXTILE FABRIC (ft^2)	0	0	0	0	14,125	18,362	32,487

PROPOSED MATERIAL QUANTITIES

	ABOVE MHWS		BELOW MHWS	
ZONE	CUT (yd^3)	FILL (yd^3)	CUT (yd^3)	FILL (yd^3)
A	0	1,454	0	0
B1	0	2,388	0	0
B2	0	2,612	0	0
B3	0	2,612	0	0
C	2,493	2,647	5,995	4,337
TOTAL	2,493	14,705	5,995	4,337

PROPOSED CUT AND FILL VOLUMES

NOTES:

1. NO CUT OR FILL BELOW MHWS IS PROPOSED IN ZONES A, B1, B2, AND B3.

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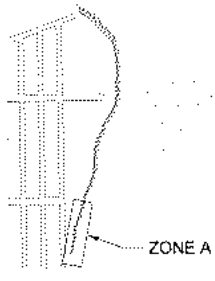
EXISTING PARTIAL SITE PLAN - ZONE A

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA



KEY PLAN

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HEMPSTEAD, LONG ISLAND
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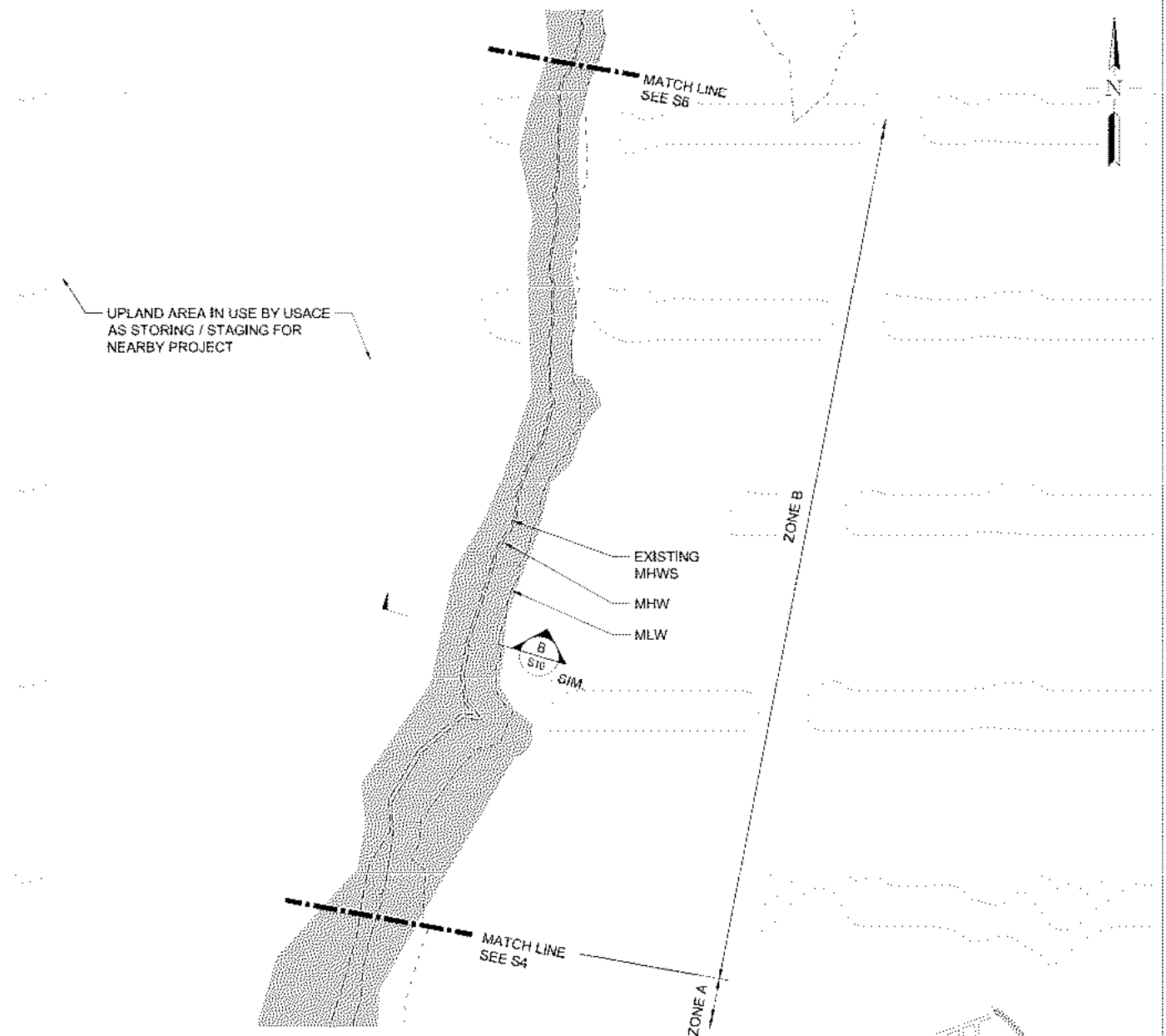
SHEET 4 OF 21



EXISTING PARTIAL SITE PLAN - ZONE B1

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA

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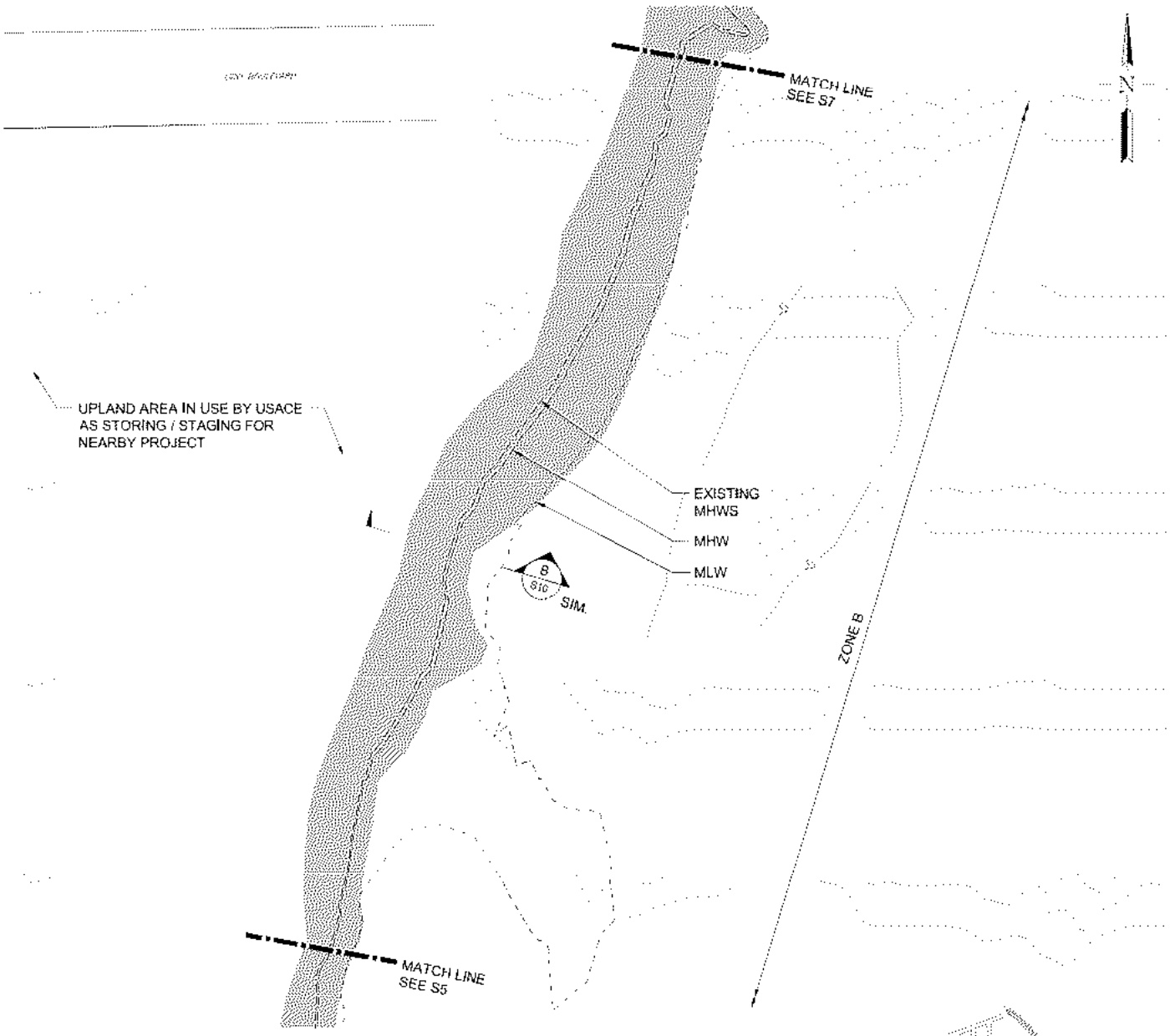
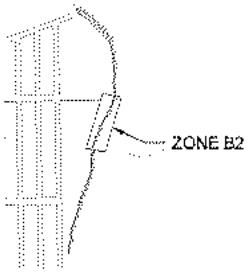
SHEET 5 OF 21



EXISTING PARTIAL SITE PLAN - ZONE B2

0 100 FEET

SCALE 1" = 100'



KEY PLAN

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA

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EXISTING PARTIAL SITE PLAN - ZONE B3

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

REVISION 1

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APPLICATION NO:

AGENT: COWI

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HEMPSTEAD, LONG ISLAND
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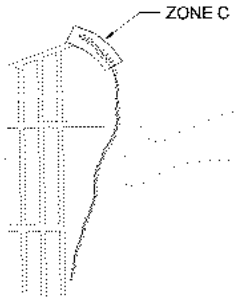
DATE : 06/11/2019

SHEET 7 OF 21

EXISTING PARTIAL SITE PLAN - ZONE C

0 100 FEET

SCALE 1" = 100'



KEY PLAN

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

REVISION 1

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SHEET 9 OF 21

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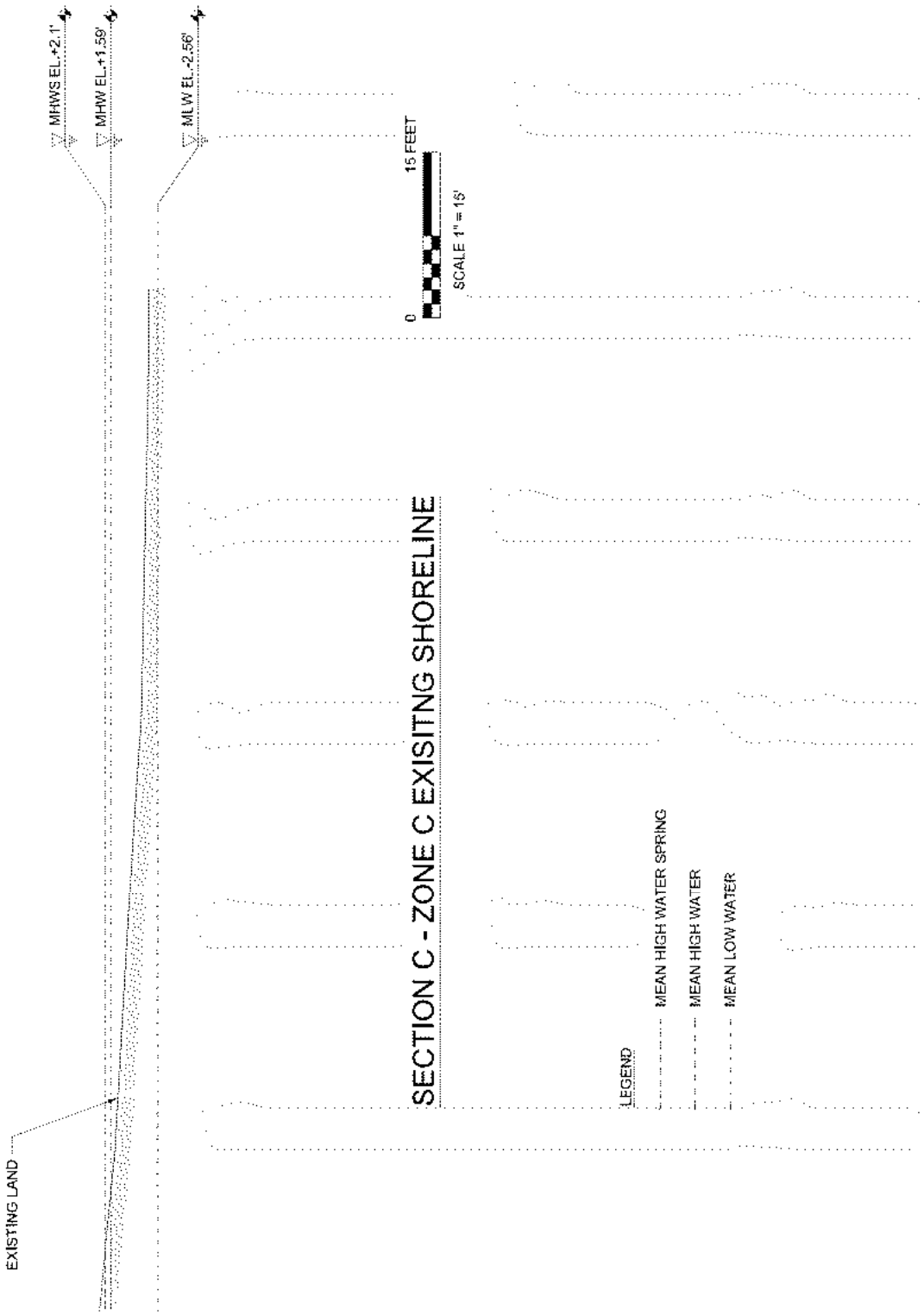
SHEET 10 OF 21



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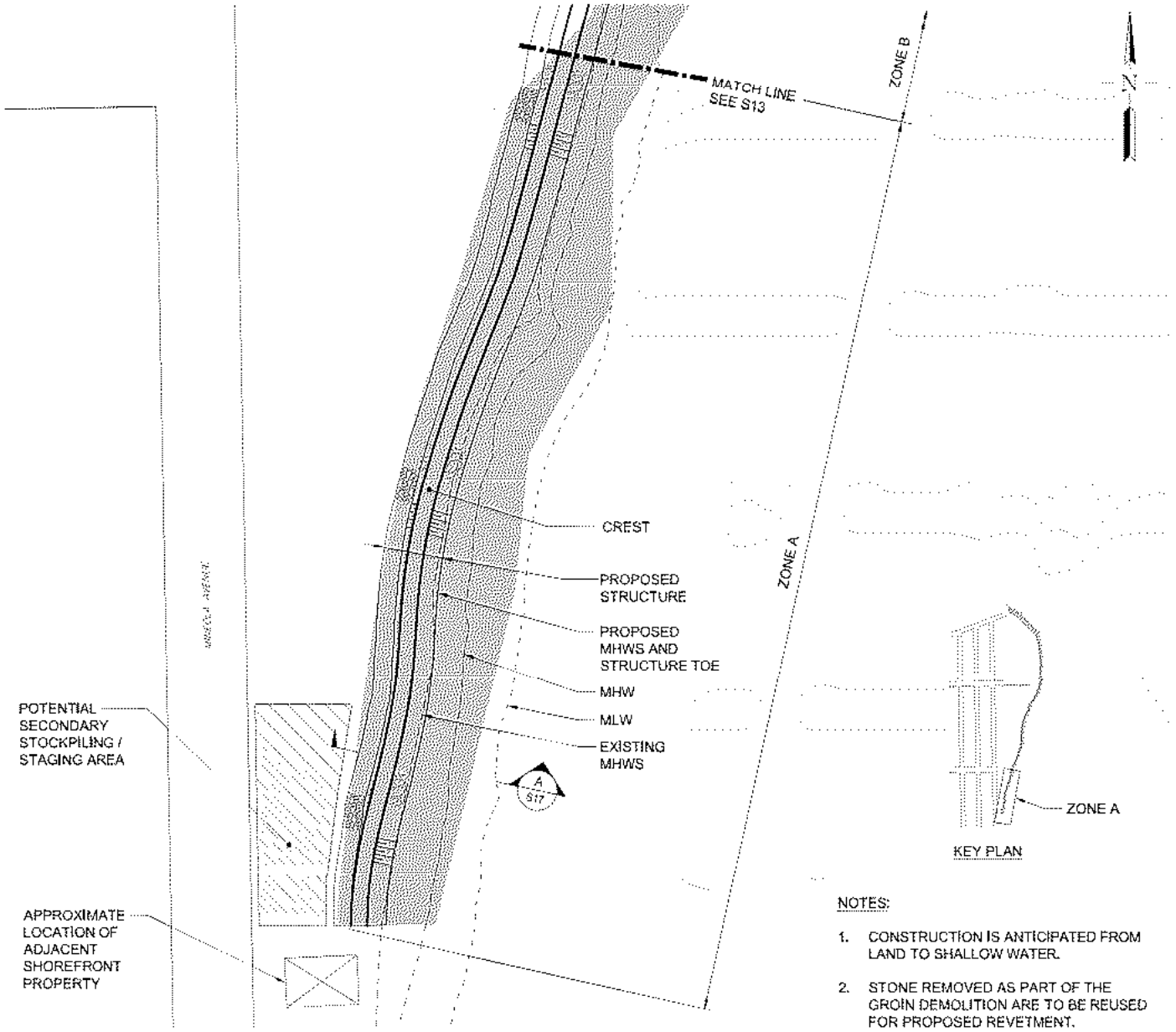
SHEET 11 OF 21



PROPOSED PARTIAL SITE PLAN - ZONE A

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- POTENTIAL STOCKPILING / STAGING AREA

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.
5. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE A IS 1450 CU. YD. WITH PLANAR AREA OF 2300 SQ. YD. NO MATERIAL IS PLACED BELOW MHWS WITHIN ZONE A.

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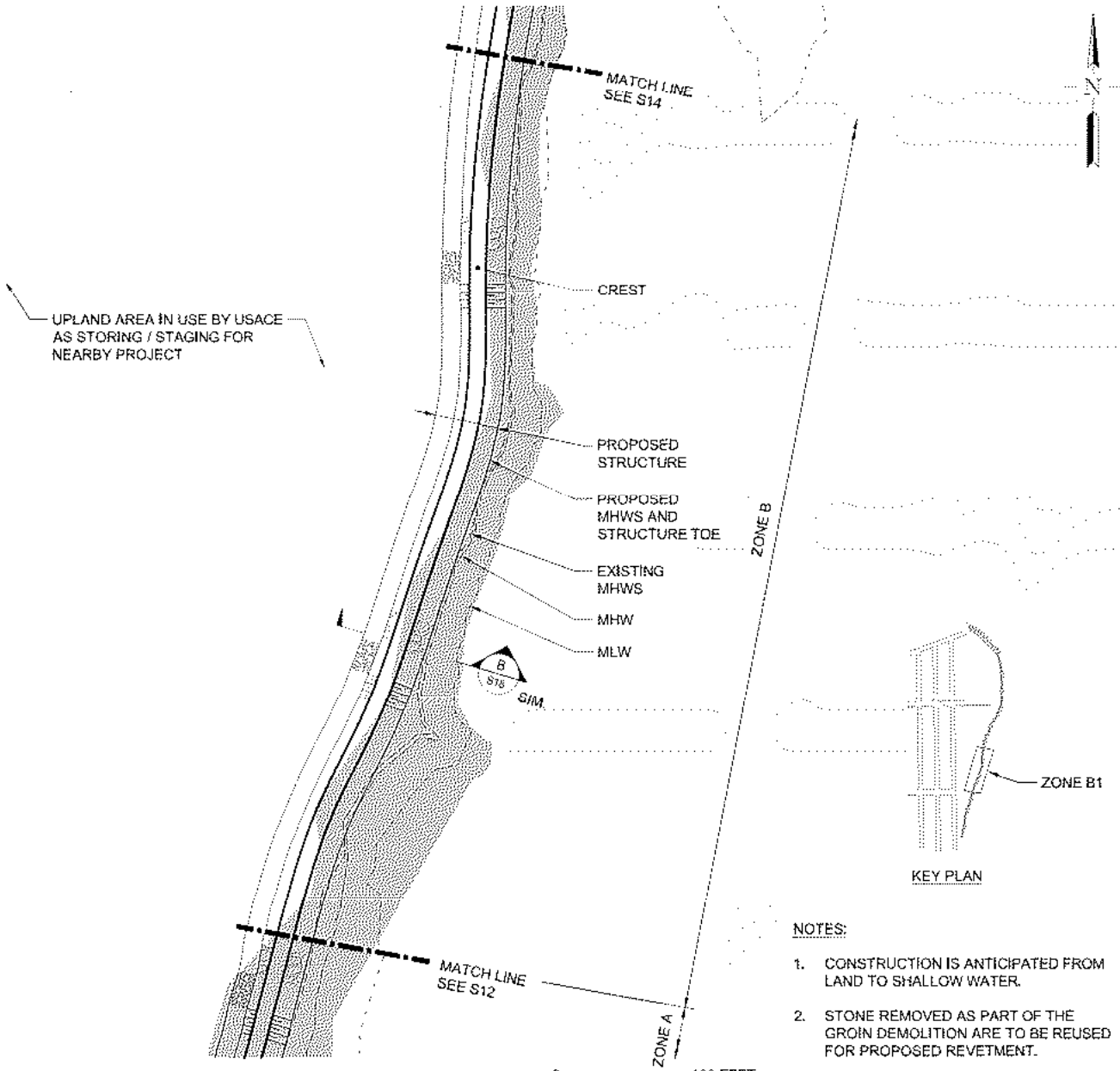

PROPOSED PARTIAL SITE PLAN - ZONE B1

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.
5. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE B1 IS 2390 CU. YD. WITH PLANAR AREA OF 2400 SQ. YD. NO MATERIAL IS PLACED BELOW MHWS WITHIN ZONE B1.

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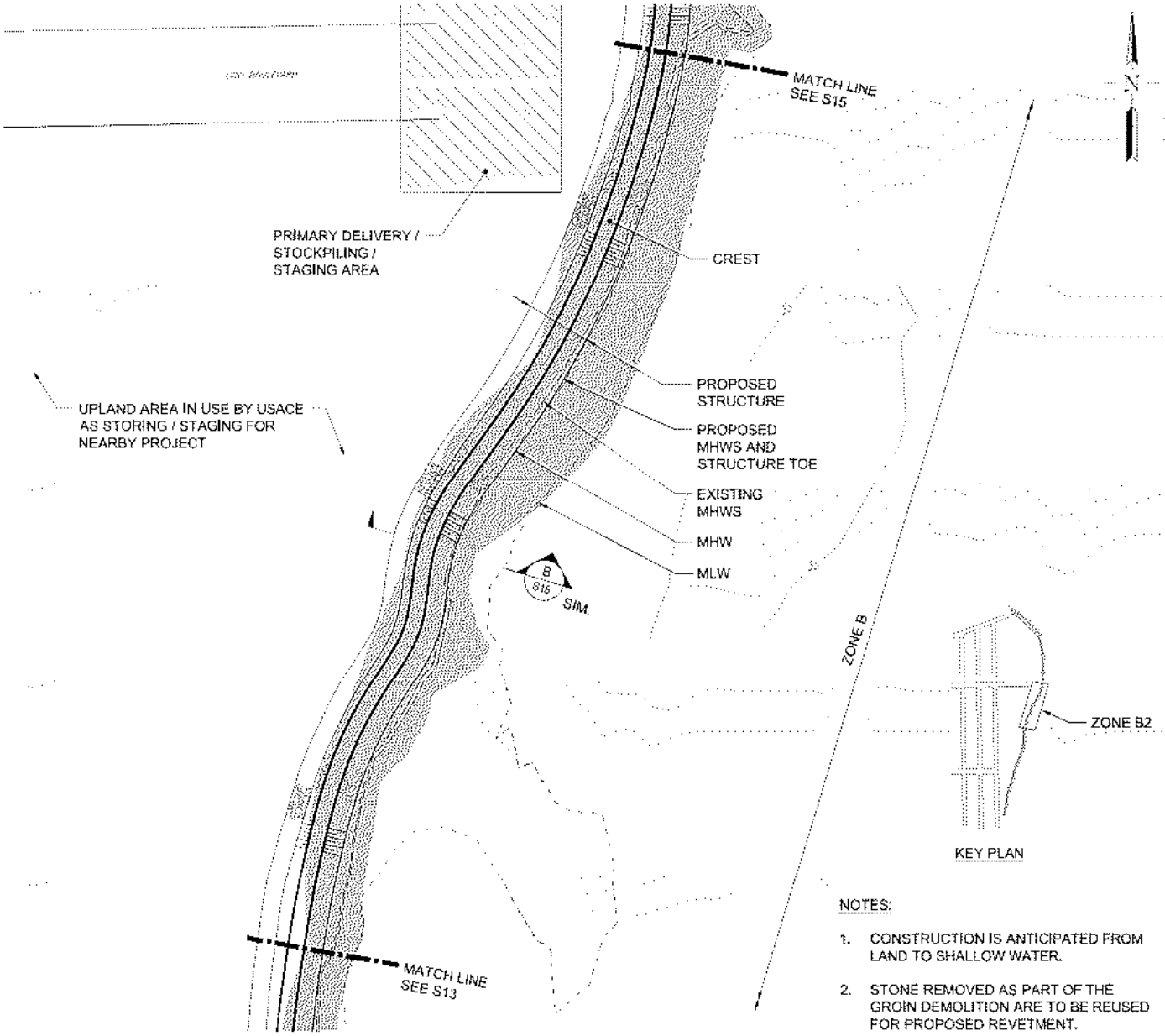

PROPOSED PARTIAL SITE PLAN - ZONE B2

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- POTENTIAL STOCKPILING / STAGING AREA

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.
5. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE B2 IS 2610 CU. YD. WITH PLANAR AREA OF 2650 SQ. YD. NO MATERIAL IS PLACED BELOW MHWS WITHIN ZONE B2.

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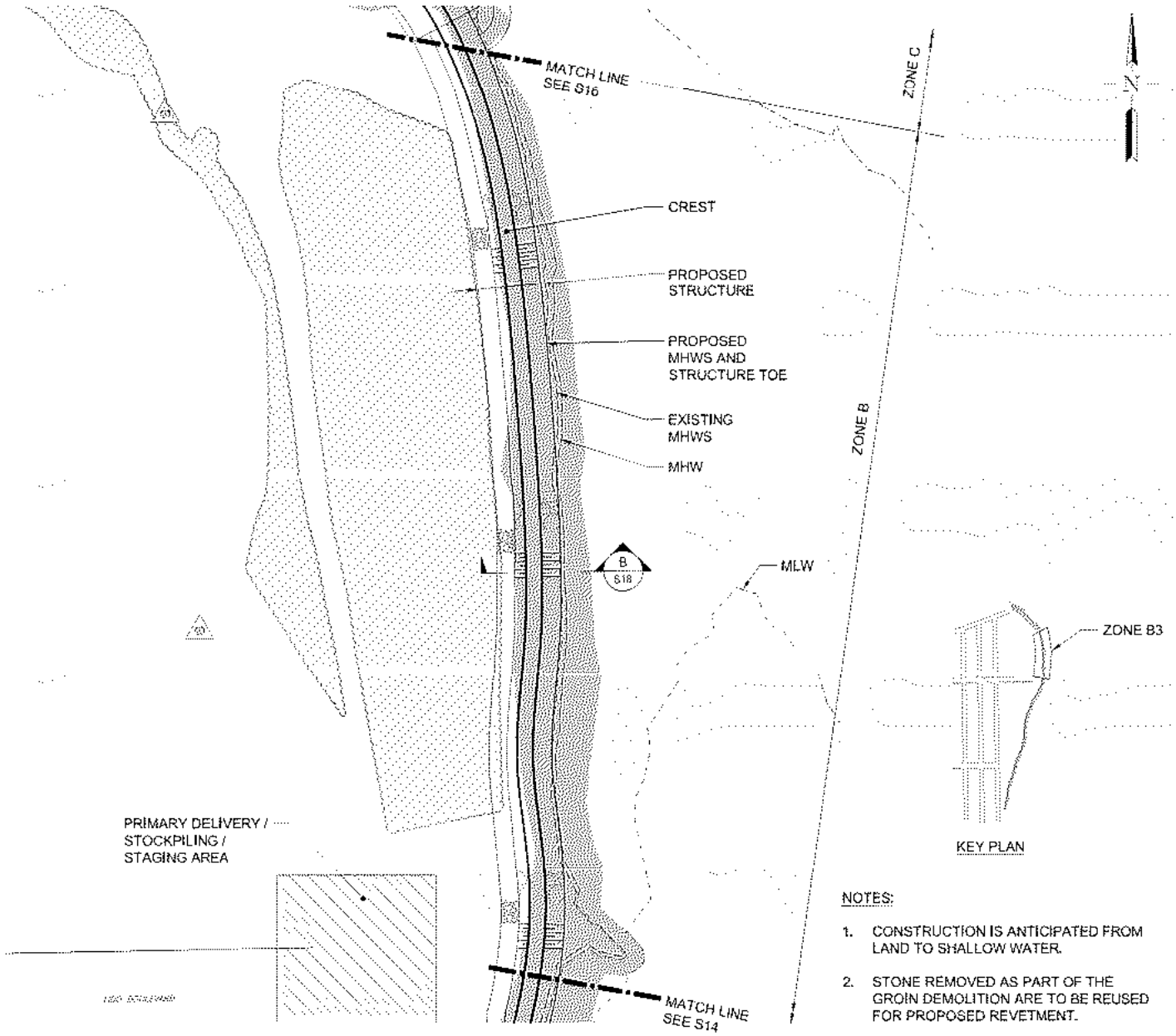
SHEET 14 OF 21



PROPOSED PARTIAL SITE PLAN - ZONE B3

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- POTENTIAL STOCKPILING / STAGING AREA
- BENCHMARK

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.
5. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE B3 IS 2650 CU. YD. WITH PLANAR AREA OF 2700 SQ. YD. NO MATERIAL IS PLACED BELOW MHWS WITHIN ZONE B3.

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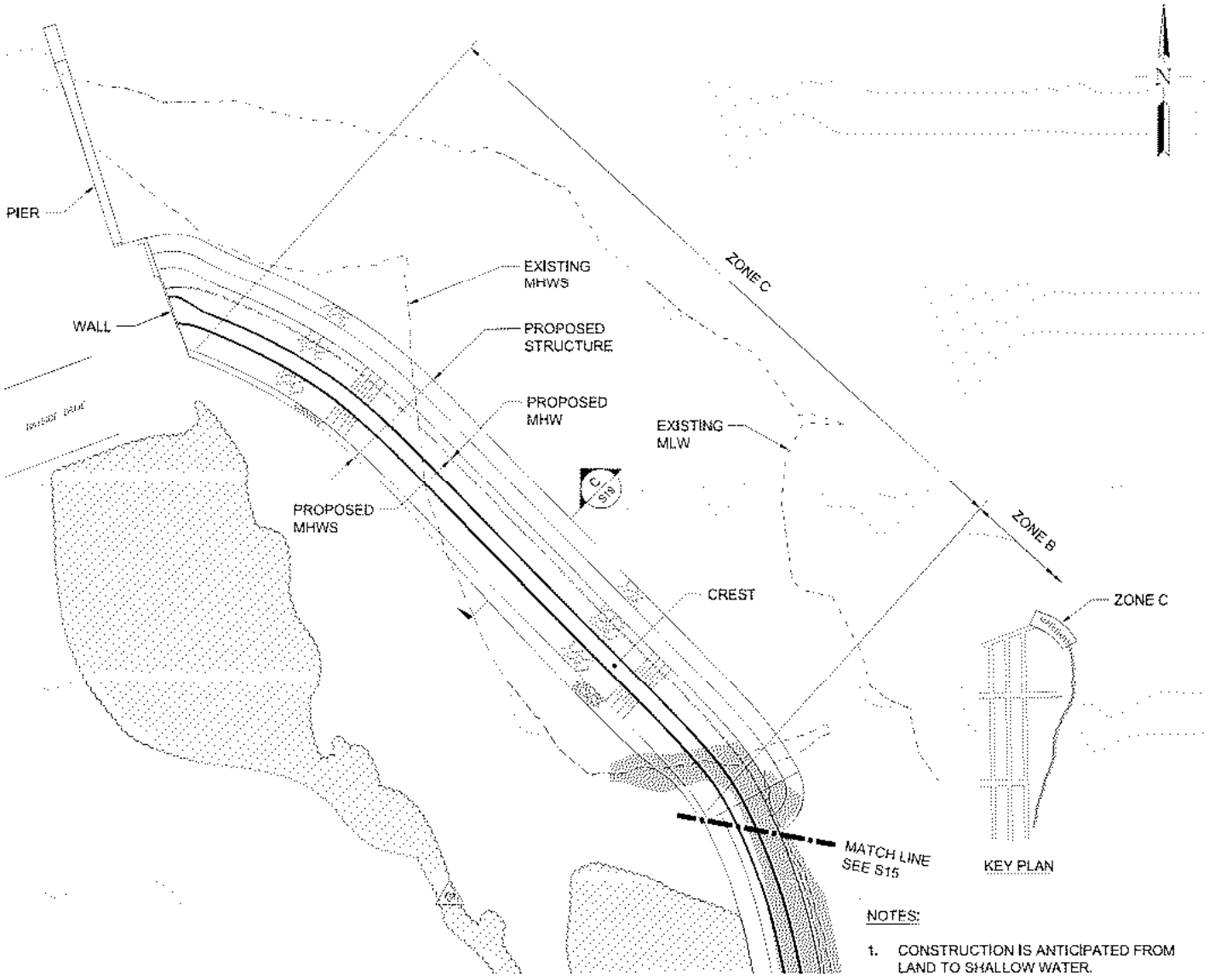

PROPOSED PARTIAL SITE PLAN - ZONE C

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE C IS 5600 CU. YD. AND TOTAL AMOUNT OF CUT IS 2500 CU. YD TOTAL AMOUNT OF FILL BELOW MHWS IN ZONE C IS 4340 CU. YD. TOTAL AMOUNT OF CUT IS 6000 CU. YD. TOTAL PLANAR AREA OF FILL IS 2140 SQ. YD. AND OF CUT IS 1610 SQ. YD. FOR AREA OF IMPACT BELOW MHWS SEE TABLE ON SHEET 21.

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SECTION C - ZONE C PROPOSED REVETMENT

NOTES:

1. THE SEWARD SIDE OF THE REVETMENT IS PROPOSED TO HAVE THE TOE START AT MHWS; THE LEEWARD SIDE OF THE REVETMENT IS PROPOSED TO HAVE THE TOE EXTEND TO THE EXISTING LAND ELEVATION.

LEGEND

- MEAN HIGH WATER SPRING
- MEAN HIGH WATER
- MEAN LOW WATER

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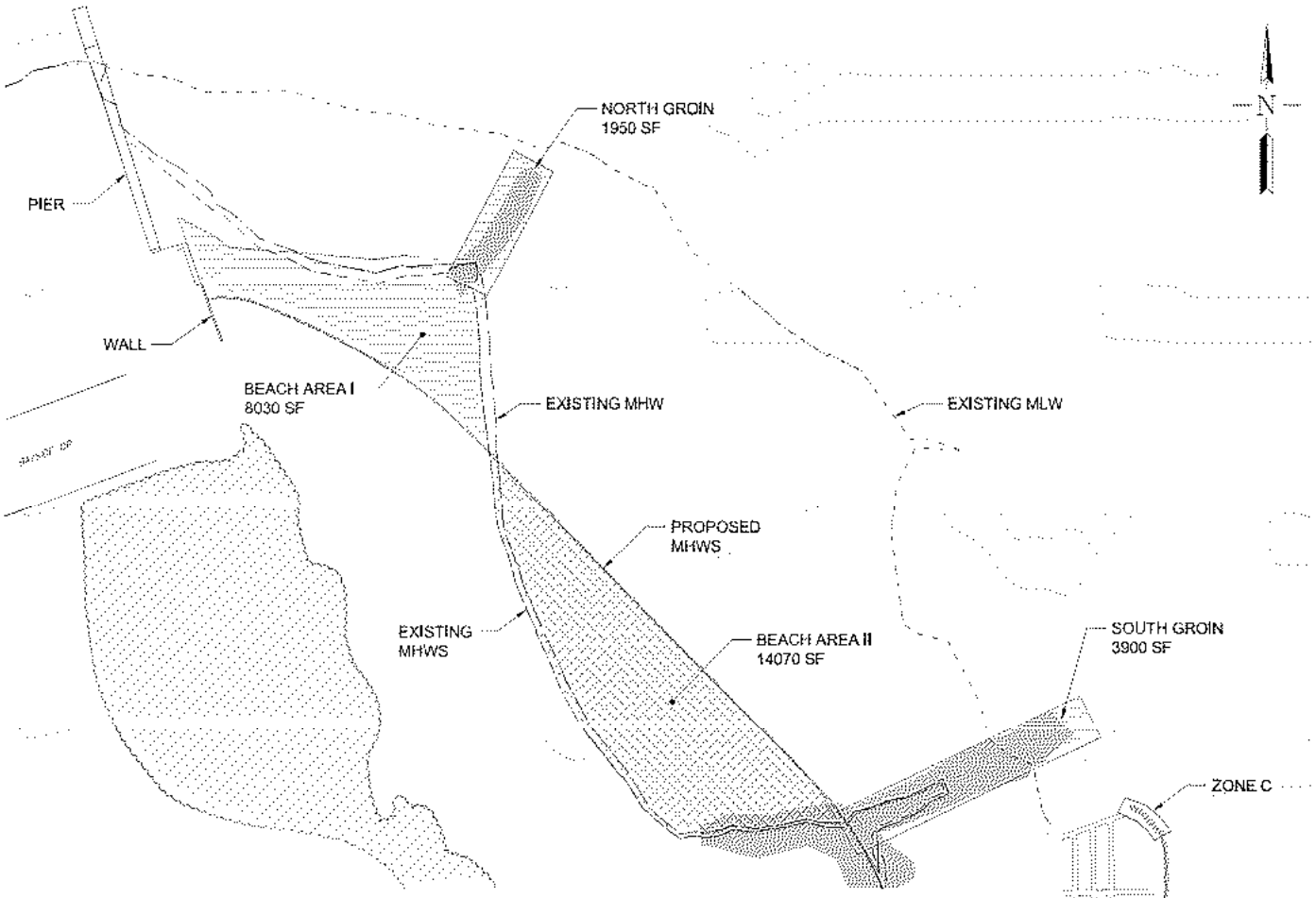
SHEET 19 OF 21

AREA	RECLAIMED (ft^2)	REMOVED (ft^2)	NET CHANGE (ft^2)	RECLAIMED (yd^2)	REMOVED (yd^2)	NET CHANGE (yd^2)
BEACH AREA I	0	8,030	-8,030	0	892	-892
BEACH AREA II	14,070	0	14,070	1,563	0	1,563
NORTH GROIN	0	1,950	-1,950	0	217	-217
SOUTH GROIN	0	3,900	-3,900	0	433	-433
TOTAL	14,070	13,880	190	1,563	1,542	21



ZONE C - PROPOSED SUB-MHWS AREAS CHANGE

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- REMOVE AREA
- RECLAIM AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

KEY PLAN

NOTES:

1. AREAS QUANTIFIED AS PER THE EXISTING MHWS CONTOUR.

REVISION 1

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

AGENT: COWI

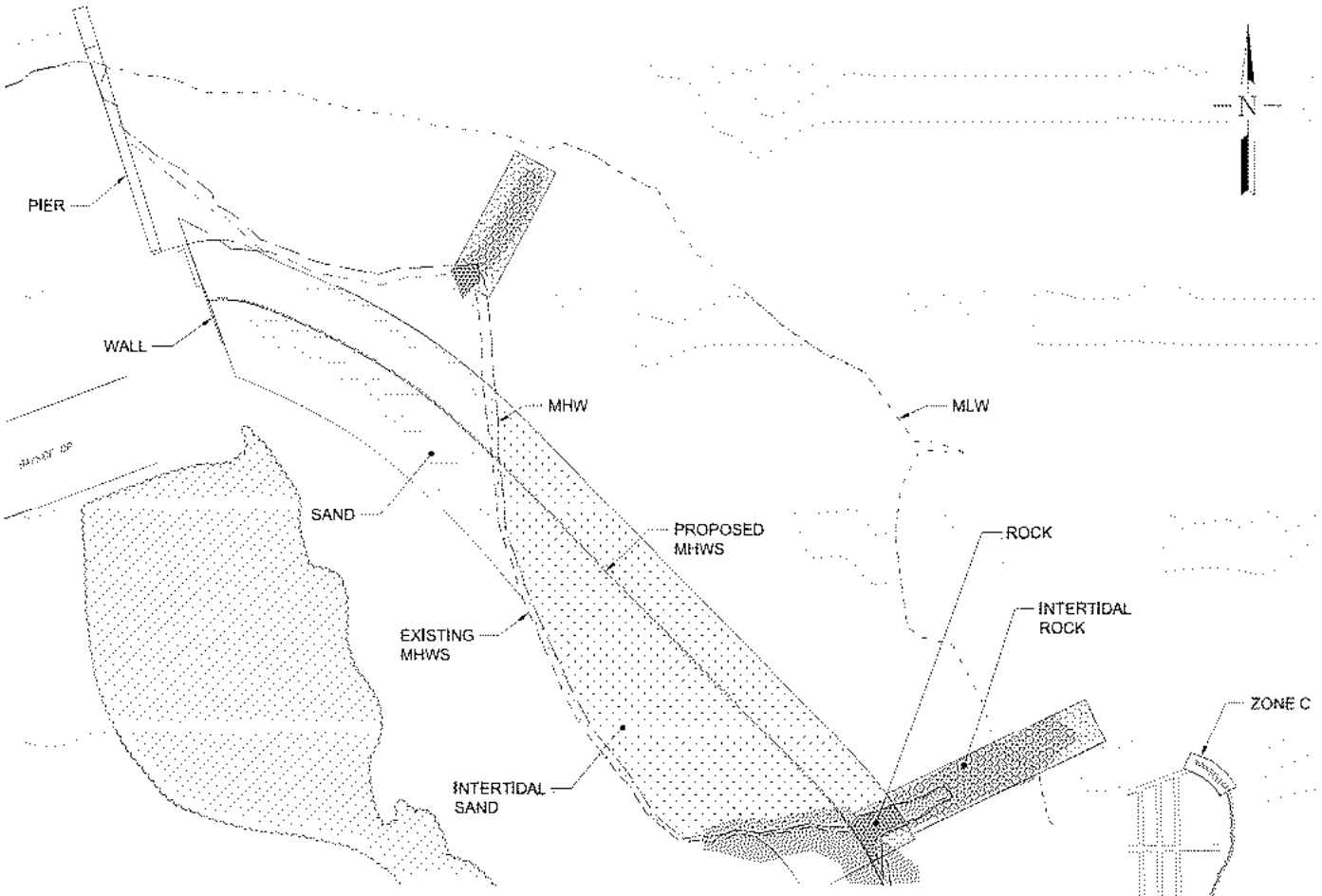
LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

SHEET 20 OF 21

	GAIN	LOSS	NET (ft²)	NET (yd²)
INTERTIDAL SAND	7,392.20	22,204.09	-14,811.88	-1,645.76
INTERTIDAL ROCK	13,496.46	4,679.36	8,817.11	979.68
SAND	3,584.84	15,496.92	-11,912.09	-1,323.57
ROCK	18,087.00	180.14	17,906.86	1,989.65



PROPOSED ZONE C BEACH AREA CHANGE

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- REMOVE AREA
- RECLAIM AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK
- SAND
- INTERTIDAL SAND
- ROCK
- INTERTIDAL ROCK

KEY PLAN

NOTES:

1. AREA CHANGE WAS QUANTIFIED AS PER THE EXISTING MHWS CONTOUR.
2. HATCHES SHOWN REPRESENT THE EXISTING BEACH AREAS CHANGING THEIR TYPE DURING THE PROPOSED CONSTRUCTION.

REVISION 1

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

DATUM: N.A.V.D. 88

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DATE : 06/11/2019

SHEET 21 OF 21

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DECEMBER 2016
TOWN OF HEMPSTEAD

Lido Beach / Point Lookout Shoreline Stabilization & Revetment

SITE INVESTIGATIONS SUMMARY REPORT

PROJECT NO.	DOCUMENT NO.
A076209	1

VERSION	DATE OF ISSUE	DESCRIPTION	PREPARED	CHECKED	APPROVED
1.0	21 Dec 2016	Initial Submission	Georgii V. Bocharov	Joe Marrone / Todd Manson	Todd Manson

CONTENTS

1	Introduction	4
2	Project Site Location	5
3	Field Inspection	7
3.1	Beach Inspection	10
3.2	Groins Inspection	12
3.3	Revetment inspection	14
3.4	Inspection Summary	21
4	Project Site Survey	27
4.1	Topographic Survey	27
4.2	Local Typology Survey (Transects)	28
4.3	Bathymetric Survey	29
4.4	Wetlands Survey	30
4.5	Biological Conditions Survey	31
5	Geotechnical Site Investigation	32
6	Wave and Current Data Collection	33
7	Recommended Actions	34

APPENDICES

Appendix A	Station Notes	36
Appendix B	Site Photographs	39
Appendix C	Topographic and Bathymetric Survey	52
Appendix D	Historical Aerial Imagery	55
Appendix E	Condition Ratings	58

1 Introduction

On September 29, 2016, the Town of Hempstead authorized Ocean and Coastal Consultants Engineering, P.C. (OCCE) to provide engineering services according to the Agreement for Consulting Services dated August 26, 2016, for the design and permit applications for the Lido Beach / Point Lookout Shoreline Stabilization & Revetment.

The project site investigation, discussed in detail in this report, was performed as a part of the Task 3 of the contract. This report is a summary of all project site related data collected and analyzed. Due to delays in obtaining subsurface geotechnical information, an addendum to this report will be issued once that information becomes available.

2 Project Site Location

The project site is located at the Eastern End of Long Beach Barrier Island, Town of Hempstead, Nassau County, New York (see Figure 2.1 and Figure 2.2). The project extends from the bulkhead at 177 Bayside Drive to a residential building at 128 Mineola Avenue. The project site can be divided into two parts: the sand beach between the northern bulkhead containing two groins (500 feet), and the revetment which spans from the South Groin to the building at 128 Mineola Avenue (2,300 feet). Landward of the revetment there is a weakly established sand dune with vegetation. The U.S. Army Corps of Engineers (USACE) has an ongoing project to rehabilitate Lido Beach and shoreline structures south of this project (Jones Inlet to East Rockaway Inlet).

Figure 2.1 Project site location

Figure 2.2 Project site location

3 Field Inspection

This section summarizes the findings of the field inspection performed by OCCE for the Lido Beach / Point Lookout Shoreline Stabilization and Revetment. The primary objective of the investigation was to determine the current conditions of the revetment and to locate landward and seaward extents of the existing revetment.

The upland and underwater field inspection was conducted on October 26 and October 27, 2016. The three-person inspection team consisted of two Project Engineers and an Engineer-Diver. All on-site personnel are experienced in the investigation, design, and construction of waterfront and coastal structures. The revetment toe and groin inspection was performed by the Engineer-Diver and the above water investigation was conducted in concurrence with the underwater inspection by Project Engineers.

The field inspection consisted of the following operations:

- beach inspection (validation of the GPR testing data)
- groins inspection
- revetment inspection

The underwater portion of the investigation included penetration testing using the surveying rod, measuring the revetment seaward extents and dimensions using a measuring tape, and measuring the sand spit position using a measuring tape. The seaward extents and toe depths were measured for both groins and the revetment. The above water portion of the inspection included measuring the landward extent of the revetment using a measuring tape and measuring typical rock sizes using a folding ruler.

A condition assessment rating was assigned to each structure and station (see Section 3.4.1) and a set of further design steps was outlined (see Section 7). Conditions of the revetment and the surrounding area were recorded with a camera and the photographs for each surveying station can be found in Appendix B. The results of the inspection were recorded in a Microsoft Excel spreadsheet, contents of which can be found in Appendix A. An overview of condition ratings assigned at each station is given in Appendix E.

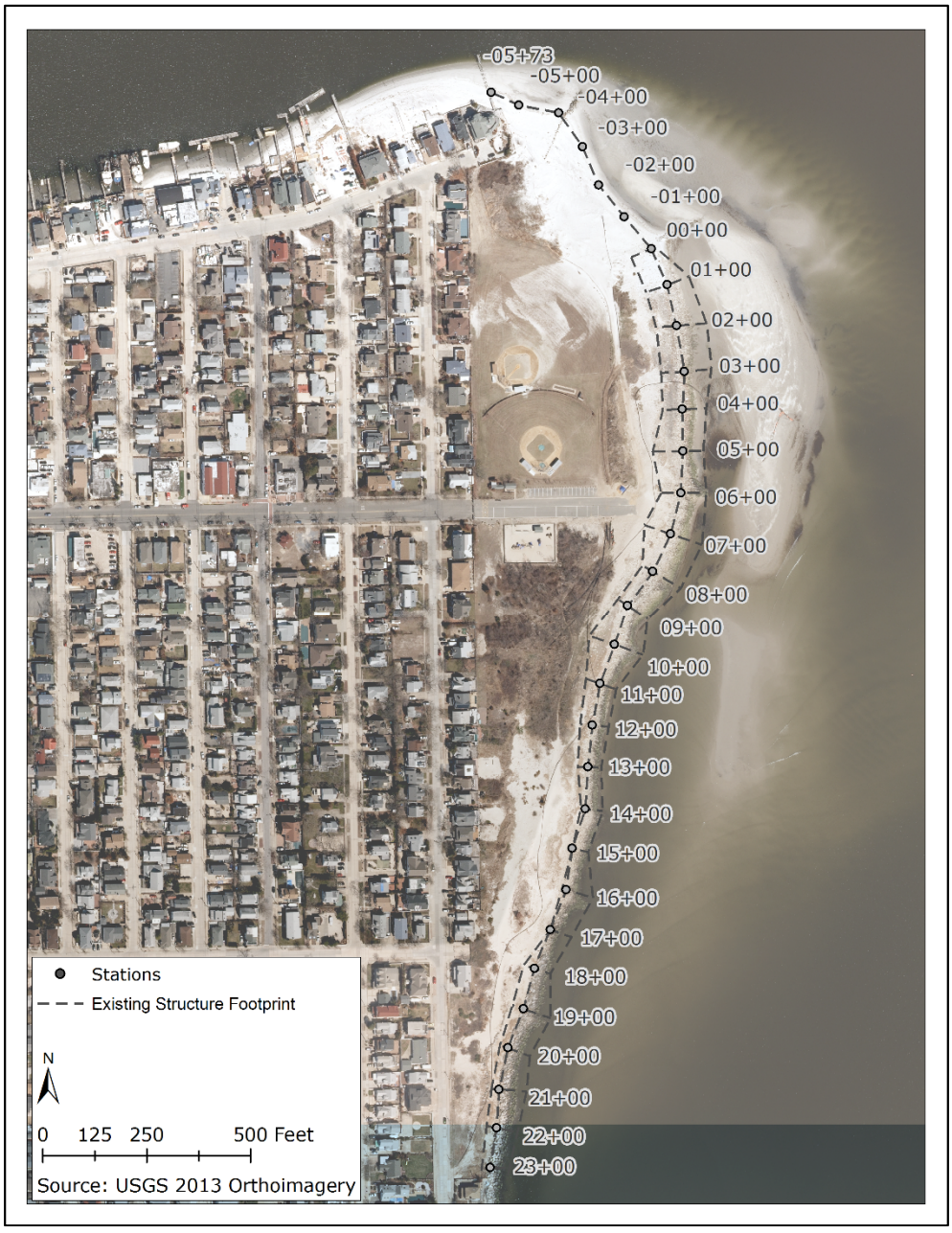


Figure 3.1 Site Inspection Stations Overview

3.1 Beach Inspection

The purpose of the beach inspection was to validate the results of the GPR testing (described in detail below). The beach inspection included penetration testing, which was performed at the locations shown on Figure 3.2 (red sections and nodes representing the ground anomalies). A surveying rod was used to penetrate the sand in order to find if the locations, suggested by the GPR data below, represent real subsurface objects (relic groins / revetment). The beach inspection yielded the following:

- no buried rock was found within the depth of 2ft except the ones lying on the surface
- an increase in the soil density was observed at a depth of 1 foot

The increased soil density (soil resistance to penetration) prevented further GRP testing results investigation. The results of this inspection are inconclusive.

The Ground Penetrating Radar (GPR) testing data (15th August, 2014; Ralf Birken, low frequency GPR analysis), which was used as a reference for this part of inspection, was provided by the Town. The GPR testing was performed over 14 profiles at the beach section of the project site (blue, see Figure 3.2). Areas where anomalies were found are shown in the Figure 3.2 as red lines. An anomaly is defined as an area where electromagnetic waves are reflected or distorted due to encountering a material interface (e.g. soil layers with varying properties, a buried object, etc.).

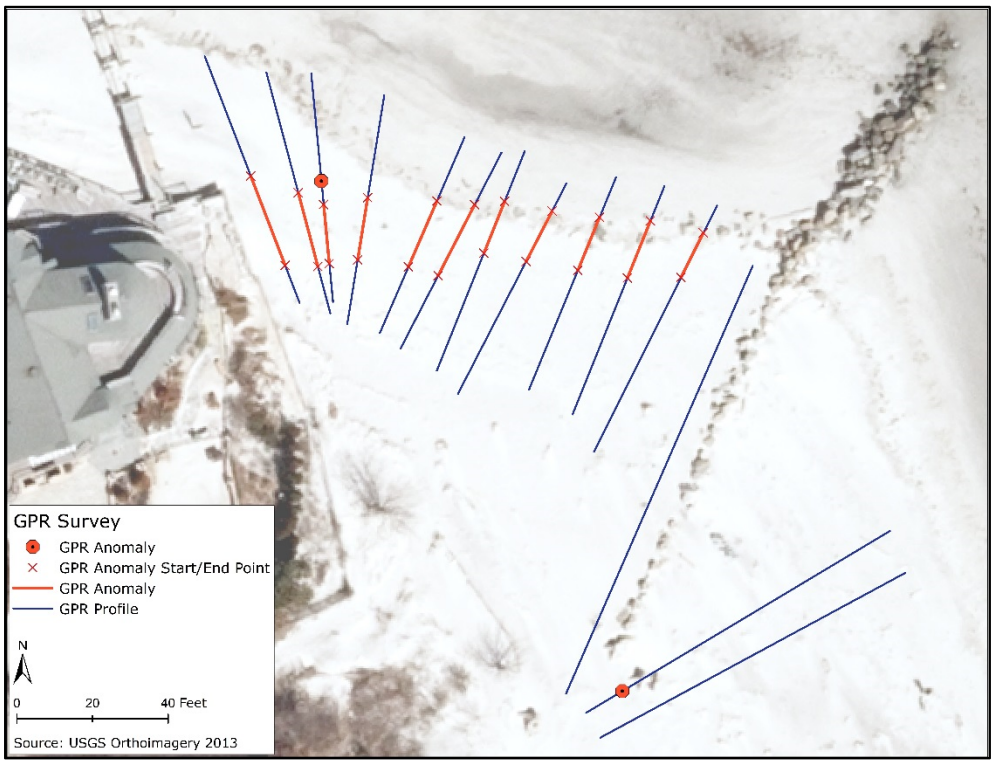


Figure 3.2 Visualized GPR testing data

3.2 Groins Inspection

Two groins located within the beach section (see Figure 3.3, Stations -4+00 and 00+00) were inspected. Lateral extents of the groins were measured as distances from the center of the groin (groin axis) to a point at which the surveying rod would freely penetrate the soil up to a distance of 5 feet. Groin length was measured as a distance between the most landward point of the groin and the point at which the groin ended seawards (point where the surveying rod freely penetrated soil up to 5 feet deep). Measurements were performed using a steel measuring tape. Groin inspection results are summarized in Table 3.1.

Table 3.1 Groin inspection summary

	North Groin	South Groin
Left extent [ft]	14	13
Right extent [ft]	11	13
Length [ft]	78	160

Groins consist of solid quarry rock ranging in size from 2 to 5 ft. Photo 1 and Photo 2 were taken during low tide.

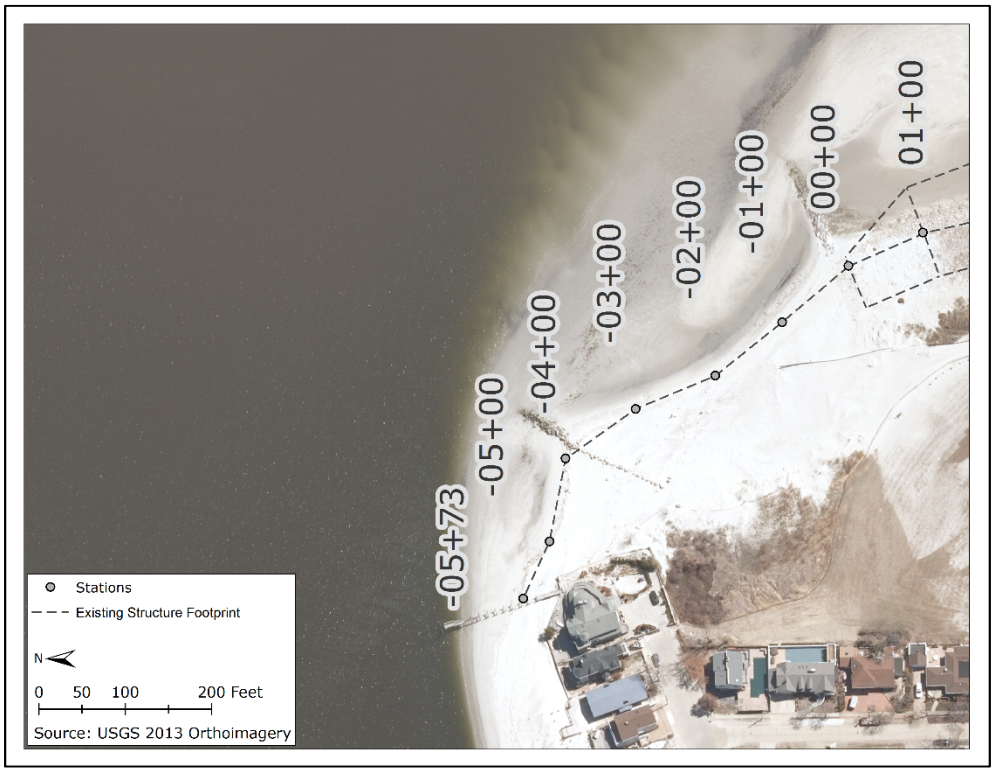


Figure 3.3 Stations -05 - +01

Photo 1 North Groin

Photo 2 South Groin

3.3 Revetment inspection

The inspection of the revetment consisted of setting up survey stations every 100 feet and surveying a cross-section at each station. Stationing was performed by measuring distances between stations using a steel measuring tape and setting up stations at the approximate location of the revetment crest. The starting point (station 0+00) of the traverse was chosen to be the landward center edge of the south groin. The terminal point (23+28) was chosen to be at the northern border of property at 128 Mineola Avenue. Total length of the traverse is 2,328 ft. Station locations are shown on Figure 3.4, Figure 3.5, and Figure 3.6. An overview of all stations is given in Appendix E.

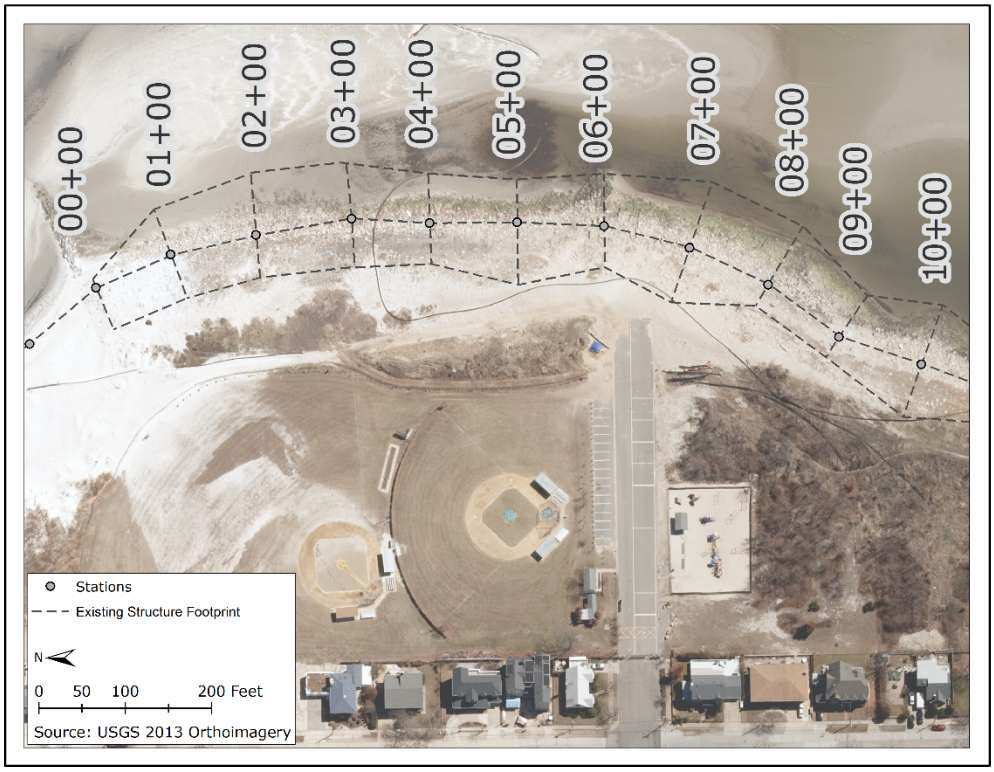


Figure 3.4 Survey stations 0 - 10

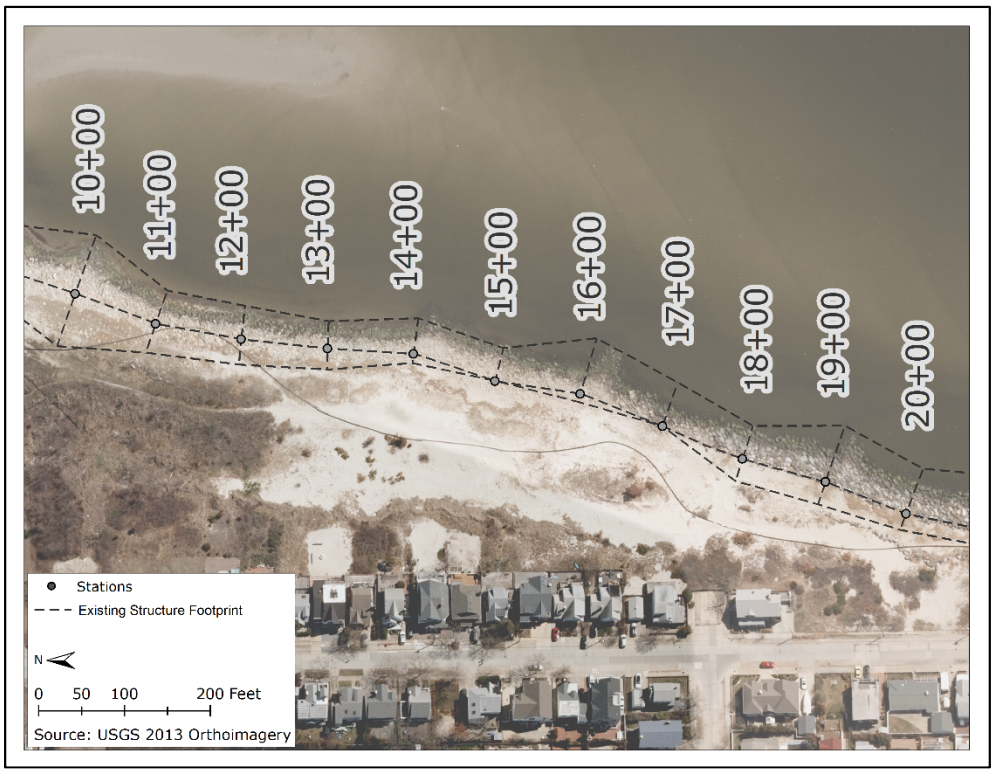


Figure 3.5 Survey stations 10 – 20

Figure 3.6 Survey stations 16 - 23

The detailed summary for each station is given in Appendix A, photographs for each station are given in Appendix B. Below are listed the major summary points for the revetment inspection.

Armor stone quality ranges from concrete rubble of irregular size (6 inches to 6 feet) to quarry stone (4 to 6 feet). The revetment can be broken down into three sections based on rock size and quality:

- concrete rubble (stations 0+00 – 12+00, see Photo 3)
- mixed stone (stations 13+00 – 17+00, see Photo 4)
- quarry stone (stations 18+00 – 23+28, see Photo 5); it should be noted that the rocks in this section have an uderlayer consisting of concrete rubble of the same properties as in previous sections

As seen in Figure 2.2, there is a sand spit south of the beach section of the project site. The spit is located within stations 1+40 – 7+50 and becomes emerged only during low tides. It extends 290 feet offshore at station 3+00. The low tide photo of the spit can be seen in Photo 6.

Two outcrops are present at stations 16+00 (67 feet offshore, see Photo 7) and 19+00 (69 feet offshore, see Photo 8). Enclosed between these outcrops is an erosion area which spans from station 16+25 to station 17+50 (32 feet inland, see Photo 9).

The existing revetment footprint (see Figure 3.4, Figure 3.5, and Figure 3.6) was determined by measuring seaward and landward extents. Distances between stations and extent locations were measured using a steel measuring tape as a distance between a station (located at revetment crest, defined as a point on at revetment cross-section with the highest elevation) and a point at which no stone was found within the depth of 2 feet (tested using a surveying rod). Landward and seaward extents for each station can be found in Table A.1, Appendix A. The revetment footprint width (which is the distance between landward and seaward extents) ranges from 40 feet to 100 feet throughout the survey stations.

Photo 3 Typical concrete rubble armoring revetment section.

Photo 4 Typical mixed armoring revetment section

Photo 5 Typical quarry stone armoring revetment section

Photo 6 Sand spit at low tide

Photo 7 Outcrop at station 16+00

Photo 8 Outcrop at station 19+00

Photo 9 Erosion area at stations 16+25 – 17+50

3.4 Inspection Summary

The performed inspection falls under the Baseline Inspection category in accordance with the Waterfront Facilities Inspection and Assessment (WFIA) manual by the American Society of Civil Engineers (ASCE). Additionally, the Waterfront Facilities Maintenance Management System Inspection Guidelines Manual (WFMMSIGM) developed by the New York City Economic Development Corporation was used as a reference for condition rating assessment as it provides more detailed guidelines on how to assess condition ratings of revetment structures. As a result of this inspection, each element inspected was assigned a condition rating (see Section 3.4.1) and a set of recommended actions has been prepared (see Section 7).

3.4.1 Condition Assessment Ratings

Each of the inspected structures was assigned a condition rating based on the Table 2-14 definitions of the ratings given in the ASCE WFIA (see Table 3.2 in this report). Summary of the assigned condition ratings with comments detailing the choice of each rating level is given in Table 3.3. Extents of the condition rating zones are shown in Figure 3.7, Figure 3.8, Figure 3.9, and Figure 3.10. A set of recommended actions was developed and is given in Section 7.

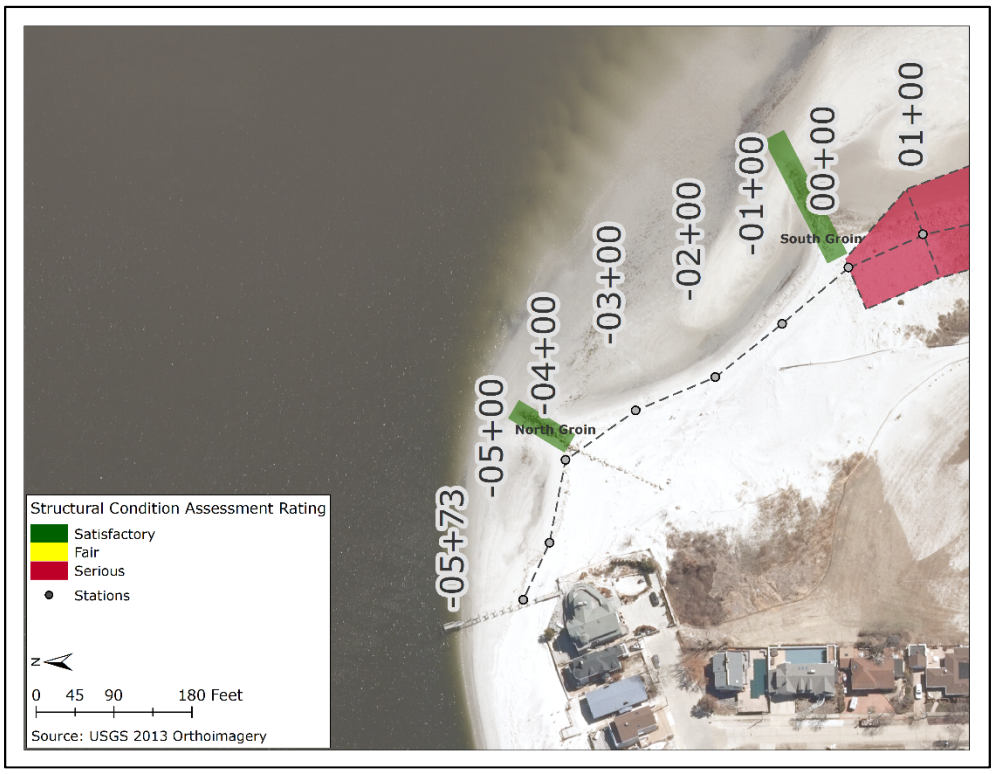


Figure 3.7 Beach section condition ratings and stations

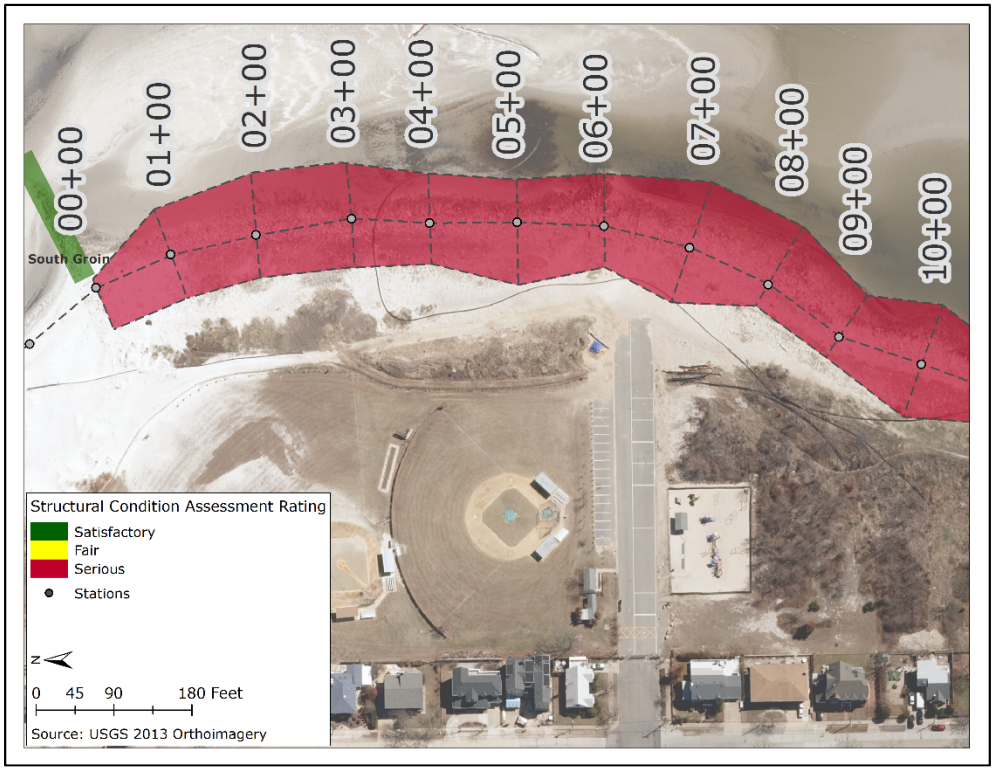


Figure 3.8 Stations 0+00 – 10+00 with condition ratings

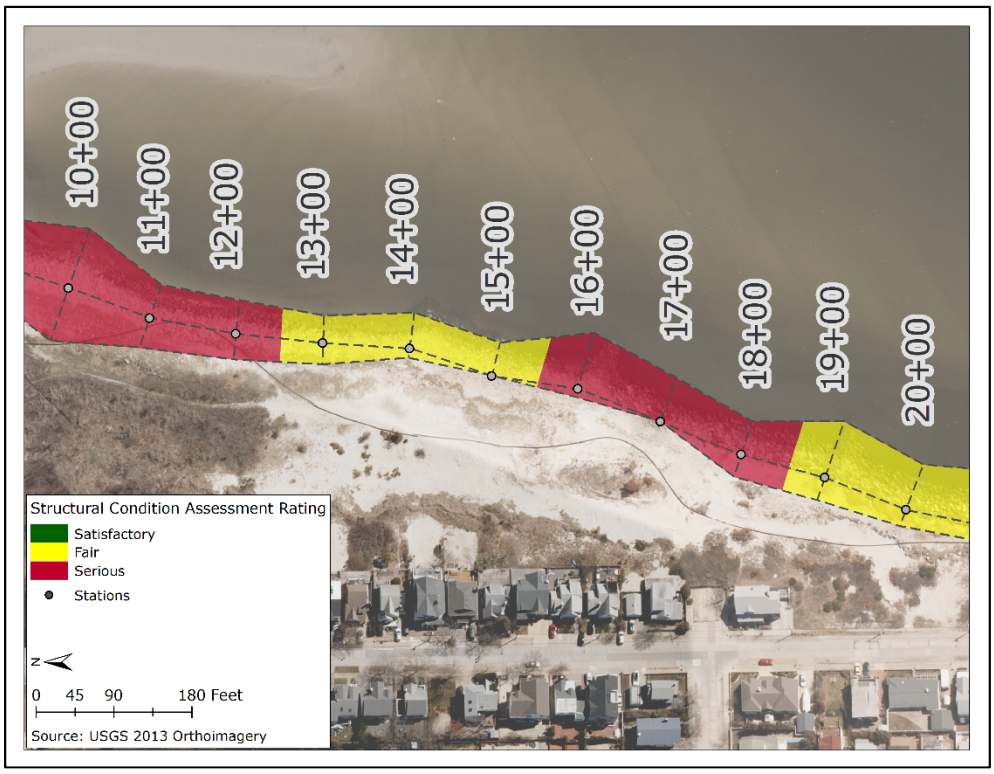


Figure 3.9 Stations 10+00 – 20+00 with condition ratings

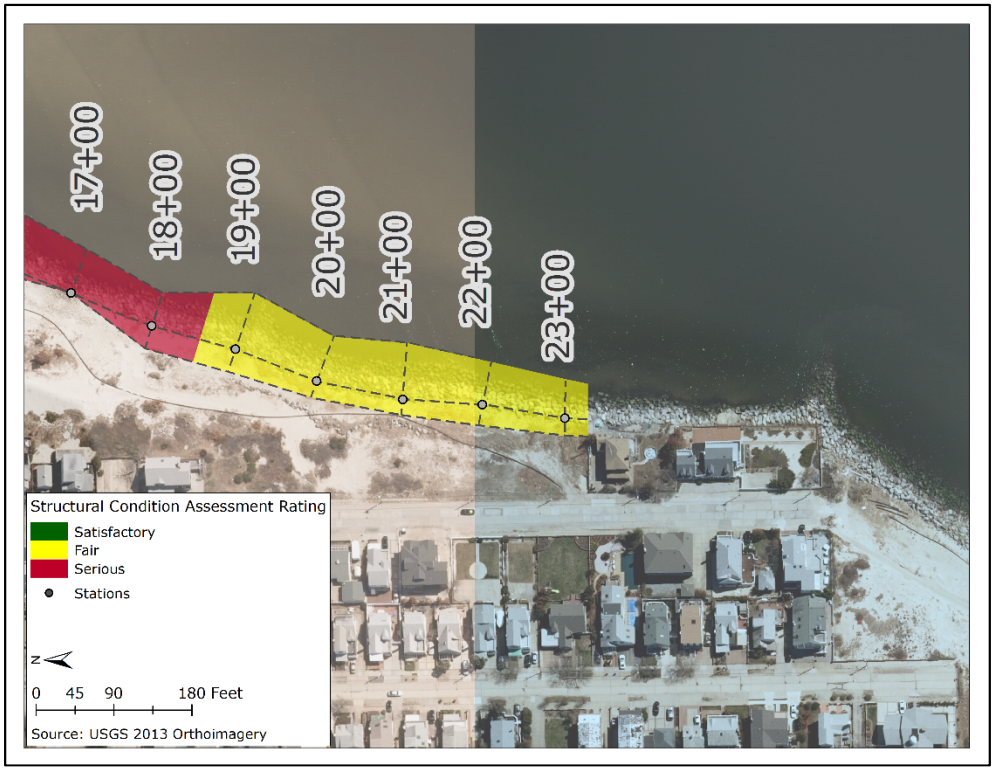


Figure 3.10 Stations 17+00 – 23+28 with condition ratings

Table 3.2 Structural Condition Assessment Ratings per ASCE WFIA

Rating	Description
Good	No visible damage or only minor damage noted. Structural elements may show very minor deterioration, but no overstressing observed. No repairs required.
Satisfactory	Limited minor to moderate defects or deterioration observed but no overstressing observed. No repairs required.
Fair	All primary structural elements are sound but minor to moderate defects or deterioration observed. Localized areas of moderate to advanced deterioration may be present but do not significantly reduce the load-bearing capacity of the structure. Repairs are recommended, but the priority of the recommended repairs is low.
Poor	Advanced deterioration or overstressing observed on widespread portions of the structure but does not significantly reduce the load-bearing capacity of the structure. Repairs may need to be carried out with moderate urgency.
Serious	Advanced deterioration, overstressing, or breakage may have significantly affected the load-bearing capacity of primary structural components. Local failures are possible, and loading restrictions may be necessary. Repairs may need to be carried out on a high-priority basis with urgency.
Critical	Very advanced deterioration, overstressing, or breakage has resulted in localized failure(s) of primary structural components. More widespread failures are possible or likely to occur, and load restrictions should be implemented as necessary. Repairs may need to be carried out on a very high-priority basis with strong urgency.

Table 3.3 Summary of Inspected Structures' Assessment Ratings

	Station	Structural Condition Assessment Rating	Comments
Beach Section	North Groin Station -4+00	Satisfactory	Irregular rock size at shoreward side; does not require repairs
	-5+00	Not applicable	Wide, flat beach; based on historical imagery, affected by seasonal erosion (see Appendix D); accumulates seaweed (possibly due to groins) producing heavy smell
	-4+00		
	-3+00		
	-2+00		
	-1+00		
	0+00		
	South Groin Station 0+00	Satisfactory	Same as North Groin

	Station	Structural Condition Assessment Rating	Comments
Revetment Section	0+00	Serious	Unevenly placed, irregularly sized concrete rubble; low crest elevation (compared to revetment at stations 16-23); heavily vegetated dune landward with varying crest elevations along the shoreline; due to small size / low quality of the stone and irregularity in placement, will not prevent overtopping-caused erosion, will not dissipate wave energy causing damage to structures located shoreward
	1+00		
	2+00		
	3+00		
	4+00		
	5+00		
	6+00		
	7+00		
	8+00		
	9+00		
	10+00		
	11+00		
	12+00		
	13+00	Fair	Irregularly sized concrete rubble with inclusions of quarry stone; low crest elevation; well vegetated dune landward with varying crest elevations
	14+00		
	15+00		
	16+00	Serious	Has an erosion area, which may cause erosion due to overtopping and weak wave dissipation during a storm event
	17+00		
	18+00		
	19+00	Fair	Quarry stone on a bed of irregularly sized concrete rubble, which may cause instability; no dune landward;
	20+00		
	21+00		
	22+00		
	23+00		

4 Project Site Survey

A series of surveys have been performed at the project site location, including the following:

- topographic survey
- local typology survey (transects)
- bathymetry survey
- wetlands survey

These surveys were performed in order to assess the existing site conditions, generate detailed digital elevation models, monitor seasonal shoreline changes, and to document the extents of existing wetlands. Information about these surveys is provided in the subsequent subsections.

4.1 Topographic Survey

The topographic shoreline survey was performed by Matrix New World Engineering, Inc. on November 11, 2016. The survey was performed along the shoreline from the northern project extent (bulkhead at station -05+73) to the southern project extent (reinforced revetment section at station 23+28). The topographic survey captured the area from mean low water (-2.56 feet NAVD88) to 150 feet landward, or to the backside of the established sand dune (whichever came first). Detailed description of the survey results along with the topographic plans of the project site is given in Appendix C.

4.2 Local Typology Survey (Transects)

Three transects (cross-sections), approximate locations of which are shown in Figure 4.1, were established at the Point Lookout shoreline to monitor seasonal cross-shore profile dynamics. The Transects were surveyed by Matrix New World Engineering, Inc. on November 11, 2016. Subsequent cross-section surveys will be performed in the spring of 2017 to capture seasonal change in the beach profiles. This data will be used to analyze general trends in shoreline dynamics and to calibrate numerical sediment transport models. The results of this analysis will be provided in an addendum as soon as the data becomes available.

Figure 4.1 Shoreline Cross-Sections Locations

4.3 Bathymetric Survey

The bathymetric survey of the areas adjacent to the project site (namely, Reynolds Channel and Jones Inlet) was performed by Matrix New World Engineering Inc. The survey was performed to encompass the same project limits as defined in the topographic survey (see Section 4.1) with extending the seaward boundary to the cross-shore area of Alder Island to the north, Meadow Island to the northeast, and the west end of the Jones Beach. The detailed bathymetric survey results, along with topographic survey summary, are given in Appendix C.

4.4 Wetlands Survey

The survey of nearshore wetlands was performed by Matrix New World Engineering Inc. along with a topographic and bathymetry survey (see Appendix C). The information acquired during this survey will be used to facilitate the environmental permitting process and during design process to help make better decisions that would protect the existing habitats. The existing Point Lookout wetlands map, as given in the US Fish and Wildlife Service National Wetlands Inventory Wetland Mapper V2 as of December 1, 2016, is shown in Figure 4.2. The inspection performed by a biologist showed no signs of wetlands in the project area.

As a part of this survey, coastal dunes present within the project site were surveyed and are delineated in the topographic survey drawings (see Appendix C). The extents of the dunes were determined as an approximate line where soil becomes loose and vegetation becomes pronounced.

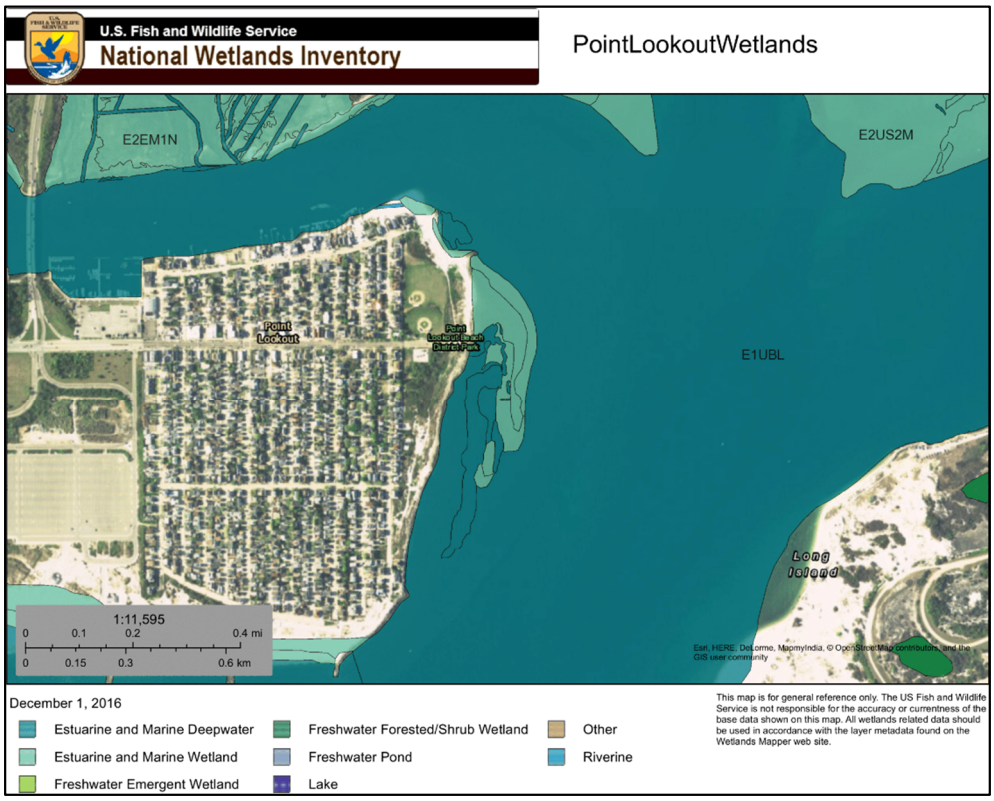


Figure 4.2 USFWS wetland map

4.5 Biological Conditions Survey

The biological conditions survey will be performed in the spring of 2017 (due to winter biological surveys not revealing enough useful data because of low temperatures) and will include a team of a marine biologist and an engineering diver surveying the three nearshore cross-sections (the same cross-sections as described in Section 4.2) documenting the existing biological conditions. Samples will be collected to document type and density of species present and the survey will be videotaped for documentation purposes. The results of this survey will be supplied in a separate addendum to this report.

5 Geotechnical Site Investigation

The subsurface geotechnical site investigation will be performed by KS Engineers, P.C in order to establish the soil conditions along the shoreline. The investigation will consist of three standard penetration test (SPT) borings located on shore using a track mounted rig per ASTM Procedure D1586 to a depth of approximately 50 feet. Soil samples will be obtained continuously to a depth of 12 feet with additional soil samples collected at five-foot intervals. A qualified engineer will observe the drilling activities and prepare the boring logs. After completion, the boreholes will be backfilled with the soil cuttings.

The samples will be tested in a laboratory in order to classify and estimate the design parameters for different soil layers encountered, including (but not limited to) particle size diagram (sieve test), natural moisture content, consolidation, and specific gravity. A report summarizing findings of the geotechnical survey will be provided as an addendum and will include an evaluation of the subsurface materials and groundwater and soil properties including bearing capacity, expected settlements, modulus of subgrade reactions of the subsurface materials, and other properties.

6 Wave and Current Data Collection

Local wave and current data near the project site is being collected using an Acoustic Doppler Current Profiler (ADCP). The ADCP instrument was anchored below the surface of the water to the bottom using a non-permanent mooring and will be deployed for a duration of 1 month. The wave and current data collected will be used to calibrate numerical models, whose inputs will be based on publicly available data from open sources. The location of the ADCP instrument was chosen by Matrix New World Engineering Inc. to collect the wave and current data that best represents the hydrodynamic conditions in the project area. Local bathymetry was taken into consideration in order to ensure that the data collected is most useful during the numerical modeling task phase. The analysis of the data collected by the ADCP will be supplied in a separate addendum to this report.

7 Recommended Actions

Based on the structural condition assessment ratings given in Table 3.3 a set of actions that will address these ratings was derived:

- North and South groins: Even though the groins do not have observable structural deficiencies preventing them from acting as they are supposed to, they might be the cause of seaweed accumulation at the beach and sand spit formation south of the beach section (Stations 01+40 – 07+50). Several design alternatives to reconfigure or eliminate the groins will be considered during the Task 5 phase to address this key issue.

- Sand beach section: The beach will be the most vulnerable section during a storm event due to its inability to attenuate incoming waves. Additional information is to be gained during the Hydrodynamic Analysis task (Task 4) which will help inform an appropriate, resilient solution during schematic design (Task 5).

- Revetment section 00+00 – 12+00: This revetment section was given a Serious structural condition assessment rating based upon low crest elevations and irregular concrete rubble, which will result in dune erosion due to overtopping, insufficient wave energy dissipation, and will not be enough to protect the area in case of design storm event. This revetment section will be examined for complete replacement with an engineered revetment that will ensure the stability of this section.

- Revetment sections 13+00 – 15+00, and 19+00 – 23+28: These revetment sections were assigned a Fair structural condition assessment rating based on a more pronounced crest, profile, and armor consisting of quarry stone. To increase the stability and consistency with adjacent revetment sections, these sections will need to be modified to comply with design storm condition requirements. The rock armor stability will also be investigated as revetment in these sections has bedding layer consisting of the same concrete rubble as in section 00+00 – 12+00 which may result in instability.

- Revetment section 16+00 – 18+00: This section has similar properties as sections described in the previous item, but with an erosion area reducing the total effectiveness, stability, and performance of the revetment during a storm event (e.g. insufficient wave attenuation, erosion behind the revetment due to overtopping). The schematic design will include measures that will address this issue.

Appendix A Station Notes

Table A.1. Revetment Inspection Summary

Station	Tip-Toe, ft	Toe Depth (below mud), ft	Tip-Road, ft	Rock Type	Comments	Photo # Sea	Photo # Land
0+00			54	Rubble	Center of south groin	1-2	3-4
0+50	62	2.5	36			5-9	10-11
1+00	56	1	54			12-15	16-17
1+40	120				Spit north	18	
2+00	72	1.5	50			19-22	23-24
3+00	74	2	48			27	29
	174				Spit shoreward		
	290				Spit seaward		
4+00	57	2.5	48			31	33
5+00	49	0.5	73			36	38
6+00	60	1	48			40	42
7+00	79	2	68			44	46
7+50			57		Spit end		
8+00	78	2.5	29				
9+00	57	0.5	29			48	50
10+00	72	2	65			53	55
11+00	40	2	36			57	59
12+00	38	0.5	30			61	63

Station	Tip-Toe, ft	Toe Depth (below mud), ft	Tip-Road, ft	Rock Type	Comments	Photo # Sea	Photo # Land
13+00	31	2	25	Mixed		65	67
14+00	41	1	11			69	71
15+00	39	2	0			73	75
16+00	67	1.5	10		Outcrop	77	79
16+25 - 17+50			32		Erosion area	81	
17+00	54	1	0			83	85
18+00	40	2	27	Quarry stone		87	89
19+00	69	2	27		Outcrop	91	93
20+00	56	1.5	20			95	97
21+00	65	1	19			100	102
22+00	50	1.5	24			104	106
23+00	43	2.5	18			108	110
23+28	47	1	20		End		

Appendix B Site Photographs

Photo B 1 Station 0+00

Photo B 2 Station 1+00

Photo B 3 Station 2+00

Photo B 4 Station 3+00

Photo B 5 Station 4+00

Photo B 6 Station 5+00

Photo B 7 Station 6+00

Photo B 8 Station 7+00

Photo B 9 Station 9+00

Photo B 10 Station 10+00

Photo B 11 Station 11+00

Photo B 12 Station 12+00

Photo B 13 Station 13+00

Photo B 14 Station 14+00

Photo B 15 Station 15+00

Photo B 16 Station 16+00

Photo B 17 Station 17+00

Photo B 18 Station 18+00

Photo B 19 Station 19+00

Photo B 20 Station 20+00

Photo B 21 Station 21+00

Photo B 22 Station 22+00

Photo B 23 Station 23

Appendix C Topographic and Bathymetric Survey

© Matrix Engineering & Land Surveying Services I F:\2015\15-466 Town of Hempstead, NY - Shoreline Improvements in South Valley Stream\Survey\Dwg\15-466TP00_2016-12-19.dwg

BEACH PROFILE TRANSECT #2
HORIZONTAL SCALE: 1"=60'
VERTICAL SCALE: 1"=12'

BEACH PROFILE TRANSECT #1

BEACH PROFILE TRANSECT #3
HORIZONTAL SCALE: 1"=60'
VERTICAL SCALE: 1"=12'

MEAN HIGHER HIGH WATER ELEVATION	= 2.24 FT
MEAN HIGH WATER ELEVATION	= 1.92 FT
MEAN LOW WATER ELEVATION	= -2.56 FT
MEAN LOW LOWER WATER ELEVATION	= -2.74 FT

ELEVATIONS ARE IN NAVD 88

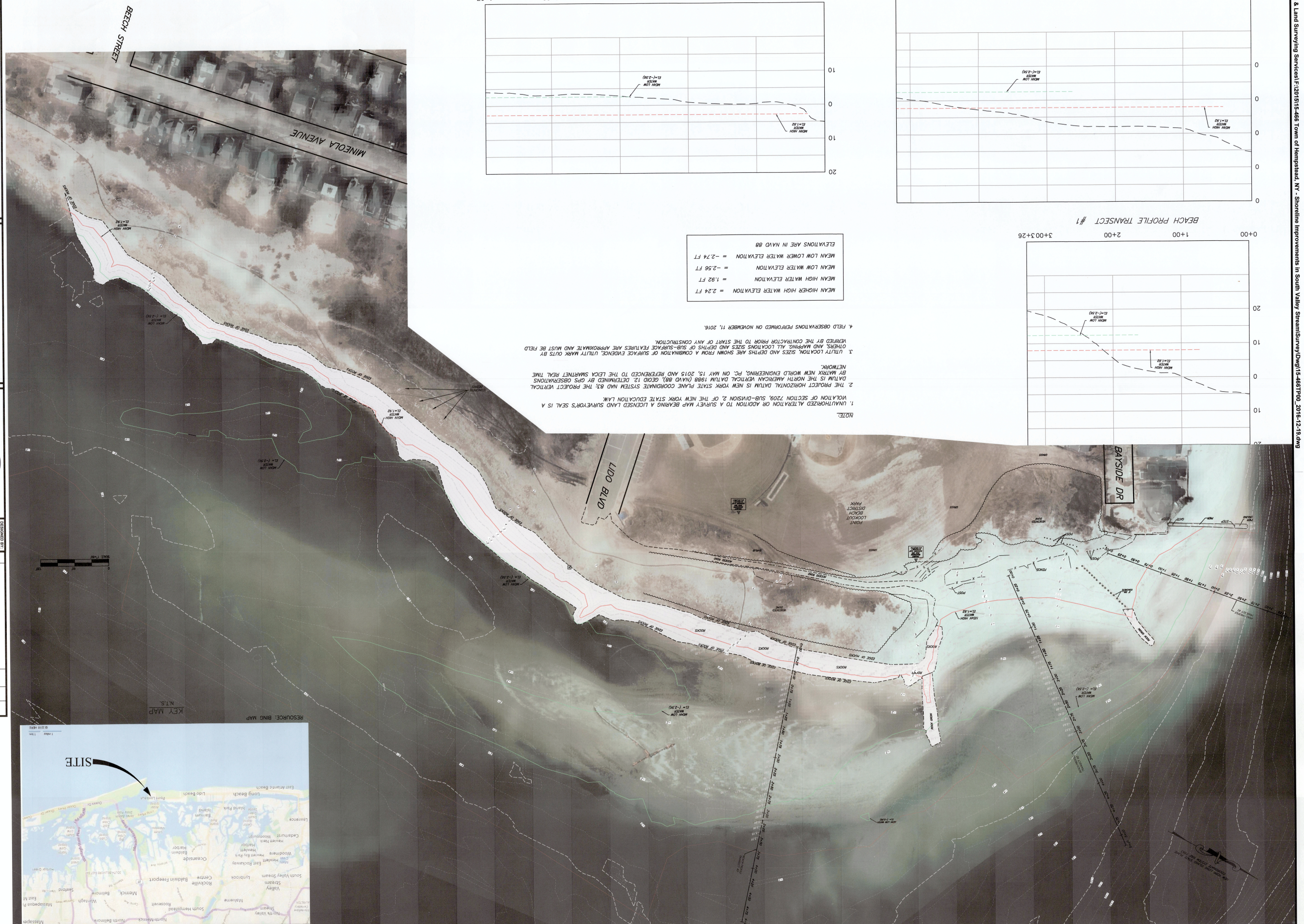
4. FIELD OBSERVATIONS PERFORMED ON NOVEMBER 11, 2016.

3. UTILITY LOCATION, SIZES AND DEPTHS ARE SHOWN FROM A COMBINATION OF SURFACE EVIDENCE, UTILITY MARK OUTS BY OTHERS, AND MAPPING. ALL LOCATIONS SIZES AND DEPTHS OF SUB-SURFACE FEATURES ARE APPROXIMATE AND MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION.

2. THE PROJECT HORIZONTAL DATUM IS NEW YORK STATE PLANE COORDINATE SYSTEM NAD 83. THE PROJECT VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88). GEOID 12. DETERMINED BY GPS OBSERVATIONS BY MATRIX NEW WORLD ENGINEERING, PC. ON MAY 15, 2015 AND REFERENCED TO THE LEICA SMARTNET REAL TIME NETWORK.

1. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

NOTE:



PARTIAL TOPOGRAPHIC SURVEY

CITY OF LONG BEACH
NASSAU COUNTY
STATE OF NEW YORK

PROJECT NUMBER: 15-466
DATE: 11-30-16
SCALE: 1"=60'
SHEET 1 OF 1

MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering, Land Surveying and Landscape Architecture, P.C.
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STATE OF NEW YORK CERTIFICATE OF AUTHORIZATION No. 17-08061

DESIGNED BY: HSUV
REVIEWED BY: SMONCRIEF
RELEASED BY:

REVISIONS

NO.	DESCRIPTION	DATE	BY	APR.

DATE

STATE OF NEW YORK
ROBERT DAVID MONCRIEF
LICENSED LAND SURVEYOR

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NOTE:

1. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
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3. UTILITY LOCATION, SIZES AND DEPTHS ARE SHOWN FROM A COMBINATION OF SURFACE EVIDENCE, UTILITY MARK OUTS BY OTHERS, AND AS-BUILT DRAWINGS. SUB-SURFACE FEATURES ARE APPROXIMATE AND MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION.
4. FIELD OBSERVATIONS PERFORMED ON NOVEMBER 11, 2016.

MEAN HIGHER HIGH WATER ELEVATION	= 2.24 FT
MEAN HIGH WATER ELEVATION	= 1.92 FT
MEAN LOW WATER ELEVATION	= -2.56 FT
MEAN LOW LOWER WATER ELEVATION	= -2.74 FT
ELEVATIONS ARE IN NAVD 88	

SCALE: 1"=100'

RESOURCE: BING MAP

KEY MAP
N.T.S.

PARTIAL HYDROGRAPHIC SURVEY

CITY OF LONG BEACH
NASSAU COUNTY
STATE OF NEW YORK

MATRIX**NEW**ORLD
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STATE OF NEW YORK · RONALD STEPHEN MONCRIEF JR · LICENSED LAND SURVEYOR

12/19/2016
DATE

DESIGNED BY:	HS/JV
REVIEWED BY:	SMONCRIEF
RELEASED BY:	

NO.	DESCRIPTION	DATE:	BY:	APR:

REVISIONS

PROJECT NUMBER: 15-466
DATE: 11-30-16
SCALE: 1"=60'
SHEET 1 OF 1

Appendix D Historical Aerial Imagery

Figure D 1 May 2016 Aerial

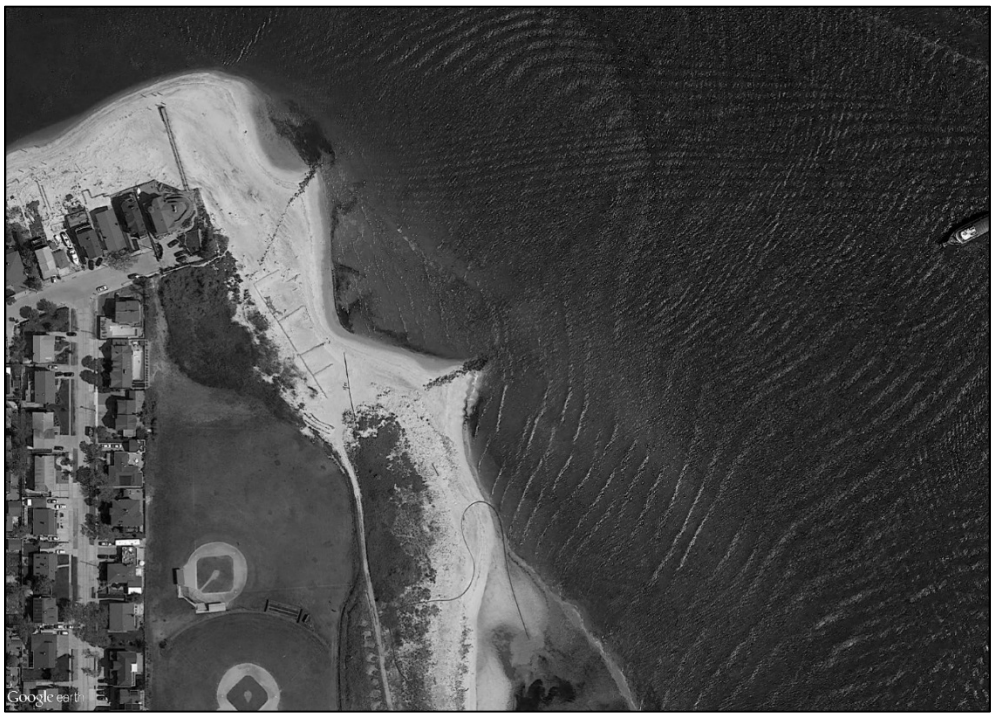

Figure D 2 May 2015 Aerial

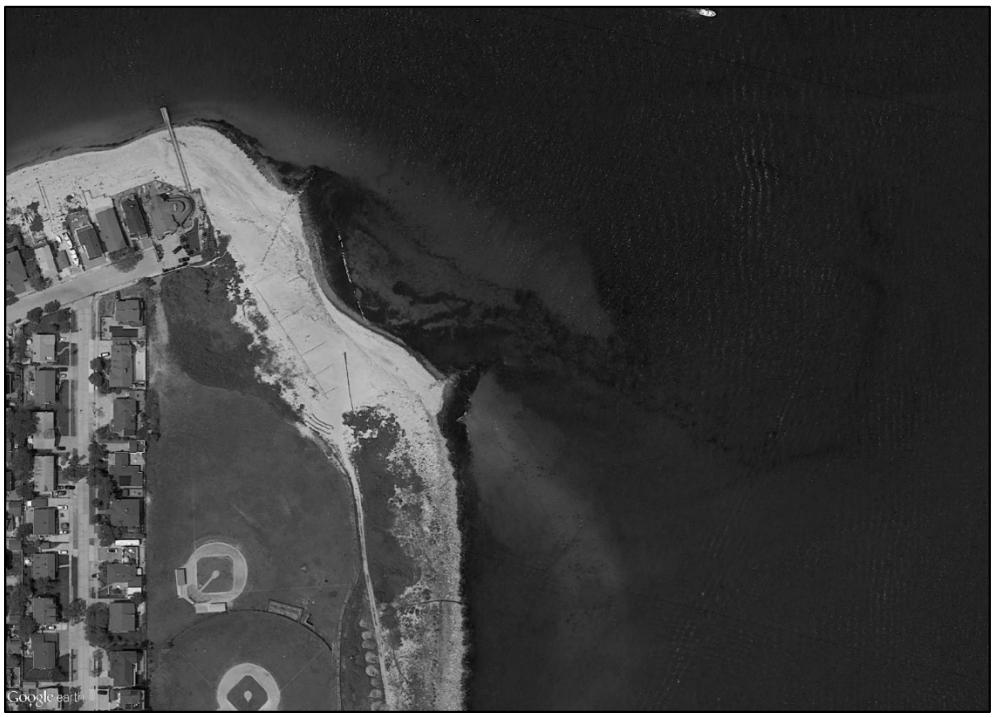

Figure D 3 June 2014 Aerial

Figure D 4 September 2013 Aerial

Appendix E Condition Ratings

COWI	**Lido Beach/Point Lookout Shoreline Stabilization and Revetment**	N	**FIGURE: 1**	**SCALE: 1:2,182**	**REV 1**	0 50 100 200 Feet	COWI OCC 276 5th Ave. Suite 1006 NY, NY 10001 USA 646.545.2125
				DATE: 12/20/2016			
	NAD 1983 (2011) UTM Zone 18N	0 0.0125 0.025 Miles		**DRAWN BY: SHLE**	**FILE NAME: Hempstead Overview Titleblock**	0 25 50 Meters	**SOURCE: USGS 2013 Orthoimagery**
				CHECKED BY: GRBH			

MARCH 2018
TOWN OF HEMPSTEAD

LIDO BEACH / PT. LOOKOUT SHORELINE STABILIZATION & REVETMENT

COASTAL HYDRODYNAMIC ANALYSIS

DRAFT

COWI

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MARCH 2018
TOWN OF HEMPSTEAD

LIDO BEACH / PT. LOOKOUT SHORELINE STABILIZATION & REVETMENT

COASTAL HYDRODYNAMIC ANALYSIS

PROJECT NO.	DOCUMENT NO.
A076209	1

VERSION	DATE OF ISSUE	DESCRIPTION	PREPARED	CHECKED	APPROVED
1.0	2018-03-02	TECHNICAL REPORT	GRBH	MXLN	TPMA

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CONTENTS

Executive Summary 7

1 Introduction 10

2 Regional Hydrodynamic (HD) Model 13
2.1 Model Domain 13
2.2 Forcing and Boundary Conditions 14
2.3 Model Calibration 17
2.4 Simulation Scenarios 21

3 Regional Spectral Waves (SW) Model 26
3.1 Model Domain 26
3.2 Forcing and Boundary Conditions 29
3.3 Model Calibration 29
3.4 Simulation Scenarios 30

4 Local Hydrodynamic (HD) and Sand Transport (ST) Model 37
4.1 Model Domain 37
4.2 Forcing and Boundary Conditions 39
4.3 Model Calibration 39
4.4 Simulation Scenarios 46

5 Results and Discussion 47
5.1 Design Environmental Parameters 47
5.2 Flow Pattern Analysis 48
5.3 Wave-Current Interaction 50
5.4 Sediment Transport Patterns and Morphodynamics 50

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6 Conclusion 55

7 References 56

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Executive Summary

On September 29, 2016, the Town of Hempstead authorized COWI North America, Inc. to provide engineering services according to the Agreement for Consulting Services dated August 26, 2016, for the Lido Beach / Point Lookout Shoreline Stabilization and Revetment. This report summarizes assumptions, methods, and data used to develop numerical models and results and conclusions derived from the models as a part of Task 4 of the contract "Coastal Hydrodynamic Analysis".

The overall goal of this task is to develop a clear understanding of the coastal processes at the site so that a cost effective shoreline stabilization solution can be developed. Mitigation of the decaying biomass (sea lettuce; *Ulva Lactuca)* at the shoreline is another problem addressed in this report. To achieve these goals, it was necessary to develop computer-based numerical models to understand wave propagation (movement), transformation, and tidal water flow characteristics in the Jones Inlet, and to understand local small-scale flow characteristics, sediment transport patterns, and morphodynamics (dynamic interaction between currents and sediment movement) at the project site. These models allow investigation of day-to-day and extreme oceanographic conditions.

Initial assessment of morphodynamics in the project area was performed by COWI North America, Inc. in 2017 as a part of Task 4A "Site Assessment". Based on historical data, it was concluded that the Zone C region (northern extents of the project, Figure 1-1) is highly dynamic with a predominant direction of sediment transport to the south (Hempstead Bay Area to Jones Inlet). The existing groins result in decaying biomass accumulation and seasonal accretion of sand north of the groins. Additionally, the groins occasionally cause formation of a sand spit while causing minor erosion in the area immediately south of the southern groin due to sediment deficit in that area. Additionally, seaweed accumulation and stagnation between the groins have been observed by local residents. The existing revetment areas (Zones A and B, Figure 1-1) were found to be generally stable with minor accretional changes in the northern part of Zone B near the southern groin.

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Hydrodynamic and morphodynamic numerical modeling was performed in order to validate the conclusions made by observing historical trends and to develop a frame of reference, which could later be used for assessing effectiveness of proposed revetment design in stabilizing the shoreline.

As a part of Task 4B "Numerical Modeling", a total of three DHI MIKE 21 computer based numerical models were developed to examine the currents (tidal flow), waves, and sediment transport within the project area. The models were setup using a combination of publicly available data and surveys performed under Task 3 of the Contract. In order for the design team to have high confidence in model predictions and to ensure its accuracy, model results were compared to real physical data collected at the project site. Each model was calibrated and validated against observed values, when available, or against values consistent with other sources and expected values based on prior experience. In-depth model descriptions are provided further in the report.

To understand wave movement, transformation, and tidal flow characteristics in the inlet, a large scale hydrodynamic model (MIKE 21 FM HD) was setup to investigate tidal flow and water surface elevation variation at the project site and a large scale spectral wave model (MIKE 21 FM SW) was setup to investigate wave characteristics at the site and influence of currents on wave transformation. Three scenarios were modeled – Regular (day-to-day) Conditions, Hurricane Sandy (real historical observations), and Design Event (an anticipated adverse combination of environmental conditions). The investigation resulted in the following design parameters being adopted for the shoreline stabilizations system design:

- Design wave height ***5.9 ft***
- Design wave period ranging from ***8 s to 12 s***
- Design water surface elevation ***+11.6 ft NAVD88***
- Design current speed ***3.9 ft/s*** (2.3 knots)

Wave and tidal current interaction was investigated using the spectral wave model. It was found that including currents in the simulation increases range of wave heights observed at the projects site – higher waves during flood currents and lower waves during ebb currents.

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To understand local small-scale flow characteristics, sediment transport patterns, and morphodynamics (dynamic interaction between waves, tidal water flows, and sediment movement resulting in seabed changes) at the project site during regular and storm conditions, a more focused small scale hydrodynamic model (MIKE 21 FM HD) coupled with the sand transport (ST) module was setup. This model confirmed field observations that the groins result in flow vorticities (circular water movement pattern, which prevents trapped particles escaping it) forming within the beach (Zone C) area which can account for biomass being trapped in the area. Additionally, the sediment transport patterns demonstrate that there is a general southward sediment migration in the area with a spit forming as a result of the groins separating the flow and creating a low-velocity wake south of the beach. These observations are in good agreement with conclusions made as a result of Task 4A.

The recommended design should include removing the groins and reconfiguring the shoreline so that it follows the naturally occurring water flow lines. This would reduce or eliminate the tendency for debris to be trapped in the beach area and hinder or prevent sand spit formation. Fully configured and validated numerical models will be used in subsequent design stages to test proposed design alternatives and ensure the target problems are mitigated to the maximum extent practical.

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1 Introduction

On September 29, 2016, the Town of Hempstead authorized COWI North America, Inc. to provide engineering services according to the Agreement for Consulting Services dated August 26, 2016, for the design and permit applications for the Lido Beach / Point Lookout Shoreline Stabilization and Revetment. This report summarizes assumptions, methods, and data used to develop numerical models and results and conclusions derived from the models as a part of Task 4 of the contract "Coastal Hydrodynamic Analysis".

The overall goal of this task is to develop a clear understanding of the coastal processes at the site so that a cost effective shoreline stabilization solution can be developed which also mitigates the accumulation of decaying biomass (Sea Lettuce or Ulva Lactuca) at the shoreline. To achieve this goal, it was necessary to develop numerical models to understand wave propagation and transformation and flow characteristics in the inlet, and to understand local small-scale flow characteristics, sediment transport patterns, and morphodynamics at the project site. These models allow investigation of day-to-day and extreme oceanographic conditions.

The project is located along the eastern part of the Point Lookout shoreline, Town of Hempstead, Nassau County, NY, between 177 Bayside Drive and 128 Mineola Avenue (Figure 1-1). Based on existing structures, as surveyed by COWI in October 2016 [1], the project site can be logically split into three parts:

- Zone A - revetment in fair condition, located between the Southern Groin and Beech Street. This area has a length of approximately 550 ft if measured in plan
- Zone B - revetment in serious condition, located between Beech Street and a building at 128 Mineola Avenue. This area has a length of approximately 1,800 ft if measured in plan
- Zone C - sand beach with two (2) groins (defined as Northern and Southern Groins), located between a bulkhead in the north and the Southern Groin. This area has a length of approximately 600 ft if measured in plan

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Figure 1-1 *Project Site Overview (Zone A – Revetment in satisfactory condition, Zone B – Revetment in serious condition, Zone C - Sand Beach with two groins. Zone boundaries derived from the 10/28/2016 Site Inspection [1])*

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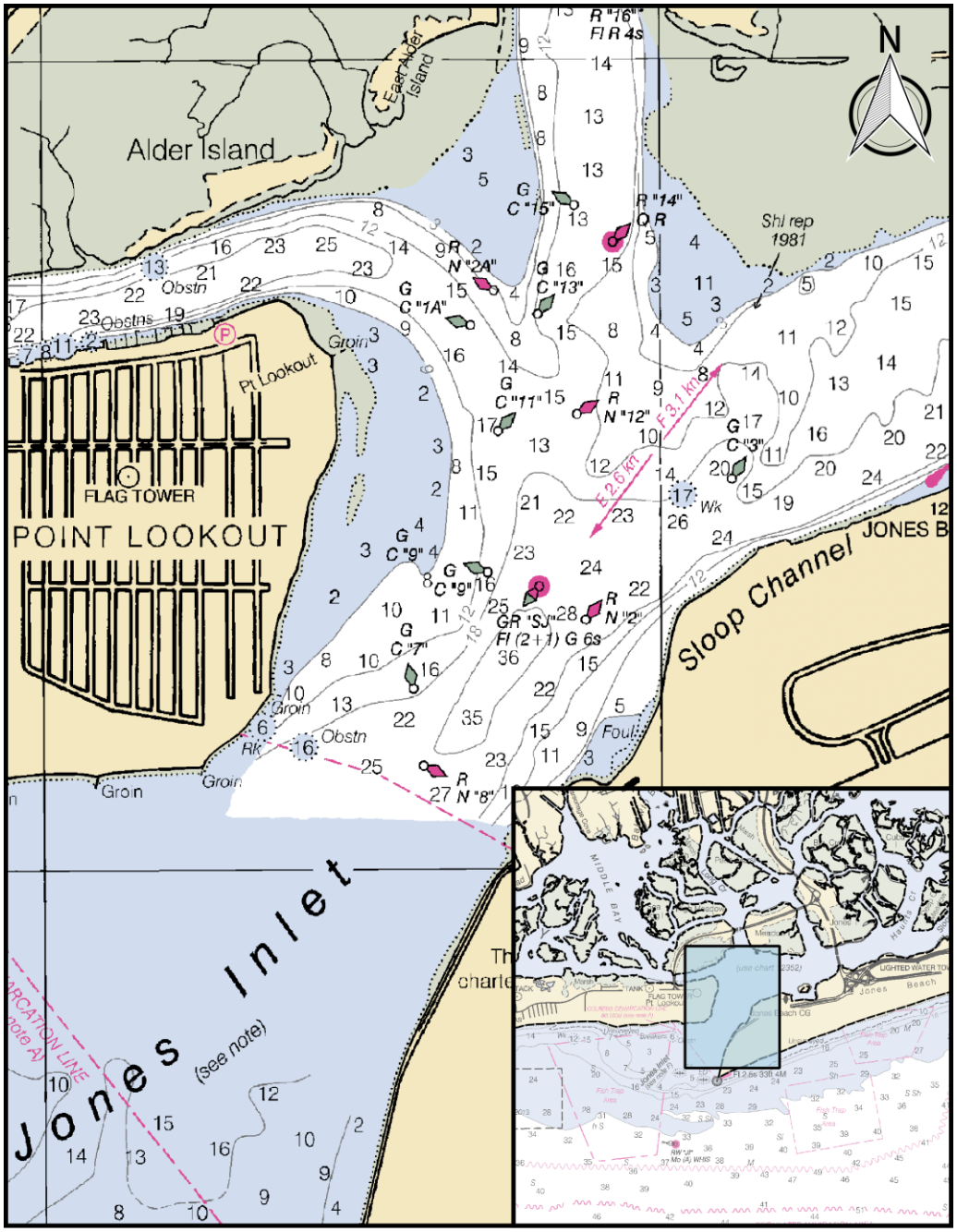

Figure 1-2 NOAA Nautical Chart 12352. Depths in feet MLW

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2 Regional Hydrodynamic (HD) Model

The regional hydrodynamic model (further referred to as Regional HD model) was developed to simulate water surface elevations and current velocities at the project site and in adjacent areas. The model domain includes two inlets adjacent to the Jones Inlet – East Rockaway Inlet to the west, and Fire Island Inlet to the east (Figure 2-1). These inlets were included in order to provide a sufficiently large tidal prism within the bay area to capture major processes affecting currents in the Jones Inlet. The Regional HD model was calibrated against data from and acoustic Doppler current profiler (ADCP) deployed for the Project in the Jones Inlet. Output files generated by the Regional HD model were used as boundary conditions for the Regional SW and Local HD+ST models.

2.1 Model Domain

The model domain is represented using a flexible mesh (Figure 2-2) consisting of 64,919 triangular and quadrangular elements with the smallest element having an nominal size of 14 m. The mesh was generated with higher density of elements in the areas of flow contraction (channels) and in the area of interest around the project site. The shoreline was developed by combining USGS 2016 high resolution orthoimagery [2], NOAA electronic nautical chart (ENC) land data [3], USGS Coastal National Elevation Database (CoNED) project digital elevation model (DEM) of New England [4], and the 11/10/2016 project site survey by Matrix New World.

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The model bathymetry (Figure 2-1) was interpolated to the mesh through applying the natural neighbor interpolation algorithm using the following elevation data sources, listed in the order of priority:

- 11/10/2016 project site survey by Matrix New World Engineering
- H12527 (2013) and H12892 (2014) hydrographic surveys by the NOAA National Ocean Survey (NOS) [5]
- New England digital elevation model from the Coastal National Elevation Database (CoNED) project by USGS [4]

The site survey elevations data was used exclusively to interpolate bathymetry in the project area. The NOAA NOS combined dataset was used exclusively to interpolate bathymetry at the entrance of Jones Inlet. All other areas of the model domain were interpolated using combined NOAA NOS and CoNED datasets.

2.2 Forcing and Boundary Conditions

The Regional HD model was primarily forced with a surface elevation boundary – i.e., a boundary (Code 2 or red line in Figure 2-2) along which time varying surface elevations were specified at each point. The surface elevation boundary data was generated by combining predicted tides with surge inferred from the USGS Station 01310740 at Reynolds Channel at Point Lookout NY [6]. Surge was determined by subtracting predicted tide values at the station coordinates (Lat 40°35'36", Lon −73°35'03") from the observed tide gauge surface elevations.

For simulation scenarios where wind forcing was included, wind speed and direction data were obtained from the JFK International Airport Station (WBAN 94789) [7] from the NOAA Climate Data Online (CDO) portal.

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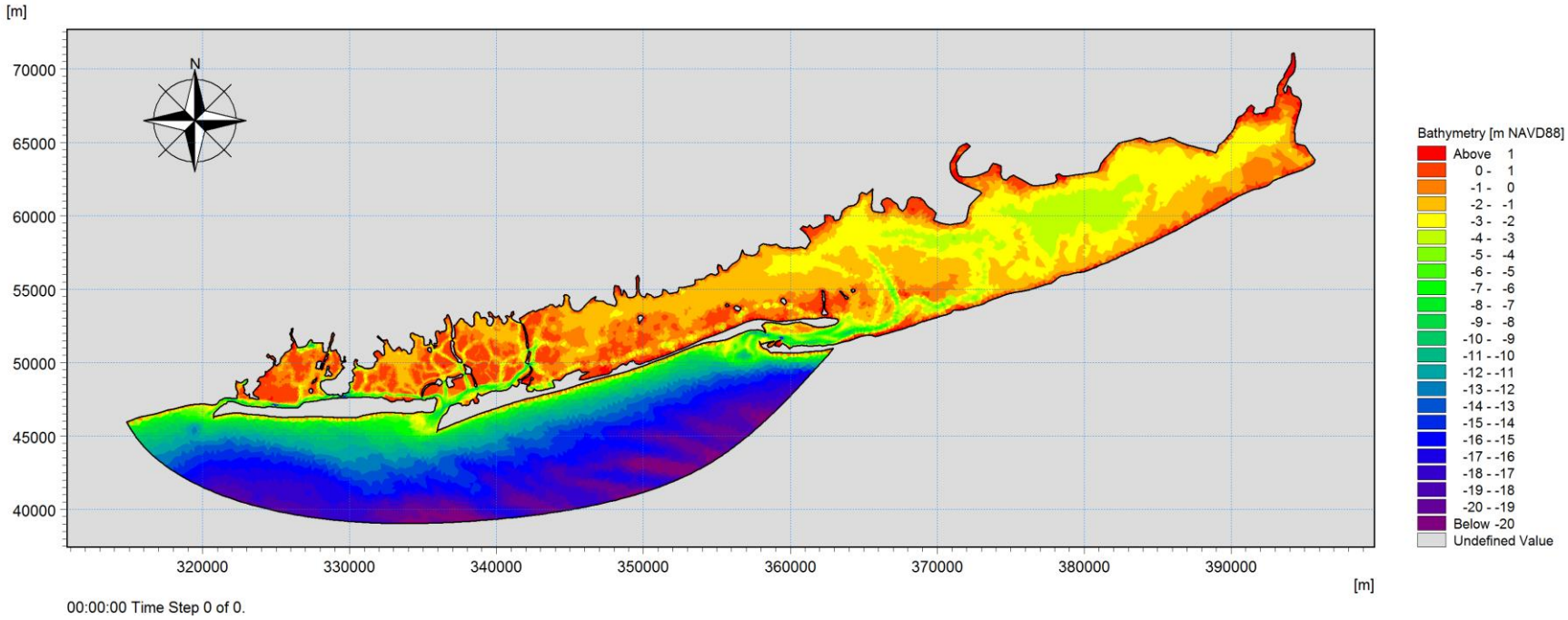

Figure 2-1 Regional HD Model Bathymetry

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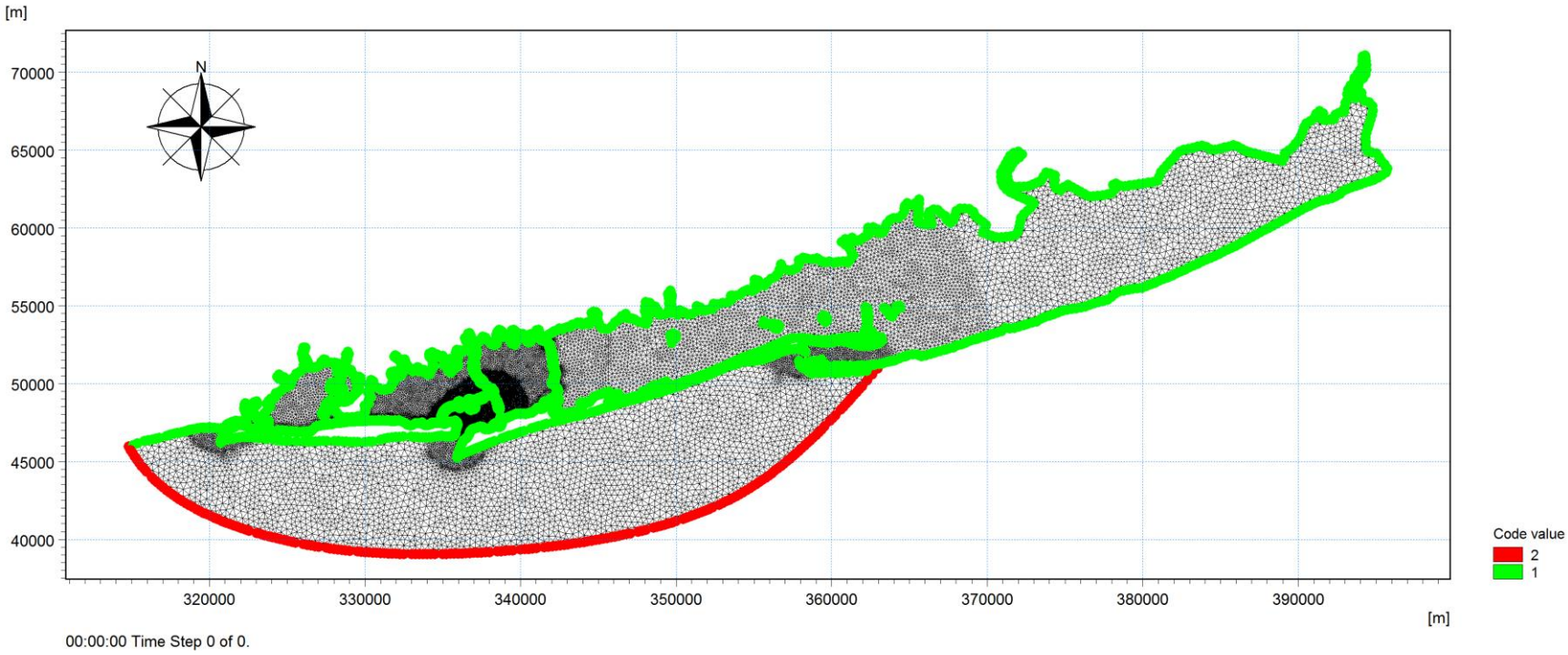

Figure 2-2 Regional HD Model Mesh

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2.3 Model Calibration

The Regional HD model was calibrated against data from the current sensor that was deployed at the project site from 12/03/2016 to 01/14/2017 by Matrix New World Engineering. The sensor was placed at N 155790 ft, E 1103024 ft Long Island State Plane, EPSG:2263 (Figure 1-1). Surface elevations were calibrated against USGS Station 01310740 [6]. A tidal gauge installed next to the sensor failed within first days after deployment due to it being buried because of rapid sand accretion, as reported by Matrix New World Engineering.

The calibration run of the Regional HD model was setup for a time range of 11/30/2016 to 01/16/2017 with a three-day warmup period, during which time the model adjusts to boundary conditions variations and reaches a stable state. Several model parameter configurations had been tested before the following parameters were found to yield results in best agreement with observations:

- low order solution technique (significantly reduces modeling time with difference between low and high order solutions found to be negligible)
- default depth, flood and dry, density, and eddy viscosity parameters
- constant bed resistance of 50 $m^{1/3}/s$ (Manning number)
- wind friction varies with speed (wind forcing was found to have small effect on current velocities and surface elevations)

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As seen in Figure 2-3, the modelled current velocities are in good agreement with observations. Time series comparison of current velocities is shown in Figure 2-6 and Figure 2-7. It can be seen that the flood current is well predicted with slight overestimation by the model. The ebb current trend is also captured well, although some measured peak values were missed by the model. These phenomena can be explained by flood (towards the north) flow being contracting (wider to narrower) while ebb flow being expanding. Contracting flows tend to have uniform velocity distribution and are not sensitive to location of the sampling comparison point. Expanding flows, on the other hand, tend to have divergent flow lines and are turbulent by nature. This results in ebb flood magnitudes being much more sensitive to the location.

Surface elevation comparison is shown in Figure 2-4 and Figure 2-5. The modeled elevations are in good agreement with observations therefore the model should provide reliable predictions of water levels as well as currents for design purposes. The minor discrepancies between observations and results occur due to surface elevation input data being generated using surge from a tidal gauge located in the bay area (USGS Station 01310740 [6], located behind the barrier island). These discrepancies would not be present if surface elevation data at the location of the offshore boundary (Figure 2-2) was available.

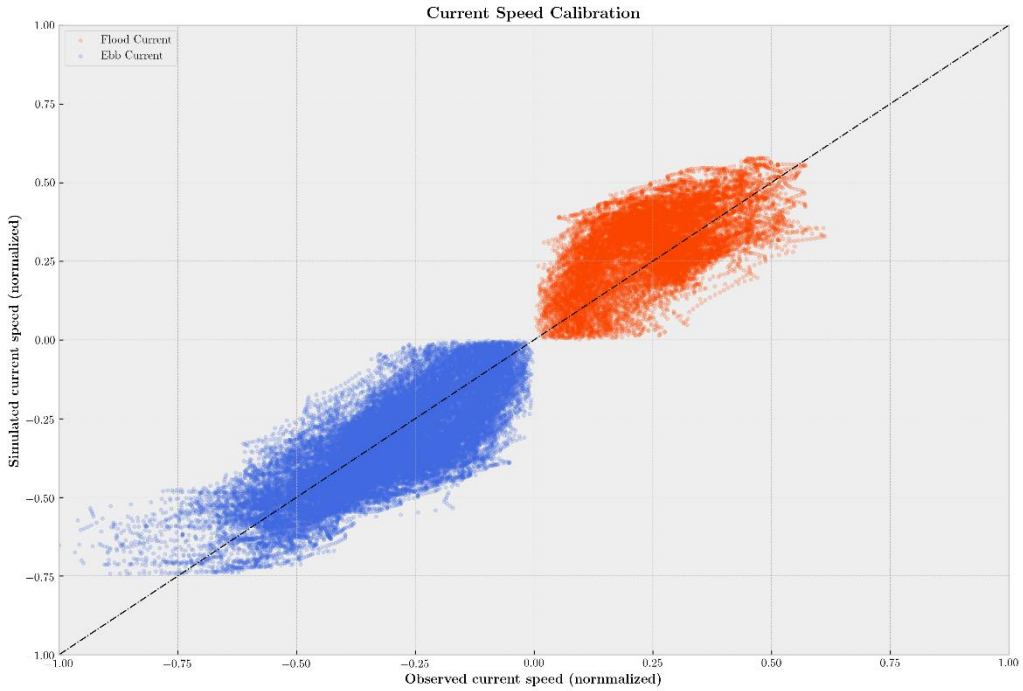

Figure 2-3 Regional HD, Current Velocity Calibration (blue – ebb current, orange – flood current, black – ideal match)

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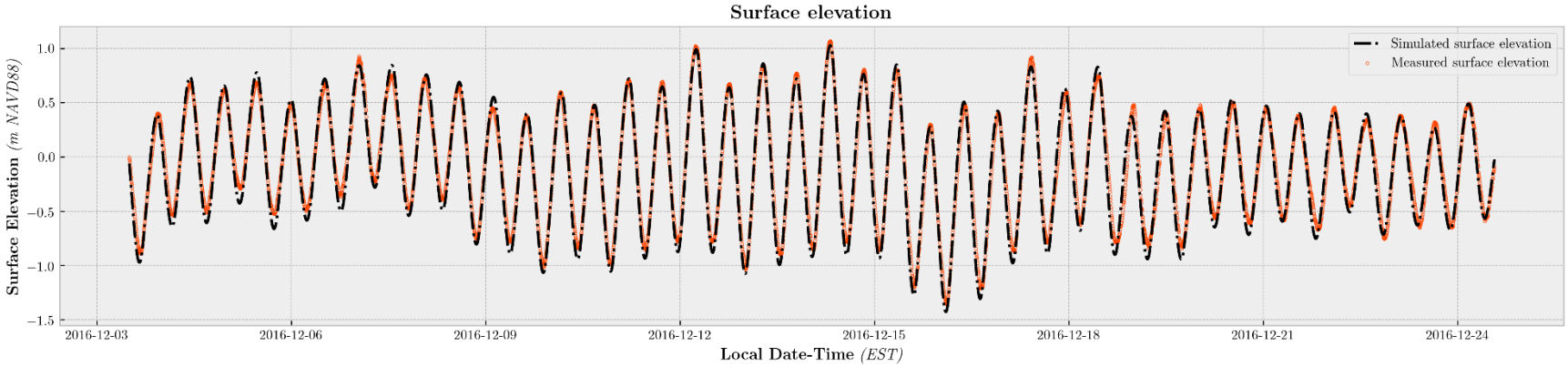

Figure 2-4 Regional HD, Surface Elevation Calibration (1/2)

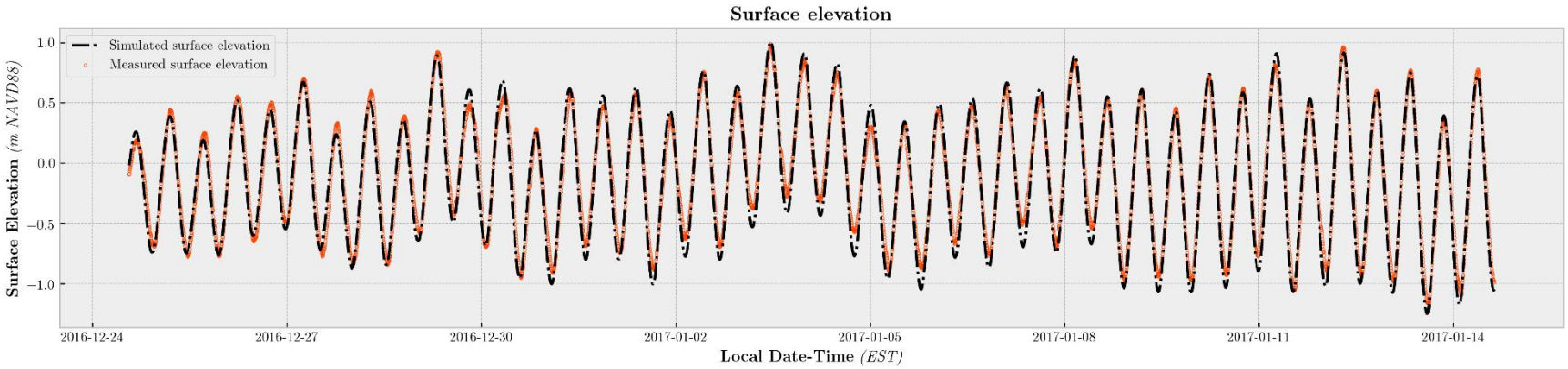

Figure 2-5 Regional HD, Surface Elevation Calibration (2/2)

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DRAFT

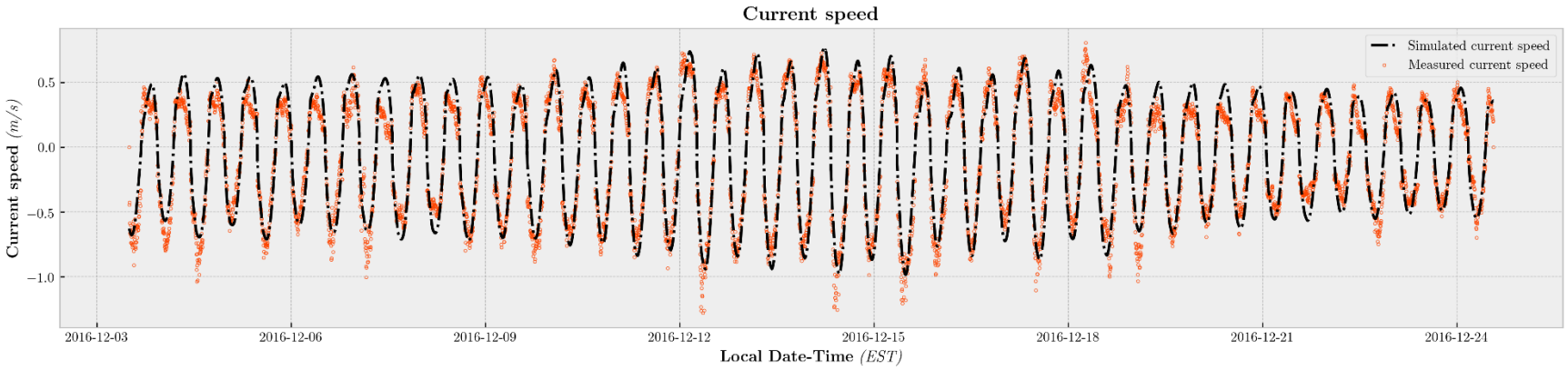

Figure 2-6 Regional HD, Current Speed Calibration (Flood Currents are Positive, Ebb Currents are Negative) (1/2)

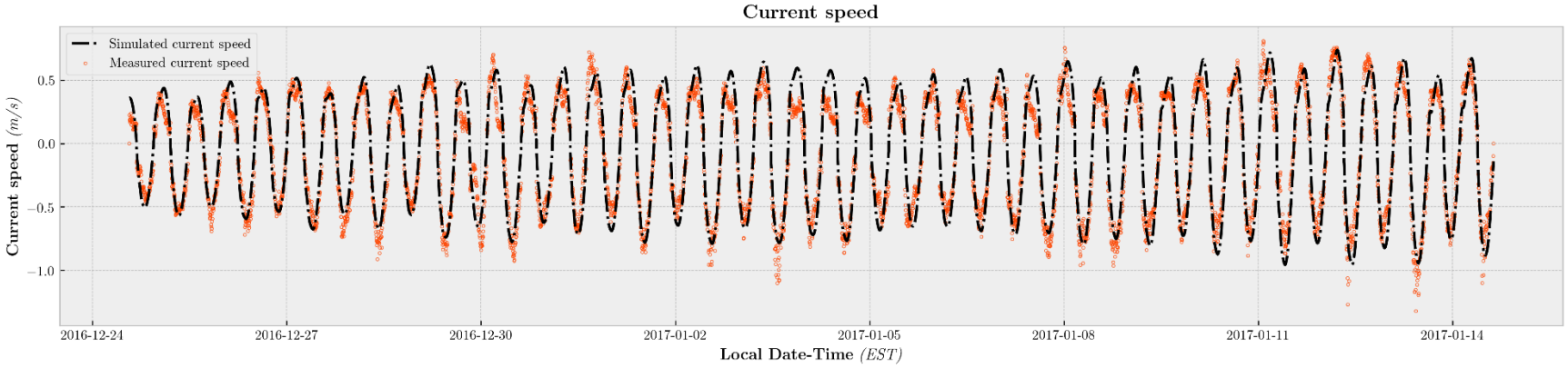

Figure 2-7 Regional HD, Current Speed Calibration (Flood Currents are Positive, Ebb Currents are Negative) (2/2)

2.4 Simulation Scenarios

The Regional HD model was setup for Regular (day-to-day), Design (extreme), and Hurricane Sandy scenarios in order to investigate a wide range of environmental conditions and to adequately address the goals set for this task.

2.4.1 Regular Conditions

The "Regular Conditions" simulation scenario represents a set of input parameters which correspond to the regular annual tidal conditions normalized to the present (2017) sea level. To generate the regular boundary conditions, predicted tide time series were generated using the MIKE 21 Toolbox "Tide Prediction of Heights" tool for one year at the USGS station coordinates (Lat 40°35'36", Lon −73°35'03"). A 30-day period, within the resulting time series, was then identified within which the mean variation between high and low tide surface elevations was the highest. This period was determined to be within the 05/24/2017 to 06/26/2017 time period. This time period is arbitrary and does not represent the real historical data observed during that period. The 30-day predicted tide was compared to observed surface elevations from the USGS Station 01310740 [6] and an empirically correlated datum shift of 0.27 m (0.88 ft) was determined by comparing the two datasets. This datum shift can be attributed mostly to the local relative sea level rise.

The surface elevation offshore boundary was forced with the empirically correlated tide. This tide was determined by combining predicted tide time series along the boundary from MIKE 21 Toolbox with the 0.27 m datum shift (Figure 2-8). Resulting surface elevations and current velocities at the project site are show in Figure 2-8 and Figure 2-9.

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2.4.2 Hurricane Sandy

The "Hurricane Sandy" event represents a set of input parameters which correspond to the surface elevations and wind speeds observed during the Hurricane Sandy duration period from 10/24/2012 to 11/01/2012. The three-day period (10/24/2012 to 10/27/2012) is used to "warm up" the model.

The surface elevation boundary data were generated by combining predicted tide time series along the boundary from MIKE 21 Toolbox "Tide Prediction of Heights" tool with surge from the USGS Station 01310740 at Reynolds Channel at Point Lookout NY [6]. Surge was determined by subtracting predicted tide values at the station coordinates (Lat 40°35'36", Lon -73°35'03") from the observed tide gauge surface elevations. Wind speed and direction time series was obtained from the JFK International Airport Station (WBAN 94789) from the NOAA Climate Data Online (CDO) portal [7]. Resulting surface elevations and current velocities at the project site are shown in Figure 2-10 and Figure 2-11. The good agreement between the observed and modelled surface elevations for Hurricane Sandy demonstrates that the model calibrated for regular conditions performs well for extreme conditions as well.

2.4.3 Design Event

The "Design Event" represents a set of input parameters which correspond to the 100 year return period surface elevations. The Design Event boundary conditions data for the Regional HD model were derived by adjusting surface elevation time series for regular conditions to have the peak water elevation equal to the design 100-year return period water level. The design water level of +11.62 ft NAVD88 (+3.54 m NAVD88), as established in the Basis of Design report, consists of two components:

- 100-year still water elevation from FEMA **+9.40 ft** NAVD88 (relevant for the 1983-2001 tidal epoch with a 1992 baseline date)

- Relative sea level rise (RSLR) of 0.67 m (**2.22 ft**) for 1992-2070, which was calculated as 1992-2020 sea level rise from NOAA observed trend for the Sandy Hook station 8531680 added to the NYC DEC 2020-2070 projected (medium projection) sea level rise for the Long Island Region [8]. The actual value of the 2020-2070 RSLR was obtained by cubic interpolation of the DEC values.

Resulting surface elevations and current velocities at the project site are shown in Figure 2-12 and Figure 2-13.

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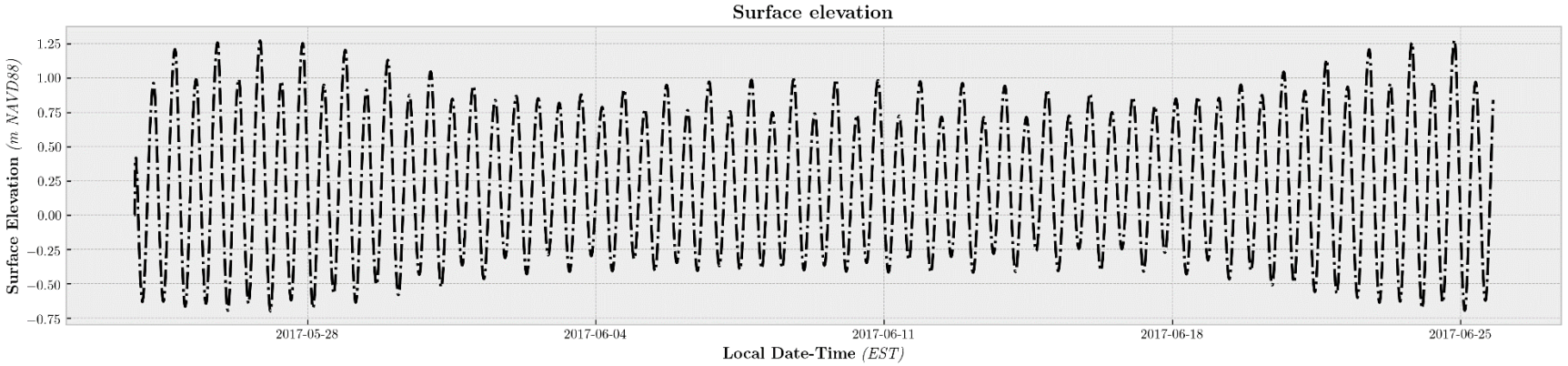

Figure 2-8 Regular Conditions. Surface Elevation at the Project Site

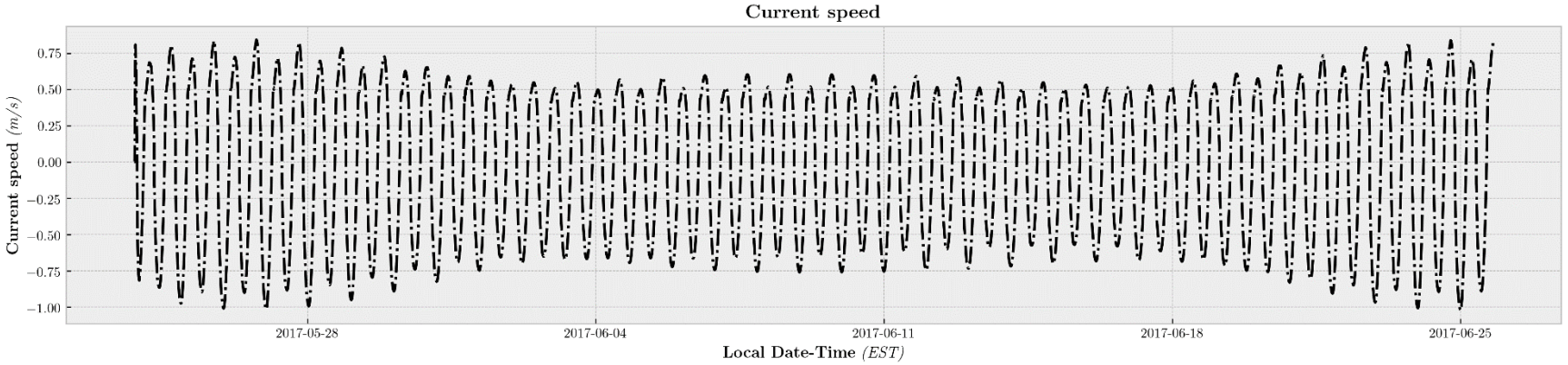

Figure 2-9 Regular Conditions. Current Speed at the Project Site (Flood Currents are Positive, Ebb Currents are Negative)

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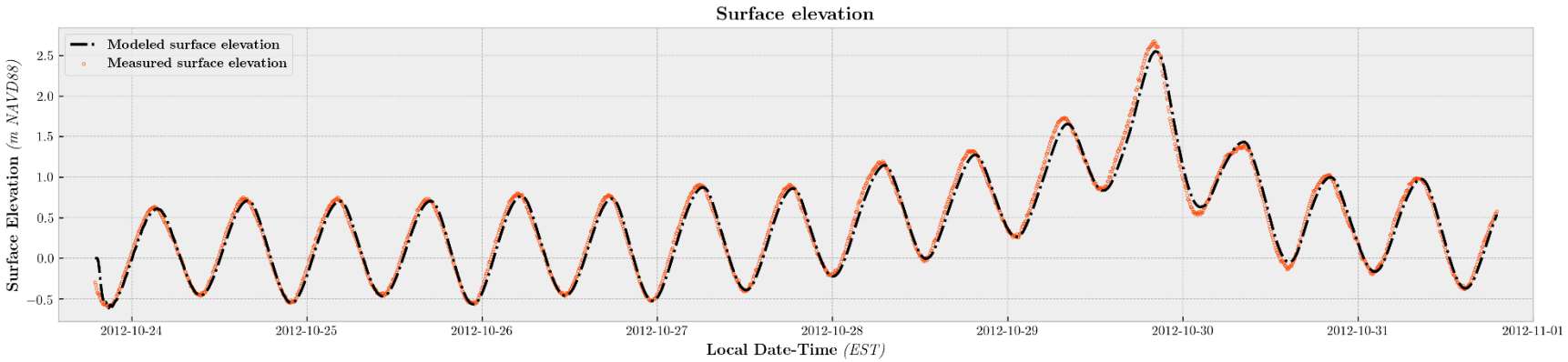

Figure 2-10 Hurricane Sandy. Surface Elevation at the Project Site

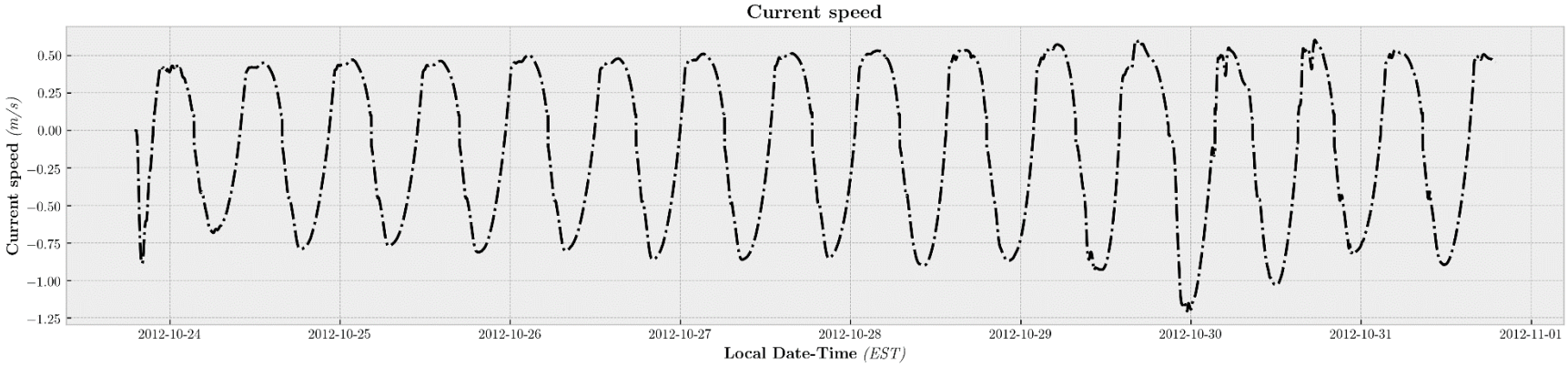

Figure 2-11 Hurricane Sandy. Current Speed at the Project Site (Flood Currents are Positive, Ebb Currents are Negative)

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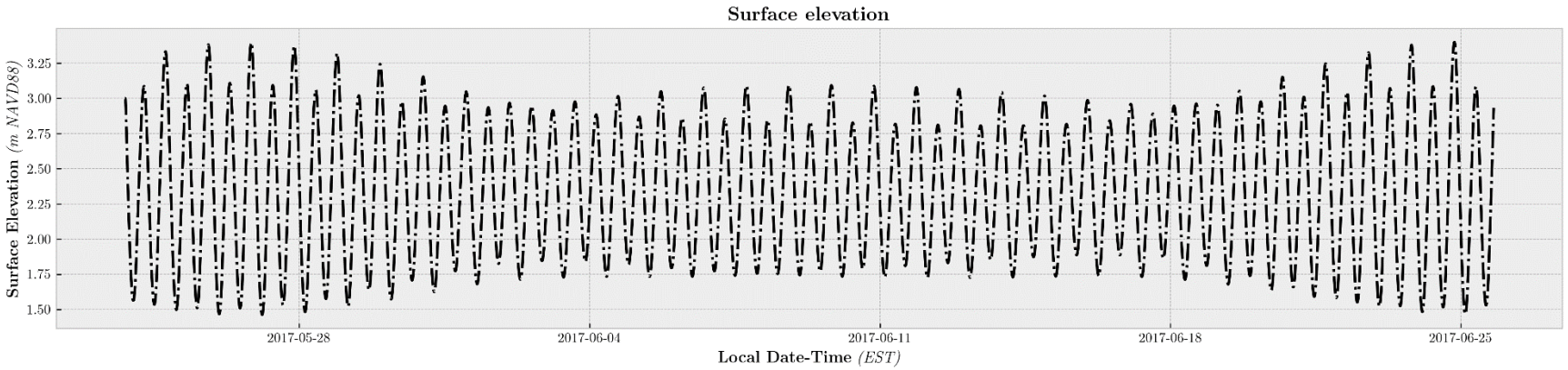

Figure 2-12 Design Event. Surface Elevation at the Project Site

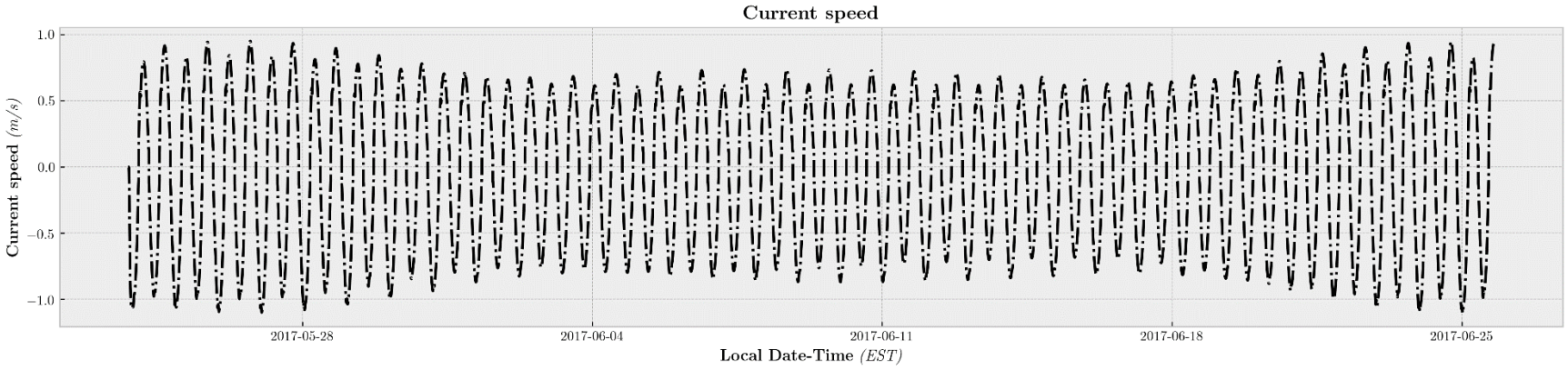

Figure 2-13 Design Event. Current Speed at the Project Site (Flood Currents are Positive, Ebb Currents are Negative)

3 Regional Spectral Waves (SW) Model

The Regional Spectral Waves (SW) model (further referred to as Regional SW model) was developed to simulate offshore wave transformation and to predict wave height and periods at the project site and in adjacent areas. The model domain was created by trimming the Regional HD domain with the intent to fully enclose the Local HD model domain (the Local HD model is forced with output from the SW model) with back bay areas irrelevant to the spectral wave simulation being cut off with a land boundary (Figure 3-1). Due to absence of local wave observation data, the Regional SW model was indirectly validated against wave heights predicted by the NACCS project [9]. Output files generated by the Regional SW model were used as boundary conditions for the Local HD+ST model.

3.1 Model Domain

The model domain is represented by a flexible mesh (Figure 3-2) consisting of 6,705 triangular elements with the smallest element having a nominal size of 28 m. The mesh was generated with higher density of elements in the area of interest around the project site. Shoreline, or land boundary, was extracted from the Regional HD model. Model bathymetry (Figure 3-1) was interpolated to the mesh through applying the natural neighbor interpolation algorithm using the same elevation data and methods as descried for the Regional HD model in Section 2.1.

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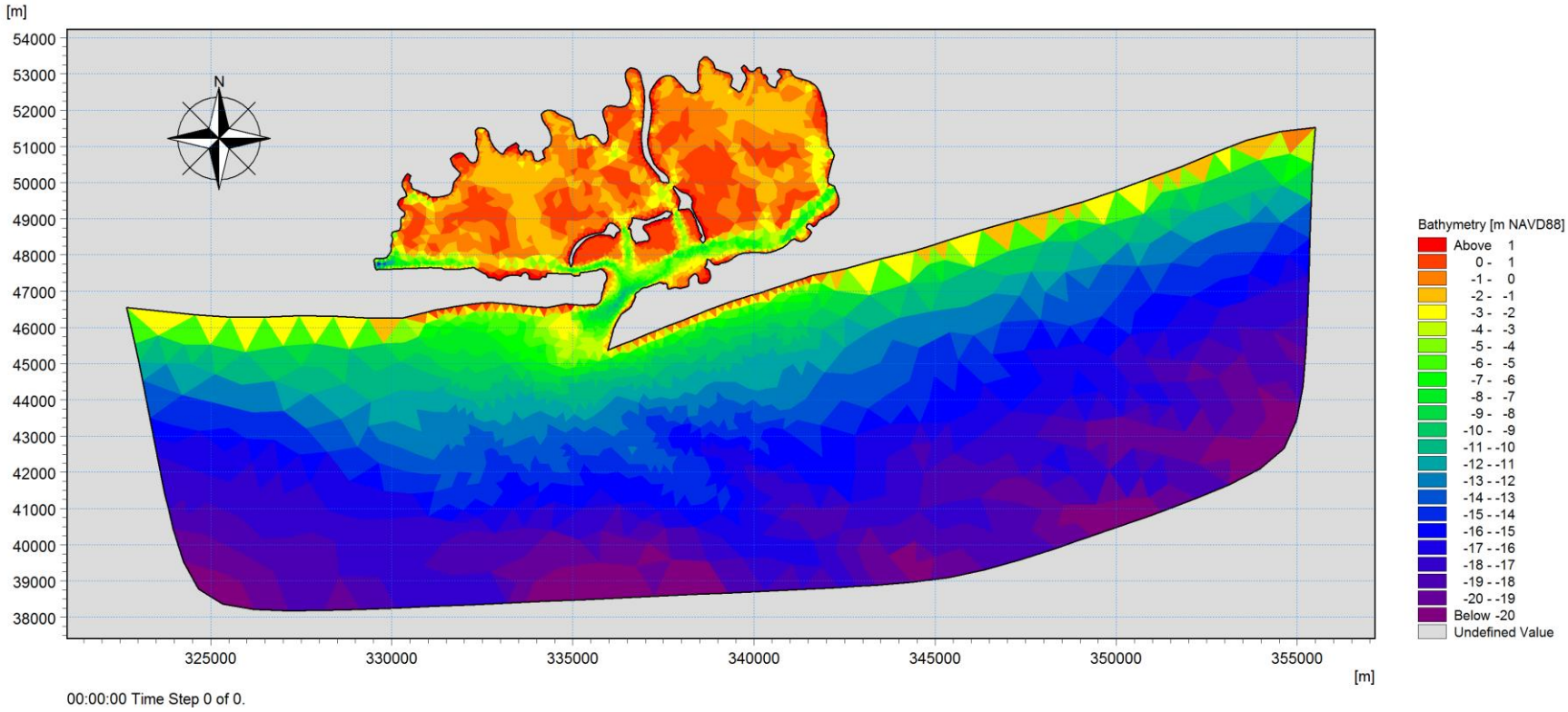

Figure 3-1 Regional SW Model Bathymetry

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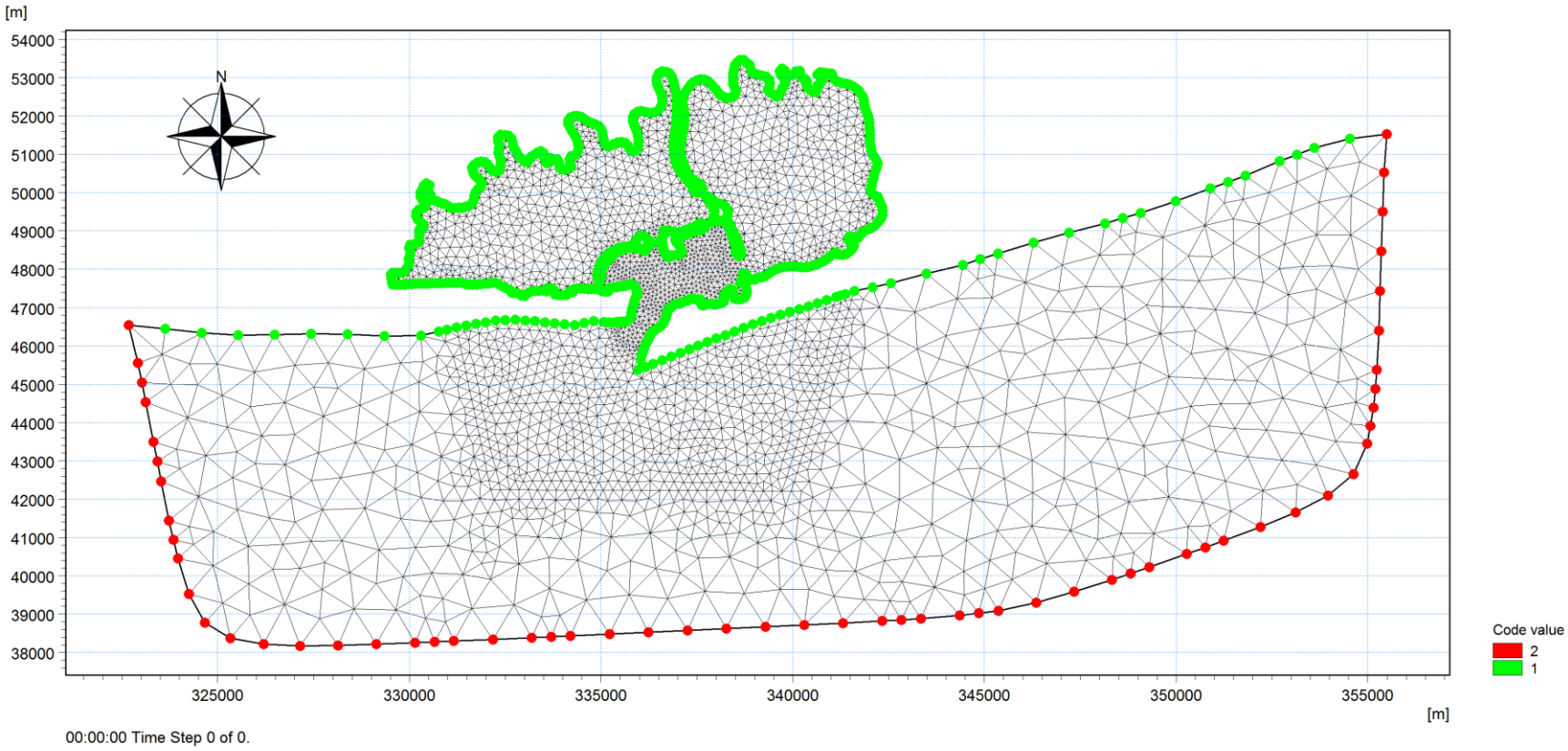

Figure 3-2 Regional SW Model Mesh

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3.2 Forcing and Boundary Conditions

The Regional SW model was primarily forced with a wave boundary – i.e. a boundary (Code 2 or red line in Figure 3-2) along which wave parameters were specified. For simulation scenarios, where the wave parameters were varying in time, wave time series data was extracted from the NOAA NDBC Station 44065 New York Harbor Entrance [10]. For simulation scenarios with a constant boundary spectra the wave parameters were derived by either performing extreme value analysis of the Station 44065 data [10] or by taking extreme wave height values predicted by the NACCS at the node 3948 [9].

Surface elevations and current velocity components were dynamically interpolated for each mesh element using the area time series generated by the Regional HD model for each scenario run.

For simulation scenarios, where wind forcing was included, wind speed and direction time series were obtained from the JFK International Airport Station (WBAN 94789) [7] from the NOAA Climate Data Online (CDO) portal.

3.3 Model Calibration

The Regional SW model was indirectly validated against predictions made by the USACE NACCS [9] model at the project site due to absence of real wave data. The ADCP sampling frequency 0.6 Hz (1.67 s per ping or 180 pings per 300 seconds) was too low to resolve waves.

The Regional SW model was calibrated for the 100-year conditions. Surface elevations and current velocities were taken from the Regional HD model "Design Event" simulation result. Significant wave height was taken from the NACCS [9] prediction for node 3938, which corresponds to offshore boundary, and is 7.32 m. Peak wave period was taken from the scatter plot of wave height-period from NOAA Station 44065 [10] shown in Figure 3-10 and is 10 s. Mean wave direction of 200 degrees North (propagating from) with a spreading index of 5 was used as the most dangerous direction aligning with the Jones Inlet centerline. Wind forcing was not applied due to fetch distance being small enough to make any wind-generated wave growth insignificant.

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Based on the NACCS predictions and prior modeling experience, the 100-year wave height at the project site was expected to be around 1.5 m. Several model parameter configurations had been tested before the following parameters were found to result in wave heights of this magnitude at the project site (Figure 3-8):

- fully spectral, non-stationary formulation
- 360-degree 18-segment directional discretization rose
- 22 frequencies with a minimum frequency of 0.05 Hz and a frequency factor of 1.15 (corresponds to wave periods in the range of 1s to 20s)
- low order solution technique (significantly reduces modeling time with difference between low and high order solutions found to be negligible); maximum time step of 10s was found to provide a stable solution
- triad-wave interaction with a transfer coefficient of 0.25
- functional wave breaking gamma coefficient (depth induced) with an alpha (steepness induced) coefficient of 5
- no bottom friction and no white capping

3.4 Simulation Scenarios

The Regional SW model was setup for Regular, Design, and Hurricane Sandy scenarios in order to investigate a wide range of environmental conditions and to adequately address the goals set for this task. Regional SW model output was used to provide bed shear stresses data for the Local HD+ST simulation (Section 4).

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3.4.1 Regular Conditions

The "Regular Conditions" simulation scenario represents a set of input parameters which correspond to annual tidal conditions and monthly wave spectra. Instantaneous surface elevations and current velocity components were extracted from the Regional HD model "Regular Conditions" simulation area time series file. Monthly wave height was determined by performing extreme value analysis (EVA) on the NOAA Station 44065 wave time series [10] (Figure 3-3). Generalized Pareto Distribution (GPD) in conjunction with Peaks Over Threshold (POT) method were used. Monthly (0.083 year) offshore significant wave height was found to be 2.53 m (8.30 ft). Peak wave period (T_P) was found to be 4 s from the wave height–period joint probability plot for the Station 44065 (Figure 3-10). Mean wave direction from 200°T with a spreading index of 5 was used as the most dangerous direction aligning with the Jones Inlet centerline. Wind forcing was not applied due to fetch distance being small enough to make any wind-generated wave growth insignificant. Resulting wave heights and periods at the project site are shown in Figure 3-4 and Figure 3-5.

3.4.2 Hurricane Sandy

The "Hurricane Sandy" event represents a set of input parameters which correspond to the surface elevations, current velocities, wind speeds, and wave parameters observed during the Hurricane Sandy duration period from 10/24/2012 to 11/01/2012. The three-day period was used to "warm up" the model. Instantaneous surface elevations and current velocity components were extracted from the Regional HD model "Hurricane Sandy" simulation area time series file. Wind speed and direction time series was obtained from the JFK International Airport Station (WBAN 94789) from the NOAA Climate Data Online (CDO) portal [7]. Wave height, period, and direction time series were taken from the NOAA Station 44065 [10] and applied at the sea boundary with constant directional spreading of 15. Resulting wave heights and periods at the project site are shown in Figure 3-6 and Figure 3-7.

3.4.3 Design Event

The Design Event represents a set of input parameters which correspond to the 100-year return period surface elevations and wave heights. Instantaneous surface elevations and current velocity components were extracted from the Regional HD model "Design Event" simulation area time series file. 100-year offshore wave height was taken from the NACCS [9] prediction for node 3938, which corresponds to offshore boundary, and is 7.32 m. Peak wave periods were taken from the wave height-period joint probability plot from NOAA Station 44065 [10] shown in Figure 3-10 and is 10 s. Mean wave direction from 200°T with a spreading index of 5 was used as the most dangerous direction aligning with the Jones Inlet centerline. Wind forcing was not applied due to fetch distance being small enough to make any wind-generated wave growth insignificant. Resulting wave heights and periods at the project site are shown in Figure 3-8 and Figure 3-9.

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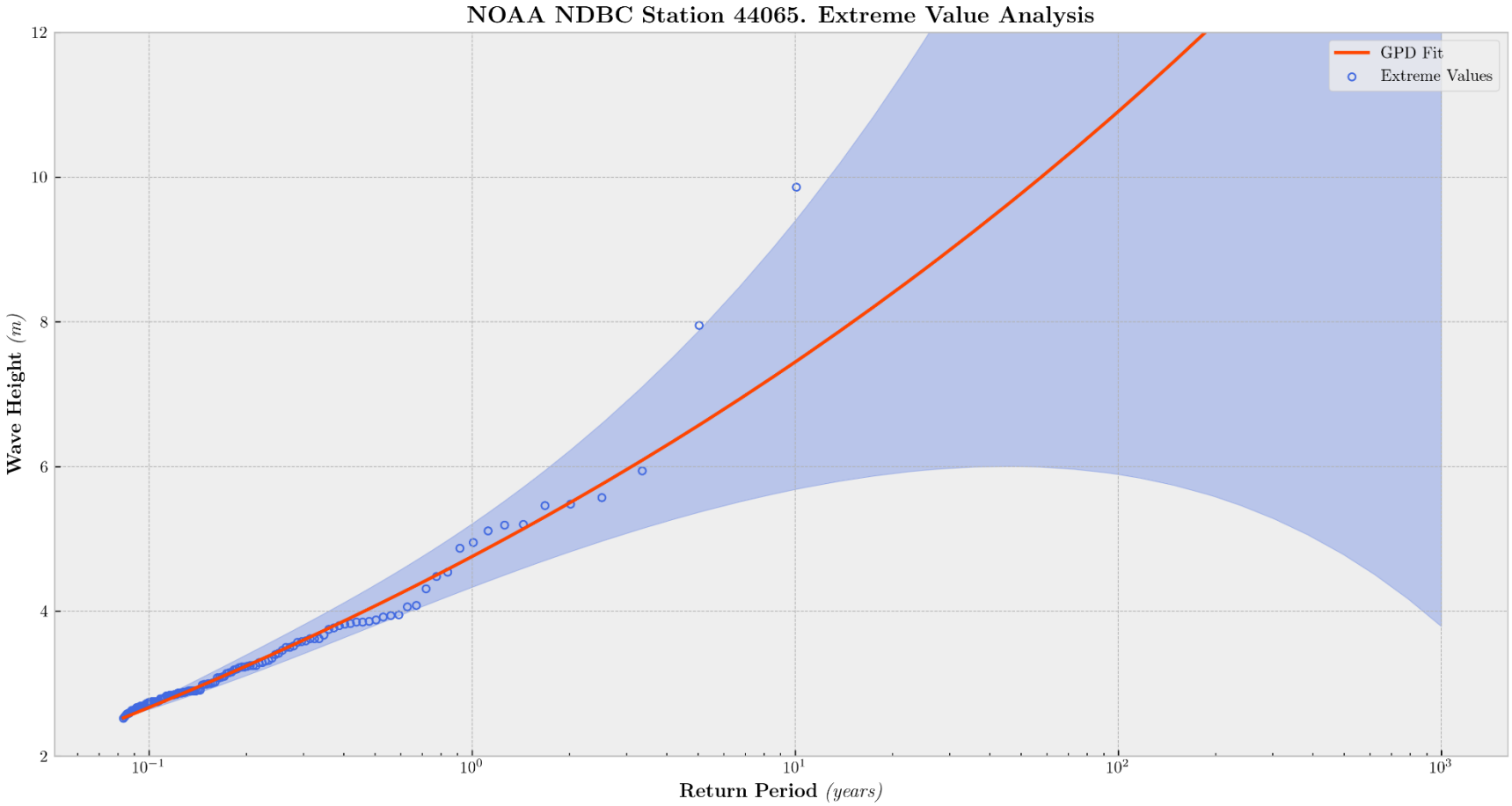

Figure 3-3 Station 44065 Wave Height Extreme Value Analysis

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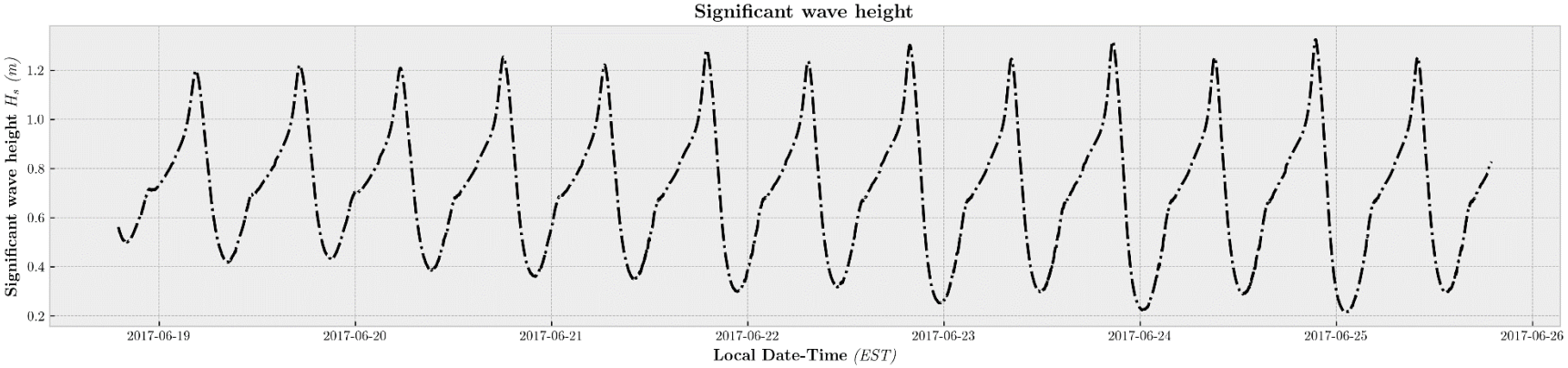

Figure 3-4 Regular Conditions. Significant wave height at the project site

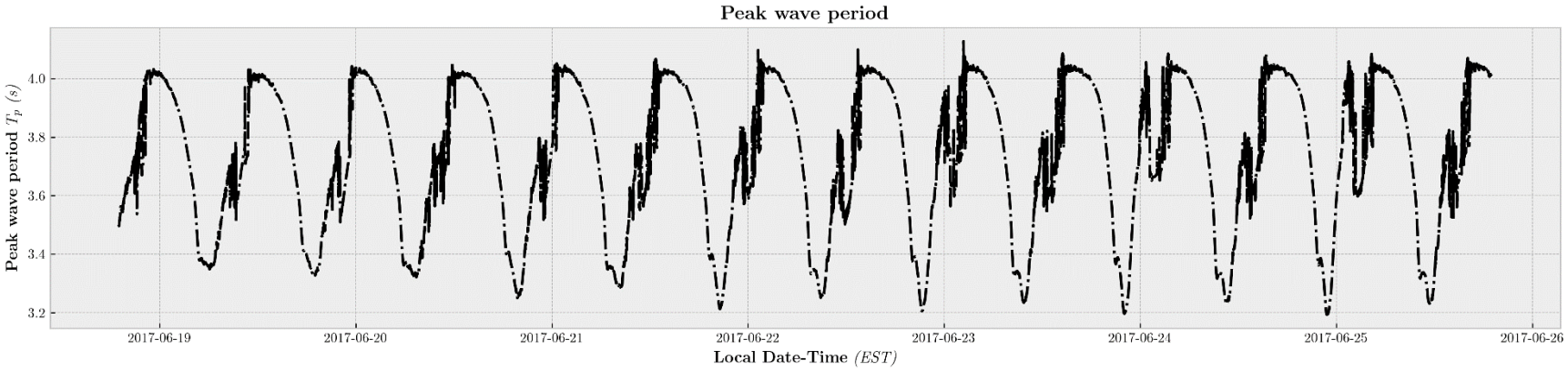

Figure 3-5 Regular Conditions. Peak wave period at the project site

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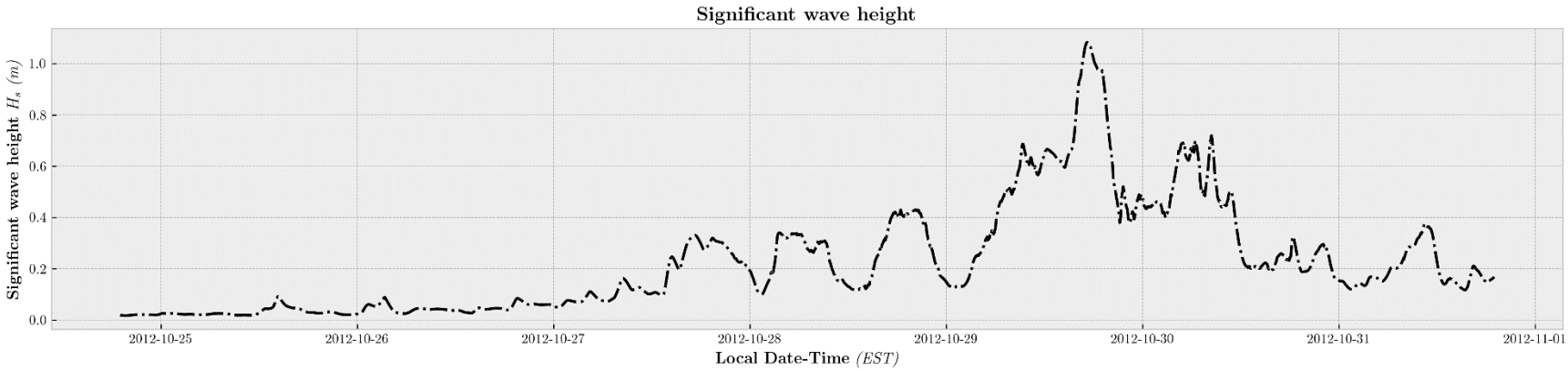

Figure 3-6 Hurricane Sandy. Significant wave height at the project site

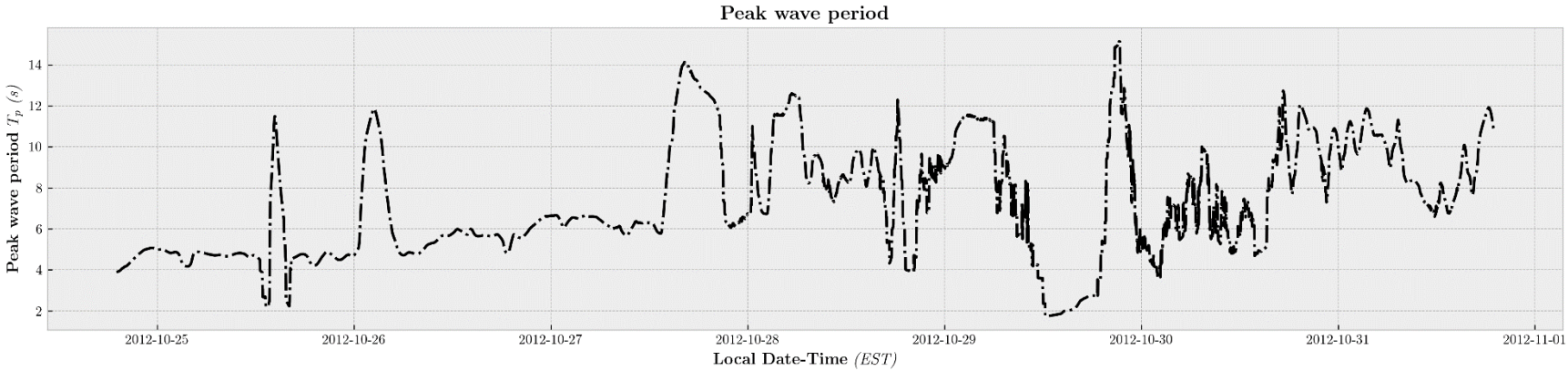

Figure 3-7 Hurricane Sandy. Peak wave period at the project site

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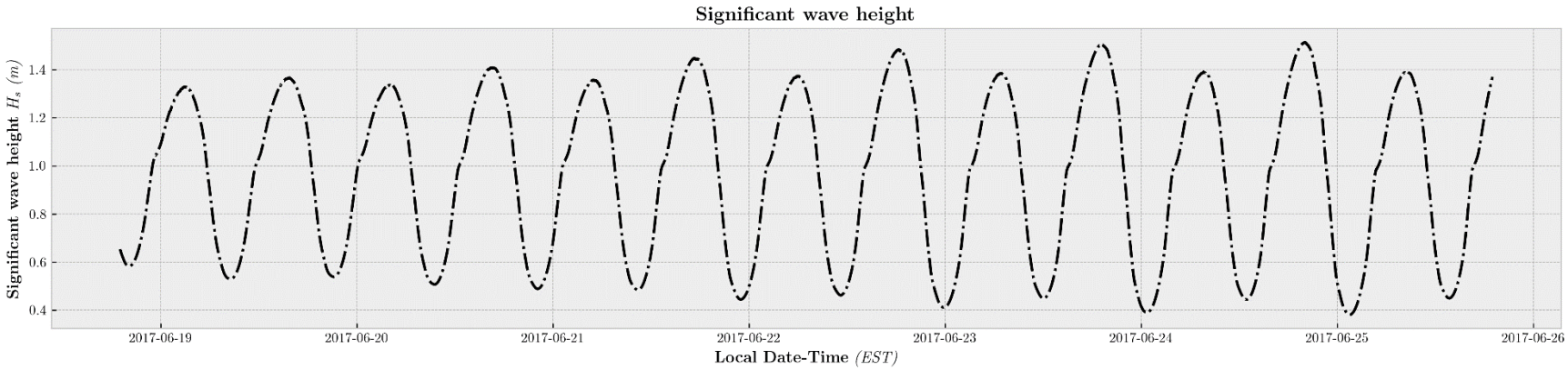

Figure 3-8 Design Event. Significant wave height at the project site

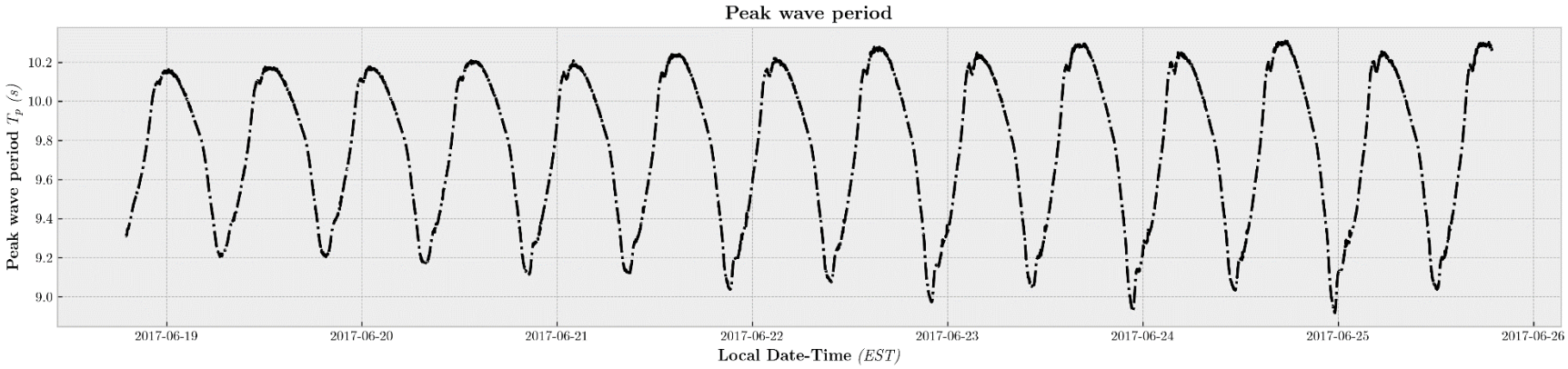

Figure 3-9 Design Event. Peak wave period at the project site

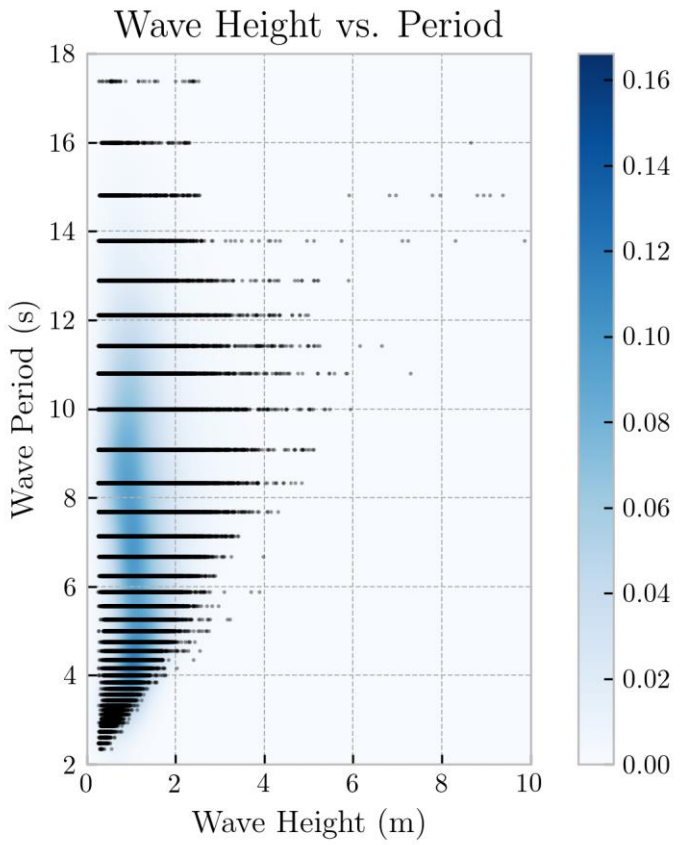

Figure 3-10 Station 44065 [10], Wave Height-Period Joint Probability Plot

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4 Local Hydrodynamic (HD) and Sand Transport (ST) Model

The Local Hydrodynamic (HD) model (further referred to as Local HD model) coupled with Sand Transport (ST) module was developed to investigate local small-scale flow characteristics, sediment transport patterns, and morphodynamics at the project site. The model domain was created by trimming the Regional HD domain to reduce model size and increase mesh resolution at the project site while maintaining a reasonable processing time. Only important adjacent areas required to provide accurate current and sediment transport estimations at the project site were included. The Local HD model was forced by area time series files generated by Regional HD and Regional SW models. The ST module was configured using sediment characteristics, which are summarized in the Geotechnical Investigation Report by KS Engineers P.C. [11]. The HD module of the model was calibrated against collected ADCP current sensor data. The ST module predictions were validated by comparing modelled trends to those observed by reviewing the historical data, as outlined in the morphology report [12].

4.1 Model Domain

The model domain is represented by a flexible mesh (Figure 4-2) consisting of 70,732 triangular and quadrangular elements with the smallest element having a nominal size of 5 m. The mesh was generated with higher density of elements in the area of interest around the project site. The smallest elements are located in the Zone C area. The size of the smallest element was chosen in a way to provide at least 10 elements per groin along its longitudinal dimension. This allowed the model to resolve localized effects caused by the groin presence and beach curvature. The shoreline, or land boundary, was extracted from the Regional HD model and refined to account for higher resolution. Model bathymetry (Figure 4-1) was interpolated to the mesh through applying the natural neighbor interpolation algorithm using the same elevation data and methods as descried for the Regional HD model in Section 2.1.

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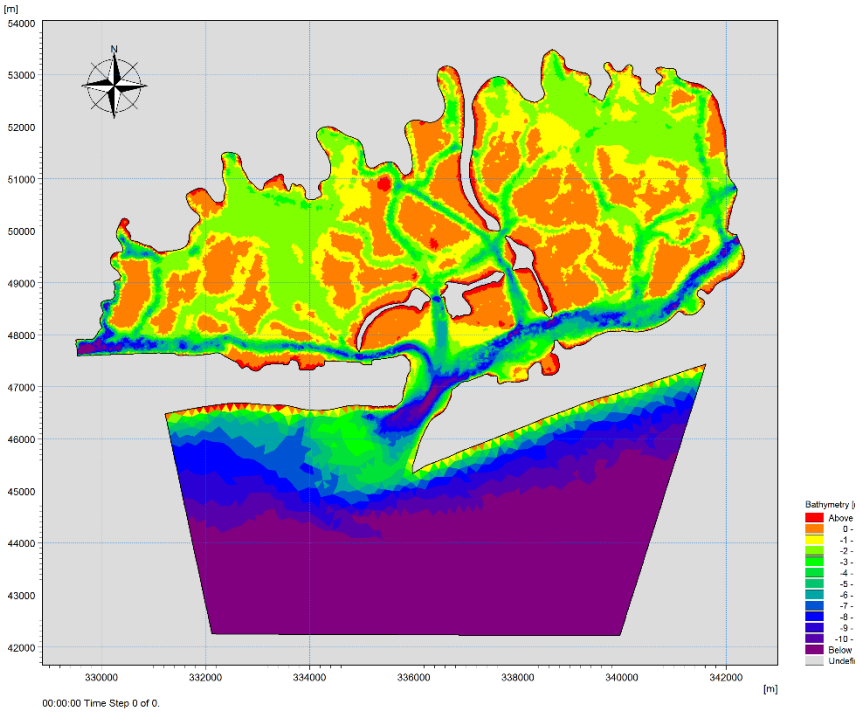

Figure 4-1 Local HD Model Bathymetry

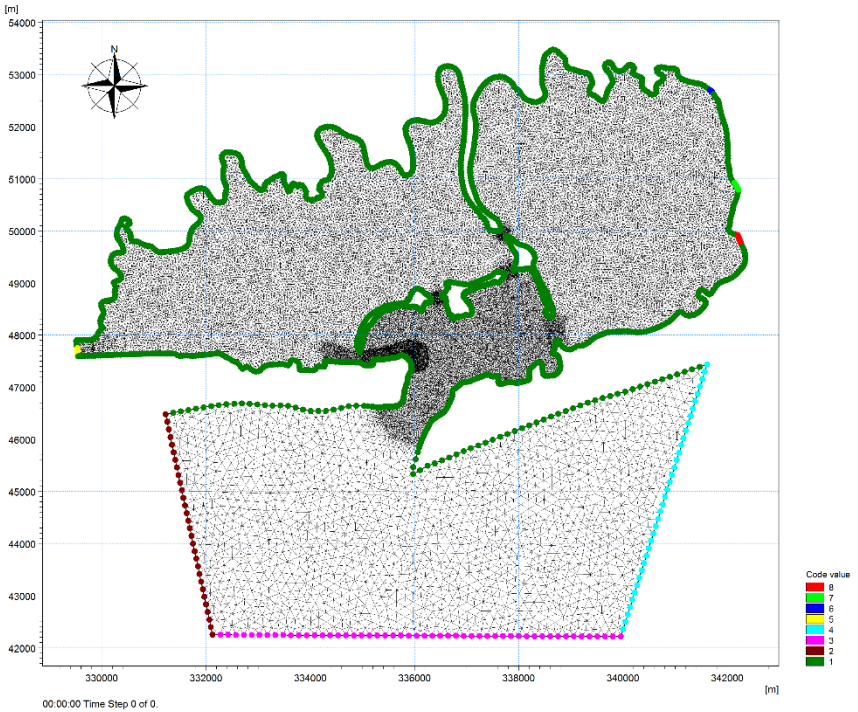

Figure 4-2 Local HD Model Mesh

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4.2 Forcing and Boundary Conditions

The Local HD model was forced with current velocity and surface elevation boundary time series extracted from the Regional HD model (three offshore, one inner west, and three inner east boundaries; Figure 4-2). For simulation scenarios, where wind forcing was included, wind speed and direction time series were obtained from the JFK International Airport Station (WBAN 94789) [7] from the NOAA Climate Data Online (CDO) portal. Wave radiation stresses were not included in the HD model, but were used to force sediment transport in the ST module.

4.3 Model Calibration

The Local HD model was calibrated against data from ADCP current sensor. Surface elevations were calibrated against USGS Station 01310740 [6]. Overall, the model is expected to predict currents and surface elevations nearly identical to the Regional HD model output. Minor discrepancies can be attributed to the Local HD model having significantly higher special and temporal resolution.

The calibration run of the Local HD model was setup for a time range as to capture the highest surface elevations and current velocities from the Regional HD model calibration run - 12/07/2016 to 12/21/2016 with a three-day warmup period. The simulation duration was reduced compared to the Regional HD model in order to maintain reasonable processing time – Local HD model has significantly finer resolution and, therefore, uses considerably more computing resources per time step. The model parameter configuration used was identical to the Regional HD model setup. The following parameters were adjusted specifically for the Local HD model:

- constant bed resistance of 50 $m^{1/3}/s$ (Manning number); lower bed resistance values of 5 $m^{1/3}/s$ were used for the areas at the intersections of flux/flather boundaries with land boundaries for model stability purposes – a Manning number map was prepared for this purpose (Figure 4-5)

- groins were simulated using "*dike*"-type structures with a constant crest elevation of 1.6 m NAVD88; the dikes start and end points were placed in a way to achieve at least 10 elements per groin along the longitudinal dimension

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The ST module of the Local HD model was validated by configuring the parameters with values from data collected at the project site where available and with parameters recommended by DHI (MIKE developer). The following parameters were found to result in optimal ST model performance:

- wave and current model type with constant erodible layer thickness; sediment transport tables which were used by the model to determine the bed movement are shown in Figure 4-4
- start time set to three days after the simulation start to account for the warmup period
- sediment properties constant in the domain were derived from the KSE geotechnical report for Boring 1 [11] which corresponds to the shoreline area (Zone C), Figure 4-3
  - porosity 0.4
  - median grain size 0.25 mm
  - grading coefficient 1.88
- morphology feedback on the HD and ST calculation included with daily bed level change limited to 100 m; slope failure not included in the model due to the presence of a hard structure along the shoreline – stone/concrete rubble revetment
- "zero sediment flux gradient for outflow and zero bed change for inflow" boundary condition at all boundaries as shown in Figure 4-2

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As seen in Figure 4-6, the modelled current velocities are in good agreement with observations. A surface elevation comparison is shown in Figure 4-7. The modeled elevations are in good agreement with observations. The minor discrepancies between observations and results occur due to surface elevation input data for the Regional HD model being generated using surge from a tidal gauge located in the bay area (USGS Station 01310740 [6], located behind the barrier island). These discrepancies would not be present if surface elevation data at the location of the offshore boundary (Figure 2-2) were available.

As seen in Figure 4-9 and Figure 4-10, the ST module predicts sediment migration along the shoreline in the Southward direction. The sand spit migration, as historically observed [12], indicates the model capturing the general sediment trends in the area. This corresponds to a stronger ebb current driving the bed morphology processes. The model is, therefore, considered validated as it is expected to predict only general trends and not to capture local short-period sediment transport dynamics due to a high level of uncertainty involved in modeling such complex systems.

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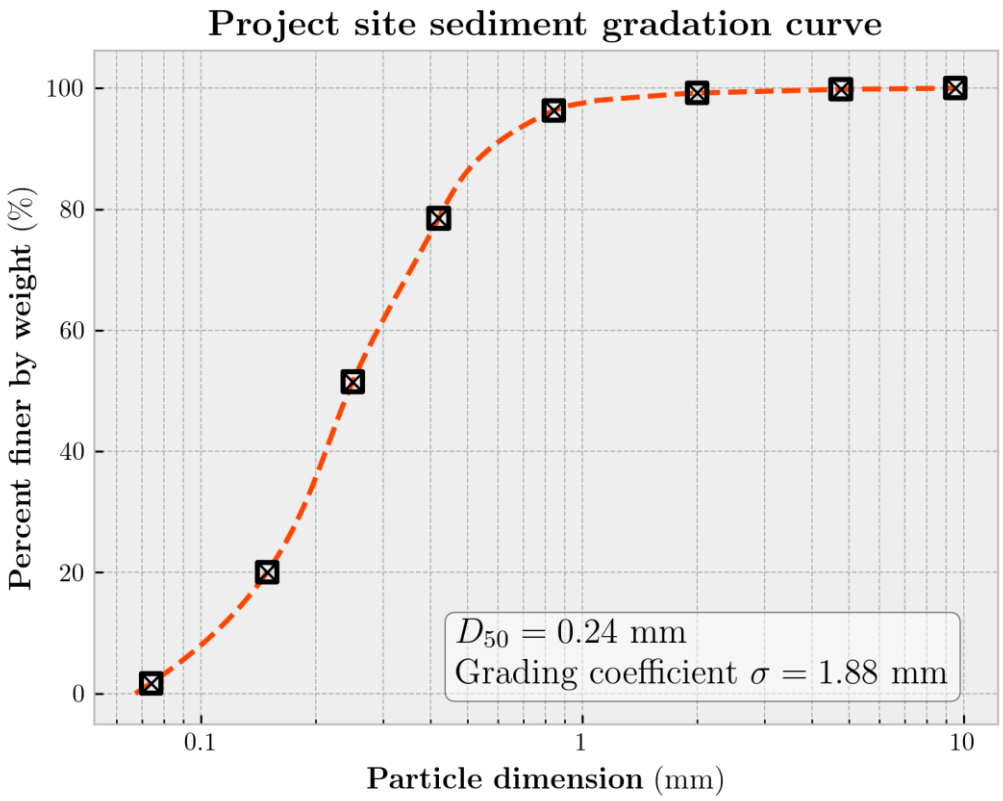

Figure 4-3 Sediment Gradation Curve at the Project Site. Boring 1, by KS Engineers P.C. [11]

Sediment table axis

	First value	Spacing	No of points
Current speed	0.01	0.15	15
Wave height	0.2	0.5	20
Wave period	2	2	10
Wave height/water depth	0.05	0.05	20
Angle current/waves	0	30	13
Grain Size	0.250	2.000	1
Sediment grading	1.88	0.15	1
Bed slope, curr. direction	0	0.01	1
Bed slope, normal to cur	0	0.02	1
Centrifugal acceleration	10	0.001	1

Figure 4-4 Sediment Transport Table Setup

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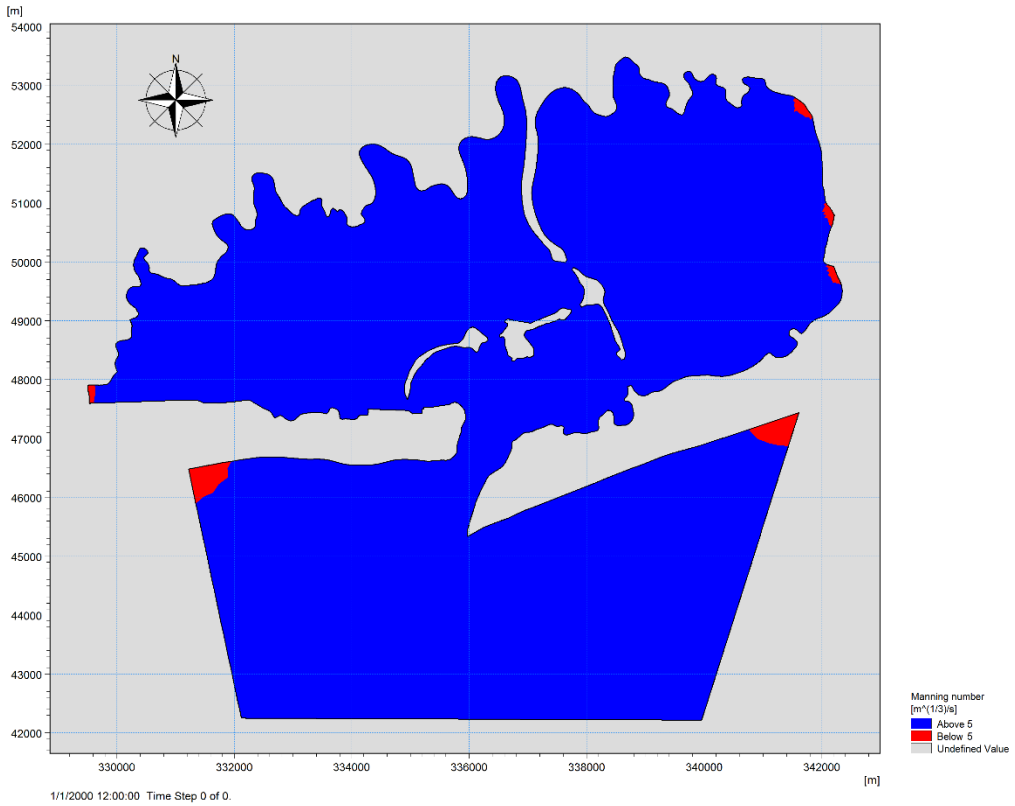

Figure 4-5 Local HD Model Manning Number Map

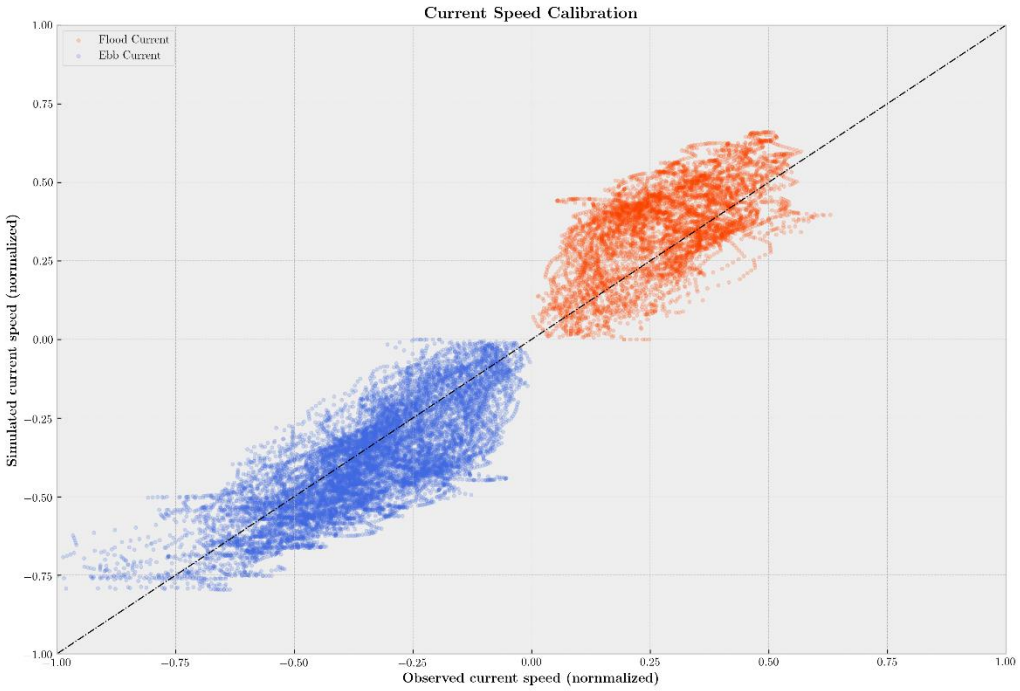

Figure 4-6 Local HD, Current Velocity Calibration (blue – ebb current, orange – flood current, black – ideal match)

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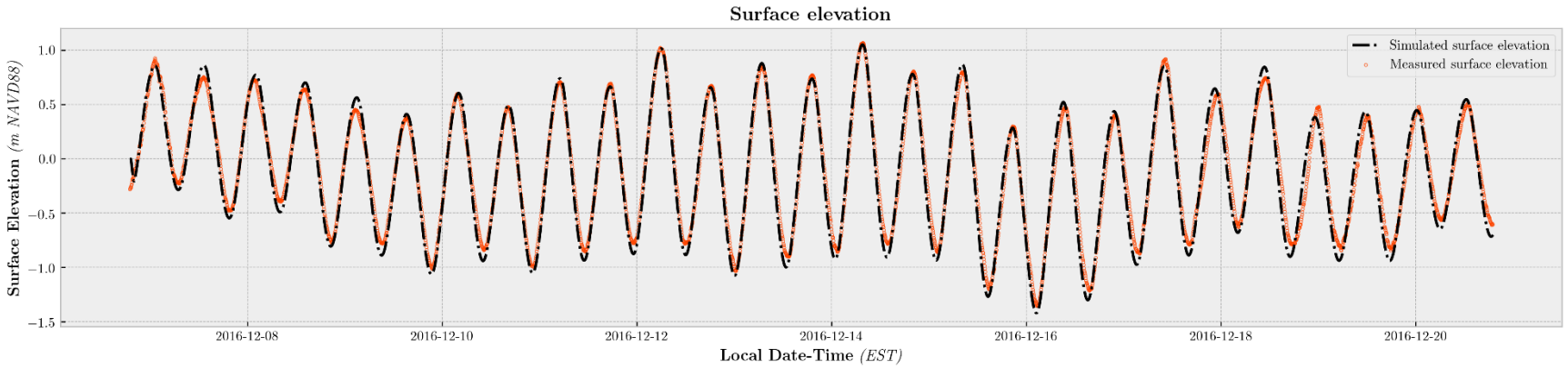

Figure 4-7 Local HD, Surface Elevation Calibration

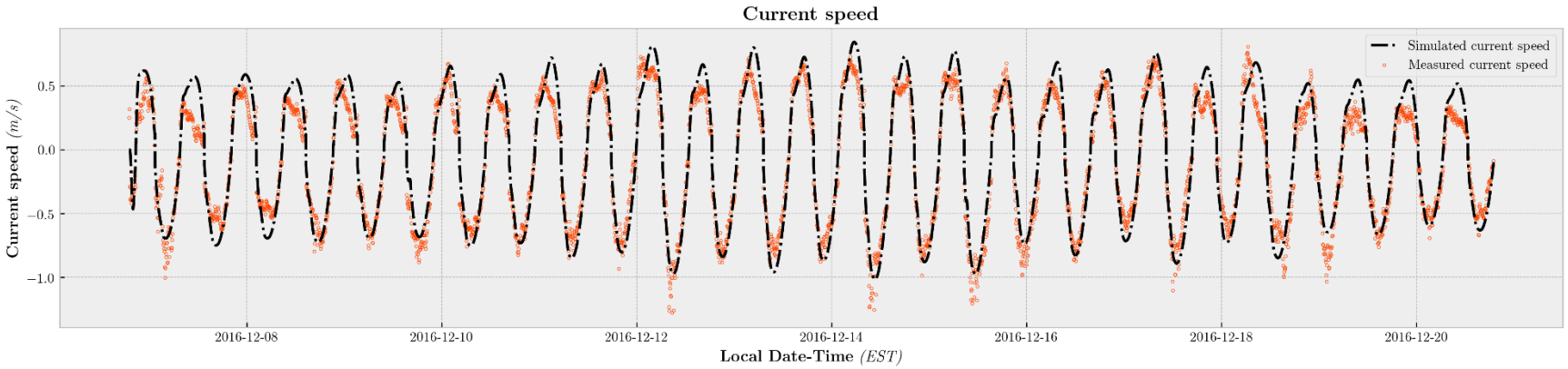

Figure 4-8 Local HD, Current Speed Calibration (Flood Currents are Positive, Ebb Currents are Negative)

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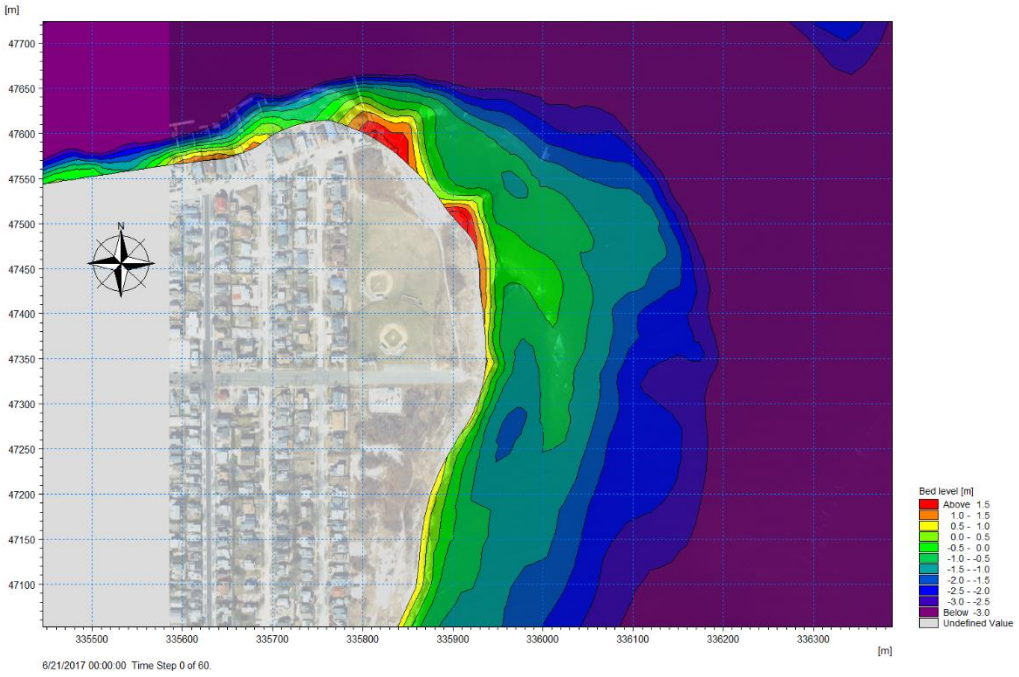

Figure 4-9 Local HD, Design Event, Initial Bed Level

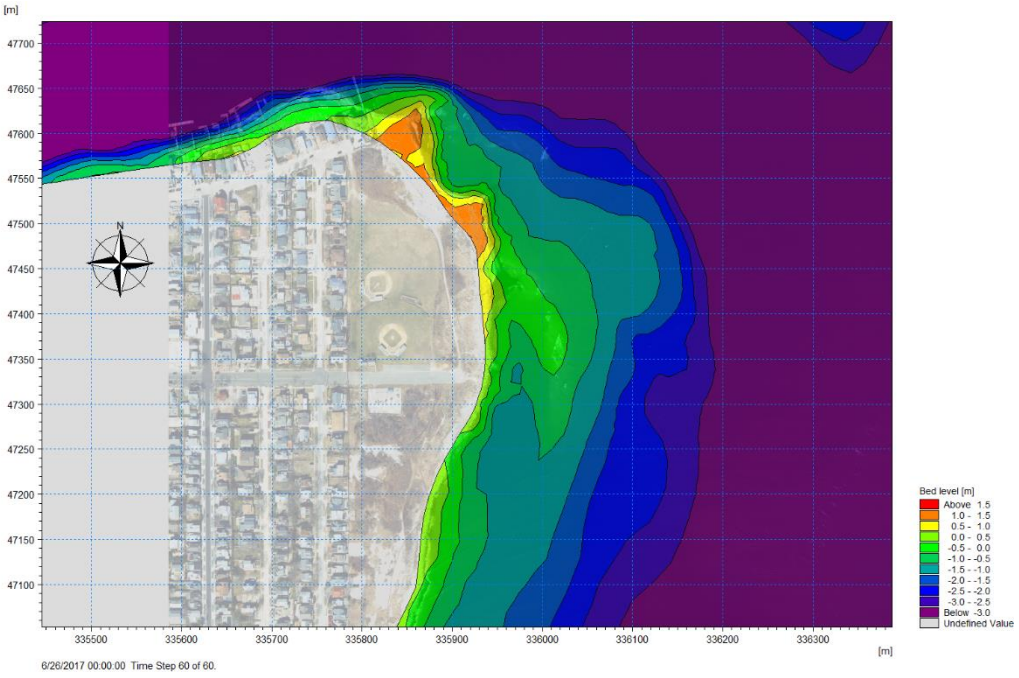

Figure 4-10 Local HD, Design Event, Final Bed Level

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4.4 Simulation Scenarios

The Local HD model was setup for Hurricane Sandy and Design Event scenarios to investigate a wide range of environmental conditions and to adequately address the goals set for this task.

4.4.1 Hurricane Sandy

The "Hurricane Sandy" event represents a set of input parameters which correspond to the surface elevations, current velocities, wind speeds, and wave parameters observed during the Hurricane Sandy duration period from 10/24/2012 to 11/01/2012. Boundary conditions specifying surface elevations and current velocities were extracted from the Regional HD model Hurricane Sandy run. Wave radiation stresses, used to provide additional forcing for the ST module, were extracted from the Regional SW Hurricane Sandy model run area time series.

4.4.2 Design Event

The "Design Event" represents a set of input parameters which correspond to the 100-year return period surface elevations and wave heights. Boundary conditions specifying surface elevations and current velocities were extracted from the Regional HD model Design Event run. Wave radiation stresses, used to provide additional forcing for the ST module, were extracted from the Regional SW Design Event model run area time series. No wind forcing was included in the Local HD Design Event model run.

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5 Results and Discussion

As outlined before, the purpose of this analysis was to analyze existing conditions and extreme storm events, investigate sediment transport patterns and morphodynamics, and, as a result, to develop a set of design parameters and recommendations which shall facilitate the design of a shoreline stabilization system. This section summarizes results achieved by running the models described in previous sections and discusses possible implications of the findings on the future design.

5.1 Design Environmental Parameters

The design environmental parameters represent a set of parameters to be used in the design of the shoreline stabilization system. These include significant wave height, peak wave period, surface elevation, and current velocity. Design surface elevation was determined independently from this analysis and consists of 100-year FEMA still water elevation and NYC DEC relative sea level rise resulting in the design value of **+3.54 m** NAVD88 (+11.62 ft NAVD88).

Design depth-averaged current velocity was determined as the highest current velocity observed at the project site. Current velocity is intrinsically a function of water surface slope, or a derivative of surface elevation. Therefore, the highest current velocity was observed during the longest and steepest gradient of the surface elevation caused by combined action of tide and surge. This event was observed during Hurricane Sandy on 10/30/2012 (Figure 2-11) resulting in the design current velocity value of **1.2 m/s** (3.94 ft/s or 2.33 knots).

Design wave height was determined by extracting a profile time series along a transect located at the southern end of the project site (corresponds to the Jones Inlet entrance, Figure 5-1) from the Regional SW Design Event model run and finding the highest value along this profile. The design wave height was found to be **1.80 m** (5.91 ft). Peak wave periods were taken from the wave height-period correlation plot shown in Figure 3-10 and a range of **8-12 s** is recommended for the design.

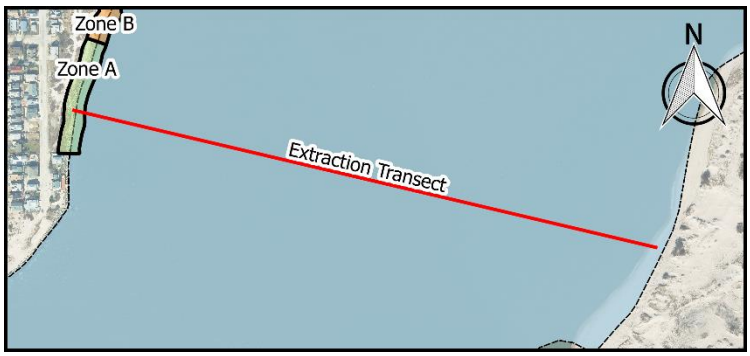

Figure 5-1 Design Wave Height Extraction Transect

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5.2 Flow Pattern Analysis

The tidal flow in the Jones Inlet is a result of the complex regional Long Island system of inlets. As shown in Figure 5-2, the majority of the tidal flow is directed through the eastern channel under the Bascule Bridge.

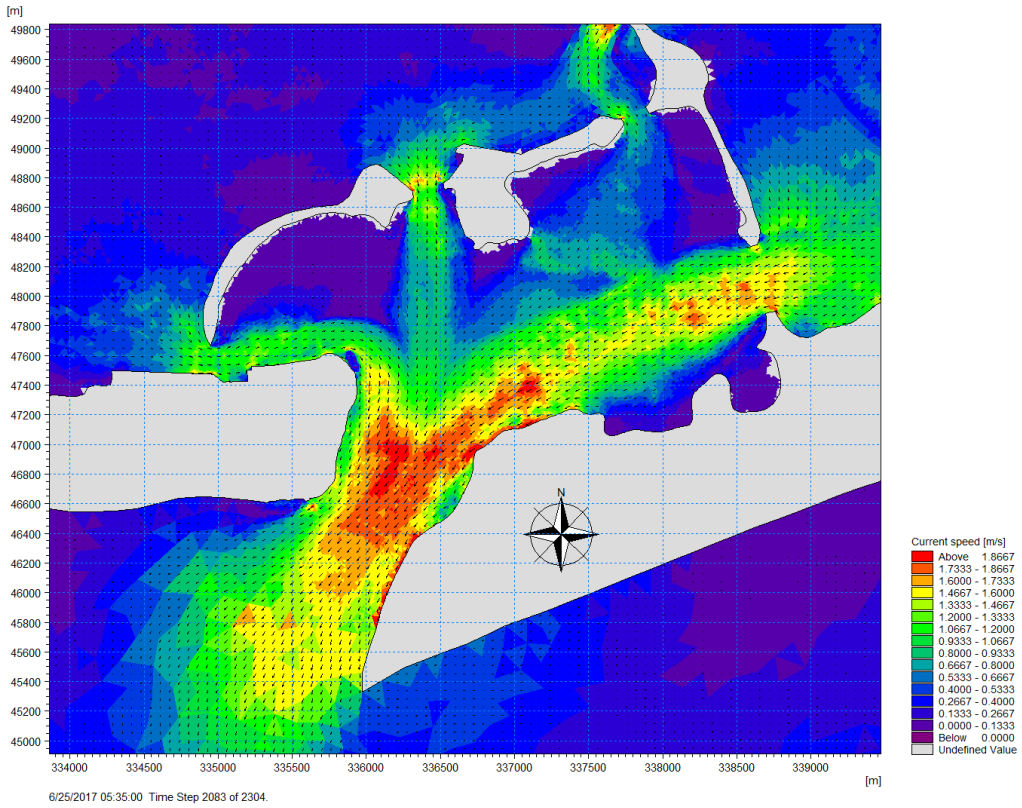

Figure 5-2 Jones Inlet Flow Pattern

Flow through Reynold's Channel to the west of the site, however, is more important for the design since it was found to have the highest influence on the flow patterns in Zone C). It was observed that ebb current velocities are significantly higher than the flood velocities. This results in predominantly southern longshore sediment transport through the project area. Additionally, a low velocity wake seen behind the southern groin in Figure 5-4 results in local sedimentation which results in spit formation that is confirmed by historical observations [12].

Local flow patterns, as shown in Figure 5-3 and Figure 5-4 demonstrate that during both flood and ebb current phases, flow vorticities form within the shoreline area enclosed by groins. These vorticities are the likely cause of material (e.g., biomass) being trapped between the groins and prevented from leaving the area due to vorticities carrying it back to the shore.

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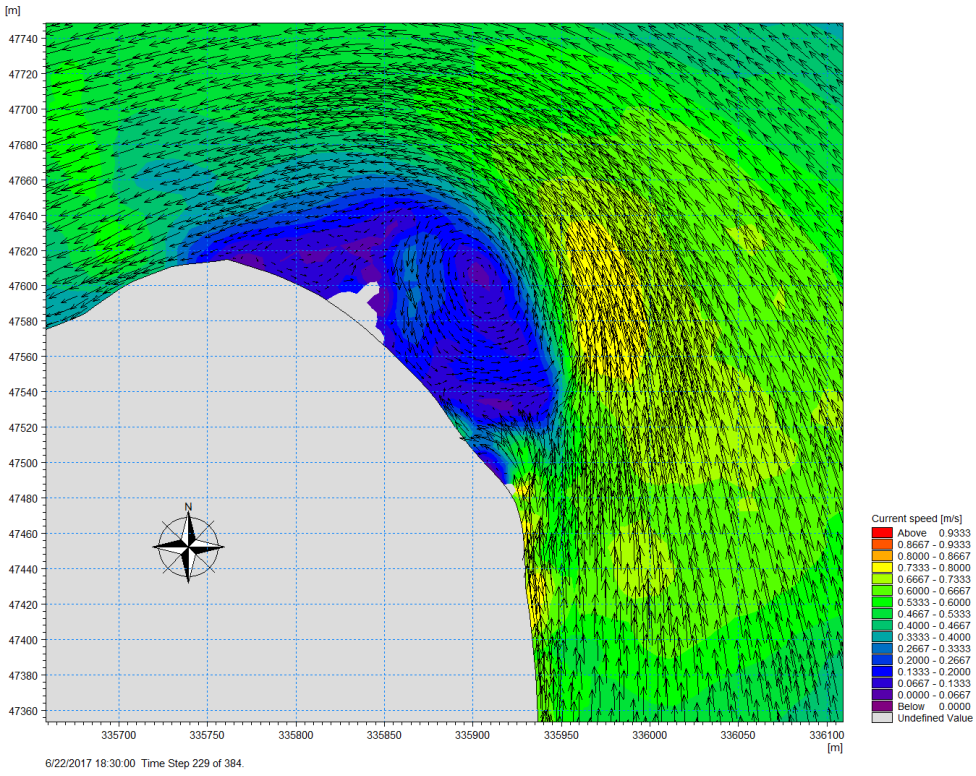

Figure 5-3 Local HD, Design Event. Flood Current Flow Lines

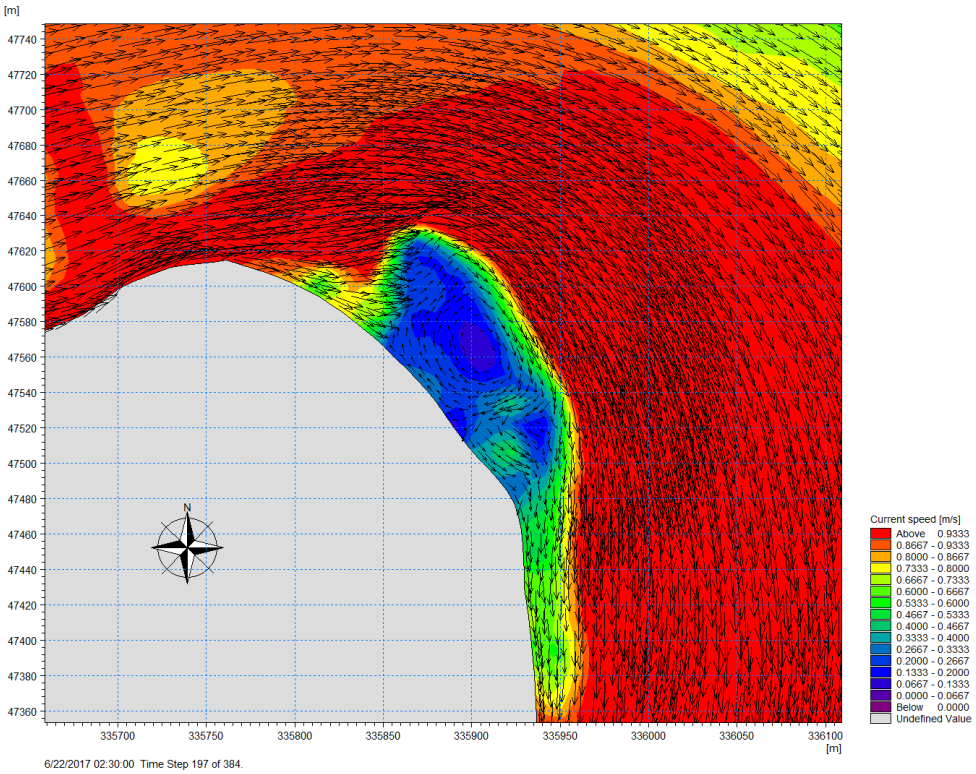

Figure 5-4 Local HD, Design Event. Ebb Current Flow Lines

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5.3 Wave-Current Interaction

The effect of currents on wave heights and periods was investigated in this analysis. The Regional SW model for Design Event scenario was run with and without current forcing being included in the model setup. As shown in Figure 5-5 and Figure 5-6, inclusion of currents in the SW model results in an increase of the range of wave heights and periods observed at the projects site – higher waves during flood currents and lower waves during ebb currents. Wave periods shorten (frequencies increase) when currents oppose or block wave propagation due to "crowding" of the waves, the opposite happens when currents and waves propagate in the same direction, which results in waves being stretched out spatially.

5.4 Sediment Transport Patterns and Morphodynamics

It was determined that the dominant sediment transport direction at the project site is southward due to the ebb currents being significantly stronger than the flood currents. Both Hurricane Sandy and Design Event runs of the Local HD model confirm this finding. As seen in Figure 5-7, Figure 5-8, Figure 5-9, and Figure 5-10, there is a general southward sediment migration pattern that is more pronounced in the Design Event case. The spit formation is likely caused by the presence of groins which disrupt the ebb flow, with the spit assuming the shape of flow lines. The recommended design approach would involve redesigning the shoreline in Zone C so that it parallels the contours of the observed flow lines. This would likely stabilize the area and reduce the tendency for the accumulation of organic materials, sediment, and debris.

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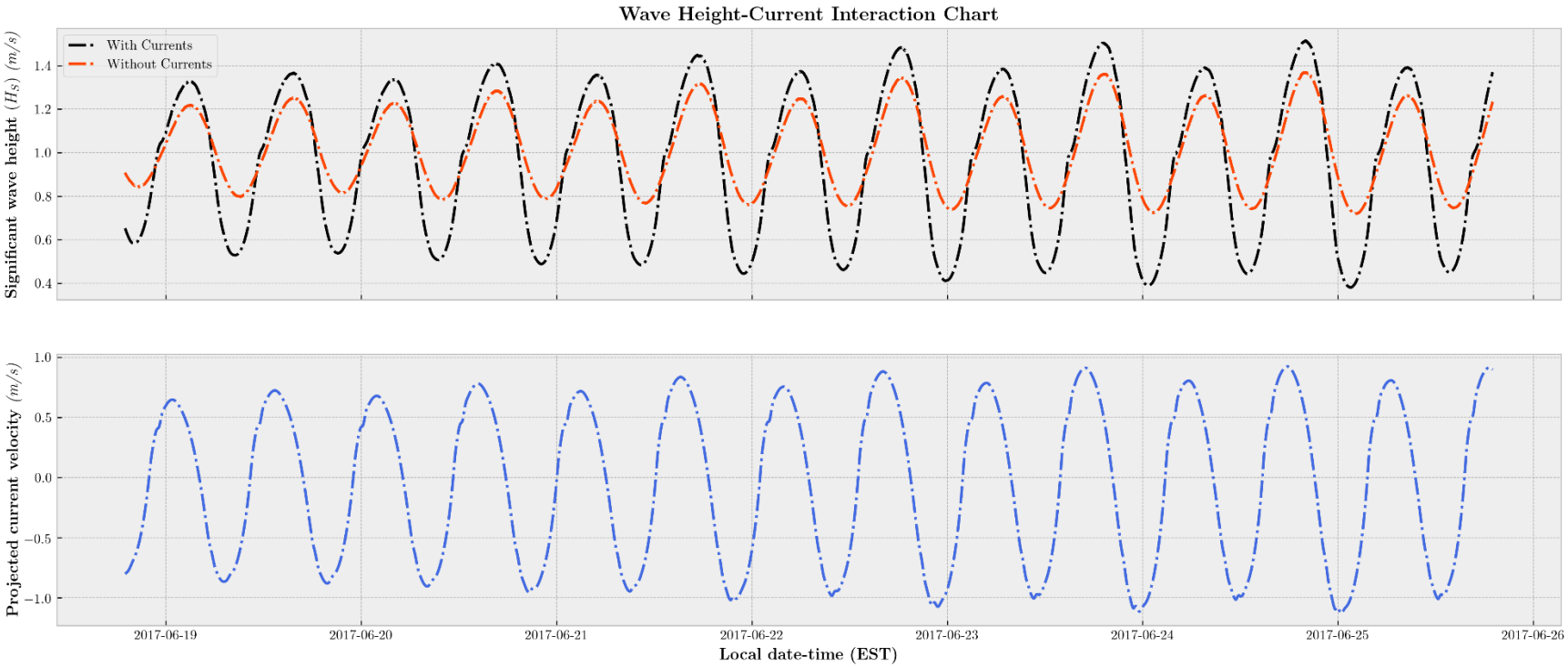

Figure 5-5 Regional SW, Design Event. Wave Height-Current Interaction Chart

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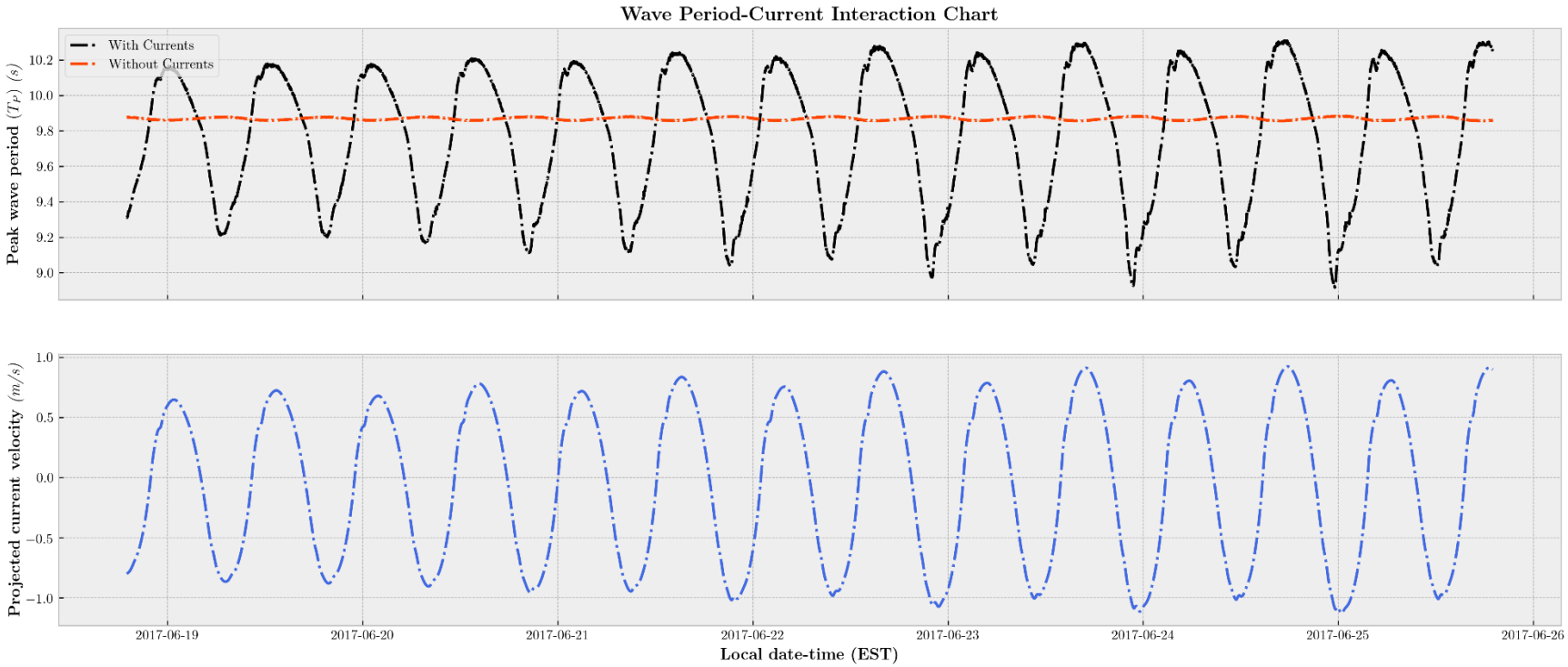

Figure 5-6 Regional SW, Design Event. Wave Period-Current Interaction Chart

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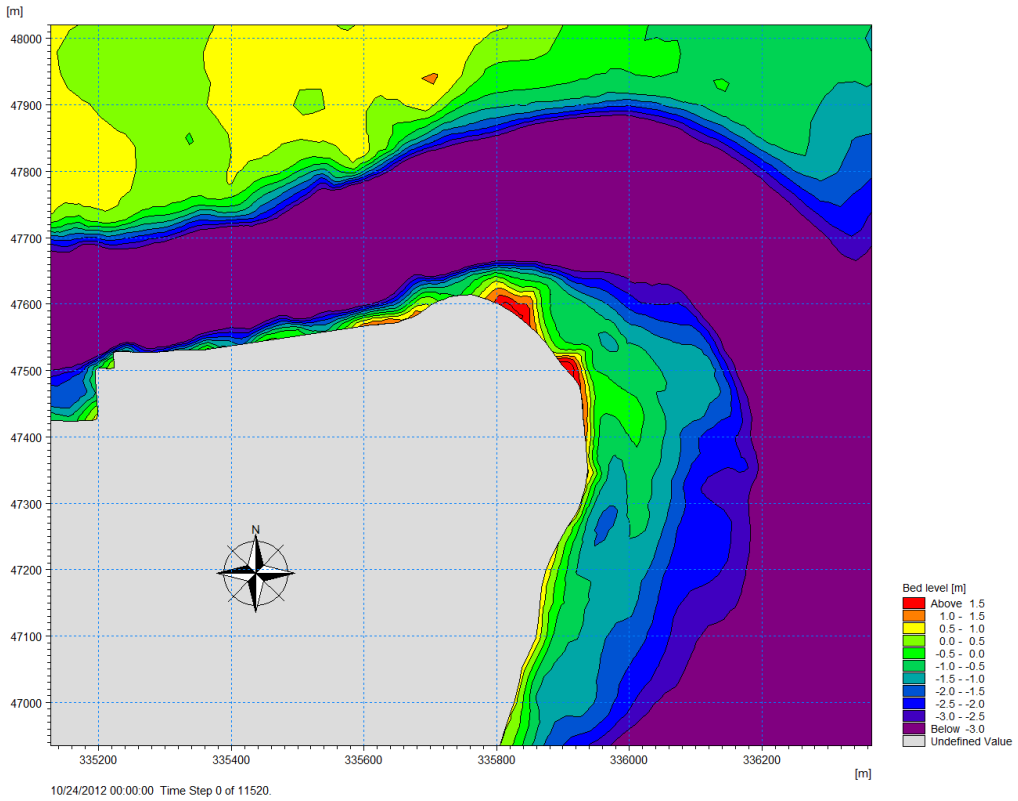

Figure 5-7 Local HD, Hurricane Sandy. Initial Bed Level

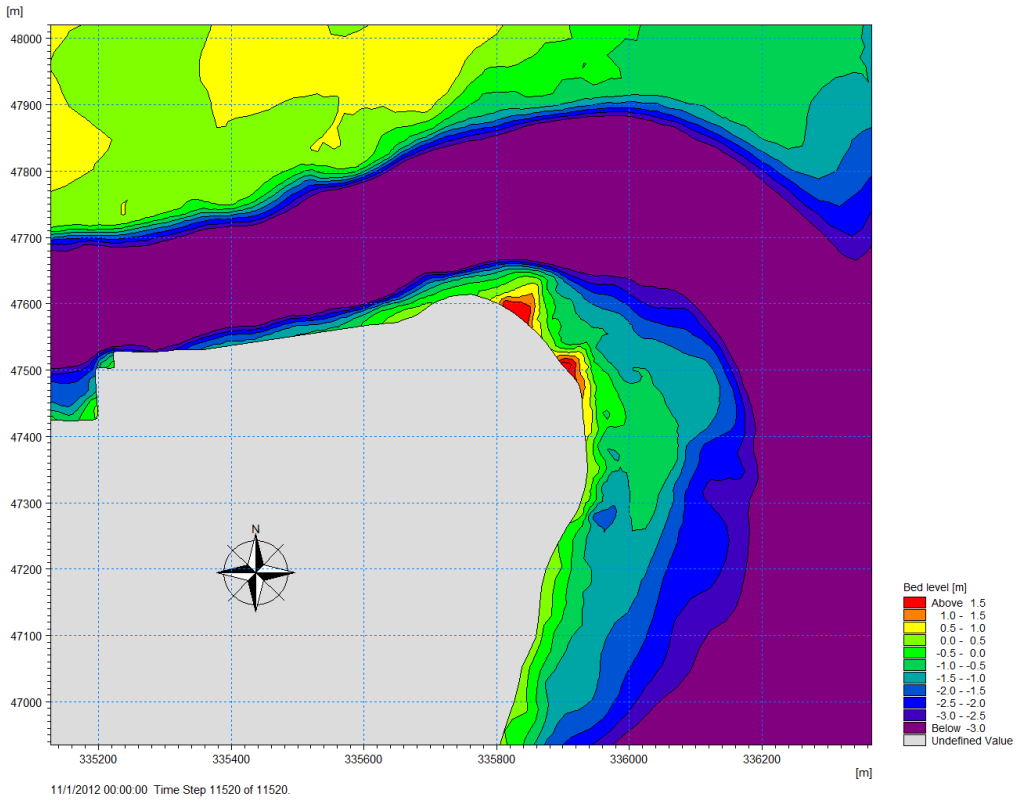

Figure 5-8 Local HD, Hurricane Sandy. Final Bed Level

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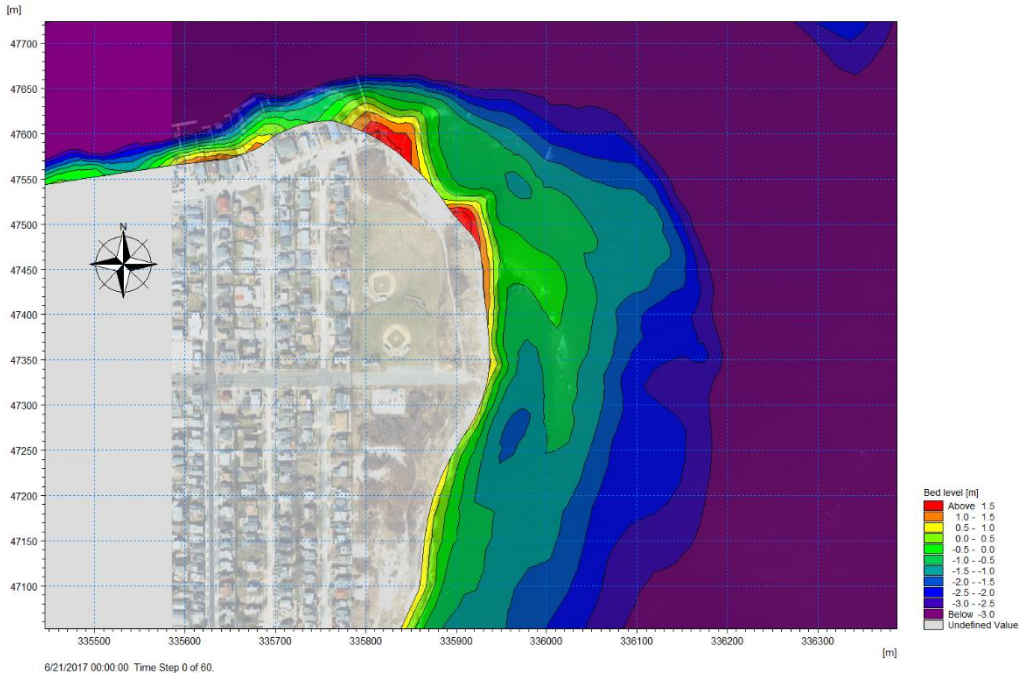

Figure 5-9 Local HD, Design Event. Initial Bed Level

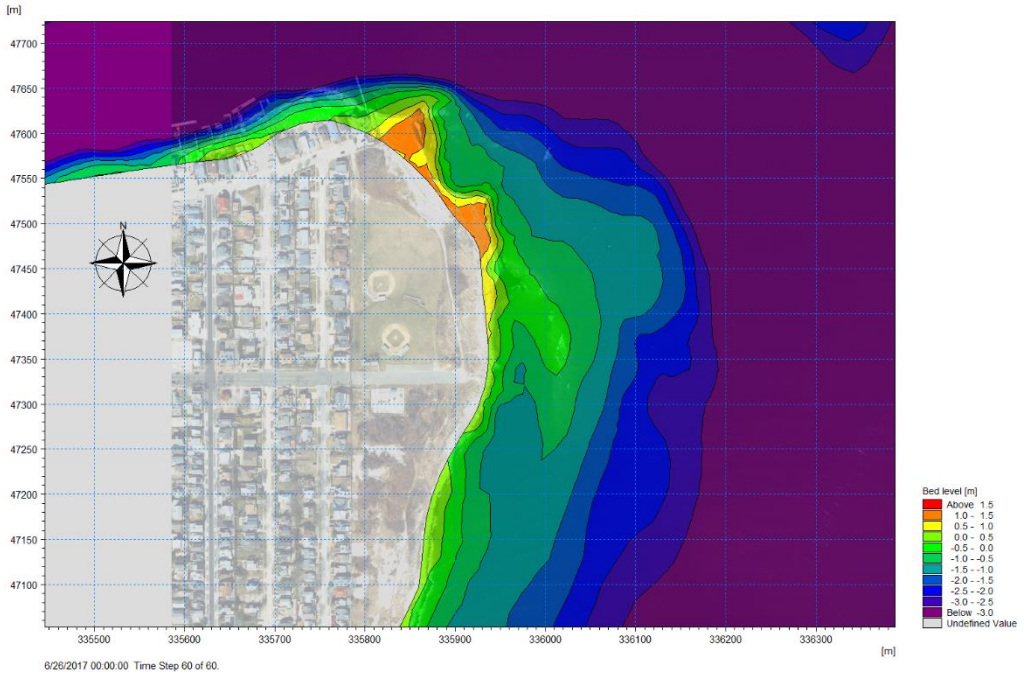

Figure 5-10 Local HD, Design Event. Final Bed Level

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6 Conclusion

As a result of the analyses described in this report, the following design parameters are recommended:

- Significant wave height H_S=1.80 m
- Peak wave period T_P=8-12 s
- Design surface elevation +3.54 m NAVD88
- Design current velocity 1.2 m/s

Based on the observations and findings made in this analysis, the recommended design direction would involve changing the layout of shoreline in Zone C so that the new shoreline follows the naturally occurring flow lines. Groin removal is required in order to eliminate vorticities which prevent seaweed escaping the beach.

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TITLE LIDO BEACH / PT. LOOKOUT SHORELINE STABILIZATION & REVETMENT
Schematic Rehabilitation Design Update

DATE 30 April 2018

TO Town of Hempstead

COPY

FROM COWI

PROJECT NO A076209

1 Executive Summary

On September 29, 2016, the Town of Hempstead authorized COWI North America, Inc. to provide engineering services according to the Agreement for Consulting Services dated August 26, 2016, for the design and permit applications for the Lido Beach / Point Lookout Shoreline Stabilization & Revetment. This memo briefly summarizes assumptions, methods, and data used to develop the updated schematic design alternatives developed to stabilize the Point Lookout shoreline.

This memo is an extension of the Schematic Rehabilitation Design report [1] submitted to the Town of Hempstead by COWI on March 16, 2018. Detailed description of existing site environmental conditions and meteorological and oceanic data used for the design is not provided herein and can be found in the Schematic Rehabilitation Design report [1] and in the Coastal Hydrodynamic Analysis report [2].

The purpose of this memo is to investigate feasibility of adopting sheet pile shoreline protection and perched revetment design alternatives. A high level Opinion of Probable Cost (OPC) was performed for each of the alternatives based on material quantities determined during structural design, results of which are summarized below:

- Sheet pile shoreline restoration with crest at +10 ft NAVD88:
  - Toe is at -16 ft NAVD88 (pile length is 26 ft), sheet piles are steel AZ 12-770;
  - Total construction cost is $5,440,000;

- Sheet pile shoreline restoration with crest at +5 ft NAVD88:
  - Toe is at -10 ft NAVD88 (pile length is 15 ft), sheet piles are either vinyl SG-950 or steel AZ 12-770;
  - Total construction cost is $3,762,000 for steel and $2,668,000 for vinyl;
- Perched revetment alternative:
  - Total construction cost is $3,926,000 (without Zone A).

It should be noted that the sheet piles were designed with taking backfill into account. As discussed with the Town during the meeting on April 5, 2018, the backfill of the sheet piles would be performed by others and not included in the scope of this project. It is important that construction sequencing allows for backfill placement immediately after sheet pile installation. Without backfill sheet piles are not guaranteed to withstand any seaward loads without damage.

2 Design Parameters Update

As per the April 5, 2018 meeting, the design parameters were adjusted to better accommodate the project goals and budget. The design service life of the project was reduced from 50 years to 30 years in order to minimize design loads while meeting the minimal requirements for erosion protection structures a per the 6 CRR-NY 505.9 regulation [3]. Additionally, environmental storm-induced loads were reduced from 100-year (1% annual chance, or 26% chance of exceedance over the 30-year design service life) to 50-year (2% annual chance, or 45% chance of exceedance over the 30-year design service life) return period.

The updated design parameters are:

- Significant 50-year wave height ***5.8 ft***;
- Peak wave period range ***8 s to 12 s***;
- 50-year still water elevation ***+9.97 ft NAVD88*** (2050 Relative Sea Level Rise of ***1.47 ft*** incorporated into this value);
- Design current speed ***3.9 ft/s*** (2.3 knots).

These parameters were obtained using methodology described in the Section 6 of the Schematic Design Report [1, p. 25].

3 Sheet Pile Shoreline Protection Design

The sheet pile design alternative was developed per Town request at the April 5, 2018 meeting. Several alternatives, including sheet pile placement at Mean High Water Spring (MHWS) and landward, with and without backfill, using vinyl and steel sheet piles, have been reviewed. The purpose of this analysis is to determine the most economical sheet pile shoreline protection design and to investigate overall concept feasibility within the allocated construction budget.

3.1 Methodology

The schematic sheet pile bulkhead design process can be summarized using the following steps:

- ***Plan layout design*** (see Figure A-1 and Figure A-2)

  Two design contours were drawn for each construction zone (as defined in [1]) in a manner to closely resemble the existing MHWS (assumed to be at 2.1 ft NAVD88) or the existing revetment landward boundary contours. These design contours represent axes along which the proposed sheet pile protection system is to be constructed.

- ***Cross-section design*** (see Figure B-1, Figure B-2, Figure B-3, and Figure B-4)

  A representative cross section was drawn for each plan layout alternative and the existing land elevations were extracted from these cross-sections to be used in sheet pile design.

- ***Structural design***

  Sheet pile structural design was performed using the retaining wall numerical analysis suite WALLAP by Geosolve. Driving depth was determined using the Limit Equilibrium Analysis with both cantilevered and anchored designs considered in the analysis. Sheet pile cross sections were chosen based on factored bending moments estimated using 2-D finite element analysis. Steel and vinyl sheet piles were reviewed for the design. The design constraints include horizontal deflections less than 1/90 of the sheet pile length and stability factor of safety not less than 2.

- ***OPC and material quantities***

  Autodesk Civil3D was used to estimate earthwork volumes required for sheet pile construction.

3.2 MHWS Design Alternative

The Mean High Water Springs (MHWS) water level was assumed to be +2.1 ft NAVD88. The design MHWS contour was drawn in a manner to closely follow the existing MHWS contour and is shown in Figure A-1. A representative transect for each zone was then prepared and a sheet pile shoreline protection system was designed using the WALLAP software suite.

3.2.1 Without Backfill

This alternative assumes no backfill is placed landward of the sheet pile system. This would result in lower active earth pressure and, therefore, less conservative design and, potentially, lower construction costs.

The WALLAP sheet pile design for this alternative was carried out using the following assumptions:

- Active pressure (landward) soil has elevation derived from cross sections (Zone A +3.6', Zone B +2.1', Zone C +2.1') and recommended average soil properties [4] ($\gamma_{moist} = 112\ lbf/ft^3, \phi = 30\ °, E_s = 200\ kip/ft^2, \mu = 0.25$);
- Passive pressure (seaward) soil has elevation equal to MHWS (+2.1 ft NAVD88), recommended average soil properties below seabed, and concrete rubble between seabed and MHWS ($\gamma = 150\ lbf/ft^3, \phi = 45\ °, E_s = 3000\ kip/ft^2, \mu = 0.15$);
- Seabed elevation is -2.5 ft NAVD88 for Zone B and Zone C, and -5 ft NAVD88 for Zone A; water is at constant 50-year elevation +9.97 ft NAVD88; wall crest is at +10 ft NAVD88; wave loads were calculated using the Goda 1974 formula for vertical walls [5, pp. VI-5-154];
- Surcharge of $150\ lbf/ft^2$ is applied on the landward side of the sheet pile;
- Modulus of elasticity is assumed to be $E = 380 \cdot 10^3\ psi = 54.72 \cdot 10^6\ psf$ for vinyl and $E = 4.4 \cdot 10^9\ psf$ for steel; yield stress is assumed to be $f_y = 3{,}200\ psi$ for vinyl and $f_y = 60\ ksi$ for steel; CMI sheet pile profiles were used for vinyl sheet pile design and Skyline Steel sheet pile profiles were used for steel sheet pile design; a corrosion rate of $C = 7 \cdot 10^{-3}\ in/year$ for steel sheet piles was accounted for when selecting a section.

Only cantilevered wall was considered for this analysis due to extensive earthwork requirements for an anchored sheet pile bulkhead. ***This alternative was found to be not feasible due to required sheet pile depth and section being too large to result in a design to meet the project's budget.***

3.2.2 With Backfill

The "With Backfill" alternative was designed using the same methods and assumptions as in the "Without Backfill" alternative with additional assumptions being:

- Backfill elevation matches elevation of the sheet pile cap +10 ft NAVD88;
- Backfill material was assumed to have the same properties as native soil recommended average properties [4];
- Both cantilevered and anchored alternatives were considered for this alternative.

For ***cantilevered*** wall alternative the following was found:

- Toe elevation of -16 ft NAVD88 was found to provide stability factor of safety of 2;
- Vinyl sheet piles were found to have high deflections of up to 3 ft and, therefore, are not suitable for a cantilevered wall design alternative;
- The most economical sheet pile to satisfy stability (FoS>2), deflection (<3in), and buckling (maximum factored moment was found to be 6.4 kip ft/ft) criteria was found to be Skyline ***AZ 12-770*** with a total length of 26 ft.

For ***anchored*** wall alternative the following was found:

- Anchor is to be installed at elevation +6 ft NAVD88;
- Sheet pile toe elevation of -16 ft NAVD88 was found to provide stability factor of safety of 2;
- Due to wave loads resulting in critical design condition – excessive displacement of the sheet pile – conventional anchor systems were found inefficient in reducing the wall flexure or driving depth. Soldier piles in front of the wall could provide the necessary strength to the wall to meet acceptable deflections, however the number of piles necessary (approximately 280) would make this alternative infeasible, given the project's budget.

3.3 Landward Design Alternative

The landward design alternative is intended to start protecting the shoreline when the existing revetment, debris, and soil seaward of it get eroded up to the MHWS elevation. The advantage of driving piles at this location is the absence of stone in this area and, therefore, no trench needs to be excavated prior to pile driving. Additionally, piles driven at this location are less likely to run into the existing underground stone/debris.

The design and analysis for this alternative does not differ from the MHWS alternative discussed in the previous section. The conclusions above are assumed accurate for this alternative.

3.4 Lowered Crest Elevation Alternative

Due to wave loads being the dominant factor in determining the sheet pile design at this site, a possible design solution would be lowering the sheet pile crest elevation and, therefore, reducing the wave load and sheet pile deflection. Anchored wall design was not investigated due to wave load being the governing factor.

For ***cantilevered*** sheet pile the following was found:

- Sheet pile crest elevation was set to +5 ft NAVD88;
- Sheet pile toe elevation of -10 ft NAVD88 was found to provide stability factor of safety of 2;
- The most economical vinyl sheet pile to satisfy stability (FoS>2), deflection (<2in), and buckling (maximum factored moment was found to be 4.6 kip ft/ft) criteria was found to be CMI ***SG-950*** with a total length of 15 ft;
- The most economical steel sheet pile to satisfy stability (FoS>2), deflection (<2in), and buckling (maximum factored moment was found to be 4.6 kip ft/ft) criteria was found to be Skyline ***AZ 12-770*** with a total length of 15 ft.

4 Perched Revetment Alternative

The perched revetment alternative was developed in order to investigate an additional economical shoreline erosion protection alternative. This alternative is considered to be a 'perched revetment' because it will be built on top of the existing revetments in Zones A and B. In Zone C, a new minimalized revetment is proposed.

4.1 Methodology

The perched revetment schematic design can be summarized using the following steps:

- ***Plan layout design***

  The revetment MHWS contour would follow along the design MHWS contour (see Figure A-1).

- ***Cross-section design***

  A representative cross section of existing conditions and elevations was used for each zone in order to design the proposed revetment (see Figure C-1 and Figure C-2).

The perched revetment in Zones A and B used the following elevations as a design basis:

- Crest elevation: +10 ft NAVD88
- Toe elevation: MHWS (+2.1 ft NAVD88)

The proposed revetment in Zone C uses the MHWS elevation as the start point for the toe of structure, in which the crest of the structure varies as it follows the general natural slope of the beach.

Representative cross sections of the revetment design, inclusive of existing conditions and proposed structure, are provided in Appendix C.

- ***Structural Design***

  Revetments in all zones used a structure slope of 1:1.5 (V:H) in order to minimize structure footprint while maintaining the minimum required slope for structural stability. Armor stone sizing and crest width for revetments in all zones were designed based upon guidance provided in the Costal Engineering Manual [5] and Rock Manual [6]. The following methodologies were used:

Armor Stone Size

Armor stone size was determined to be $\boldsymbol{D_{n50} = 3.3\ ft = 40\ in}$ and was determined using the Hudson formula:

$$\frac{H_S}{\Delta \mathrm{D_{n50}}} = 0.7(K_D cot\alpha)^{1/3} S_d^{0.15}$$

, where

- H_S – significant wave height ($H_S = 5.80\ ft\ for\ the\ 30\ year\ design\ life$)
- Δ – relative buoyant density ($\rho_r/\rho_w - 1$), with rock density $\rho_r = 165\ lbm/ft^3$
- D_{n50} – median stone diameter
- K_D – stability coefficient ($K_D = 2$ for conservative estimate and semi-permeable core)
- $cot\alpha$ – revetment slope
- S_d – damage level parameter ($S_d = 2$ for 0-5% damage level)

Crest Width

Crest width was determined to be $\boldsymbol{B}= \mathbf{10}\ \boldsymbol{ft}$ and was calculated using the formula:

$$B = 3k_t D_{n50}$$

, where:

- k_t – layer thickness coefficient (empirically found to be $k_t = 1.01$ for blocky armor)

In Zones A and B, the perched revetment armor layer thickness was not designed to meet a specific criteria, as this alternative is being built on top of an existing revetment that varies in elevation along the shoreline. Toe design was also not considered for the perched revetment since it is being built into the existing revetment. The perched revetment was designed using the MHWS contour as the starting point for the structure's toe, and builds up to the requested crest elevation (+10ft NAVD88) at a 1:1.5 (V:H) slope.

The proposed revetment in Zone C incorporates a designed armor layer thickness, bedding layer, embedded toe, and geotextile based on guidance provided in the Coastal Engineering Manual [5] and Rock Manual [6]. The design approach for this zone was more involved due to the lack of existing revetment in this sandy area of the project site, therefore, further measures to ensure stability were deemed necessary. The following methodologies were used:

Armor Layer Thickness

Armor layer orthogonal thickness was found to be $\boldsymbol{t_d = 7\ ft}$ and was calculated using the formula:

$$t_d = nk_t D_{n50}$$

, where:

- t_d – armor layer thickness
- n – number of layers ($n = 2$)
- k_t – layer thickness coefficient (empirically found to be $k_t = 0.999$ for blocky armor)

Bedding Layer

Bedding layer stone size was determined to be $\boldsymbol{D_{50}= 0.6\ ft = 7\ in}$ and was calculated using the formula:

$$D_{50} = \frac{D_{n50}}{200^{1/3}}$$

, where:

- D_{50} – bedding stone size
- D_{n50} – armor stone size

Bedding layer thickness ($\boldsymbol{r}$) was determined to be at least 3 times the bedding layer stone size, or $\boldsymbol{r = 2\ ft}$ thick, as suggested in the Coastal Engineering Manual [5].

Toe design

An embedded toe design was chosen for the proposed revetment in Zone C in order to reinforce stability at the base of the structure. Toe was designed using section provided by The Rock Manual [6] for low scour potential. For the purpose of schematic design, maximum scour depth was estimated as 43% of the water depth at revetment toe (using the design water depth of +9.97ft NAVD88) and was found to be approximately 4 ft. Since this would allow for only one layer of armor stone, the toe depth was increased to 5 ft below existing grade in order to allow for the incorporation of a bedding layer. Embedded toe width was designed to be equal to one armor stone diameter (~4 ft). Additional scour investigation for chosen design alternative will be performed during the detailed design phase.

Geotextile Filter Fabric

Geotextile fabric serves as a filter and a separation layer between existing soil and revetment underlayer in Zone C. Its purpose is to prevent filtering of fine soil into the underlayer while allowing for sufficient water flow through it in order to reduce hydrodynamic loads. Geotextile fabric was not designed at the schematic design stage and was conservatively assumed to be "Class 1A" AASHTO M288-17 [7] compliant material.

- ***OPC and material quantities***

Autodesk Civil3D was used to estimate revetment stone volumes required for all zones, as well as geotextile area for the proposed revetment in Zone C.

5 Opinion of Probable Cost

An high-level Opinion of Probable Cost (OPC) study was performed for the alternatives discussed in this memo. The intent of the OPC is to determine the approximate, order-of-magnitude construction costs. The OPC analysis was completed based on leveraged historical cost information from similar waterfront construction projects in and around New York Harbor, prevailing wage rates provided by the Office of the Comptroller in the City of New York, and RS Means construction cost data. Estimated costs per design alternative are summarized in Table 5-1.

The OPC was based on schematic design quantities derived from the drawings provided in the Appendices. The OPC should be considered to be rough, order-of-magnitude construction costs, reflective of the schematic stage of the project. Please note, that COWI has no control over the cost of labor, materials, equipment, or services furnished by others, over Contractor's methods of determining prices, or over competitive bidding or market conditions. The OPC's were prepared on the basis of COWI's best judgement as experienced and qualified Professional Engineers, familiar with the waterfront construction industry. However, COWI cannot and does not guarantee that proposals, bids, actual project or construction costs would not vary from the OPC's presented here.

Table 5-1 Design Alternative Cost Summary

Alternative		Installed Cost[1]	Backfill[2]	Groin Removal	Contingency[3]	Total Cost[4]
Cantilevered Sheet Pile at Elevation +10'	Steel only	$2,584,030	N/A	$143,180	$2,172,950	$5,440,160
Cantilevered Sheet Pile at Elevation +5'	Steel	$1,742,700	N/A		$1,876,020	$3,761,900
	Vinyl	$1,194,280	N/A		$1,330,470	$2,667,930
Perched Revetment[5]		$1,824,740	N/A		$1,957,630	$3,925,550

Notes:

[1]Cost assumes stone excavated from existing revetment and groins is re-used fully with new material added as needed.

[2]Backfill for all alternatives is assumed to be done by others and not in this scope of work.

[3]Contingency represents a combination of several markups, including escalation (6%), general conditions (8%), overhead (10%), profit (10%), and design (20%) and construction (20%) contingency markups. Design contingency accounts for future design refinement and for additional materials (such as sheet pile toe stone, cap, and geotextile) not considered for this high-level OPC.

[4]Total costs incorporate the assumed mobilization cost ($250,000 per section alternative).

[5]Perched Revetment excludes the cost of revetment in Zone A.

6 References

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Appendix A Schematic Design Plan View

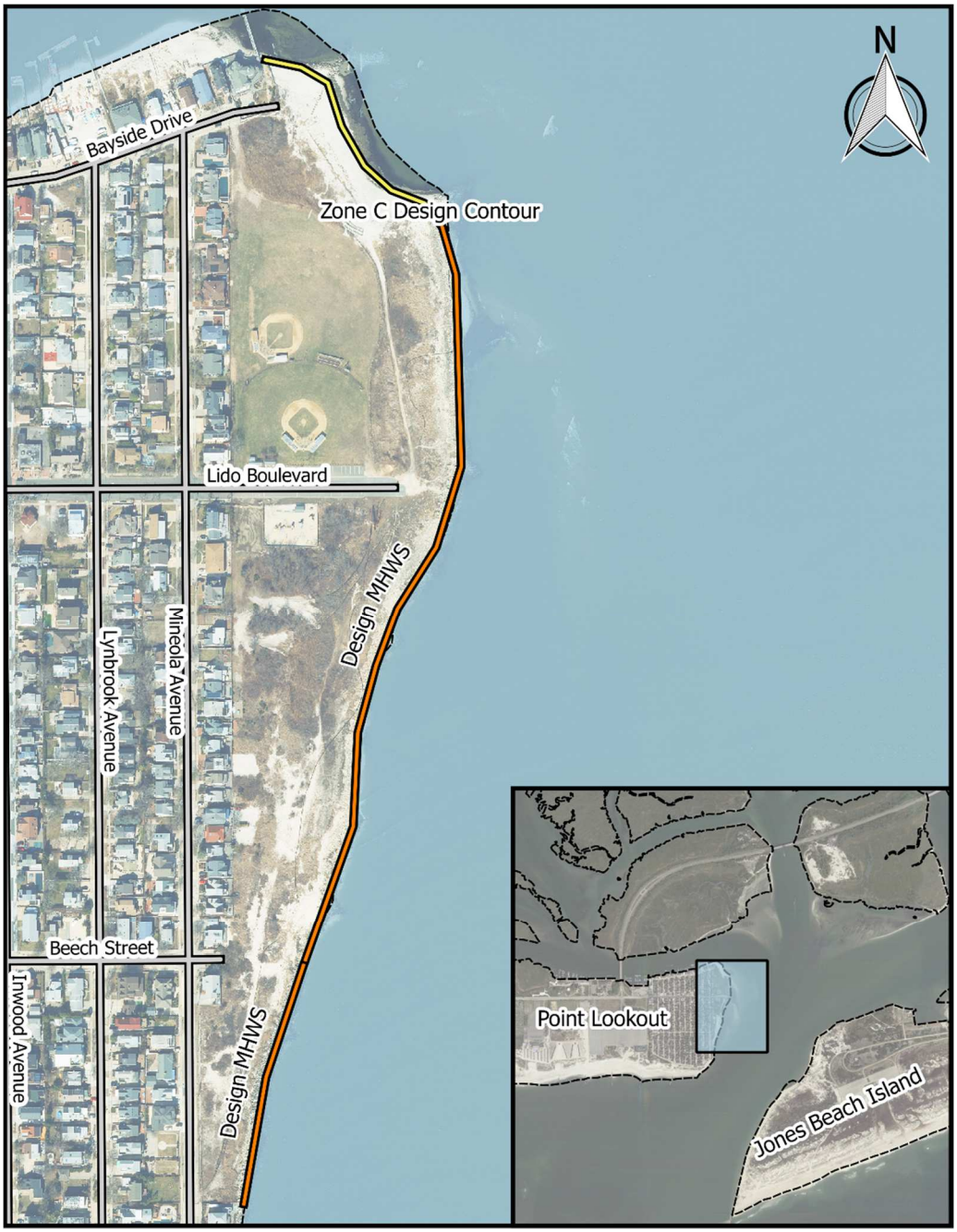


Figure A-1 *MHWS Schematic Design Alternative. Orthoimagery provided by USGS; overview map background satellite imagery data provided by Google; street names and contours provided by OpenStreetMaps; shoreline contours provided by NOAA*

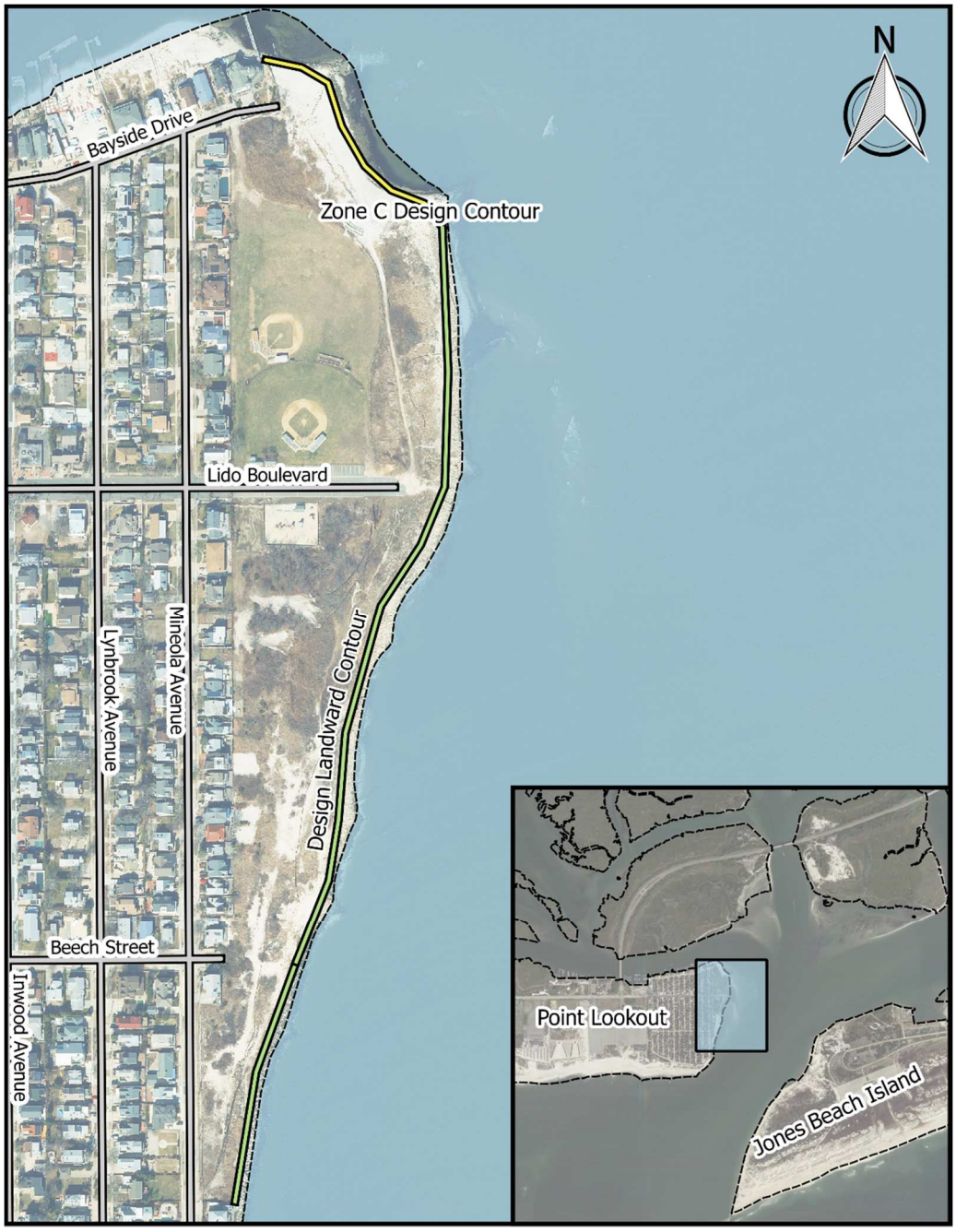


Figure A-2 *Landward Schematic Design Alternative. Orthoimagery provided by USGS; overview map background satellite imagery data provided by Google; street names and contours provided by OpenStreetMaps; shoreline contours provided by NOAA*

Appendix B Sheet Pile Cross Sections

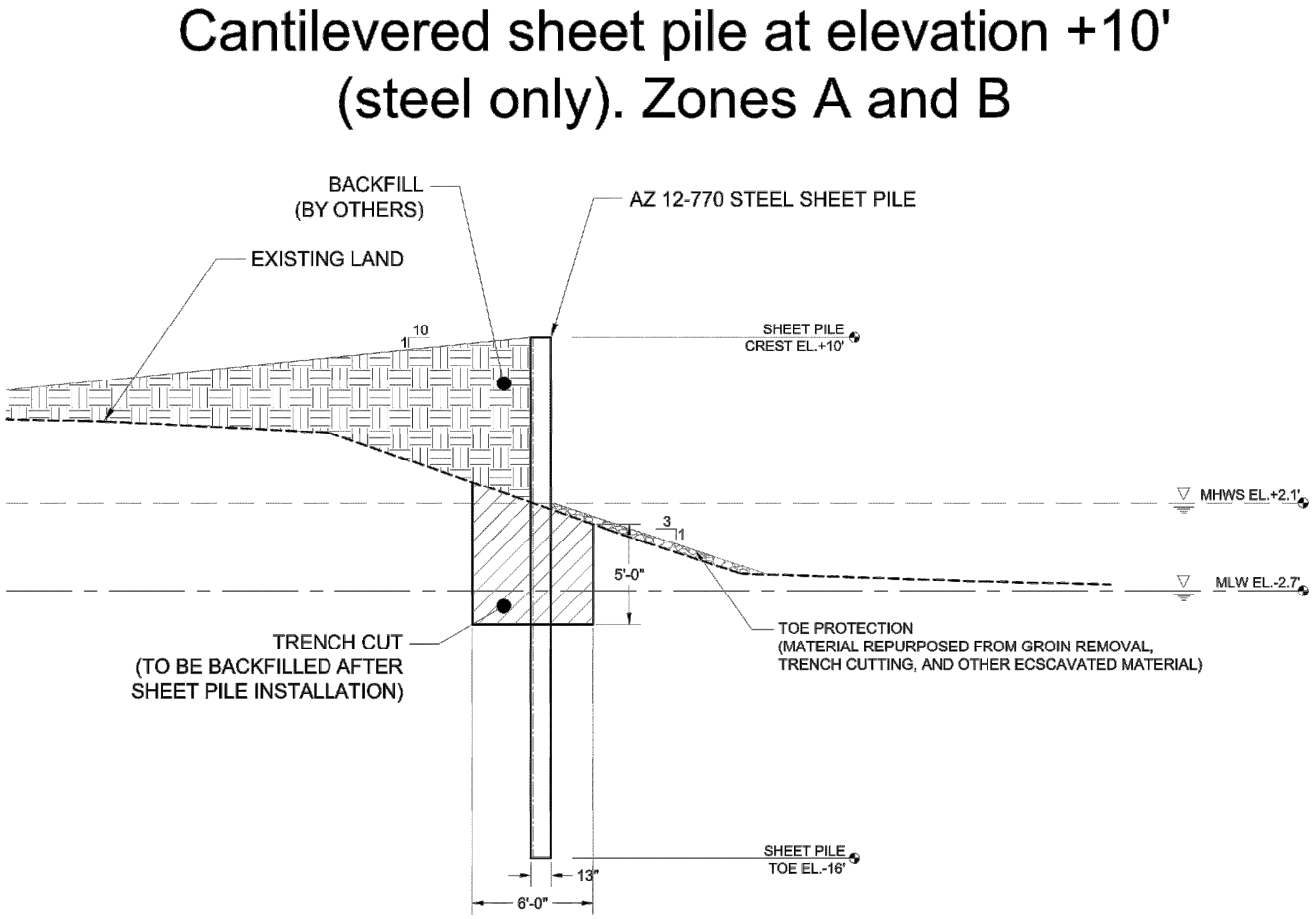


Figure B-1 Zones A and B typical sheet pile cross section. Crest elevation at +10 ft NAVD88

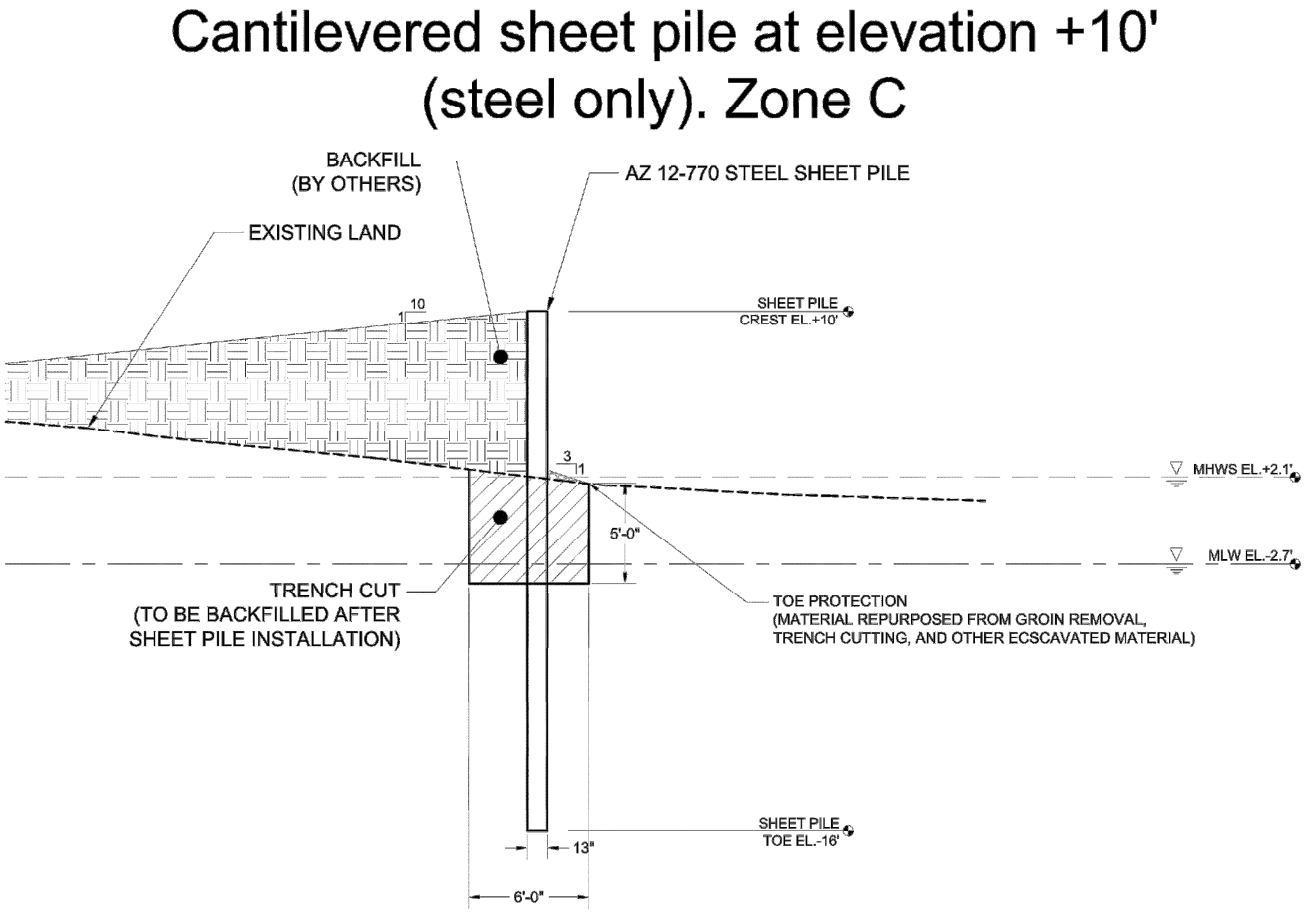


Figure B-2 Zone C typical sheet pile cross section. Crest elevation at +10 ft NAVD88

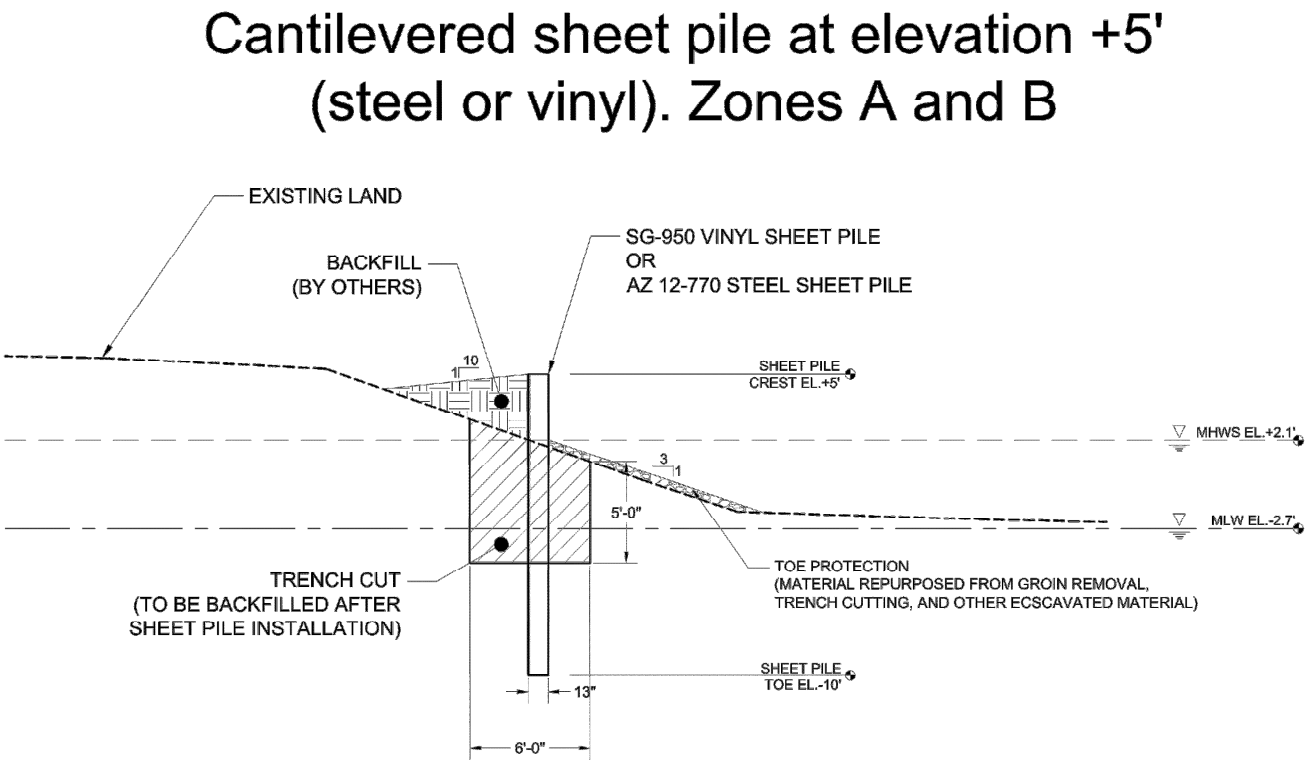


Figure B-3 Zones A and B typical sheet pile cross section. Crest elevation at +5 ft NAVD88

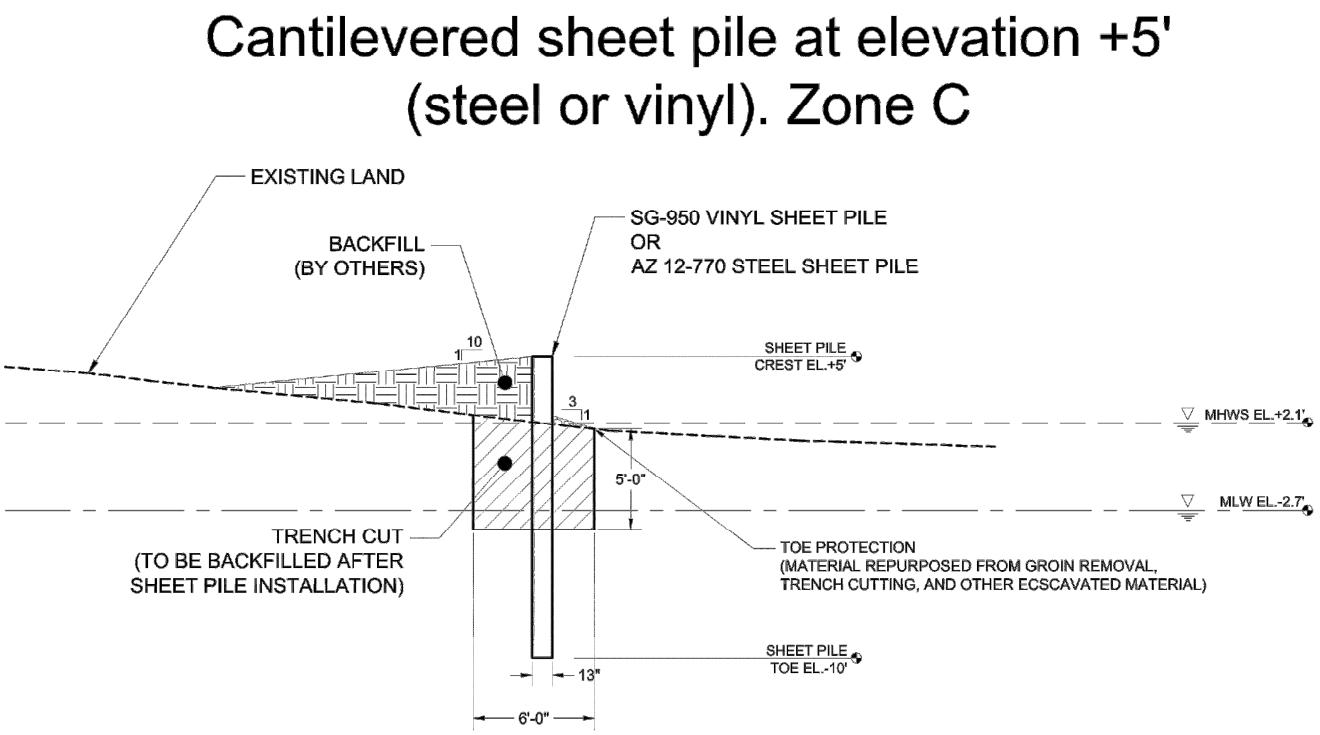


Figure B-4 Zone C typical sheet pile cross section. Crest elevation at +5 ft NAVD88

Appendix C Perched Revetment Cross Sections

Perched revetment, Zones A and B

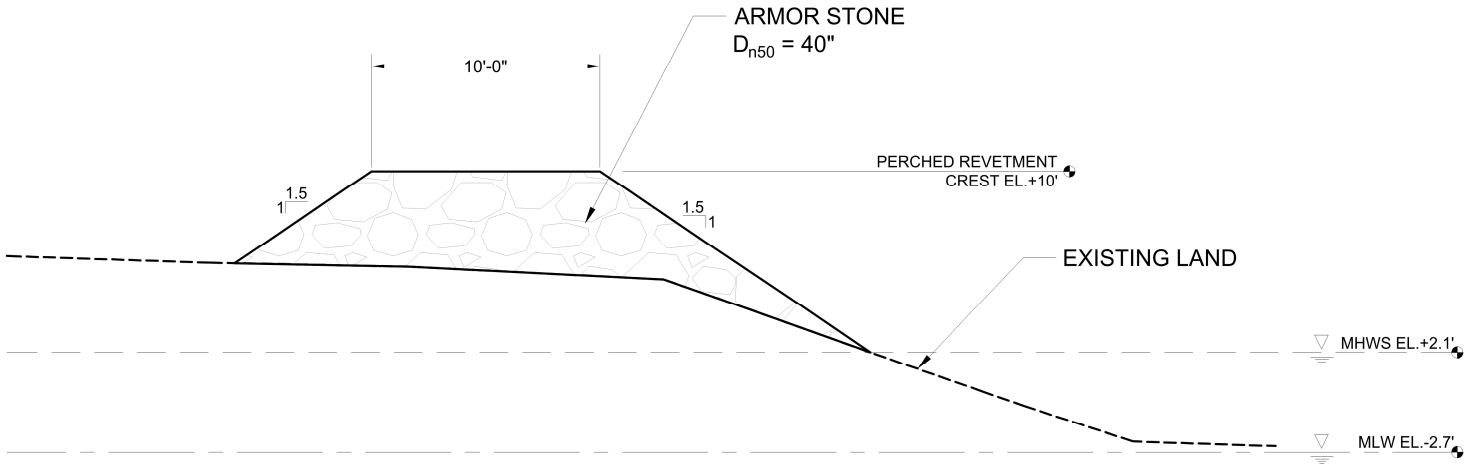


Figure C-1 Zones A and B typical perched revetment cross section

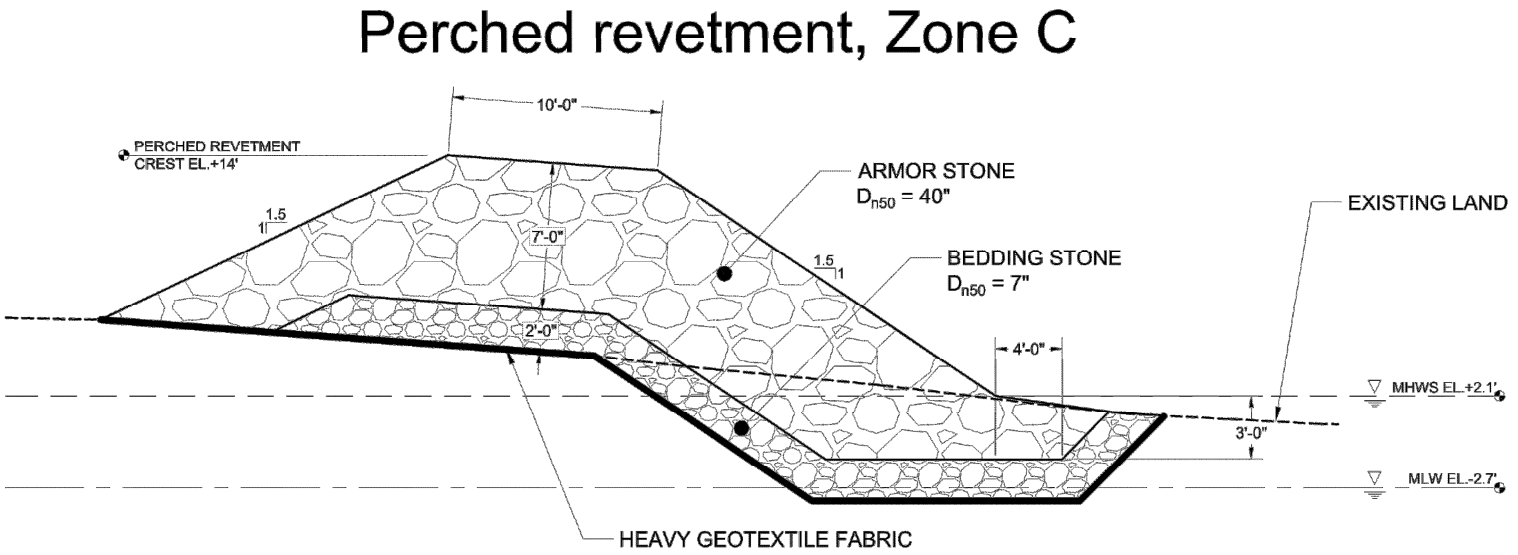


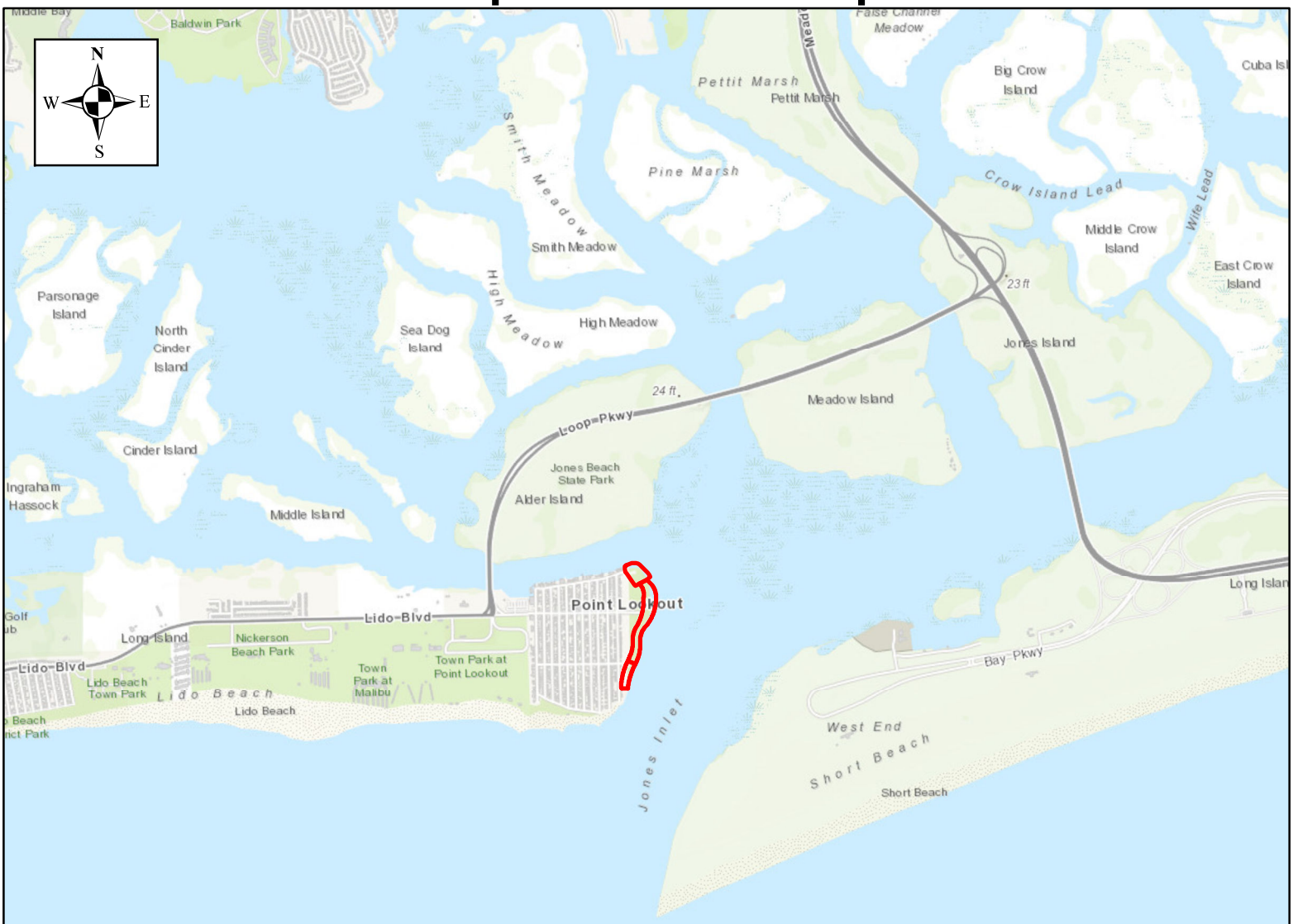
Figure C-2 Zone C typical perched revetment cross section

Attachment 3

Project Reference Maps

Airport Hazards Map
NYSDEC & NPS Wild and Scenic Rivers Map
NYSDEC Potential Environmental Justice Areas Map
NYSDEC Environmental Resource Mapper

Airport Hazards Map



Legend

- Approximate Project Areas

Airport and Heliport Locations

- North American Airports and Heliports (Location ID)
- Major Commercial Airport Locations (Approximate Boundary)
- Military Airports Locations (Approximate Boundary)
- Heliport Protection Zone (280 ft)
- Civilian Runway Protection Zone (2500 ft)

Created: 6/20/2019
Source data: FAA facility data and Airport Master Records and Reports data.

Note: This map identifies all documented airport and heliport facilities located within the shown area.

Tectonic

1:40,000
0 2,050 4,100 8,200 Feet

Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

NYSDEC & NPS Wild and Scenic Rivers Map

Legend

- Approximate Project Areas
- NRI Wild and Scenic Rivers
- National Wild and Scenic Rivers
- Nationwide Rivers Inventory

NYSDEC Wild, Scenic, and Recreational Rivers

- Recreational

Created: 6/20/2019
Data Sources: List of Wild and Scenic Rivers provided by the NYSDEC and NPS.
http://www.dec.ny.gov/permits/32739.html
https://www.nps.gov/ncrc/programs/rtca/nri/states/ny.html
https://www.nps.gov/subjects/rivers/nationwide-rivers-inventory.htm
https://www.rivers.gov/mapping-gis.php

Tectonic

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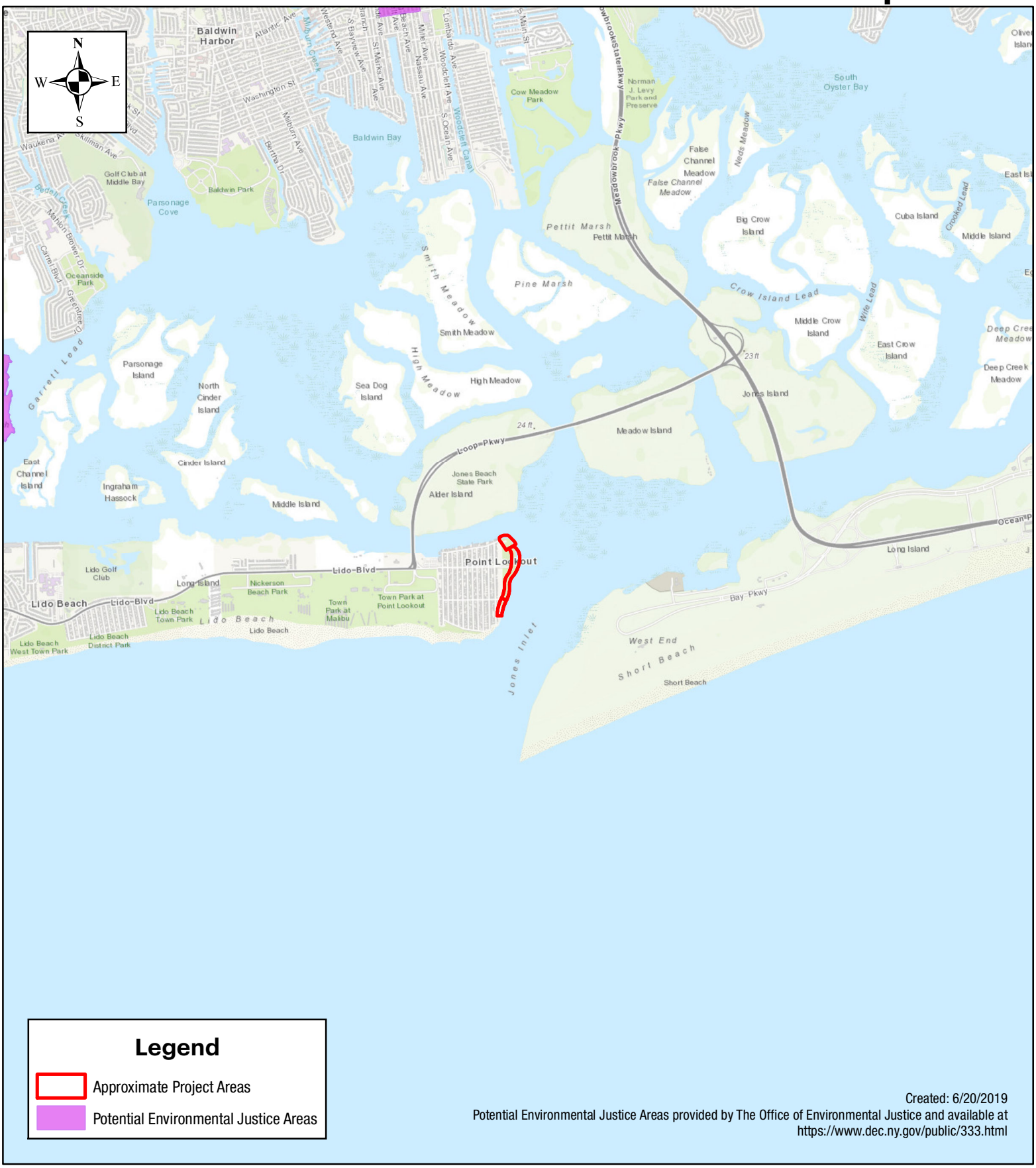
0 1,550 3,100 6,200 Feet

Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

Potential Environmental Justice Areas Map



Created: 6/20/2019
Potential Environmental Justice Areas provided by The Office of Environmental Justice and available at https://www.dec.ny.gov/public/333.html

Tectonic

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Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

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 (Outside of the Adirondack Park)
- State Regulated Wetland Checkzone
- Significant Natural Communities
- Natural Communities Near This Location
- Rare Plants or Animals

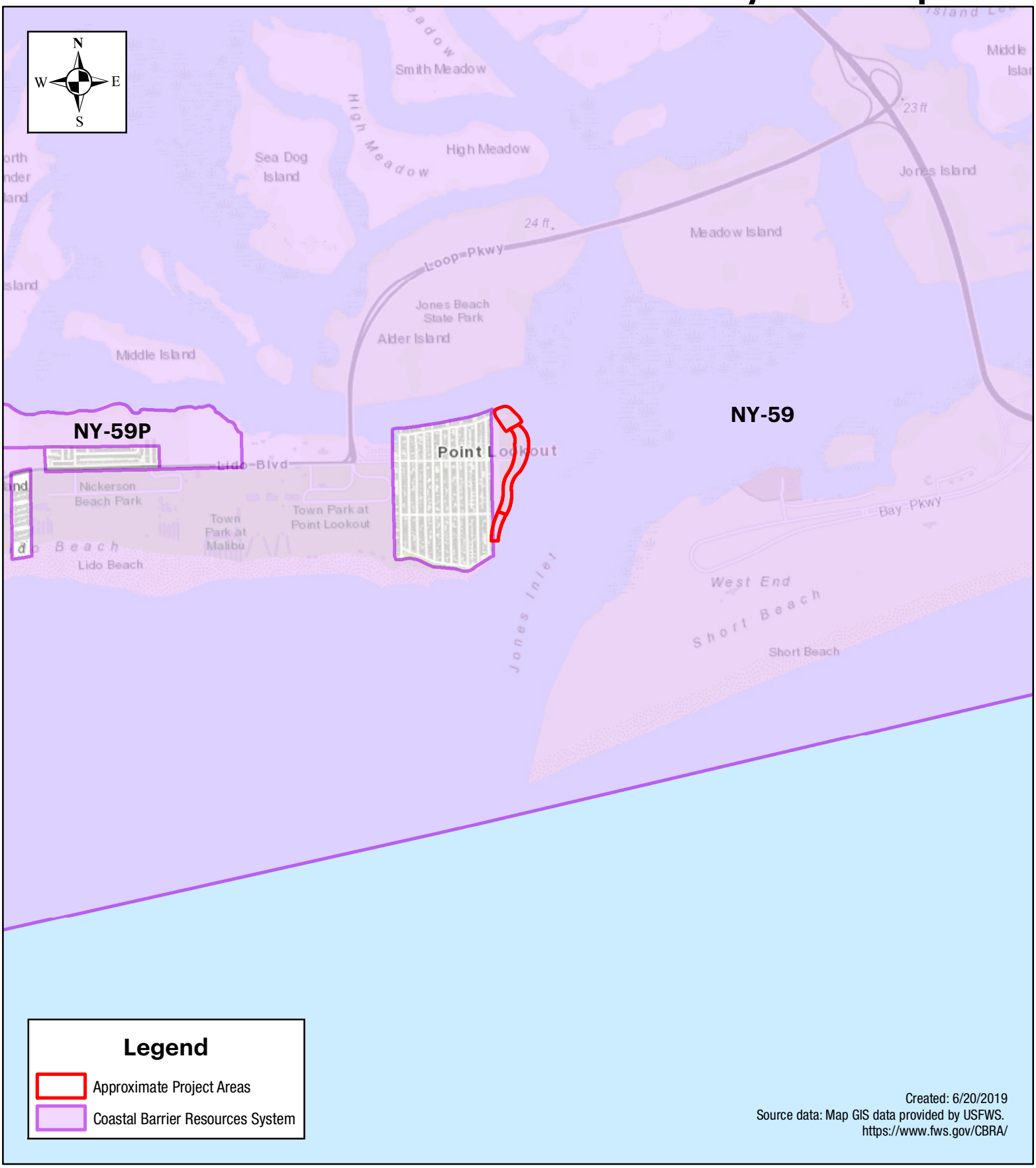
- Other Wetland Layers
- Reference Layers
- Tell Me More...
- Need A Permit?
- Contacts

Attachment 4

USFWS Coastal Barrier Resources Act Documents

USFWS Coastal Barrier Resources System Map
USFWS Coastal Barrier Resources Act Consultation Documentation

USFWS Coastal Barrier Resources System Map



Tectonic

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Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

Governor's Office of Storm Recovery

ANDREW M. CUOMO
Governor

LISA BOVA-HIATT
Executive Director

October 4, 2017

David A. Stilwell
Field Supervisor
U.S. Fish and Wildlife Service
3817 Luker Road
Cortland, NY 13045

Re: USFWS Consultation for the New York Rising Community Reconstruction Program – Lido Beach Point Lookout Rehabilitation and Revetment Project

Dear Mr. Stilwell:

This letter is a follow-up to our June 6, 2017 correspondence requesting concurrence on the Governor's Office of Storm Recovery's (GOSR) exception determination under Section 6 of the Coastal Barrier Resources Act (CBRA), 16 U.S.C. § 3505, for the Lido Beach Point Lookout Rehabilitation and Revetment Project (Proposed Action).

In its June 6, 2017 correspondence (attached), GOSR provided an analysis supporting the determination that the Proposed Action is consistent with the tripartite purpose of the CBRA and meets the following exceptions to the CBRA's prohibition of federal expenditures for actions or projects:

1. "Maintenance, replacement, reconstruction, or repair, but not expansion (except with respect to United State route 1 in the Florida Keys), of publicly owned or publicly operated roads, structures, and facilities that that are essential links in a larger network or system," so long as the action or project is consistent with purposes of the CBRA. 16 U.S.C. § 3505(a)(6)(F);
2. "Maintenance or construction of improvements of existing Federal navigation channels." 16 U.S.C. § 3505(a)(2); and
3. "Construction, operation, maintenance and rehabilitation of Coast Guard facilities and access thereto." 16 U.S.C. § 3505(a)(5).

The Proposed Action is anticipated to be funded Community Development Block Grant – Disaster Recovery (CDBG-DR) funds from the United States Department of Housing and Urban Development (HUD) through the New York Rising Community Reconstruction Program as authorized by Public Law 113-2. This funding source requires that the Proposed Action be implemented and closeout before the end of year 2022. Therefore, the applicability of the CBRA's prohibition of federal expenditures must be determined as soon as possible to advance the designs and implementation of the Proposed Action within this timeframe.

Based on the attached analysis of the Proposed Action under Section 6 of the CBRA, GOSR has concluded that the Proposed Action meets the above-referenced exceptions and is consistent with the tripartite purpose of the CBRA. GOSR requests that the Service continues its review of the Proposed Action. However, if the service does not respond within 15 days, GOSR will assume the Service concurs with GOSR's exception determination.

If you have any questions or require additional information regarding this request, please contact me at (212) 480-6265 or matt.accardi@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Matt Accardi
Assistant General Counsel
Certifying Environmental Officer

Encl: Attachment 1 – GOSR's June 6, 2017 correspondence

CC: Mr. Steven T. Papa, U.S. Fish and Wildlife Service, Long Island Field Office
Ms. Robyn Niver, U.S. Fish and Wildlife Service, New York Field Office
Mr. Thomas Doheny, Town of Hempstead, Department of Conservation and Waterways
Mr. Douglas Tuman, Town of Hempstead, Department of Engineering
Mr. Jeffrey Tierney, Town of Hempstead, Department of Engineering
Ms. Jeanmarie Buffet, Governor's Office of Storm Recovery

Governor's Office of
Storm Recovery

ANDREW M. CUOMO
Governor

LISA BOVA-HIATT
Executive Director

June 6, 2017

David A. Stilwell
Field Supervisor
U.S. Fish and Wildlife Service
3817 Luker Road
Cortland, NY 13045

Re: USFWS Consultation for the New York Rising Community Reconstruction Program – Lido Beach Point Lookout Rehabilitation and Revetment Project

Dear Mr. Stilwell:

This letter is in response the U.S. Fish and Wildlife Service's (Service) correspondence dated April 29, 2016, (see **Attachment 1**) regarding the Governor's Office of Storm Recovery's (GOSR) request for consultation pursuant to the Coastal Barrier Resources Act of 1982 (CBRA; 96 Stat. 1653; 16 U.S.C. 3501 *et seq.*) for the New York Rising Community Reconstruction Program – Lido Beach Point Lookout Rehabilitation and Revetment Project (the "Proposed Action").

Background

On January 13, 2016, GOSR submitted a request for consultation to the Service regarding its determination that the Proposed Action is consistent with the CBRA (see **Attachment 2**). The CBRA prohibits new federal expenditures and financial assistance within mapped units of the Coastal Barrier Resources System (CBRS), 16 U.S.C. § 3504(a), unless the action falls within one of the exceptions to the CBRA found in 16 U.S.C. § 3505(a). Despite its location within the CBRS Unit NY-59, GOSR determined that the Proposed Action meets the CBRA's exception for "maintenance, replacement, reconstruction, or repair, but not the expansion (except with respect to the United States Route 1 in the Florida Keys), of publicly owned or publicly operated roads, structures, or facilities that are essential links in a larger network or system." 16 U.S.C. § 3505(a)(6)(F). GOSR determined that the Proposed Action meets this exception because the Proposed Action would involve the reconstruction-in-place and reconfiguration of an existing publicly-owned structure, a system of jetties and a revetment constructed as early as 1966.

In response, the Service provided the following in its letter dated April 29, 2017:

> Based on the level of detail and information provided by the GOSR, concerning the engineering design and location of the proposed project, the Service was unable to determine whether the proposed project is an expansion of an existing structure in CBRA NY-59. If the GOSR is able to design a project that falls within the footprint of the

existing revetment, then the project would be consistent with CBRA. The Service will finalize our determination after submittal of additional information from your office that the project falls within the original footprint of the existing revetment.

Based on the Service's correspondence, GOSR's project partner, the Town of Hempstead, as the subrecipient of Community Development Block Grant – Disaster Recovery (CDBG-DR) funds from the United States Department of Housing and Urban Development (HUD) through the New York Rising Community Reconstruction Program as authorized by Public Law 113-2, retained the services of Ocean and Coastal Consultants Engineering, P.C. (OCC) to conduct a site investigation to determine the footprint of the existing revetment. The Site Investigation Report(s) completed by OCC is attached (see **Attachment 3**), and a summary of OCC's findings is provided below.

Exceptions under Section 6 of the Coastal Barrier Resources Act

Section 6 of the CBRA permits certain federal expenditures and financial assistance within the CBRS after consultation with the Service. 16 U.S.C. § 3505(a). Section 6 of the CBRA provides the following relevant exceptions to the Act's prohibition of federal expenditures for actions or projects consisting of:

1. "Maintenance, replacement, reconstruction, or repair, but not expansion (except with respect to United State route 1 in the Florida Keys), of publicly owned or publicly operated roads, structures, and facilities that that are essential links in a larger network or system," so long as the action or project is consistent with purposes of the CBRA. 16 U.S.C. § 3505(a)(6)(F);
2. "Maintenance or construction of improvements of existing Federal navigation channels." 16 U.S.C. § 3505(a)(2); and
3. "Construction, operation, maintenance and rehabilitation of Coast Guard facilities and access thereto." 16 U.S.C. § 3505(a)(5).

As detailed below, the Proposed Action meets all three of these exceptions.

The Proposed Action meets the Section 6 exception for actions or projects consisting of "maintenance, replacement, reconstruction, or repair, but not expansion…, of publicly owned or publicly operated roads, structures, and facilities that are essential links in a larger network or system."

The Proposed Action fits this exception to the CBRA because it would involve the maintenance of a publicly owned facility, Town of Hempstead parkland along the shoreline of Point Lookout, and the reconstruction of publicly owned structures, a system of jetties and a revetment.

The previous correspondence between the Service and GOSR indicates that the analysis of whether the Proposed Action met the exception was limited to whether the design of the project fell within the footprint of the existing revetment. Based on design plans by the War Department in a 1942 application by the Town of Hempstead Engineer, GOSR and the Town of Hempstead understood that revetment consisted of a continuous structure along the eastern shoreline

beginning at Lido Boulevard and extending north around the northeast corner of Point Lookout and west tying into developed properties on the north shore (see **Attachment 4**). To confirm this, and pursuant to the Service's April 29, 2016 letter, the Town of Hempstead retained OCC to conduct a site investigation to confirm the extent and location of the existing revetment. The focus of this site investigation was the area between the two jetties on the northeast corner of Point Lookout. OCC's thorough site investigation denied the presence of an existing revetment in the area between the two jetties on the northeast corner of the project site. Thus the Proposed Action falls outside the footprint of the existing revetment.

Nonetheless, the Proposed Action does not present an expansion of a publicly owned and operated facility because the entire project area consists of a publicly owned and operated park. While the CBRA does not specifically define the term facility, FEMA's regulation implementing the CBRA for its disaster assistance program defines an existing facility as any park constructed prior to October 18, 1982, or the subsequent enactment date of the addition or amendment of a CBRS Unit. 44 C.F.R. 206.342(c) and (e). The Town of Hempstead park, within which the Proposed Action is located, was established as early as 1942, well before the latest revision to CBRS Unit NY-59 made one October 15, 1992. The Proposed Action would not result in the expansion of this existing public facility, and therefore should be excepted from the CBRA's prohibition of federal expenditures within CBRS Unit NY-59.

The U.S. Army Corps of Engineers (ACE) applied the above analysis in determining that its Jones Inlet to East Rockaway Inlet Project (the "ACE Project") met the above exception. The ACE Project consists of the rehabilitation and *extension* of the eastern terminal groin, which extends north from the southeastern-most corner of Point Lookout along the shoreline to Lido Boulevard, the southern end of the Proposed Action. In its Environmental Assessment prepared for the nearby ACE Project, the ACE determined that the ACE Project was consistent with the above exception as the project represented a reconstruction and not the expansion of a public facility; the beach itself being the public facility within which the project is located. Jones Inlet to East Rockaway Inlet Environmental Assessment, U.S. Army Corps of Engineers, N.Y. Distr., Aug. 2015, at 32-33. The Service's concurrence with this determination and application of the above exception to the ACE Project, a project nearly identical to the Proposed Action in scope and its location within CBRS Unit NY-59, was assumed based on the lack of response from the Service.

For these reasons, characterizing the Proposed Action as the maintenance, rehabilitation and repair of an existing publicly owned and operated facility is a reasonable interpretation of the CBRA and supports GSOR's determination that the Proposed Action meets the CBRA's exception pursuant to 16 U.S.C. § 3505(a)(6)(F).

The Proposed Action is consistent with the purposes of the Coastal Barrier Resources Act.

The CBRA has three purposes: (1) minimize the loss of human life; (2) minimize wasteful expenditure of Federal revenues; and (3) minimize the damage to fish, wildlife, and other natural resources associated with the coastal barriers along the Atlantic. 16 U.S.C. § 3501 (b). The Proposed Action is consistent with all three purposes of the CBRA.

First, the Proposed Action will minimize the loss of human life by stabilizing the shoreline of Point Lookout to avoid further erosion and the continued loss of the Town of Hempstead coastal barrier system. Without the Proposed Action, existing residences and businesses are at risk of catastrophic flooding and destruction brought on by the increased frequency and magnitude of storm events and tidal surges, such as those experienced during Superstorm Sandy, attributed to climate change and sea level rise. In addition, the Proposed Action would reestablish and prevent further erosion of the system of jetties and a revetment that make up the coastal barrier that contributes to the protection and resiliency of upland community of Point Lookout.

Second, the Proposed Action presents a responsible use of federal funding. According to the Federal Emergency Management Agency (FEMA) Housing Assistance Program Database, Superstorm Sandy caused $1.7 million in damages to residential structures within Point Lookout. The Point Lookout community is located outside of the CBRS Unit NY-59 and participates in the National Flood Insurance Program. Therefore, federal assistance is available to the 405 residences affected by SuperStorm Sandy, and federally-subsidized flood insurance will be relied on to repair damage caused by future storm events. The Proposed Action represents a prudent investment in a piece of critical infrastructure necessary to protect and preserve the upland federal investments made through the ongoing recovery work and financial assistance provided to the residences and businesses of Point Lookout.

Additionally, the Proposed Action will reduce the need for the continuous dredge and fill activities undertaken by local authorities[1] to preserve the Point Lookout shoreline and federal agencies[2] in order to maintain the Jones Inlet federal navigation channel, a critical access route relied on by the U.S. Coast Guard Station at Jones Beach. The Proposed Action will also protect the federal expenditure committed to the southeast shoreline of Point Lookout through the ACE Project. The Proposed Action would provide a continuous revetment along the eastern shoreline of Point Lookout preserving the ACE Project from the effects of erosion otherwise presented by the currents and wave action from the north.

Third, the Proposed Action will minimize damage to fish, wildlife, and other natural resources by protecting and promoting habitat for migratory birds and other wildlife. As stated above, by stabilizing the shoreline, the Proposed Action will reduce the need for the continuous dredge and fill activities that are disruptive to the natural resources on and around the Point Lookout shoreline. Furthermore, design and construction phases of the Proposed Action will implement the least-impactful methods and to the greatest extent possible incorporate nature-based approaches, such as panting grasses and vegetation to promote cohesion and stabilize the land as

[1] Based on information provided by the Commissioner of the Town of Hempstead's Department of Conservation & Waterways, the Town began maintenance and repair on the revetment system under review as early as 1970. Between 1970 and 1980, the Town invested $30,000 in equipment and person-hours to provide shoreline stabilization to the shoreline between the two jetties (spur groins) in the northeast corner of Point Lookout. Between 1999 and 2003, the Town spent approximately $125,000 to dredge and pump more than 30,000 cubic yards of sand from Jones Inlet.

[2] In 2014, the U.S. Army Corps of Engineers repaired the Jones Inlet's rock jetty and dredged approximately 650,000 cubic yards of sand to restore the navigation channel. U.S. Army Corps of Engineers, "Fact Sheet-Jones Inlet, New York-Federal Navigation Channel" current as of Feb. 2017; http://www.nan.usace.army.mil/Media/Fact-Sheets/Fact-Sheet-Article-View/Article/487339/fact-sheet-jones-inlet-new-york-federal-navigation-channel/.

well as burying the revetment with sand to prevent scour and replicate the dunes washed away by Superstorm Sandy.

Importantly, in accordance with the CBRA, the Proposed Action will not result in the development of buildings or structures on the coastal barrier. The land between the Proposed Action and existing development is protected as municipally-owned parkland.

The Proposed Action meets the Section 6 exception for actions or projects consisting of "maintenance or construction of improvements of existing Federal navigation channels."

The Proposed Action will aid in the maintenance of Jones Inlet, an existing Federal navigation channel. Based on a recent survey of Jones Inlet by the ACE dated March 21, 2017, the Proposed Action will run the eastern shoreline of Point Lookout parallel to Jones Inlet (see **Attachment 5**). The proposed revetment will not only protect upland assets from erosion and flooding, but by providing a single, continuous structure along the shoreline, the Proposed Action will promote longer retention of sediments on shore and decrease the shoaling within Jones Inlet. Even the northern portion of the Proposed Action, which will wrap the northeast corner of Point Lookout parallel to Reynolds Channel to the north, will help to prevent further sedimentation of the nearby Jones Inlet, especially during outgoing tides. Therefore, the Proposed Action meets the CBRA's exception pursuant to 16 U.S.C. § 3505(a)(2) and should excepted from the CBRA's prohibition of federal expenditures within the CBRS Unit NY-59.

The Proposed Action meets the Section 6 exception for actions or projects consisting of "construction, operation, maintenance and rehabilitation of Coast Guard facilities and access thereto."

Jones Inlet is a critical access route relied on by the U.S. Coast Guard Station at Jones Beach. The Station's area of responsibility covers all waters between the East Rockaway Inlet and Gilgo Beach, including the associated back-bay waters of southern Nassau County. Jones Inlet provides the Station's closest and fastest navigable access to the Atlantic Ocean. The Proposed Action will benefit Jones Inlet by maintaining the navigability of the channel by promoting longer retention of sediment and decreasing shoaling within the navigation channel. The Proposed Action will decrease the need for and frequency of maintenance dredging of Jones Inlet essential to the Jones Beach U.S. Coast Guard Station's operations. As the Proposed Action will contribute to the operations of the U.S. Coast Guard Station at Jones Beach by maintaining access to and from the Station, the Proposed Action should be excepted from the CBRA's prohibition of federal expenditures.

Conclusion

Based on the above, GOSR has determined that the Proposed Action is consistent with the tripartite purpose of the CBRA and meets the above-referenced exceptions. GOSR requests the Service's concurrence with this determination.

If you have any questions or require additional information regarding this request, please contact me at (212) 480-6265 or matt.accardi@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Matt Accardi
Assistant General Counsel
Certifying Environmental Officer

Encl: Attachment 1 – U.S. Fish and Wildlife Service's April 29, 2016 Correspondence
Attachment 2 – GOSR's January 13, 2016 initial request for consultation
Attachment 3 – OCC Site Investigation Reports
Attachment 4 – 1942 War Department Records regarding Point Lookout Revetment
Attachment 5 – Army Corp of Engineers March 21, 2017 Survey of Jones Inlet

CC: Mr. Steven T. Papa, U.S. Fish and Wildlife Service, Long Island Field Office
Ms. Patricia Cole, U.S. Fish and Wildlife Service, New York Field Office
Mr. Thomas Doheny, Town of Hempstead, Department of Conservation and Waterways
Mr. Douglas Tuman, Town of Hempstead, Department of Engineering
Mr. Jeffrey Tierney, Town of Hempstead, Department of Engineering
Ms. Jeanmarie Buffet, Governor's Office of Storm Recovery

Attachment 1

U.S. Fish and Wildlife Service's April 29, 2016 Correspondence

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

April 29, 2016

Thomas J. King, Esq.
Assistant General Counsel
Certifying Officer
25 Beaver Street
New York, New York 10004

Dear Mr. King:

This is the U.S. Fish and Wildlife Service's (Service) response to the New York (NY) State Governor's Office of Storm Recovery's (GOSR) correspondence dated January 13, 2016, and subsequent coordination between our offices regarding the GOSR's request for consultation pursuant to the Coastal Barrier Resources Act of 1982 (CBRA; 96 Stat. 1653 16 U.S.C. 3501 *et seq.*) for the proposed Lido Beach Point Lookout Rehabilitation and Revetment Project, Town of Hempstead, NY.

Project Description

As noted in your correspondence, the Town of Hempstead is requesting $3,800,000.00 in Community Development Block Grant – Disaster Relief (CDBG-DR) funding for the extension, repair and reconstruction of the existing revetment along Jones Inlet, NY. Your office has determined that the proposed project is a reconstruction-in-place and reconfiguration of a compromised system of jetties and revetments located around the tip of Point Lookout along Reynolds Channel and Jones Inlet. In addition, the landward areas of the revetment will be planted with grasses and vegetation to promote cohesion and stabilize the land.

GOSR Coastal Barrier Resources Act Determination

The proposed project is located within the Fire Island Unit (NY-59) of the Coastal Barrier Resources System (CBRS). The CBRA generally prohibits federal financial assistance for actions undertaken within the CBRS (16 U.S.C. § 3504). The GOSR has determined that the proposed project falls within the CBRA's exception for "the maintenance, replacement, reconstruction, or repair, but not the expansion (except with respect to United States Route 1 in the Florida Keys), of publicly-owned or publicly-operated roads, structures, or facilities that are essential links in a larger network or system" (16 U.S.C. § 3505[a][6][F]).

The GOSR provided the following justification to support its determination that the proposed project is a replacement, reconstruction, or repair project:

1) The Proposed Action would involve the reconstruction-in-place and reconfiguration of an existing publicly-owned structure, a system of jetties, and a revetment constructed as early as 1966. The Proposed Action would not encourage, or provide for, development or modification of the barrier island.

2) The proposed project is a repair project that would incorporate existing rock rubble from the deconstructed jetties to repair the revetment. Portions of the revetment would be buried with sand to prevent scour and replicate the dunes washed away by Superstorm Sandy. In addition, the landward areas of the revetment will be planted with grasses and vegetation to promote cohesion and stabilize the land.

3) The proposed project will prevent development between existing private residences and businesses and the shoreline.

Section 3505(a)(1)-(5) provides that exempted projects must be consistent with the three purposes of CBRA which are to minimize the loss of human life; wasteful expenditure of federal revenues; and the damage to fish, wildlife, and other natural resources associated with coastal barriers. As noted in your correspondence, the GOSR provided the following consistency determination:

1) "The proposed project is protective of both human health and the environment. The Proposed Action will minimize the loss of human life by stabilizing the shoreline along the community of Point Lookout. If no action is taken, a subsequent storm event could result in catastrophic flooding and destruction of the existing residences and businesses, such as that experienced during super storm Sandy, potentially resulting in the loss of life.

   Moreover, the Proposed Action will not result in the development of buildings or structures on the barrier island in accordance with the CBRA. In order to protect the community of Point Lookout and the well-being of its residents, the revetment must be restored, and it is the intent of GOSR to ensure that this is accomplished in harmony with the environment, through the removal of the failing jetties, the use of existing rock rubble, and the least-impactful reconstruction methods. Furthermore, design and construction phases of the project will incorporate, where possible, natural systems, ecosystem processes, and nature based approaches to achieve the purpose and need of the project and overall design objectives.

2) Federal financial assistance to support these activities is an important and beneficial use of federal resources; these activities represent a long-term public investment in a piece of critical infrastructure that is necessary to protect the community of Point Lookout and the well-being of its residents and local economy, and to preserve and promote coastal habitats. Investing in the reconstruction-in-place of the revetment would protect federal investments in Point Lookout and neighboring communities by mitigating potential risks

posed by extreme weather events and the associated erosion and deposition that continuously threatens the navigability of Reynolds Channel and Jones Inlet. Federal funding would not have the effect of encouraging development of coastal barriers and is not being used for development of commercial, residential, or other structures that CBRA construes as wasteful. Rather, federal funding would support the replacement of critical infrastructure that would eliminate the need for constant dredge and fill activities.

3) Finally, the Proposed Action will minimize damage to fish and wildlife by preserving and promoting critical environmentally-sensitive areas to help achieve the long-term conservation of natural resources. The Proposed Action will stabilize the shoreline, creating and enhancing wildlife habitats along the coast. This will lessen the need for continuing dredge and fill activities, which can be more disruptive to natural resources. The Proposed Action will be located in an already densely developed community; therefore, it is not likely to adversely affect threatened or endangered species, and will help to prevent the filling of the waterways."

Service Comments

Based on the level of detail and information provided by the GOSR, concerning the engineering design and location of the proposed project, the Service was unable to determine whether the proposed project is an expansion of an existing structure in CBRA NY-59. If the GOSR is able to design a project that falls within the footprint of the existing revetment, then the project would be consistent with CBRA. The Service will finalize our determination after submittal of additional information from your office that the project falls within the original footprint of the existing revetment.

If you have any questions, or require further assistance, please have your staff contact Steve Papa of the Long Island Field Office at (631) 286-0485, extension 2120.

Sincerely,

for Patricia Cole

David A. Stilwell
Field Supervisor

Attachment 2

GOSR's January 13, 2016 initial request for consultation

January 13, 2016

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

Re: USFWS Consultation for New York Rising Community Reconstruction Program - Lido Beach Point Lookout Rehabilitation and Revetment Project

Dear Mr. Papa:

The Governor's Office of Storm Recovery (GOSR), an office of New York State Homes and Community Renewal's (HCR) Housing Trust Fund Corporation (HTFC), on behalf of the United States Department of Housing & Urban Development (HUD), is currently preparing an Environmental Assessment (EA) for the New York Rising Community Reconstruction Program - Lido Beach Point Lookout Rehabilitation and Revetment Project (the "Proposed Action") located in Point Lookout, New York. (See Project Location in **Figure 1**). GOSR proposes to use HUD Community Development Block Grant Disaster Recovery (CDBG-DR) program funding to complete this project.

Pursuant to 24 C.F.R. Part 58, GOSR is acting as HUD's non-federal representative for the purposes of conducting informal consultation pursuant to Section 7 of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and the Migratory Bird Treaty Act of 1918 (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703-712). GOSR is also hereby notifying United States Fish & Wildlife Service (USFWS) of its determination under the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq). Additionally, as GOSR plans to prepare an Environmental Assessment to evaluate the Proposed Action, comments on the Proposed Action are also welcomed in accordance with the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq).

Proposed Action

The Town of Hempstead is requesting $3,800,000.00 in CDBG-DR funding for the extension, repair and reconstruction of the existing revetment along Jones Inlet, NY in order to protect human health, property and the coastal environment from future storms.

Portions of the landward dune were destroyed by Superstorm Sandy. As a result an existing revetment will need to be extended which will be buried beneath the landward dune to prevent localized scour. The area north of the revetment is subject to ongoing coastal erosion along Jones Inlet, resulting in shoreline retreat, reducing the distance between water and structures on the Bayside Drive, and increasing the vulnerability of residences and businesses to coastal erosion. If nothing is done to halt the erosion, the foundations of the residences and businesses could be undermined, possibly leading to structural collapse.

The Proposed Action is a reconstruction-in-place and reconfiguration of a compromised system of jetties and revetments located around the tip of Point Lookout along Reynolds Channel and Jones Inlet. The Proposed Action would deconstruct the two failing jetties and use existing rock rubble from these jetties to repair the revetment. Portions of the revetment would be buried with sand to prevent scour and replicate the dunes washed away by Superstorm Sandy. In addition, the landward areas of the revetment will be planted with grasses and vegetation to promote cohesion and stabilize the land. Before beginning the design phase, a hydrologic and hydraulic analysis and inspection of existing conditions will be conducted to recognize the destructive processes at work and to ensure the new section of revetment aligns with the existing system. The new revetment section will consist of rock rubble construction to match the existing system.

Construction activities will also include filling the landward area protected by the new revetment section with sand and planting grasses or other vegetation to promote soil cohesion and create a stable land mass. Depending on the design, new open space could be created. The project's results will protect residential and commercial structures, the open space at the Point Lookout Beach District Park, and the health and safety of occupants on Bayside Drive and Mineola Avenue.

The storm accelerated coastal erosion beyond the end of the revetment, which does not provide complete protection to the citizens of Point Lookout and Lido Beach. The revetment along Jones Inlet functions as a barrier that absorbs wave energy, reflects waves, and reduces wave run up during major storms. Without repair and extension of the revetment, the residents of this area remain vulnerable to coastal storm damage.

Endangered Species Act

The USFWS Information, Planning and Conservation (IPaC) online planning tool Official Species List was generated for the Proposed Action (**Attachment 1**) notes "[t]here are no critical habitat within this project area" and lists the following federally-listed species as having the potential to occur within the vicinity of the Proposed Action:

- Piping plover (*Charadrius melodus*) - threatened,
- Roseate tern (*Sterna gougallii*) - endangered,
- Rufa red knot (*Calidris canutus rufa*)– threatened,
- Northern long-eared bat (*Myotis septentrionalis*) - threatened,
- Sandplain gerardia (*Agalinisacuta*) - endangered, and
- Seabeach amaranth (*Amaranthus pumilus*) - threatened.

Each species will be discussed in detail below as evaluated by the project environmental scientist, Karen Young, of Tectonic Engineering and Land Surveying, P.C.

Piping plover

The breeding range of the Piping plover within New York State is limited to the coastlines of Long Island, where plovers nest from Queens to eastern Suffolk County (Wasilco 2008). Most Piping plover colonies on Long Island have grown steadily in recent decades in response to protection and management and currently represent approximately one quarter of the total Atlantic Coast population (Hecht and Melvin 2009). Piping plovers nest in several areas of oceanfront beach along the southern shoreline and eastern and western points of Jones Beach Island (e.g., McIntyre and Heath 2011), including Gilgo State Park (NYSOPRHP 2015). Piping plovers nest on the oceanfront beaches of Long Island's barrier islands, and not on the bayside or mainland beaches. Their home range commonly includes bayside flats and back-barrier storm overwash areas, which are important foraging habitats for adults and fledglings (Elias et al. 2000, McIntyre and Heath 2011). The location of the rehabilitation and revetment is just about a mile away from Jones Beach Island in a westerly direction.

The location of the Proposed Project has suitable habitat for the Piping plover, even though there are ballfields to the west of the proposed improvements. The activities of the ballfield and the potential nesting locations of the Piping plovers are divided by a beach access path. The line of vegetation and sand are likely to provide habitat for breeding Piping plovers. The New York State Department of Environmental Conservation (NYSDEC) identifies early to mid-March as the arrival of the piping plover to their breeding grounds; and by September all but a few stragglers have left for their wintering areas. While the U.S. Fish and Wildlife Service identifies mid-March through mid-May as arriving on their breeding grounds and mid-July through late October as departing for their wintering grounds. Lastly, according to

the National Park Service's monitoring and management of Piping plovers on Fire Island, the breeding season commences in late-March and by mid-August most Piping plover activities cease and the birds fly south for the winter. Therefore, the range of timing restrictions for the proposed project should be between mid-March to mid-August.

Timing restrictions and construction considerations including recommendations made by the Piping Plover (*Charadrius melodus*) Atlantic Coast Population Revised Recovery Plan, dated May 2, 1996 and Section 7(a) Consultation, including permits for beach nourishment or disposal of dredge material (U.S. Army Corps of Engineers) and funding of beach restoration project (Federal Emergency Management Authority) would be addressed during the design and construction phases of this project.

The proposed project "may affect, but not likely to adversely affect" the piping plover.

Northern long-eared bat

The Northern long-eared bat, recently listed as federally threatened, is a temperate, insectivorous bat. Northern long-eared bats hibernate in caves or mines (also known as hibernacula) during winter and then emerge in early spring, with males dispersing and remaining solitary until mating season at the end of the summer. During summer maternal Northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). Northern long-eared bats appear to be flexible in selecting roosts, based on suitability to retain bark or provide cavities or crevices. Summer habitat of the Northern long-eared bat generally includes upland and riparian forest within heavily forested landscapes (Ford et al. 2005, Henderson et al. 2008). Also, according to the NYNHP.org Guide, the Northern long-eared bats are typically associated with mature interior forest and tend to avoid woodlands with significant edge habitat.

The Proposed Action does not require tree clearing and is located in an urban area without dense forest (beach). Based on aerial mapping, there does not appear to be a hibernacula on or near the Project Site. For these reasons, the Proposed Action is considered likely to have "No Effect" on the Northern long-eared bat or the habitats on which it depends.

Red knot

The Rufa subspecies of the red knot, which has recently been listed as federally threatened, migrates up to 30,000 miles round trip between primary wintering grounds at the tip of South America in Tierra del Fuego, in northern Brazil, throughout the Caribbean and along US coasts from Texas to North Carolina. The Rufa red knot breeds in the tundra of the Central Canadian Artic from northern Hudson Bay to the southern Queen Elizabeth Islands. Rufa red knots require stopover habitats rich in easily digested foods with thin or no shells (like juvenile

clams, mussels and horseshoe crab eggs) in order to gain enough weight to fuel the next flight. Delaware Bay is the most significant spring migration staging area for Rufa red knots, which time their arrival in the bay to coincide with the peak horseshoe crab spawning period (Baker et al. 2004, Niles et al. 2009). Monomoy National Wildlife Refuge in Cape Cod, Massachusetts appears to be among the most significant staging areas for red knots during their southbound autumn migration (Harrington et al. 2010, Burger et al. 2012). In addition to these primary staging areas in Delaware Bay and Cape Cod, migrating Rufa red knots may stage in much lower densities elsewhere along the Atlantic coast (Harrington 2010, Burger et al. 2012). Although migrating Rufa red knots occur along Long Island (e.g., Tanacredi and Badger 1995:104, Fowle and Kerlinger 2001:81, Boretti et al. 2007), none of its beaches, bays, or estuaries are known to be high-use staging areas that support large concentrations of individuals. Instead, red knots are usually seen on Long Island in small groups (e.g., Wells 1996:59) relative to the tens of thousands of birds observed staging together in Delaware Bay and Cape Cod. Additionally, Rufa red knots are highly sensitive to human disturbance at staging sites (Burger et al. 2004, 2007), and as such, would not be expected to occur near the Project Site.

Because Rufa red knots are not expected to occur near the project site, the Proposed Action is considered likely to have "No Effect" on the Rufa red knot or the habitats on which it depends.

Roseate Tern

According to New York Natural Heritage Program (NYNHP), there are only two sizeable colonies in New York and almost exclusively on island where predation pressure is lower. Breeding locations in New York is confined to between 5 to 10 locations on Long Island annually (McGowan and Corwin 2008). The great majority of the State's birds nest on Great Gull Island which is located east of Plum Island north of the eastern tip of Long Island. Cartwright Island supported substantial numbers in 2001-2004. The eastern tip of Long Island is an important staging area where birds collect for several weeks before migrating en masse to South America (USFWS, 1998). Roseate terns are threatened by the loss of breeding habitat to coastal development, rising sea-levels, human disturbance, predation, and increased flooding from storms due to climate change. Roseate terns are listed as endangered in the State by the New York Department of Environmental Conservation (NYDEC) and the northeastern U.S. population is federally-listed as endangered. There are an estimated 1,000 miles of maritime beach on Long Island covering about 10,000 to 16,000 acres; there may be more than 30 to 50 extant occurrences statewide. The several documented occurrences of this community have good viability and are protected on public or private conservation land. The community is restricted to the ocean shoreline of the Coastal Lowlands ecozone in Suffolk, Richmond, Queens, Kings, and Nassau Counties. Although the number of maritime beaches may have increased slightly when formerly long, continuous examples were fragmented by

development, the overall trend for the community is declining as a result of coastal development and recreational overuse.

The potential for roseate terns to occur near the project site is considered low because preferred breeding sites occur on small islands where predation is low. As such, the Proposed Action is considered to likely have "No Effect" on Roseate terns or their habitat.

Sandplain gerardia and seabeach amaranth

Sandplain gerardia is an herbaceous annual plant that occurs in sandy coastal plain habitat in poor, dry soils. This plant appears to depend upon disturbance (including fire) to persist. It is a member of sandplain grassland communities and openings in coniferous forest (Neel 2002). It was once a common species when these communities were large and dominant on some areas of Long Island (Taylor 1923).

According to the New York Natural Heritage Program, there are four known occurrences of Sandplain gerardia on Long Island but all of the sites are fairly small and isolated natural areas which require constant management. In good reproduction years, a few of the sites have tens of thousands of plants. There are nine historical occurrences that are now considered extirpated. There are two additional small occurrences that were known to exist until 2000 and 2004 but have since been extirpated. There are five more sites on Long Island where plants have been introduced, one with hundreds of plants, but they are not used for ranking the species.

Montauk, Long Island, and New York once harbored "untold millions" of Sandplain gerardia plants (Taylor 1923). Sandplain gerardia was thought to be extirpated from New York, but was rediscovered on Long Island and now is known from 12-13 EO's due to a combination of discoveries and restoration efforts.

Seabeach amaranth is an herbaceous annual plant that occurs on barrier island beaches, where its primary habitat consists of overwash flats at accreting ends of islands and lower foredunes and upper strands of non-eroding beaches. It occasionally establishes small temporary populations in other habitats, including sound-side beaches, blowouts in foredunes, and sand and shell material placed as beach replenishment or dredge spoil. Seabeach amaranth appears to be intolerant of competition and does not occur on well-vegetated sites. The species appears to need extensive areas of barrier island beaches and inlets, functioning in a relatively natural and dynamic manner. These characteristics allow it to move around in the landscape as a fugitive species, occupying suitable habitat as it becomes available (USFWS 2011). It is only known from Long Island, ranging from Coney Island to near the east end of the South Fork along the southern shore.

The potential for either Sandplain gerardia or Seabeach amaranth to occur near the project site is considered unlikely. However, as both Seabeach amaranth and the Sandplain gerardia may occur in sandy, nutrient poor soils, there is a remote possibility that they may occur within the vicinity of the Proposed Action. Therefore, prior to construction, the project location will be surveyed for the presence/absence of these two species during the growing season.

Compliance

For purposes of consultation under Section 7(a)(2) of the ESA, we conclude that the Proposed Action is unlikely to affect the Piping plover, Sandplain gerardia and Seabeach amaranth or the habitats on which these species depend and will have "No Effect" on the Roseate tern, Rufa red knot, Northern long-eared bat or the habitats on which these species depends. We request concurrence with this determination

Species	Listing Status	Effect Determination	Critical Habitat Determination
Piping plover (*Charadrius melodus*)	Threatened	May Effect Not Likely to Adversely Effect	May Effect Not Likely to Adversely Effect
Roseate tern (*Sterna gougallii*)	Endangered	No Effect	No Effect
Rufa red knot (*Calidris canutus rufa*)	Threatened	No Effect	No Effect
Northern long-eared bat (*Myotis septentrionalis*)	Threatened	No Effect	No Effect
Sandplain gerardia (*Agalinisacuta*)	Endangered	No Effect	No Effect
Seabeach amaranth (*Amaranthus pumilus)*	Threatened	No Effect	No Effect

Migratory Bird Treaty Act (MBTA)

The Proposed Action takes place within the Atlantic Flyway. However, because the majority of the Proposed Action consists of beach reconstruction and revetment, GOSR has determined that the Proposed Action would have no significant adverse impact on migratory birds or their habitat. Furthermore, timing restrictions will be in place for the purpose of having no effect on the Piping plover breeding season. This timing restriction will also serve the purpose of not impacting migrating bird species. Therefore, it is anticipated that migrating birds would not be impacted by the Proposed Action.

Coastal Barrier Resources Act (CBRA)

The Proposed Action (reconstruction-in-place of a revetment) is located within the Fire Island Unit (NY-59) of the Coastal Barrier Resources System (CBRA). The CBRA generally prohibits federal financial assistance for actions undertaken within System Units of the Coastal Barrier Resources System (16 U.S.C. § 3504). However, it is GOSR's position that the Proposed Action falls within the CBRA's exception for "[t]he maintenance, replacement, reconstruction, or repair, but not the expansion (except with respect to United States Route 1 in the Florida Keys), of publicly owned or publicly operated roads, structures, or facilities that are essential links in a larger network or system." (16 U.S.C. § 3505(a)(6)(F)).

The Proposed Action conforms with the CBRA exception mentioned above because the Proposed Action would involve the reconstruction-in-place and reconfiguration of an existing publicly-owned structure, a system of jetties and a revetment constructed as early as 1966. The Proposed Action would not encourage, or provide for, development or modification of the barrier island. Rather, the Proposed Action is necessary to prevent deterioration of the barrier island and protect existing residential properties from the effects of continuous erosion. The Proposed Action is anticipated to eliminate the need for additional dredge and fill measures taken by local authorities to slow erosion of the shoreline and filling of the adjacent intersection of Jones Inlet and Reynolds Channel, a heavily trafficked waterway.

Superstorm Sandy destroyed portions of the revetment, jetties and dunes located along the shoreline of Point Lookout. The existing revetment and jetties were essential in providing protection for the community of Point Lookout from erosion and flooding. The Proposed Action is a reconstruction-in-place and reconfiguration of a compromised system of jetties and revetments. The Proposed Action would deconstruct the two failing jetties and use existing rock rubble from these jetties to repair the revetment. Portions of the revetment would be buried with sand to prevent scour and replicate the dunes washed away by Superstorm Sandy. In addition, the landward areas of the revetment will be planted with grasses and vegetation to promote cohesion and stabilize the land. Moreover, the Proposed Action will prevent development between existing private residences and businesses and the shoreline. Therefore, GOSR takes the position that the Proposed Action is in compliance with the CBRA.

Further, the Proposed Action aims to relieve residents and local businesses of the nuisance of intense sulfuric odors endured throughout the summer months. Point Lookout is located at the intercept of three waterways (Reynold Channel, Jones Inlet, leading directly to the Atlantic Ocean, and Jones Bay), which support high volumes of commercial and recreational navigation. This location exposes the community of Point Lookout to heavy wind and tidal influence resulting in substantial seaweed deposits along its shoreline. The seaweed

decomposes along the shoreline off-gassing a strong sulfuric odor, exacerbated during summer months by heat and direct sunlight, which is carried by wind through nearby residents and businesses. Residents close the windows to their homes in order to avoid the odors during the summer heat running air conditions instead of cooling their homes with the naturally cool sea breeze. Likewise, the local economy loses business because local restaurants, which otherwise attract visitors to the area with a scenic dining experience, cannot utilize their outdoor seating areas and must close their windows to shield diners from odors of decomposing seaweed. The Proposed Action will reduce seaweed deposits, thereby reducing the odors that burden the residents and businesses of Point Lookout.

The proposed activity is consistent with the tripartite purpose of the CBRA.

First, reconstruction-in-place of the revetment under the Proposed Action is an activity that is protective of both human health and the environment. The Proposed Action will minimize the loss of human life by stabilizing the shoreline along the community of Point Lookout. If no action is taken, a subsequent storm event could result in catastrophic flooding and destruction of the existing residences and businesses, such as that experienced during Superstorm Sandy, potentially resulting in the loss of life. Moreover, the Proposed Action will not result in the development of buildings or structures on the barrier island in accordance with the CBRA. In order to protect the community of Point Lookout and well-being of its residents, the revetment must be restored, and it is the intent of GOSR to ensure that this is accomplished in harmony with the environment, through the removal of the failing jetties, use of existing rock rubble, and least-impactful reconstruction methods. Furthermore, design and construction phases of the project will incorporate, where possible, natural systems, ecosystem processes, and nature-based approaches to achieve the purpose and need of the project and overall design objectives.

Second, federal financial assistance to support these activities is an important and beneficial use of federal resources; these activities represent a long-term public investment in a piece of critical infrastructure that is necessary to protect the community of Point Lookout, the well-being of its residents and local economy, and to preserve and promote coastal habitats. Investing in the reconstruction-in-place of the revetment would protect federal investments in Point Lookout and neighboring communities by mitigating potential risks posed by extreme weather events and the associated erosion and deposition that continuously threatens the navigability of Reynolds Channel and Jones Inlet. Federal funding would not have the effect of encouraging development of coastal barriers and is not being used for development of commercial, residential or other structures that CBRA construes as wasteful. Rather federal funding would support the replacement of critical infrastructure that would eliminate the need for constant dredge and fill activities.

Finally, the Proposed Action will minimize damage to fish and wildlife by preserving and promoting critical environmentally-sensitive areas to help achieve the long-term conservation

of natural resources. The Proposed Action will stabilize the shoreline, creating and enhancing wildlife habitats along the coast. This will lessen the need for continuing dredge and fill activities, which can be more disruptive to natural resources. The Proposed Action will be located in an already densely developed community; therefore, it is not likely to adversely affect threatened or endangered species, and will help to prevent the filling of the waterways.

GOSR kindly requests USFWS concurrence with this CBRA determination.

If you have questions or require additional information regarding this request, please contact me at (646) 417-4660 or thomas.king@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King, Esq.
Assistant General Counsel
Certifying Officer

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Figure 1 – Project Area

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Long Island Ecological Services Field Office
340 SMITH ROAD
SHIRLEY, NY 11967
PHONE: (631)286-0485 FAX: (631)286-4003

Consultation Code: 05E1LI00-2016-SLI-0034 November 20, 2015
Event Code: 05E1LI00-2016-E-00037
Project Name: Lido Beach Lookout

Subject: 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

United States Department of Interior
Fish and Wildlife Service

Project name: Lido Beach Lookout

Official Species List

Provided by:

Long Island Ecological Services Field Office
340 SMITH ROAD
SHIRLEY, NY 11967
(631) 286-0485

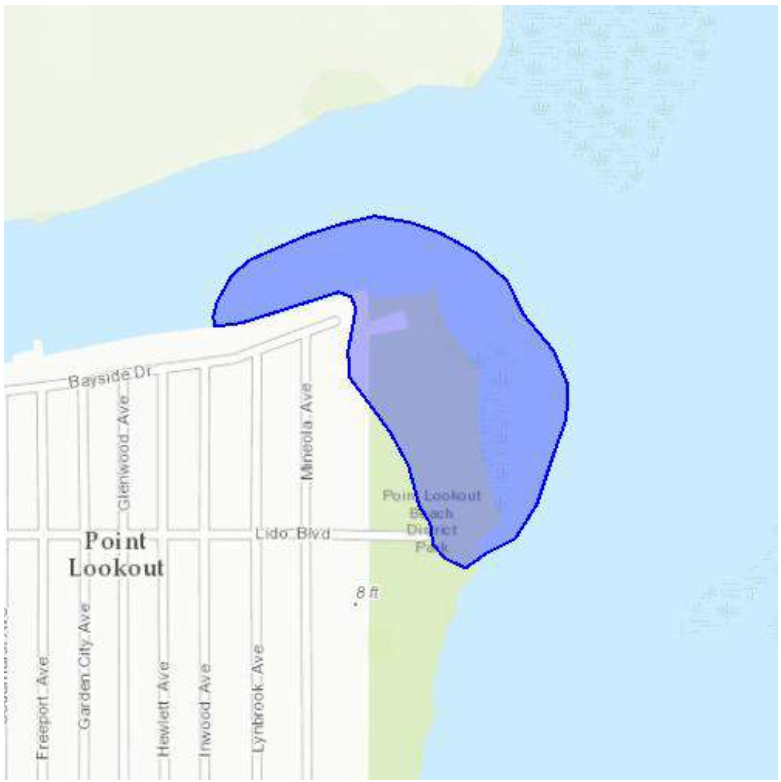
Consultation Code: 05E1LI00-2016-SLI-0034
Event Code: 05E1LI00-2016-E-00037

Project Type: LAND - RESTORATION / ENHANCEMENT

Project Name: Lido Beach Lookout

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Nassau, NY

Endangered Species Act Species List

There are a total of 6 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	**Status**	**Has Critical Habitat**	**Condition(s)**
Piping Plover *(Charadrius melodus)* Population: except Great Lakes watershed	Threatened	Final designated	
Red Knot *(Calidris canutus rufa)*	Threatened		
Roseate tern *(Sterna dougallii dougallii)* Population: northeast U.S. nesting pop.	Endangered		
Flowering Plants			
Sandplain gerardia *(Agalinis acuta)*	Endangered		
Seabeach amaranth *(Amaranthus pumilus)*	Threatened		
Mammals			
Northern long-eared Bat *(Myotis septentrionalis)*	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

JAN 0 6 2016

In Reply Refer To:
FWS/DBTS-BGMTS

Ms. Alicia Shultz
New York State Homes & Community Renewal
38-40 State Street
Hampton Plaza
Albany, New York 12207

Dear Ms. Shultz:

The U.S. Fish and Wildlife Service (Service) has reviewed the request dated November 18, 2015, Case # 3088, for a determination as to whether the following property is within a System Unit or an Otherwise Protected Area (OPA) of the John H. Chafee Coastal Barrier Resources System (CBRS).

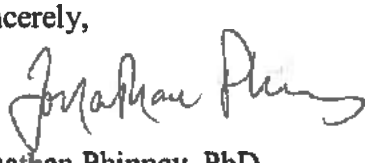
Address: Point Lookout Revetment Repair and Reconstruction Project
Hempstead, NY 11550

We compared the location of the project location above, as depicted on the information that was provided, to the official CBRS map for the area, numbered 096A, dated October 15, 1992. This project location is within CBRS Unit NY-59. The prohibition date on Federal flood insurance is November 16, 1991; however, the prohibition date for the use of Federal funds for projects such as repair or replacement of revetments is November 15, 1993, the date the area was reclassified from an OPA to a System Unit.

To proceed with the project using Federal funds, a consistency consultation should be requested to determine whether the project meets one of the exceptions to CBRA found at 16 U.S.C. 3505(a). More information on CBRA's exceptions can be found at http://www.fws.gov/ecological-services/habitat-conservation/cbra/Consultations/Limitations-and-Exceptions.html. Any consultations should be submitted to the attention of Steve Papa at the Long Island Field Office, 340 Smith Road, Shirley, New York 11967. For additional assistance he can be also be reached at (631) 286-0485 or at steve_papa@fws.gov.

We hope this information is helpful. Additional information concerning the CBRS can be found on our website at http://www.fws.gov/cbra. If you have any additional questions, please contact Ms. Dana Wright, Program Specialist, at (703) 358-2171.

Sincerely,



Jonathan Phinney, PhD
Chief, Branch of Geospatial Mapping and
Technical Support

cc: Steve Papa, FWS, Shirley, NY
Cynthia Bohn, FWS, Atlanta, GA

Attachment 3

OCC Site Investigation Reports

MEMO

ADDRESS COWI North America, Inc.
276 5th Avenue
Suite 1006
New York, NY 10001
USA

TEL +1 646 545 2125
WWW cowi-na.com

PAGE 1/33

TITLE Hempstead
Task 4A_ Point Lookout Shoreline Morphology
DATE 10 March 2017
TO Jeffrey Tierney, Town of Hempstead
COPY Max Larson, COWI
FROM Todd Manson, COWI
PROJECT NO A076209

1 Executive Summary

The purpose of this report is to provide a basis for describing coastal geomorphology at Point Lookout, New York. This report also provides historical references for the development of existing shoreline structures. Understanding shoreline response in the form of erosion and accretion due to natural and anthropogenic factors is crucial in optimizing the configuration of any newly planned shoreline protection structures.

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The assessment indicated how the site has changed over the last 135 years in regard to shape, size and development of those areas indicated as Areas A, B and C in Figure 1. Between the end of the 19th century and 1940s, Point Lookout changed dramatically due to the stabilization of the uplands through urban development. In response to erosion, the Town of Hempstead constructed a rock wall and jetties at the north-eastern tip of Point Lookout along Areas A and B between 1942 and 1943. In 1943, the Town prepared plans to further protect the Point with the construction of another rock wall and jetties along Area C. These structures or their remnants exist to this day.

Since the construction of shore protection, the beach of Area A has generally held its position, experiencing net accretion after 1980. Area B, located between the two groins, has experienced large amounts of erosion and cannot be considered stable under present conditions. Area C has experienced minor accretional and erosional beach changes but maintains a stable position in general. The formation of an offshore south-trending spit can be seen off the coast of Area C, starting its formation in 1985 after extensive accretion occurred.

Figure 1 Northeast Portion of Point Lookout. Shoreline Area Depiction

2 Introduction

The purpose of this report is to present the coastal geomorphology of the Point Lookout site as well as provide documentation of existing shoreline structures. The overall perspective gained through this exercise is essential in optimizing shoreline protection and response efforts. The objective of this study is per the Lido Beach/Point Lookout Shoreline Stabilization and Revetment Agreement dated September 29th, 2016 (Town of Hempstead).

3 Methodology

In order to complete the assessment, historical and present data was gathered, evaluated and assessed. Evaluation was done using historical data in the form of maps, sketches and aerial imagery dating as far back as 1880 through present day. Sources of information used include the Town of Hempstead (1880-1938, 1942, 1943, 1968, 1978), United States Geological Survey (USGS) (1953, 1966, 1969, 1974, 1985) and Google Earth (1994, 2000, 2004, 2006, 2007, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016). All of the Google Earth images were sourced from a variety of government agencies. The coloring and resolution per image vary based on the source and time it was taken.

For the purpose of analysis, the site has been divided into Areas A, B and C, bounded by Groins 1 and 2 and the Existing Wall near Lido Boulevard. These areas can be seen in Figure 1.

4 Historical Coastal Geomorphology

Point Lookout Barrier Island drastically changed its shape between the years of 1880-1938 before any shoreline structures existed at the site. By 1938, the uplands of Point Lookout took a shape similar to present day conditions.

Figure 2 tells a story of the site's topography from 1880-1938, showing the dynamism that the site has experienced over those years. These historic sketches show how drastically this stretch of land has morphed, from a narrow hooked shape (1880) to a widened and more evenly distributed shape similar to its current form (beginning roughly in 1938). With focus on the eastern tip of the site, it is clear that that erosional forces have been prominent on this stretch of the island for over a century. The causes of these changes are natural and anthropogenic, and are ongoing.

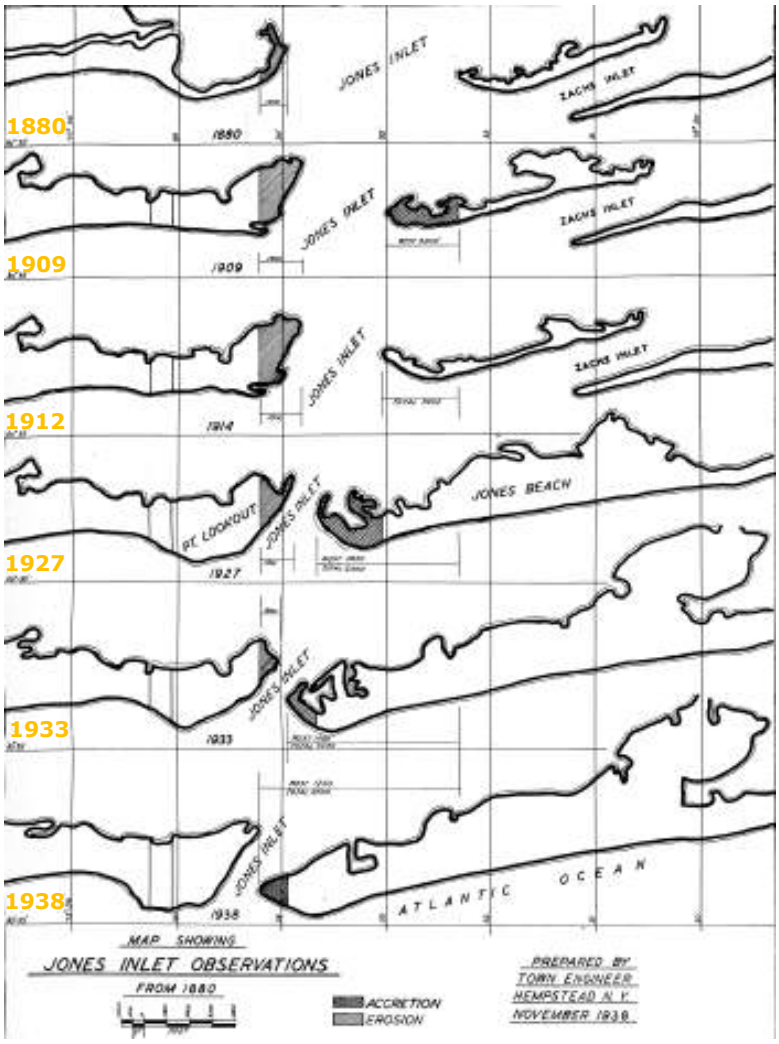

Figure 2 1880-1938 U.S. Coast and Geodetic Survey. Jones Inlet Observations

5 Shoreline Response to Structures

Due to the continual erosional forces that dominate and alter the beach site, the Town of Hempstead proposed a rock wall and jetties to be built along Areas A and B in 1942 (Figure 3). Then, in 1943, after these structures were apparently built, the Town proposed another rock wall and jetties to be built along Area C (Figure 4). These protective structures exist to the present day. Figure 5 provides further documentation for the existence of protective structures along the shoreline of the northern portion of the site (Area A).

1942

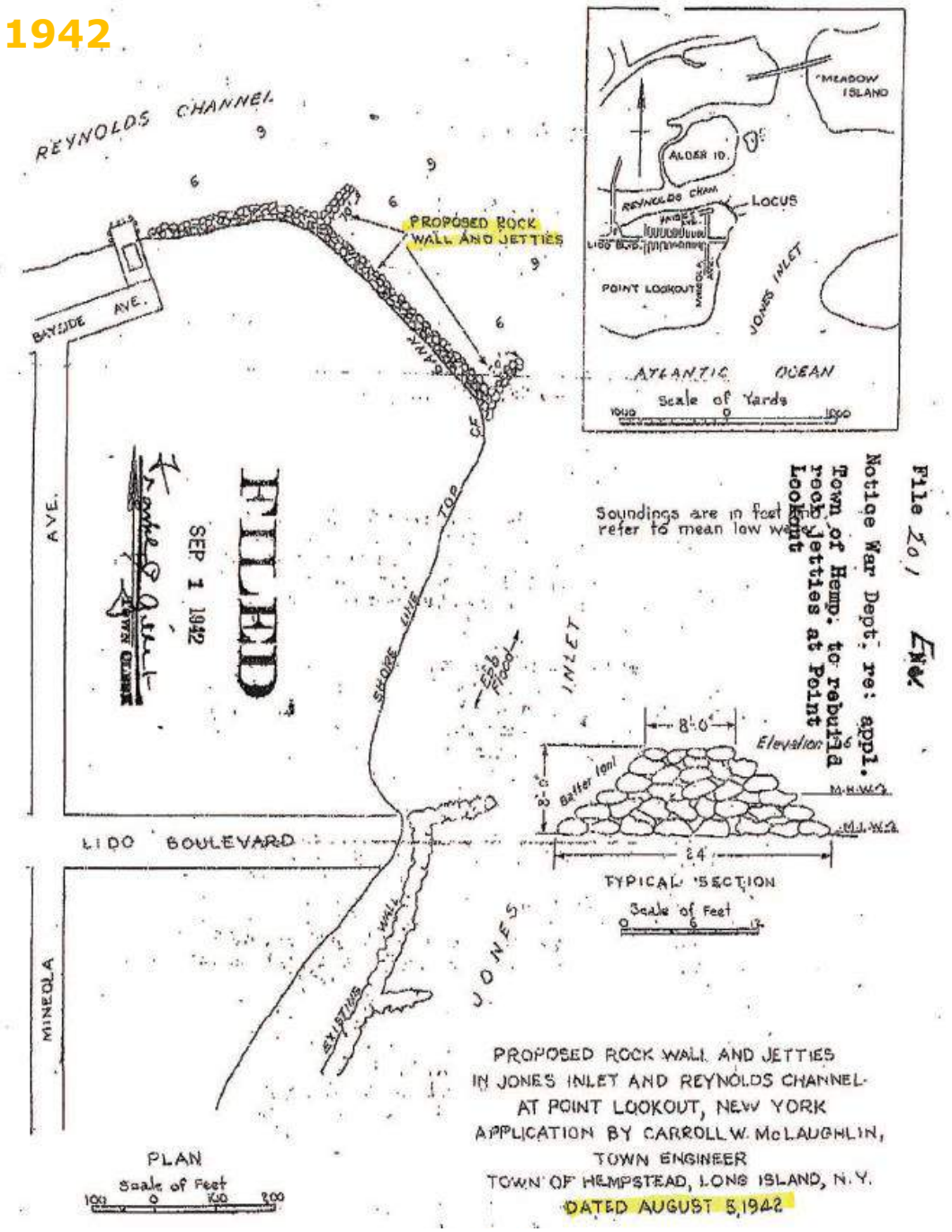

Figure 3 1942 Town of Hempstead Engineer. Proposed Rock Wall and Jetties

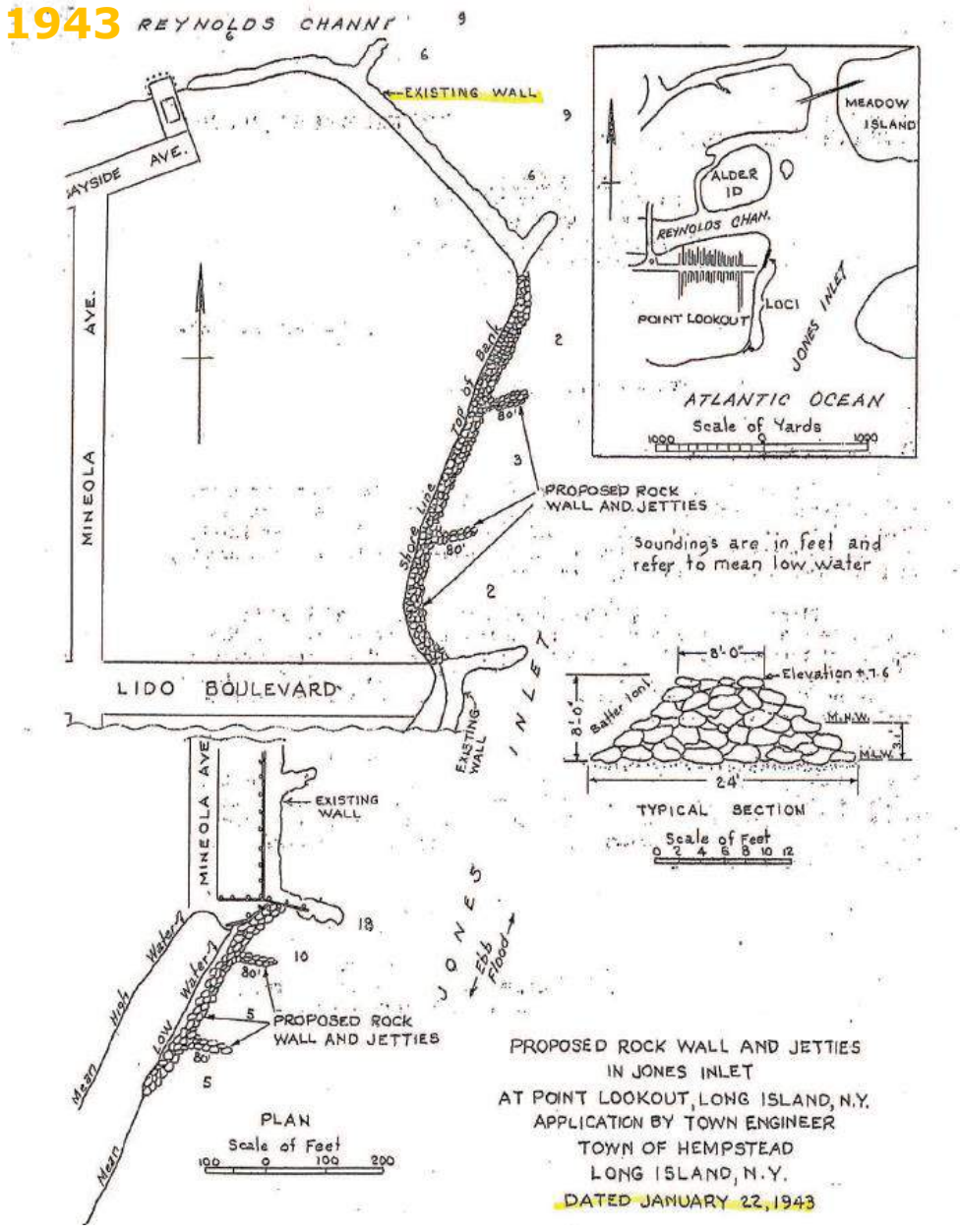

Figure 4 1943 Town of Hempstead Engineer. Proposed Rock Wall and Jetties

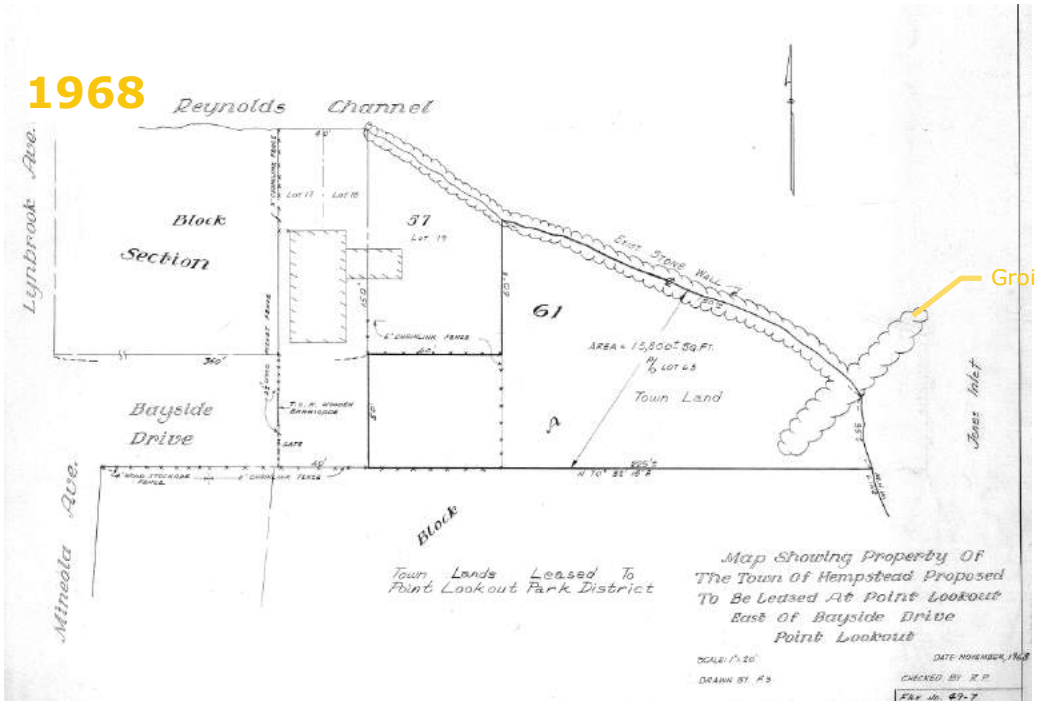

Figure 5 1968 Sketch of Northeast Corner of Site

The implementation of these structures influenced the morphology of the site and since then Areas A, B and C have each exhibited a characteristic response.

Area A

Extending west of Groin 1, Area A has generally held the shoreline position it's had since 1942 due to the existence of the rock wall and groin. After the 1980's, this area began to experience accretion. The greatest accretion tends to occur within the vicinity of the western boundary of Area A, most likely due to the presence of the pier structure that branches off of the property at the very end of Bayside Drive.

Area B

Area B, spanning between Groins 1 and 2, has behaved opposite to that of Area A. Dating back to the first available aerial images (1953), Area B has predominantly experienced erosion. This stretch of shoreline has eroded as far back as the vegetation lining the Point Lookout recreational fields as shown in numerous aerial photographs (1974, 1994, 2009, 2010).

Area C

Stretching between Groin 2 and the Existing Wall, Area C exhibits both accretional and erosional beach states, but maintains a generally stable position. Erosional states can be seen in the 1953 and 1969 aerial photos. In the 1980's, accretion within Area C becomes more prominent. Extensive accretion occurred in 1985 on the northeast tip of the site. This most likely led to the formation of a spit off of Area C's shoreline, which persists through present day.

With the 2016 shoreline as the baseline, the site as a whole has experienced significant variability ranging from about (-) 100 feet of erosion (in the vicinity of Groin 1 in 2010) and (+) 300 feet of accretion (along the centerline of Area B in 1985).

Figure 7 through Figure 25 (Appendix A) are representative of the changing conditions across the site. A full listing of available maps, sketches and aerial images is provided in Appendix B.

6 Conclusions

The Point Lookout shoreline is very dynamic as indicated by the summary timeline shown in Figure 6. The sediment transport generally experienced by the site tends to be southward along the beach lining Jones Inlet, with the existing structures altering between the accretional and erosional trends. Areas A and C experience varying beach states but generally stay stable. However, Area B is in continuous need of stabilization due to the governing erosional forces that consistently erode the sandy beach buffer between the ocean and this stretch of beach. The ongoing morphing of the beach has at times posed significant danger to the community. Therefore, shoreline stabilization measures continue to be crucial for Point Lookout.

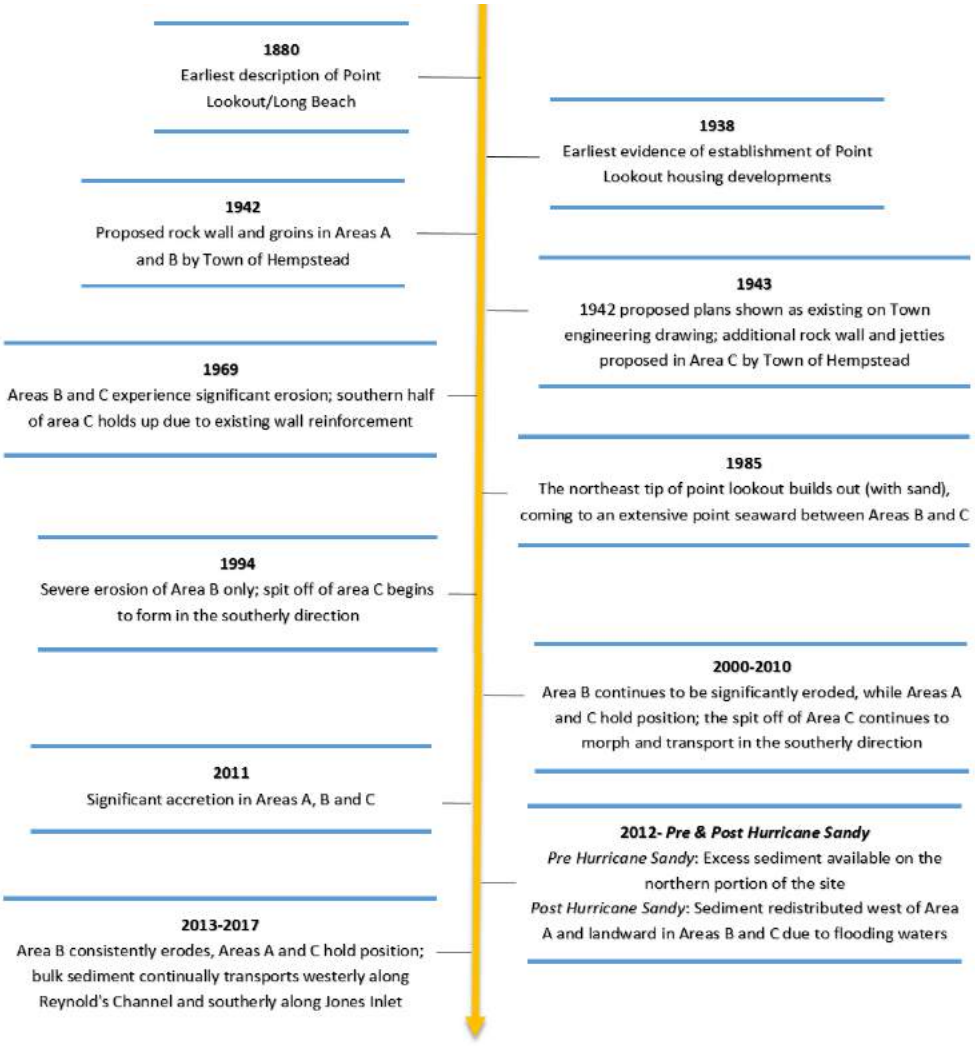

Figure 6 Timeline of Point Lookout Shoreline Response

7 References

F.S. (1968). Map Showing Property of the Town of Hempstead Proposed to be Leased at Point Lookout East of Bayside Drive Point Lookout [Map]. In (File No. 49-7).

Hempstead Planning Board. (1978). Point Lookout [Map]. In (No. 205).

"Hempstead, NY" 40^{0}35'32.09" N and 73^{0}34'36.44" W. USGS Earth Explorer. Publically available aerial imagery obtained from https://earthexplorer.usgs.gov/ for years 1953, 1963, 1966, 1969, 1974, 1985. Accessed: 01/30/2017

McLaughlin , C. (1942). Proposed Rock Wall and Jetties in Jones Inlet and Reynolds Channel at Point Lookout, New York [Map]. In (File 201).

"Point Lookout, NY" 40^{0}35'32.09" N and 73^{0}34'36.44" W. Google Earth. Imagery from 04/19/1994, 03/31/2004, 06/04/2006, 07/04/2007, 05/30/2009, 09/19/2010, 05/26/2011,11/05/2012, 09/09/2013, 06/19/2014, 05/23/2015. Accessed: 02/15/2017

Town of Hempstead Engineer. (1943). Proposed Rock Wall and Jetties in Jones Inlet at Point Lookout, Long Island, N.Y.

U.S. Coast and Geodetic Survey. (1938). New York South Shore if Long Island Jones Inlet [Map]. In *Air Photo Compilation No. T-5061* (pp. G-16-10). NY.

Appendix A

Figure 7 1953_USGS Aerial Photograph

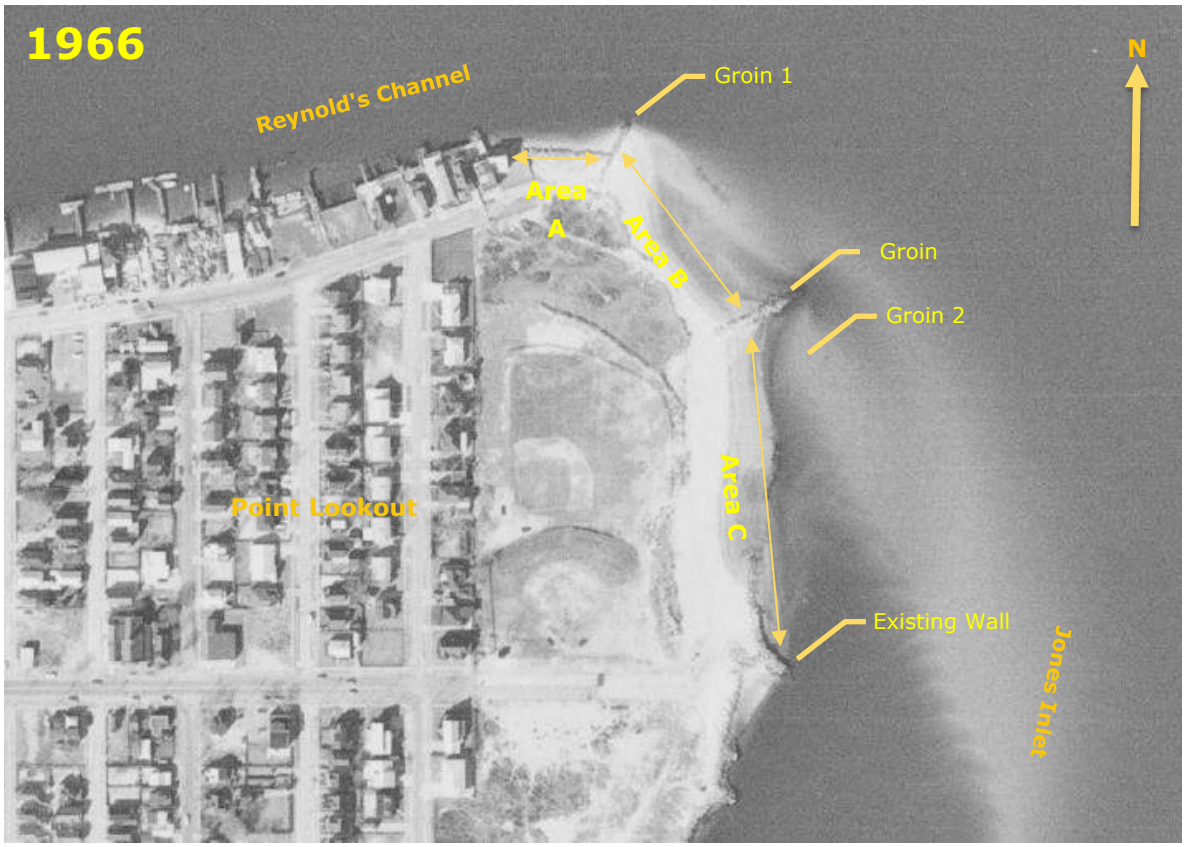

Figure 8 1966_USGS AERIAL PHOTOGRAPH

Figure 9 1969_USGS AERIAL PHOTOGRAPH

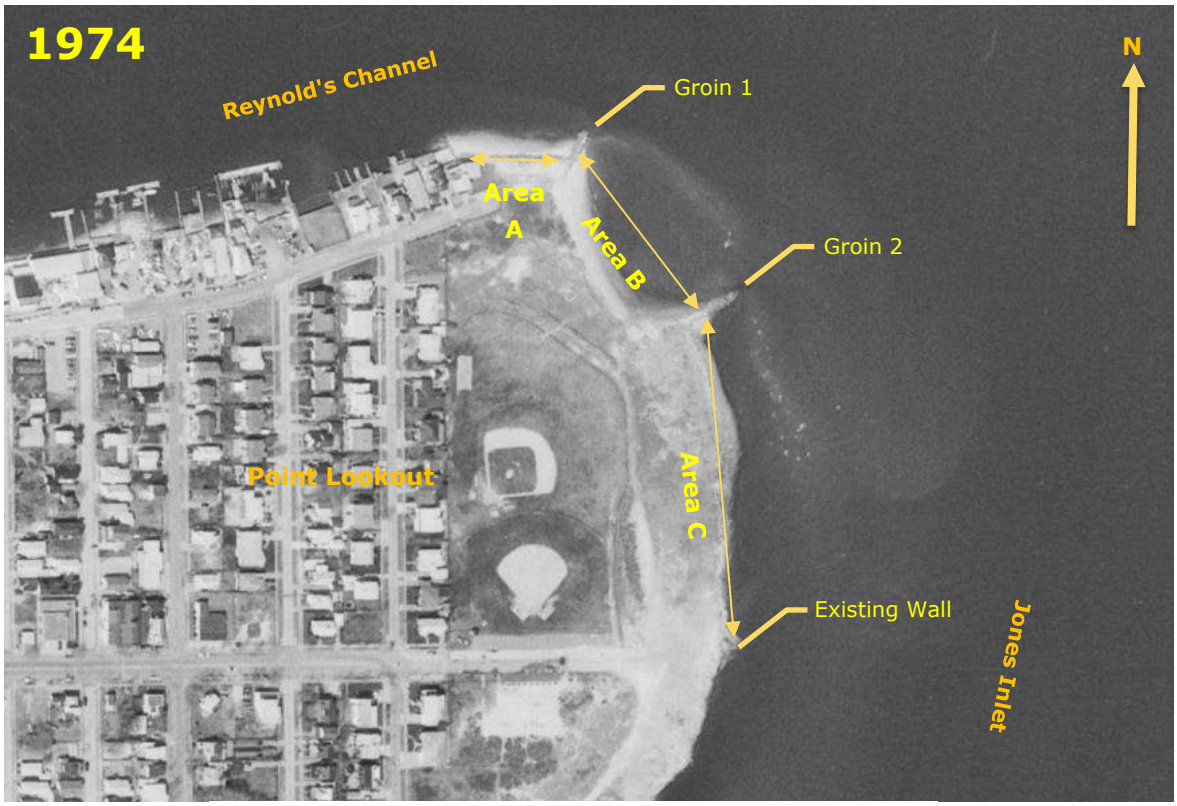

Figure 10 1974_USGS AERIAL PHOTOAPH

Figure 11 1985_USGS AERIAL PHOTOGRAPH

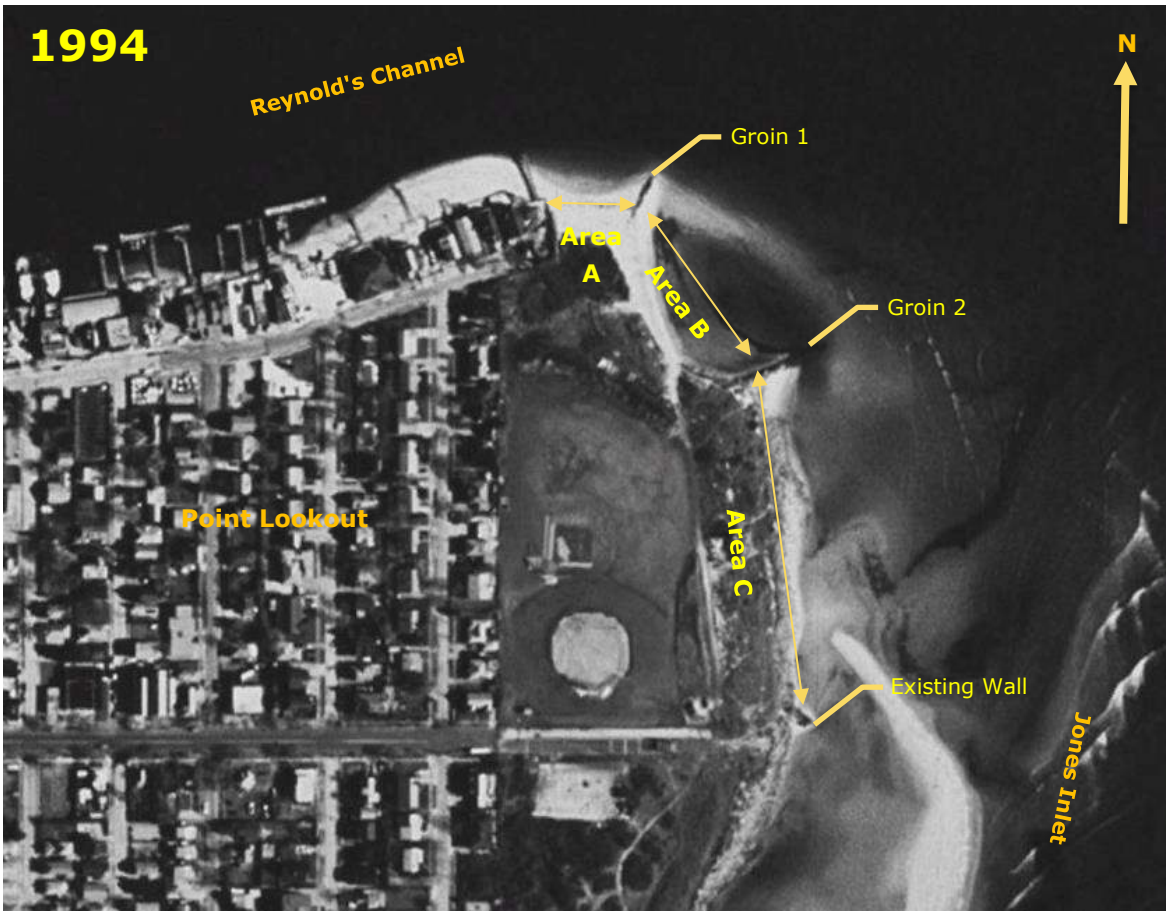

Figure 12 1994_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 13 2000_USGS AERIAL PHOTOGRAPH

Figure 14 2004_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 15 2006_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 16 2007_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 17 2009_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 18 2010_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 19 2011 GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 20 2012, MARCH_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 21 2012, NOVEMBER_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 22 2013_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 23 2014_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 24 2015_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 25 2016_ GOOGLE EARTH AERIAL PHOTOGRAPH

Appendix B

Table B 1 Summary of imagery sources

Year	Title of Resource	Resource Type
1933	Map No. 3 Point Lookout Beach (Property/Lot Map)	Map Sketch
1938	Map No. 5 Point Lookout Beach (Property/Lot Map)	Map Sketch
1938	South Shore Compilation No. T-5061 (Jones Inlet Observations)	Map Sketch
1943	Map Showing Lands of the Town of Hempstead and Rock Wall Revetments at Point Lookout-Jones Inlet	Map Sketch
1968	Map Showing Property of the Town of Hempstead	Map Sketch
1978	Point Lookout No. 205	Map Sketch
1953, 1960, 1966, 1969, 1970, 1972, 1974, 1976, 1981, 1984, 1985, 1992, 1994, 2002, 2006	United States Geologic Survey (USGS)	Aerial Imagery
2006, 2007, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016	Google Earth	Aerial Imagery

COWI

MEMO

ADDRESS COWI North America, Inc.
276 5th Avenue
Suite 1006
New York, NY 10001
USA

TEL +1 646 545 2125
WWW cowi-na.com

TITLE Point Lookout Test Pits
DATE 10 March 2017
TO Town of Hempstead
COPY Max Larson, COWI
FROM Todd Manson, COWI
PROJECT NO A076209

Scope of Work and Schedule

1 Scope of Work

The purpose of this document is to provide the Town of Hempstead with guidance for test pit location and schedule. Subsurface investigations are being completed in order to search for evidence of buried revetments along the shoreline of the Northeast portion of Point Lookout. Temporary excavations should be implemented and maintained in accordance with applicable requirements of the Occupational Safety and Health Administration (OSHA). In accordance with 29 CFR 1926 Subpart P, Appendices A & B, the soils at the site are classified as "Class C", and should have maximum side slopes of 1.5H:1V. Based on the Geotechnical Investigation done by KS Engineers in December 2016, a maximum side slope of 2H:1V for excavations is recommended.

Figure 1 Site Investigation Limits

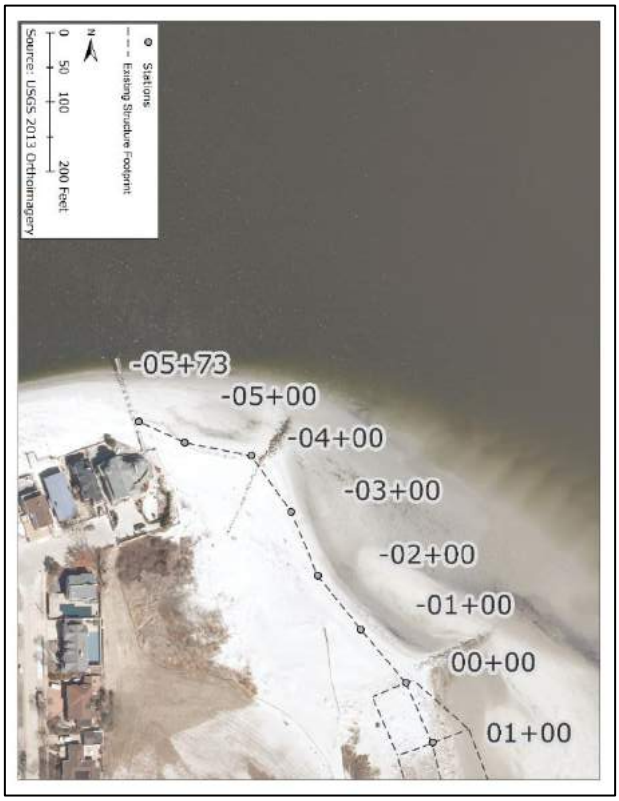

Figure 2 Investigation Focus Area

Test pits shall be completed to identify buried revetment structures originally proposed/installed in 1942 and 1943. The investigation spans from station -04+90 to -01+00. Figure 1 shows the site location as well as the extent of the investigation. Figure 2 shows the stationing associated with the focus area.

Four (4) test pits are anticipated at the site, as shown in Figure 3. Table 1 summarizes the location and size of each test pit. These locations were chosen based on historic proposed structure drawings done by the Town as well as areas where electromagnetic waves are reflected/distorted due to encountering a material interface found during Ground Penetration Radar (GPR) testing done on August 15th, 2014. The seaward distance used per test pit references the vegetation line. This reference line runs along the seaward property line of the home at the end of Bayside Drive and continues along the extent of the vegetation (Figure 3).

Figure 3 Test Pit Locations

Table 1 Test Pit Locations

Test Pit Number	Dimensions (ft) (length x width x height)	Approximate Station at Center of Pit	Distance Seaward of Reference Line (ft)
TP1	10 x 10 x 12	-04+90	25
TP2	10 x 10 x 12	-03+00	115
TP3	10 x 10 x 12	-02+00	105
TP4	10 x 15 x 12	-01+00	100

The locations are considered approximate and may be changed in the field at the discretion of the Town or COWI representative to avoid obstructions, access problems, or for engineering design considerations. The test pit dimensions (Table 1) should not impose strict limits on the excavation and may be adjusted depending on findings in the field. The location, number, size, and/or depth of the test pits may change based on findings in the field. The COWI representative will communicate with the Town representative while the test pit program is underway on the need for any changes to the proposed test program outlined herein.

2 Schedule of Work

The field work is recommended to occur during the week of March 20-24th, 2017. COWI recommends the excavation of the test pits occur during low tide conditions, preferably starting about two hours before low tide in order to have a suitable amount of time to excavate. Low tide conditions are forecasted to coincide with normal work hours in the morning during the week of March 20th-24th. The predicted tide charts for a gauge located in Jones Inlet along Point Lookout can be seen in Figure 4.

Date	Day	Time	Hgt
03/20	Mon	01:33 AM	3.32 H
03/20	Mon	07:57 AM	0.74 L
03/20	Mon	02:02 PM	2.87 H
03/20	Mon	08:02 PM	0.89 L
03/21	Tue	02:23 AM	3.27 H
03/21	Tue	09:04 AM	0.74 L
03/21	Tue	02:56 PM	2.86 H
03/21	Tue	09:14 PM	0.86 L

Date	Day	Time	Hgt
03/22	Wed	03:19 AM	3.3 H
03/22	Wed	10:03 AM	0.62 L
03/22	Wed	03:55 PM	2.94 H
03/22	Wed	10:15 PM	0.7 L
03/23	Thu	04:19 AM	3.41 H
03/23	Thu	10:55 AM	0.42 L
03/23	Thu	04:53 PM	3.14 H
03/23	Thu	11:09 PM	0.47 L

Date	Day	Time	Hgt
03/24	Fri	05:16 AM	3.61 H
03/24	Fri	11:42 AM	0.19 L
03/24	Fri	05:46 PM	3.41 H
03/24	Fri	11:59 PM	0.21 L

Figure 4 Predicted Tide Charts for Jones Inlets (Point Lookout NY)

COWI

MEMO

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New York, NY 10001
USA

TEL +1 646 545 2125
WWW cowi-na.com

PAGE 1/35

TITLE Hempstead Lido Beach Shoreline Restoration
Task 4A_ Point Lookout Shoreline Morphology

DATE 10 March 2017 (30 March, Rev 1)

TO Jeffrey Tierney, Town of Hempstead

COPY Max Larson, COWI

FROM Todd Manson, COWI

PROJECT NO A076209

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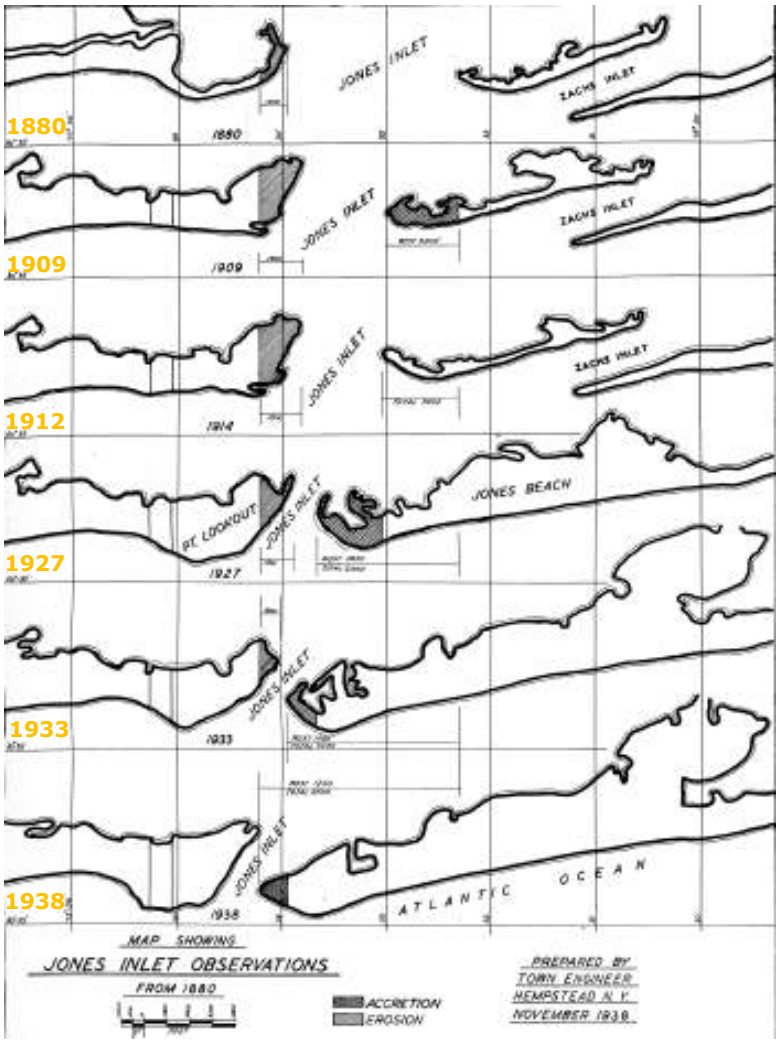

Figure 2 1880-1938 U.S. Coast and Geodetic Survey. Jones Inlet Observations

5 Shoreline Response to Structures

Due to the continual erosional forces that dominate and alter the beach site, the Town of Hempstead proposed a rock wall and jetties to be built along Areas A and B in 1942 (Figure 3). Then, in 1943, after these structures were apparently built, the Town proposed another rock wall and jetties to be built along Area C (Figure 4). These protective structures exist to the present day. Figure 5 provides further documentation for the existence of protective structures along the shoreline of the northern portion of the site (Area A).

1942

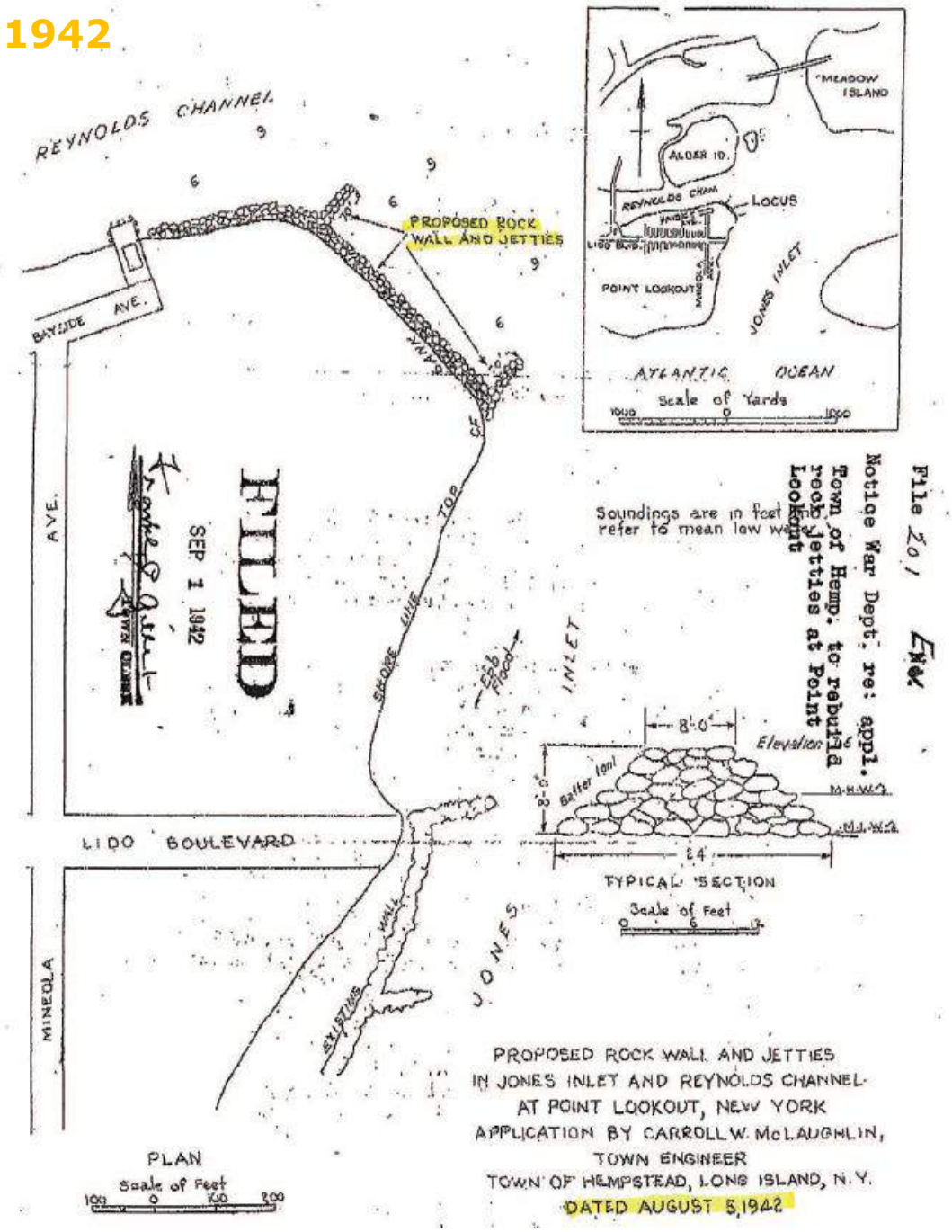

Figure 3 1942 Town of Hempstead Engineer. Proposed Rock Wall and Jetties

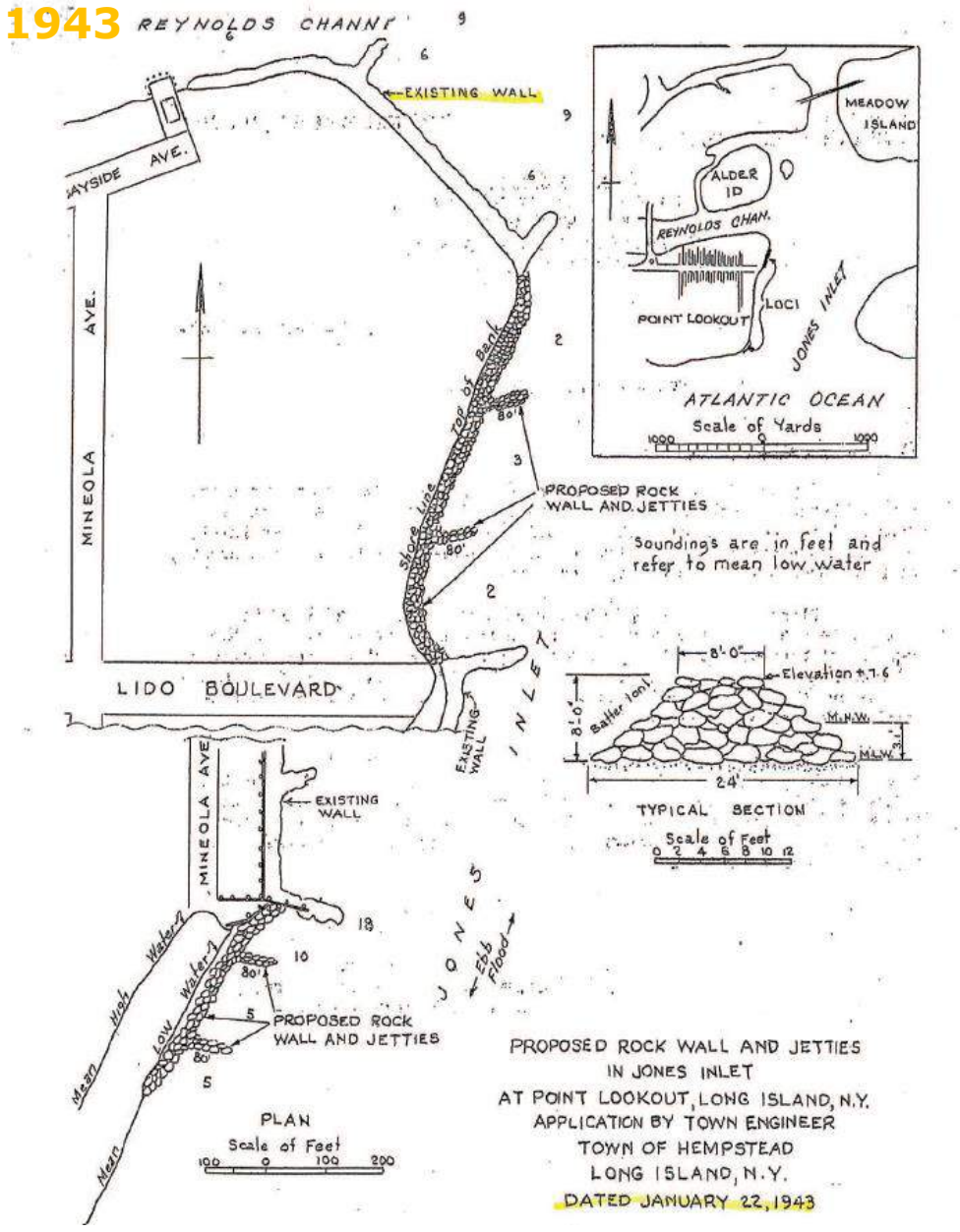

Figure 4 1943 Town of Hempstead Engineer. Proposed Rock Wall and Jetties

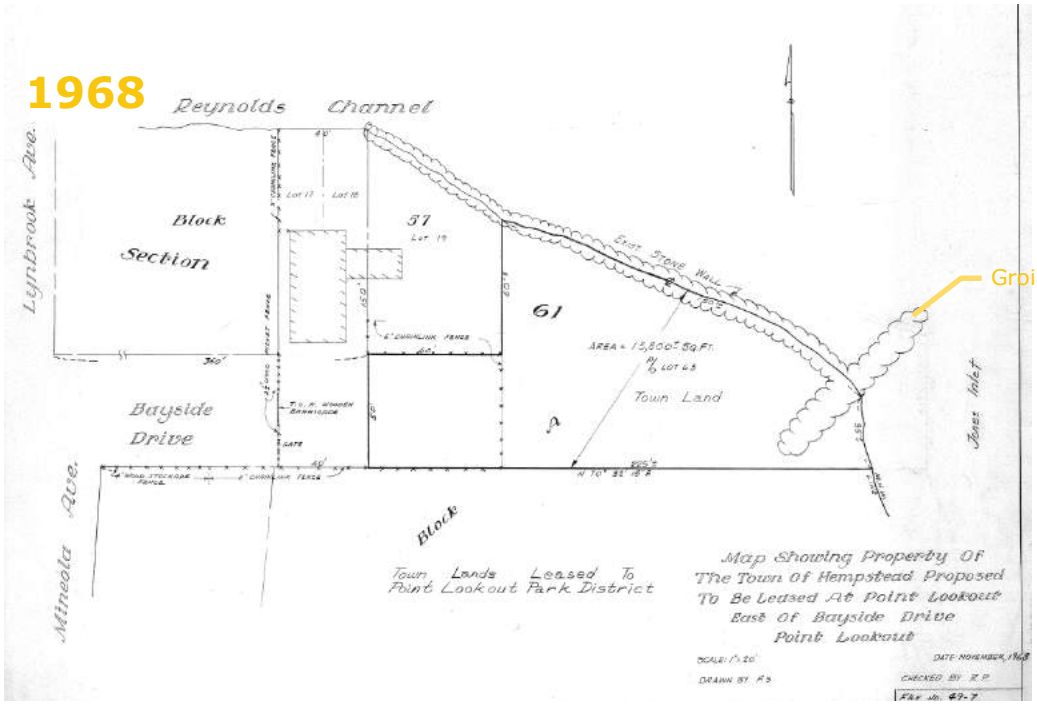

Figure 5 1968 Sketch of Northeast Corner of Site

The implementation of these structures influenced the morphology of the site and since then Areas A, B and C have each exhibited a characteristic response.

Area A

Extending west of Groin 1, Area A has generally held the shoreline position it's had since 1942 due to the existence of the rock wall and groin. After the 1980's, this area began to experience accretion. The greatest accretion tends to occur within the vicinity of the western boundary of Area A, most likely due to the presence of the pier structure that branches off of the property at the very end of Bayside Drive.

Area B

Area B, spanning between Groins 1 and 2, has behaved opposite to that of Area A. Dating back to the first available aerial images (1953), Area B has predominantly experienced erosion. This stretch of shoreline has eroded as far back as the vegetation lining the Point Lookout recreational fields as shown in numerous aerial photographs (1974, 1994, 2009, 2010).

Area C

Stretching between Groin 2 and the Existing Wall, Area C exhibits both accretional and erosional beach states, but maintains a generally stable position. Erosional states can be seen in the 1953 and 1969 aerial photos. In the 1980's, accretion within Area C becomes more prominent. Extensive accretion occurred in 1985 on the northeast tip of the site. This most likely led to the formation of a spit off of Area C's shoreline, which persists through present day.

With the 2016 shoreline as the baseline, the site as a whole has experienced significant variability ranging from about (-) 100 feet of erosion (in the vicinity of Groin 1 in 2010) and (+) 300 feet of accretion (along the centerline of Area B in 1985).

Figure 8 through Figure 26 (Appendix A) are representative of the changing conditions across the site. A full listing of available maps, sketches and aerial images is provided in Appendix B.

6 Soil Probe Investigation

The structures within Areas A and C visually exist in present day. Although the structure within Area B was deemed to exist in 1943 by the Town of Hempstead (see Figure 4), it is not visible in present day nor in historic aerial images reviewed in this investigation. For this reason, the subsurface existence of the rock wall structure within Area B was investigated by COWI and the Town of Hempstead on 21 March 2017. The investigation included the use of an auger to drill a total of twenty-five holes spanning across Area B. The location of each soil probe can be seen in Figure 6.

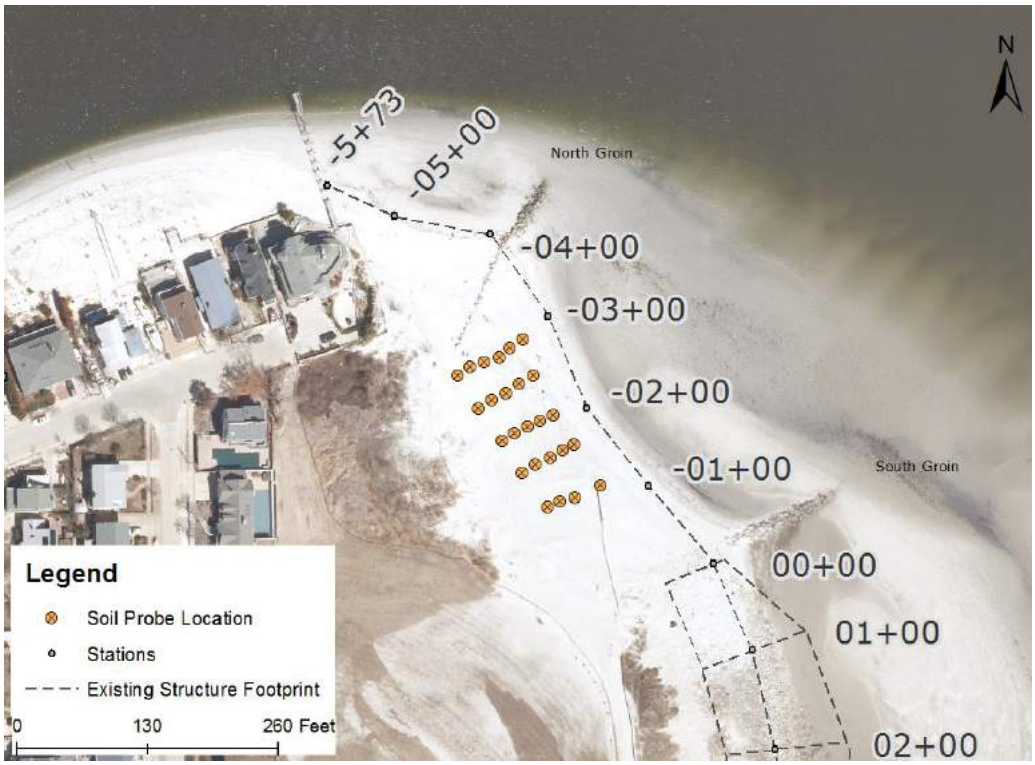

Figure 6 Soil Probe Locations_ Area B

Based on the cross section sketches done by the Town of Hempstead in 1942/1943 (Figures 3 and 4), the rock wall would have had an original top elevation of approximately +6.5 FT NAVD88 with an original bottom elevation of approximately -1.5 FT NAVD88. The vertical datum on the figures are inferred to be NGVD29 based on the cross section. The current beach surface elevations within Area B range from -2.56 FT NAVD88 (current MLW) to approximately +6.00 FT NAVD88 near the sand fence to the west. The length of the auger used was five feet which allowed for the probes to encounter the expected top elevation of the revetment.

No rock was encountered in any of the twenty-five test probes. This suggests that the revetment in Area B is was not constructed, or no longer remains as depicted in Figures 2 and 3.

7 Conclusions

The Point Lookout shoreline is very dynamic as indicated by the summary timeline shown in Figure 7. The sediment transport generally experienced by the site tends to be southward along the beach lining Jones Inlet, with the existing structures altering between the accretional and erosional trends. Areas A and C experience varying beach states but generally stay stable. However, Area B is in continuous need of stabilization due to the governing erosional forces that consistently erode the sandy beach buffer between the ocean and this stretch of beach. The ongoing morphing of the beach has at times posed significant danger to the community. Therefore, shoreline stabilization measures continue to be crucial for Point Lookout.

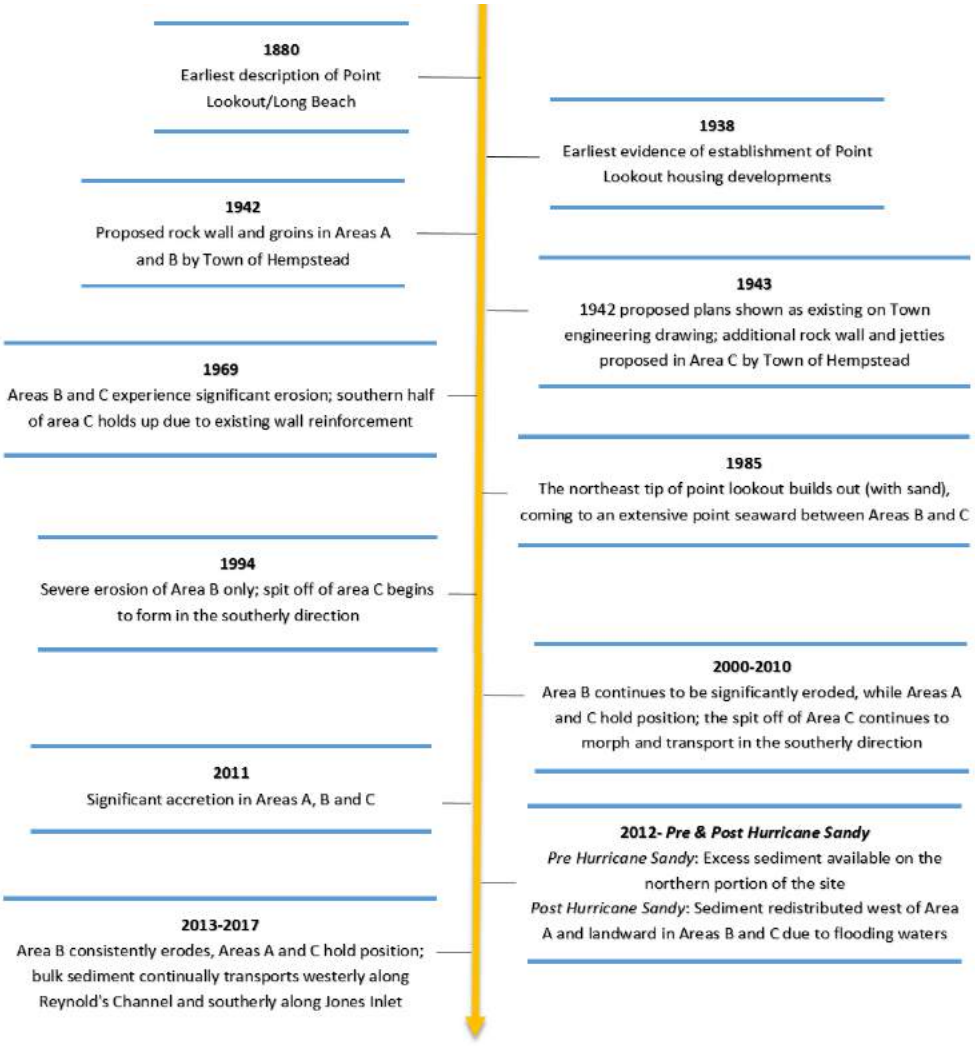

Figure 7 Timeline of Point Lookout Shoreline Response

8 References

F.S. (1968). Map Showing Property of the Town of Hempstead Proposed to be Leased at Point Lookout East of Bayside Drive Point Lookout [Map]. In (File No. 49-7).

Hempstead Planning Board. (1978). Point Lookout [Map]. In (No. 205).

"Hempstead, NY" 40^{0}35'32.09" N and 73^{0}34'36.44" W. USGS Earth Explorer. Publically available aerial imagery obtained from https://earthexplorer.usgs.gov/ for years 1953, 1963, 1966, 1969, 1974, 1985. Accessed: 01/30/2017

McLaughlin , C. (1942). Proposed Rock Wall and Jetties in Jones Inlet and Reynolds Channel at Point Lookout, New York [Map]. In (File 201).

"Point Lookout, NY" 40^{0}35'32.09" N and 73^{0}34'36.44" W. Google Earth. Imagery from 04/19/1994, 03/31/2004, 06/04/2006, 07/04/2007, 05/30/2009, 09/19/2010, 05/26/2011,11/05/2012, 09/09/2013, 06/19/2014, 05/23/2015. Accessed: 02/15/2017

Town of Hempstead Engineer. (1943). Proposed Rock Wall and Jetties in Jones Inlet at Point Lookout, Long Island, N.Y.

U.S. Coast and Geodetic Survey. (1938). New York South Shore if Long Island Jones Inlet [Map]. In *Air Photo Compilation No. T-5061* (pp. G-16-10). NY.

Appendix A

Figure 8 1953_USGS Aerial Photograph

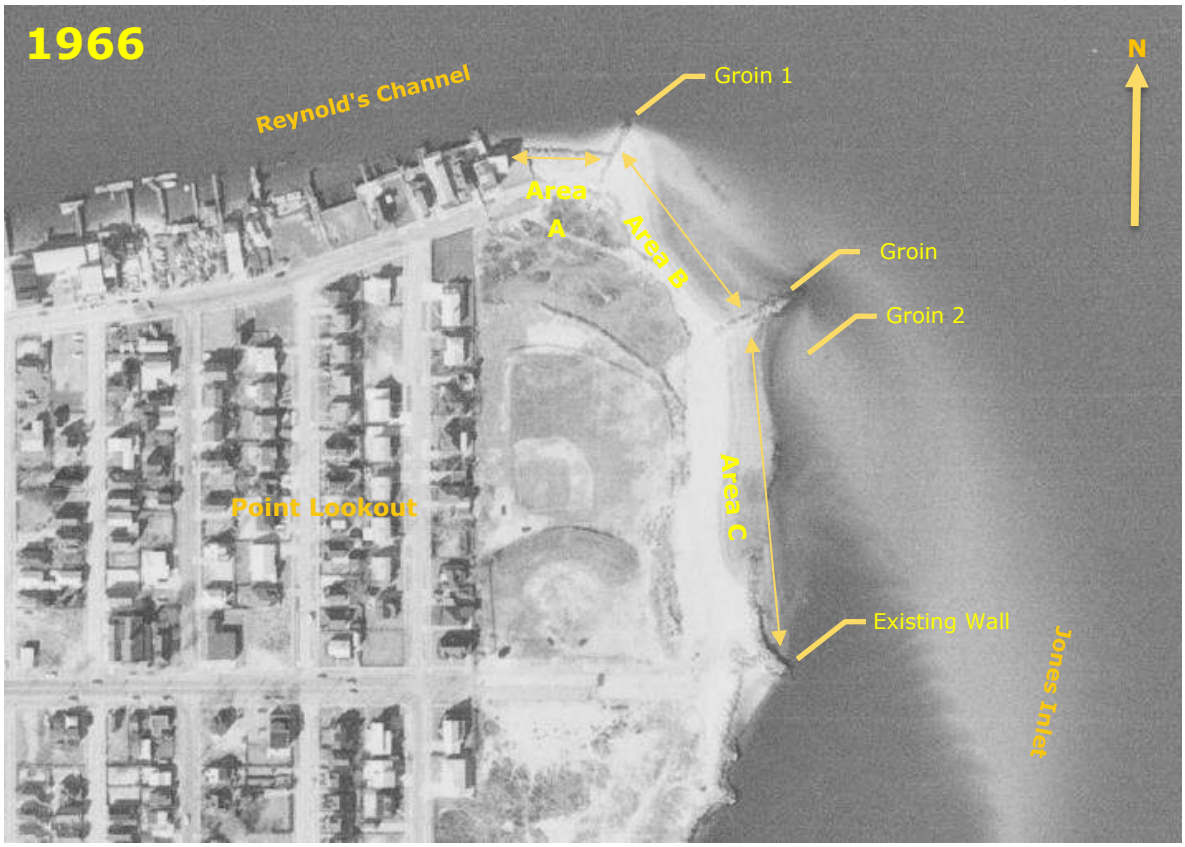

Figure 9 1966_USGS AERIAL PHOTOGRAPH

Figure 10 1969_USGS AERIAL PHOTOGRAPH

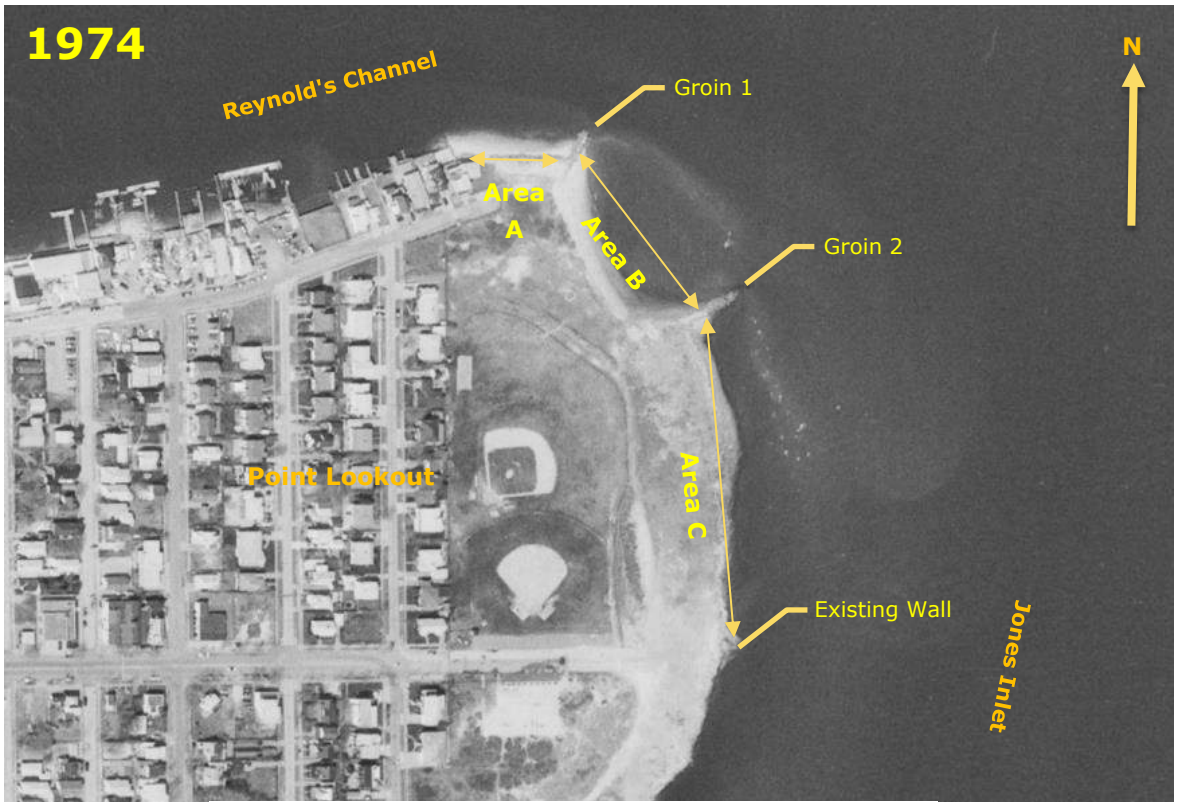

Figure 11 1974_USGS AERIAL PHOTOAPH

Figure 12 1985_USGS AERIAL PHOTOGRAPH

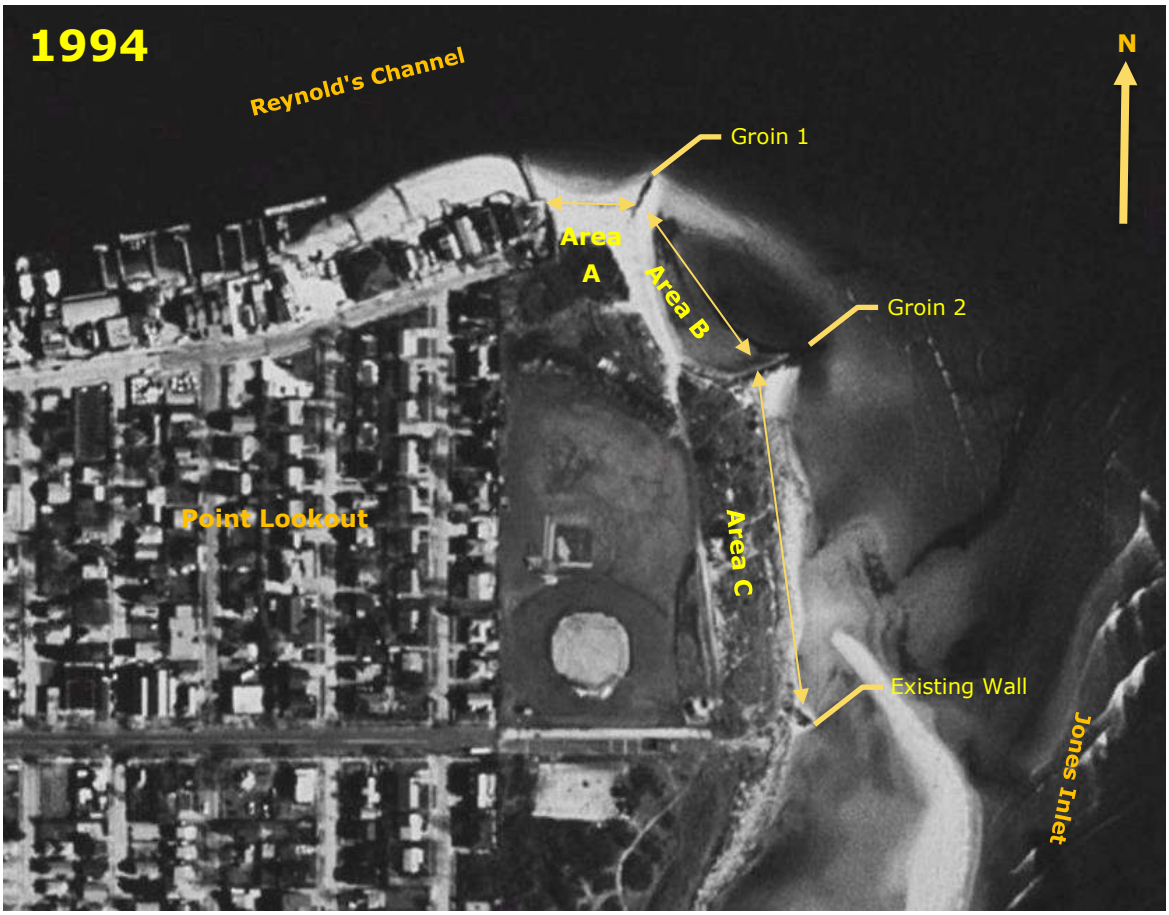

Figure 13 1994_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 14 2000_USGS AERIAL PHOTOGRAPH

Figure 15 2004_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 16 2006_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 17 2007_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 18 2009_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 19 2010_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 20 2011 GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 21 2012, MARCH_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 22 2012, NOVEMBER_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 23 2013_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 24 2014_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 25 2015_GOOGLE EARTH AERIAL PHOTOGRAPH

Figure 26 2016_ GOOGLE EARTH AERIAL PHOTOGRAPH

Appendix B

Table B 1 Summary of imagery sources

Year	Title of Resource	Resource Type
1933	Map No. 3 Point Lookout Beach (Property/Lot Map)	Map Sketch
1938	Map No. 5 Point Lookout Beach (Property/Lot Map)	Map Sketch
1938	South Shore Compilation No. T-5061 (Jones Inlet Observations)	Map Sketch
1943	Map Showing Lands of the Town of Hempstead and Rock Wall Revetments at Point Lookout-Jones Inlet	Map Sketch
1968	Map Showing Property of the Town of Hempstead	Map Sketch
1978	Point Lookout No. 205	Map Sketch
1953, 1960, 1966, 1969, 1970, 1972, 1974, 1976, 1981, 1984, 1985, 1992, 1994, 2002, 2006	United States Geologic Survey (USGS)	Aerial Imagery
2006, 2007, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016	Google Earth	Aerial Imagery

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DECEMBER 2016
TOWN OF HEMPSTEAD

Lido Beach / Point Lookout Shoreline Stabilization & Revetment

SITE INVESTIGATIONS SUMMARY REPORT

PROJECT NO.	DOCUMENT NO.
A076209	1

VERSION	DATE OF ISSUE	DESCRIPTION	PREPARED	CHECKED	APPROVED
1.1	10 March 2017	Revision 01	Georgii V. Bocharov	Joe Marrone / Todd Manson	Todd Manson

CONTENTS

1	Introduction	4
2	Project Site Location	5
3	Field Inspection	7
3.1	Beach Inspection	10
3.2	Groins Inspection	12
3.3	Revetment inspection	14
3.4	Inspection Summary	21
4	Project Site Survey	27
4.1	Topographic Survey	27
4.2	Local Typology Survey (Transects)	28
4.3	Bathymetric Survey	29
4.4	Wetlands Survey	30
4.5	Biological Conditions Survey	31
5	Geotechnical Site Investigation	32
6	Wave and Current Data Collection	33
7	Recommended Actions	34

APPENDICES

Appendix A	Station Notes	36
Appendix B	Site Photographs	39
Appendix C	Topographic and Bathymetric Survey	54
Appendix D	Historical Aerial Imagery	57
Appendix E	Condition Ratings	60
Appendix F	Geotechnical Investigation Report	62

1 Introduction

On September 29, 2016, the Town of Hempstead authorized Ocean and Coastal Consultants Engineering, P.C. (OCCE) to provide engineering services according to the Agreement for Consulting Services dated August 26, 2016, for the design and permit applications for the Lido Beach / Point Lookout Shoreline Stabilization & Revetment.

The project site investigation, discussed in detail in this report, was performed as a part of the Task 3 of the contract. This report is a summary of all project site related data collected and analyzed. Due to delays in obtaining subsurface geotechnical information, an addendum to this report will be issued once that information becomes available.

2 Project Site Location

The project site is located at the Eastern End of Long Beach Barrier Island, Town of Hempstead, Nassau County, New York (see Figure 2.1 and Figure 2.2). The project extends from the bulkhead at 177 Bayside Drive to a residential building at 128 Mineola Avenue. The project site can be divided into two parts: the sand beach between the northern bulkhead containing two groins (500 feet), and the revetment, which spans from the South Groin to the building at 128 Mineola Avenue (2,300 feet). Landward of the revetment there is a weakly established sand dune with vegetation. The U.S. Army Corps of Engineers (USACE) has an ongoing project to rehabilitate Lido Beach and shoreline structures south of this project (Jones Inlet to East Rockaway Inlet).

Figure 2.1 Project site location

Figure 2.2 Project site location

3 Field Inspection

This section summarizes the findings of the field inspection performed by OCCE for the Lido Beach / Point Lookout Shoreline Stabilization and Revetment. The primary objective of the investigation was to determine the current conditions of the revetment and to locate landward and seaward extents of the existing revetment.

The upland and underwater field inspection was conducted on October 26 and October 27, 2016. The three-person inspection team consisted of two Project Engineers and an Engineer-Diver. All on-site personnel are experienced in the investigation, design, and construction of waterfront and coastal structures. The revetment toe and groin inspection was performed by the Engineer-Diver and the above water investigation was conducted in concurrence with the underwater inspection by Project Engineers.

The field inspection consisted of the following operations:

- beach inspection (validation of the GPR testing data)
- groins inspection
- revetment inspection

The underwater portion of the investigation included penetration testing using the surveying rod, measuring the revetment seaward extents and dimensions using a measuring tape, and measuring the sand spit position using a measuring tape. The seaward extents and toe depths were measured for both groins and the revetment. The above water portion of the inspection included measuring the landward extent of the revetment using a measuring tape and measuring typical rock sizes using a folding ruler.

A condition assessment rating was assigned to each structure and station (see Section 3.4.1) and a set of further design steps was outlined (see Section 7). Conditions of the revetment and the surrounding area were recorded with a camera and the photographs for each surveying station can be found in Appendix B. The results of the inspection were recorded in a Microsoft Excel spreadsheet, contents of which can be found in Appendix A. An overview of condition ratings assigned at each station is given in Appendix E.

Figure 3.1 Site Inspection Stations Overview

3.1 Beach Inspection

The purpose of the beach inspection was to validate the results of the GPR testing (described in detail below). The beach inspection included penetration testing, which was performed at the locations shown on Figure 3.2 (red sections and nodes representing the ground anomalies). A surveying rod was used to penetrate the sand in order to find if the locations, suggested by the GPR data below, represent real subsurface objects (relic groins / revetment). The beach inspection yielded the following:

- no buried rock was found within the depth of 2ft except the ones lying on the surface
- an increase in the soil density was observed at a depth of 1 foot

The increased soil density (soil resistance to penetration) prevented further GRP testing results investigation. The results of this inspection are inconclusive.

The Ground Penetrating Radar (GPR) testing data (15th August, 2014; Ralf Birken, low frequency GPR analysis), which was used as a reference for this part of inspection, was provided by the Town. The GPR testing was performed over 14 profiles at the beach section of the project site (blue, see Figure 3.2). Areas where anomalies were found are shown in the Figure 3.2 as red lines. An anomaly is defined as an area where electromagnetic waves are reflected or distorted due to encountering a material interface (e.g. soil layers with varying properties, a buried object, etc.).

Figure 3.2 Visualized GPR testing data

3.2 Groins Inspection

Two groins located within the beach section (see Figure 3.3, Stations -4+00 and 00+00) were inspected. Lateral extents of the groins were measured as distances from the center of the groin (groin axis) to a point at which the surveying rod would freely penetrate the soil up to a distance of 5 feet. Groin length was measured as a distance between the most landward point of the groin and the point at which the groin ended seawards (point where the surveying rod freely penetrated soil up to 5 feet deep). Measurements were performed using a steel measuring tape. Groin inspection results are summarized in Table 3.1.

Table 3.1 Groin inspection summary

	North Groin	South Groin
Left extent [ft]	14	13
Right extent [ft]	11	13
Length [ft]	78	160

Groins consist of solid quarry rock ranging in size from 2 to 5 ft. Photo 1 and Photo 2 were taken during low tide.

Figure 3.3 Stations -05 - +01

Photo 1 North Groin

Photo 2 South Groin

3.3 Revetment inspection

The inspection of the revetment consisted of setting up survey stations every 100 feet and surveying a cross-section at each station. Stationing was performed by measuring distances between stations using a steel measuring tape and setting up stations at the approximate location of the revetment crest. The starting point (station 0+00) of the traverse was chosen to be the landward center edge of the south groin. The terminal point (23+28) was chosen to be at the northern border of property at 128 Mineola Avenue. Total length of the traverse is 2,328 ft. Station locations are shown on Figure 3.4, Figure 3.5, and Figure 3.6. An overview of all stations is given in Appendix E.

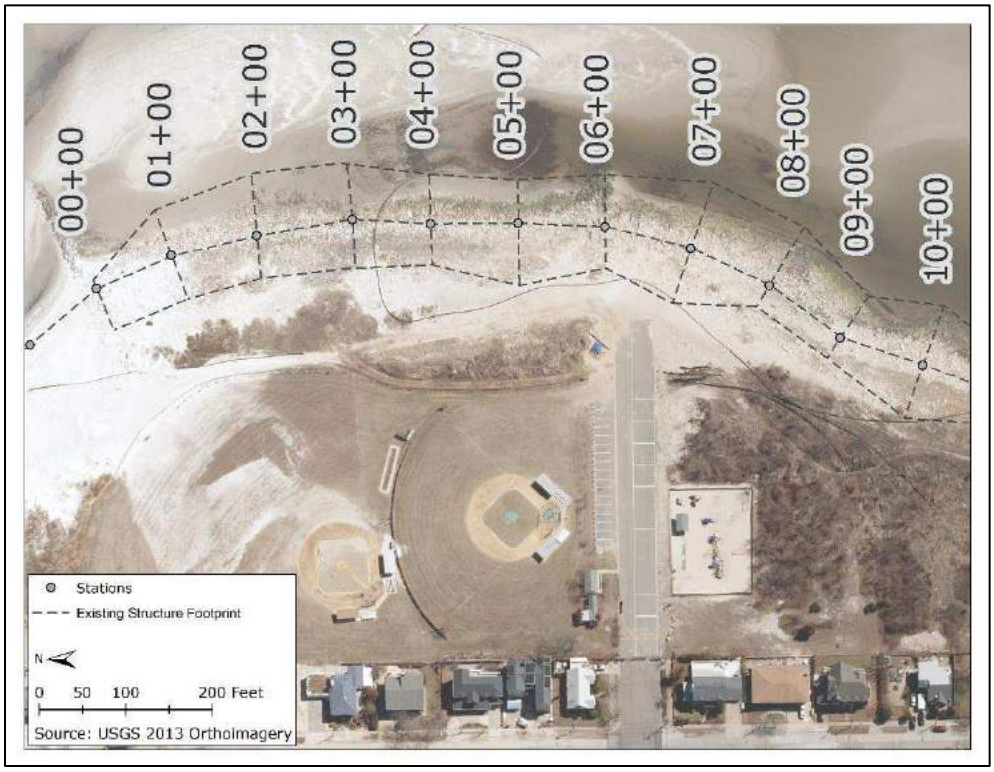


Figure 3.4 Survey stations 0 - 10

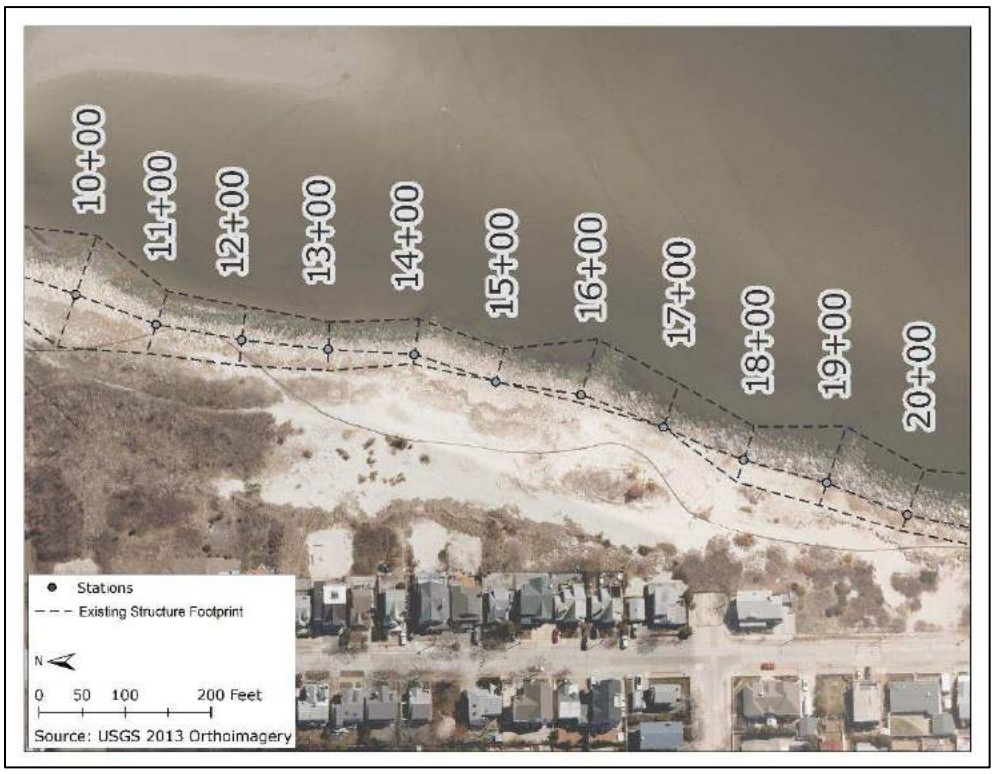


Figure 3.5 Survey stations 10 – 20

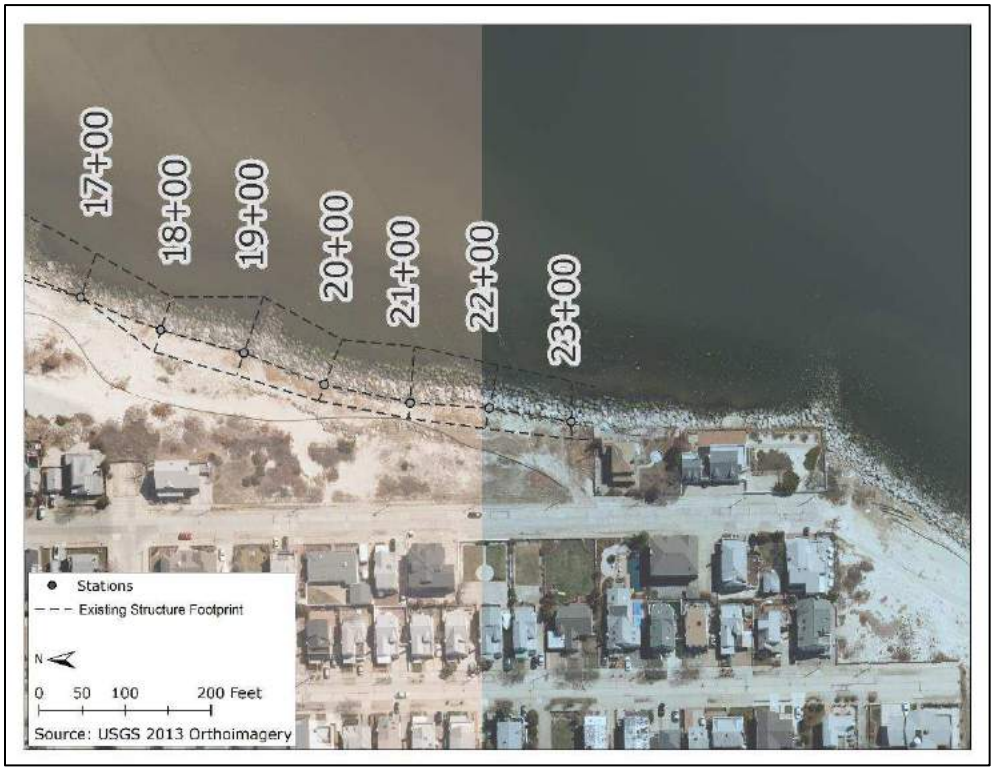


Figure 3.6 Survey stations 16 - 23

The detailed summary for each station is given in Appendix A, photographs for each station are given in Appendix B. Below are listed the major summary points for the revetment inspection.

Armor stone quality ranges from concrete rubble of irregular size (6 inches to 6 feet) to quarry stone (4 to 6 feet). The revetment can be broken down into three sections based on rock size and quality:

- concrete rubble (stations 0+00 – 12+00, see Photo 3)
- mixed stone (stations 13+00 – 17+00, see Photo 4)
- quarry stone (stations 18+00 – 23+28, see Photo 5); it should be noted that the rocks in this section have an uderlayer consisting of concrete rubble of the same properties as in previous sections

As seen in Figure 2.2, there is a sand spit south of the beach section of the project site. The spit is located within stations 1+40 – 7+50 and becomes emerged only during low tides. It extends 290 feet offshore at station 3+00. The low tide photo of the spit can be seen in Photo 6.

Two outcrops are present at stations 16+00 (67 feet offshore, see Photo 7) and 19+00 (69 feet offshore, see Photo 8). Enclosed between these outcrops is an erosion area, which spans from station 16+25 to station 17+50 (32 feet inland, see Photo 9).

The existing revetment footprint (see Figure 3.4, Figure 3.5, and Figure 3.6) was determined by measuring seaward and landward extents. Distances between stations and extent locations were measured using a steel measuring tape as a distance between a station (located at revetment crest, defined as a point on at revetment cross-section with the highest elevation) and a point at which no stone was found within the depth of 2 feet (tested using a surveying rod). Landward and seaward extents for each station can be found in Table A.1, Appendix A. The revetment footprint width (which is the distance between landward and seaward extents) ranges from 40 feet to 100 feet throughout the survey stations.

Photo 3 Typical concrete rubble armoring revetment section.

Photo 4 Typical mixed armoring revetment section

Photo 5 Typical quarry stone armoring revetment section

Photo 6 Sand spit at low tide

Photo 7 Outcrop at station 16+00

Photo 8 Outcrop at station 19+00

Photo 9 Erosion area at stations 16+25 – 17+50

3.4 Inspection Summary

The performed inspection falls under the Baseline Inspection category in accordance with the Waterfront Facilities Inspection and Assessment (WFIA) manual by the American Society of Civil Engineers (ASCE). Additionally, the Waterfront Facilities Maintenance Management System Inspection Guidelines Manual (WFMMSIGM) developed by the New York City Economic Development Corporation was used as a reference for condition rating assessment as it provides more detailed guidelines on how to assess condition ratings of revetment structures. As a result of this inspection, each element inspected was assigned a condition rating (see Section 3.4.1) and a set of recommended actions has been prepared (see Section 7).

3.4.1 Condition Assessment Ratings

Each of the inspected structures was assigned a condition rating based on the Table 2-14 definitions of the ratings given in the ASCE WFIA (see Table 3.2 in this report). Summary of the assigned condition ratings with comments detailing the choice of each rating level is given in Table 3.3. Extents of the condition rating zones are shown in Figure 3.7, Figure 3.8, Figure 3.9, and Figure 3.10. A set of recommended actions was developed and is given in Section 7.

Figure 3.7 Beach section condition ratings and stations

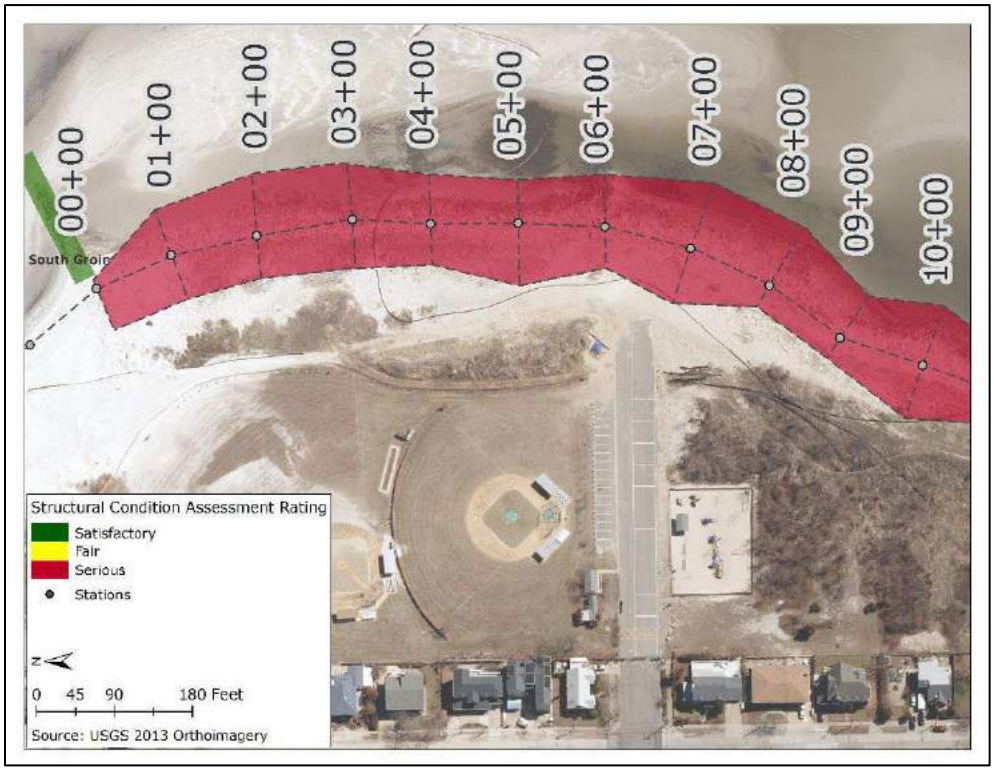


Figure 3.8 Stations 0+00 – 10+00 with condition ratings

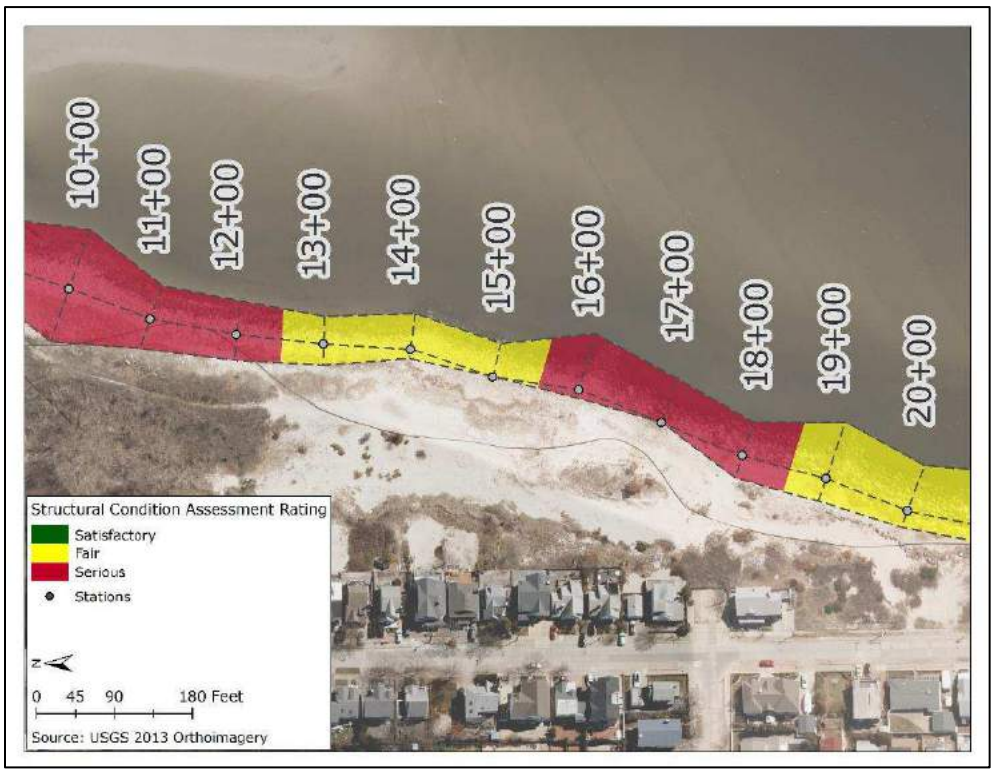


Figure 3.9 Stations 10+00 – 20+00 with condition ratings

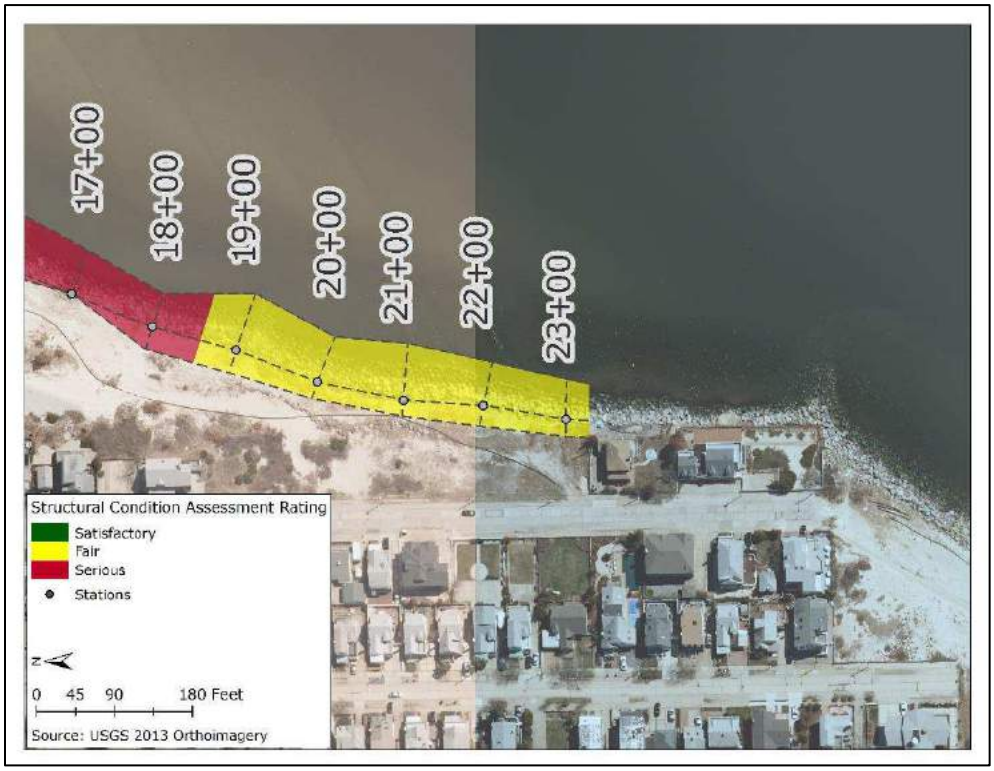


Figure 3.10 Stations 17+00 – 23+28 with condition ratings

Table 3.2 Structural Condition Assessment Ratings per ASCE WFIA

Rating	Description
Good	No visible damage or only minor damage noted. Structural elements may show very minor deterioration, but no overstressing observed. No repairs required.
Satisfactory	Limited minor to moderate defects or deterioration observed but no overstressing observed. No repairs required.
Fair	All primary structural elements are sound but minor to moderate defects or deterioration observed. Localized areas of moderate to advanced deterioration may be present but do not significantly reduce the load-bearing capacity of the structure. Repairs are recommended, but the priority of the recommended repairs is low.
Poor	Advanced deterioration or overstressing observed on widespread portions of the structure but does not significantly reduce the load-bearing capacity of the structure. Repairs may need to be carried out with moderate urgency.
Serious	Advanced deterioration, overstressing, or breakage may have significantly affected the load-bearing capacity of primary structural components. Local failures are possible, and loading restrictions may be necessary. Repairs may need to be carried out on a high-priority basis with urgency.
Critical	Very advanced deterioration, overstressing, or breakage has resulted in localized failure(s) of primary structural components. More widespread failures are possible or likely to occur, and load restrictions should be implemented as necessary. Repairs may need to be carried out on a very high-priority basis with strong urgency.

Table 3.3 Summary of Inspected Structures' Assessment Ratings

	Station	Structural Condition Assessment Rating	Comments
Beach Section	North Groin Station -4+00	Satisfactory	Irregular rock size at shoreward side; does not require repairs
	-5+00	Not applicable	Wide, flat beach; based on historical imagery, affected by seasonal erosion (see Appendix D); accumulates seaweed (possibly due to groins) producing heavy smell
	-4+00		
	-3+00		
	-2+00		
	-1+00		
	0+00		
	South Groin Station 0+00	Satisfactory	Same as North Groin

	Station	Structural Condition Assessment Rating	Comments
Revetment Section	0+00	Serious	Unevenly placed, irregularly sized concrete rubble; low crest elevation (compared to revetment at stations 16-23); heavily vegetated dune landward with varying crest elevations along the shoreline; due to small size / low quality of the stone and irregularity in placement, will not prevent overtopping-caused erosion, will not dissipate wave energy causing damage to structures located shoreward
	1+00		
	2+00		
	3+00		
	4+00		
	5+00		
	6+00		
	7+00		
	8+00		
	9+00		
	10+00		
	11+00		
	12+00		
	13+00	Fair	Irregularly sized concrete rubble with inclusions of quarry stone; low crest elevation; well vegetated dune landward with varying crest elevations
	14+00		
	15+00		
	16+00	Serious	Has an erosion area, which may cause erosion due to overtopping and weak wave dissipation during a storm event
	17+00		
	18+00		
	19+00	Fair	Quarry stone on a bed of irregularly sized concrete rubble, which may cause instability; no dune landward;
	20+00		
	21+00		
	22+00		
	23+00		

4 Project Site Survey

A series of surveys have been performed at the project site location, including the following:

- topographic survey
- local typology survey (transects)
- bathymetry survey
- wetlands survey

These surveys were performed in order to assess the existing site conditions, generate detailed digital elevation models, monitor seasonal shoreline changes, and to document the extents of existing wetlands. Information about these surveys is provided in the subsequent subsections.

4.1 Topographic Survey

The topographic shoreline survey was performed by Matrix New World Engineering, Inc. on November 11, 2016. The survey was performed along the shoreline from the northern project extent (bulkhead at station -05+73) to the southern project extent (reinforced revetment section at station 23+28). The topographic survey captured the area from mean low water (-2.56 feet NAVD88) to 150 feet landward, or to the backside of the established sand dune (whichever came first). Detailed description of the survey results along with the topographic plans of the project site is given in Appendix C.

4.2 Local Typology Survey (Transects)

Three transects (cross-sections), approximate locations of which are shown in Figure 4.1, were established at the Point Lookout shoreline to monitor seasonal cross-shore profile dynamics. The Transects were surveyed by Matrix New World Engineering, Inc. on November 11, 2016. Subsequent cross-section surveys will be performed in the spring of 2017 to capture seasonal change in the beach profiles. This data will be used to analyze general trends in shoreline dynamics and to calibrate numerical sediment transport models. The results of this analysis will be provided in an addendum as soon as the data becomes available.

Figure 4.1 Shoreline Cross-Sections Locations

4.3 Bathymetric Survey

The bathymetric survey of the areas adjacent to the project site (namely, Reynolds Channel and Jones Inlet) was performed by Matrix New World Engineering Inc. The survey was performed to encompass the same project limits as defined in the topographic survey (see Section 4.1) with extending the seaward boundary to the cross-shore area of Alder Island to the north, Meadow Island to the northeast, and the west end of the Jones Beach. The detailed bathymetric survey results, along with topographic survey summary, are given in Appendix C.

4.4 Wetlands Survey

The survey of nearshore wetlands was performed by Matrix New World Engineering Inc. along with a topographic and bathymetry survey (see Appendix C). The information acquired during this survey will be used to facilitate the environmental permitting process and during design process to help make better decisions that would protect the existing habitats. The existing Point Lookout wetlands map, as given in the US Fish and Wildlife Service National Wetlands Inventory Wetland Mapper V2 as of December 1, 2016, is shown in Figure 4.2. The inspection performed by a biologist showed no signs of wetlands in the project area.

As a part of this survey, coastal dunes present within the project site were surveyed and are delineated in the topographic survey drawings (see Appendix C). The extents of the dunes were determined as an approximate line where soil becomes loose and vegetation becomes pronounced.

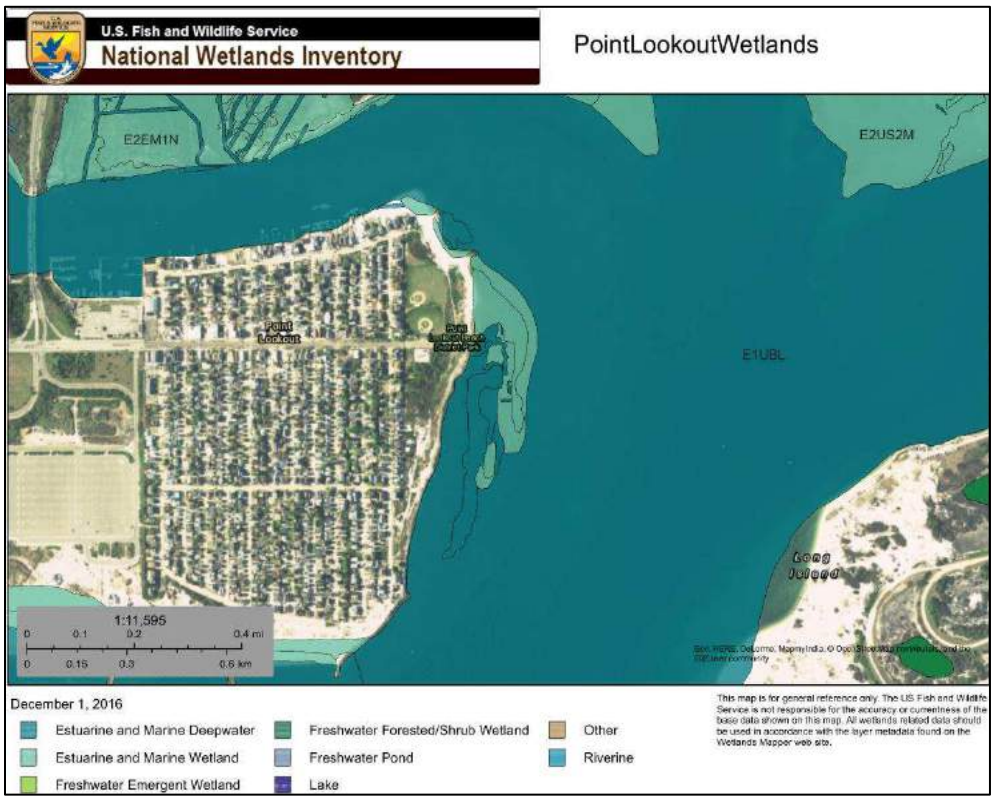


Figure 4.2 USFWS wetland map

4.5 Biological Conditions Survey

The biological conditions survey will be performed in the spring of 2017 (due to winter biological surveys not revealing enough useful data because of low temperatures) and will include a team of a marine biologist and an engineering diver surveying the three nearshore cross-sections (the same cross-sections as described in Section 4.2) documenting the existing biological conditions. Samples will be collected to document type and density of species present and the survey will be videotaped for documentation purposes. The results of this survey will be supplied in a separate addendum to this report.

5 Geotechnical Site Investigation

The subsurface geotechnical site investigation was performed by KS Engineers, P.C and a report was submitted to COWI on March 9, 2017. The purpose of this investigation was to establish the soil conditions along the shoreline. The investigation consisted of three geotechnical test borings (locations shown in Appendix F) performed by LAWES to a depth of approximately 50 feet. Drilling operations were observed and field logs were prepared. Soil samples were obtained continuously to a depth of 12 feet with additional soil samples collected at five-foot intervals. The samples were transported to a soil mechanics laboratory (Whippany, NJ) for index properties testing. An engineering analysis of the collected data was performed to evaluate subsurface conditions.

A Standard Penetration Test (SPT) "N-Value" was performed to evaluate foundation support strength. Geotechnical soil properties (including moist unit weight, angle of internal friction, Young's modulus of elasticity, and Poisson's ratio) were established based on field and laboratory data. Additionally, particle size diagram (sieve test), natural moisture content, consolidation, and specific gravity were analyzed.

Based on the results of investigation, KSE concluded that no conditions were encountered that could interfere with the project. A report, summarizing findings of the geotechnical survey, is provided in Appendix F.

6 Wave and Current Data Collection

Local wave and current data near the project site is being collected using an Acoustic Doppler Current Profiler (ADCP). The ADCP instrument was anchored below the surface of the water to the bottom using a non-permanent mooring and will be deployed for a duration of 1 month. The wave and current data collected will be used to calibrate numerical models, whose inputs will be based on publicly available data from open sources. The location of the ADCP instrument was chosen by Matrix New World Engineering Inc. to collect the wave and current data that best represents the hydrodynamic conditions in the project area. Local bathymetry was taken into consideration in order to ensure that the data collected is most useful during the numerical modeling task phase. The analysis of the data collected by the ADCP will be supplied in a separate addendum to this report.

7 Recommended Actions

Based on the structural condition assessment ratings given in Table 3.3, a set of actions that will address these ratings was derived:

- North and South groins: Even though the groins do not have observable structural deficiencies preventing them from acting as they are supposed to, they might be the cause of seaweed accumulation at the beach and sand spit formation south of the beach section (Stations 01+40 – 07+50). Several design alternatives to reconfigure or eliminate the groins will be considered during the Task 5 phase to address this key issue.

- Sand beach section: The beach will be the most vulnerable section during a storm event due to its inability to attenuate incoming waves. Additional information is to be gained during the Hydrodynamic Analysis task (Task 4) which will help inform an appropriate, resilient solution during schematic design (Task 5).

- Revetment section 00+00 – 12+00: This revetment section was given a Serious structural condition assessment rating based upon low crest elevations and irregular concrete rubble, which will result in dune erosion due to overtopping, insufficient wave energy dissipation, and will not be enough to protect the area in case of design storm event. This revetment section will be examined for complete replacement with an engineered revetment that will ensure the stability of this section.

- Revetment sections 13+00 – 15+00, and 19+00 – 23+28: These revetment sections were assigned a Fair structural condition assessment rating based on a more pronounced crest, profile, and armor consisting of quarry stone. To increase the stability and consistency with adjacent revetment sections, these sections will need to be repaired to comply with design storm condition requirements. The rock armor stability will also be investigated as revetment in these sections has bedding layer consisting of the same concrete rubble as in section 00+00 – 12+00 which may result in instability.

- Revetment section 16+00 – 18+00: This section has similar properties as sections described in the previous item, but with an erosion area reducing the total effectiveness, stability, and performance of the revetment during a storm event (e.g. insufficient wave attenuation, erosion behind the revetment due to overtopping). The schematic design will include measures that will address this issue.

Appendix A Station Notes

Table A.1. Revetment Inspection Summary

Station	Tip-Toe, ft	Toe Depth (below mud), ft	Tip-Road, ft	Rock Type	Comments	Photo # Sea	Photo # Land
0+00			54	Rubble	Center of south groin	1-2	3-4
0+50	62	2.5	36			5-9	10-11
1+00	56	1	54			12-15	16-17
1+40	120				Spit north	18	
2+00	72	1.5	50			19-22	23-24
3+00	74	2	48			27	29
	174				Spit shoreward		
	290				Spit seaward		
4+00	57	2.5	48			31	33
5+00	49	0.5	73			36	38
6+00	60	1	48			40	42
7+00	79	2	68			44	46
7+50			57		Spit end		
8+00	78	2.5	29				
9+00	57	0.5	29			48	50
10+00	72	2	65			53	55
11+00	40	2	36			57	59
12+00	38	0.5	30			61	63

Station	Tip-Toe, ft	Toe Depth (below mud), ft	Tip-Road, ft	Rock Type	Comments	Photo # Sea	Photo # Land
13+00	31	2	25	Mixed		65	67
14+00	41	1	11			69	71
15+00	39	2	0			73	75
16+00	67	1.5	10		Outcrop	77	79
16+25 - 17+50			32		Erosion area	81	
17+00	54	1	0			83	85
18+00	40	2	27	Quarry stone		87	89
19+00	69	2	27		Outcrop	91	93
20+00	56	1.5	20			95	97
21+00	65	1	19			100	102
22+00	50	1.5	24			104	106
23+00	43	2.5	18			108	110
23+28	47	1	20		End		

Appendix B Site Photographs

Photo B 1 Station -5+00

Photo B 2 Station -4+00

Photo B 3 Station -3+00

Photo B 4 Station -2+00

Photo B 5 Station -1+00

Photo B 6 Station 0+00

Photo B 7 Station 1+00

Photo B 8 Station 2+00

Photo B 9 Station 3+00

Photo B 10 Station 4+00

Photo B 11 Station 5+00

Photo B 12 Station 6+00

Photo B 13 Station 7+00

Photo B 14 Station 9+00

Photo B 15 Station 10+00

Photo B 16 Station 11+00

Photo B 17 Station 12+00

Photo B 18 Station 13+00

Photo B 19 Station 14+00

Photo B 20 Station 15+00

Photo B 21 Station 16+00

Photo B 22 Station 17+00

Photo B 23 Station 18+00

Photo B 24 Station 19+00

Photo B 25 Station 20+00

Photo B 26 Station 21+00

Photo B 27 Station 22+00

Photo B 28 Station 23

Attachment 4

1942 War Department Records regarding Point Lookout Revetment

In reply refer to PUBLIC NOTICE NO. 1021.
FILE NO. Permits 3953/12 (NYE 3)

WAR DEPARTMENT
UNITED STATES ENGINEER OFFICE
NEW YORK DISTRICT
Room 601, 120 Wall Street
New York, N. Y.

August 14, 1942.

---- PUBLIC NOTICE ----

TO WHOM IT MAY CONCERN:

Application has been made to this office by Mr. Carroll W. McLaughlin, Town Engineer, Town of Hempstead, Hempstead, N. Y., for a War Department permit to construct a rock sea wall and two jetties in Jones Inlet and Reynolds Channel near Bayside Avenue, Point Lookout, Nassau County, N. Y.

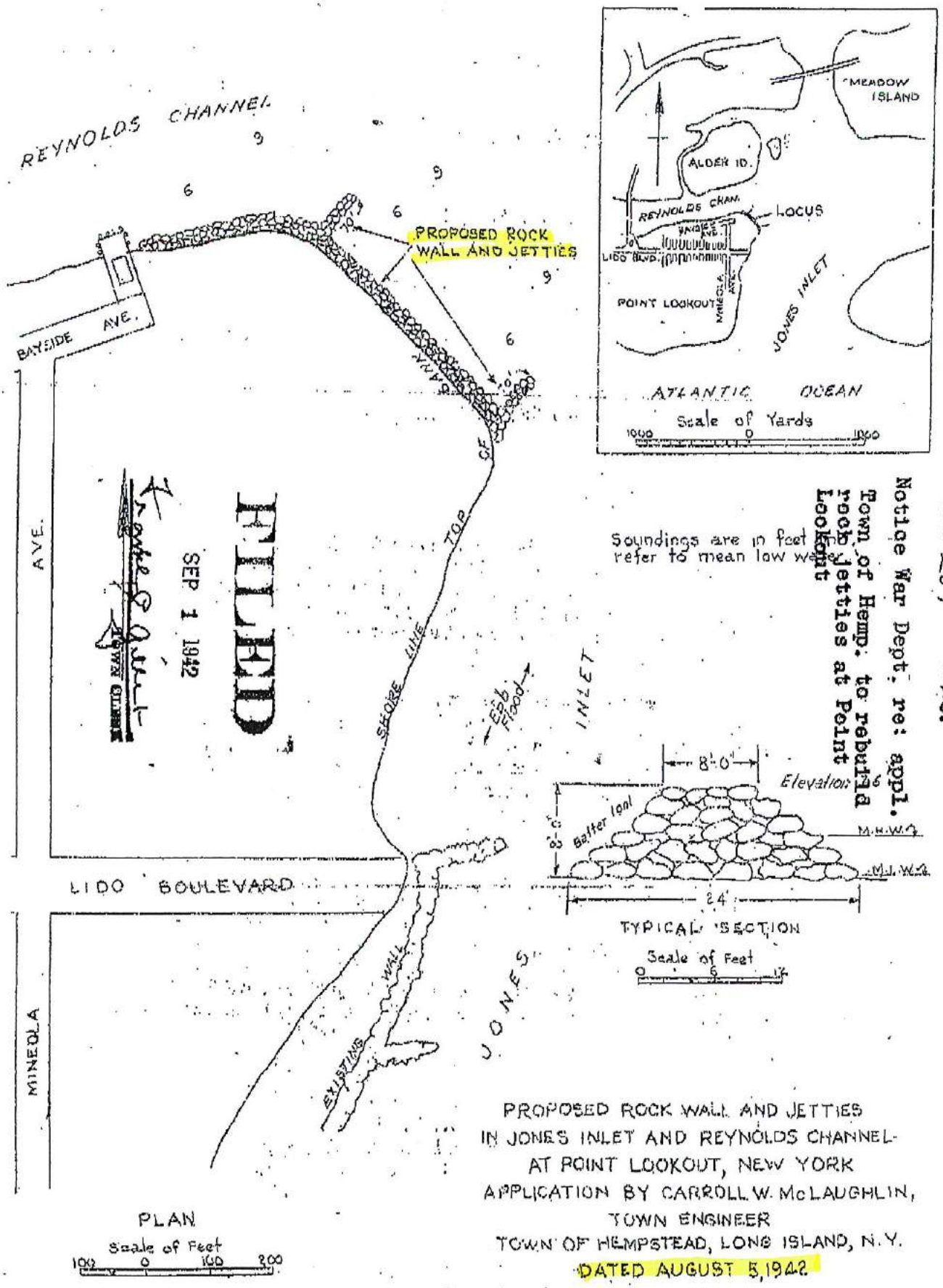
Plans showing the proposed work are on file in this office and may be seen by interested parties. A rough sketch is shown on the reverse of this sheet. The plans propose the construction of a rock sea wall and jetties to an elevation of 7.6 feet above mean low water, the jetties to extend a maximum distance of 100 feet channelward of the existing shore line.

The decision as to whether or not a permit will be issued based on the plans submitted must rest primarily upon the effect of the proposed work on navigation. Any criticisms or protests regarding the proposed work, from the standpoint of navigation, should be submitted to this office prior to August 19, 1942, as it is desired to act on the application on that date.

A. B. JONES,
Colonel, Corps of Engineers,
District Engineer.

(Over)

07/17/2013 13:24 5164310088 DEPT CONSERVATION PAGE 02/03



File 201 Ewe

Notice War Dept. re: appl. Town of Hemp. to rebuild rock jetties at Point Lookout

PROPOSED ROCK WALL AND JETTIES
IN JONES INLET AND REYNOLDS CHANNEL
AT POINT LOOKOUT, NEW YORK
APPLICATION BY CARROLL W. McLAUGHLIN,
TOWN ENGINEER
TOWN OF HEMPSTEAD, LONG ISLAND, N.Y.
DATED AUGUST 5, 1942

07/17/2013 13:24 5164310088 DEPT CONSERVATION PAGE 03/03

In reply refer to
FILE NO. Permits 3953/19 (NYE 3)

PUBLIC NOTICE NO. 1057

WAR DEPARTMENT
UNITED STATES ENGINEER OFFICE
NEW YORK DISTRICT
Room 601, 120 Wall Street,
New York, N. Y.

January 29, 1943.

---- PUBLIC NOTICE ----

TO WHOM IT MAY CONCERN:

Application has been made to this office by the Town Engineer, Town of Hempstead, Hempstead, New York, for a War Department permit to construct two sections of rock sea wall and four jetties in Jones Inlet, one section north of Lido Boulevard and the other south of Mineola Avenue, at Point Lookout, Nassau County, New York.

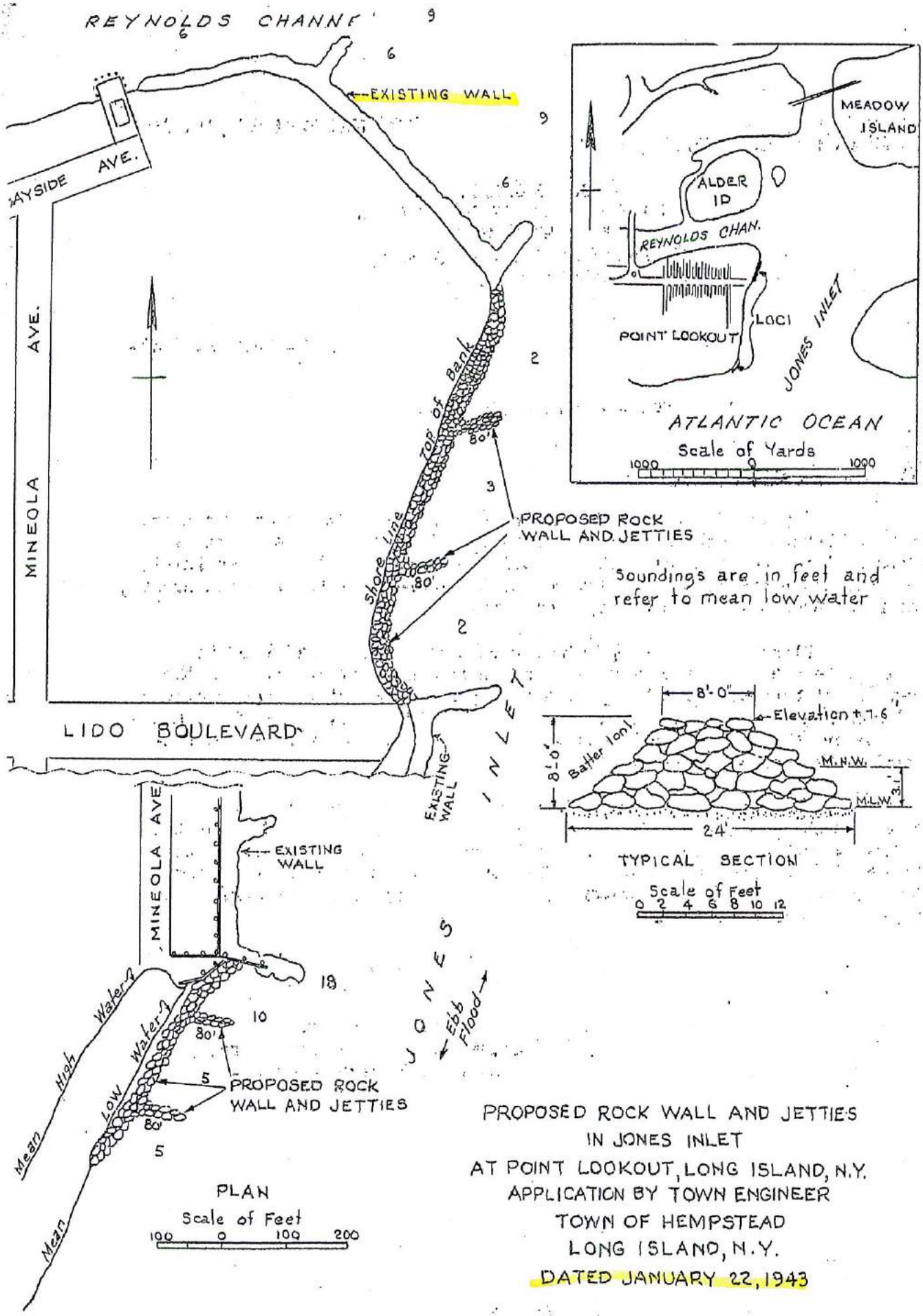
Plans showing the proposed work are on file in this office and may be seen by interested parties. A rough sketch is shown on the reverse of this sheet. The applicant proposes to construct two sections of rock sea wall and four jetties to an elevation of 7.6 feet above mean low water, the jetties to extend a maximum distance of 80 feet channelward of the proposed rock wall.

The decision as to whether or not a permit will be issued based on the plans submitted must rest primarily upon the effect of the proposed work on navigation. Any criticisms or protests regarding the proposed work, from the standpoint of navigation, should be submitted to this office prior to February 8, 1943, as it is desired to act on the application on that date.

E. W. GARBISCH,
Lt. Col., Corps of Engineers,
Acting District Engineer.

Liber 36 Pg 500
File 206 No 36
Notice from U.S. War Dept.
re: appl. Town of Hemp.
for permit to erect sea
wall at Point Lookout

(Over)



PROPOSED ROCK WALL AND JETTIES
IN JONES INLET
AT POINT LOOKOUT, LONG ISLAND, N.Y.
APPLICATION BY TOWN ENGINEER
TOWN OF HEMPSTEAD
LONG ISLAND, N.Y.
DATED JANUARY 22, 1943

Attachment 5

Army Corp of Engineers March 21, 2017 Survey of Jones Inlet

CORPS OF ENGINEERS

U. S. ARMY

(GRID NORTH)

N 152,000

N 150,000

N 148,000

N 146,000

E 1,102,000

E 1,100,000

E 1,098,000

RED NUN # 8
FLOOD
21 MARCH 2017

RED LIGHT # 6
FLOOD
21 MARCH 2017

RED LIGHT #2
FLOOD
21 MARCH 2017

GREEN CAN # 5
FLOOD
21 MARCH 2017

GREEN CAN # 3
FLOOD
21 MARCH 2017

GREEN LIGHT #1
FLOOD
21 MARCH 2017

12
6
11
10
9
7
8

NSRS CONTROL
BENCHMARK: K377 (KU1529)
ELEVATION: 8.87' NAVD 1988

LOCAL CONTROL
BENCHMARK: SHORT BEACH NO. 2 (1962)
ELEVATION: 9.70' NAVD 1988

PROJECT SPECIFIC NOTES:

-THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
-THE SOUNDINGS ON THIS MAP MEET EM-1110-2-1003 ACCURACY STANDARDS.
-COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983, LONG ISLAND LAMBERT - ZONE 3104. US SURVEY FEET.
-SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (MLLW) (EPOCH 1983-2001).
-MEAN LOWER LOW WATER IS 2.2-2.6 FEET BELOW NAVD88 AS DETERMINED USING VDATUM (VER. 3.0).
-SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 25' INTERVAL USING THE FULL DATA SET.
-CONTOURS ON THIS MAP WERE GENERATED USING THE MAP DATA SET.
-THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
-AERIAL IMAGERY PROVIDED BY NYGIS ORTHOIMAGERY (2013).
-THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "SHORT BEACH NO. 2".
-THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

4588 PROJECT METADATA

DOUBLE CLICK ICON EDGE TO VIEW PROJECT METADATA

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

DATES OF SURVEY:
21 MARCH 2017

FILE NO.: 207
REQUEST NO.: 4588/N1

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:

APPROVED: L.L. GEORGE/MA. APPEID
CHIEF, SURVEY BRANCH

APPROVED: M. FORTE
CIVIL ENGINEERING TECHNICIAN

APPROVED: D. CLARKE
LEAD CARTOGRAPHER

APPROVED: J. MRAZ
BRANCH CHIEF OF MARKETS

DATE: 30 MARCH 2017

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CDNAN-OPS

JONES INLET, N.Y.
CONDITION SURVEY

VH-101

SHEET 1 OF 2

FILE NO.: 207
REQUEST NO.: 4588/N1

CORPS OF ENGINEERS

U. S. ARMY

(GRID NORTH)

4588 PROJECT METADATA

DOUBLE CLICK ICON EDGE TO VIEW PROJECT METADATA

NSRS CONTROL
BENCHMARK: K377 (KU1529)
ELEVATION: 8.87' NAVD 1988

LOCAL CONTROL
BENCHMARK: SHORT BEACH NO. 2 (1962)
ELEVATION: 9.70' NAVD 1988

PROJECT SPECIFIC NOTES:

-THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
-THE SOUNDINGS ON THIS MAP MEET EM-1110-2-1003 ACCURACY STANDARDS.
-COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983. LONG ISLAND LAMBERT - ZONE 3104. US SURVEY FEET.
-SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (MLLW) [EPOCH 1983-2001].
-MEAN LOWER LOW WATER IS 2.2-2.6 FEET BELOW NAVD88 AS DETERMINED USING VDATUM (VER. 3.0).
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-AERIAL IMAGERY PROVIDED BY NYGIS ORTHOIMAGERY (2013).
-THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "SHORT BEACH NO. 2".
-THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

RED NUN # 8
FLOOD
21 MARCH 2017

RED NUN # 12
FLOOD
21 MARCH 2017

GREEN CAN # 7
FLOOD
21 MARCH 2017

GREEN CAN # 9
EBB
8 MARCH 2016

GREEN CAN # 11
FLOOD
21 MARCH 2017

GREEN CAN #13
FLOOD
21 MARCH 2017

GREEN CAN #15
FLOOD
21 MARCH 2017

RED LIGHT #14
FLOOD
21 MARCH 2017

RED LIGHT # 16
FLOOD
212 MARCH 2017

MATCH TO SHEET 1

N 156,000
E 1,106,000
N 154,000
E 1,104,000
N 152,000
E 1,102,000
N 158,000
E 1,106,000
N 160,000
E 1,104,000
N 160,000
E 1,102,000
N 158,000
N 156,000
E 1,100,000
N 154,000
E 1,100,000

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

DATES OF SURVEY:
21 MARCH 2017

FILE NO.: 207
REQUEST NO.: 4588/N1

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:

APPROVED: LL GEORGE/AM ARFELD — CHIEF, SURVEY BRANCH
APPROVED: M. FORTE — CHIEF, ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — CHIEF, SURVEY BRANCH
APPROVED: J. MRAZ — CHIEF, FIELD OPERATIONS
DATE: 30 MARCH 2017

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

JONES INLET, N.Y.
CONDITION SURVEY

VH-102

SHEET 2 OF 2

FILE NO.: 207
REQUEST NO.: 4588/N1

Attachment 5

24 CFR Part 55
8-Step Determination: Floodplain Management &
Wetlands Protection Determination

Point Lookout Shoreline Stabilization and Revetment Project
Floodplain Management & Wetlands Protection Determination
March 3, 2020

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 repairing an existing revetment that is located in the hamlet of Point Lookout, Town of Hempstead, New York. The analysis that follows focuses on the wetland and floodplain impacts associated with this project. Based on the type of land use, facility, and other case characteristics described herein, it is concluded that there is a reasonable basis to proceed with funding for this project/ activity within floodplain and wetland.

Description of Proposed Action & Land Use
The Point Lookout Shoreline Stabilization & Revetment Project (Project) will involve repairing an existing revetment located at the tip of Point Lookout along Reynolds Channel and Jones Inlet. The Project will include the removal of two existing groins, re-use of the stone from the groins to construct a new revetment located between the two groins (designated Zone C), and the construction of a perched revetment to strengthen the existing revetment (designated Zones A and B). The Project will take place wholly within the Town-owned parcels designated as Point Lookout Beach District Park, Hamlet of Point Lookout, Town of Hempstead, New York (Tax ID: 61-A-51).

A site investigation was completed in October 2016 by COWI that documented and classified the existing structures located in the Project area. The Project area was divided into the following three zones, based on the existing condition of the shoreline:

Zone A – existing revetment in fair condition; this area has a length of approximately 550 feet and extends (from south to north) from the southern limit of Mineola Avenue to the shoreline adjacent to the intersection of Beech Street and Mineola Avenue.

Zone B – existing revetment in serious condition; the area has a length of approximately 1,800 feet and extends (from south to north) from the shoreline adjacent to the intersection of Beech Street and Mineola Avenue to the northern limit of the existing revetment/ the southern groin.

Zone C – a sand beach with two (2) groins (defined as the northern and southern groins), which is located on the northeastern corner of Point Lookout and extends (from south to north) from the northern limit of the existing revetment/ the southern groin to the shoreline adjacent to the eastern limit of Bayside Drive.

In Zones A and B, a perched revetment will be constructed with additional lee side granular fill overtopping protection. This design is intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it. All material is proposed to be placed landward of the existing mean high water spring (MHWS) contour. Therefore, all construction activities for these Zones will be confined to the area above the MHWS. In Zone C, two existing groins will be removed and a new revetment will be constructed to prevent shoreline erosion due to wave and current action. Additional

lee side erosion and scour protection was designed due to large volumes of overtopping expected during storm events. Geotextile filter fabric will be utilized as a filter and a separation layer between existing soil and the revetment underlayer in Zone C. The separation layer will prevent filtering of fine soil into the underlayer while allowing for sufficient water flow through it in order to reduce hydrodynamic loads. Groin removal in conjunction with new revetment construction will also eliminate a stagnation area between the groins and allow for free seaweed and sediment movement along the shoreline.

Materials will be delivered to the area by trucks. Excavation (groin and derelict revetment removal) and grading within Zone C will be performed during low tide using a land based excavator. Excavated materials (sand and stone) will be stockpiled locally and reused in the reconstruction. Geotextile will be delivered to the area in rolls and then manually placed on top of the post-excavation grade. It will be held down by underlayer stones during the construction period. Smaller stones (underlayer and granular fill) will be placed using a front bucket loader or a bobcat. The excavator with a hydraulic rock placing arm will then be used to individually place large armor stones. Best management practices (BMPs) will be implemented to prevent any equipment, material, or debris from entering the waterway. The contractor will prepare and submit a spill response plan, which will document measures and activities to be performed should any oil or fluid spillage occur during the construction.

The Project is intended to repair and extend an existing revetment located around the tip of Point Lookout along Reynolds Channel and Jones Inlet in order to prevent scour and replicate the dunes washed away by Superstorm Sandy. The Project will minimize the loss of human life by stabilizing the shoreline along the community of Point Lookout. If no action is taken, a subsequent storm event could result in catastrophic flooding and destruction of the existing residences and businesses, potentially resulting in the loss of life. Federal financial assistance will support activities representing a long-term public investment in a critical piece of infrastructure that is necessary to protect the community of Point Lookout and the well-being of its residents and local economy, as well as eliminate the need for constant dredge and fill activities. The Project will also minimize the damage to fish and wildlife by stabilizing the shoreline, creating and enhancing wildlife habitats along the coast.

The existing revetment along Jones Inlet functions as a barrier that absorbs wave energy, reflects waves, and reduces wave run- up during storm events. Portions of the landward dune were destroyed by Superstorm Sandy, rendering the area landward of the revetment vulnerable to scour. Until the revetment is repaired, houses along Mineola Avenue adjacent to the Point Lookout Beach District Park will be vulnerable to damage from waves and surge generated by coastal storms.

The sand beach that is situated from the north end of Jones Inlet west around the tip of Point Lookout along Reynolds Channel is subject to an ongoing process of coastal erosion along Jones Inlet. This has resulted in shoreline retreat, which has reduced the distance between the water and structures on Bayside Drive and increased the vulnerability of residences and businesses to coastal erosion. If nothing is done to halt the process of erosion, the foundations of residences and businesses could be undermined, leading to structural collapse and threatening the life and safety of the occupants. The process of erosion occurring at the northeast end of Point Lookout also causes loss of open space in the Point Lookout Beach District Park. Eventually, if left unprotected, erosion along Jones Inlet in the area of the Park will encroach upon additional residences on Mineola Drive. The Project would result in the protection of this Town-owned facility, residential and commercial structures, and the lives of the occupants on Bayside Drive, Mineola Avenue, and the existing open space at the Point Lookout Beach District Park.

Additionally, large masses of sea lettuce (*Ulva lactuca*) accumulate between the groins due to flow stagnation and sediment flow is disrupted by the groins. Tolerant of nutrient loading that would suffocate many other aquatic plants, sea lettuce can actually thrive in moderate levels of nutrient pollution. Excess growth and accumulation of sea lettuce can cause loss of aquatic habitat, thick mats on shorelines that result

in odors and disruption of recreation activities, depletion of dissolved oxygen in the water as the sea lettuce decomposes, anoxic events, and the death of aquatic life. Groin removal in conjunction with the construction of the new revetment will eliminate the stagnation area between the groins and allows for free seaweed and sediment movement along the shoreline.

Point Lookout is located along the eastern end of Long Beach Barrier Island in the Town of Hempstead, Nassau County, New York. The Project extends from the bulkhead at 177 Bayside Drive to a residential building at 128 Mineola Avenue. Landward of the revetment there is a weakly established sand dune with vegetation. The U.S. Army Corps of Engineers (USACE) has an ongoing Project to rehabilitate Lido Beach and shoreline structures south of the Project (Jones Inlet to East Rockaway Inlet). An upland and underwater field inspection, consisting of a beach inspection, groins inspection, and a revetment inspection, was conducted on October 26 and October 27, 2016 to recognize the destructive processes at work and to ensure the new section of revetment aligns with the existing system. The beach inspection revealed no buried rock within the depth of 2 feet except for rock lying on the surface, and an increase in soil density was observed at a depth of 1 foot. Two groins were inspected during the groins inspection (North Groin and South Groin), and were given a structural condition assessment rating of "Satisfactory". Groins consist of solid quarry rock ranging in size from 2 to 5 feet. The North Groin is approximately 78 feet long and the South Groin is approximately 160 feet long. The revetment inspection was conducted using survey stations spaced at 100 foot intervals from north to south along the Project Area and surveying a cross-section at each station. The revetment survey revealed that the majority of the northern section of the revetment was assigned a structural condition assessment of "Serious", indicating unevenly spaced and irregular sized concrete rubble that will not prevent erosion, as well as currently present erosion areas. Remaining intermittent revetment sections were categorized as "Fair", indicating quarry stone and irregularly sized concrete rubble which may cause instability. Varying crest elevations were also noted. These revetment sections will be examined either for modification in order to comply with design storm condition requirements or complete replacement to ensure stability.

Applicable Regulatory Procedure Per EO 11988 and 11990
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 and wetlands if the proposed action is processed under §55.20 and the findings of the determination are affirmative to suggest that the Project may proceed.

The shoreline stabilization project occurs in a community that is in the regular program of the National Flood Insurance Program (NFIP) and the community is currently in good standing. Substantial Improvement/ Substantial Damage calculations do not apply to this Project. In accordance with definitions set forth in §55.2, the Project involves new construction in wetlands and modification of the 100-year floodplain; therefore, the decision making steps in §5.20 (b), (c), and (g) apply to the Project. As such, the full eight-step floodplain determination process in §55.20 is required and the following analysis examines each step in the floodplain management and wetlands protection determination process.

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.**
According to the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (**Appendix I**), the Project is located in the 100-year floodplain. The activity planned occurs in a community that is in the regular program of the National Flood Insurance Program (NFIP) and the community is currently in good standing. Substantial Improvement/ Substantial Damage calculations do not apply to the Project.

According to the U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory Map and New York Department of Environmental Conservation (NYSDEC) Wetlands and Waterways Map and Tidal Wetlands Map, (**Appendix II**), there are wetlands located in the Project area and there are wetlands located adjacent

to the Project area. A joint application for permit was sent to the United States Army Corps of Engineers in August 2018. The NYSDEC issued a permit for the Project with the following permit authorizations on January 21, 2020: Tidal Wetlands – Under Article 25, Excavation & Fill in Navigable Waters – Under Article 15, Title 5, Water Quality Certification – Under Section 401 – Clean Water Act, and Coastal Erosion Management – Under Article 34. All applicable permits from the USACE, and Town of Hempstead will be obtained prior to the commencement of Project activities, and all permit conditions will be followed.

The proposed Project will result in approximately 0.50 acres of temporary impacts and 2.85 acres of permanent impacts in the 100-year floodplain; and approximately zero temporary impacts in wetlands and approximately 0.32 acres of permanent impacts in wetlands. However, the approximately 0.32 acres of permanent loss in wetlands will be offset by the creation of an additional 0.32 acres of wetlands. The proposed Project involves shoreline modifications to protect land within the existing floodplain. Construction activities that occur within the floodplain and wetlands include excavation and fill within the intertidal and subtidal zones. The proposed MHWS contour was designed to balance the removed and created areas below MHWS. Construction activities that occur within the floodplain will include the construction of a perched revetment, which is intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it.

Step 2. **Initiate Public Notice for Early Review of Proposal.**
Because the proposed Project is located in floodplain, the Governor's Office of Storm Recovery (GOSR) published an early notice that allowed for public and public agency input on the decision to provide funding for reconstruction and development activities. The early public notice and 15-day comment period is complete. No public comments were received.

An "Early Notice of a Proposed Project in a 100-Year Floodplain and Wetlands" for the Project was published on August 8, 2019 in the Long Beach Herald. The 15-day comment period expired on August 26, 2019. The notice targeted local residents, including those in the floodplain. The notice was also sent to the relevant state and federal agencies: Federal Emergency Management Agency (FEMA); U.S. Dep. of Housing and Urban Development; NYSDEC; NYS Historic Preservation Office; USFWS; USACE; USEPA; NYSDOS; and New York State Office of Emergency Management. The notice was also sent to the Town of Hempstead. See **Appendixes III** and **IV** of this Wetlands Protection and Floodplain Management Determination for the letter distributed to these agencies and the associated newspaper notice affidavit.

Step 3. **Identify and Evaluate Practicable Alternatives to Locating the Proposed Action in a 100-year Floodplain or Wetland.**
The New York State Rising Community Reconstruction Program is structured to provide eligible communities resources and expertise to build communities resilient to future flooding events. This community was impacted by Superstorm Sandy, which brought rain, wind, and record-high storm surge that flooded much of the community. In addition to flooding, trees were downed, power was lost, and homes were damaged.

One alternative that was considered during the design process was constructing a continuous revetment across all zones (similar to Zone C of the proposed design) with existing revetment removal. This alternative involved complete removal of the existing revetment within Zones A and B, and the removal of groins and derelict revetment within Zone C. After removal, a new revetment, with a MHWS contour similar to the proposed, would be constructed across all zones. The revetment construction would involve granular fill, geotextile placement, underlayer and armor stone placement, land backfill and lee side slope reinforcement. This alternative was discarded due to budget limitation associated with excessive costs of existing revetment removal and construction of new revetment within Zones A and B, which would result in an additional 3,350 linear feet of revetment compared to the proposed design.

Another alternative that was considered was the installation of either a vinyl or steel sheet pile bulkhead with seaward stone scour protection. This alternative involved removal of the existing groins and derelict revetment within Zone C and partial removal of the existing revetment stone along the proposed MHWS contour, forming a trench, with vinyl or steel sheet pile bulkhead being subsequently driven along the centerline of the trench. Stone removed from the groins, derelict revetment, and the trench would be placed along the toe of the bulkhead, providing scour protection. It was discovered during schematic design that cantilevered bulkhead of any feasible and available material/section would not have enough strength to sustain design loads. Therefore, the bulkhead would need to be supported by structures such as soil anchors or soldier piles. This alternative was discarded due to budget limitation, associated with excessive costs of soldier piles and soil anchor installation, and potential construction issues (driving sheet piles along or adjacent to the existing revetment might result in sheet piles running into existing stones, which could significantly increase construction time and cost).

Under the no action alternative, the existing shoreline deterioration would be expected to continue due to overtopping and tidal currents. The Zone C shoreline would be particularly vulnerable due to it being an unprotected sand beach and because it was determined during a morphology study that this area is historically unstable. Additionally, sea lettuce would continue to get accumulated between the groins due to flow stagnation and sediment flow would continue to be disrupted by the groins. The "no action" alternative would provide no protection to the Project area and adjacent residential neighborhoods 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.

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 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 a 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
The Project is intended to repair an existing revetment located around the tip of Point Lookout along Reynolds Channel and Jones Inlet in order to prevent scour and replicate the dunes washed away by Superstorm Sandy. The Project will minimize the loss of human life by stabilizing the shoreline along the community of Point Lookout. If no action is taken, a subsequent storm event could result in catastrophic flooding and destruction of the existing residences and businesses, potentially resulting in the loss of life. Federal financial assistance will support activities representing a long-term public investment in a critical piece of infrastructure that is necessary to protect the community of Point Lookout and the well-being of its residents and local economy, as well as eliminate the need for constant dredge and fill activities. The Project will stabilize the shoreline of a public area that currently provides recreational fields and an

undeveloped area that acts as a buffer between the ocean and a residential community. The intent of the Project is not to develop the shoreline to serve a new purpose, but rather to stabilize and protect the shoreline against erosional forces.

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. 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 the proposed Project is low. BMPs will be implemented to protect flora and fauna adjacent to the Project area, and a Water Quality Certification issued by the New York State Department of Environmental Conservation (NYSDEC) pursuant to Section 401 of the Clean Water Act will be required prior to initiating construction.

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 boundaries of the proposed Project. The Project will involve the addition of stone to create a perched revetment in Zones A and B and will not involve excavation or removal of material in Zones A and B. Project activities in Zone C will be performed in the intertidal zone at low tide. The Project will not involve the disturbance of any vegetated dune areas or vegetated tidal wetland areas. There will be a balance between reclaimed and removed intertidal areas. Additionally, there will not be any changes in the beach material type. It is not anticipated that the northern long-eared bat, piping plover, red knot, roseate tern, sandplain gerardia, and seabeach amaranth occur at the proposed Project location. Therefore, GOSR has determined that the proposed Project would have "No Effect" on any federally endangered, threatened, proposed, or candidate species regulated by the USFWS.

National Marine Fisheries Service (NMFS) Maps for the Atlantic Coast indicate that the Project is located within the range of sea turtles, and within the estimated range of Atlantic sturgeon distinct population segments (DPSs). Since Best Management Practices (BMPs) will be implemented to ensure there are no adverse impacts to species under NMFS jurisdiction, including the use of a turbidity curtain, sediment filter bags, and permit specified BMPs, it has been concluded that there would be "No Effect" on the listed marine species as a result of the proposed Project activities.

BMPs will be implemented to ensure there are no adverse impacts to species under NMFS jurisdiction, including the use of a turbidity curtain, sediment filter bags, and permit specified BMPs, it has been concluded that there would be "No Effect" on listed marine species as a result of the project activities. Since BMPs will be implemented to ensure there are no adverse impacts to EFH, including the use of a turbidity curtain, sediment filter bags, and permit specified BMPs, GOSR determined that the proposed Project would have "No Effect" on EFH, and that the Project is in compliance with the requirements of 50 CFR §660.920 implementing the Magnuson-Stevens Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267).

Impacts to Property & Lives
The highest priority of this review is to prevent the loss of life. The proposed Project is intended to repair and extend an existing revetment located around the tip of Point Lookout along Reynolds Channel and Jones Inlet in order to prevent scour and replicate the dunes washed away by Superstorm Sandy. The proposed Project will minimize the loss of human life by stabilizing the shoreline along the community of Point Lookout. If no action is taken, a subsequent storm event could result in catastrophic flooding and destruction of the existing residences and businesses, potentially resulting in the loss of life. Federal financial assistance will support activities representing a long-term public investment in a critical piece of infrastructure that is necessary to protect the community of Point Lookout and the well-being of its residents

and local economy, as well as eliminate the need for constant dredge and fill activities.

Cultural resources such as archaeological, historic & recreational aspects
The New York State Historic Preservation Office confirmed on September 20, 2018 that there will be "no historic properties, including archaeological and /or historic resources, affected" by the Project, as documented in **Attachment 12** of the Point Lookout Shoreline Stabilization and Revetment Project Environmental Review Record Report.

Agricultural, aquacultural, & forestry resources
There is substantial agriculture and fishing industry on Long Island including aquaculture. The 2012 State Comptrollers Report, Agriculture in Long Island[1], indicates that aquaculture brought in approximately $7.6 Million in sales revenue, representing 2.9% of the total economic share. It is anticipated that during the short-term construction activities the disturbance would be localized and mitigated and would not impact local water quality and this economic sector. These mitigation measures include, but are not limited to, installing temporary silt fencing on land to prevent soil and/or debris from being washed off-site and installing turbidity curtains in the water to minimize sediment transportation from the area of disturbance to the larger body of water per the soil erosion control plan. Project activities will be completed in accordance with all applicable federal, state and local permit requirements and conditions. Therefore, no or minor temporary impacts from the proposed project activities are anticipated.

Wetland Evaluation
The purpose of wetland evaluation is to consider factors relevant to a proposal's effect on the survival and quality of the wetland. These factors should include public health (including water supply and water quality), maintenance of natural systems, cost increases attributed to construction in wetland, and other uses of wetland in the public interest.

Public health, safety, and welfare, including water supply, quality, recharge, and discharge; pollution; flood and storm hazards and hazard protection; and sediment and erosion.
The proposed action is located in wetlands that are designated by the USFWS and NYSDEC. These are not directly used for water supply. The Project is not suspected to pose a threat to public health and safety, or to increase flood and storm hazards, as the Project solely involves repair to existing shoreline stabilization and revetment repairs. The proposed action will not decrease the area of wetlands.

Maintenance of natural systems, including conservation and long-term productivity of existing flora and fauna; species and habitat diversity and stability; natural hydrologic function; wetland type; fish; wildlife; timber; and food and fiber resources.
The approximately 0.32 acres of permanent impacts in wetlands will be offset by the creation of an additional 0.32 acres of wetlands. The proposed Project involves shoreline modifications to protect land within the existing floodplain. Construction activities that occur within wetlands include excavation and fill within the intertidal and subtidal zones. The proposed MHWS contour was designed to balance the removed and created areas below MHWS. The proposed Project will not adversely impact the natural and beneficial functions and values of wetlands. The proposed Project will stabilize the shoreline of a public area that currently provides recreational fields and an undeveloped area that acts as a buffer between the ocean and a residential community. The intent of the proposed Project is not to develop the shoreline to serve a new purpose, but rather to stabilize and protect the shoreline against erosional forces.

[1] https://osc.state.ny.us/reports/li_ag_rpt_10_2013.pdf

Cost increases attributed to wetland-required new construction and mitigation measures to minimize harm to wetlands that may result from such use.
The approximately 0.32 acres of permanent impacts in wetlands will be offset by the creation of an additional 0.32 acres of wetlands. The proposed MHWS contour was designed to balance the removed and created areas below MHWS. The proposed Project will stabilize the shoreline of a public area that currently provides recreational fields and an undeveloped area that acts as a buffer between the ocean and a residential community.

The Project is a water dependent and functionally dependent use. Mitigation measures will be implemented to minimize harm to wetlands during construction. BMPs will be implemented to ensure there are no adverse impacts to wetlands, including the use of a turbidity curtain, sediment filter bags. All applicable permits from the NYSDEC, USACE, and Town of Hempstead will be obtained prior to the commencement of Project activities, and all permit conditions will be followed. There are not anticipated to be any additional cost increases attributed to necessary mitigation measures to minimize harm to wetlands that may result from such use.

Other uses of wetland in the public interest, including recreational, scientific, and cultural uses.
According to the Outdoor Industry Association's two page fact sheet New York the Outdoor Recreation Economy, outdoor recreation generates $338 billion in consumer spending and 305,000 direct jobs within the State. This is an important sector of the regional and local economy. As such, the proposed activities will stabilize the shoreline at the Point Lookout Beach District Park, which utilized by the public as a recreational park and for enjoyment of the waterfront. The Project will stabilize the shoreline of a public area that currently provides recreational fields and an undeveloped area that acts as a buffer between the ocean and a residential community.

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 proposed Project will stabilize the shoreline of a public area that currently provides recreational fields and an undeveloped area that acts as a buffer between the ocean and a residential community. The intent of the proposed Project is not to develop the shoreline to serve a new purpose, but rather to stabilize and protect the shoreline against erosional forces. The Project would mitigate future flood risk and minimize potential impacts to the surrounding community located within the 100-year floodplain. Applicable permits from the NYSDEC, USACE, and Town of Hempstead will be obtained prior to the commencement of Project activities, and all permit conditions will be followed. BMPs will be employed to preserve natural values, lives, and living resources. Utilizing BMPs will confine impacts to the floodplain and wetlands to the proposed Project location. 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 proposed Project is a water-dependent and functionally dependent use that is intended to stabilize and protect the shoreline against erosional forces. The potential alternatives not practicable or feasible. The "no action" alternative for not funding the 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 in floodplain, possible adverse impacts on floodplain and wetlands, the extent to which it may aggravate current hazards to other floodplains, and the potential to disrupt natural and beneficial functions and values of floodplains and wetlands. Additionally, implementation of the

proposed action will abide by all applicable state and local codes for floodplain development. As such, the impact of the proposed action on a floodplain would be less the "no action" alternative.

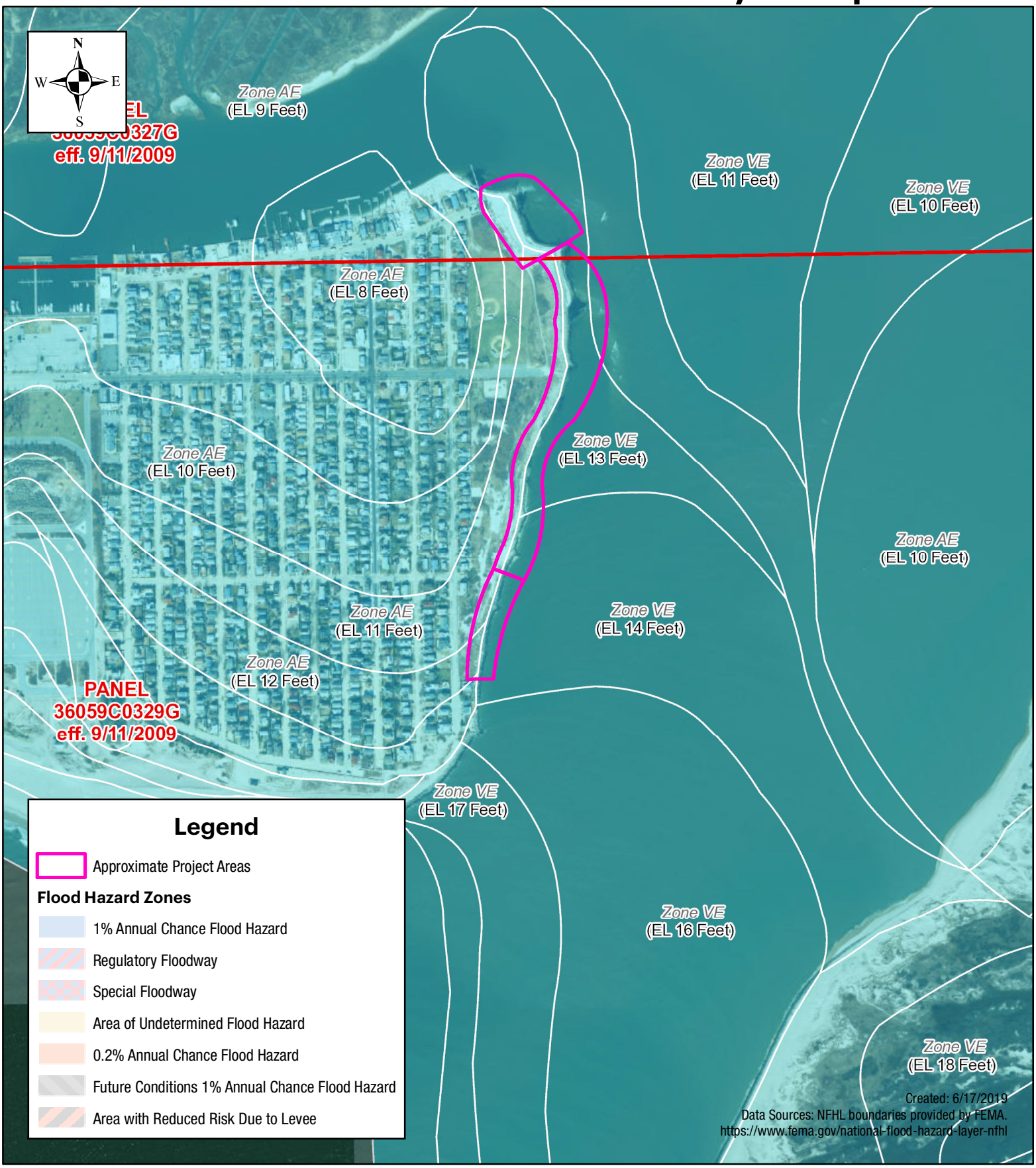
Step 7. **Issue Findings and Public Explanation.**
A final notice, formally known as "Final Notice and Public Review of a Proposed Activity in a 100-Year Floodplain and Wetland", was published in accordance with 24 CFR 55. This public notice was combined with the "Notice of Finding of No Significant Impact and Notice of Intent to Request Release of Funds (FONSI-NOIRROF)" on March 12, 2020. The final notice requires a 7-day comment period after publication; however, the FONSI-NOIRROF requires a 15-day comment period. As such, a 15-day comment period was used for this Final Notice. The 15-day comment period expires at 5pm March 27, 2020. The combined notice describes the reasons why the Project must be located in the floodplain and wetlands, alternatives considered, and all mitigation measures to be taken to minimize adverse impacts and preserve natural and beneficial floodplain and wetland values. Project activities will be completed in accordance with all applicable federal, state and local regulations.

Step 8. **The Proposed Action Can Be Implemented After the Above Steps Have Been Completed.**
GOSR, operating under the auspices of the New York State Homes and Community Renewal's (NYSHCR) Housing Trust Fund Corporation as the responsible entity, will ensure that the Proposed Action, as described above, is executed and necessary language will be included in all agreements with participating parties. Implementation of the proposed Project may require additional local and state permits, which could place additional design modifications or mitigation requirements on the Project. 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

FEMA National Flood Hazard Layer Map

FEMA National Flood Hazard Layer Map



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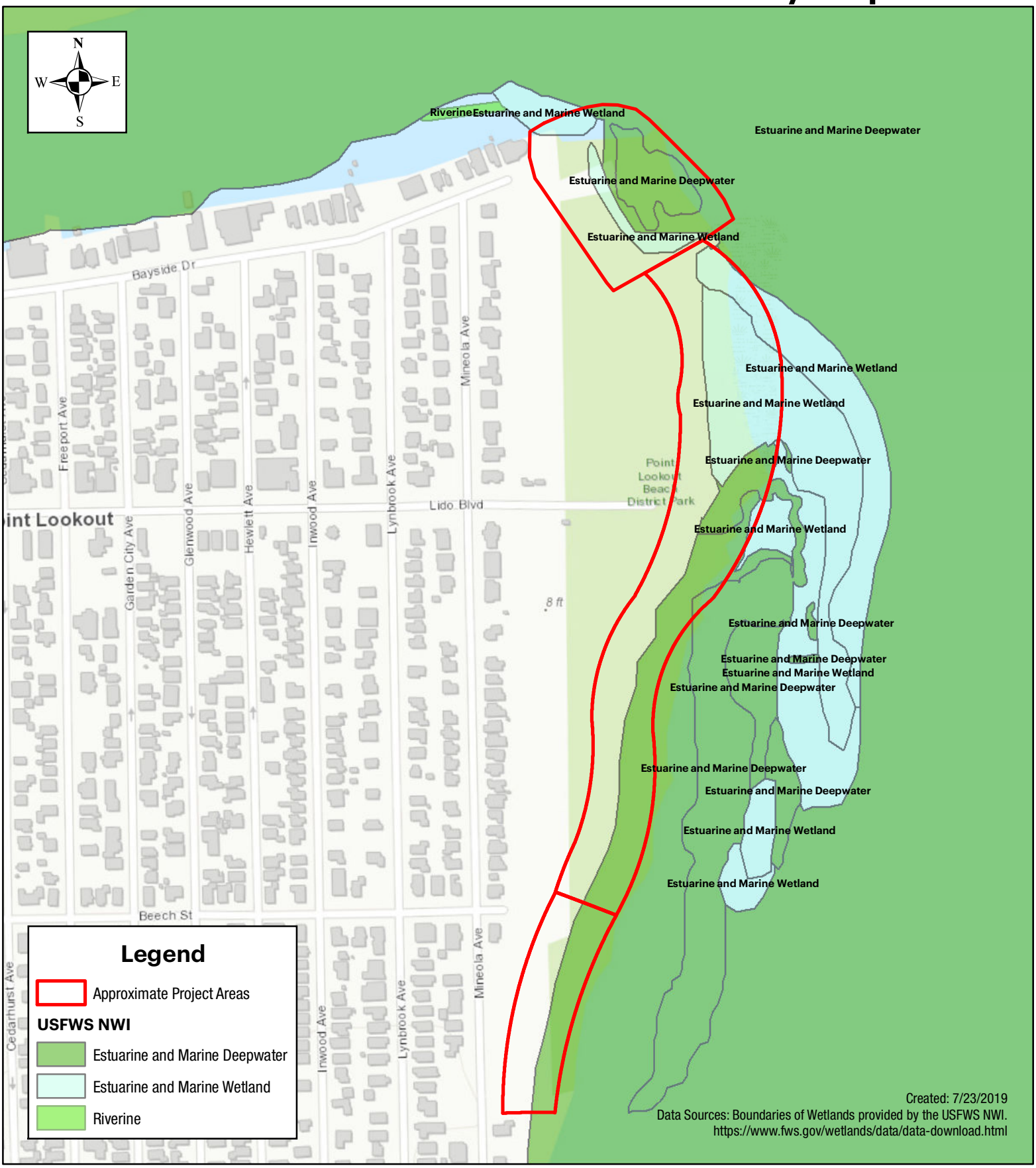
Point Lookout Shoreline Stabilization & Revetment Project
Eastern End of Long Beach Barrier Island
Town of Hempstead
Nassau County, New York

Appendix II

NYSDEC Environmental Resources Map

USFWS NWI Map

USFWS National Wetlands Inventory Map



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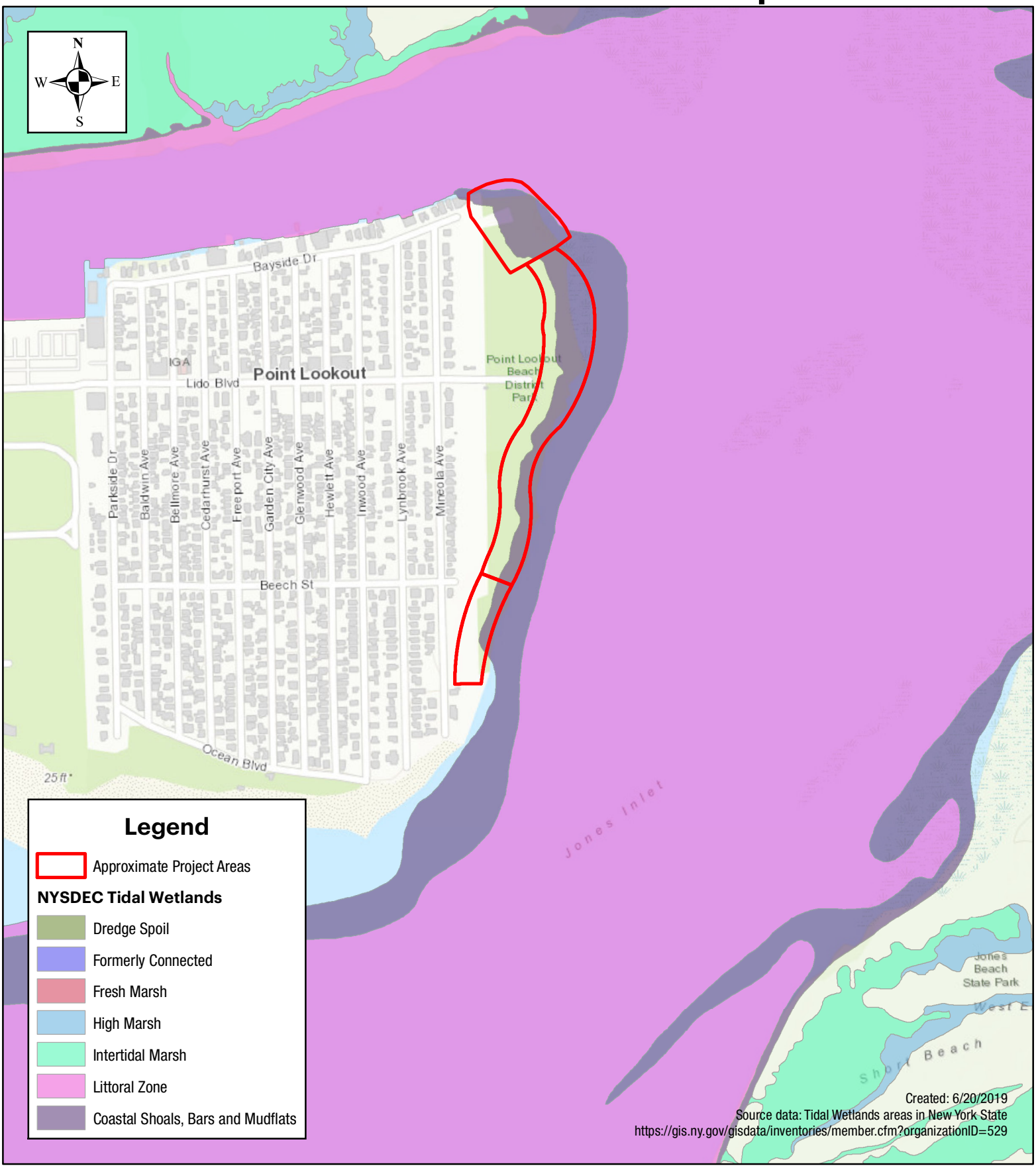
Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

NYSDEC Tidal Wetlands Map



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Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

NYSDEC Wetlands and Waterways Map

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0 750 1,500 3,000 Feet

Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

Appendix III

Early Notice Of A Proposed Activity In A 100-Year Floodplain And Wetland

EARLY NOTICE OF A PROPOSED ACTIVITY
IN A 100-YEAR FLOODPLAIN AND WETLANDS

POINT LOOKOUT SHORELINE STABILIZATION AND REVETMENT PROJECT
POINT LOOKOUT BEACH DISTRICT PARK,
HAMLET OF POINT LOOKOUT, TOWN OF HEMPSTEAD,
NASSAU COUNTY, NEW YORK
AUGUST 8, 2019

To: All Interested Agencies, Groups, and Individuals

This is to give notice that the Governor's Office of Storm Recovery (GOSR), an office of the New York State Housing Trust Fund Corporation (HTFC), has received an application from the Town of Hempstead to fund the Point Lookout Shoreline Stabilization and Revetment Project (hereinafter, the "Proposed Activity") and is conducting an evaluation as required by Executive Order 11988 and Executive Order 11990 in accordance with U.S. Department of Housing and Urban Renewal (HUD) regulations (24 CFR Part 55). There are three primary purposes for this notice. First, to provide the public an opportunity to express their concerns and share information about the Proposed Activity. Second, adequate public notice is an important public education tool. The dissemination of information about floodplains and wetlands facilitates and enhances governmental efforts to reduce the risks associated with the occupancy and modification of these special areas. Third, as a matter of fairness, when the government determines it will participate in actions taking place in floodplains or wetlands, it must inform those who may be put at greater or continued risk. Funding for the Proposed Activity will be provided by the HUD Community Development Block Grant – Disaster Recovery (CDBG-DR) program for storm recovery activities in New York State.

The Proposed Activity is intended to repair and extend an existing revetment located around the tip of Point Lookout along Reynolds Channel and Jones Inlet in order to prevent scour and replicate the dunes washed away by Superstorm Sandy. The Proposed Activity will minimize the loss of human life by stabilizing the shoreline along the community of Point Lookout. If no action is taken, a subsequent storm event could result in catastrophic flooding and destruction of the existing residences and businesses, potentially resulting in the loss of life. Federal financial assistance will support activities representing a long-term public investment in a critical piece of infrastructure that is necessary to protect the community of Point Lookout and the well-being of its residents and local economy, as well as eliminate the need for constant dredge and fill activities.

The Proposed Activity will include the de-construction of two existing groins (jetties) and re-use of the stone to continue the revetment between the area where the two groins existed (approximately 350 linear feet), and the construction of a perched revetment to strengthen the existing revetment (approximately 2,350 linear feet). The Proposed Activity will take place wholly within the Town-owned parcels that are designated as Point Lookout Beach District Park, hamlet of Point Lookout, Town of Hempstead, New York.

The Proposed Activity will result in approximately 0.50 acres of temporary impacts and 2.85 acres of permanent impacts in the 100-year floodplain; and approximately zero temporary impacts in wetlands and approximately 0.32 acres of permanent impacts in wetlands. However, the approximately 0.32 acres of permanent impacts in wetlands will be offset by the creation of an additional 0.32 acres of wetlands. The Proposed Activity involves shoreline modifications to protect land within the existing floodplain. Construction activities that occur within the floodplain and

wetlands include excavation and fill within the intertidal and subtidal zones. The proposed MHWS contour was designed to balance the removed and created areas below MHWS. Construction activities that occur within the floodplain will include the construction of a perched revetment, which is intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it. The Proposed Activity will not adversely impact the natural and beneficial functions and values of the floodplain or wetland. The Proposed Activity will stabilize the shoreline of a public area that currently provides recreational fields and an undeveloped area that acts as a buffer between the ocean and a residential community. The intent of the Proposed Activity is not to develop the shoreline to serve a new purpose, but rather to stabilize and protect the shoreline against erosional forces.

Floodplain maps based on the FEMA Base Flood Elevation Maps and wetlands maps based on the National Wetland Inventory and New York State Department of Environmental Conservation (NYSDEC) data have been prepared and are available for review with additional information at http://www.stormrecovery.ny.gov/environmental-docs.

Any individual, group, or agency may submit written comments on the Proposed Activity or request further information by contacting Lori A. Shirley, Certifying Officer, Governor's Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, NY 12260; email: NYSCDBG_DR_ER@nyshcr.org. Standard office hours are 9:00 AM to 5:00 PM Monday through Friday. For more information call 518-474-0755. All comments received by August 26, 2019 will be considered.

Appendix IV

Early Notice Of A Proposed Activity In A 100-Year Floodplain And Wetland Affidavit

Executive Order 11988 & Executive Order 11990

RICHNER COMMUNICATIONS.

www.liherald.com

Affidavit of Publication

State Of New York,
Nassau County

Nadia Powell being duly sworn, deposes and says that he/she is the principal clerk of Richner Communications, Inc., publishers of the

Long Beach Herald

A weekly newspaper published and mailed at

Long Beach

New York and the attached notice of

PROPOSED ACTIVITY IN A FLOODPLAIN POINT LOOKOUT

was published in the issue(s) of that paper as follows:

8/8/19

Nadia Powell

Subscribed and sworn to before me this 8 August 2019.

Notary Public

STUART RICHNER
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 02RI6155489
Qualified in NASSAU County
Commission Expires 11/13/22

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made to the submerged part of it. The Proposed Activity will not adversely impact the natural and beneficial functions and values of the floodplain or wetland. The Proposed Activity will stabilize the shoreline of a public area that currently provides recreational fields and an undeveloped area that acts as a buffer between the ocean and a residential community. The intent of the Proposed Activity is not to develop the shoreline to serve a new purpose, but rather to stabilize and protect the shoreline against erosional forces.
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113661

2 Endo Boulevard • Garden City, NY 11530 • Voice: 516-569-4000 • Fax: 516-569-4631

RICHNER COMMUNICATIONS.

www.liherald.com

Affidavit of Publication

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made to the submerged part of it. The Proposed Activity will not adversely impact the natural and beneficial functions and values of the floodplain or wetland. The Proposed Activity will stabilize the shoreline of a public area that currently provides recreational fields and an undeveloped area that acts as a buffer between the ocean and a residential community. The intent of the Proposed Activity is not to develop the shoreline to serve a new purpose, but rather to stabilize and protect the shoreline against erosional forces.
Floodplain maps based on the FEMA Base Flood Elevation Maps and wetlands maps based on the National Wetland Inventory and New York State Department of Environmental Conservation (NYSDEC) data have been prepared and are available for review with additional information at http://www.stormrecovery.ny.gov/environmental-docs.
Any individual, group, or agency may submit written comments on the Proposed Activity or request further information by contacting Lori A. Shirley, Certifying Officer, Governor's Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, NY 12260; email: NYSCDBG_DR_ER@nyshcr.org. Standard office hours are 9:00 AM to 5:00 PM Monday through Friday. For more information call 518-474-0755. All comments received by August 26, 2019 will be considered.
113661

2 Endo Boulevard • Garden City, NY 11530 • Voice: 516-569-4000 • Fax: 516-569-4631

Attachment 6

CAA De Minimis Threshold Analysis & General Conformity Worksheet

AKRF

Environmental and Planning Consultants

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

[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)

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: $50 \text{ tpy} \div 2{,}401.6 \text{ tpy} = 2.08\%$

de minimis fraction of total expenditure: $2.08\% \times \$71.8 \text{ bn} = \$\mathbf{1.5\ bn}$

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

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	2,401.6	50	1,496
	Upstate	1,464.3	50	789
NOx	Downstate	16,332.1	100	440
	Upstate	9,745.2	100	237
CO	Downstate	17,522.1	100	410
	Upstate	11,746.2	100	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	√				NO_x	237
Erie	√				NO_x	237
Genesee	√				NO_x	237
Greene	√				NO_x	237
Livingston	√				NO_x	237
Monroe	√				NO_x	237
Montgomery	√				NO_x	237
Niagara	√				NO_x	237
Onondaga		√			CO	197
Ontario	√				NO_x	237
Orleans	√				NO_x	237
Rensselaer	√				NO_x	237
Saratoga	√				NO_x	237
Schenectady	√				NO_x	237
Schoharie	√				NO_x	237
Wayne	√				NO_x	237
Downstate:						
Bronx	√	√	√		CO	410
Dutchess	√				NO_x	440
Kings	√	√	√		CO	410
Nassau	√	√	√		CO	410
New York	√	√	√	√	CO	410
Orange	√		√		NO_x	440
Putnam	√				NO_x	440
Queens	√	√	√		CO	410
Richmond	√	√	√		CO	410
Rockland	√		√		NO_x	440
Suffolk	√		√		NO_x	440
Westchester	√	√	√		CO	410

✷

Attachment 7

NYSDOS Coastal Consistency Documentation

NYSDOS Coastal Consistency General Concurrence Letter
NYSDOS Coastal Consistency Consultation Package

STATE OF NEW YORK
DEPARTMENT OF STATE
ONE COMMERCE PLAZA
99 WASHINGTON AVENUE
ALBANY, NY 12231-0001
WWW.DOS.NY.GOV

ANDREW M. CUOMO
GOVERNOR

ROSSANA ROSADO
SECRETARY OF STATE

March 7, 2019

James P. McAllister
Senior Environmental Project Manager
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
500 Bi-County Boulevard, Suite 300
Farmingdale, New York 11735

Re: **F-2019-0197(FA)**
Governor's Office of Storm Recovery
Town of Hempstead (Point Lookout)
De-construction of two existing groins, re-use of stone to construct a new revetment between the two groins (Zone C), and the construction of a perched revetment to strengthen an existing revetment (Zones A and B)
Town of Hempstead, Nassau County
General Concurrence - No Objection to Funding

Dear Mr. McAllister,

The Department of State (DOS) received the information you submitted regarding the above proposed federal financial assistance on {date} and has completed its review. Based on this review, the Department of State has no objection to the release of United States Department of Housing and Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) funding in support of the proposed project.

This concurrence pertains to the federal financial assistance activity or activities for this project only. If certain activities may require a federal permit or other form of federal agency authorization, the Department of State would conduct separate consistency review(s) of permit activities at the time such application(s) may be made to a federal agency.

When communicating with us regarding this matter, please contact us at (518) 474-6000 and refer to our file # F-2019-0197(FA).

Sincerely,

Matthew P. Maraglio
Supervisor, Consistency Review Unit
Office of Planning, Development and
Community Infrastructure

MM/dc

NEW YORK STATE OF OPPORTUNITY. | Department of State

Governor's Office of Storm Recovery

ANDREW M. CUOMO
Governor

March 5, 2019

Mr. Matt Maraglio
Supervisor, Consistency Review Unit
Division of Coastal Resources
New York State Department of State
One Commerce Plaza
99 Washington Avenue
Albany, New York 12231-0001

CC: Denise Caldwell

Re: **HUD CDBG-DR Program – Point Lookout Shoreline Stabilization and Revetment Project – Point Lookout Beach District Park, Hamlet of Point Lookout, Town of Hempstead, Nassau County, New York**

Dear Mr. Maraglio:

The Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York State Homes and Community Renewal's Housing Trust Fund Corporation, was established to aid the statewide recovery of disaster-affected communities in New York State. GOSR is administering a U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant for Disaster Recovery (CDBG-DR), including the NY Rising Community Reconstruction Program.

Coastal zone consistency materials for the proposed project activities were submitted by the Town of Hempstead to the New York State Department of State (NYSDOS) in association with a United States Army Corps of Engineers and New York State Department of Environmental Conservation joint permit application on August 23, 2018. On January 31, 2019, the NYSDOS determined that the proposed project meets the NYSDOS general consistency concurrence criteria (File #F-2018-0954 – included in **Attachment A**). In the interest of compliance with activities that involve financial assistance from federal agencies, GOSR is submitting project materials for the same proposed project that the NYSDOS has previously determined meets the general consistency concurrence criteria. On behalf of GOSR, please find the enclosed coastal zone consistency materials for your review.

The Town of Hempstead is requesting HUD CDBG-DR funding for the Point Lookout Shoreline Stabilization and Revetment Project (Project). A site investigation was completed in October 2016 by COWI that documented and classified the existing structures located in the Project area. The Project area was divided into the following three zones, based on the existing condition of the shoreline:

Zone A – existing revetment in fair condition; this area has a length of approximately 550 feet and extends (from south to north) from the southern limit of Mineola Avenue to the shoreline adjacent to the intersection of Beech Street and Mineola Avenue.

Zone B – existing revetment in serious condition; the area has a length of approximately 1,800 feet and extends (from south to north) from the shoreline adjacent to the intersection of Beech Street and Mineola Avenue to the northern limit of the existing revetment/ the southern groin.

Zone C – a sand beach with two (2) groins (defined as the northern and southern groins), which is located on the northeastern corner of Point Lookout and extends (from south to north) from the northern limit of the existing revetment/ the southern groin to the shoreline adjacent to the eastern limit of Bayside Drive.

The Project will include the de-construction of two existing groins, re-use of stone to construct a new revetment between the two groins (Zone C), and the construction of a perched revetment to strengthen an existing revetment (Zones A and B). The Project will take place wholly within the Town-owned parcels that are designated as Point Lookout Beach District Park, Hamlet of Point Lookout, Town of Hempstead, New York. Project location maps and Project site plans are included in **Attachment D**.

In Zones A and B, a perched revetment will be constructed with additional lee side granular fill overtopping protection. This design is intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it. All material is proposed to be placed landward of the existing mean high water spring (MHWS) contour. Therefore, all construction activities for these Zones will be confined to the area above the MHWS. In Zone C, two existing groins will be removed and a new revetment will be constructed to prevent shoreline erosion due to wave and current action. Additional lee side erosion and scour protection was designed due to large volumes of overtopping expected during storm events. Geotextile filter fabric will be utilized as a filter and a separation layer between existing soil and the revetment underlayer in Zone C. The separation layer will prevent filtering of fine soil into the underlayer while allowing for sufficient water flow through it in order to reduce hydrodynamic loads. Groin removal in conjunction with new revetment construction will also eliminate stagnation area between the groins and allow for free seaweed and sediment movement along the shoreline.

Materials will be delivered to the area by trucks. Excavation (groin and derelict revetment removal) and grading within Zone C will be performed during low tide using a land based excavator. Excavated materials (sand and stone) will be stockpiled locally and reused in the reconstruction. Geotextile will be delivered to the area in rolls and then manually placed on top of the post-excavation grade. It will be held down by underlayer stones during the construction period. Smaller stones (underlayer and granular fill) will be placed using a front bucket loader or a bobcat. The

excavator with a hydraulic rock placing arm will then be used to individually place large armor stones. Best management practices will be implemented to prevent any equipment, material, or debris from entering the waterway. The contractor will prepare and submit a spill response plan, which will document measures and activities to be performed should any oil or fluid spillage occur during the construction.

Based on a review of available environmental records for the Subject Property and surrounding area, the Subject Property is unlikely to contain 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 Subject Property.

The Project is not located within a State-approved Local Waterfront Revitalization Program, Coastal Management Program, Scenic Area of Statewide Significance, or Significant Coastal Fish and Wildlife Habitat.

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

Thank you for taking the time to review the enclosed materials for the Point Lookout Shoreline Stabilization and Revetment Project. Please do not hesitate to contact me by email at James.McAllister@stormrecovery.ny.gov or by telephone at (631) 465-9677 should you have any questions or require additional information.

Sincerely,

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

Attachments:
Attachment A – NYSDOS Coastal Consistency Concurrence (1/31/2019)
Attachment B – Federal Consistency Form
Attachment C – Detailed Project Description and Policy Analysis
Attachment D – Project Location Maps and Project Site Plans

ATTACHMENT A

NYSDOS Coastal Consistency Concurrence

1/31/2019

STATE OF NEW YORK
DEPARTMENT OF STATE
ONE COMMERCE PLAZA
99 WASHINGTON AVENUE
ALBANY, NY 12231-0001
WWW.DOS.NY.GOV

ANDREW M. CUOMO
GOVERNOR

ROSSANA ROSADO
SECRETARY OF STATE

January 31, 2019

Mr. Jeffrey Tierney
Town of Hempstead
350 Front Street, Room 325
Hempstead, NY 11550-4037

Re: F-2018-0954
U.S. Army Corps of Engineers/New York District Permit Application - Proposed refurbishment of the existing revetment through placement of a perched revetment in zones A and B and proposed removal of the groins and derelict revetment and construction of new revetment in zone C. Jones Inlet, Point Lookout, Town of Hempstead, Nassau County.
General Concurrence

Dear Mr. Tierney:

The Department of State (DOS) received your Federal Consistency Assessment Form and consistency certification and supporting information for this proposal on August 23, 2018.

The Department of State has determined that this proposal meets the Department's general consistency concurrence criteria. Therefore, further review of the proposed activity by the Department of State and the Department's concurrence with an individual consistency certification for the proposed activity are not required.

This determination is without prejudice to and does not obviate the need to obtain all other applicable licenses, permits, and other forms of authorizations or approvals which may be required pursuant to existing New York State statutes.

When communicating with us regarding this matter, please contact us at (518) 474-6000 and refer to our file #F-2018-0954.

Sincerely,

Matthew Maraglio
Supervisor, Consistency Review Unit
Office of Planning, Development and Community Infrastructure

MM/jls
cc: BTMI Engineering, P.C. – Todd P. Mason, P.E.
COE/New York District/Regulatory
DEC Region 1 – facility ID 1-2820-02003

ATTACHMENT B

Federal Consistency

Assessment Form

NEW YORK STATE DEPARTMENT OF STATE
COASTAL MANAGEMENT PROGRAM

Federal Consistency Assessment Form

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

A. **APPLICANT** (please print)

1. Name: Town of Hempstead/ Jeffery Tierney, Deputy Commissioner of Engineering
2. Address: 350 Front Street, Room 235, Hempstead, NY 11550-4037
3. Telephone: (516) 812-3483

B. **PROPOSED ACTIVITY:** Point Lookout Shoreline Stabilization and Revetment Project

1. Brief description of activity:

The Point Lookout Shoreline Stabilization Project (Project) will include the de-construction of two existing groins, re-use of stone to construct a new revetment between the two groins (Zone C), and the construction of a perched revetment to strengthen an existing revetment (Zones A and B). The Project will take place wholly within the Town-owned parcels that are designated as Point Lookout Beach District Park, Hamlet of Point Lookout, Town of Hempstead, New York.

2. Purpose of activity:

The purpose of the project is to stabilize shoreline along the Jones Inlet shoreline of Point Lookout. Additionally, the proposed revetment within Zone C will eliminate accumulation of decaying biomass (Sea Lettuce or Ulva Lactuca) and stabilize the shoreline.

3. Location of activity:

Nassau	Hamlet of Point Lookout, Town of Hempstead	Point Lookout Beach District Park
County	City, Town, or Village	Street or Site Description

4. Type of federal permit/license required: HUD CDBG-DR funding from NYS as Responsible Entity, US Army Corps of Engineers (USACE) Section 10 and Section 404

5. Federal application number, if known: _____

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

New York State Department of Environmental Conservation permit authorizations: Tidal Wetlands - Under Article 25, Excavation & Fill in Navigable Waters - Under Article 15, Title 5, Water Quality Certification - Under Section 401 - Clean Water Act, SPDES General Permit for Construction Activity

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

1. Will the proposed activity result in any of the following:	YES	NO
a. Large physical change to a site within the coastal area which will require the preparation of an environmental impact statement? (11, 22, 25, 32, 37, 38, 41, 43)		✔
b. Physical alteration of more than two acres of land along the shoreline, land under water or coastal waters? (2, 11, 12, 20, 28, 35, 44)	✔	
c. Revitalization/redevelopment of a deteriorated or underutilized waterfront site? (1)		✔
d. Reduction of existing or potential public access to or along coastal waters? (19, 20)		✔
e. Adverse effect upon the commercial or recreational use of coastal fish resources? (9,10)		✔
f. Siting of a facility essential to the exploration, development and production of energy resources in coastal waters or on the Outer Continental Shelf? (29)		✔
g. Siting of a facility essential to the generation or transmission of energy? (27)		✔
h. Mining, excavation, or dredging activities, or the placement of dredged or fill material in coastal waters? (15, 35)	✔	
i. Discharge of toxics, hazardous substances or other pollutants into coastal waters? (8, 15, 35)		✔
j. Draining of stormwater runoff or sewer overflows into coastal waters? (33)		✔
k. Transport, storage, treatment, or disposal of solid wastes or hazardous materials? (36, 39)		✔
l. Adverse effect upon land or water uses within the State's small harbors? (4)		✔

2. Will the proposed activity affect or be located in, on, or adjacent to any of the following:	YES	NO
a. State designated freshwater or tidal wetland? (44)	✔	
b. Federally designated flood and/or state designated erosion hazard area? (11, 12, 17)	✔	
c. State designated significant fish and/or wildlife habitat? (7)		✔
d. State designated significant scenic resource or area? (24)		✔
e. State designated important agricultural lands? (26)		✔
f. Beach, dune or Barrier Island? (12)	✔	
g. Major ports of Albany, Buffalo, Ogdensburg, Oswego or New York? (3)		✔
h. State, county, or local park? (19, 20)	✔	
i. Historic resource listed on the National or State Register of Historic Places? (23)		✔

3. Will the proposed activity require any of the following:	YES	NO
a. Waterfront site? (2, 21, 22)	✔	
b. Provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (5)		✔
c. Construction or reconstruction of a flood or erosion control structure? (13, 14, 16)	✔	
d. State water quality permit or certification? (30, 38, 40)	✔	
e. State air quality permit or certification? (41, 43)		✔

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

D. **ADDITIONAL STEPS**

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

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

E. **CERTIFICATION**

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

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

Applicant/Agent's Name: James McAllister

Address: 500 Bi-County Boulevard, Suite 300, Farmingdale, NY 11735

Telephone: Area Code (631) 465-9677

Applicant/Agent's Signature: Date: 3/5/19

F. **SUBMISSION REQUIREMENTS**

1. The applicant or agent shall submit the following documents to the **New York State Department of State, Office of Planning and Development, Attn: Consistency Review Unit, One Commerce Plaza-Suite 1010, 99 Washington Avenue, Albany, New York 12231.**

a. Copy of original signed form.
b. Copy of the completed federal agency application.
c. Other available information which would support the certification of consistency.

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

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

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

ATTACHMENT C

Detailed Project Description and Policy Analysis

Project: Point Lookout Shoreline Stabilization and Revetment Project (Project)
Location: Point Lookout Beach District Park, Hamlet of Point Lookout, Town of Hempstead, Nassau County, New York (Subject Property)

Introduction
The project analyzed herein is proposed to receive U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant Program–Disaster Recovery (CDBG-DR) funding would provide the Town of Hempstead funding for revetment construction and repairs. Funding for the proposed Project is from the New York Rising Community Reconstruction (NYRCR) Program.

Background and Existing Conditions
The existing revetment along Jones Inlet functions as a barrier that absorbs wave energy, reflects waves, and reduces wave run-up during storm events. Portions of the landward dune were destroyed by Superstorm Sandy, rendering the area landward of the revetment vulnerable to scour. The sand beach that is situated from the north end of Jones Inlet west around the tip of Point Lookout along Reynolds Channel is subject to an ongoing process of coastal erosion along Jones Inlet. This has resulted in shoreline retreat, which has reduced the distance between the water and structures on Bayside Drive and increased the vulnerability of residences and businesses to coastal erosion.

The Governor's Office of Storm Recovery (GOSR), operating under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation, is the responsible entity for the direct administration of this HUD CDBG-DR program. An environmental review is being prepared to assist GOSR in its determination whether to grant CDBG-DR funding for the proposed project. The decision to grant CDBG-DR funding will be dependent on the environmental review required under the National Environmental Policy Act of 1969 pursuant to 24 CFR Part 58.

Purpose and Need
Until the revetment is repaired, houses along Mineola Avenue adjacent to the Point Lookout Beach District Park will be vulnerable to damage from waves and surge generated by coastal storms. If nothing is done to halt the process of erosion, the foundations of residences and businesses could be undermined, leading to structural collapse and threatening the life safety of the occupants. The process of erosion occurring at the northeast end of Point Lookout also causes loss of open space in the Point Lookout Beach District Park. Eventually, if left unprotected, erosion along Jones Inlet in the area of the Park will encroach upon additional residences on Mineola Drive. The Project would result in the protection of this Town-owned facility, residential and commercial structures, and the lives of the occupants on Bayside Drive, Mineola Avenue, and the existing open space at the Point Lookout Beach District Park.

Project Description
A site investigation was completed in October 2016 by COWI that documented and classified the existing structures located in the Project area. The Project area was divided into the following three zones, based on the existing condition of the shoreline:

Point Lookout Shoreline Stabilization and Revetment Project

Zone A – existing revetment in fair condition; this area has a length of approximately 550 feet and extends (from south to north) from the southern limit of Mineola Avenue to the shoreline adjacent to the intersection of Beech Street and Mineola Avenue.

Zone B – existing revetment in serious condition; the area has a length of approximately 1,800 feet and extends (from south to north) from the shoreline adjacent to the intersection of Beech Street and Mineola Avenue to the northern limit of the existing revetment/ the southern groin.

Zone C – a sand beach with two (2) groins (defined as the northern and southern groins), which is located on the northeastern corner of Point Lookout and extends (from south to north) from the northern limit of the existing revetment/ the southern groin to the shoreline adjacent to the eastern limit of Bayside Drive.

The Project will include the de-construction of two existing groins, re-use of stone to construct a new revetment between the two groins (Zone C), and the construction of a perched revetment to strengthen an existing revetment (Zones A and B). The Project will take place wholly within the Town-owned parcels that are designated as Point Lookout Beach District Park, Hamlet of Point Lookout, Town of Hempstead, New York.

In Zones A and B, a perched revetment will be constructed with additional lee side granular fill overtopping protection. This design is intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it. All material is proposed to be placed landward of the existing mean high water spring (MHWS) contour. Therefore, all construction activities for these Zones will be confined to the area above the MHWS. In Zone C, two existing groins will be removed and a new revetment will be constructed to prevent shoreline erosion due to wave and current action. Additional lee side erosion and scour protection was designed due to large volumes of overtopping expected during storm events. Geotextile filter fabric will be utilized as a filter and a separation layer between existing soil and the revetment underlayer in Zone C. The separation layer will prevent filtering of fine soil into the underlayer while allowing for sufficient water flow through it in order to reduce hydrodynamic loads. Groin removal in conjunction with new revetment construction will also eliminate stagnation area between the groins and allow for free seaweed and sediment movement along the shoreline.

Materials will be delivered to the area by trucks. Excavation (groin and derelict revetment removal) and grading within Zone C will be performed during low tide using a land based excavator. Excavated materials (sand and stone) will be stockpiled locally and reused in the reconstruction. Geotextile will be delivered to the area in rolls and then manually placed on top of the post-excavation grade. It will be held down by underlayer stones during the construction period. Smaller stones (underlayer and granular fill) will be placed using a front bucket loader or a bobcat. The excavator with a hydraulic rock placing arm will then be used to individually place large armor stones. Best management practices will be implemented to prevent any equipment, material, or debris from entering the waterway. The contractor will prepare and submit a spill response plan, which will document measures and activities to be performed should any oil or fluid spillage occur during the construction.

Point Lookout Shoreline Stabilization and Revetment Project

The Project is located within the 100-year floodplain. The Project is not located within a State-approved Local Waterfront Revitalization Program, Coastal Management Program, Scenic Area of Statewide Significance, or Significant Coastal Fish and Wildlife Habitat.

FCAF Section	Coastal Management Plan (CMP) Policy	Project Consistency with CMP
1B	2 – Facilitating the siting of water-dependent uses and facilities on or adjacent to coastal waters.	The Project includes the construction of a revetment along Point Lookout in Zone C and the enhancement of the existing revetment along Zones A and B. Zone C is a sandy and eroding shoreline located between a privately owned bulkhead (north end of the Subject Property) and the southern groin. Zones A and B span the rest of Point Lookout beach located between the southern groin and a private residence at 128 Mineola Avenue (south end). In its existing form, public access into the water at the Subject Property is not encouraged as it is a potential hazard due to the current dynamic state of shoreline, boat traffic, and currents within Jones Inlet and Reynolds Channel. Large recreational beaches (Lido Beach and Jones Beach) that are located just south of the Subject Property provide the same waterfront activities and access into the water. Additionally, implementation of the revetment in Zone C is intended to stabilize the sandy beach at the north end of the Subject Property, allowing for safer public access to enjoy land-based activities. Therefore, the Project will facilitate water-depended uses adjacent to coastal waters and is consistent with this Policy.
	11 – Buildings and other structures will be sited in the coastal area so as to minimize damage to property and the endangering of human lives caused by flooding and erosion.	The proposed Project will not involve the siting of buildings or other such structures in the coastal area. The proposed construction of a perched revetment in Zones A and B and removal of two (2) groins and construction of a new revetment within Zone C will decrease erosion of the shoreline, which will minimize future damages to property and protect human lives from storm events that result in flooding and erosion.

	12 – Activities or development in the coastal area will be undertaken so as to minimize damage to natural resources and property from flooding and erosion by protecting natural protective features including beaches, dunes, barrier islands, and bluffs.	The proposed Project will stabilize and protect the shoreline with the construction of a revetment in areas that are currently experiencing erosion and loss of land. The Project is intended to enhance the shoreline's ability to withstand erosional forces, as well as to protect the existing dune systems that are located west of the Subject Property.
	20 – Access to the publicly owned foreshore and to lands immediately adjacent to the foreshore or the water's edge that are publicly-owned shall be provided and it shall be provided in a manner compatible with adjoining uses.	The Subject Property, in its existing condition, consists of a revetment running approximately 2,350 linear feet (LF) of the total 2,950 LF of the shoreline to be stabilized. The remaining length of the shoreline (north end of the Subject Property) consists of two (2) groins and a sandy beach that currently experiences erosion, resulting in a dynamic shoreline that is a potential hazard to the public, The Project will stabilize the public accessible shoreline through the construction of a revetment in areas that are currently experiencing erosion and loss of land. Therefore the Project is consistent with this Policy.
	28 – Ice management practices shall not interfere with the production of hydroelectric power, damage significant fish and wildlife and their habitats, or increase shoreline erosion or flooding.	This Project does not involve ice management practices. As such, Policy 28 does not apply.
	35 – Dredging and filling in coastal waters and disposal of dredged material will be undertaken in a manner that meets existing State permit requirements, and protects significant fish and wildlife habitats, scenic resources, natural protective features, important agricultural lands, and wetlands.	The Project involves the removal of two (2) existing groins and the fill of some beach area at the northern end of the Subject Property in order to allow the natural flow of water currents to reshape the shoreline in the vicinity of the Subject Property. Project activities will be performed in accordance with permits obtained from the United States Army Corps of Engineers (USACE), New York State Department of Environmental Conservation (NYSDEC), and the Town of Hempstead, and all permit specified conditions.
	44 – Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.	The Project is intended to provide a stable shoreline and has been developed such that the quantity of land reclaimed below the mean high water spring (MHW) contour is approximately equal to the quantity to be created. Project activities will be

		performed in accordance with permits obtained from the United States Army Corps of Engineers (USACE), New York State Department of Environmental Conservation (NYSDEC), and the Town of Hempstead, and all permit specified conditions. The Project will protect the shoreline of Point Lookout and the existing dune system located landward of the shoreline from erosional forces, thereby addressing the potential public hazard posed by the existing dynamic shoreline. Therefore, the Project is consistent with preserving the benefits of tidal wetlands.
1H	15- Mining, excavation or dredging in coastal waters shall not significantly interfere with the natural coastal processes which supply beach materials to land adjacent to such waters and shall be undertaken in a manner which will not cause an increase in erosion of such land.	The proposed Project involves the removal and excavation of two (2) existing groins and some beach area at the northern end of the Subject Property in order to allow the natural flow of water currents to re-shape the shoreline in this area. The proposed revetment will reinforce and stabilize the currently eroding shoreline, in which the sand currently migrates southerly. Numerical modelling of the nearshore area indicates that any effects to sand migration will be localized and the Project is not expected to interfere with the natural coastal processes in adjacent areas.
	35- Dredging and filling in coastal waters and disposal of dredged material will be undertaken in a manner that meets existing State dredging permit requirements, and protects significant fish and wildlife habitats, scenic resources, natural protective features, important agricultural lands, and wetlands.	The Project involves the removal of two (2) existing groins and the fill of some beach area at the northern end of the Subject Property in order to allow the natural flow of water currents to reshape the shoreline in the vicinity of the Subject Property. Project activities will be performed in accordance with permits obtained from the United States Army Corps of Engineers (USACE), New York State Department of Environmental Conservation (NYSDEC), and the Town of Hempstead, and all permit specified conditions.
2A	44 – Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.	The Project is intended to provide a stable shoreline and has been developed such that the quantity of land reclaimed below the mean high water spring (MHW) contour is approximately equal to the quantity to be created. Project activities will be performed in accordance with permits obtained from the United States Army Corps of Engineers (USACE), New York State Department of Environmental Conservation (NYSDEC), and the Town of Hempstead, and all permit specified

		conditions. The Project will protect the shoreline of Point Lookout and the existing dune system located landward of the shoreline from erosional forces, thereby addressing the potential public hazard posed by the existing dynamic shoreline. Therefore, the Project is consistent with preserving the benefits of tidal wetlands.
2B	11 - Buildings and other structures will be sited in the coastal area so as to minimize damage to property and the endangering of human lives caused by flooding and erosion.	The Project is located in a FEMA designated 100-year floodplain (SFHA Zone AE). The Project involves the construction of a perched revetment in Zones A and B and the removal of two groins and construction of a new revetment within Zone C. This Project will not involve construction of any buildings in a coastal erosion or coastal high hazard area, so human lives will not be endangered by Project activities. The revetment construction will protect the shoreline and residential properties located in Point Lookout from flooding and erosion from future storm events. Therefore, the Project is consistent with this Policy.
	12 - Activities or development in the coastal area will be undertaken so as to minimize damage to natural resources and property from flooding and erosion by protecting natural protective features including beaches, dunes, barrier islands and bluffs.	The construction of the revetment in areas that are currently experiencing erosion and loss of land will stabilize and protect the shoreline. The Project is intended to enhance the shoreline's ability to withstand erosional forces, as well as to protect the existing dune systems west of the Subject Property.
	17 - Non-structural measures to minimize damage to natural resources and property from flooding and erosion shall be used whenever possible.	The Project will protect the shoreline and existing landward dune systems from flooding and erosion in the future. The Project will not involve the siting of buildings in the flood hazard area. The Project involves the construction of a revetment to limit future damages to the Subject Property and existing residential development adjacent to the Subject Property during future high water events. Therefore, this Project is consistent with this Policy.
2F	12 – Activities or development in the coastal area will be undertaken so as to minimize damage to natural resources and property from flooding and erosion by protecting natural protective features including beaches, dunes, barrier islands and bluffs.	The proposed Project will stabilize and protect the shoreline with the construction of a revetment in areas that are currently experiencing erosion and the loss of land. The proposed Project is intended to enhance the shoreline's ability to withstand erosional forces, as well as to protect existing dune systems located west of the Subject Property.

2H	19 – Protect, maintain, and increase the level and types of access to public water-related recreation resources and facilities.	The proposed Project involves the construction of a revetment along the eastern shoreline of Point Lookout. In its existing form, public access to the water at the Subject Property for recreational use is not encouraged because of hazardous conditions caused by the current dynamic state of the shoreline, boat traffic, and currents within Jones Inlet and Reynolds Channel. Recreational beaches (Lido Beach, Long Beach) that are located near the Subject Property provide waterfront activities and access to the water. The construction of the revetment in Zone C is intended to stabilize the sandy beach at the north end of the Subject Property, allowing for safer public access to enjoy land-based water-related activities. Therefore, the Project is consistent with this Policy.
	20 – Access to the publicly-owned foreshore and to lands immediately adjacent to the foreshore or the water's edge that are publicly-owned shall be provided and it shall be provided in a manner compatible with adjoining uses.	The Subject Property, in its existing condition, consists of a revetment running approximately 2,350 linear feet (LF) of the total 2,950 LF of the shoreline to be stabilized. The remaining length of the shoreline (north end of the Subject Property) consists of two (2) groins and a sandy beach that currently experiences erosion, resulting in a dynamic shoreline that is a potential hazard to the public, The Project will stabilize the public accessible shoreline through the construction of a revetment in areas that are currently experiencing erosion and loss of land. Therefore the Project is consistent with this Policy.
3A	2 – Facilitate the siting of water-dependent uses and facilities on or adjacent to coastal waters.	The Project will protect a Town of Hempstead owned park and residential properties in Point Lookout, which will support waterfront recreation and the visual enjoyment of the waterfront. The Project involves enhancement and modification of previously existing erosion control structures in order to protect the shoreline and facilitate future water-related recreational activities. Therefore, this action is in conformance with this Policy.
	21 – Water-dependent and water-enhanced recreation will be encouraged and facilitated, and will be given priority over non-water-related use along the coast.	The proposed Project will stabilize the shoreline of a public area that currently serves water-enhanced recreational uses such as walking, sunbathing, and wildlife viewing. In its existing form, public access into the water at the Subject Property is not encouraged, as it is a potential hazard due to the

		current dynamic state of the shoreline, boat traffic, and currents within Jones Inlet and Reynolds Channel. The use of the large recreational beaches (Lido Beach and Long Beach) located just south of the Subject Property is encouraged for similar uses. The construction of the revetment in Zone C and the enhancement of the existing revetment in Zones A and B is intended to stabilize the shoreline, which will allow for greater and safer future public access to the shoreline located on the Subject Property. Therefore, the Project is consistent with this Policy.
	22 – Development, when located adjacent to the shore, will provide for water-related recreation, whenever such use is compatible with reasonably anticipated demand for such activities, and is compatible with the primary purpose of the development.	The proposed Project will stabilize the shoreline of a public area that currently includes recreational ball fields and an undeveloped area that acts as a buffer between the ocean and a residential community. The intent of the Project is not to re-develop the shoreline to serve a new purpose, but rather to stabilize and protect the shoreline against erosional forces, which is compatible with the previously existing purpose of the shoreline stabilization structures currently present on the shoreline.
3C	13 - The construction or reconstruction of erosion protection structures shall be undertaken only if they have reasonable probability of controlling erosion for at least thirty years as demonstrated in design and construction standards and/or assured maintenance or replacement programs.	The proposed Project was designed based upon a 30-year design life. Specifically, the crest elevation was chosen based upon projected relative sea-level rise by year 2050. Other design parameters incorporated into the proposed Project include armor and underlayer stone sizes to combat the significant 50-year wave height. In order to account for the occurrence of overtopping during extreme flood events, the proposed revetment design also includes scour protection 10-feet from the leeward extent of the revetment landward.
	14 - Activities and development including the construction or reconstruction of erosion protection structures, shall be undertaken so that there will be no measurable increase in erosion or flooding at the site of such activities or development, or at other locations.	The Project involves the removal of two (2) existing groins that currently cause/experience unbalanced sediment accretion and erosion in the northern half to the Subject Property. The location of the proposed revetment was chosen based upon the results of hydrodynamic models that were created in order to understand wave mechanics, water flow, and sediment transport patterns at and around the Subject Property. Therefore, the chosen location of the revetment accommodates for the natural flow path of currents in the area and the Project is not

		expected to interfere with the natural coastal processes in adjacent areas.
	16 - Public funds shall only be used for erosion protective structures where necessary to protect human life, and new development which requires a location within or adjacent to an erosion hazard area to be able to function, or existing development; and only where the public benefits outweigh the long term monetary and other costs including the potential for increasing erosion and adverse effects on natural protective features.	The proposed Project will protect the shoreline along Point Lookout in the Town of Hempstead. In its current state, Zones A and B consist of a revetment in moderate-serious condition and Zone C consists of two (2) groins and a sandy beach that experiences continual erosion. These existing conditions pose a potential hazard for the residential community adjacent to the Subject Property. The Project is intended to stabilize and protect the shoreline through the construction of a new revetment, and is not expected to interfere with the natural coastal processes in adjacent areas. Project activities will protect people residing in the Hamlet of Point Lookout from flooding and storm surge caused by future storm events. The removal of the two (2) existing groins will allow for a more natural flow of sediment and sand along the shoreline. Therefore, the Project is consistent with this Policy.
3D	30 - Municipal, industrial, and commercial discharge of pollutants, including but not limited to, toxic and hazardous substances, into coastal waters will conform to State and National water quality standards.	This Project does not involve discharge of municipal, industrial, or commercial pollutants into coastal waters. As such, Policy 30 does not apply.
	38 - The quality and quantity of surface water and groundwater supplies will be conserved and protected, particularly where such waters constitute the primary or sole source of water supply.	The waters at the Subject Property are saline and are not used as drinking water. Project activities will be performed in conformance with permits obtained from the USACE, NYSDEC, and Town of Hempstead. Since Project activities will be completed in conformance with USACE, NYSDEC, and the Town of Hempstead permit requirements and conditions, this Project should not affect the quality or quantity of surface water and groundwater supplies at the Subject Property. Therefore, this Project is in conformance with this Policy.
	40 - Effluent discharged from major steam electric generating and industrial facilities into coastal waters will not be unduly injurious to fish	This Project does not involve effluent discharged from major steam electric generating and industrial facilities into coastal waters. As such, Policy 40 is not applicable to this Project.

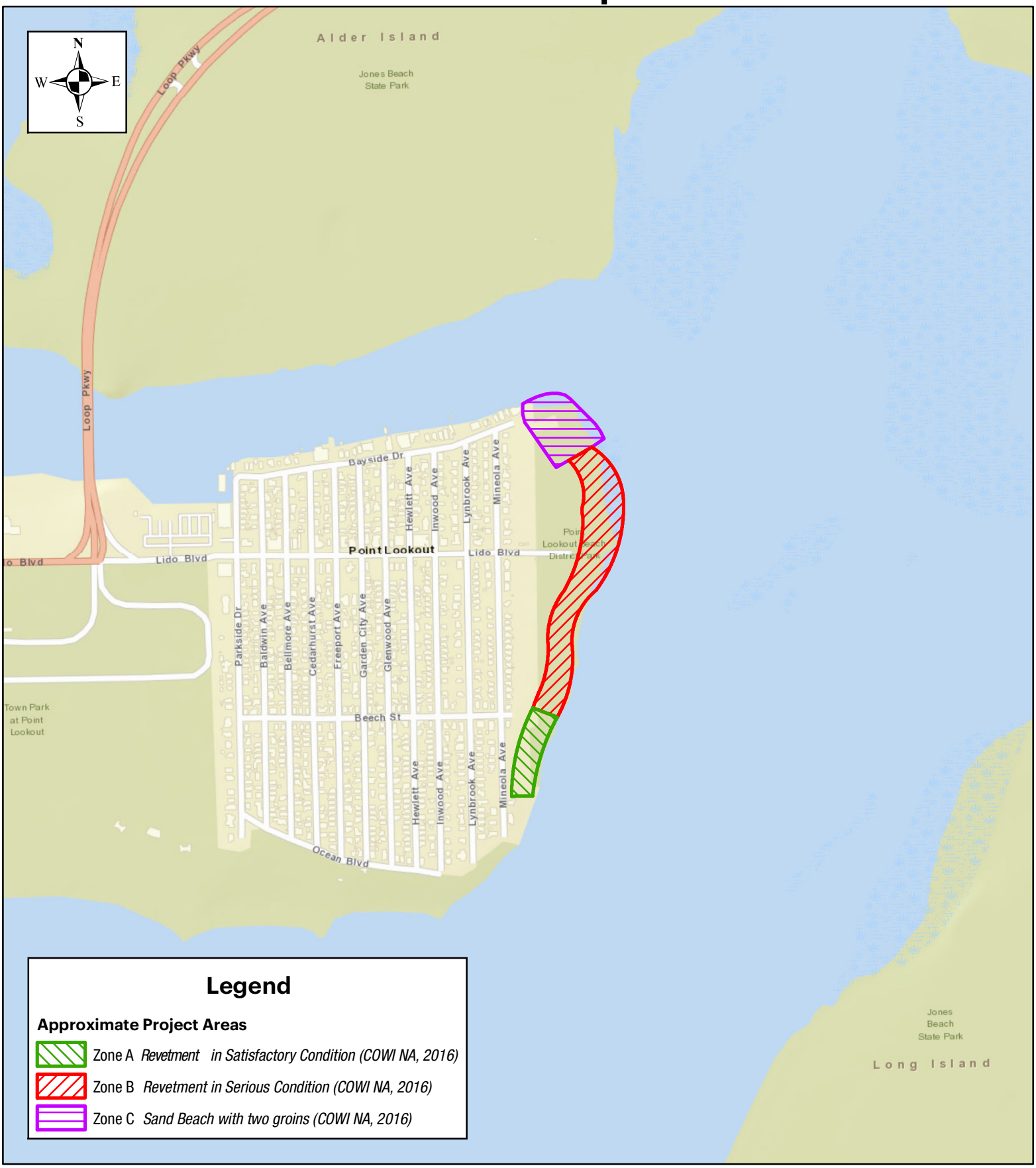
	and wildlife and shall conform to State water quality standards.	

ATTACHMENT D

Project Location Maps

Site Plans

Street Map



Legend

Approximate Project Areas

- Zone A *Revetment in Satisfactory Condition (COWI NA, 2016)*
- Zone B *Revetment in Serious Condition (COWI NA, 2016)*
- Zone C *Sand Beach with two groins (COWI NA, 2016)*

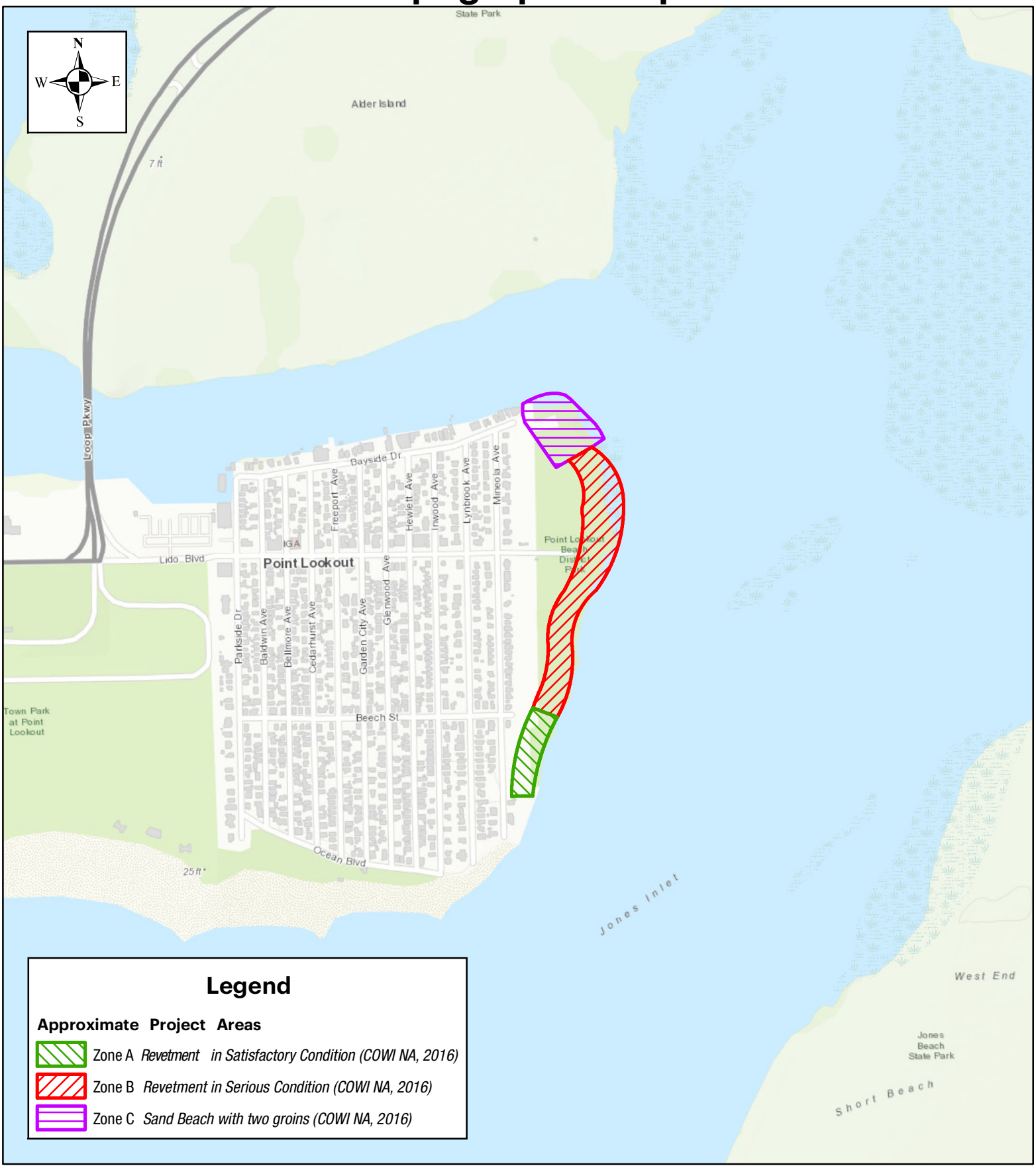
Tectonic

1:10,000

0 500 1,000 2,000 Feet

Point Lookout
Shoreline Stabilization & Revetment
Eastern End of Long Beach Barrier Island
Town of Hempstead
Nassau County, New York

Topographic Map



Tectonic

1:10,000

0 500 1,000 2,000 Feet

Point Lookout
Shoreline Stabilization & Revetment
Eastern End of Long Beach Barrier Island
Town of Hempstead
Nassau County, New York

Aerial Map

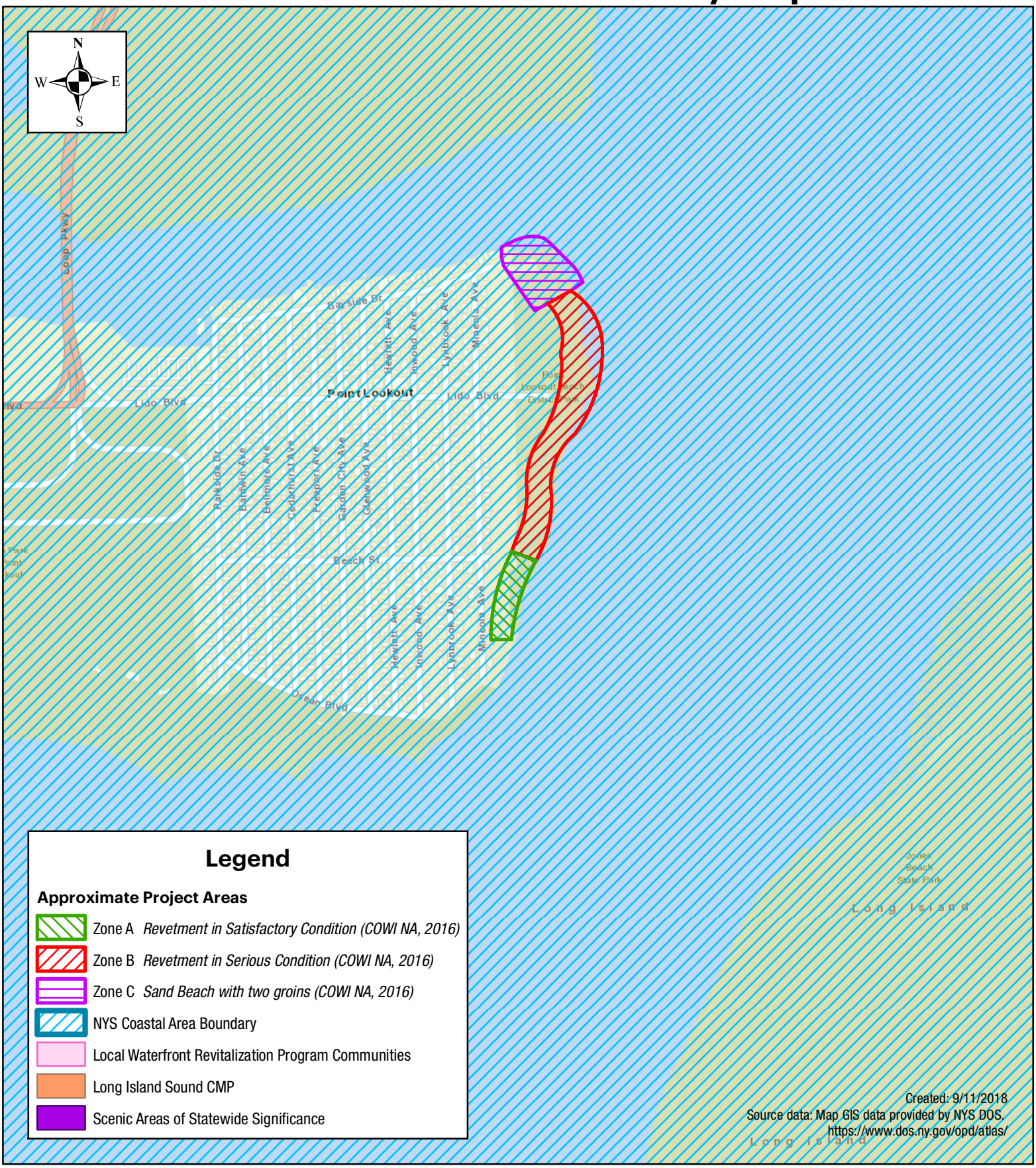
Tectonic

1:10,000

0 500 1,000 2,000 Feet

Point Lookout
Shoreline Stabilization & Revetment
Eastern End of Long Beach Barrier Island
Town of Hempstead
Nassau County, New York

NYS DOS Coastal Boundary Map

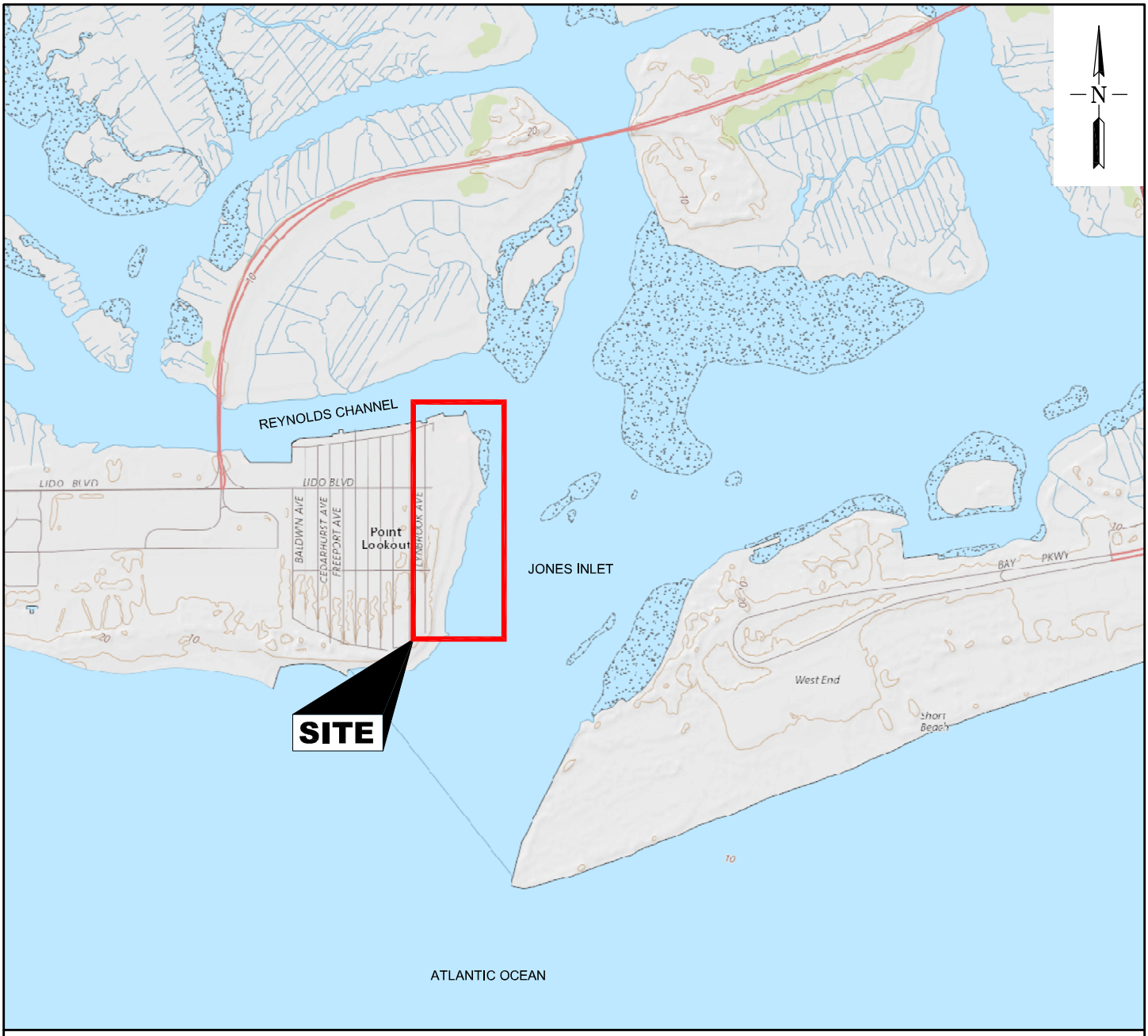


Tectonic

1:10,000

0 500 1,000 2,000 Feet

Point Lookout
Shoreline Stabilization & Revetment
Eastern End of Long Beach Barrier Island
Town of Hempstead
Nassau County, New York



USGS THE NATIONAL MAP: NATIONAL BOUNDARIES DATASET, NATIONAL ELEVATION DATASET, GEOGRAPHIC NAMES INFORMATION SYSTEM, NATIONAL HYDROGRAPHY DATASET, NATIONAL LAND COVER DATABASE, NATIONAL STRUCTURES DATASET, AND NATIONAL TRANSPORTATION DATASET; U.S. CENSUS BUREAU - TIGER/LINE; HERE ROAD DATA. DATA REFRESHED JULY, 2017

VICINITY MAP

0 2000 4000 FEET

APPROX. SCALE 1" = 2000'

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

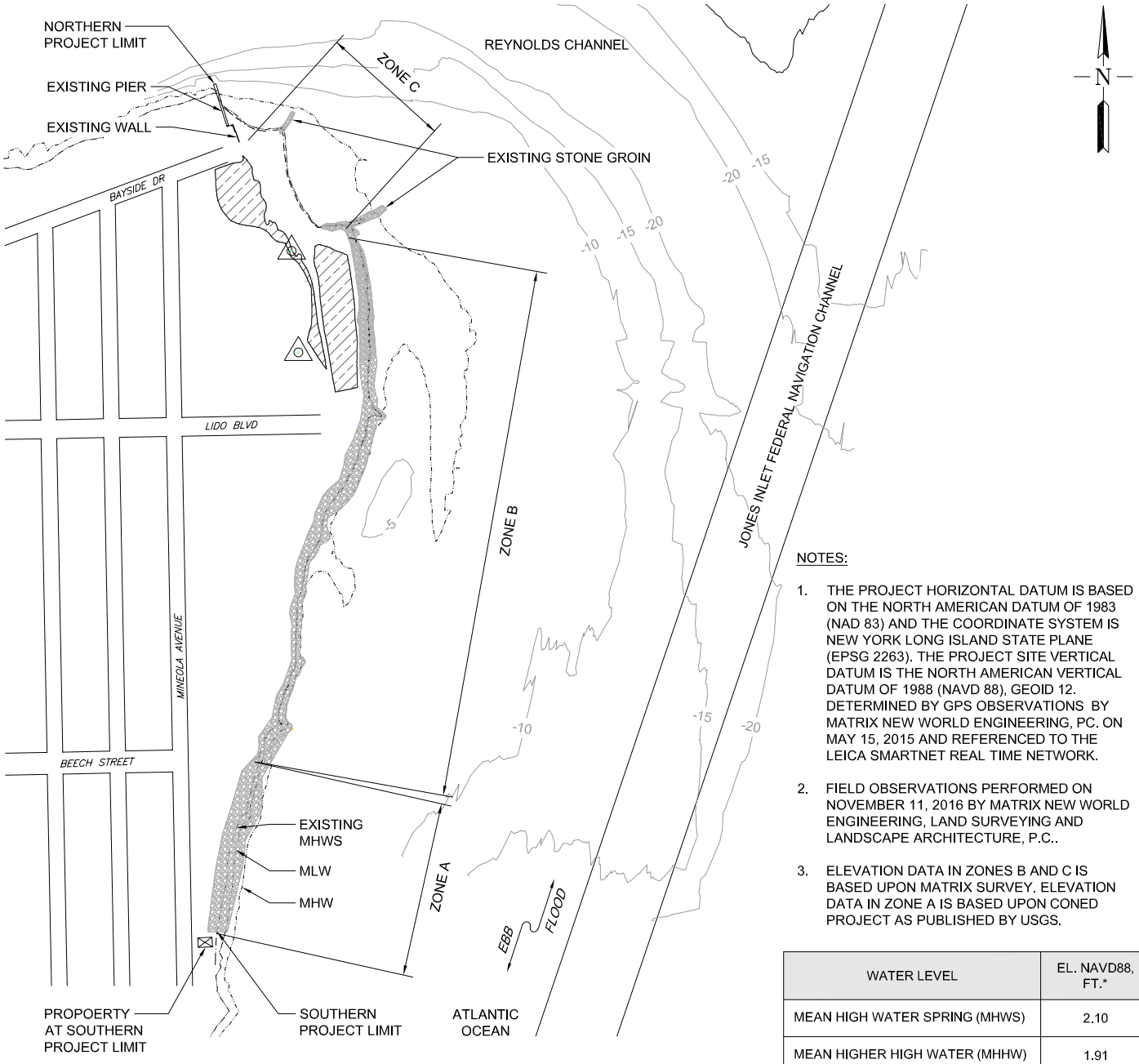
AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 8/17/18

SHEET 1 OF 11



EXISTING SITE PLAN

0 500 FEET

SCALE 1" = 500'

LEGENDS

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

NOTES:

1. THE PROJECT HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) AND THE COORDINATE SYSTEM IS NEW YORK LONG ISLAND STATE PLANE (EPSG 2263). THE PROJECT SITE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), GEOID 12. DETERMINED BY GPS OBSERVATIONS BY MATRIX NEW WORLD ENGINEERING, PC. ON MAY 15, 2015 AND REFERENCED TO THE LEICA SMARTNET REAL TIME NETWORK.
2. FIELD OBSERVATIONS PERFORMED ON NOVEMBER 11, 2016 BY MATRIX NEW WORLD ENGINEERING, LAND SURVEYING AND LANDSCAPE ARCHITECTURE, P.C..
3. ELEVATION DATA IN ZONES B AND C IS BASED UPON MATRIX SURVEY. ELEVATION DATA IN ZONE A IS BASED UPON CONED PROJECT AS PUBLISHED BY USGS.

WATER LEVEL	EL. NAVD88, FT.*
MEAN HIGH WATER SPRING (MHWS)	2.10
MEAN HIGHER HIGH WATER (MHHW)	1.91
MEAN HIGH WATER (MHW)	1.59
NAVD88	0.00
MEAN SEA LEVEL (MSL)	-0.50
MEAN LOW WATER (MLW)	-2.56
MEAN LOWER LOW WATER (MLLW)	-2.74

* WATER LEVELS AS PER STATION 8516402 POINT LOOKOUT, NY

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LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 8/17/18

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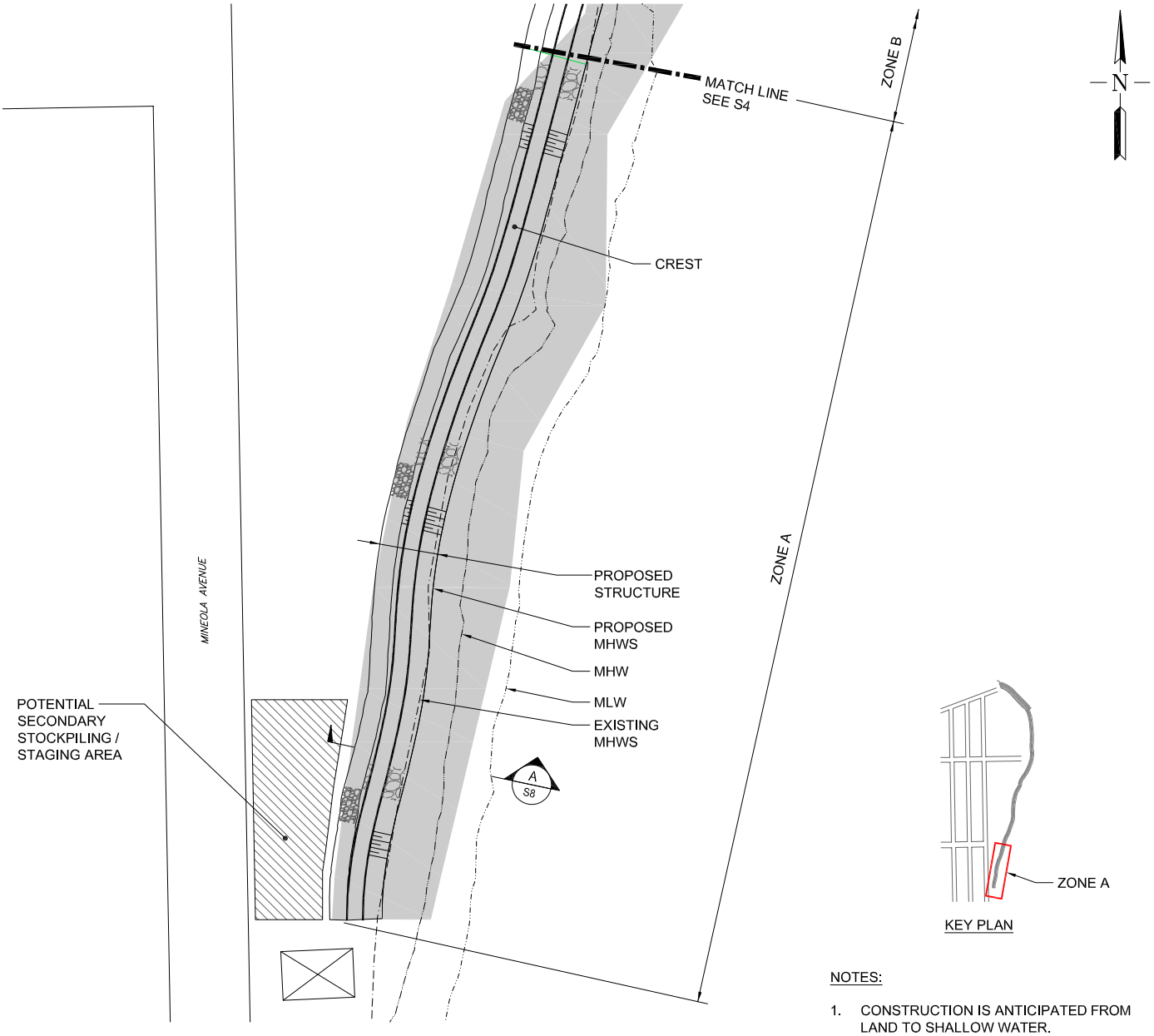

KEY PLAN

PROPOSED PARTIAL SITE PLAN - ZONE A

0 100 FEET

SCALE 1" = 100'

LEGENDS

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- POTENTIAL STOCKPILING / STAGING AREA

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STOCKPILED STONE ON SITE, AND STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.

FOR PERMIT USE ONLY
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DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

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LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 8/17/18

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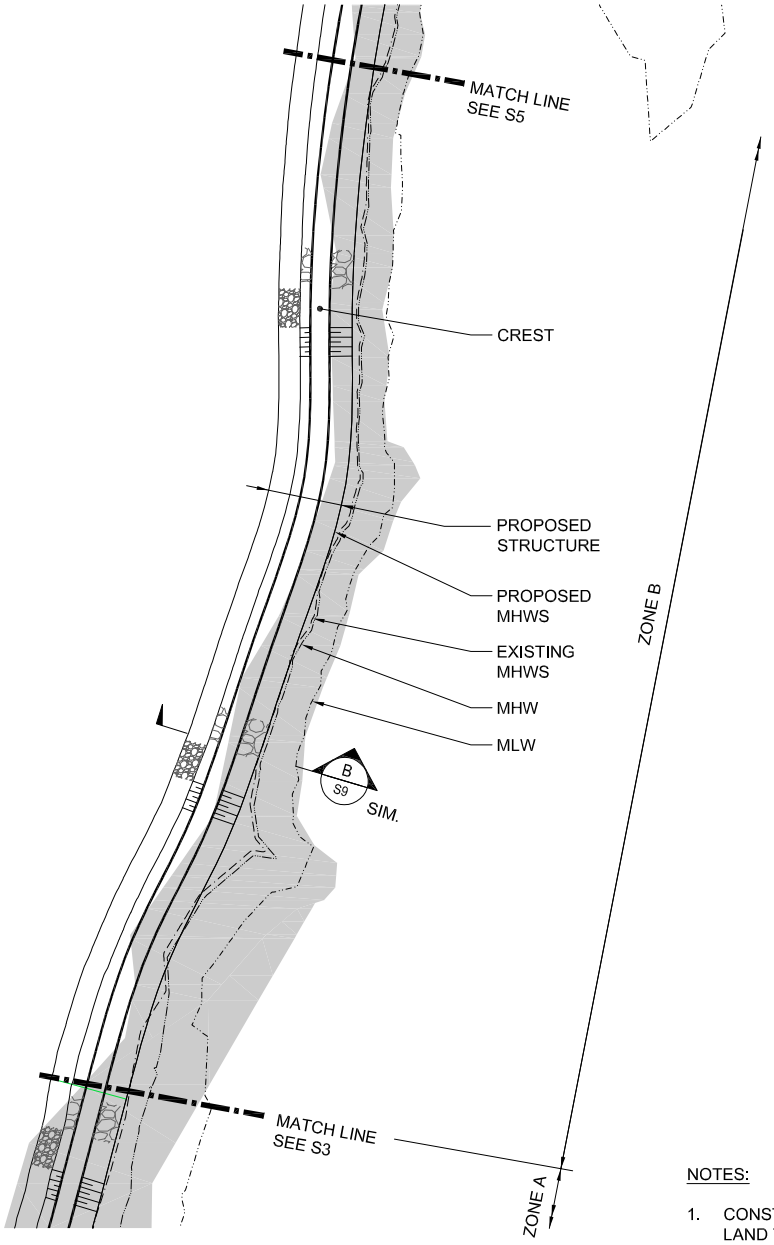

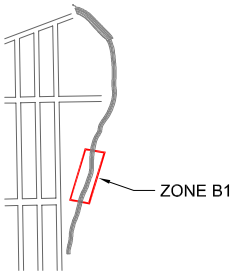

KEY PLAN

PROPOSED PARTIAL SITE PLAN - ZONE B1

0 100 FEET

SCALE 1" = 100'

LEGENDS

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STOCKPILED STONE ON SITE, AND STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.

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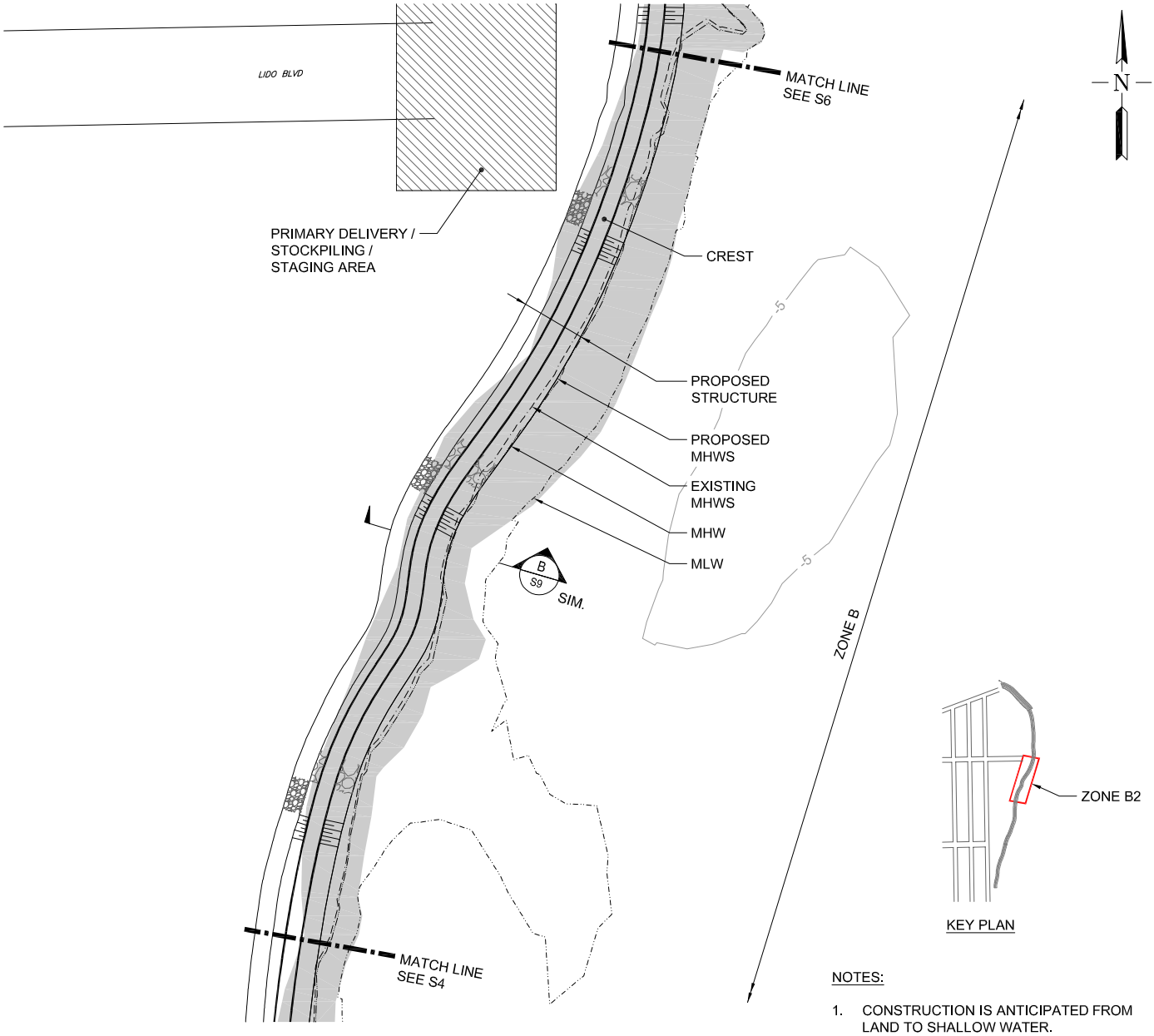
LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 8/17/18

\\cowi.net\projects\A075000\A076209\CAD\Permit Set\A076209-1-Permit 03-04-05-06-07.dwg Permit 04 Michelle Saraswati Fri, 17 Aug 2018 - 5:03pm



PROPOSED PARTIAL SITE PLAN - ZONE B2

0 100 FEET

SCALE 1" = 100'

LEGENDS

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- POTENTIAL STOCKPILING / STAGING AREA

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STOCKPILED STONE ON SITE, AND STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

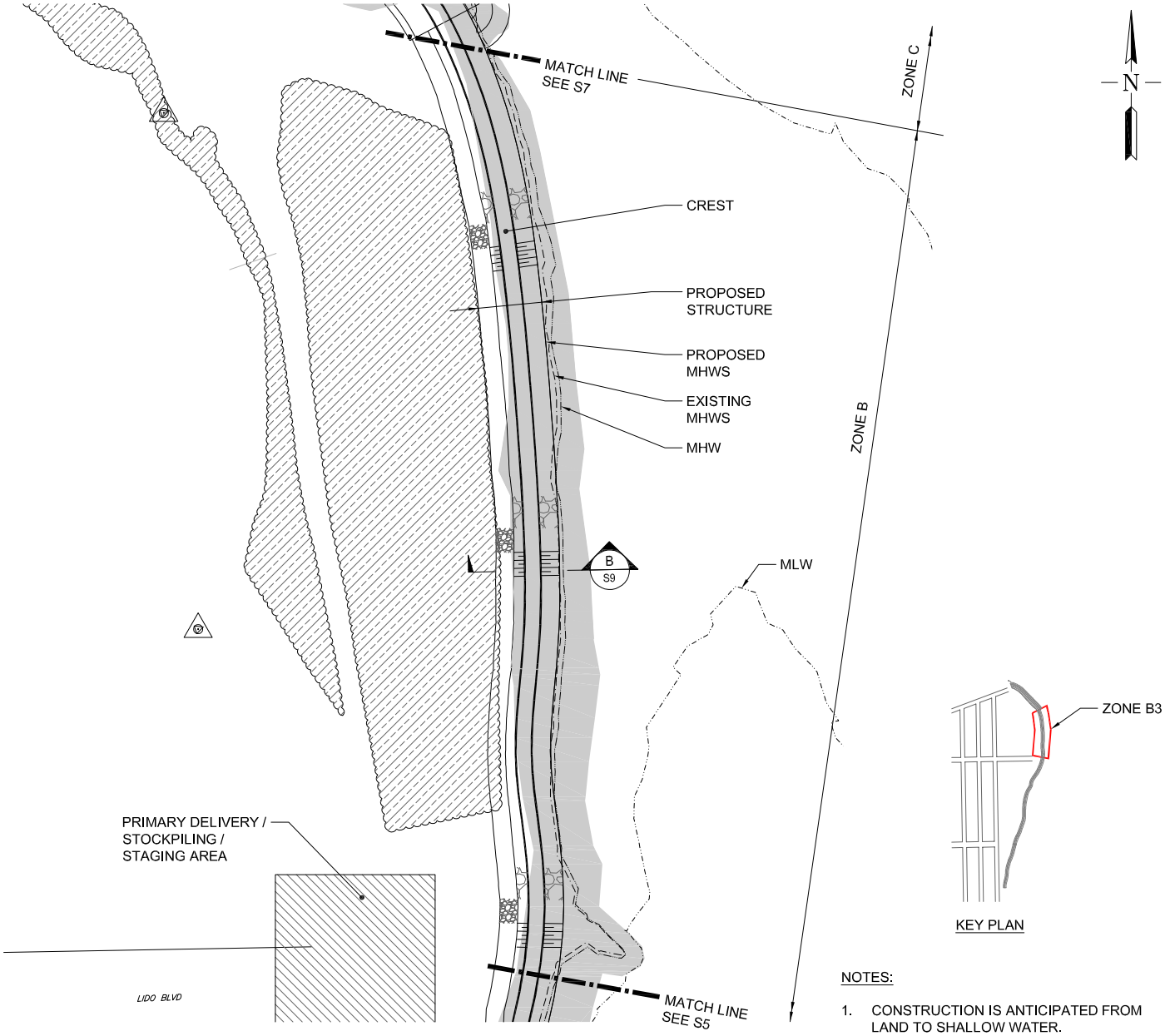
AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 8/17/18

SHEET 5 OF 11



PROPOSED PARTIAL SITE PLAN - ZONE B3

0 100 FEET

SCALE 1" = 100'

LEGENDS

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- POTENTIAL STOCKPILING / STAGING AREA
- BENCHMARK

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STOCKPILED STONE ON SITE, AND STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

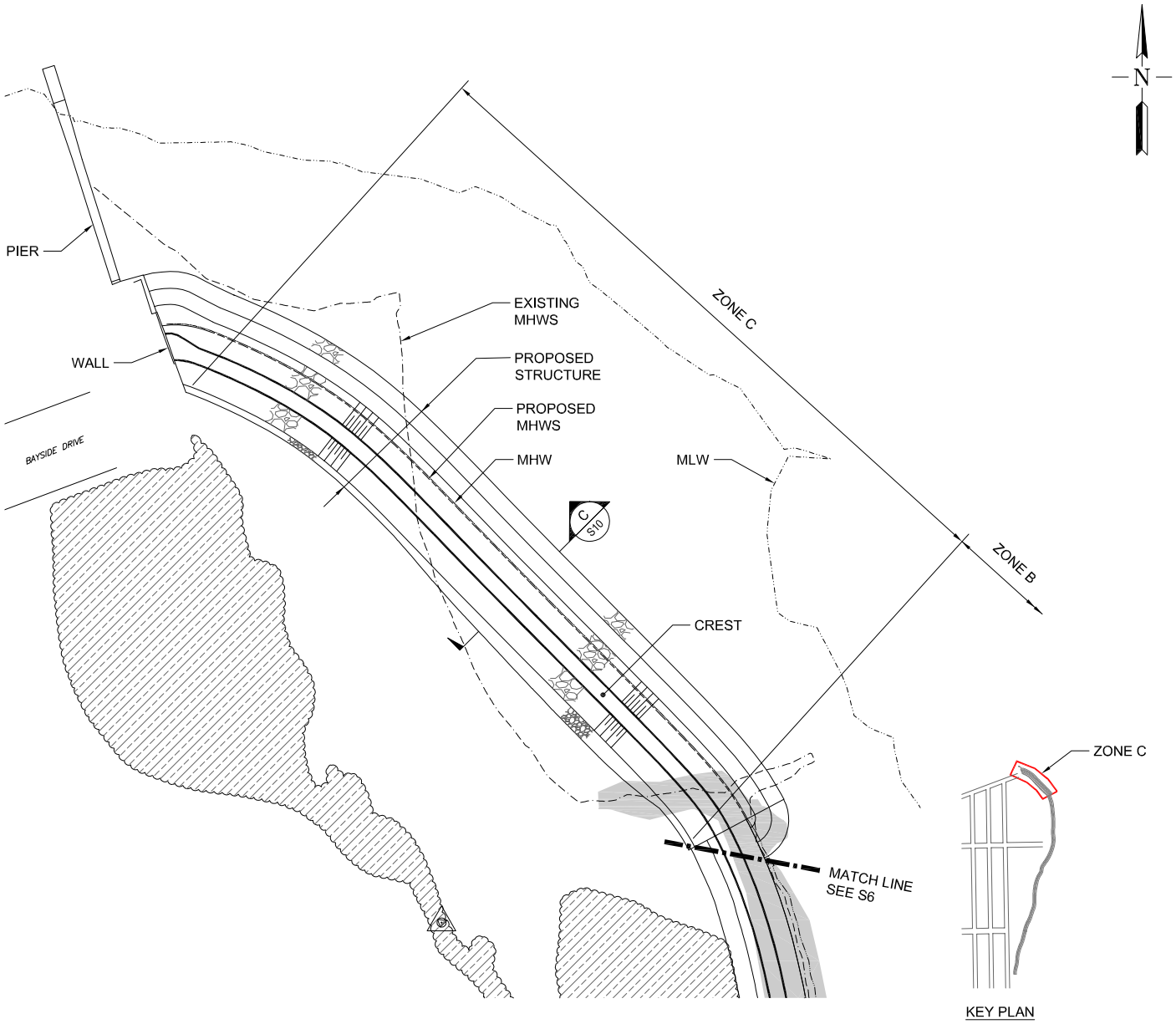
AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 8/17/18

SHEET 6 OF 11



PROPOSED PARTIAL SITE PLAN - ZONE C

0 100 FEET

SCALE 1" = 100'

LEGENDS

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STOCKPILED STONE ON SITE, AND STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 8/17/18

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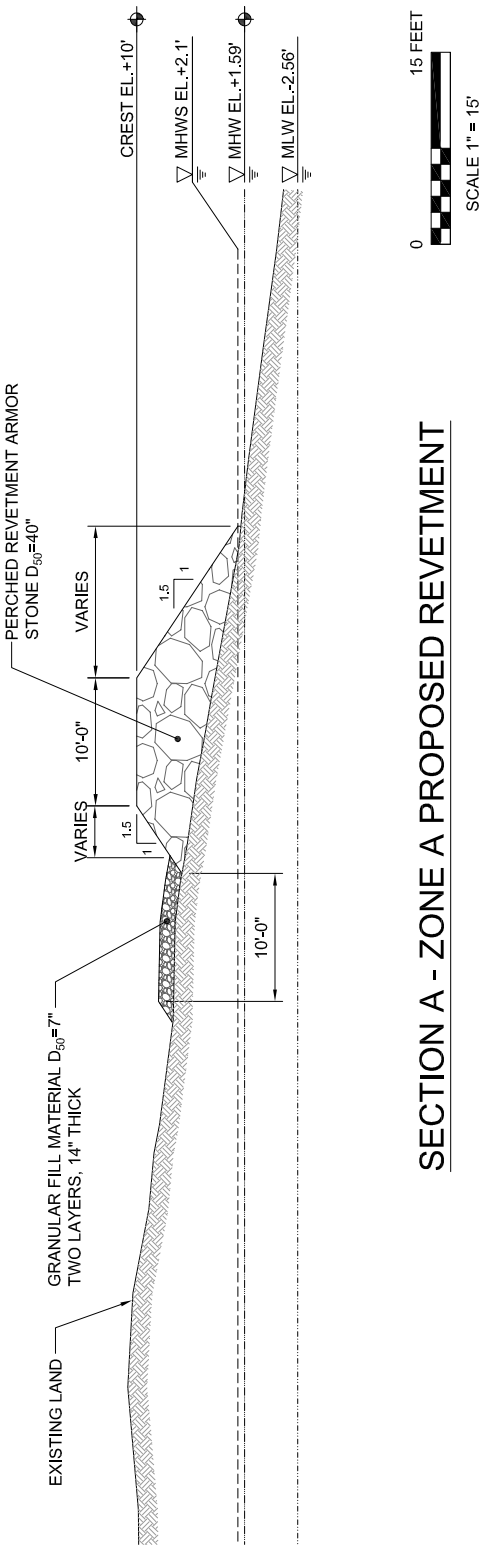

SECTION A - ZONE A PROPOSED REVETMENT

0 15 FEET

SCALE 1" = 15'

NOTES:

1. THE SEWARD SIDE OF THE REVETMENT IS PROPOSED TO HAVE THE TOE START AT MHWS; THE LEEWARD SIDE OF THE REVETMENT IS PROPOSED TO HAVE THE TOE EXTEND TO THE EXISTING LAND ELEVATION.

LEGENDS

- - - - - - - - MEAN HIGH WATER SPRING PROPOSED
——·——·—— MEAN HIGH WATER
——·····—— MEAN LOW WATER

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 8/17/18

SHEET 8 OF 11

SECTION B - ZONE B PROPOSED REVETMENT

NOTES:

1. THE SEWARD SIDE OF THE REVETMENT IS PROPOSED TO HAVE THE TOE START AT MHWS; THE LEEWARD SIDE OF THE REVETMENT IS PROPOSED TO HAVE THE TOE EXTEND TO THE EXISTING LAND ELEVATION.

LEGENDS

- - - - - - - - MEAN HIGH WATER SPRING PROPOSED
——·——·—— MEAN HIGH WATER
——·····—— MEAN LOW WATER

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 8/17/18

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SECTION C - ZONE C PROPOSED REVETMENT

0 15 FEET

SCALE 1" = 15'

NOTES:

1. THE SEWARD SIDE OF THE REVETMENT IS PROPOSED TO HAVE THE TOE START AT MHWS; THE LEEWARD SIDE OF THE REVETMENT IS PROPOSED TO HAVE THE TOE EXTEND TO THE EXISTING LAND ELEVATION.

LEGENDS

- - - - - - - - MEAN HIGH WATER SPRING PROPOSED
——·——·—— MEAN HIGH WATER
——·——·—— MEAN LOW WATER

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

AGENT: COWI

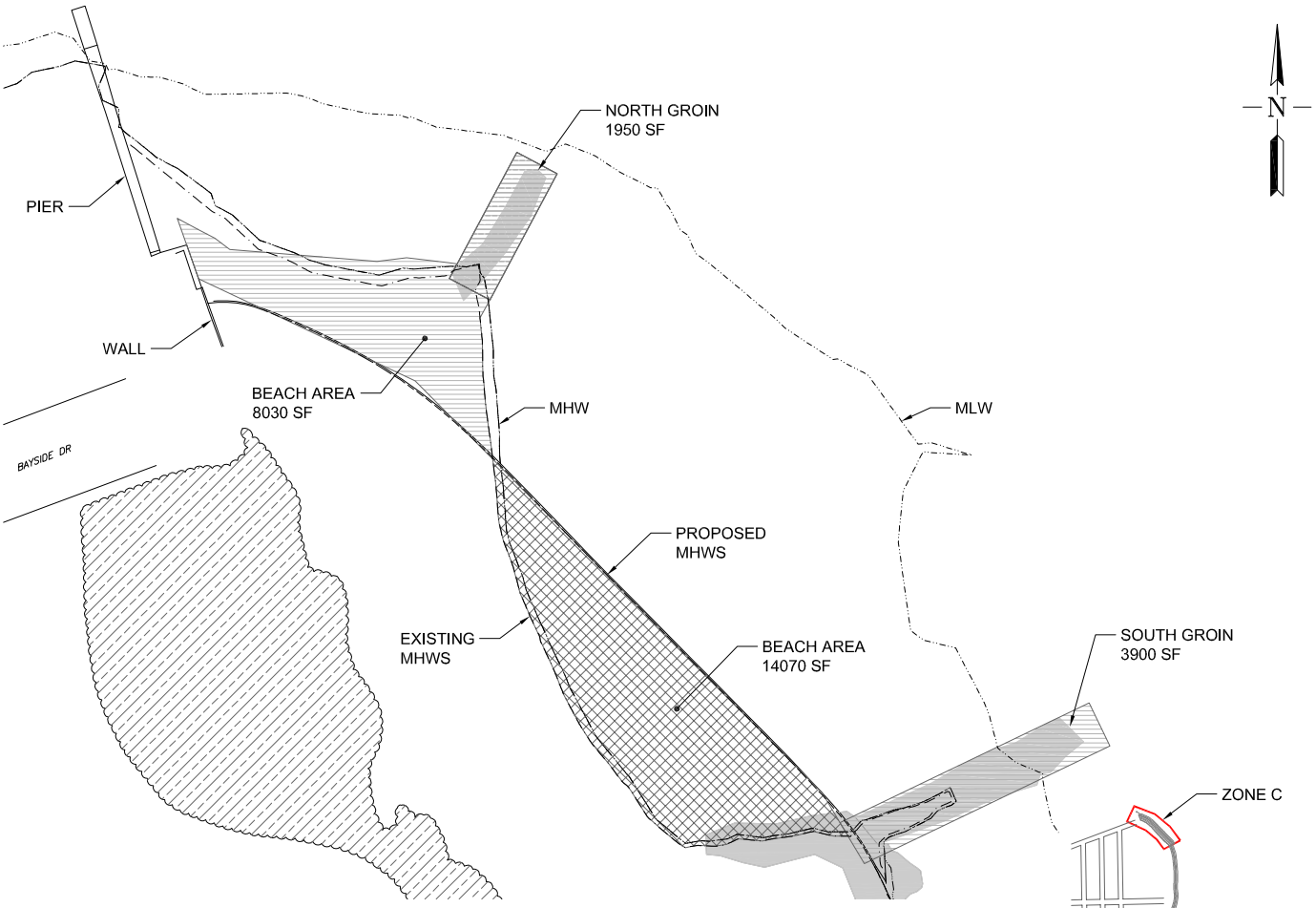
LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 8/17/18

SHEET 10 OF 11

	Zone A	Zone B	Zone C		Total
			Below MHWS	Above MHWS	
Armor Stone (D50=40in) [ft3]	31,943	183,587	78,402	98,100	392,031
Underlayer Stone (D50=16in) [ft3]	0	0	33,961	46,538	80,499
Granular Fill (D50=7in) [ft3]	7,305	22,868	4,737	6,694	41,604
Cut Volume [ft3]	0	0	161,860	67,321	229,181
Geotextile Fabric [ft2]	0	0	14,125	18,362	32,487



ZONE C - PROPOSED MHWS HABITAT AREAS

0 100 FEET

SCALE 1" = 100'

LEGENDS

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- REMOVE AREA
- RECLAIM AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

NOTES:

1. HABITAT AREAS QUANTIFIED AS PER THE EXISTING MHWS CONTOUR.

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 8/17/18

SHEET 11 OF 11

Attachment 8

HUD Environmental Standards Review

Point Lookout: Shoreline Stabilization & Revetment Project
HUD Environmental Standards Review

Project Site: East End of Long Beach Barrier Island,
Town of Hempstead, Nassau County, New York

Introduction

The purpose of this review is to ensure that the project complies with U.S. Department of Housing and Urban Development (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 Project Site referenced in the title of this document comply 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

Records Review for the Project Site

Project Site:
The Shoreline Stabilization & Revetment Project (Project) will involve repairing and extending an existing revetment located around the tip of Point Lookout along Reynolds Channel and Jones Inlet in order to prevent scour and to replicate the dunes washed away by Superstorm Sandy. The Project will include the de-construction of two existing groins, re-use of stone to construct a new revetment between the two groins, and the construction of a perched revetment to strengthen an existing revetment. The Project will take place wholly within the Town-owned parcels that are designated as Point Lookout Beach District Park, Hamlet of Point Lookout, Town of Hempstead, New York. These parcels will be collectively referred to as the Project Site, or Project Area within this report.

New York State Department of Environmental Conservation (NYSDEC) Records:
The Project Site is not listed on the NYSDEC Bulk Storage, Environmental Site Remediation, or Spill Incidents Databases. A review of the NYSDEC databases provided no indication of past uses of the Project Site that could contaminate the Project Site or conflict with the intended utilization of the Project Site. The Project Site is not located within 3,000 feet of a toxic or solid waste landfill site.

EPA Records:
The Project Site 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 Site is not located within 3,000 feet of a toxic or solid waste landfill site. The Project Site is not known or suspected to be contaminated by toxic chemicals or radioactive materials.

Records Review for the Surrounding Properties

EPA Records:

According to the EPA's Enforcement and Compliance History Online (ECHO) search, there are five (5) EPA-listed and permitted hazardous waste, air emissions and water discharger facilities located within 3,000 feet of the Project Site. All five (5) facilities have no violations reported at the facility and, therefore, are not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Project Site. Facilities with no permit violations are not considered a hazard because 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.

NYSDEC Records:

A search of the NYSDEC Environmental Site Remediation Database notes there are no environmental remediation sites within 3,000 feet of the Project Site. It should be noted that, as accurate spill locations in 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 certain spill incidents were located near the Project Site and the Surrounding Properties. A search of the NYSDEC Spill Incidents Database resulted in the identification of 14 spills within 1,000 feet of the Project Site; all 14 spills have been closed by the NYDEC. 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 spill reports are not considered a hazard that could conflict with the intended utilization of the Project Site.

The NYSDEC Bulk Storage Database indicates that there is one (1) bulk storage site located within 3,000 feet of the Project Site. This site, **Alcor Petroleum Corp**, is an unregulated/ closed petroleum bulk facility located approximately 620 feet west and crossgradient of the Project Site. Three (3) gasoline tanks registered to the site. Two (2) closed spills have been reported for the site. A spill closure by the NYSDEC means that the records and data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial activities are necessary under the spill report number. Due to the distance and cross-gradient location from the Project Site and the status of the permit, this Bulk Storage site is not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Project Site.

Conclusion

Based on a review of available environmental records for the Project Site and the surrounding area, the Project Site 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 Site. 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 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 sites are 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. 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

Tectonic

1:13,000

0 750 1,500 3,000 Feet

Point Lookout
Shoreline Stabilization & Revetment
Eastern End of Long Beach Barrier Island
Town of Hempstead
Nassau County, New York

HUD Environmental Report Maps

Tectonic

1:13,000

0 750 1,500 3,000 Feet

Point Lookout
Shoreline Stabilization & Revetment
Eastern End of Long Beach Barrier Island
Town of Hempstead
Nassau County, New York

July 15, 2019

1:18,056

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

Project 1

Buffer Area

PCS (single)

AIRS (single)

RCRAINFO (clustered)

RCRAINFO (single)

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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: 2 Rows: 1 to 2

Export XLS Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	9410554	11/08/1994	ZINMAN RESIDENCE	Nassau	POINT LOOKOUT	55 INWOOD AVENUE
2.	1804381	07/24/2018	BURKE RESIDENCE	Nassau	POINT LOOKOUT	124 INWOOD AVENUE

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 2 Rows: 1 to 2

Export XLS Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	9513415	01/24/1996	BALL RESIDENCE	Nassau	POINT LOOKOUT	129 MINEOLA AVENUE
2.	1307589	10/24/2013	ROADWAY	Nassau	POINT LOOKOUT	LIDO BLVD / MINEOLA AVE

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.	9304695	07/14/1993	UNKNOWN	Nassau	POINT LOOKOUT	137 & 135 GLENWOOD AVE
2.	1307937	11/03/2013	DRISTOLL RESIDENCE	Nassau	POINT LOOKOUT	111 GLENWOOD AVENUE
3.	1507239	10/09/2015	RESIDENCE	Nassau	POINT LOOKOUT	125 GLENWOOD AVENUE

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 8 Rows: 1 to 8

Export XLS Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	8703927	08/12/1987	ED'S FISHING STATION	Nassau	POINT LOOKOUT	BAYSIDE DRIVE
2.	8706292	10/26/1987	DOXSEE SEA CLAM CO	Nassau	POINT LOOKOUT	50 BAYSIDE DRIVE
3.	9308632	10/15/1993	GENESIS SEAFOOD INC	Nassau	POINT LOOKOUT	71 BAYSIDE DRIVE
4.	1104444	07/21/2011	TEDS FISHING STATION	Nassau	POINT LOOKOUT	143 BAYSIDE DRIVE
5.	1105470	08/14/2011	RESIDENCE	Nassau	POINT LOOKOUT	171 BAYSIDE DRIVE
6.	1214851	12/17/2012	SCOTTY'S FISHING STATION	Nassau	POINT LOOKOUT	72 BAYSIDE DR
7.	1311205	02/28/2014	ROADWAY	Nassau	POINT LOOKOUT	87 BAYSIDE DRIVE
8.	1802414	05/31/2018	SCOTTYS FISHING STATION	Nassau	POINT LOOKOUT	72 BAYSIDE DRIVE

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 22 Rows: 1 to 22

Export XLS | Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	8502256	09/30/1985	Y&B S/S	Nassau	POINT LOOKOUT	37 LIDO BLVD/BELLMORE AVE
2.	8503275	12/16/1985	LIDO POINT LOOKOUT FD	Nassau	POINT LOOKOUT	LIDO BLVD & HEWLETT AVE
3.	8908556	11/28/1989	TEXACO S/S	Nassau	POINT LOOKOUT	12 LIDO BLVD
4.	8910314	01/27/1990	SUPER QUALITY CLEANERS	Nassau	POINT LOOKOUT	48 LIDO BLVD
5.	9006523	09/13/1990	US POST OFFICE	Nassau	POINT LOOKOUT	110 LIDO BLVD
6.	9102091	05/22/1991	THOMAS MENY	Nassau	POINT LOOKOUT	115 LIDO BLVD
7.	9106362	09/12/1991	STORAGE GARAGE LIDO BEACH	Nassau	POINT LOOKOUT	LIDO BEACH ROAD
8.	9107399	10/09/1991	UNK	Nassau	POINT LOOKOUT	LIDO BLVD EAST MARINA
9.	9510966	12/01/1995	HEMPSTEAD DPW GARAGE T/O	Nassau	POINT LOOKOUT	1300 LIDO BLVD
10.	9515310	02/27/1996	Spill Number 9515310	Nassau	POINT LOOKOUT	107 LIDO BLVD
11.	9702439	05/27/1997	STRIP STORES (PIZZA)	Nassau	POINT LOOKOUT	28 LIDO BLVD
12.	0225343	11/26/2002	FORMER CITGO	Nassau	POINT LOOKOUT	37 LIDO BLVD
13.	0406017	09/01/2004	SAINT ALBANS PROPERTY	Nassau	POINT LOOKOUT	LIDO BLVD
14.	0502691	06/06/2005	UNKNOWN	Nassau	POINT LOOKOUT	99 LIDO BLVD/HEWLETT AVENUE
15.	0551163	10/19/2005	WESTHOLM AUTO/CITGO	Nassau	POINT LOOKOUT	LIDO BLVD/PARKSIDE DRIVE
16.	0551502	12/22/2005	CITGO	Nassau	POINT LOOKOUT	12 LIDO BLVD
17.	0708504	11/05/2007	PARKS & REC	Nassau	POINT LOOKOUT	1300 LIDO BLVD
18.	0712886	03/07/2008	MUNICIPAL BUILDING	Nassau	POINT LOOKOUT	EAST MARINA LIDO BLVD
19.	0905836	08/18/2009	UNKNOWN	Nassau	POINT LOOKOUT	54 BALDWIN AVENUE / LIDO BLVD
20.	1003228	06/22/2010	TOWN OF HEMPSTEAD PARKS AND REC	Nassau	POINT LOOKOUT	1300 LIDO BVLD
21.	1007765	10/21/2010	LONG BEACH OUTFALL PIPE	Nassau	POINT LOOKOUT	320 LIDO BLVD
22.	1307589	10/24/2013	ROADWAY	Nassau	POINT LOOKOUT	LIDO BLVD / MINEOLA AVE

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Bulk Storage Database Search Details

Facility Information

Site No.: 1-000122
Status: Unregulated/Closed
Expiration Date:
Site Type: PBS
Facility Type: Retail Gasoline Sales
Site Name: ALCOR PETROLEUM CORP
Address: 12 LIDO BLVD
Locality: POINT LOOKOUT
State: NY
Zipcode: 11569
County: Nassau

Facility Operator

Facility Operator: ALCOR PETROLEUM CORP

Tank Information

3 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
2	Underground including vaulted with no access for inspection	Tank Converted to Non-Regulated use	0
3	Underground including vaulted with no access for inspection	Tank Converted to Non-Regulated use	0

Refine This Search

Attachment 9

Endangered Species Compliance Documents

NHP Records Request Response
USFWS Consultation Package
NMFS Section 7 No Effect Memorandum
NMFS EFH No Effect Memorandum

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

March 25, 2019

James McAllister
Governor's Office of Storm Recovery (GOSR)
25 Beaver Street
New York, NY 10004

Re: Point Lookout Shoreline Stabilization and Revetment Project
County: Nassau Town/City: Hempstead

Dear Mr. McAllister:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur at or in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 1 Office, Division of Environmental Permits, at dep.r1@dec.ny.gov, (631) 444-0365.

Sincerely,

Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program

304

The following state-listed animals have been documented at Point Lookout Beach District Park or in its vicinity.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for the project, contact the NYSDEC Region 1 Office, Division of Environmental Permits, at dep.r1@dec.ny.gov, (631) 444-0365..

The following species have been documented at Point Lookout Beach District Park.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Piping Plover *Breeding*	*Charadrius melodus*	Endangered	Threatened	3768
Least Tern *Breeding*	*Sternula antillarum*	Threatened		8044
Short-eared Owl *Wintering*	*Asio flammeus*	Endangered		

The following species have been documented across Jones Inlet at the west end of Jones Beach Island.

Piping Plover *Breeding*	*Charadrius melodus*	Endangered	Threatened
Common Tern *Breeding*	*Sternula antillarum*	Threatened	
Least Tern *Breeding*	*Sterna hirundo*	Threatened	
Black Skimmer *Breeding*	*Rynchops niger*	Special Concern	

The following species has been documented across Reynolds Channel at Alder Island.

Piping Plover *Breeding*	*Charadrius melodus*	Endangered	Threatened

This report only includes records from the NY Natural Heritage database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

The following rare animals and significant natural communities have been documented in the vicinity of Point Lookout Beach District Park.

While significant impacts on these species and communities from the proposed project may not be expected, we recommend that the proposed project be planned and conducted so as to avoid any possible impacts. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following animals, while not listed by New York State as Endangered or Threatened, are rare in New York and are of conservation concern.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Harlequin Duck *Wintering*	*Histrionicus histrionicus*	Protected Bird	Critically Imperiled in NYS

Ducks winter in Jones Inlet , including along Point Lookout Beach, and along Long Beach Island and Jones Beach Island West . 15634

The following natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. Each community is a high-quality example of a community type that is rare in the state. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

COMMON NAME	*HERITAGE CONSERVATION STATUS*
Low Salt Marsh	High Quality Occurrence of Uncommon Community Type
High Salt Marsh	High Quality Occurrence of Uncommon Community Type
Salt Panne	High Quality Occurrence of Uncommon Community Type

Hempstead Bay Salt Marshes, including salt marshes across Reynolds Channel from Point Lookout: These communities comprise a complex system of wetlands in tidal bays with variable tidal range.

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence ofall rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

Governor's Office of Storm Recovery

ANDREW M. CUOMO
Governor

February 21, 2020

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 Point Lookout Shoreline Stabilization and Revetment Project, Hamlet of Point Lookout, Town of Hempstead, Nassau 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 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 Town of Hempstead is requesting HUD CDBG-DR funding for the Point Lookout Shoreline Stabilization and Revetment Project (Project). A site investigation was completed in October 2016 by COWI that documented and classified the existing structures located in the Project area. The Project area was divided into the following three zones, based on the existing condition of the shoreline:

Zone A – existing revetment in fair condition; this area has a length of approximately 550 feet and extends (from south to north) from the southern limit of Mineola Avenue to the shoreline adjacent to the intersection of Beech Street and Mineola Avenue.

Zone B – existing revetment in serious condition; the area has a length of approximately 1,800 feet and extends (from south to north) from the shoreline adjacent to the intersection of Beech Street and Mineola Avenue to the northern limit of the existing revetment/ the southern groin.

Zone C – a sand beach with two (2) groins (defined as the northern and southern groins), which is located on the northeastern corner of Point Lookout and extends (from south to north) from the northern limit of the existing revetment/ the southern groin to the shoreline adjacent to the eastern limit of Bayside Drive.

The Project will include the de-construction of the two existing groins, re-use of stone to construct a new revetment between two groins (Zone C), and the construction of a perched revetment to strengthen the existing revetment (Zones A and B). The Project will take place wholly within the Town-owned parcels that are designated as Point Lookout Beach District Park, Hamlet of Point Lookout, Town of Hempstead, New York. Project location maps, which depict the approximate location of the individual project zones, are included in **Appendix A**. Project design plans are included in **Appendix B**.

In Zones A and B, a perched revetment will be constructed with additional lee side granular fill overtopping protection. This design is intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it. All material is proposed to be placed landward of the existing mean high water spring (MHWS) contour. Therefore, all construction activities for these Zones will be confined to the area above the MHWS. In Zone C, two existing groins will be removed and a new revetment will be constructed to prevent shoreline erosion due to wave and current action. Additional lee side erosion and scour protection was designed due to large volumes of overtopping expected during storm events. Geotextile filter fabric will be utilized as a filter and a separation layer between existing soil and the revetment underlayer in Zone C. The separation layer will prevent filtering of fine soil into the underlayer while allowing for sufficient water flow through it in order to reduce hydrodynamic loads. Groin removal in conjunction with new revetment construction will also eliminate stagnation area between the groins and allow for free seaweed and sediment movement along the shoreline.

Materials will be delivered to the area by trucks. Excavation (groin and derelict revetment removal) and grading within Zone C will be performed during low tide using a land based excavator. Excavated materials (sand and stone) will be stockpiled locally and reused in the reconstruction. Geotextile will be delivered to the area in rolls and then manually placed on top of the post-excavation grade. It will be held down by underlayer stones during the construction period. Smaller stones (underlayer and granular fill) will be placed using a front bucket loader or a bobcat. The excavator with a hydraulic rock placing arm will then be used to individually place large armor stones. The Project will not involve excavation or removal of material in Zones A and B. The Project will not involve the disturbance of any vegetated dune areas. There will be a balance between reclaimed and removed intertidal areas. There will not be any changes in the beach material type. Best management practices will be implemented to prevent any equipment, material, or debris from entering the waterway. The contractor will prepare and submit a spill response plan, which

will document measures and activities to be performed should any oil or fluid spillage occur during the construction.

The Project is intended to repair and extend an existing revetment located around the tip of Point Lookout along Reynolds Channel and Jones Inlet in order to prevent scour and replicate the dunes washed away by Superstorm Sandy. The Project will minimize the loss of human life by stabilizing the shoreline along the community of Point Lookout. If no action is taken, a subsequent storm event could result in catastrophic flooding and destruction of the existing residences and businesses, potentially resulting in the loss of life. Federal financial assistance will support activities representing a long-term public investment in a critical piece of infrastructure that is necessary to protect the community of Point Lookout and the well-being of its residents and local economy, as well as eliminate the need for constant dredge and fill activities. The Project will also minimize the damage to fish and wildlife by stabilizing the shoreline, creating and enhancing wildlife habitats along the coast.

The existing revetment along Jones Inlet functions as a barrier that absorbs wave energy, reflects waves, and reduces wave run- up during storm events. Portions of the landward dune were destroyed by Superstorm Sandy, rendering the area landward of the revetment vulnerable to scour. Until the revetment is repaired, houses along Mineola Avenue adjacent to the Point Lookout Beach District Park will be vulnerable to damage from waves and surge generated by coastal storms.

The sand beach that is situated from the north end of Jones Inlet west around the tip of Point Lookout along Reynolds Channel is subject to an ongoing process of coastal erosion along Jones Inlet. This has resulted in shoreline retreat, which has reduced the distance between the water and structures on Bayside Drive and increased the vulnerability of residences and businesses to coastal erosion. If nothing is done to halt the process of erosion, the foundations of residences and businesses could be undermined, leading to structural collapse and threatening the life and safety of the occupants. The process of erosion occurring at the northeast end of Point Lookout also causes loss of open space in the Point Lookout Beach District Park. Eventually, if left unprotected, erosion along Jones Inlet in the area of the Park will encroach upon additional residences on Mineola Drive. The Project would result in the protection of this Town-owned facility, residential and commercial structures, and the lives of the occupants on Bayside Drive, Mineola Avenue, and the existing open space at the Point Lookout Beach District Park.

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 Project activities will have "**No Effect"** on migratory birds.

According to New York Natural Heritage Program (NYNHP) records request response, the following species have been documented at Point Lookout Beach District Park: piping plover, least tern, and short-

eared owl. Additionally, the NYNHP records request response identified the following species have been documented across Jones Inlet at the west end of Jones Beach Island: piping plover, common tern, least tern, and black skimmer; and the following species has been documented across Reynolds Channel at Alder Island: piping plover. The NHP records request response is included in **Appendix E**.

A permit application was sent to the United States Army Corps of Engineers (USACE) and New York State Department of Environmental Conservation (NYSDEC) in June 2019. NYSDEC permit authorizations for Tidal Wetlands – Under Article 25, Excavation & Fill in Navigable Waters – Under Article 15, Title 5, Water Quality Certification – Under Section 401 – Clean Water Act, and Coastal Erosion Management – under Article 34 (Permit ID 1-2820-02003/00012-00015) were obtained on January 21, 2020 (**Appendix F**). The NYSDEC found that the Project, as proposed, would not require any specific permit conditions to mitigate impacts to threatened or endangered species.

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 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 not anticipated to involve tree removal. Also, according to the NYSDEC, there are no records of the northern long-eared bat in the vicinity of the proposed Project area (**Appendix E**). Therefore, GOSR has determined that the proposed Project would have "**No Effect**" on the NLEB.

2.2 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 will involve the addition of stone to create a perched revetment in Zones A and B and will not involve excavation or removal of material in Zones A and B. Project activities in Zone C will be performed in the intertidal zone at low tide. The Project will not involve the disturbance of any vegetated dune areas or vegetated tidal wetland areas. There will be a balance between reclaimed and removed intertidal areas. Additionally, there will not be any changes in the beach material type. The piping plover is not anticipated to occur in the Project area. The Town of Hempstead Department of Conservation and Waterways has an

extensive south shore piping plover management program which identifies and protects piping plover territory in this area and has not identified any piping plover territory at the Project location. The NYSDEC found that the Project, as proposed, would not require any specific permit conditions to mitigate impacts to threatened or endangered species. Therefore, GOSR has determined that the proposed Project would have "**No Effect**" on the piping plover.

2.3 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 will involve the addition of stone to create a perched revetment in Zones A and B and will not involve excavation or removal of material in Zones A and B. Project activities in Zone C will be performed in the intertidal zone at low tide. The Project will not involve the disturbance of any vegetated dune areas or vegetated tidal wetland areas. There will not be any changes in the beach material type. Additionally, the NYNHP has no records of the red knot in the vicinity of the proposed Project. Therefore, GOSR has determined that the Project would have "**No Effect**" on the red knot.

2.4 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 will involve the addition of stone to create a perched revetment in Zones A and B and will not involve excavation or removal of material in Zones A and B. Project activities in Zone C will be performed in the intertidal zone at low tide. The Project will not involve the disturbance of any vegetated dune areas or vegetated tidal wetland areas. There will not be any changes in the beach material type. Additionally, the NYNHP has no records of the roseate tern in the vicinity of the proposed Project. Therefore, GOSR has determined that the Project would have "**No Effect**" on the roseate tern.

2.5 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 will involve the addition of stone to create a perched revetment in Zones A and B and will not involve excavation or removal of material in Zones A and B. Project activities in Zone C will be performed in the intertidal zone at low tide. The Project will not involve the disturbance of any vegetated dune areas or vegetated tidal wetland areas. There will not be any changes in the beach material type. Additionally, the

NYNHP has no records of the seabeach amaranth in the vicinity of the proposed Project. Therefore, GOSR has determined that the Project would have "**No Effect**" on the sandplain gerardia.

2.6 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 will involve the addition of stone to create a perched revetment in Zones A and B and will not involve excavation or removal of material in Zones A and B. Project activities in Zone C will be performed in the intertidal zone at low tide. The Project will not involve the disturbance of any vegetated dune areas or vegetated tidal wetland areas. There will not be any changes in the beach material type. Additionally, the NYNHP has no records of the seabeach amaranth in the vicinity of the proposed Project. Therefore, GOSR has determined that the Project would have "**No Effect**" on the seabeach amaranth.

3.0 CONCLUSION

Project implementation would be conditioned upon issuance of applicable federal, state and local permits. The Project would be constructed in accordance with federal and state permit requirements and their conditions. The 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 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

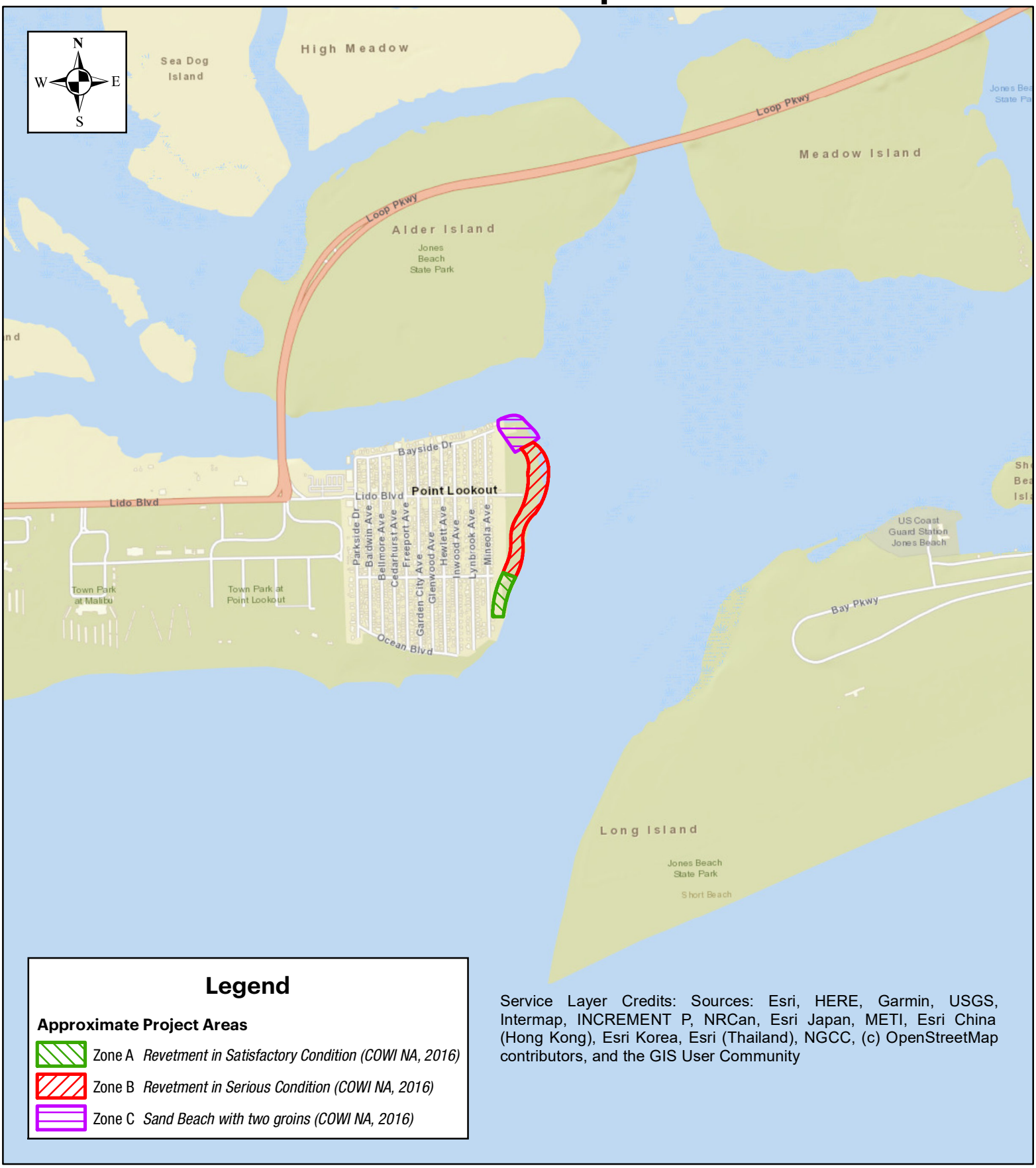
Attachments:

Appendix A: Project Location Maps
(Street Map, Topographic Map, and Aerial Map)
Appendix B: Project Design Plans

Appendix C: USFWS Official Species List
Appendix D: USFWS IPaC Resource List
Appendix E: NYNHP Records Request Response
Appendix F: NYSDEC Environmental Permit

Appendix A

Street Map



Legend

Approximate Project Areas

- Zone A *Revetment in Satisfactory Condition (COWI NA, 2016)*
- Zone B *Revetment in Serious Condition (COWI NA, 2016)*
- Zone C *Sand Beach with two groins (COWI NA, 2016)*

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

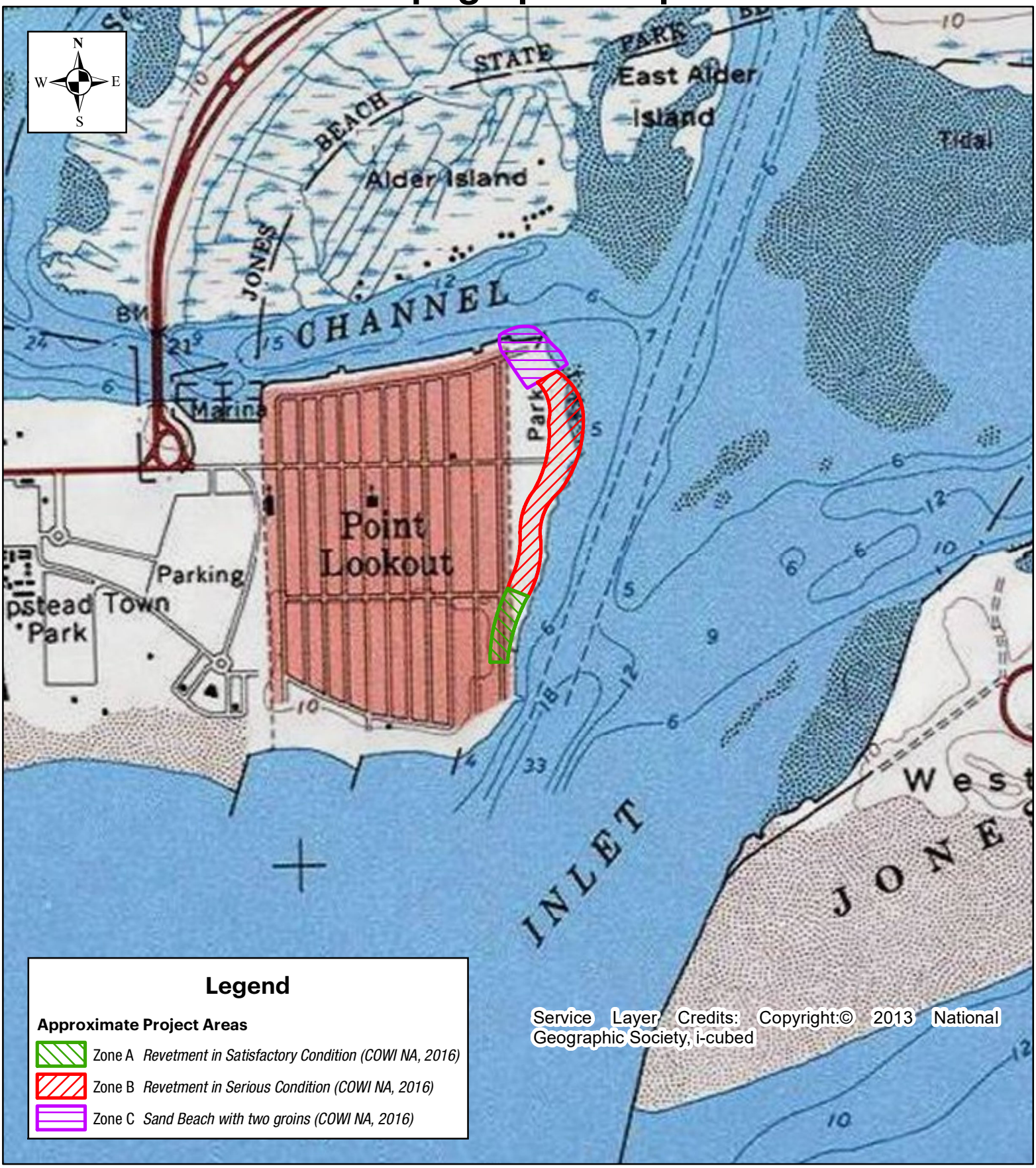
Tectonic

1:20,000

0 1,000 2,000 4,000 Feet

Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

Topographic Map



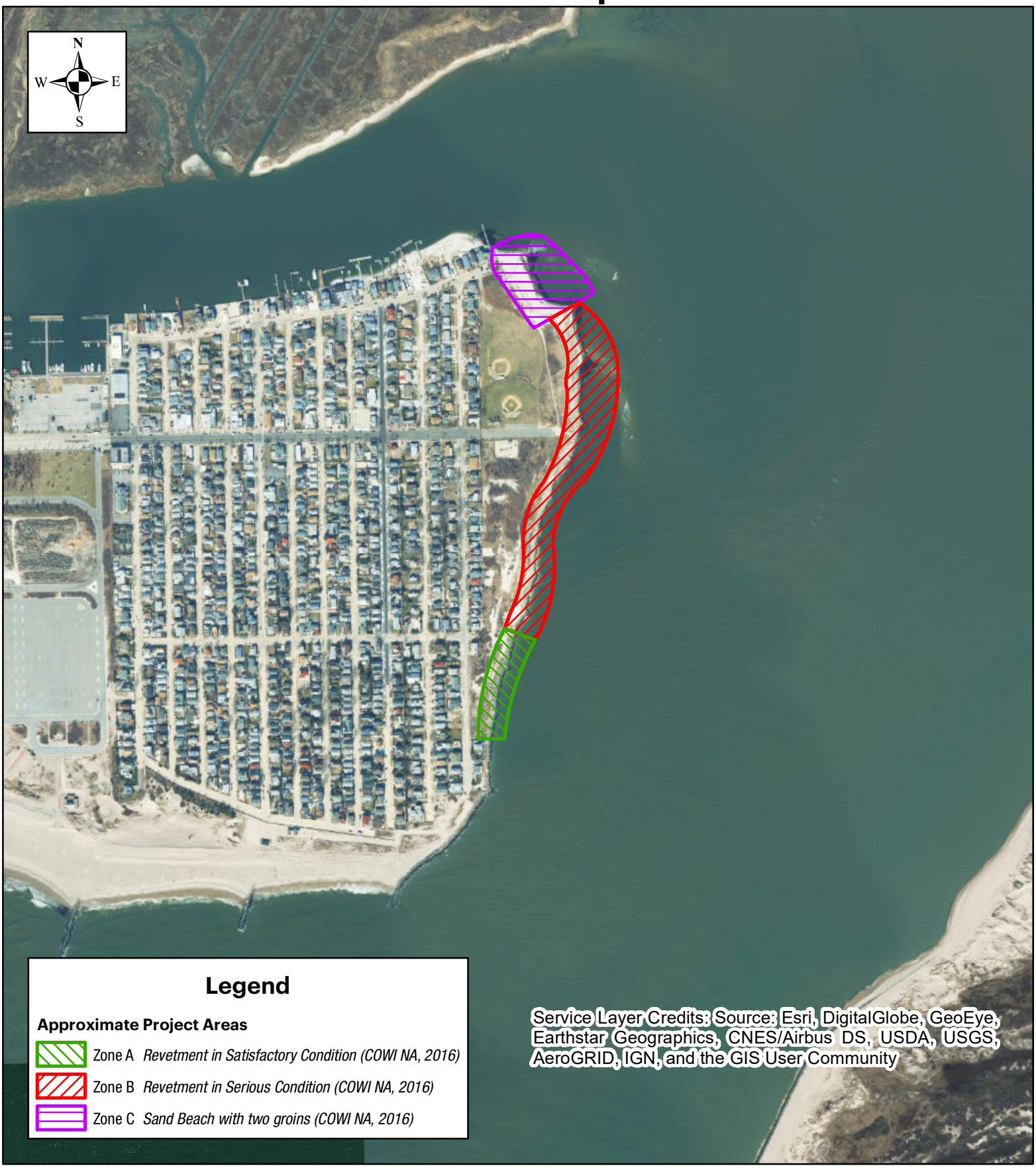
Tectonic

1:12,000

0 625 1,250 2,500 Feet

Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

Aerial Map



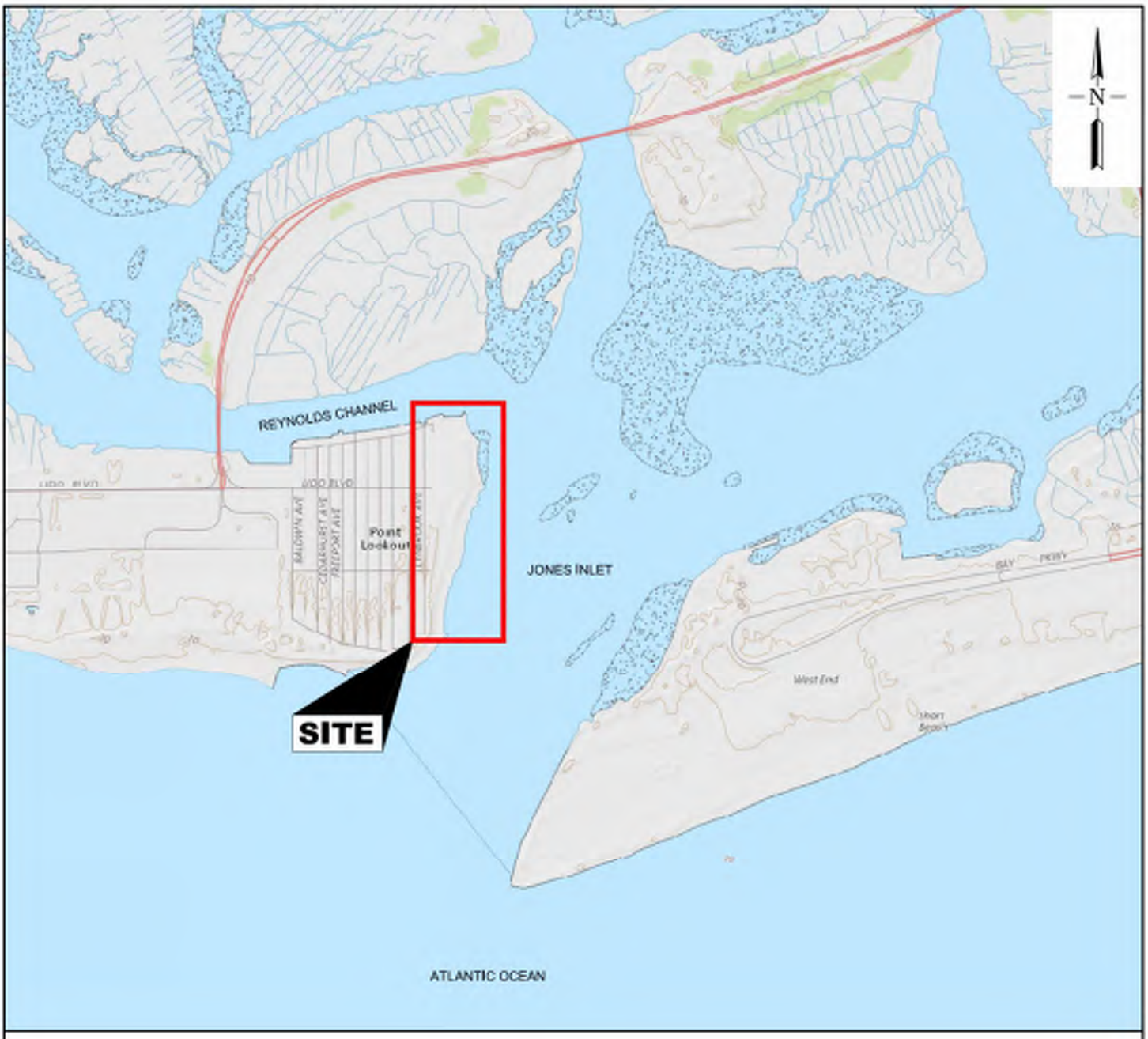
Tectonic

1:8,000

0 415 830 1,660 Feet

Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

Appendix B



USGS THE NATIONAL MAP: NATIONAL BOUNDARIES DATASET, NATIONAL ELEVATION DATASET, GEOGRAPHIC NAMES INFORMATION SYSTEM, NATIONAL HYDROGRAPHY DATASET, NATIONAL LAND COVER DATABASE, NATIONAL STRUCTURES DATASET, AND NATIONAL TRANSPORTATION DATASET; U.S. CENSUS BUREAU - TIGER/LINE; HERE ROAD DATA. DATA REFRESHED JULY, 2017

VICINITY MAP

0 2000 4000 FEET

APPROX. SCALE 1" = 2000'

REVISION 1

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

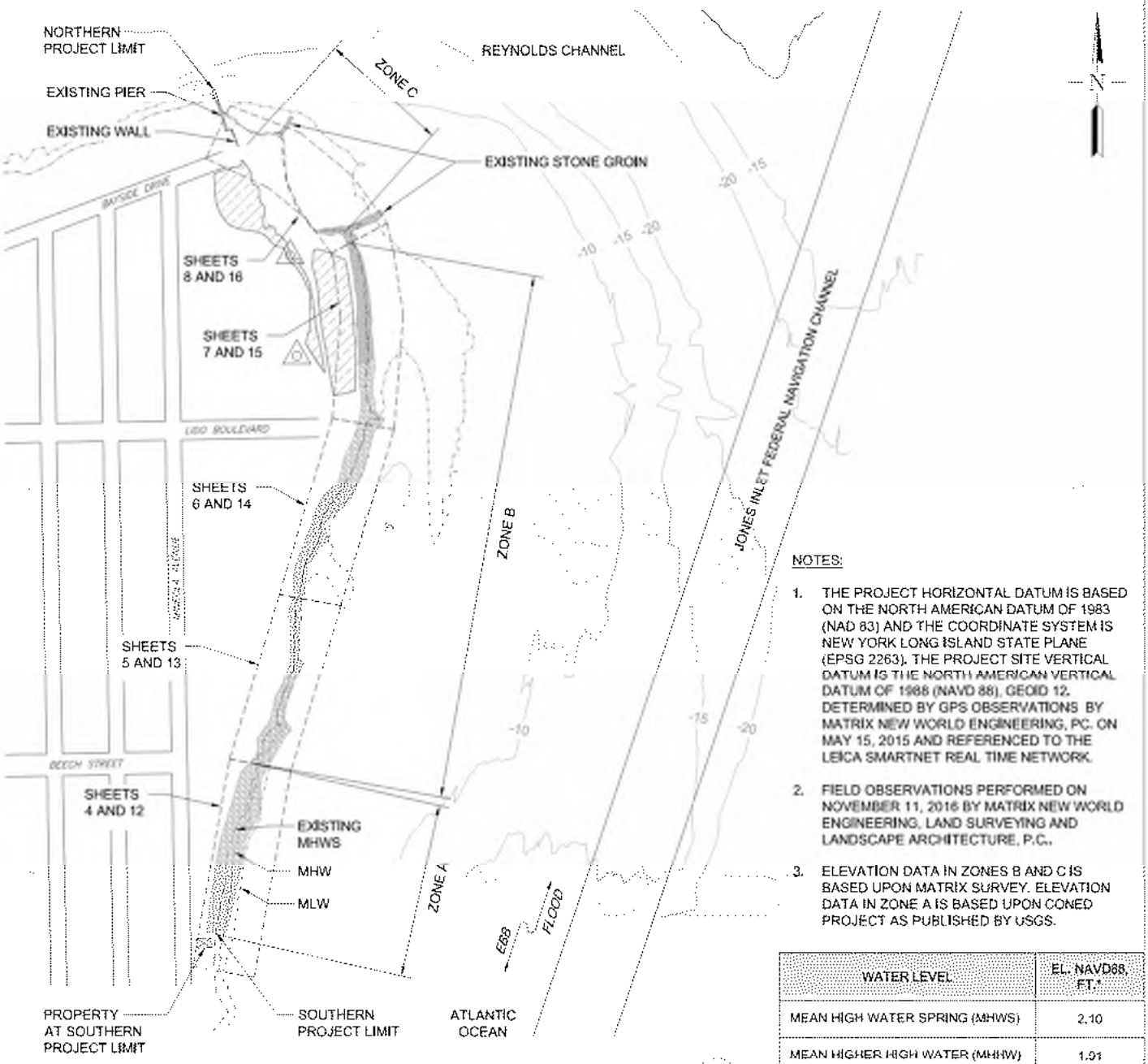
AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

SHEET 1 OF 21



EXISTING SITE PLAN

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

0 500 FEET

SCALE 1" = 500'

NOTES:

1. THE PROJECT HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) AND THE COORDINATE SYSTEM IS NEW YORK LONG ISLAND STATE PLANE (EPSG 2263). THE PROJECT SITE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), GEOID 12, DETERMINED BY GPS OBSERVATIONS BY MATRIX NEW WORLD ENGINEERING, PC. ON MAY 15, 2015 AND REFERENCED TO THE LEICA SMARTNET REAL TIME NETWORK.
2. FIELD OBSERVATIONS PERFORMED ON NOVEMBER 11, 2016 BY MATRIX NEW WORLD ENGINEERING, LAND SURVEYING AND LANDSCAPE ARCHITECTURE, P.C..
3. ELEVATION DATA IN ZONES B AND C IS BASED UPON MATRIX SURVEY. ELEVATION DATA IN ZONE A IS BASED UPON CONED PROJECT AS PUBLISHED BY USGS.

WATER LEVEL	EL. NAVD88, FT.*
MEAN HIGH WATER SPRING (MHWS)	2.10
MEAN HIGHER HIGH WATER (MHHW)	1.91
MEAN HIGH WATER (MHW)	1.59
NAVD88	0.00
MEAN SEA LEVEL (MSL)	-0.50
MEAN LOW WATER (MLW)	-2.56
MEAN LOWER LOW WATER (MLLW)	-2.74

* WATER LEVELS AS PER STATION 8516402 POINT LOOKOUT, NY

REVISION 1

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SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

SHEET 2 OF 21

	ZONE A (ABOVE MHWS)	ZONE B (ABOVE MHWS)			ZONE C		TOTAL
		B1	B2	B3	BELOW MHWS	ABOVE MHWS	
ARMOR STONE (D50=40 in; W50=3.05 ton) (yd^3)	1,183	2,123	2,323	2,353	2,904	3,633	14,520
UNDERLAYER STONE (D50=16 in; W50=391 lbm) (yd^3)	0	0	0	0	1,258	1,724	2,981
GRANULAR FILL (D50=7 in; W50=33 lbm) (yd^3)	271	264	289	293	175	248	1,541
GEOTEXTILE FABRIC (ft^2)	0	0	0	0	14,125	18,362	32,487

PROPOSED MATERIAL QUANTITIES

	ABOVE MHWS		BELOW MHWS	
ZONE	CUT (yd^3)	FILL (yd^3)	CUT (yd^3)	FILL (yd^3)
A	0	1,454	0	0
B1	0	2,388	0	0
B2	0	2,612	0	0
B3	0	2,612	0	0
C	2,493	2,647	5,995	4,337
TOTAL	2,493	14,705	5,995	4,337

PROPOSED CUT AND FILL VOLUMES

NOTES:

1. NO CUT OR FILL BELOW MHWS IS PROPOSED IN ZONES A, B1, B2, AND B3.

REVISION 1

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APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

\\cowi.net\projects\A075000\A076209\CAD\Permit Set\A076209-1-Permit 03.dwg Permit 03 Jennifer Milne Tue, 11 Jun 2019 - 8:11am

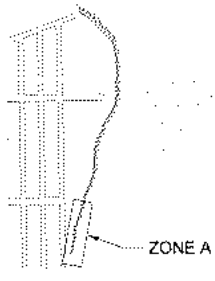
EXISTING PARTIAL SITE PLAN - ZONE A

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA



KEY PLAN

REVISION 1

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DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

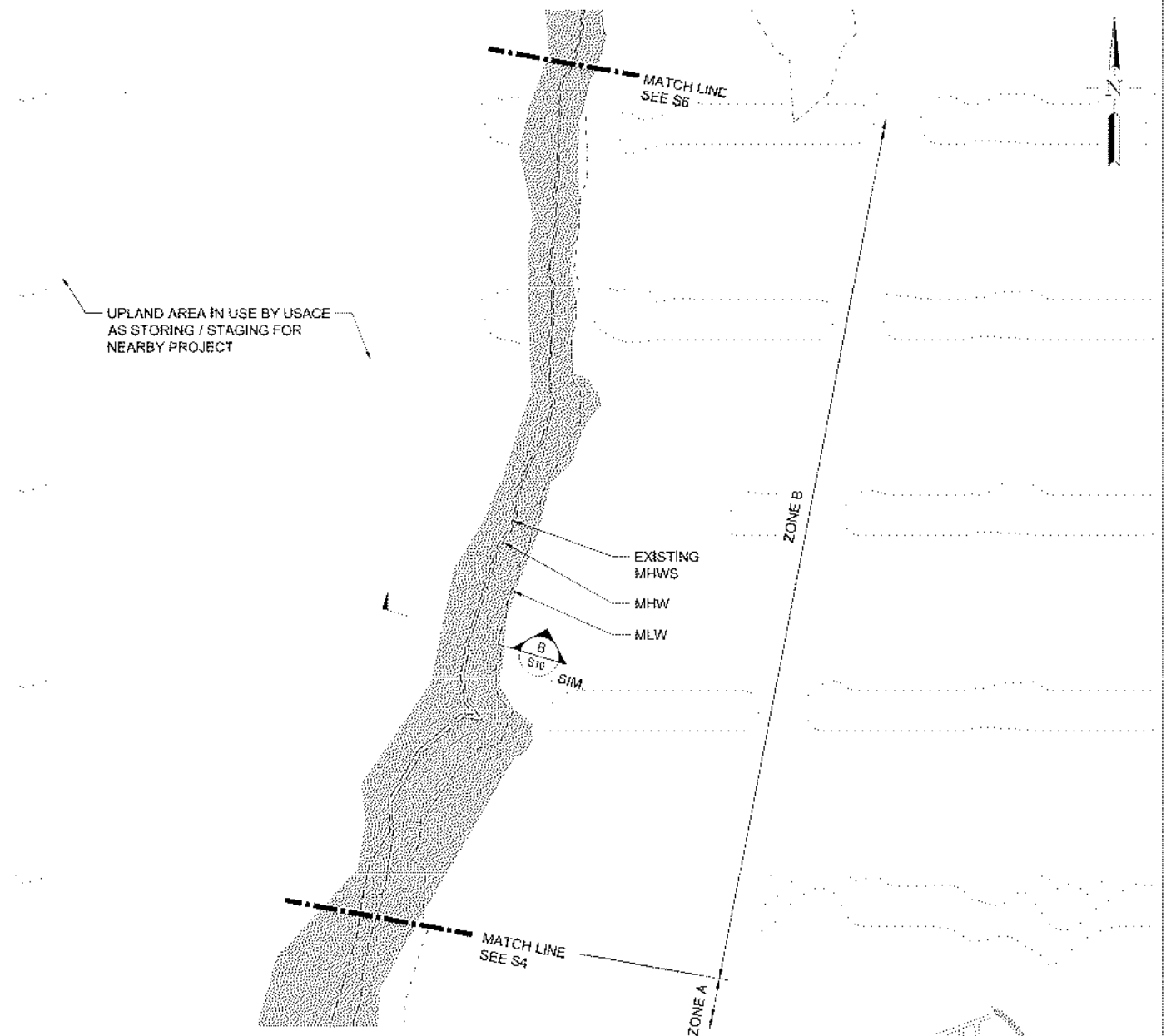
AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

SHEET 4 OF 21



EXISTING PARTIAL SITE PLAN - ZONE B1

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA

REVISION 1

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APPLICATION NO:

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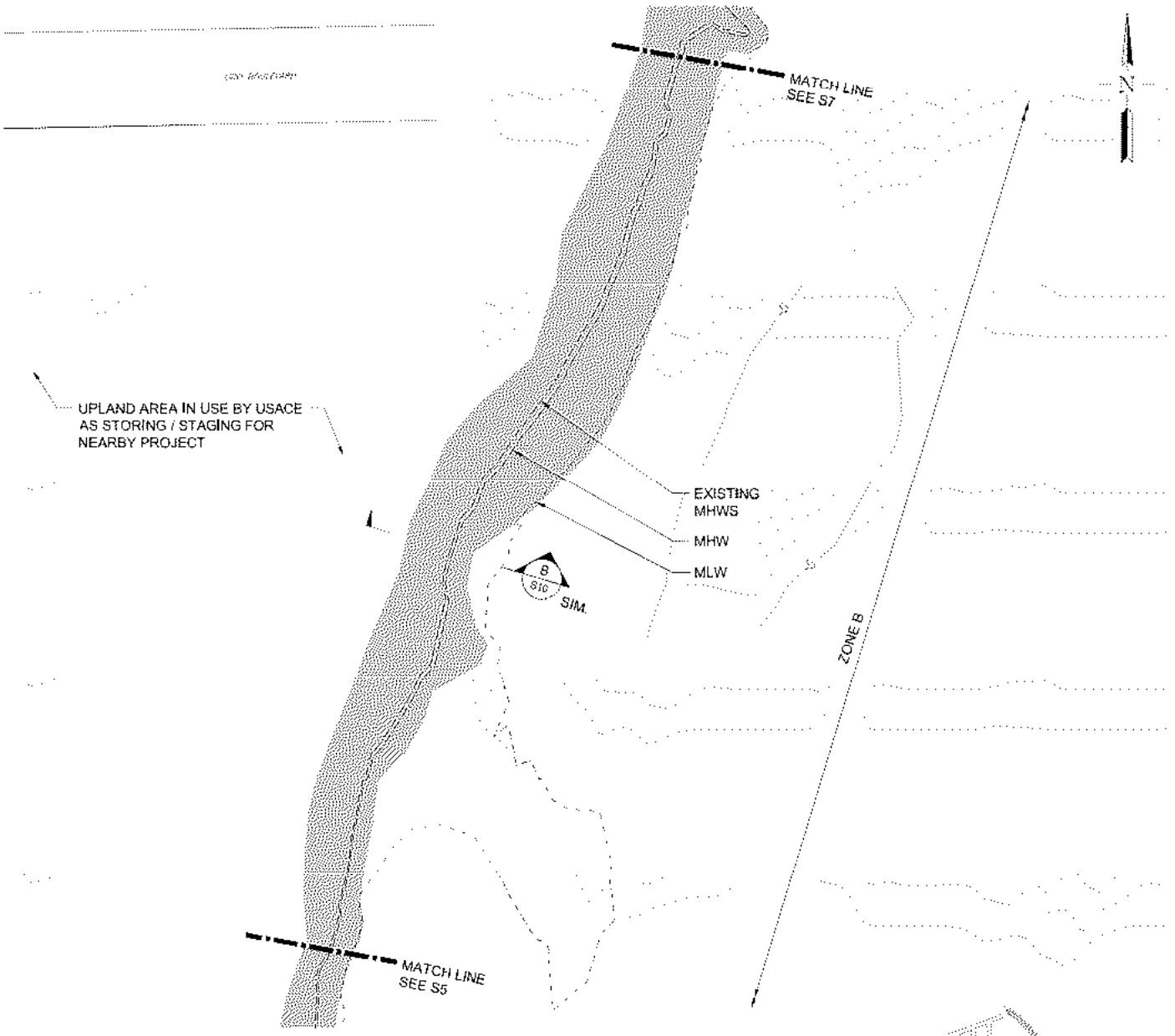
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

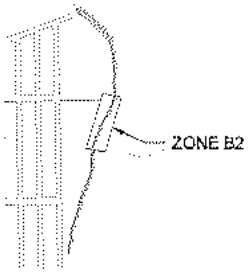
SHEET 5 OF 21



EXISTING PARTIAL SITE PLAN - ZONE B2

0 100 FEET

SCALE 1" = 100'



KEY PLAN

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA

REVISION 1

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COUNTY OF NASSAU
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EXISTING PARTIAL SITE PLAN - ZONE B3

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

REVISION 1

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APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

AGENT: COWI

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SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

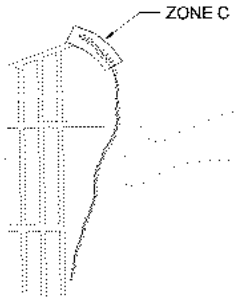
DATE : 06/11/2019

SHEET 7 OF 21

EXISTING PARTIAL SITE PLAN - ZONE C

0 100 FEET

SCALE 1" = 100'



KEY PLAN

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

REVISION 1

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DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

AGENT: COWI

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COUNTY OF NASSAU
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DATE : 06/11/2019

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DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

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HEMPSTEAD, LONG ISLAND
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DATE : 06/11/2019

SHEET 9 OF 21

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SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
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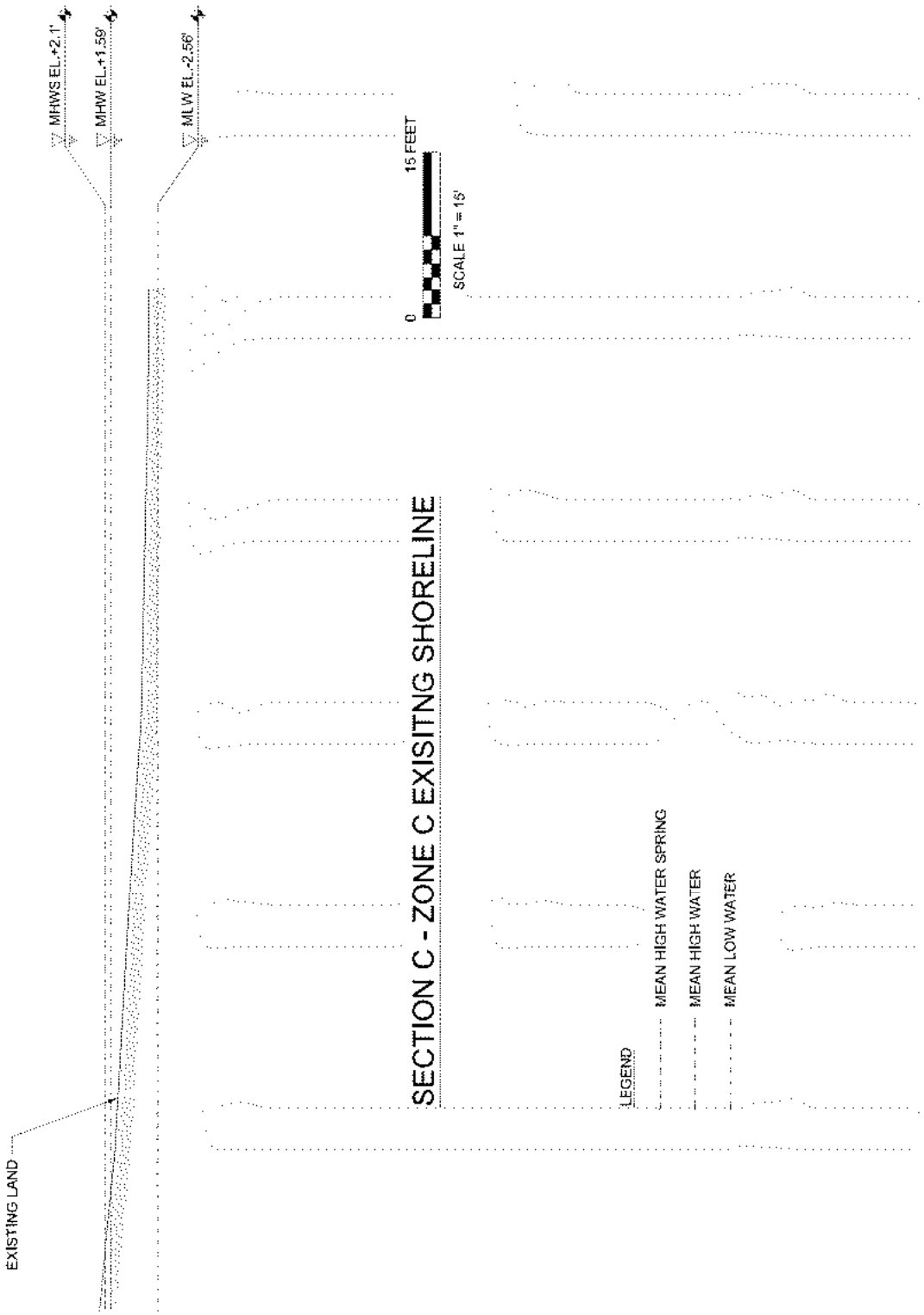
DATE : 06/11/2019

SHEET 10 OF 21



REVISION 1

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APPLICATION BY: TOWN OF HEMPSTEAD

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HEMPSTEAD, LONG ISLAND
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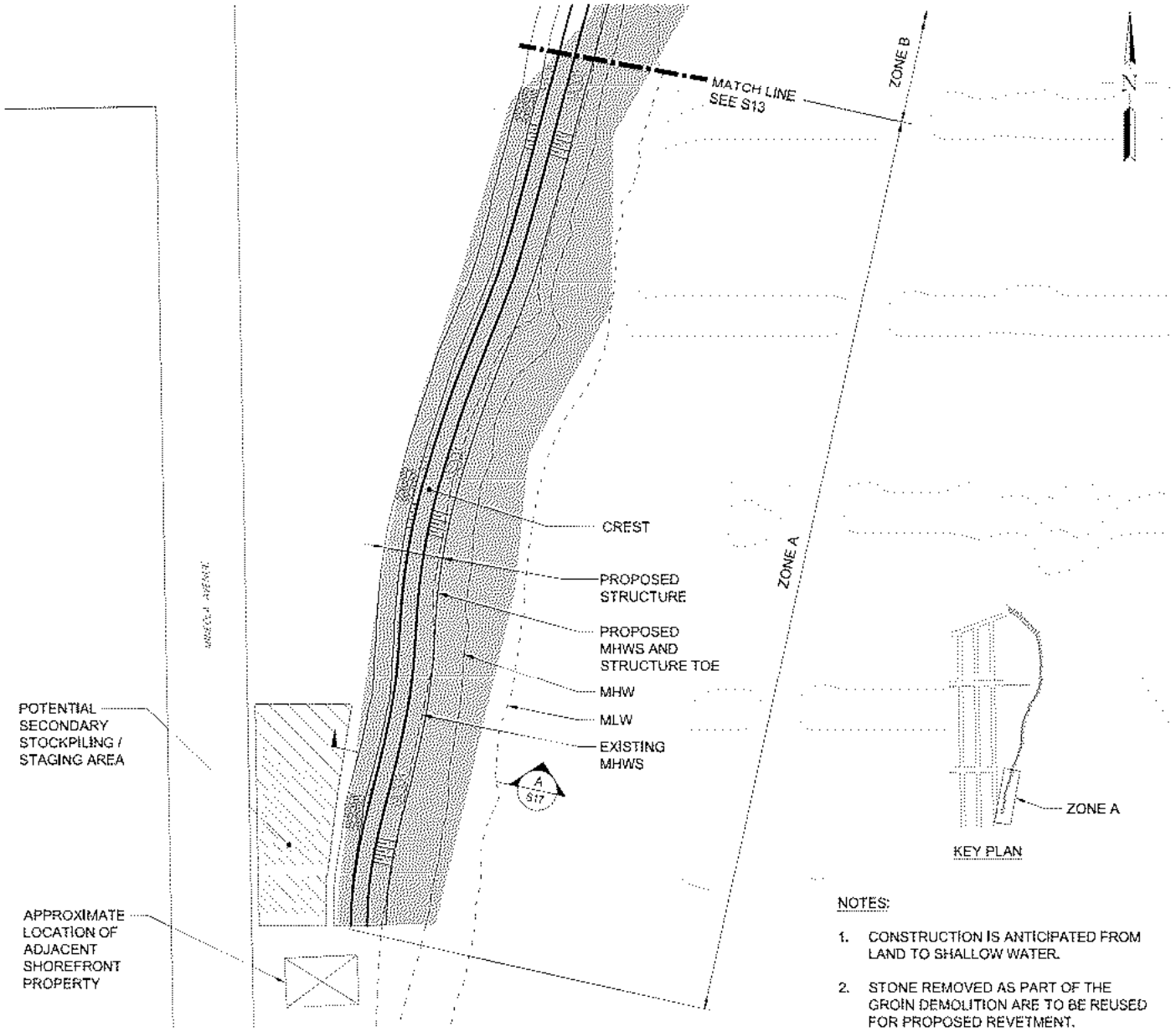
SHEET 11 OF 21



PROPOSED PARTIAL SITE PLAN - ZONE A

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- POTENTIAL STOCKPILING / STAGING AREA

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.
5. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE A IS 1450 CU. YD. WITH PLANAR AREA OF 2300 SQ. YD. NO MATERIAL IS PLACED BELOW MHWS WITHIN ZONE A.

REVISION 1

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APPLICATION BY: TOWN OF HEMPSTEAD

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HEMPSTEAD, LONG ISLAND
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DATE : 06/11/2019

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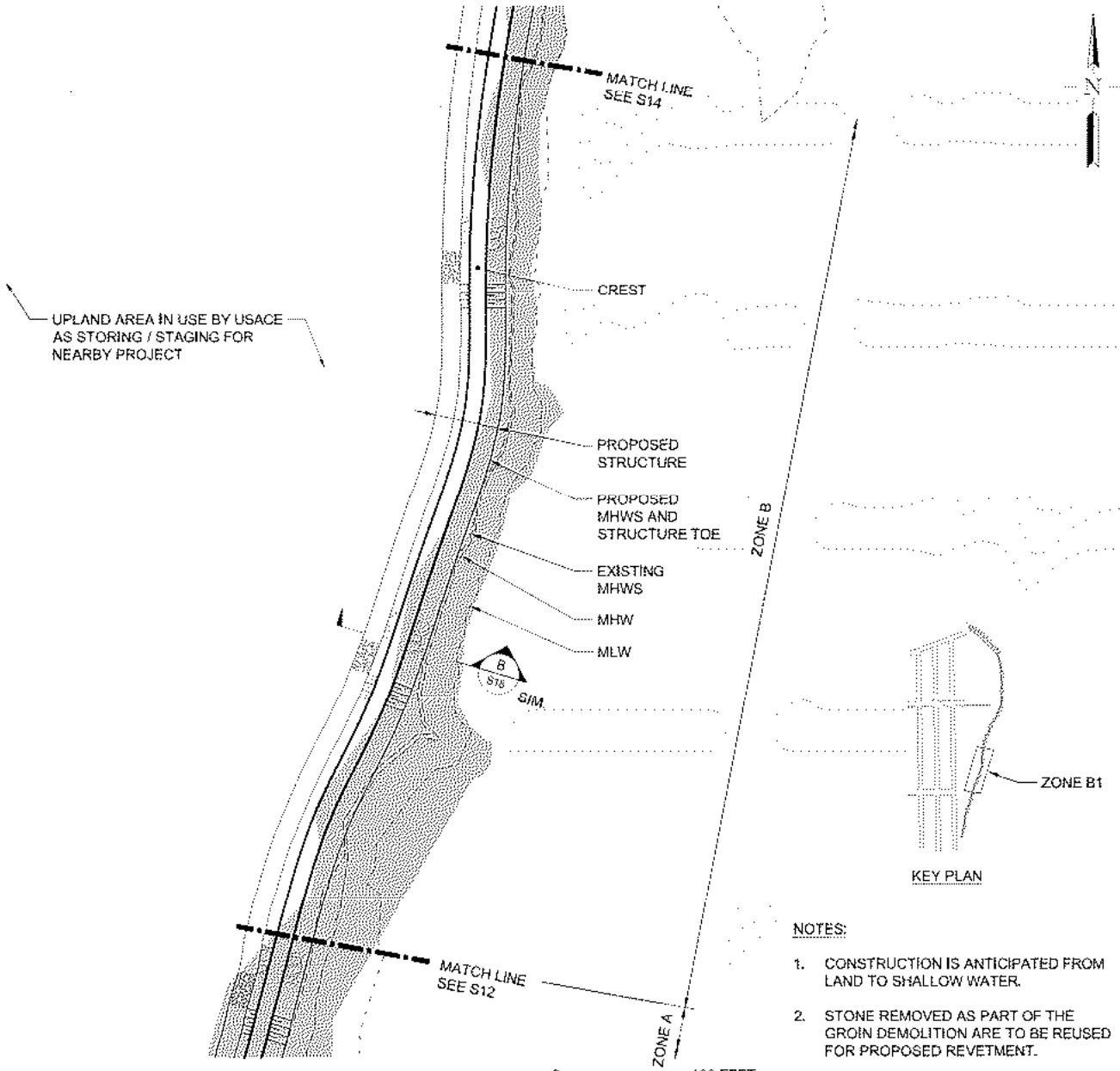

PROPOSED PARTIAL SITE PLAN - ZONE B1

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.
5. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE B1 IS 2390 CU. YD. WITH PLANAR AREA OF 2400 SQ. YD. NO MATERIAL IS PLACED BELOW MHWS WITHIN ZONE B1.

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APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
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DATE : 06/11/2019

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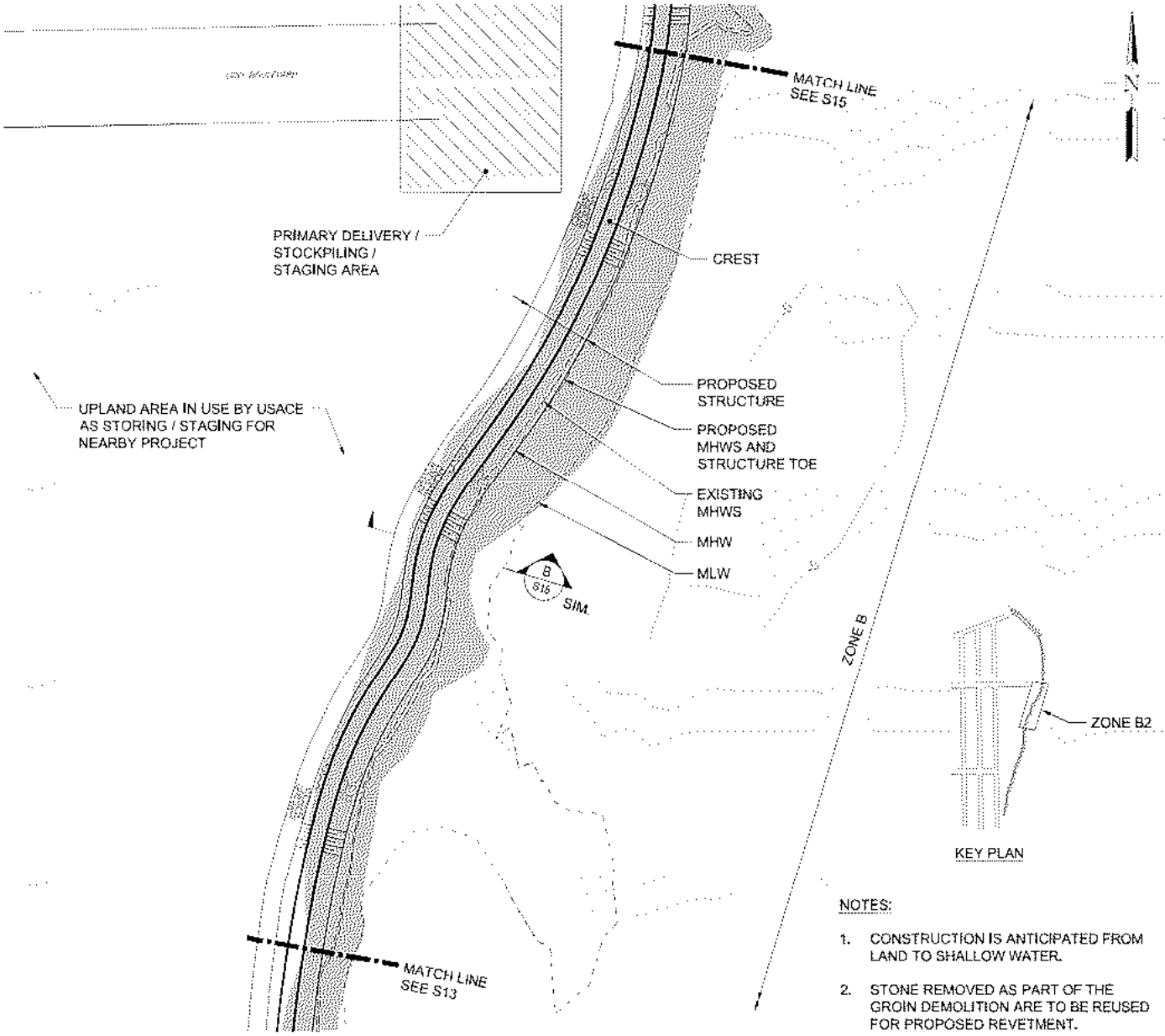

PROPOSED PARTIAL SITE PLAN - ZONE B2

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- POTENTIAL STOCKPILING / STAGING AREA

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.
5. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE B2 IS 2610 CU. YD. WITH PLANAR AREA OF 2650 SQ. YD. NO MATERIAL IS PLACED BELOW MHWS WITHIN ZONE B2.

REVISION 1

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APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

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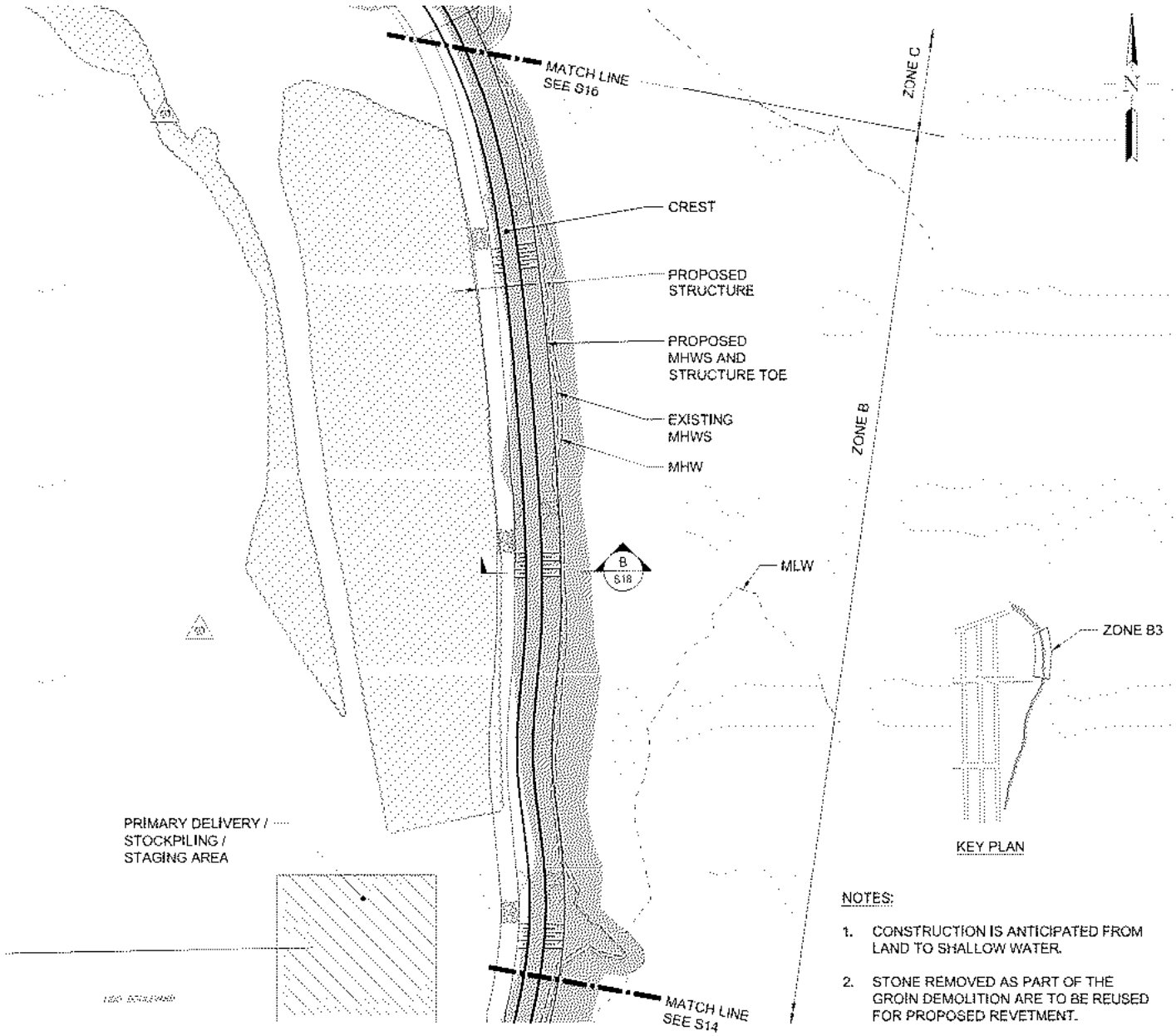
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

SHEET 14 OF 21



PROPOSED PARTIAL SITE PLAN - ZONE B3

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- POTENTIAL STOCKPILING / STAGING AREA
- BENCHMARK

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.
5. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE B3 IS 2650 CU. YD. WITH PLANAR AREA OF 2700 SQ. YD. NO MATERIAL IS PLACED BELOW MHWS WITHIN ZONE B3.

REVISION 1

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APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

AGENT: COWI

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SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

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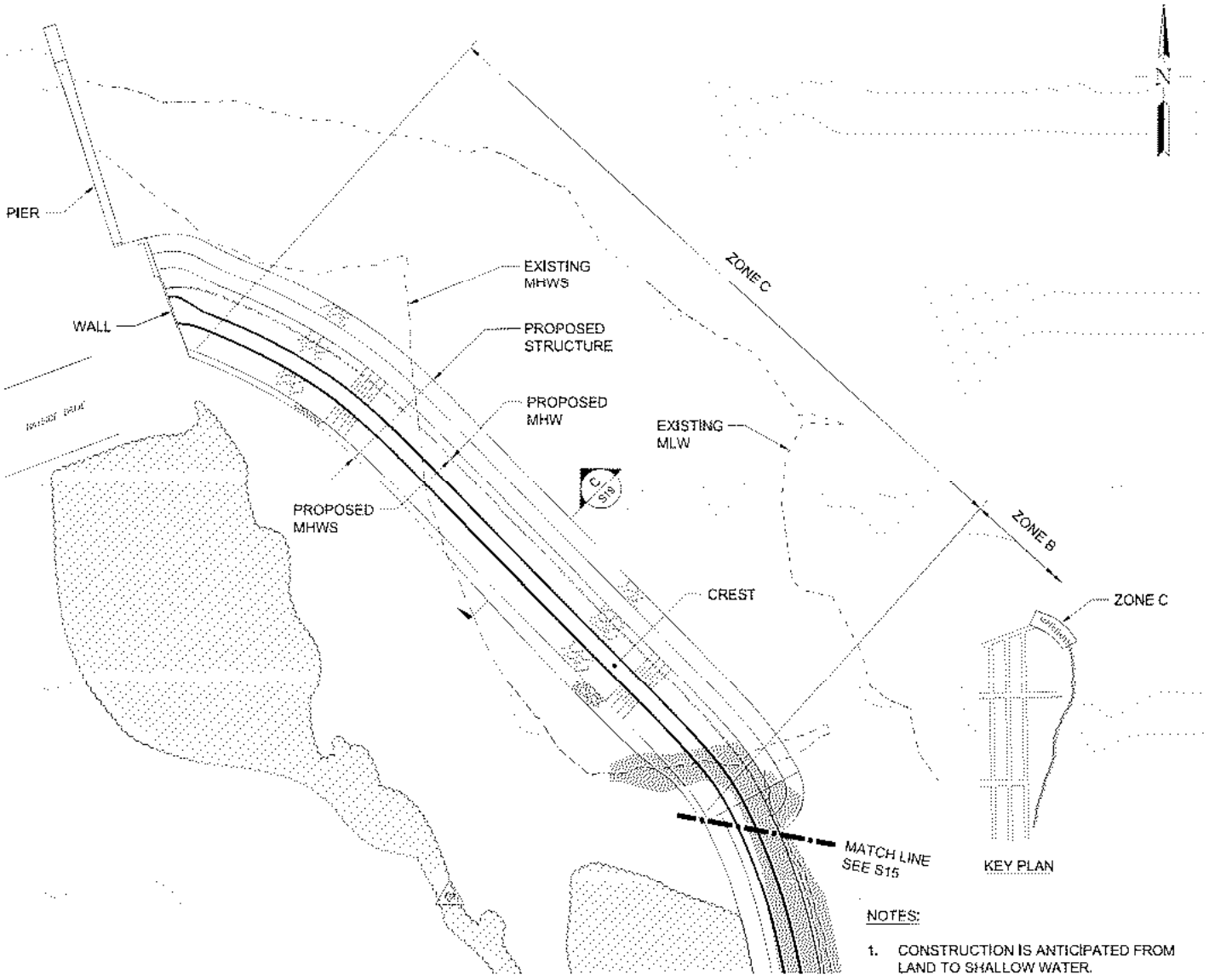

PROPOSED PARTIAL SITE PLAN - ZONE C

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE C IS 5600 CU. YD. AND TOTAL AMOUNT OF CUT IS 2500 CU. YD TOTAL AMOUNT OF FILL BELOW MHWS IN ZONE C IS 4340 CU. YD. TOTAL AMOUNT OF CUT IS 6000 CU. YD. TOTAL PLANAR AREA OF FILL IS 2140 SQ. YD. AND OF CUT IS 1610 SQ. YD. FOR AREA OF IMPACT BELOW MHWS SEE TABLE ON SHEET 21.

REVISION 1

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APPLICATION NO:

AGENT: COWI

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SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
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STATE OF NEW YORK

DATE : 06/11/2019

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DATUM: N.A.V.D. 88

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DATE : 06/11/2019

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SECTION C - ZONE C PROPOSED REVETMENT

NOTES:

1. THE SEWARD SIDE OF THE REVETMENT IS PROPOSED TO HAVE THE TOE START AT MHWS; THE LEEWARD SIDE OF THE REVETMENT IS PROPOSED TO HAVE THE TOE EXTEND TO THE EXISTING LAND ELEVATION.

LEGEND

- MEAN HIGH WATER SPRING
- MEAN HIGH WATER
- MEAN LOW WATER

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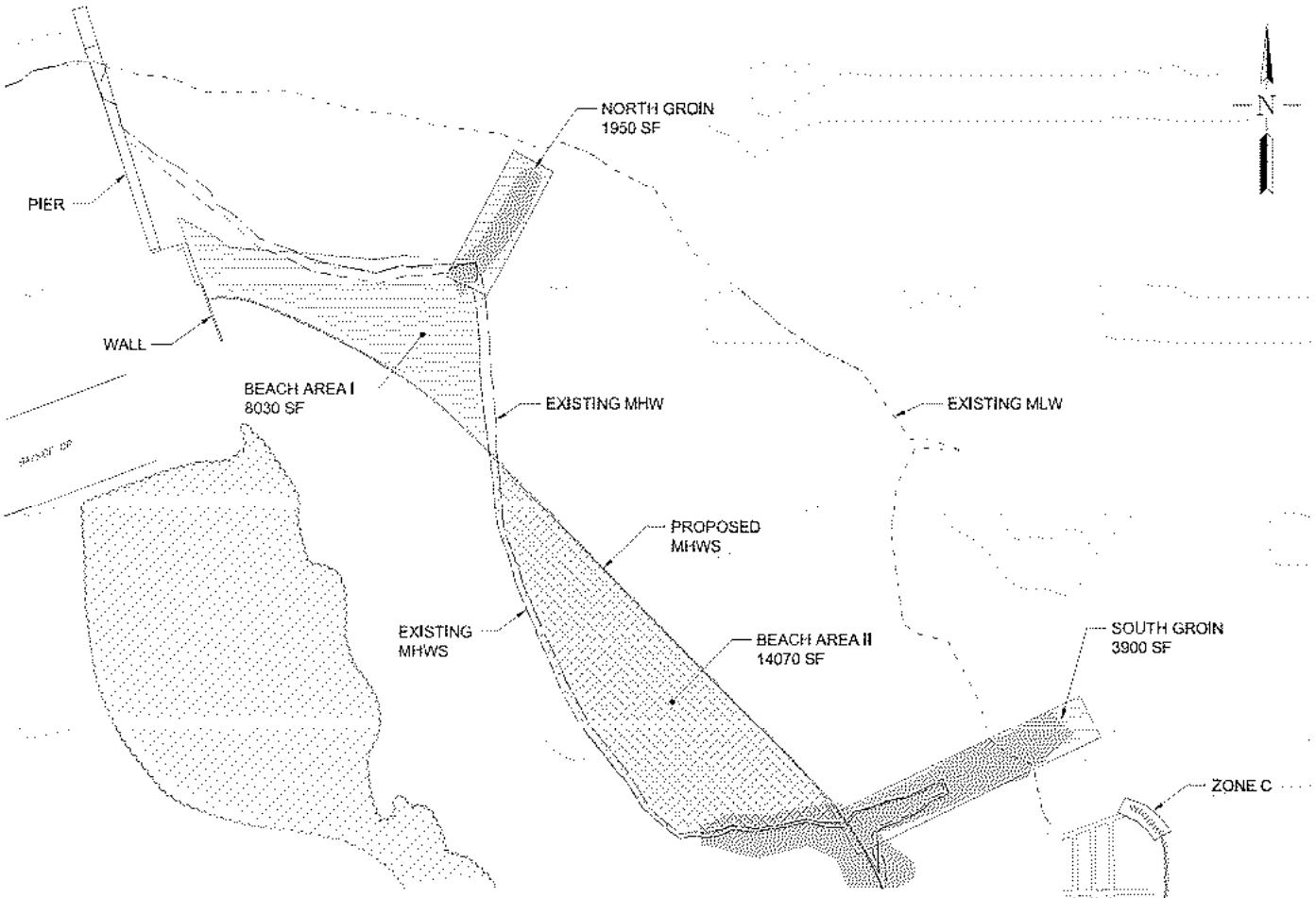
DATE : 06/11/2019

SHEET 19 OF 21

AREA	RECLAIMED (ft^2)	REMOVED (ft^2)	NET CHANGE (ft^2)	RECLAIMED (yd^2)	REMOVED (yd^2)	NET CHANGE (yd^2)
BEACH AREA I	0	8,030	-8,030	0	892	-892
BEACH AREA II	14,070	0	14,070	1,563	0	1,563
NORTH GROIN	0	1,950	-1,950	0	217	-217
SOUTH GROIN	0	3,900	-3,900	0	433	-433
TOTAL	14,070	13,880	190	1,563	1,542	21



ZONE C - PROPOSED SUB-MHWS AREAS CHANGE

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- REMOVE AREA
- RECLAIM AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

KEY PLAN

NOTES:

1. AREAS QUANTIFIED AS PER THE EXISTING MHWS CONTOUR.

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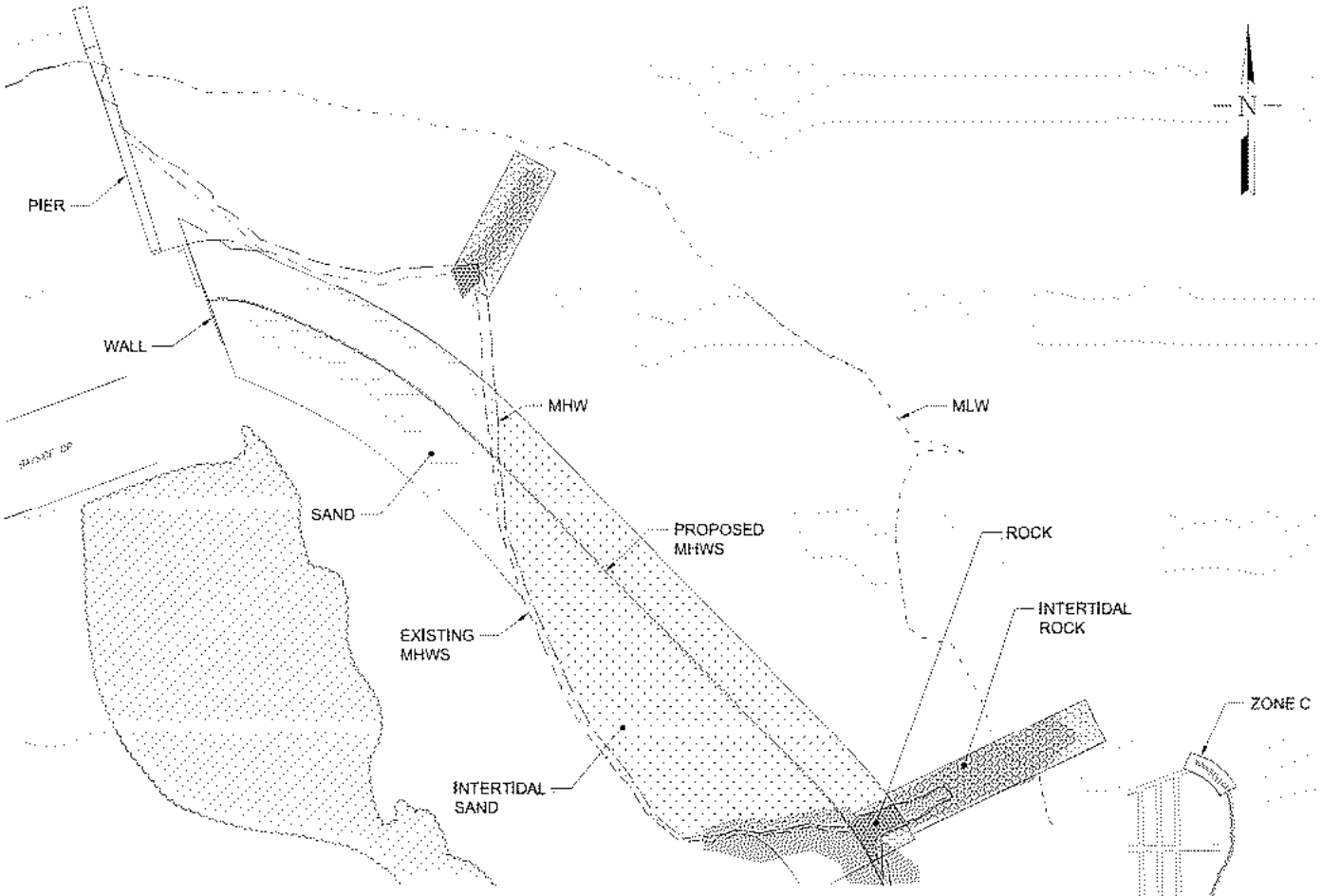
SHEET 20 OF 21

	GAIN	LOSS	NET (ft²)	NET (yd²)
INTERTIDAL SAND	7,392.20	22,204.09	-14,811.88	-1,645.76
INTERTIDAL ROCK	13,496.46	4,679.36	8,817.11	979.68
SAND	3,584.84	15,496.92	-11,912.09	-1,323.57
ROCK	18,087.00	180.14	17,906.86	1,989.65



PROPOSED ZONE C BEACH AREA CHANGE

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- REMOVE AREA
- RECLAIM AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK
- SAND
- INTERTIDAL SAND
- ROCK
- INTERTIDAL ROCK

KEY PLAN

NOTES:

1. AREA CHANGE WAS QUANTIFIED AS PER THE EXISTING MHWS CONTOUR.
2. HATCHES SHOWN REPRESENT THE EXISTING BEACH AREAS CHANGING THEIR TYPE DURING THE PROPOSED CONSTRUCTION.

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HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

SHEET 21 OF 21

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: December 23, 2019
Consultation Code: 05E1LI00-2017-SLI-0711
Event Code: 05E1LI00-2020-E-00425
Project Name: Point Lookout Shoreline Stabilization and Revetment 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: 05E1LI00-2017-SLI-0711

Event Code: 05E1LI00-2020-E-00425

Project Name: Point Lookout Shoreline Stabilization and Revetment Project

Project Type: Federal Grant / Loan Related

Project Description: Revetment Repair and Reconstruction

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.59104836118985N73.57636204127436W

Counties: Nassau, 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 population 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

Point Lookout Shoreline Stabilization and Revetment Project

LOCATION

Nassau County, New York

DESCRIPTION

Revetment Repair and Reconstruction

Local office

Long Island Ecological Services Field Office

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

340 Smith Road
Shirley, NY 11967-2258

NOT FOR CONSULTATION

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.

NOT FOR CONSULTATION

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:

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.

NOT FOR CONSULTATION

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.)
American Oystercatcher *Haematopus palliatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
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
Band-rumped Storm-petrel *Oceanodroma castro* 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.	Breeds elsewhere
Black Scoter *Melanitta nigra* 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.	Breeds elsewhere
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
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

NOT FOR CONSULTATION

Black-legged Kittiwake Rissa tridactyla 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.	Breeds elsewhere
Bobolink Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Bonaparte's Gull Chroicocephalus philadelphia 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.	Breeds elsewhere
Bridled Tern Onychoprion anaethetus 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.	Breeds Apr 15 to Sep 20
Brown Pelican Pelecanus occidentalis 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/6034	Breeds Jan 15 to Sep 30
Buff-breasted Sandpiper Calidris subruficollis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9488	Breeds elsewhere
Canada Warbler Cardellina canadensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Clapper Rail Rallus crepitans This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 10 to Oct 31
Common Eider Somateria mollissima 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.	Breeds Jun 1 to Sep 30

NOT FOR CONSULTATION

Common Loon gavia immer — Breeds Apr 15 to Oct 31

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/4464

Common Murre Uria aalge — Breeds Apr 15 to Aug 15

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.

Common Tern Sterna hirundo — Breeds May 10 to Sep 10

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/4963

Cory's Shearwater Calonectris diomedea — Breeds elsewhere

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.

Double-crested Cormorant phalacrocorax auritus — Breeds Apr 20 to Aug 31

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/3478

Dovekie Alle alle — Breeds elsewhere

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/6041

Dunlin Calidris alpina arcticola — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

NOT FOR CONSULTATION

Great Black-backed Gull Larus marinus 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.	Breeds Apr 15 to Aug 20
Gull-billed Tern Gelochelidon nilotica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501	Breeds May 1 to Jul 31
Herring Gull Larus argentatus 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.	Breeds Apr 20 to Aug 31
Hudsonian Godwit Limosa haemastica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Leach's Storm-petrel Oceanodroma leucorhoa 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.	Breeds May 15 to Nov 20
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
Long-eared Owl asio otus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds elsewhere
Long-tailed Duck Clangula hyemalis 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/7238	Breeds elsewhere

NOT FOR CONSULTATION

Manx Shearwater Puffinus puffinus — Breeds Apr 15 to Oct 31

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.

Northern Gannet Morus bassanus — Breeds elsewhere

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.

Parasitic Jaeger Stercorarius parasiticus — Breeds elsewhere

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.

Pomarine Jaeger Stercorarius pomarinus — Breeds elsewhere

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.

Prairie Warbler Dendroica discolor — Breeds May 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Purple Sandpiper Calidris maritima — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Razorbill Alca torda — Breeds Jun 15 to Sep 10

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.

Red Phalarope Phalaropus fulicarius — Breeds elsewhere

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.

NOT FOR CONSULTATION

Red-breasted Merganser Mergus serrator 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.	Breeds elsewhere
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Red-necked Phalarope Phalaropus lobatus 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.	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
Ring-billed Gull Larus delawarensis 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.	Breeds elsewhere
Roseate Tern Sterna dougallii 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.	Breeds May 10 to Aug 31
Royal Tern Thalasseus maximus 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.	Breeds Apr 15 to Aug 31
Ruddy Turnstone Arenaria interpres morinella This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	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

Seaside Sparrow Ammodramus maritimus — Breeds May 10 to Aug 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Semipalmated Sandpiper Calidris pusilla — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Snowy Owl Bubo scandiacus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Sooty Tern Onychoprion fuscatus — Breeds Mar 10 to Jul 31
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.

South Polar Skua Stercorarius maccormicki — Breeds elsewhere
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.

Surf Scoter Melanitta perspicillata — Breeds elsewhere
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.

Whimbrel Numenius phaeopus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9483

White-winged Scoter Melanitta fusca — Breeds elsewhere
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.

NOT FOR CONSULTATION

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
Wilson's Storm-petrel Oceanites oceanicus 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.	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

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 AKN Phenology 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?

NOT FOR CONSULTATION

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

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

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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

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

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:

ESTUARINE AND MARINE DEEPWATER

- E1UBL
- E1AB1L

ESTUARINE AND MARINE WETLAND

- E2US2N
- E2US2P
- E2US2M

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RIVERINE

R5UBH

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

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or 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

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

March 25, 2019

James McAllister
Governor's Office of Storm Recovery (GOSR)
25 Beaver Street
New York, NY 10004

Re: Point Lookout Shoreline Stabilization and Revetment Project
County: Nassau Town/City: Hempstead

Dear Mr. McAllister:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur at or in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 1 Office, Division of Environmental Permits, at dep.r1@dec.ny.gov, (631) 444-0365.

Sincerely,

Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program

304

The following state-listed animals have been documented at Point Lookout Beach District Park or in its vicinity.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for the project, contact the NYSDEC Region 1 Office, Division of Environmental Permits, at dep.r1@dec.ny.gov, (631) 444-0365..

The following species have been documented at Point Lookout Beach District Park.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Piping Plover *Breeding*	*Charadrius melodus*	Endangered	Threatened	3768
Least Tern *Breeding*	*Sternula antillarum*	Threatened		8044
Short-eared Owl *Wintering*	*Asio flammeus*	Endangered		

The following species have been documented across Jones Inlet at the west end of Jones Beach Island.

Piping Plover *Breeding*	*Charadrius melodus*	Endangered	Threatened
Common Tern *Breeding*	*Sternula antillarum*	Threatened	
Least Tern *Breeding*	*Sterna hirundo*	Threatened	
Black Skimmer *Breeding*	*Rynchops niger*	Special Concern	

The following species has been documented across Reynolds Channel at Alder Island.

Piping Plover *Breeding*	*Charadrius melodus*	Endangered	Threatened

This report only includes records from the NY Natural Heritage database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

The following rare animals and significant natural communities have been documented in the vicinity of Point Lookout Beach District Park.

While significant impacts on these species and communities from the proposed project may not be expected, we recommend that the proposed project be planned and conducted so as to avoid any possible impacts. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following animals, while not listed by New York State as Endangered or Threatened, are rare in New York and are of conservation concern.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Harlequin Duck *Wintering*	*Histrionicus histrionicus*	Protected Bird	Critically Imperiled in NYS

Ducks winter in Jones Inlet , including along Point Lookout Beach, and along Long Beach Island and Jones Beach Island West . 15634

The following natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. Each community is a high-quality example of a community type that is rare in the state. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

COMMON NAME	*HERITAGE CONSERVATION STATUS*
Low Salt Marsh	High Quality Occurrence of Uncommon Community Type
High Salt Marsh	High Quality Occurrence of Uncommon Community Type
Salt Panne	High Quality Occurrence of Uncommon Community Type

Hempstead Bay Salt Marshes, including salt marshes across Reynolds Channel from Point Lookout: These communities comprise a complex system of wetlands in tidal bays with variable tidal range.

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence ofall rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

Appendix F

PERMIT

Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
TOWN OF HEMPSTEAD
TOWN HALL PLZ
1 WASHINGTON ST
HEMPSTEAD, NY 11550
(516) 812-3488

Facility:
POINT LOOKOUT BEACH
MINEOLA AVE
POINT LOOKOUT, NY 11569

Facility Application Contact:
BTMI ENGINEERING PC
276 5TH AVE
SUITE 1006
New York, NY 10001
(646) 790-3822

Facility Location: in HEMPSTEAD in NASSAU COUNTY **Village:** Point Lookout
Facility Principal Reference Point: NYTM-E: 620.3 NYTM-N: 4493.7
Latitude: 40°35'07.3" Longitude: 73°34'42.5"
Project Location: West Shoreline Jones Inlet at Reynolds Channel
Authorized Activity: Construct new perched revetment in Zones A and B; remove two groins and derelict stones from Zone C; grade as necessary. The revetment will be constructed of multi-ton armor stones and toe stones set on core stone, bedding stone and geotextile fabric. Full design details for the revetment, including but not limited to, the sizes (weights) of all stone to be used, the structure's slope, top elevation, toe elevation, proposed elevations of the shoreline/ beach area on which the revetment will be built in accordance with the Lido Beach/Pt. Lookout Shoreline Stabilization & Revetment NYSDEC/USACE Joint Permit Application prepared by BTMI/COWI, dated June 2019 (62 pages). Within that application packet, the site plans prepared by COWI, dated 6/11/2019, and the Proposed Project 2.2 narrative (pages 14-18) have been stamped 'NYSDEC Approved' on 01/21/2020. KLL

Permit Authorizations

Tidal Wetlands - Under Article 25
Permit ID 1-2820-02003/00012
New Permit Effective Date: 1/21/2020 Expiration Date: 1/20/2025

Excavation & Fill in Navigable Waters - Under Article 15, Title 5
Permit ID 1-2820-02003/00013
New Permit Effective Date: 1/21/2020 Expiration Date: 1/20/2025

Water Quality Certification - Under Section 401 - Clean Water Act
Permit ID 1-2820-02003/00014
New Permit Effective Date: 1/21/2020 Expiration Date: 1/20/2025

Coastal Erosion Management - Under Article 34
Permit ID 1-2820-02003/00015
New Permit Effective Date: 1/21/2020 Expiration Date: 1/20/2025

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: LAURA F STAR, Deputy Permit Administrator
Address: NYSDEC Region 1 Headquarters
SUNY @ Stony Brook|50 Circle Rd
Stony Brook, NY 11790 -3409

Authorized Signature: _____ Date ___/____/____

Distribution List

BTMI ENGINEERING PC
Bureau of Marine Habitat Protection
Coastal Erosion
File

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: TIDAL WETLANDS; EXCAVATION & FILL IN NAVIGABLE WATERS; WATER QUALITY CERTIFICATION; COASTAL EROSION MANAGEMENT

1. **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 BTMI/COWI, titled Lido Beach/Pt. Lookout Shoreline Stabilization & Revetment NYSDEC/USACE Joint Permit Application, and dated June 2019.

2. **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.

3. **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.

4. **Storage of Equipment, Materials** The storage of construction equipment and materials shall be confined to the upland area landward of the revetment or on a barge.

5. **No Disturbance to Vegetated Tidal Wetlands, Dunes** There shall be no disturbance to vegetated dune areas or vegetated tidal wetland areas as a result of the permitted activities.

6. **Sequence & Conduct Construction Activities To Minimize Turbidity** The construction activities authorized herein, such as sand placement, excavation, installation of stone and backfilling, must be sequenced and conducted in a manner which minimizes turbidity increases in adjacent surface waters.

7. **No Structures on Groin** No permanent structures shall be installed on the authorized groin without first obtaining written department approval (permit, modification, amendment).

8. **Extent of Groin** The authorized groin shall not extend beyond property lines, interfere with navigation, and/or interfere with other landowners riparian rights.

9. No Beach Excavation For Fill No excavation of the beach is authorized for the purpose of obtaining fill or stone materials.

10. Clean Fill Only All fill shall consist of clean sand, gravel, or soil (not asphalt, slag, flyash, broken concrete or demolition debris).

11. All Fill Must Be Clean, Beach Compatible Sand All fill shall consist of clean, beach compatible sand. No soil, asphalt, slag, flyash, broken concrete or demolition debris is allowed.

12. Concrete Leachate During construction, no wet or fresh concrete or leachate shall be allowed to escape into any wetlands or waters of New York State, nor shall washings from ready-mixed concrete trucks, mixers, or other devices be allowed to enter any wetland or waters. Only watertight or waterproof forms shall be used. Wet concrete shall not be poured to displace water within the forms.

13. Permittee Responsible For All Post-Construction Effects of Project The permittee is solely responsible for ensuring that the project authorized by this permit is designed, constructed and maintained such that the nuisance algal accumulation at the project site is eliminated, and no additional nuisance algal or sediment accumulations along the Reynolds Channel shoreline west of the project site occur or are created as a result of the project.

14. Permittee Must Maintain Public Shoreline Access It is the permittee's responsibility to ensure that the public's ability to access the shoreline and freely move along the shoreline is maintained upon completion of the structure authorized by this permit.

15. DEC Reserves Right To Add Additional Conditions DEC reserves the right to add additional permit conditions or modify the existing conditions of this permit upon review of the engineering report and project drawings required by Natural Resource Permit Conditions 1 and 2 of this permit.

16. No Construction Debris in Wetland or Adjacent Area Any debris or excess material from construction of this project shall be completely removed from the adjacent area (upland) and removed to an approved upland area for disposal. No debris is permitted in wetlands and/or protected buffer areas.

17. 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.

18. 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.

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

20. 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.

21. 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.

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: Coastal Erosion Management, Excavation & Fill in Navigable Waters, Tidal 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.

Governor's Office of Storm Recovery

ANDREW M. CUOMO
Governor

MEMORANDUM FOR THE RECORD

March 5, 2020

RE: NMFS No Effect Determination
Point Lookout Shoreline Stabilization and Revetment Project
Eastern End of Long Beach Barrier Island,
Hamlet of Point Lookout, Town of Hempstead, Nassau County, New York

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). This letter serves to document the review of species protected by the National Oceanic and Atmospheric Administration – National Marine Fisheries Service (NMFS) for a single project proposed to receive CDBG-DR assistance, pursuant to section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) and the Marine Mammal Protection Act (MMPA). Our supporting analysis is provided below.

Project Description

The Point Lookout Shoreline Stabilization & Revetment Project (Project) will involve repairing an existing revetment located at the tip of Point Lookout along Reynolds Channel and Jones Inlet. The Project will include the removal of two existing groins, re-use of the stone from the groins to construct a new revetment located between the two groins (designated Zone C), and the construction of a perched revetment to strengthen the existing revetment (designated Zones A and B). The Project will take place wholly within the Town-owned parcels designated as Point Lookout Beach District Park, Hamlet of Point Lookout, Town of Hempstead, New York (Tax ID: 61-A-51).

A site investigation was completed in October 2016 by COWI that documented and classified the existing structures located in the Project area. The Project area was divided into the following three zones, based on the existing condition of the shoreline:

Zone A – existing revetment in fair condition; this area has a length of approximately 550 feet and extends (from south to north) from the southern limit of Mineola Avenue to the shoreline adjacent to the intersection of Beech Street and Mineola Avenue.

Zone B – existing revetment in serious condition; the area has a length of approximately 1,800 feet and extends (from south to north) from the shoreline adjacent to the intersection of Beech Street and Mineola Avenue to the northern limit of the existing revetment/ the southern groin.

Zone C – a sand beach with two (2) groins (defined as the northern and southern groins), which is located on the northeastern corner of Point Lookout and extends (from south to north) from the northern limit of the existing revetment/ the southern groin to the shoreline adjacent to the eastern limit of Bayside Drive.

In Zones A and B, a perched revetment will be constructed with additional lee side granular fill overtopping protection. This design is intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it. All material is proposed to be placed landward of the existing mean high water spring (MHWS) contour. Therefore, all construction activities for these Zones will be confined to the area above the MHWS. In Zone C, two existing groins will be removed and a new revetment will be constructed to prevent shoreline erosion due to wave and current action. Additional lee side erosion and scour protection was designed due to large volumes of overtopping expected during storm events. Geotextile filter fabric will be utilized as a filter and a separation layer between existing soil and the revetment underlayer in Zone C. The separation layer will prevent filtering of fine soil into the underlayer while allowing for sufficient water flow through it in order to reduce hydrodynamic loads. Groin removal in conjunction with new revetment construction will also eliminate stagnation area between the groins and allow for free seaweed and sediment movement along the shoreline.

Materials will be delivered to the area by trucks. Excavation (groin and derelict revetment removal) and grading within Zone C will be performed during low tide using a land based excavator. Excavated materials (sand and stone) will be stockpiled locally and reused in the reconstruction. Geotextile will be delivered to the area in rolls and then manually placed on top of the post-excavation grade. It will be held down by underlayer stones during the construction period. Smaller stones (underlayer and granular fill) will be placed using a front bucket loader or a bobcat. The excavator with a hydraulic rock placing arm will then be used to individually place large armor stones. Best management practices will be implemented to prevent any equipment, material, or debris from entering the waterway. The contractor will prepare and submit a spill response plan, which will document measures and activities to be performed should any oil or fluid spillage occur during the construction.

The Project is intended to repair and extend an existing revetment located around the tip of Point Lookout along Reynolds Channel and Jones Inlet in order to prevent scour and replicate the dunes washed away by Superstorm Sandy. The Project will minimize the loss of human life by stabilizing the shoreline along the community of Point Lookout. If no action is taken, a subsequent storm event could result in catastrophic flooding and destruction of the existing residences and businesses, potentially resulting in the loss of life. Federal financial assistance will support activities representing a long-term public investment in a critical piece of infrastructure that is necessary to protect the community of Point Lookout and the well-being of its residents and local economy, as well as eliminate the need for constant dredge and fill activities. The Project will also minimize the

damage to fish and wildlife by stabilizing the shoreline, creating and enhancing wildlife habitats along the coast.

The existing revetment along Jones Inlet functions as a barrier that absorbs wave energy, reflects waves, and reduces wave run- up during storm events. Portions of the landward dune were destroyed by Superstorm Sandy, rendering the area landward of the revetment vulnerable to scour. Until the revetment is repaired, houses along Mineola Avenue adjacent to the Point Lookout Beach District Park will be vulnerable to damage from waves and surge generated by coastal storms.

The sand beach that is situated from the north end of Jones Inlet west around the tip of Point Lookout along Reynolds Channel is subject to an ongoing process of coastal erosion along Jones Inlet. This has resulted in shoreline retreat, which has reduced the distance between the water and structures on Bayside Drive and increased the vulnerability of residences and businesses to coastal erosion. If nothing is done to halt the process of erosion, the foundations of residences and businesses could be undermined, leading to structural collapse and threatening the life and safety of the occupants. The process of erosion occurring at the northeast end of Point Lookout also causes loss of open space in the Point Lookout Beach District Park. Eventually, if left unprotected, erosion along Jones Inlet in the area of the Park will encroach upon additional residences on Mineola Drive. The Project would result in the protection of this Town-owned facility, residential and commercial structures, and the lives of the occupants on Bayside Drive, Mineola Avenue, and the existing open space at the Point Lookout Beach District Park.

Additionally, large masses of sea lettuce (*Ulva lactuca*) accumulate between the groins due to flow stagnation and sediment flow is disrupted by the groins. Tolerant of nutrient loading that would suffocate many other aquatic plants, sea lettuce can actually thrive in moderate levels of nutrient pollution. Excess growth and accumulation of sea lettuce can cause loss of aquatic habitat, thick mats on shorelines that result in odors and disruption of recreation activities, depletion of dissolved oxygen in the water as the sea lettuce decomposes, anoxic events, and the death of aquatic life. Groin removal in conjunction with the construction of the new revetment will eliminate the stagnation area between the groins and allows for free seaweed and sediment movement along the shoreline.

A joint application for permit was sent to the United States Army Corps of Engineers on in August 2018. The NYSDEC issued a permit for the Project with the following permit authorizations on January 21, 2020: Tidal Wetlands – Under Article 25, Excavation & Fill in Navigable Waters – Under Article 15, Title 5, Water Quality Certification – Under Section 401 – Clean Water Act, and Coastal Erosion Management – Under Article 34. Construction activity will not commence until all necessary permits are obtained from the USACE, NYSDEC, and the Town of Hempstead. All work will be performed in conformance with permit conditions.

NMFS Species Protected Under the Endangered Species Act

There are five species of sea turtles and one species of fish listed under the Endangered Species Act that have the potential to occur in the vicinity of the Project area. ESA species include:

Sea Turtles

Loggerhead Turtle (*Caretta caretta*) (76 FR 58868; Recovery plan: NMFS & USFWS 2008)
Kemp's Ridley Turtle (*Lepidochelys kempii*) (35 FR 18319; Recovery plan: NMFS *et al*. 2011)
Green Turtle (*Chelonia mydas*) (81 FR 20057; Recovery plan: NMFS & USFWS 1991)
Hawksbill Turtle (*Eretmochelys imbricata*) (35 FR 8491; Recovery plan: NMFS & USFWS 1993)
Leatherback Turtle (*Dermochelys coriacea*) (35 FR 849; Recovery plan: NMFS & USFWS 1992)

Fish

Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) (77 FR 5880 and 77 FR 5914)

Analysis

The Project is located along the shoreline of eastern end of the Long Beach barrier island, hamlet of Point Lookout. The shoreline in Zone A and B is comprised of an existing revetment. The shoreline in Zone C is comprised of a sand beach with two (2) groins. The surrounding area is comprised of dense residential and commercial development (see aerial map in **Attachment 1**). The shoreline in the vicinity of the Project area is either comprised of bulkheading, revetments, other shoreline stabilization structures, or beaches that are utilized for recreational activity. There is frequent boating activity in the immediate vicinity of the Project area, as evidenced by the presence of residential properties and marinas with boats docked along bulkheads on aerial imagery.

Sea lettuce (*Ulva lactuca*) accumulates between the groins in Zone C due to flow stagnation and sediment flow is disrupted by the groins. Excess growth and accumulation of sea lettuce results in the loss of aquatic habitat, thick mats on shorelines that result in odors and disruption of recreation activities, depletion of dissolved oxygen in the water as the sea lettuce decomposes, anoxic events, and the death of aquatic life. Groin removal in conjunction with the construction of the new revetment will eliminate the stagnation area between the groins, which allows for free seaweed and sediment movement along the shoreline, and will result in a decrease in anoxic events that result from sea lettuce accumulation.

There is no critical habitat for any ESA species within the Project area. According to data obtained from the NYSDEC, there are two (2) small patches of documented submerged aquatic vegetation (SAV) located immediately east of the Project area (**Attachment 2**). However, the mapped SAV adjacent to the Project area depict sea lettuce accumulations. Excess growth and accumulation of sea lettuce results in the loss of aquatic habitat, thick mats on shorelines that result in odors and disruption of recreation activities, depletion of dissolved oxygen in the water as the sea lettuce decomposes, anoxic events, and the death of aquatic life. The Project area is located within and adjacent to underwater lands mapped as uncertified for shellfishing (NYSDEC Shellfish Closure Area) due to existing water quality impairment (**Attachment 2**).

As depicted on the Map of Estimated Range of Sea Turtles (**Attachment 3**), the Project is located within the estimated range of green, Kemp's ridley, leatherback, hawksbill, and loggerhead sea turtles. These sea turtles are not year-round residents in New York waters and there is no nesting activity in the region. They may occur seasonally in the coastal waters of Long Island; however, their presence in shallow waters of highly developed channelized areas such as the Project area is unlikely. Occurrence in these shallow waters would be rare and tied to the presence of suitable foraging habitat. Leatherback sea turtles feed almost exclusively on jellyfish in offshore marine environments, whereas green sea turtles tend to frequent seagrass beds. Loggerhead and Kemp's ridley sea turtles feed on mollusks and crustaceans. Hawksbill turtles rarely occur in New York as their preferred habitat consists of warm, coastal shoal waters with abundant SAV. As depicted in **Attachment 2**, the Project area is located immediately adjacent to two (2) small patches of SAV. However, the mapped SAV adjacent to the Project area depict sea lettuce accumulations. The proposed Project will involve the removal of two existing groins, re-use of the stone from the groins to construct a new revetment located between the two groins (in the intertidal zone on a sandy beach), and the construction of a perched revetment to strengthen the existing revetment (landward of the MHWS contour). BMPs will be implemented to prevent impacts to the surrounding waterways. If a sea turtle were to be present in the waterways adjacent to the Project area, it would be a transient presence with a limited temporal duration and the individual would not be expected to travel to the Project area. Sea turtles are found in the northeast during the summer and fall months (May - November) with the highest concentrations of turtles occurring from June through October. The waterways located adjacent to the Project area are subject to frequent boating and human activity during the time seasonal transients would be in the region.

As depicted on the Map of Estimated Range of Atlantic Sturgeon Distinct Population Segments (**Attachment 4**), the Project is located within an area mapped as accessible habitat for Atlantic sturgeon, which is defined as in-water habitat located in marine or estuarine areas below the high tide line. Since the Project is located in saline, tidally influenced waters, eggs, larvae, or juvenile Atlantic sturgeon would not be present. Sub-adult and adult Atlantic sturgeon are found seasonally in the coastal waters of Long Island, but are not likely to be present in the intertidal and shallow water depths adjacent to the Project area. Occurrence in these shallow waters would be tied to the presence of suitable benthic resources for foraging. As discussed above the Project area is located immediately adjacent to two (2) small patches of SAV. However, the mapped SAV adjacent to the Project area depict sea lettuce accumulations. The proposed Project will involve the removal of two existing groins, re-use of the stone from the groins to construct a new revetment located between the two groins (in the intertidal zone on a sandy beach), and the construction of a perched revetment to strengthen the existing revetment (landward of the MHWS contour). BMPs will be implemented to prevent impacts to the surrounding waterways. Since the Project is located along a highly developed shoreline subject to frequent boating activity and the Project will not impact habitat that is frequently utilized by sturgeon, use of the area by sturgeon would be limited to transient individuals that are passing through. The Project area does not contain any known overwintering areas; thus, sub-adult and adult Atlantic sturgeon are most likely to be present in the region from April through November. If a sturgeon were to enter the waterways adjacent to the Project area, the individual would not be expected to enter the Project area. If present in the vicinity of the Project area, seasonal transients are highly mobile and could easily avoid the Project area during construction activity.

Conclusion

There is no critical habitat for ESA species under NMFS jurisdiction within the Project area. The areas adjacent to the Project area are subject to existing water quality impairment. The shoreline in Zone A and B is comprised of an existing revetment. The shoreline in Zone C is comprised of a sand beach with two (2) groins. The surrounding area is comprised of dense residential and commercial development in an area characterized by dense residential and commercial development. Sea lettuce currently accumulates in the waterways adjacent to the Project area due to flow stagnation and sediment flow that is disrupted by the groins. Groin removal in conjunction with the construction of the new revetment will eliminate the stagnation area between the groins, which allows for free seaweed and sediment movement along the shoreline, and will result in a decrease in anoxic events that result from sea lettuce accumulation.

Atlantic sturgeon and sea turtles are found seasonally in the coastal waters of Long Island. However, their presence at the Project area is unlikely. The waterways adjacent to the Project area are subject to frequent boating and human activity during the time seasonal transients would occur in the region. Therefore, sea turtles and sturgeon are not expected to travel to the Project area. If such a species were present, it would be a transient presence with a limited temporal duration, and these highly mobile life stages could easily relocate to avoid temporary construction disturbance. Additionally, Atlantic sturgeon and sea turtles are not year round residents and are only expected to occur within the coastal waters of Long Island from May to November.

The Project would not result in the loss of potential habitat for ESA species under NMFS jurisdiction or their prey. The Project will not result in a significant increase in vessel traffic as it is anticipated that Project activities will take place from shore and the shoreline adjacent to the Project area is populated with docked watercraft that would be frequently used for recreation. Any noise or sediment disturbance during construction would be negligible relative to existing water quality impairment and frequent disturbance from boating activity in waterways adjacent to the Project area.

The Project would be completed in accordance with federal and state permit conditions. BMPs would minimize sediment disturbance and reduce potential impacts from noise or turbidity during construction. The Project involves shoreline stabilization and does not involve siting a facility that would generate hazardous waste that could cause pollution to the waterway.

Based on this analysis, Project activities would not directly or indirectly affect any ESA species under NMFS jurisdiction. The Project would not introduce stressors on listed species, such as: sound disturbance; changes in water depth or substrate characteristics; exposure to pollutants or changes in water quality; changes in the abundance, availability, accessibility or quality of prey; or loss of submerged aquatic vegetation (SAV) or shellfish beds. Pursuant to the NMFS Greater Atlantic Region Endangered Species Act Section 7 Program, a No Effect Determination has been made for the Project. We certify that we have used the best scientific data available to complete this analysis.

Sincerely,

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

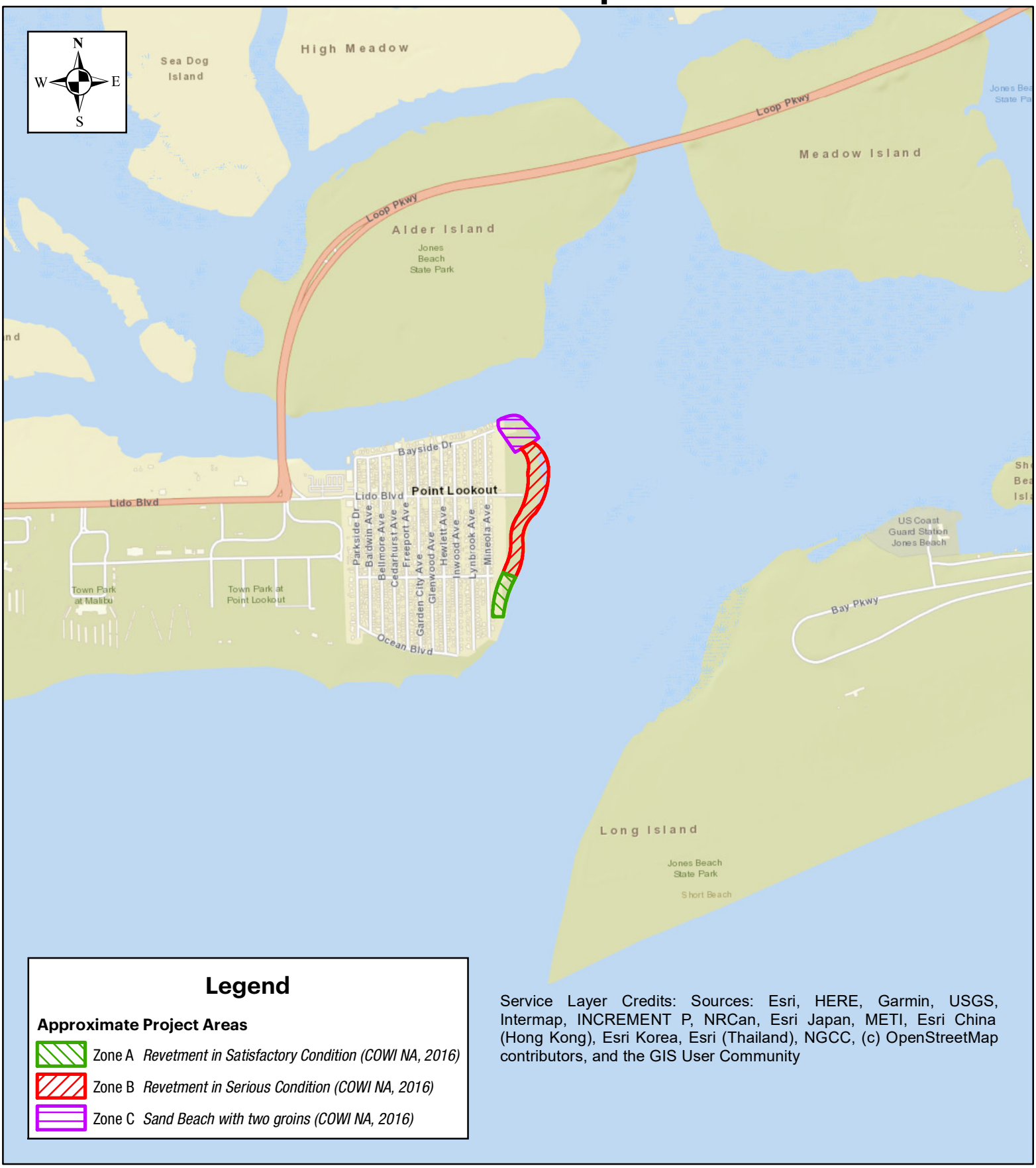
A List of Attachments is Included on the Following Page.

Attachments:

Attachment 1 – Project Location Maps
Attachment 2 – Submerged Aquatic Vegetation (SAV) and NYSDEC Shellfish Closure Areas Map
Attachment 3 – Map of Estimated Range of Sea Turtles
Attachment 4 – Map of Estimated Range of Atlantic Sturgeon Distinct Population Segments (DPSs)

Attachment 1

Street Map



Legend

Approximate Project Areas

- Zone A *Revetment in Satisfactory Condition (COWI NA, 2016)*
- Zone B *Revetment in Serious Condition (COWI NA, 2016)*
- Zone C *Sand Beach with two groins (COWI NA, 2016)*

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

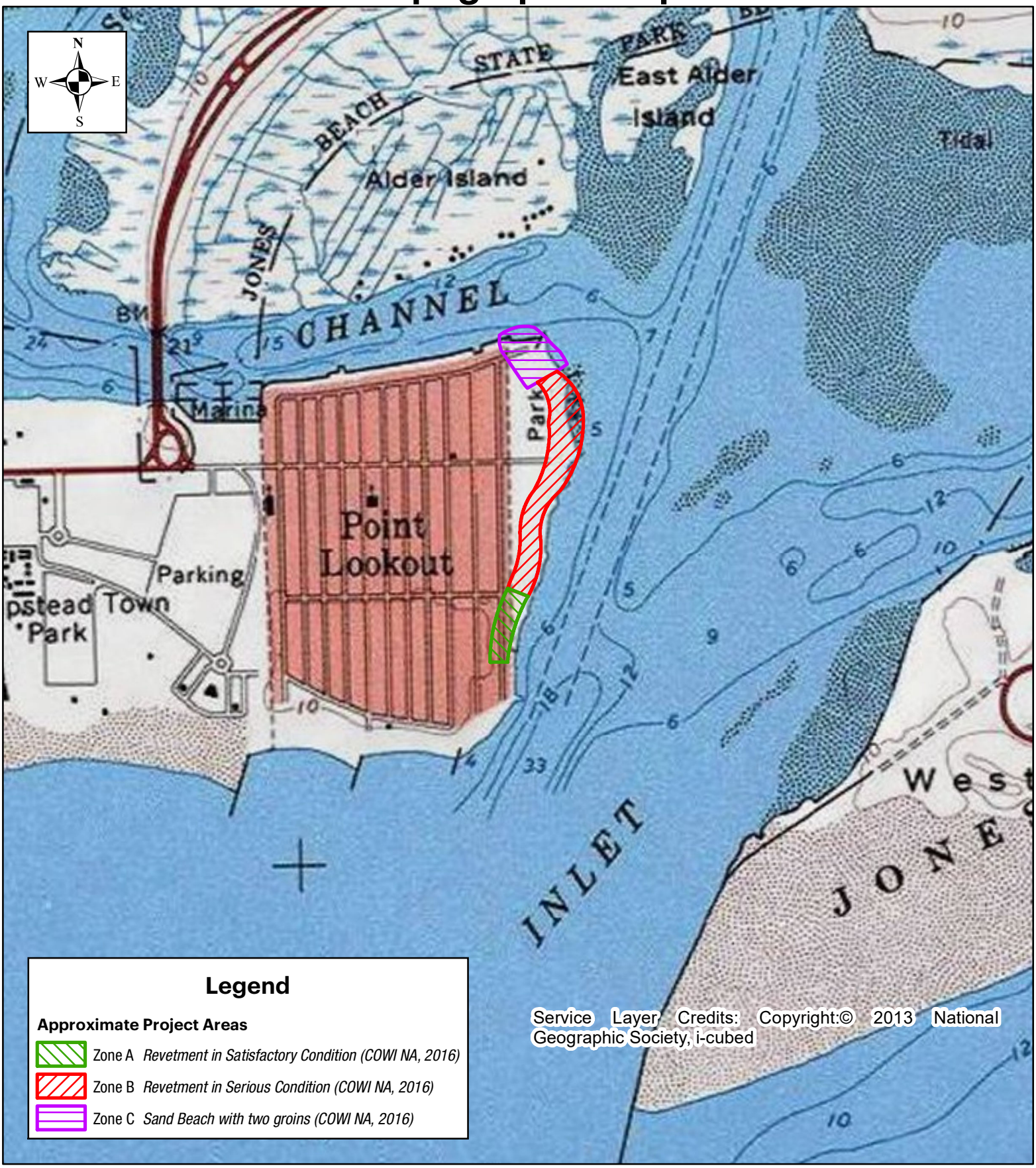
Tectonic

1:20,000

0 1,000 2,000 4,000 Feet

Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

Topographic Map



Tectonic

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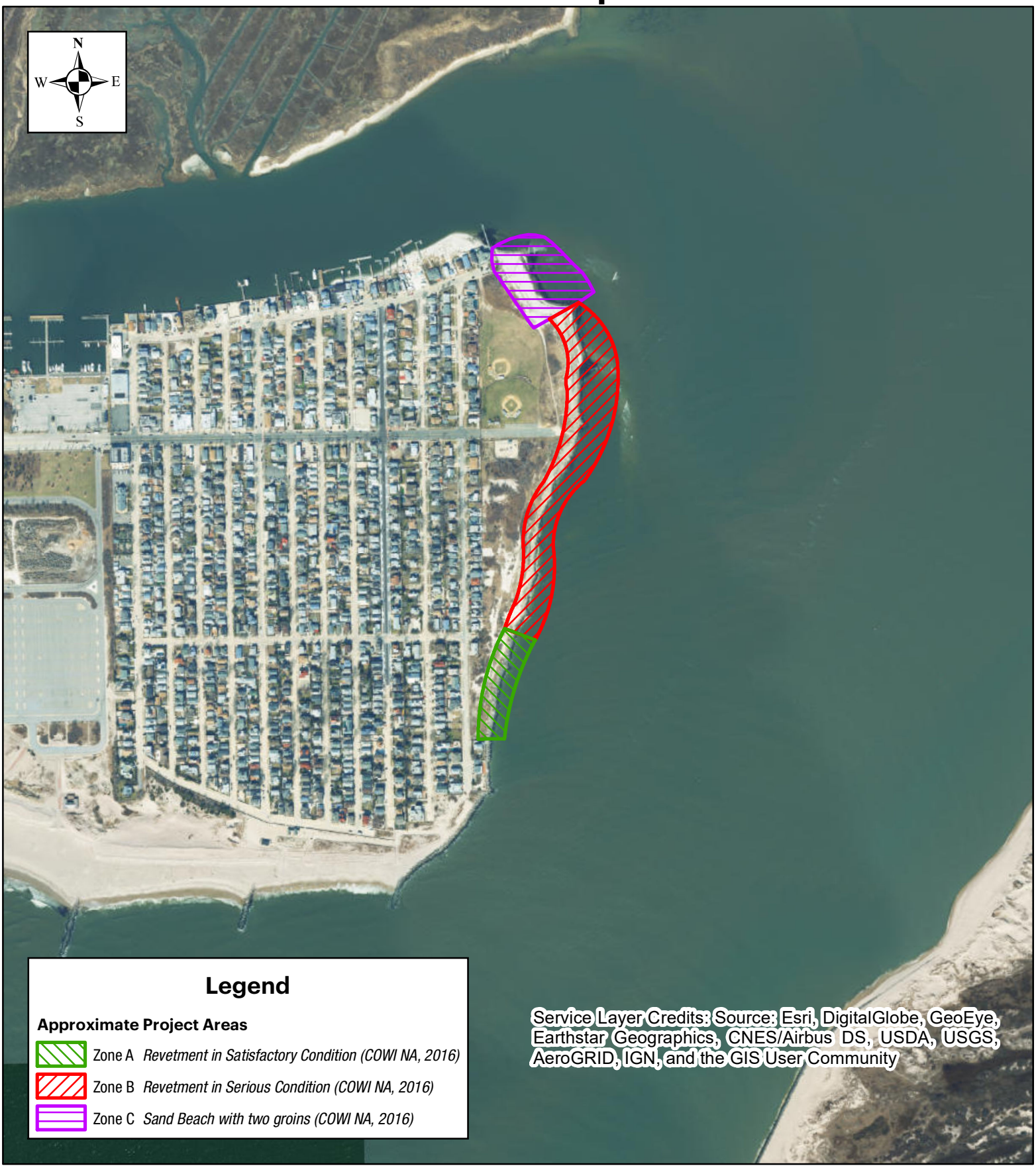
Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

Aerial Map



Tectonic

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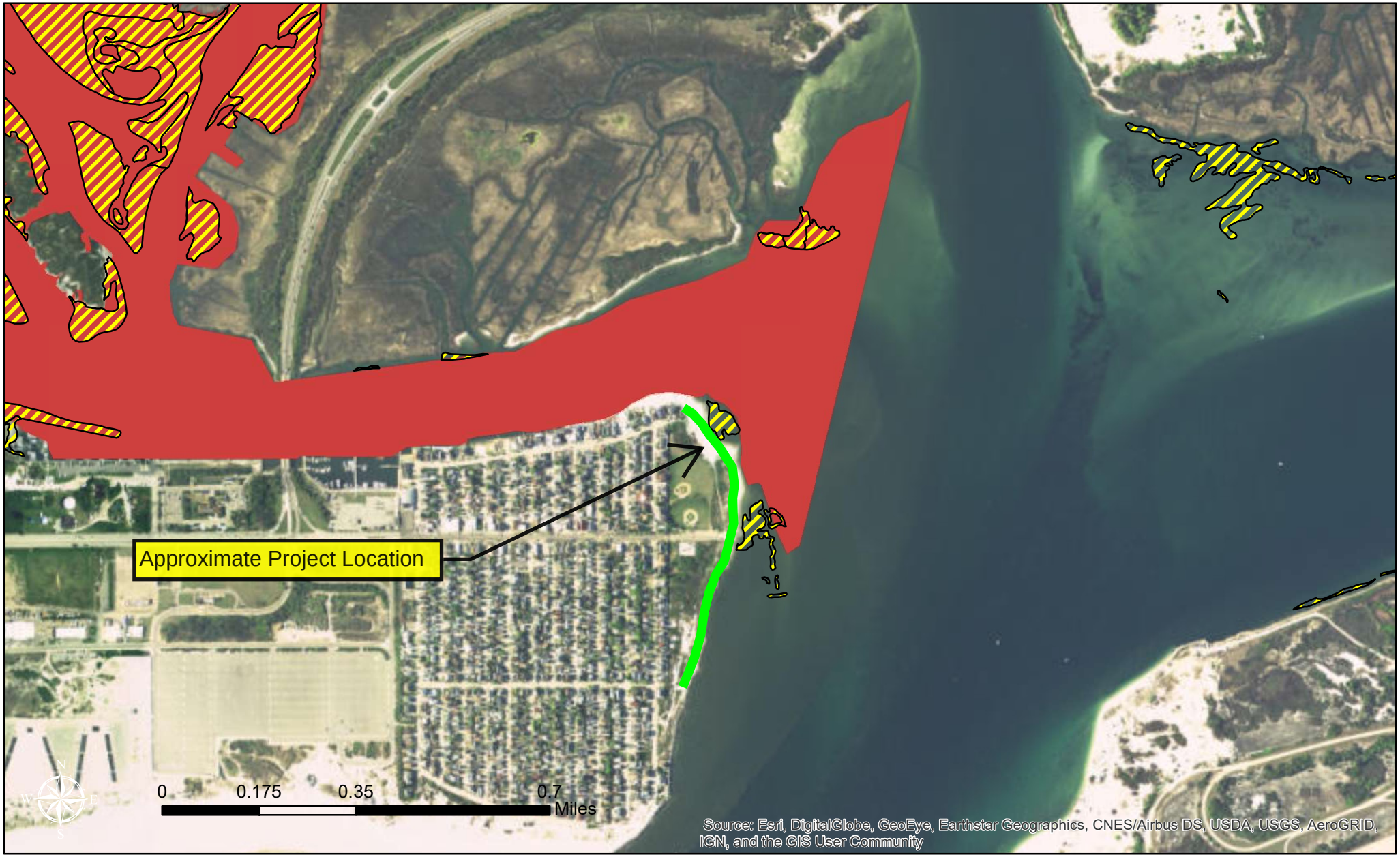
Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

Attachment 2



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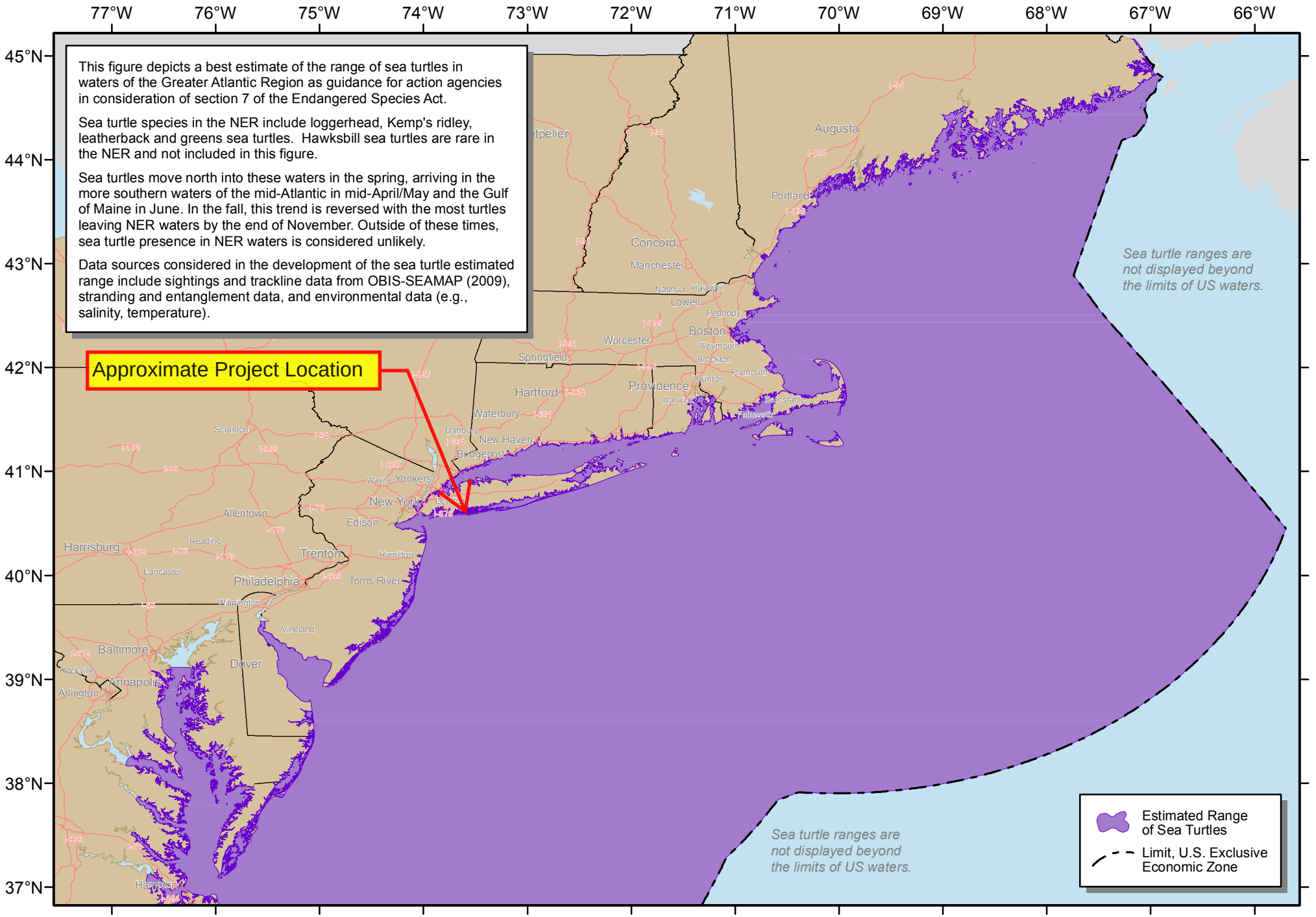
Legend

- Submerged Aquatic Vegetation (SAV)
- Uncertified for Shellfishing (NYSDEC)
- Seasonally Uncertified for Shellfishing (NYSDEC)

Submerged Aquatic Vegetation (SAV) and NYSDEC Shellfish Closure Areas
Lido Beach Point Lookout Rehabilitation and Revetment Project
Point Lookout, NY 11569

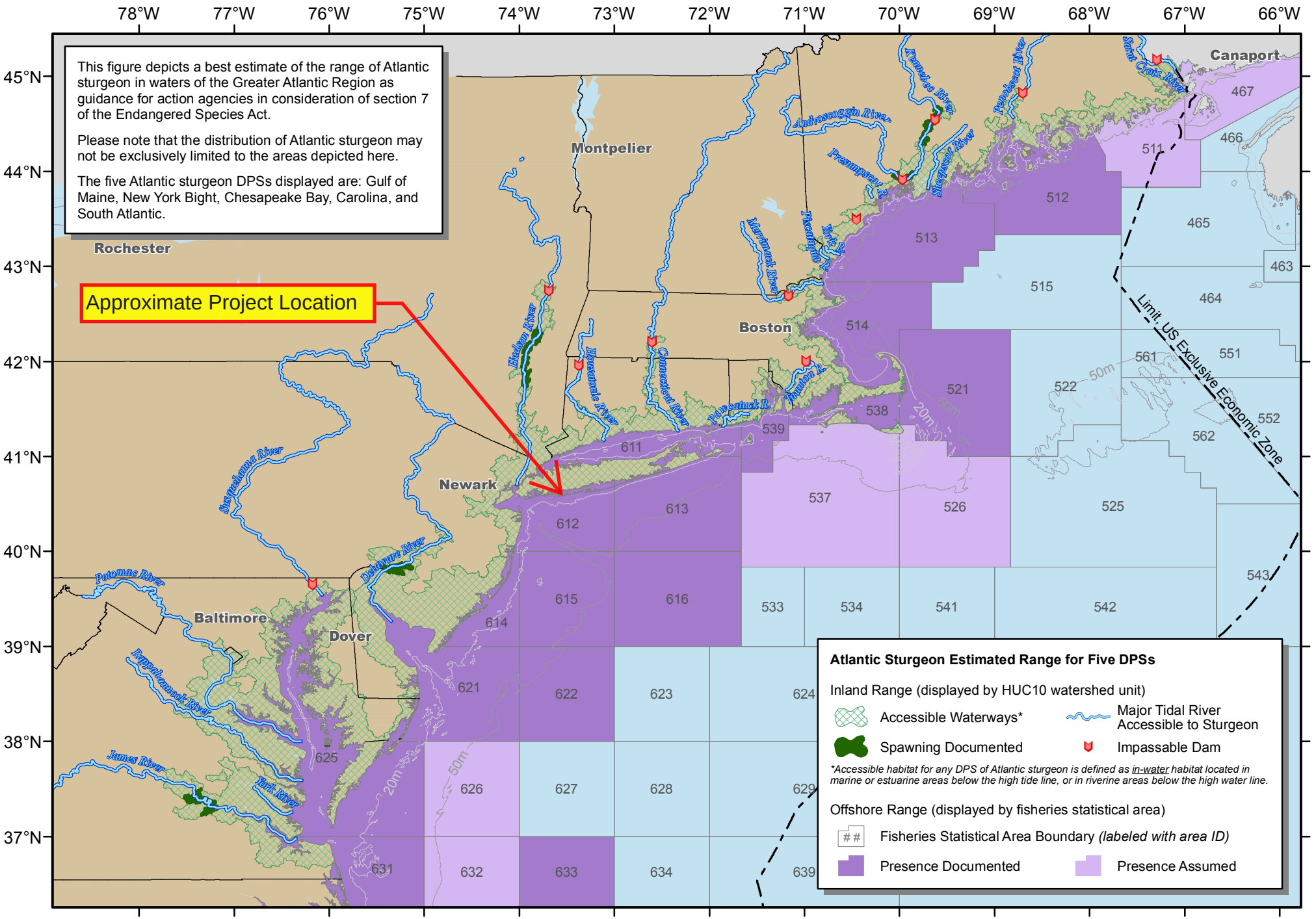
Attachment 3

Estimated Range of Sea Turtles



Attachment 4

Estimated Range of Atlantic Sturgeon Distinct Population Segments (DPSs)



Governor's Office of Storm Recovery

ANDREW M. CUOMO
Governor

March 5, 2020

MEMORANDUM FOR THE RECORD

Subject: Essential Fish Habitat Assessment – Point Lookout Shoreline Stabilization and Revetment Project – Eastern End of Long Beach Barrier Island, Nassau County, Hamlet of Point Lookout, Town of Hempstead, Nassau County, New York

The Governor's Office of Storm Recovery (GOSR), an office 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. Federal agencies are required to consult with National Marine Fisheries Service (NMFS) (using existing consultation processes for the National Environmental Policy Act (NEPA), the Endangered Species Act, or the Fish and Wildlife Coordination Act) on any action that they authorize, fund or undertake that may adversely impact Essential Fish Habitat (EFH). The purpose of this memorandum is to document GOSR's no effect determination for EFH for the Point Lookout Shoreline Stabilization and Revetment Project.

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) mandates that federal agencies conduct an EFH consultation with NOAA Fisheries regarding any of their actions authorized, funded, or undertaken that may adversely affect EFH. An adverse effect means any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Project Description

The Point Lookout Shoreline Stabilization & Revetment Project (Project) will involve repairing an existing revetment located at the tip of Point Lookout along Reynolds Channel and Jones Inlet. The Project will include the removal of two existing groins, re-use of the stone from the groins to construct a new revetment located between the two groins (designated Zone C), and the

construction of a perched revetment to strengthen the existing revetment (designated Zones A and B). The Project will take place wholly within the Town-owned parcels designated as Point Lookout Beach District Park, Hamlet of Point Lookout, Town of Hempstead, New York (Tax ID: 61-A-51).

A site investigation was completed in October 2016 by COWI that documented and classified the existing structures located in the Project area. The Project area was divided into the following three zones, based on the existing condition of the shoreline:

Zone A – existing revetment in fair condition; this area has a length of approximately 550 feet and extends (from south to north) from the southern limit of Mineola Avenue to the shoreline adjacent to the intersection of Beech Street and Mineola Avenue.

Zone B – existing revetment in serious condition; the area has a length of approximately 1,800 feet and extends (from south to north) from the shoreline adjacent to the intersection of Beech Street and Mineola Avenue to the northern limit of the existing revetment/ the southern groin.

Zone C – a sand beach with two (2) groins (defined as the northern and southern groins), which is located on the northeastern corner of Point Lookout and extends (from south to north) from the northern limit of the existing revetment/ the southern groin to the shoreline adjacent to the eastern limit of Bayside Drive.

In Zones A and B, a perched revetment will be constructed with additional lee side granular fill overtopping protection. This design is intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it. All material is proposed to be placed landward of the existing mean high water spring (MHWS) contour. Therefore, all construction activities for these Zones will be confined to the area above the MHWS. In Zone C, two existing groins will be removed and a new revetment will be constructed to prevent shoreline erosion due to wave and current action. Additional lee side erosion and scour protection was designed due to large volumes of overtopping expected during storm events. Geotextile filter fabric will be utilized as a filter and a separation layer between existing soil and the revetment underlayer in Zone C. The separation layer will prevent filtering of fine soil into the underlayer while allowing for sufficient water flow through it in order to reduce hydrodynamic loads. Groin removal in conjunction with new revetment construction will also eliminate stagnation area between the groins and allow for free seaweed and sediment movement along the shoreline.

Materials will be delivered to the area by trucks. Excavation (groin and derelict revetment removal) and grading within Zone C will be performed during low tide using a land based excavator. Excavated materials (sand and stone) will be stockpiled locally and reused in the reconstruction. Geotextile will be delivered to the area in rolls and then manually placed on top of the post-excavation grade. It will be held down by underlayer stones during the construction period. Smaller stones (underlayer and granular fill) will be placed using a front bucket loader or a bobcat. The excavator with a hydraulic rock placing arm will then be used to individually place large armor stones. Best management practices will be implemented to prevent any equipment, material, or debris from entering the waterway. The contractor will prepare and submit a spill response plan,

which will document measures and activities to be performed should any oil or fluid spillage occur during the construction.

The Project is intended to repair and extend an existing revetment located around the tip of Point Lookout along Reynolds Channel and Jones Inlet in order to prevent scour and replicate the dunes washed away by Superstorm Sandy. The Project will minimize the loss of human life by stabilizing the shoreline along the community of Point Lookout. If no action is taken, a subsequent storm event could result in catastrophic flooding and destruction of the existing residences and businesses, potentially resulting in the loss of life. Federal financial assistance will support activities representing a long-term public investment in a critical piece of infrastructure that is necessary to protect the community of Point Lookout and the well-being of its residents and local economy, as well as eliminate the need for constant dredge and fill activities. The Project will also minimize the damage to fish and wildlife by stabilizing the shoreline, creating and enhancing wildlife habitats along the coast.

The existing revetment along Jones Inlet functions as a barrier that absorbs wave energy, reflects waves, and reduces wave run- up during storm events. Portions of the landward dune were destroyed by Superstorm Sandy, rendering the area landward of the revetment vulnerable to scour. Until the revetment is repaired, houses along Mineola Avenue adjacent to the Point Lookout Beach District Park will be vulnerable to damage from waves and surge generated by coastal storms.

The sand beach that is situated from the north end of Jones Inlet west around the tip of Point Lookout along Reynolds Channel is subject to an ongoing process of coastal erosion along Jones Inlet. This has resulted in shoreline retreat, which has reduced the distance between the water and structures on Bayside Drive and increased the vulnerability of residences and businesses to coastal erosion. If nothing is done to halt the process of erosion, the foundations of residences and businesses could be undermined, leading to structural collapse and threatening the life and safety of the occupants. The process of erosion occurring at the northeast end of Point Lookout also causes loss of open space in the Point Lookout Beach District Park. Eventually, if left unprotected, erosion along Jones Inlet in the area of the Park will encroach upon additional residences on Mineola Drive. The Project would result in the protection of this Town-owned facility, residential and commercial structures, and the lives of the occupants on Bayside Drive, Mineola Avenue, and the existing open space at the Point Lookout Beach District Park.

Additionally, large masses of sea lettuce (*Ulva lactuca*) accumulate between the groins due to flow stagnation and sediment flow is disrupted by the groins. Tolerant of nutrient loading that would suffocate many other aquatic plants, sea lettuce can actually thrive in moderate levels of nutrient pollution. Excess growth and accumulation of sea lettuce can cause loss of aquatic habitat, thick mats on shorelines that result in odors and disruption of recreation activities, depletion of dissolved oxygen in the water as the sea lettuce decomposes, anoxic events, and the death of aquatic life. Groin removal in conjunction with the construction of the new revetment will eliminate the stagnation area between the groins and allows for free seaweed and sediment movement along the shoreline.

The attached EFH Assessment Worksheet has been prepared to demonstrate that the project is in compliance with the requirements of 50 CFR §660.920 implementing the Magnuson-Stevens Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267) and document GOSR's no effect determination.

Sincerely,

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

Attachments:

Attachment 1 – EFH Assessment Worksheet
Attachment 2 – NOAA EFH Mapper Results

Attachment 1

NOAA FISHERIES
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
Essential Fish Habitat (EFH) Consultation Guidance
EFH ASSESSMENT WORKSHEET

Introduction:

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) mandates that federal agencies conduct an essential fish habitat (EFH) consultation with NOAA Fisheries regarding any of their actions authorized, funded, or undertaken that may adversely affect EFH. An adverse effect means any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

This worksheet has been designed to assist in determining whether a consultation is necessary and in preparing EFH assessments. This worksheet should be used as your EFH assessment or as a guideline for the development of your EFH assessment. At a minimum, all the information required to complete this worksheet should be included in your EFH assessment. If the answers in the worksheet do not fully evaluate the adverse effects to EFH, we may request additional information in order to complete the consultation.

An expanded EFH assessment may be required for more complex projects in order to fully characterize the effects of the project and the avoidance and minimization of impacts to EFH. While the EFH worksheet may be used for larger projects, the format may not be sufficient to incorporate the extent of detail required, and a separate EFH assessment may be developed. However, regardless of format, the analysis outlined in this worksheet should be included for an expanded EFH assessment, along with additional information that may be necessary. This additional information includes:

- the results of on-site inspections to evaluate the habitat and site-specific effects
- the views of recognized experts on the habitat or the species that may be affected
- a review of pertinent literature and related information
- an analysis of alternatives to the action that could avoid or minimize the adverse effects on EFH.

Your analysis of adverse effects to EFH under the MSA should focus on impacts to the habitat for all life stages of species with designated EFH, rather than individual responses of fish species. Fish habitat includes the substrate and benthic resources (e.g., submerged aquatic vegetation, shellfish beds, salt marsh wetlands), as well as the water column and prey species.

Consultation with us may also be necessary if a proposed action results in adverse impacts to other NOAA-trust resources. Part 6 of the worksheet is designed to help assess the effects of the action on other NOAA-trust resources. This helps maintain efficiency in our interagency coordination process. In addition, further consultation may be required if a proposed action impacts marine mammals or threatened and endangered species for which we are responsible. Staff from our Greater Atlantic Regional Fisheries Office, Protected Resources Division should be contacted regarding potential impacts to marine mammals or threatened and endangered species.

Instructions for Use:

Federal agencies must submit an EFH assessment to NOAA Fisheries as part of the EFH consultation. Your EFH assessment must include:

1) A description of the proposed action.
2) An analysis of the potential adverse effects of the action on EFH, and the managed species.
3) The federal agency's conclusions regarding the effects of the action on EFH.
4) Proposed mitigation if applicable.

In order for this worksheet to be considered as your EFH assessment, you must answer the questions in this worksheet fully and with as much detail as available. Give brief explanations for each answer.

Federal action agencies or the non-federal designated lead agency should submit the completed worksheet to NOAA Fisheries Greater Atlantic Regional Fisheries Office, Habitat Conservation Division (HCD) with the public notice or project application. Include project plans showing existing and proposed conditions, all waters of the U.S. on the project site, with mean low water (MLW), mean high water (MHW), high tide line (HTL), and water depths clearly marked and sensitive habitats mapped, including special aquatic sites (submerged aquatic vegetation, saltmarsh, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges), hard bottom habitat areas and shellfish beds, as well as any available site photographs.

For most consultations, NOAA Fisheries has 30 days to provide EFH conservation recommendations once we receive a complete EFH assessment. Submitting all necessary information at once minimizes delays in review and keeps review timelines consistent. Delays in providing a complete EFH assessment can result in our consultation review period extending beyond the public comment period for a particular project.

The information contained on the HCD Consultation website and NOAA's EFH Mapper will assist you in completing this worksheet. Please note that the Mapper is currently being up-dated with new designations and EFH maps and text descriptions for many species are temporarily missing. When you open the Mapper, read the WARNING that pops up when you click on the Greater Atlantic Region. It will direct you to a document with maps and text descriptions for each of the missing New England Species and to the Mapper's Data Inventory where a data layer for all the missing species is available for downloading into GIS software. Once the Mapper is up-dated, you can do a Location Query for your project location, but until then, the only way to easily generate a list of the missing species and life stages is to use your own GIS software. Before you fill out the worksheet, we recommend that you check with the appropriate HCD staff member to ensure that your list is complete and accurate. They will be able to answer any questions that you have.

Also note that a number of new Habitat Areas of Particular Concern (HAPCs) have been designated in the Greater Atlantic Region. HAPC maps will also be added to the Mapper the next time it is up-dated. Currently, they can be viewed by following the instructions on the warning page for the region. We expect the Mapper to be fully up-dated and functional later this spring.

EFH ASSESSMENT WORKSHEET FOR FEDERAL AGENCIES (modified 3/2016)

PROJECT NAME: Point Lookout Shoreline Stabilization and Revetment Project

DATE: 3/2/2020

PROJECT NO.:

LOCATION (Water body, county, physical address):

Eastern End of Long Beach Barrier Island, Hamlet of Point Lookout, Town of Hempstead, Nassau County, New York

PREPARER: Chris Camacho, Environmental Scientist

Step 1: Use NOAA's EFH Mapper to generate the list of designated EFH for federally-managed species and life stages for the geographic area of interest. Use this list as part of the initial screening process to determine if EFH for those species occurs in the vicinity of the proposed action. The list can be included as an attachment to the worksheet. Make a preliminary determination on the need to conduct an EFH consultation.

1. INITIAL CONSIDERATIONS

EFH Designations	Yes	No
Is the action located in or adjacent to EFH designated for eggs? **List the species:** Atlantic Mackerel, Smoothhound Shark Complex, Winter Flounder, Ocean Pout, Monkfish, Windowpane Flounder, Longfin Inshore Squid	✔	
Is the action located in or adjacent to EFH designated for larvae? **List the species:** Winter Flounder, Monkfish, Windowpane Flounder, Smoothhound Shark, Atlantic Mackerel	✔	
Is the action located in or adjacent to EFH designated for juveniles? **List the species:** Winter Flounder, Little Skate, Atlantic Herring, Pollock, Windowpane Flounder, Winter Skate, White Hake, Bluefin Tuna, Sandbar Shark, White Shark, Smoothhound Shark, Longfin Inshore Squid, Atlantic Mackerel, Bluefish, Atlantic Butterfish, Spiny Dogfish, Scup, Summer Flounder, Black Sea Bass	✔	

Is the action located in or adjacent to EFH designated for adults or spawning adults? List the species: Winter Flounder, Little Skate, Atlantic Herring, Atlantic Cod, Red Hake, Yellowtail Flounder, Windowpane Flounder, Winter Skate, Sandbar Shark, Longfin Inshore Squid, Smoothhound Shark, Atlantic Mackerel, Bluefish, Spiny Dogfish, Scup, Summer Flounder, Black Sea Bass	✔	

If you answered 'no' to all questions above, then an EFH consultation is not required - go to Section 5.

If you answered 'yes' to any of the above questions, proceed to Section 2 and complete the remainder of the worksheet.

<u>Step 2</u>: In order to assess impacts, it is critical to know the habitat characteristics of the site before the activity is undertaken. Use existing information, to the extent possible, in answering these questions. Identify the sources of the information provided and provide as much description as available. These should not be yes or no answers. Please note that there may be circumstances in which new information must be collected to appropriately characterize the site and assess impacts. Project plans that show the location and extent of sensitive habitats, as well as water depths, the HTL, MHW and MLW should be provided.

2. SITE CHARACTERISTICS

Site Characteristics	Description
Is the site intertidal, sub-tidal, or water column?	Intertidal
What are the sediment characteristics?	Sandy beach
Is there submerged aquatic vegetation (SAV) at or adjacent to project site? If so describe the SAV species and spatial extent.	There is mapped SAV located immediately east of the project site, however, the mapped SAV is comprised of accumulations of sea lettuce (Ulva lactuca). Large masses of sea lettuce (Ulva lactuca) accumulate between the groins due to flow stagnation and sediment flow is disrupted by the groins. Excess growth and accumulation of sea lettuce can cause loss of aquatic habitat, thick mats on shorelines that result in odors and disruption of recreation activities, depletion of dissolved oxygen in the water as the sea lettuce decomposes, anoxic events, and the death of aquatic life.
Are there wetlands present on or adjacent to the site? If so, describe the spatial extent and vegetation types.	Yes, there are tidal wetlands located on and adjacent to the project site.

Is there shellfish present at or adjacent to the project site? If so, please describe the spatial extent and species present.	No
Are there mudflats present at or adjacent to the project site? If so please describe the spatial extent.	No
Is there rocky or cobble bottom habitat present at or adjacent to the project site? If so, please describe the spatial extent.	The project will involve the removal of two (2) existing stone groins, which provide rocky habitat.
Is Habitat Area of Particular Concern (HAPC) designated at or near the site? If so for which species, what type habitat type, size, characteristics?	Yes, for Summer Flounder. However, there is no spatial or informational data available for the summer flounder SAV HAPC.
What is the typical salinity, depth and water temperature regime/range?	27 PSU, 4 foot, ~35 -70 degrees
What is the normal frequency of site disturbance, both natural and man-made?	The project is located along a highly developed shoreline subject to frequent boating activity.
What is the area of proposed impact (work footprint & far afield)?	The area of proposed impact is the existing revetment and groins, and the current shoreline between the two (2) existing groins.

<u>Step 3</u>: This section is used to describe the anticipated impacts from the proposed action on the physical/chemical/biological environment at the project site and areas adjacent to the site that may be affected.

3. DESCRIPTION OF IMPACTS

Impacts	Y	N	Description
Nature and duration of activity(s). Clearly describe the activities proposed and the duration of any disturbances.			The Point Lookout Shoreline Stabilization & Revetment Project will involve repairing an existing revetment located at the tip of Point Lookout along Reynolds Channel and Jones Inlet. The Project will include the removal of two existing groins, re-use of the stone from the groins to construct a new revetment located between the two groins (designated Zone C), and the construction of a perched revetment to strengthen the existing revetment (designated Zones A and B). The Project will take place wholly within the Town-owned parcels designated as Point Lookout Beach District Park, Hamlet of Point Lookout, Town of Hempstead, New York (Tax ID: 61-A-51).
Will the benthic community be disturbed? If no, why not? If yes, describe in detail how the benthos will be impacted.	✔		The majority of the work will be performed either above the mean high water line or at low tide in an intertidal area. The removal of the stone groins and re-shaping of the shoreline will involve short-term, localized disturbance to the benthic community. Best Management Practices (BMPs), including the use of a turbidity curtain seaward of the work area and temporary sediment filter bags will be implemented to ensure that there are no adverse impacts to the benthic community. Any other BMPs specified by the New York State Department of Environmental Conservation (NYSDEC) and/or the United States Army Corps of Engineers (USACE) will be implemented.
Will SAV be impacted? If no, why not? If yes, describe in detail how the SAV will be impacted. Consider both direct and indirect impacts. Provide details of any SAV survey conducted at the site.		✔	No SAV will be impacted by the proposed project. Best Management Practices (BMPs), including the use of a turbidity curtain seaward of the work area and temporary sediment filter bags will be implemented to ensure that there is no impact to the documented SAV. Any other BMPs specified by the New York State Department of Environmental Conservation (NYSDEC) and/or the United States Army Corps of Engineers (USACE) will be implemented. Large masses of sea lettuce (Ulva lactuca) accumulate between the groins due to flow stagnation and sediment flow is disrupted by the groins. Excess growth and accumulation of sea lettuce can cause loss of aquatic habitat, thick mats on shorelines that result in odors and disruption of recreation activities, depletion of dissolved oxygen in the water as the sea lettuce decomposes, anoxic events, and the death of aquatic life. Groin removal in conjunction with the construction of the new revetment will eliminate the stagnation area between the groins and allows for free seaweed and sediment movement along the shoreline.
Will salt marsh habitat be impacted? If no, why not? If yes, describe in detail how wetlands will be impacted. What is the aerial extent of the impacts? Are the effects temporary or permanent?		✔	No salt marsh habitat is present at the project location.

Will mudflat habitat be impacted? If no, why not? If yes, describe in detail how mudflats will be impacted. What is the aerial extent of the impacts? Are the effects temporary or permanent?	☐	✔	No mudflat habitat is present at the project location.
Will shellfish habitat be impacted? If so, provide in detail how the shellfish habitat will be impacted. What is the aerial extent of the impact? Provide details of any shellfish survey conducted at the site.	☐	✔	No shellfish habitat is present at the project location.
Will hard bottom (rocky, cobble, gravel) habitat be impacted at the site? If so, provide in detail how the hard bottom will be impacted. What is the aerial extent of the impact?	☐	✔	No hard bottom habitat is present at the project location.
Will sediments be altered and/or sedimentation rates change? If no, why not? If yes, describe how.	✔	☐	Sediment will be temporarily disturbed during the removal of the existing groins and the shoreline stabilization improvements. BMPs, including the use of a turbidity curtain and sediment filter bags, will be used during work. Any other BMPs specified by the NYSDEC and/or the USACE will be implemented.
Will turbidity increase? If no, why not? If yes, describe the causes, the extent of the effects, and the duration.	☐	✔	BMPs will be implemented to prevent an increase in turbidity. This will include the use of a turbidity curtain seaward of the work area and temporary sediment filter bags will be implemented to ensure that there is no impact to the documented SAV. Any other BMPs specified by the NYSDEC and/or the USACE will be implemented.

Will water depth change? What are the current and proposed depths?	✔		The shoreline will be re-shaped in order to provide better protection against erosion. The approximately 0.32 acres of permanent impacts in wetlands will be offset by the creation of an additional 0.32 acres of wetlands resulting in zero net permanent wetland loss. The proposed Project involves shoreline modifications to protect land within the existing floodplain. Construction activities that occur within the floodplain and wetlands include excavation and fill within the intertidal and subtidal zones. The proposed MHWS contour was designed to balance the removed and created areas below MHWS.
Will contaminants be released into sediments or water column? If yes, describe the nature of the contaminants and the extent of the effects.		✔	It is not anticipated that contaminants will be released into sediments or the water column. It is anticipated that the project will improve water quality in the future by reducing erosion and flooding, and potential release of contaminants produced during flood events.
Will tidal flow, currents, or wave patterns be altered? If no, why not? If yes, describe in detail how.	✔		Currently, sea lettuce (Ulva lactuca) accumulates between the groins due to flow stagnation and sediment flow is disrupted by the groins. Excess growth and accumulation of sea lettuce loss of aquatic habitat, thick mats on shorelines that result in odors and disruption of recreation activities, depletion of dissolved oxygen in the water as the sea lettuce decomposes, anoxic events, and the death of aquatic life. Groin removal in conjunction with the construction of the new revetment will eliminate the stagnation area between the groins, which allows for free seaweed and sediment movement along the shoreline, and will result in a decrease anoxic events that result from sea lettuce accumulation.
Will water quality be altered? If no, why not? If yes, describe in detail how. If the effects are temporary, describe the duration of the impact.		✔	It is not anticipated that water quality will be altered. BMPs will be implemented to prevent the alteration of water quality during construction. It is anticipated that the project will improve water quality in the future by reducing erosion and flooding, and potential release of contaminants produced during flood events. Any other BMPs specified by the NYSDEC and/or the USACE will be implemented.
Will ambient noise levels change? If no, why not? If yes, describe in detail how. If the effects are temporary, describe the duration and degree of impact.		✔	The project will involve a temporary change to ambient noise levels are. All noise generated during the construction of the proposed project will be controlled pursuant to local noise ordinances.
Does the action have the potential to impact prey species of federally managed fish with EFH designations?		✔	BMPs, such as the use of a turbidity curtain and sediment filter bags, will be implemented to prevent impacts to federally managed fish with EFH designations. Any other BMPs specified by the NYSDEC and/or the USACE will be implemented.

Step 4: This section is used to evaluate the consequences of the proposed action on the functions and values of EFH as well as the vulnerability of the EFH species and their life stages. Identify which species (from the list generated in Step 1) will be adversely impacted from the action. Assessment of EFH impacts should be based upon the site characteristics identified in Step 2 and the nature of the impacts described within Step 3. NOAA's EFH Mapper should be used during this assessment to determine the ecological parameters/ preferences associated with each species listed and the potential impact to those parameters.

4. EFH ASSESSMENT

Functions and Values	Y	N	Describe habitat type, species and life stages to be adversely impacted
Will functions and values of EFH be impacted for:			
Spawning **If yes, describe in detail how, and for which species. Describe how adverse effects will be avoided and minimized.**		✔	The project will not impact functions and values of EFH for spawning.
Nursery **If yes, describe in detail how and for which species. Describe how adverse effects will be avoided and minimized.**		✔	The project will not impact functions and values of EFH as a nursery.
Forage **If yes, describe in detail how and for which species. Describe how adverse effects will be avoided and minimized.**		✔	The project will not impact functions and values of EFH as foraging habitat.
Shelter **If yes, describe in detail how and for which species. Describe how adverse effects will be avoided and minimized.**		✔	The project will not impact functions and values of EFH as shelter.

Will impacts be temporary or permanent? Please indicate in description box and describe the duration of the impacts.			The project will not impact EFH.
Will compensatory mitigation be used? If no, why not? Describe plans for mitigation and how this will offset impacts to EFH. Include a conceptual compensatory mitigation plan, if applicable.	☐	✔	There will be no impacts to EFH.

<u>Step 5</u>: This section provides the federal agency's determination on the degree of impact to EFH from the proposed action. The EFH determination also dictates the type of EFH consultation that will be required with NOAA Fisheries.

Please note: if information provided in the worksheet is insufficient to allow NOAA Fisheries to complete the EFH consultation additional information will be requested.

5. DETERMINATION OF IMPACT

Federal Agency's EFH Determination		
Overall degree of adverse effects on EFH (not including compensatory mitigation) will be: **(check the appropriate statement)**	✔	**There is no adverse effect on EFH or no EFH is designated at the project site.** **EFH Consultation is not required.**
	☐	**The adverse effect on EFH is not substantial. This means that the adverse effects are either no more than minimal, temporary, or that they can be alleviated with minor project modifications or conservation recommendations.** **This is a request for an abbreviated EFH consultation.**
	☐	**The adverse effect on EFH is substantial.** **This is a request for an expanded EFH consultation.**

Step 6: Consultation with NOAA Fisheries may also be required if the proposed action results in adverse impacts to other NOAA-trust resources, such as anadromous fish, shellfish, crustaceans, or their habitats as part of the Fish and Wildlife Coordination Act Some examples of other NOAA-trust resources are listed below. Inquiries regarding potential impacts to marine mammals or threatened/endangered species should be directed to NOAA Fisheries' Protected Resources Division.

6. OTHER NOAA-TRUST RESOURCES IMPACT ASSESSMENT

Species known to occur at site (list others that may apply)	Describe habitat impact type (i.e., physical, chemical, or biological disruption of spawning and/or egg development habitat, juvenile nursery and/or adult feeding or migration habitat). Please note, impacts to federally listed species of fish, sea turtles, and marine mammals must be coordinated with the GARFO Protected Resources Division.
alewife	No adverse impacts anticipated.
American eel	No adverse impacts anticipated.
American shad	No adverse impacts anticipated.
Atlantic menhaden	No adverse impacts anticipated.
blue crab	No adverse impacts anticipated.
blue mussel	No adverse impacts anticipated.
blueback herring	No adverse impacts anticipated.

Eastern oyster	No adverse impacts anticipated.
horseshoe crab	No adverse impacts anticipated.
quahog	No adverse impacts anticipated.
soft-shell clams	No adverse impacts anticipated.
striped bass	No adverse impacts anticipated.
other species:	No adverse impacts anticipated.

Useful Links

National Wetland Inventory Maps

EPA’s National Estuaries Program

Northeast Regional Ocean Council (NROC) Data

Mid-Atlantic Regional Council on the Ocean (MARCO) Data

Resources by State:

Maine
Eelgrass maps

Maine Office of GIS Data Catalog

Casco Bay Estuary Partnership

Maine GIS Stream Habitat Viewer

New Hampshire
New Hampshire's Statewide GIS Clearinghouse, NH GRANIT

New Hampshire Coastal Viewer

Massachusetts
Eelgrass maps

MADMF Recommended Time of Year Restrictions Document

Massachusetts Bays National Estuary Program

Buzzards Bay National Estuary Program

Massachusetts Division of Marine Fisheries

Massachusetts Office of Coastal Zone Management

Rhode Island
Eelgrass maps

Narraganset Bay Estuary Program

Rhode Island Division of Marine Fisheries

Rhode Island Coastal Resources Management Council

Connecticut

Eelgrass Maps

Long Island Sound Study

CT GIS Resources

CT DEEP Office of Long Island Sound Programs and Fisheries

CT Bureau of Aquaculture Shellfish

Maps CT River Watershed Council

New York

Eelgrass report

Peconic Estuary Program

NY/NJ Harbor Estuary

New Jersey

Submerged Aquatic Vegetation mapping

Barnegat Bay Partnership

Delaware

Partnership for the Delaware Estuary

Center for Delaware Inland Bays

Maryland

Submerged Aquatic Vegetation mapping

MERLIN

Maryland Coastal Bays Program

Virginia

Submerged Aquatic Vegetation mapping

Attachment 2

EFH Data Notice: Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional Fishery Management Councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Greater Atlantic Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 40º35'39" N, Longitude = 74º25'30" W
Decimal Degrees: Latitude = 40.59, Longitude = -73.58

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** W A R N I N G ***

Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH

Show	Link	Data Caveats	Species/Management Unit	Lifestage (s) Found at Location	Management Council	FMP
			Winter Flounder	Eggs Juvenile Larvae/Adult	New England	Amendment 14 to the Northeast Multispecies FMP
			Little Skate	Juvenile Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
			Ocean Pout	Adult Eggs	New England	Amendment 14 to the Northeast Multispecies FMP
			Atlantic Herring	Juvenile Adult	New England	Amendment 3 to the Atlantic Herring FMP

Show	Link	Data Caveats	Species/Management Unit	Lifestage (s) Found at Location	Management Council	FMP
			Atlantic Cod	Adult	New England	Amendment 14 to the Northeast Multispecies FMP
			Pollock	Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Red Hake	Adult	New England	Amendment 14 to the Northeast Multispecies FMP
			Yellowtail Flounder	Adult	New England	Amendment 14 to the Northeast Multispecies FMP
			Monkfish	Eggs/Larvae	New England	Amendment 4 to the Monkfish FMP
			Windowpane Flounder	Adult Larvae Eggs Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Winter Skate	Adult Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
			White Hake	Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Bluefin Tuna	Juvenile	Secretarial	Amendment 10 to the 2006 Consolidated

Show	Link	Data Caveats	Species/Management Unit	Lifestage (s) Found at Location	Management Council	FMP
						HMS FMP: EFH
			Sandbar Shark	Adult Juvenile	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			Skipjack Tuna	Adult	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			White Shark	Neonate	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			Smoothhound Shark Complex (Atlantic Stock)	ALL	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			Longfin Inshore Squid	Juvenile Eggs	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
			Atlantic Mackerel	Eggs Larvae Juvenile Adult	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
			Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish
			Atlantic Butterfish	Juvenile	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish

Show	Link	Data Caveats	Species/Management Unit	Lifestage (s) Found at Location	Management Council	FMP
						Amendment 11
			Spiny Dogfish	Sub-Adult Female Adult Male	Mid-Atlantic	Amendment 3 to the Spiny Dogfish FMP
			Scup	Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
			Summer Flounder	Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
			Black Sea Bass	Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass

HAPCs

Show	Link	Data Caveats	HAPC Name	Management Council
			Summer Flounder	MAFMC

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory:**
open data inventory -->

Mid-Atlantic Council HAPCs,
No spatial data for summer flounder SAV HAPC.

Attachment 10

Permit Documentation

NYSDEC Permit
NYSDEC / USACE Joint Permit Application

PERMIT

Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
TOWN OF HEMPSTEAD
TOWN HALL PLZ
1 WASHINGTON ST
HEMPSTEAD, NY 11550
(516) 812-3488

Facility:
POINT LOOKOUT BEACH
MINEOLA AVE
POINT LOOKOUT, NY 11569

Facility Application Contact:
BTMI ENGINEERING PC
276 5TH AVE
SUITE 1006
New York, NY 10001
(646) 790-3822

Facility Location: in HEMPSTEAD in NASSAU COUNTY **Village:** Point Lookout
Facility Principal Reference Point: NYTM-E: 620.3 NYTM-N: 4493.7
Latitude: 40°35'07.3" Longitude: 73°34'42.5"
Project Location: West Shoreline Jones Inlet at Reynolds Channel
Authorized Activity: Construct new perched revetment in Zones A and B; remove two groins and derelict stones from Zone C; grade as necessary. The revetment will be constructed of multi-ton armor stones and toe stones set on core stone, bedding stone and geotextile fabric. Full design details for the revetment, including but not limited to, the sizes (weights) of all stone to be used, the structure's slope, top elevation, toe elevation, proposed elevations of the shoreline/ beach area on which the revetment will be built in accordance with the Lido Beach/Pt. Lookout Shoreline Stabilization & Revetment NYSDEC/USACE Joint Permit Application prepared by BTMI/COWI, dated June 2019 (62 pages). Within that application packet, the site plans prepared by COWI, dated 6/11/2019, and the Proposed Project 2.2 narrative (pages 14-18) have been stamped 'NYSDEC Approved' on 01/21/2020. KLL

Permit Authorizations

Tidal Wetlands - Under Article 25
Permit ID 1-2820-02003/00012
New Permit Effective Date: 1/21/2020 Expiration Date: 1/20/2025

Excavation & Fill in Navigable Waters - Under Article 15, Title 5
Permit ID 1-2820-02003/00013
New Permit Effective Date: 1/21/2020 Expiration Date: 1/20/2025

Water Quality Certification - Under Section 401 - Clean Water Act
Permit ID 1-2820-02003/00014
New Permit Effective Date: 1/21/2020 Expiration Date: 1/20/2025

Coastal Erosion Management - Under Article 34
Permit ID 1-2820-02003/00015
New Permit Effective Date: 1/21/2020 Expiration Date: 1/20/2025

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: LAURA F STAR, Deputy Permit Administrator
Address: NYSDEC Region 1 Headquarters
SUNY @ Stony Brook|50 Circle Rd
Stony Brook, NY 11790 -3409

Authorized Signature: _____ Date ___/____/____

Distribution List

BTMI ENGINEERING PC
Bureau of Marine Habitat Protection
Coastal Erosion
File

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: TIDAL WETLANDS; EXCAVATION & FILL IN NAVIGABLE WATERS; WATER QUALITY CERTIFICATION; COASTAL EROSION MANAGEMENT

1. **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 BTMI/COWI, titled Lido Beach/Pt. Lookout Shoreline Stabilization & Revetment NYSDEC/USACE Joint Permit Application, and dated June 2019.

2. **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.

3. **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.

4. **Storage of Equipment, Materials** The storage of construction equipment and materials shall be confined to the upland area landward of the revetment or on a barge.

5. **No Disturbance to Vegetated Tidal Wetlands, Dunes** There shall be no disturbance to vegetated dune areas or vegetated tidal wetland areas as a result of the permitted activities.

6. **Sequence & Conduct Construction Activities To Minimize Turbidity** The construction activities authorized herein, such as sand placement, excavation, installation of stone and backfilling, must be sequenced and conducted in a manner which minimizes turbidity increases in adjacent surface waters.

7. **No Structures on Groin** No permanent structures shall be installed on the authorized groin without first obtaining written department approval (permit, modification, amendment).

8. **Extent of Groin** The authorized groin shall not extend beyond property lines, interfere with navigation, and/or interfere with other landowners riparian rights.

9. No Beach Excavation For Fill No excavation of the beach is authorized for the purpose of obtaining fill or stone materials.

10. Clean Fill Only All fill shall consist of clean sand, gravel, or soil (not asphalt, slag, flyash, broken concrete or demolition debris).

11. All Fill Must Be Clean, Beach Compatible Sand All fill shall consist of clean, beach compatible sand. No soil, asphalt, slag, flyash, broken concrete or demolition debris is allowed.

12. Concrete Leachate During construction, no wet or fresh concrete or leachate shall be allowed to escape into any wetlands or waters of New York State, nor shall washings from ready-mixed concrete trucks, mixers, or other devices be allowed to enter any wetland or waters. Only watertight or waterproof forms shall be used. Wet concrete shall not be poured to displace water within the forms.

13. Permittee Responsible For All Post-Construction Effects of Project The permittee is solely responsible for ensuring that the project authorized by this permit is designed, constructed and maintained such that the nuisance algal accumulation at the project site is eliminated, and no additional nuisance algal or sediment accumulations along the Reynolds Channel shoreline west of the project site occur or are created as a result of the project.

14. Permittee Must Maintain Public Shoreline Access It is the permittee's responsibility to ensure that the public's ability to access the shoreline and freely move along the shoreline is maintained upon completion of the structure authorized by this permit.

15. DEC Reserves Right To Add Additional Conditions DEC reserves the right to add additional permit conditions or modify the existing conditions of this permit upon review of the engineering report and project drawings required by Natural Resource Permit Conditions 1 and 2 of this permit.

16. No Construction Debris in Wetland or Adjacent Area Any debris or excess material from construction of this project shall be completely removed from the adjacent area (upland) and removed to an approved upland area for disposal. No debris is permitted in wetlands and/or protected buffer areas.

17. 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.

18. 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.

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

20. 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.

21. 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.

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: Coastal Erosion Management, Excavation & Fill in Navigable Waters, Tidal 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.

COWI

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 1
SUNY @ Stony Brook, 50 Circle Road
Stony Brook, NY 11790

Attn: Kim Lamiroult, Environmental Analyst

Re: Point Lookout Shoreline Stabilization
NYSDEC Application #1-2820-02003/00012
USACE Application NAN-2018-01154-EBR

ADDRESS COWI North America, Inc.
276 5th Avenue
Suite 1006
New York, NY 10001
USA

TEL +1 646 545 2125
WWW cowi.com

DATE 24 June 2019

REF TPMA
PROJECT NO A076209

Response to comments

New York State Department of Environmental Conservation (NYSDEC)

1 Section 2.2.3 of your submission packet states that Zone C is being proposed to address seaweed accumulation and will allow for free seaweed and sediment movement along the shoreline. Where will the algae which now accumulates in Zone C go or end up after the Zone C revetment is constructed and the cove is no longer available for deposition? If the deposition location for the floating seaweed were to be shifted just to the west of Zone C, it could be detrimental to the existing homes and businesses, including waterfront restaurants. You must provide a narrative, schematic, or model which clearly states that this situation has been considered and you have concluded that the seaweed will not make its way to the Reynolds Channel Shoreline west of Zone C.

Section 2.2.3 was updated to include the following language:

The Coastal Hydrodynamic Modeling Analysis performed showed that ebb (southward) tidal currents are, on average, approximately 50% stronger than the flood tidal currents, which result in net southward mass transport. After removal of groins and construction of the proposed revetment the conditions causing seaweed accumulation in Zone C would be eliminated and the seaweed, which would otherwise be seasonally trapped within the stagnation zone between the groins, would continue its southward migration along the Point Lookout shoreline. The Coastal Hydrodynamic Modeling Analysis revealed no features southward of Zone C showing similar patterns

(vorticity/stagnation zones) which could trap seaweed and prevent its migration into the New York Bight.

2 **The alternatives analysis (Section 2.3) submitted accounts for a no action scenario, removal of all existing groins and revetments with construction of a new continuous revetment across all zones, and finally removal of the existing groins and revetment in Zone C followed by installation of a sheet pile bulkhead. DEC requests that the alternatives analysis also include the removal of existing groins and derelict revetment in Zone C without construction of a new revetment. This alternative would have significantly fewer and less severe impacts and would more easily comply with permitting requirements than a new revetment within a Coastal Erosion Hazard Area.**

Section 2.3 was updated with additional Zone C scenario included as follows:

Removal of groins and derelict revetment within Zone C without construction of new structures within this zone. This alternative would result in Zone C shoreline being located between two hard structures - vinyl bulkhead along the private property in the North-West and Zone B stone revetment in the South. The exposed shoreline bounded by hard structures would be more prone to sediment loss mechanisms such as scour, as can currently be seen by the scallop shape of the shoreline between the groins. Based on the historic trend of shoreline erosion within Zone C and results observed in the Coastal Hydrodynamic Modeling Analysis, Zone C would likely gradually erode and lose its material without shoreline stabilization measures.

3 **The cross-sections describe the various sizes of grades of stone to be used for the proposed revetment in terms of the average diameter of the stone class in inches (D_{50} as depicted on the cross-sections). DEC requires stone size for shoreline stabilization structures be expressed by weight in tons or pounds. You must revise the cross-sections to show the weight (tons/pounds) of stones proposed instead of average diameter, or you must provide a conversion table detailing the weight equivalents for the average stone diameters shown on the drawings.**

Both permit application narrative and permit drawings were updated with stone weights specified along median diameters. In summary:

Armor Stone (D50 = 40"; W50 = 3.05 tons)

Underlayer Stone (D50 = 16"; W50 = 391 lbs)

Granular Fill (D50 = 7"; W50 = 33 lbs)

4 Photographs of the existing conditions show concrete and stone rubble along Zones A and B. Sheets 8 and 9 of the submitted permit drawings depict the proposed Perched Revetment Armor Stone $D_{50} = 40$ set on a smoothly sloping shoreline. The drawings show no indication of the existing layer of concrete and stone rubble on which the new revetment will sit. The cross-sections must be modified to indicate the existing material on the shoreline upon which the new revetment will be built. If any portion of the existing or proposed revetment is located below ground that must also be depicted.

Cross sections in Sheets 8 and 9 of the permit drawings were updated with approximate extents of the existing materials shown.

5 Sheet 10 of the submitted permit drawings shows the proposed revetment cutting across the beach, essentially eliminating any potential nesting habitat for plovers and terns. Sheet 11 shows an increase in beach area within Zone C that would result in additional potential plover and tern nesting habitat. You must clarify this discrepancy. Is your client proposing to cover the revetment with compatible sand to create a berm? If the quantity or quality of nesting habitat is reduced mitigation will be required.

Sheet 11 shows balance between reclaimed and removed intertidal (MLW to MHWS) areas based on the existing Mean High Water Spring elevation and proposed Mean High Water Spring elevation. Sheet 11 does not indicate or quantify any changes in the beach material type. The title of Sheet 11 is misleading and has been changed accordingly.

An additional drawing sheet has been added to show changes in beach area.

The approximate changes in beach material types are:

	Gain (sq. ft.)	**Loss (sq. ft.)**	**Net (sq. ft.)**	**Net (sq. yd.)**
Intertidal Sand	7,392	22,204	-14,812	-1,645
Intertidal Rock	13,496	4,679	8,817	979

Sand	3,584	15,496	-11,912	-1,323
Rock	18,087	180	17,907	1,989

6 You must provide additional details as to how construction will occur. The narrative states that excavated sand and stone are to be stockpiled locally and reused in the reconstruction. Will excavation occur throughout all zones before any (re)construction begins or will zones be managed in phases? The narrative also does not mention removal of any existing concrete. You must identify what materials are present within the existing structures (revetments and groins) and clarify the outcome for each category of material. Will all existing concrete within Zone B be buried under the proposed revetment or are sections of this concrete revetment being removed? It appears that the groins in Zone C my also be made of concrete. If so, what is the proposed outcome of this concrete? Be advised, DEC does not allow for asphalt, broken concrete, or demolition debris to be used as fill or within new revetments.

Section 2.2.4 was updated with additional narrative as follows:

No excavation or material removal shall occur within Zones A and B. The selected contractor shall remove and legally dispose of any and all asphalt, concrete, brick or other debris aside from sound rock from Zone C, unless directed by the Owner for offsite storage/repurposing, and shall not reuse any such removed materials in the project construction.

Construction will progress linearly to limit any excavated areas from exposure to the coastal processes. Due to the different composition of the shoreline between zones and the nature of the work and likely equipment used, work is also likely progress zone by zone.

United States Army Corps of Engineers (USACE)

1 All Project Drawings needs to scalable when printed on 8.5" x 11" sheet paper.

Drawings are already provided to scale on 8.5" x 11" paper.

2 **Show the existing conditions on a separate set of Project Drawings including a set of Section View Drawings.**

Additional drawing sheets have been added – each sheet showing proposed construction now has an "existing" counterpart.

3 **On each proposed Plan View Drawing add a notes section describing the volume of fill cut/added and square footage of fill cut/added. These notes shall be per zone shown in the drawing.**

This information was added to other plan view drawings as requested and compliant with requirements of Comment 4. Square footage of proposed work was added to the notes.

4 **The table currently on sheet 11 of 11 describing the fill activity cut/added should be on a separate page. I recommend this table be shown after page 2 of 11. The volume of fill cut/added below the Spring High Water line in Zones A and B needs to be added to this table. The table should identify the volume added in sub-zones (Zones B1,B2, etc.) and the net volume per sub zone should be consistent with the volume as requested in Item 3. Additionally, these volumes should be in units of cubic yards.**

Table was moved to Sheet 2 as requested. Zones A and B have no cut or fill volume below the MHWS. Volume was broken down by sub-zone as requested.

5 **Create a table, similar to the one as requested in Item 4 for the square footage of impacts below the Spring High Water line.**

A summary table with sub-MHWS areas impacted by construction was added to Sheet 11 which matches the callouts provided.

6 **Sheet 11 of 11 states that there will be habitat created. Describe on that subject drawing the type of habitat being created and for what purpose.**

Title of Sheet 11 was misleading and was intended to quantify the balance of the cut/fill with respect to the Spring High Water line. The title of sheet 11 has been changed to not include the "habitat" terminology. A separate sheet with shoreline typology was added (see response to NYS DEC Comment 5).

7 Provide the details requested by NYSDEC to the Alternatives Analysis to this office.

See response to NYS DEC Comment 2.

8 Provide the addresses of all adjacent property owners.

Permit application Section 5 was updated to include street addresses of all adjacent properties.

9 On page 63 of the application package, in the EFH Assessment worksheet within the last segment of Section 2 clarify the description of acreage of waters lost and gained and remove the sentence stating that there will be "2.83 acres" of impact as that figure includes the upland portions of the project.

Additional information, with references to permit drawings, was provided for lost and reclaimed sub-MHWS areas. The "2.83 acres" sentence was removed.

10 Throughout the EFH Assessment worksheet it is stated that the applicant will comply with time of year restrictions for in-water work to reduce impacts to EFH. Please add the months of any calendar year that no in-water work will be conducted in the appropriate sections.

The time of year (TOY) restrictions are not yet known and are anticipated to be determined by the National Marine Fisheries Service during the coordinated review (see Question 12).

11 On page 66 of the application package, in the EFH Assessment worksheet on Section 5 Determination of impact please unmark "X". That section is for USACE to determine when conducting consultation for impacts to EFH. Additionally, please send the EFH Assessment worksheet to me as a separate file.

The "X" mark was removed as requested. Completed EFH assessment worksheet will be sent as a separate file, in addition to the complete permit package.

12 In order for this office to conduct consultation for impacts to in-water Endangered Species I am going to need the following form filled out. It can be found here: https://www.greateratlantic.fisheries.noaa.gov/protected/section7/

2017_nlaa_program_verification_form_080917.pdf When you complete this form please send it to me via email.

The form has been completed and submitted as requested.

JUNE 2019
TOWN OF HEMPSTEAD

LIDO BEACH/ PT. LOOKOUT SHORELINE STABILIZATION & REVETMENT

NYSDEC/USACE JOINT PERMIT APPLICATION

Created by Governor Andrew M. Cuomo in April 2013, the NYRCR Program was designed to help storm-impacted communities throughout the State to build back better and stronger than before. Funding for this project comes from the U.S. Department of Housing & Urban Development (HUD), as part of its Community Development Block Grant – Disaster Recovery (CDBG-DR) Program.

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JUNE 2019
TOWN OF HEMPSTEAD

LIDO BEACH/ PT. LOOKOUT SHORELINE STABILIZATION & REVETMENT

NYSDEC/USACE JOINT PERMIT APPLICATION

PROJECT NO.	DOCUMENT NO.
A076209	A076209_00

VERSION	DATE OF ISSUE	DESCRIPTION	PREPARED	CHECKED	APPROVED
00	16 JUNE 2019	NYSDEC/USACE JOINT PERMIT APPLICATION	MLSZ/GRBH/NLKP	TPMA	TPMA

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CONTENTS

1	Joint Application Form	5
2	Project Description	10
2.1	Site Information	10
2.2	Proposed Project	14
2.3	Alternatives	19
3	Site Photographs	23
4	Permit Drawings	31
5	Adjacent Property Owners List	32
6	USACE Environmental Questionnaire	35
7	Federal Consistency Assessment Form	41
8	New York State Coastal Policies	45
9	State Environmental Quality Review Act – Short Environmental Assessment Form	51
10	Structural Archaeological Assessment Form (SAAF)	55
11	Essential Fish Habitat (EFH) Worksheet	60
11.1	Summary of Essential Fish Habitat (EFH) Designation	60

11.2 EFH Worksheet for Federal Agencies 62

1 Joint Application Form

NEW YORK STATE | Department of Environmental Conservation | Office of General Services | Department of State

US Army Corps of Engineers

JOINT APPLICATION FORM

For Permits for activities activities affecting streams, waterways, waterbodies, wetlands, coastal areas, sources of water, and endangered and threatened species.

You must separately apply for and obtain Permits from each involved agency before starting work. Please read all instructions.

1. **Applications To:**

>NYS Department of Environmental Conservation ☑ Check here to confirm you sent this form to NYSDEC.

Check all permits that apply:

- ☐ Stream Disturbance
- ☑ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☑ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☑ Tidal Wetlands
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Coastal Erosion Management
- ☐ Water Withdrawal
- ☐ Long Island Well
- ☐ Incidental Take of Endangered / Threatened Species

>US Army Corps of Engineers ☑ Check here to confirm you sent this form to USACE.

Check all permits that apply: ☑ Section 404 Clean Water Act ☑ Section 10 Rivers and Harbors Act

Is the project Federally funded? ☑ Yes ☐ No

If yes, name of Federal Agency: U.S. Department of Housing & Urban Development (HUD), as part of its Community Development Block Grant – Disaster Recovery (CDBG-DR) Program

General Permit Type(s), if known:

Preconstruction Notification: ☐ Yes ☑ No

>NYS Office of General Services ☐ Check here to confirm you sent this form to NYSOGS.

Check all permits that apply:

- ☐ State Owned Lands Under Water
- ☐ Utility Easement (pipelines, conduits, cables, etc.)
- ☐ Docks, Moorings or Platforms

>NYS Department of State ☑ Check here to confirm you sent this form to NYSDOS.

Check if this applies: ☑ Coastal Consistency Concurrence

2. **Name of Applicant**

Town of Hempstead

Taxpayer ID (if applicant is NOT an individual)

Mailing Address: Town Hall, 1 Washington St.

Post Office / City: Hempstead

State: NY

Zip: 11550

Telephone:

Email:

Applicant Must be (check all that apply): ☑ Owner ☐ Operator ☐ Lessee

3. **Name of Property Owner (if different than Applicant)**

Mailing Address

Post Office / City

State

Zip

Telephone

Email

For Agency Use Only	Agency Application Number:

4. **Name of Contact / Agent**

Todd P Manson, PE

Mailing Address	Post Office / City	State	Zip
276 5th Avenue, Suite 1006	New York	NY	10001

Telephone 646 790 3822 Email tpma@cowi.com

5. **Project / Facility Name**

Lido Beach/Point Lookout Shoreline Stabilization and Revetment

Property Tax Map Section / Block / Lot Number: 61-A-63; 61-A-51

Project Street Address, if applicable	Post Office / City	State	Zip
Mineola Ave., Bayside Dr., Beech St.	Hempstead	NY	11569

Provide directions and distances to roads, intersections, bridges and bodies of water

Point Lookout shoreline along Jones Inlet.
50ft to Bayside Dr. end, 90ft to Lido Blvd. end, 130ft to Beech St. end, 90ft to 560ft to Mineola Ave.

☑ Town ☐ Village ☐ City

County	Stream/Waterbody Name
Nassau	Jones Inlet

Hempstead

Project Location Coordinates: Enter Latitude and Longitude in degrees, minutes, seconds:

Latitude: 40 ° 35 ' 27 " Longitude: 73 ° 34 ' 38 "

6. **Project Description:** Provide the following information about your project. Continue each response and provide any additional information on other pages. **Attach plans on separate pages.**

a. Purpose of the proposed project:

The purpose of the project is to stabilize the Jones Inlet shoreline of Point Lookout. Additionally, the purpose of proposed revetment within the northern area of the site (between a privately owned bulkhead, located on parcel 61-57-20, and the Southern Groin - further referred to as Zone C) is to eliminate accumulation of decaying biomass (Sea Lettuce or Ulva Lactuca) and to stabilize the shoreline.

b. Description of current site conditions:

The project site was split into three zones: Zone A - located between a private residence at 128 Mineola Avenue (tax parcel 61 A 226) and Beech Street; Zone B - located between Beech Street and the Southern Groin at Point Lookout; Zone C - located between a privately owned bulkhead in the north (tax parcel 61 57 20) and the Southern Groin at Point Lookout.
Zone A has revetment in fair condition. Zone B has revetment in serious condition. Zone C is a sand beach with two groins in satisfactory condition. For more details see Section 2 - Project Description.

c. Proposed site changes:

Zones A and B - refurbishment of the existing revetment through placement of a perched revetment. Zone C - groin and derelict revetment removal, revetment construction. For more details see Section 2 - Project Description.

d. Type of structures and fill materials to be installed, and quantity of materials to be used (e.g., square feet of coverage, cubic yards of fill material, structures below ordinary/mean high water, etc.):

Total proposed material quantitiy: Zones A and B - quarry run (1,118 CY), stone D50=40 in (7,983 CY); Zone C - geotextile fabric (32,487 SF), quarry run D50=7 in (423 CY), stone D50=16 in (2,982 CY), stone D50=40 in (6,537 CY).
Total proposed sub-MHWS material quantities: Zones A and B - none; Zone C - geotextile fabric (14,125 SF), quarry run D50=7 in (175 CY), stone D50=16 in (1,258 CY), stone D50=40 in (2,904 CY).
For more details see Section 2.2.5.

e. Area of excavation or dredging, volume of material to be removed, location of dredged material placement:

All excavation/removal operations are performed within Zone C. The total planar areas of the removed areas are 5,800 ft.2 for groins and 3,900 ft.2 for derelict revetment. The total volume extracted within these areas was estimated to be 860 yd3 for groins and 580 yd3 for derelict revetment. For more details see Section 2 - Project Description.

f. Is tree cutting or clearing proposed? ☐ Yes If Yes, explain below. ☑ No

Timing of the proposed cutting or clearing (month/year):

Number of trees to be cut: Acreage of trees to be cleared:

g. Work methods and type of equipment to be used:

Work methods and construction equipment will be at the discretion of selected contractor. The likely methods may involve usage of excavators and hydraulic arms to perform grading activities and to construct the revetment, with materials likely be delivered to the site by trucks.
For more details see Section 2 - Project Description.

h. Describe the planned sequence of activities:

The project will start with removal of existing groins and derelict revetment within Zone C. This activity will be followed by revetment construction moving south, starting with Zone C and into Zones B and A. For more details see Section 2 - Project Description.

i. Pollution control methods and other actions proposed to mitigate environmental impacts:

All imported materials will be free of contaminants. For more details see Section 2 - Project Description.

j. Erosion and silt control methods that will be used to prevent water quality impacts:

Excavation will be performed during low water to avoid excavated sediment suspension. Contractor may construct a temporary berm within Zone C to temporary isolate the construction zone. Revetment within Zone C was designed in a manner to minimize erosion and scour. For more details see Section 2 - Project Description.

k. Alternatives considered to avoid regulated areas. If no feasible alternatives exist, explain how the project will minimize impacts:

Revetment within Zones A and B is located landward of existing MHWS contour - this was done in order to stabilize the shoreline without placing material within inter- and sub-tidal zones. Revetment within Zone C was designed in a manner to achieve balance between lost and created sub-MHWS habitat areas. For more details see Section 2 - Project Description.

l. Proposed use: ☐ Private ☑ Public ☐ Commercial

m. Proposed Start Date: Early 2020 Estimated Completion Date: Mid 2020

n. Has work begun on project? ☐ Yes If Yes, explain below. ☑ No

o. Will project occupy Federal, State, or Municipal Land? ☑ Yes If Yes, explain below. ☐ No

The project will occupy two parcels (61-A-63; 61-A-51), which belong to the Town of Hempstead.

p. List any previous DEC, USACE, OGS or DOS Permit / Application numbers for activities at this location:

1-2820-02003 NYSDEC.

q. Will this project require additional Federal, State, or Local authorizations, including zoning changes?

☑ Yes If Yes, list below. ☐ No

Town of Hempstead (Nassau County, NY), certified CEHA community permit

7. **Signatures.**
Applicant and Owner (If different) must sign the application.
Append additional pages of this Signature section if there are multiple Applicants, Owners or Contact/Agents.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief.

Permission to Inspect - I hereby consent to Agency inspection of the project site and adjacent property areas. Agency staff may enter the property without notice between 7:00 am and 7:00 pm, Monday - Friday. Inspection may occur without the owner, applicant or agent present. If the property is posted with "keep out" signs or fenced with an unlocked gate, Agency staff may still enter the property. Agency staff may take measurements, analyze site physical characteristics, take soil and vegetation samples, sketch and photograph the site. I understand that failure to give this consent may result in denial of the permit(s) sought by this application.

False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the NYS Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant | Date: 8/20/18

Applicant Must be (check all that apply): ☑ Owner ☐ Operator ☐ Lessee

Printed Name: Jeffrey M. Tierney | Title: Deputy Commissioner of Engineering

Signature of Owner (if different than Applicant) | Date:

Printed Name: | Title:

Signature of Contact / Agent | Date: 8/22/18

Printed Name: Todd P. Manson, PE | Title: Project Manager

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Application Number:

_____ (Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative:

Printed Name: | Title:

Signature: | Date:

2 Project Description

The applicant, the Town of Hempstead, is seeking authorization by the New York State Department of Environmental Conservation (NYSDEC), the United States Army Corps of Engineers (USACE), and the New York State Department of State (NYSDOS) to carry out the Lido Beach/Point Lookout Shoreline Stabilization and Revetment project. The project, as discussed further in this section, includes: removal of existing groins, removal of a portion of existing beach and revetment, construction of a new revetment within the sand beach area, and construction of perched revetment as a measure to strengthen the existing revetment.

Created by Governor Andrew M. Cuomo in April 2013, the NYRCR Program was designed to help storm-impacted communities throughout the State to build back better and stronger than before. Funding for this project comes from the U.S. Department of Housing & Urban Development (HUD), as part of its Community Development Block Grant – Disaster Recovery (CDBG-DR) Program.

2.1 Site Information

The project site is located along the eastern part of the Point Lookout shoreline, Town of Hempstead, Nassau County, NY, between 177 Bayside Drive (tax parcel 61 57 20) and 128 Mineola Avenue (tax parcel 61 A 226). Based on classification of existing structures, as surveyed by COWI in October 2016, the project site was divided into three zones (see Figure 1):

- Zone A - revetment in fair condition, located between a private residence at 128 Mineola Avenue (tax parcel 61 A 226) and Beech Street. This area has a length of approximately 550 ft. Zone A is located within tax parcel 61 A 51
- Zone B - revetment in serious condition, located between Beech Street and the Southern Groin at Point Lookout. This area has a length of approximately 1,800 ft. Zone B is located within tax parcels 61 A 63 and 61 A 51.
- Zone C - sand beach with two (2) groins (defined as Northern and Southern Groins), located between a privately owned bulkhead in the north (tax parcel 61 57 20) and the Southern Groin at Point Lookout. This area has a length of approximately 600 ft. Zone C is located within tax parcel 61 A 63. In addition to two groins, Zone C contains a derelict revetment, located between the northern groin and privately owned bulkhead.

Figure 1: Project Site Overview (orthoimagery by USGS, satellite imagery by Google, streets by OpenStreetMap)

The project site is located within AE and VE zones, as per FEMA FIRM panel 36059C0329G, with the highest Base Flood Elevation (BFE) along the site being +13 ft. NAVD88. Tidal range at the site is 4.66 ft. and is based on tidal datum of the Point Lookout station (Station 8516402, see Table 1). Tidal datum conversion to NAVD88 was performed using information for the 11E02NAZ bench mark. Tides at the project site are semidiurnal with two low and two high tides occurring each day.

Table 1: Tidal Datum, Station 8516402, Point Lookout NY, 1983-2001 Tidal Epoch

Datum	Elevation (ft. NAVD88)
Mean High Water Spring (MHWS)[1]	*2.10*
Mean Higher High Water (MHHW)	*1.91*
Mean High Water (MHW)	*1.59*
Mean Sea Level (MSL)	*-0.50*
Mean Low Water (MLW)	*-2.56*
Mean Lower Low Water (MLLW)	*-2.74*

Notes:

[1]MHWS datum is not reported by NOAA or USACE. This elevation value was assumed based on similar projects in the area.

A series of surveys, studies, and investigations were performed as a part of this project. Geotechnical investigation showed that the site is comprised of sand with silt trace, with the soil classified as "Class C" soil. Hydrodynamic modeling demonstrated that tidal currents reach velocities of up to 3.9 ft./s (2.3 knots) with strongest currents being ebb (southward) currents. The proposed design is based on 50-year design parameters, which are:

- Significant 50-year wave height 5.8 ft.;
- Peak wave period range 8 s to 12 s;
- 50-year still water elevation +9.97 ft. NAVD88 (2050 Relative Sea Level Rise of 1.47 ft. incorporated into this value)

2.2 Proposed Project

Town of Hempstead is seeking to perform a set of activities to stabilize the existing shoreline and revetment along Jones Inlet shoreline of Point Lookout. These activities include:

- Construction of a perched revetment in Zones A and B.
- Removal of two groins and construction of a new revetment within Zone C.

The following sections describe the proposed design of the shoreline stabilization for each of the zones (see Figure 1).

2.2.1 Zone A

Existing revetment within Zone A was classified as being in fair condition during the site investigation in October 2016. The proposed design for Zone A includes construction of perched revetment (armor stone D_{50}=40 in or W_{50}=3.05 ton) with additional lee side granular fill (quarry run D_{50}=7 in or W_{50}=33 lbm) overtopping protection. This design is intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it. All material is to be placed landward of the existing MHWS contour, see drawing sheet 3. Therefore, all construction activities for this Zone are going to be confined in the emergent (above MHWS) area. Proposed construction quantities are provided in Table 2.

2.2.2 Zone B

Existing revetment within Zone B was classified as being in serious condition during the site investigation in October 2016. The proposed design for Zone B is similar to Zone A, and includes construction of perched revetment (armor stone D_{50}=40 in or W_{50}=3.05 ton) with additional lee side granular fill (quarry run D_{50}=7 in or W_{50}=33 lbm) overtopping protection. This design is intended to protect the existing shoreline landward of the existing revetment without any modifications made to the submerged part of it. All material is to be placed landward of the existing MHWS contour, see drawing sheets 4-6. Therefore, all construction activities for this Zone are going to be confined in the emergent (above MHWS) area. Proposed construction quantities are provided in Table 2.

2.2.3 Zone C

The proposed Zone C design was prepared in a manner to address the following issues:

- Seaweed (Sea Lettuce or Ulva Lactuca) accumulation - groin removal in conjunction with new revetment construction eliminates stagnation area between the groins and allows for free seaweed and sediment movement along the shoreline. This was achieved by designing the new revetment in a manner that the design MHWS contour follows natural flow lines within the area, as per hydrodynamic numerical modeling preformed earlier.

  The Coastal Hydrodynamic Modeling Analysis performed showed that ebb (southward) tidal currents are, on average, approximately 50% stronger than the flood tidal currents, which result in net southward mass transport. After removal of groins and construction of the proposed revetment the conditions causing seaweed accumulation in Zone C would be eliminated and the seaweed, which would otherwise be seasonally trapped within the stagnation zone between the groins, would continue its southward migration along the Point Lookout shoreline. The Coastal Hydrodynamic Modeling Analysis revealed no features southward of Zone C showing similar patterns (vorticity/stagnation zones) which could trap seaweed and prevent its migration into the New York Bight.

- Shoreline stabilization – the proposed revetment is intended to prevent shoreline erosion due to wave and current action. Additional lee side erosion and scour protection was designed due to large volumes of overtopping expected during a design event.

The proposed design for Zone C includes (in the order of activities):

- Existing groin and derelict revetment stones removal.

- Minor/localized site grading and excavation of the structure toe (see drawing sheet 10).

- Geotextile fabric placement and revetment construction (2 ft. and 8 in. thick underlayer with D_{50}=16 in [W_{50}=391 lbm] and 7 ft. thick armor stone layer with D_{50}=40 in [W_{50}=3.05 ton]).

- Fill placement to design elevation (up to bottom of the underlayer stone layer as shown in drawing sheet 10). Fill is quarry run with D_{50}=7 in (W_{50}=33 lbm).

- Granular fill (quarry run stone with D_{50}=7 in [W_{50}=33 lbm]) placement on the lee side of the revetment.

Construction within Zone C includes excavation and fill within the intertidal and subtidal zones. The proposed MHWS contour was developed in a manner to not only address problems discussed earlier, but to also provide for balance of removed and created areas below MHWS (see drawing sheet 11). Material quantities, including separation of excavation and fill by above and below MHWS, are provided in Table 2.

2.2.4 Likely Construction Methods and Sequencing

The likely construction methods would include:

- Materials will be delivered to the site by trucks.
- No excavation or material removal shall occur within Zones A and B. The selected contractor shall remove and legally dispose of any and all asphalt, concrete, brick or other debris aside from sound rock from Zone C, unless directed by the Owner for offsite storage/repurposing and shall not reuse any such removed materials in the project construction.
- Excavation (groin and derelict revetment removal) and grading within Zone C will be performed during low tide (MLW) using a land-based excavator. Excavated materials (sand and stone) stockpiled locally to be reused in the reconstruction (potential stockpiling locations are shown in drawing sheets 3, 5, 6).
- Construction will progress linearly to limit any excavated areas from exposure to the coastal processes. Due to the different composition of the shoreline between zones and the nature of the work and likely equipment used, work is also likely progress zone by zone.
- Geotextile will be delivered to the site in rolls and then manually placed on top of the post-excavation grade. It will be held down by underlayer stones during the construction period. Smaller stones (underlayer and granular fill) will be placed using a front bucket loader or a bobcat.
- The excavator with a hydraulic rock placing arm will then be used to individually place large armor stones.

The selected contractor will create a staging area within the project site extents (see drawing sheets 3, 5, 6 for potential staging area locations). A potential staging area along Zone A was previously used by the USACE as a staging area for an adjacent revetment project. The staging areas will be set up in a manner to not disturb existing vegetation and to prevent any materials from being placed into the water. Contractor will be responsible for taking measures to ensure that the selected staging areas are in the same condition, as before the construction start, by the end of project construction.

The selected contractor will use best management practices to prevent any equipment, material, or debris from entering the waterway. Contractor will prepare and submit a spill response plan, which will document measures and activities to be performed should any oil or fluid spillage occur during the construction.

The expected construction duration will be 4 months during Spring-Summer 2019.

2.2.5 Material Quantities

In addition to the quantities shown in Table 2 below, two groins and a derelict revetment within Zone C are going to be removed. The total planar areas of the removed areas are 5,800 ft.^{2} for groins and 3,900 ft.^{2} for derelict revetment. The total volume extracted within these areas was estimated to be 860 yd^3 for groins and 580 yd^3 for derelict revetment. As shown drawing sheet 11 and in Table 3, these areas are considered reclaimed as they will become submerged (below MHWS).

The below and above MHWS volumes, shown in Table 2, are based on the proposed MHWS contour.

Table 2: Proposed Construction Quantities

	Zone A	Zone B	Zone C		Total
			Below MHWS	Above MHWS	
Armor Stone (D_{50}=40in; W_{50}=3.05 ton) [yd^3]	*1,183*	*6,800*	*2,904*	*3,633*	*14,520*
Underlayer Stone (D_{50}=16in; W_{50}=391 lbm) [yd^3]	*0*	*0*	*1,258*	*1,724*	*2,981*
Granular Fill (D_{50}=7in; W_{50}=33 lbm) [yd^3]	*271*	*847*	*175*	*248*	*1,541*
Cut Volume [yd^3]	*0*	*0*	*5,995*	*2,493*	*8,488*
Geotextile Fabric [ft^2]	0	0	*14,125*	18,362	32,487

Table 3: Proposed Habitat Areas Modification

	Zone A	Zone B	Zone C
Area lost below MHWS (ft^2)	-	-	*14,109*
Area reclaimed below MHWS(ft^2)	-	-	*14,334*
Net area below MHWS change(ft^2)	-	-	*225*

2.3 Alternatives

Several design alternatives, including a no-action scenario, were considered during the design process. These alternatives are:

- No action scenario – should no action be taken, the existing shoreline deterioration would be expected to continue due to overtopping and tidal currents. Zone C shoreline would be particularly vulnerable due to it being an unprotected sand beach and because it was determined during a morphology study that this area is historically unstable. Additionally, seaweed (Sea Lettuce or Ulva Lactuca) would continue to get accumulated between the groins due to flow stagnation (vortex) forming, as demonstrated in hydrodynamic numerical modeling, sediment flow would continue to be disrupted by the groins and sand spits would continue to be formed southward of Zone C.

- Continuous revetment across all zones (similar to Zone C of proposed design) with existing revetment removal. This alternative involved complete removal of existing revetment within Zones A and B, and removal of groins and derelict revetment within Zone C. After removal, a new revetment, with MHWS contour similar to the proposed, would be constructed across all zones. The revetment construction would involve granular fill, geotextile placement, underlayer and armor stone placement, land backfill and lee side slope reinforcement. This alternative was discarded due to budget limitation associated with excessive costs of existing revetment removal and construction of new revetment within Zones A and B, which would result in additional 3,350 linear feet of revetment compared to the proposed design.

- Sheet pile bulkhead – both vinyl and steel alternatives with a seaward stone scour protection. This alternative involved removal of groins and derelict revetment within Zone C and partial removal of existing revetment stone along the proposed MHWS contour, forming a trench, with vinyl or steel sheet pile bulkhead being subsequently driven along the centerline of the trench. Stone removed from groins, derelict revetment, and the trench would be placed along the toe of the bulkhead, thus providing scour protection. It was discovered during schematic design that cantilevered bulkhead of any feasible and available material/section would not have enough strength to sustain design loads. Therefore, bulkhead would need to be supported by structures such as soil anchors or soldier piles. This alternative was discarded due to budget limitation, associated with excessive costs of soldier pile and soil anchor installation, and potential construction issues (driving sheet piles along or adjacent to the existing revetment might result in sheet piles running into existing stones, which could significantly increase construction time and cost).

- Removal of groins and derelict revetment within Zone C without construction of new structures within this zone. This alternative would result in Zone C shoreline being located between two hard structures - vinyl bulkhead along the private property in the North-West and Zone B stone revetment in the South. The exposed shoreline bounded by hard structures would be more prone to sediment loss mechanisms such as scour, as can currently be seen by the scallop shape of the shoreline between the groins. Based on the historic trend of shoreline erosion within Zone C, as can be seen in Figure 2, and results observed in the Coastal Hydrodynamic Modeling Analysis, Zone C would likely gradually erode and lose its material without shoreline stabilization measures. Removing the groins would accelerate these processes and could eventually destabilize revetment in Zone B by gradually shifting the coastline to the landward side of Zone B.

  It was further demonstrated in the Coastal Hydrodynamic Analysis that Zone C is anticipated to gradually erode and lose its material without shoreline stabilization measures. In order to do so, a coupled DHI MIKE21 hydrodynamic (HD) and spectral wave (SW) model with sand transport (ST) module enabled was prepared. This model was calibrated and validated with observed data and was used to establish design metocean parameters at the project site and to investigate local hydrodynamic and morphological processes. Figure 3 and Figure 4 show bed levels before and after a design event. It can be seen that net southward sediment migration is expected at the project site over a course of a design event. This statement is supported by the Shoreline Morphology investigation report analyzing historical trends. This process, continuously repeated over time due to dominance of ebb (southward) tidal currents, would result in

the long-term erosion of shoreline within Zone C if no measures to stabilize the shoreline are undertaken.

Figure 2: 2010 Erosion extent. Source: Google Earth

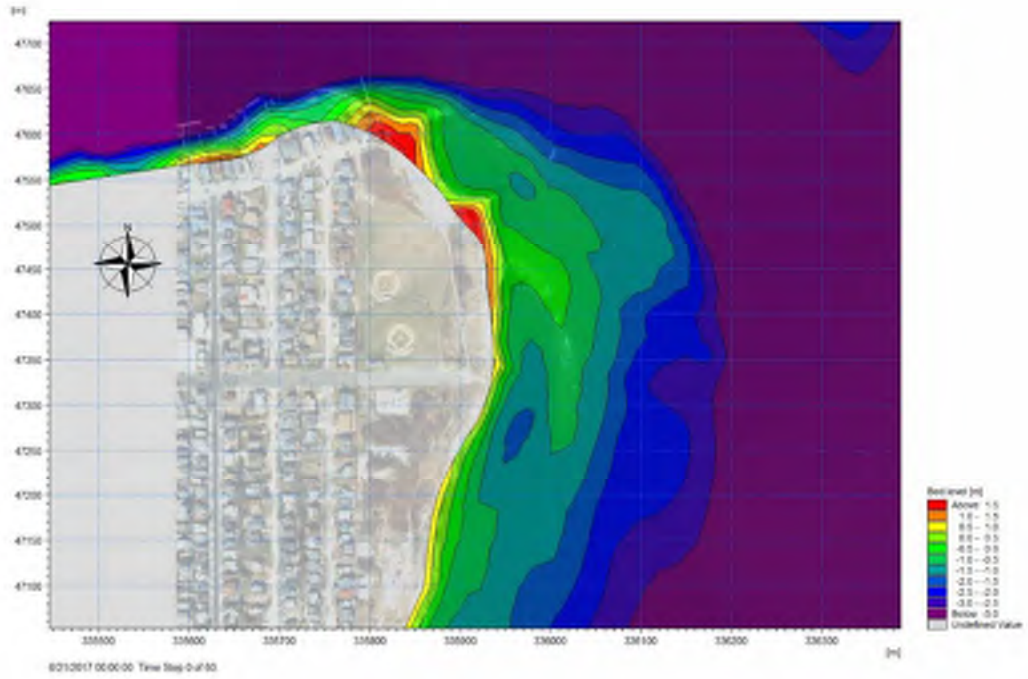


Figure 3: Initial bed level, before design event.

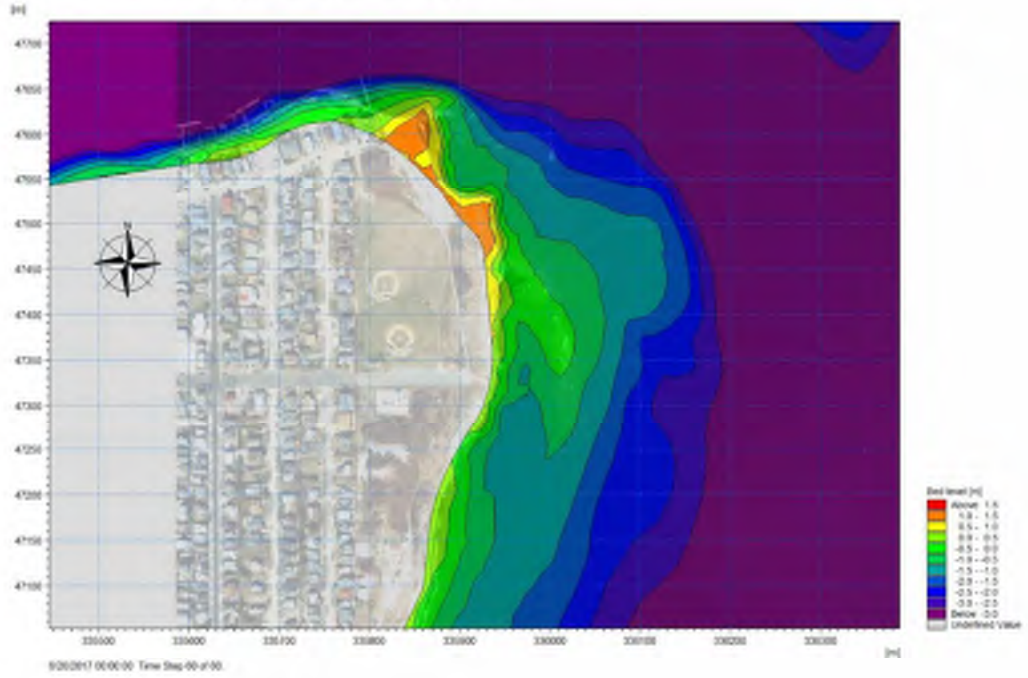


Figure 4: Final bed level, after design event.

3 Site Photographs

Figure 5: Photo Map

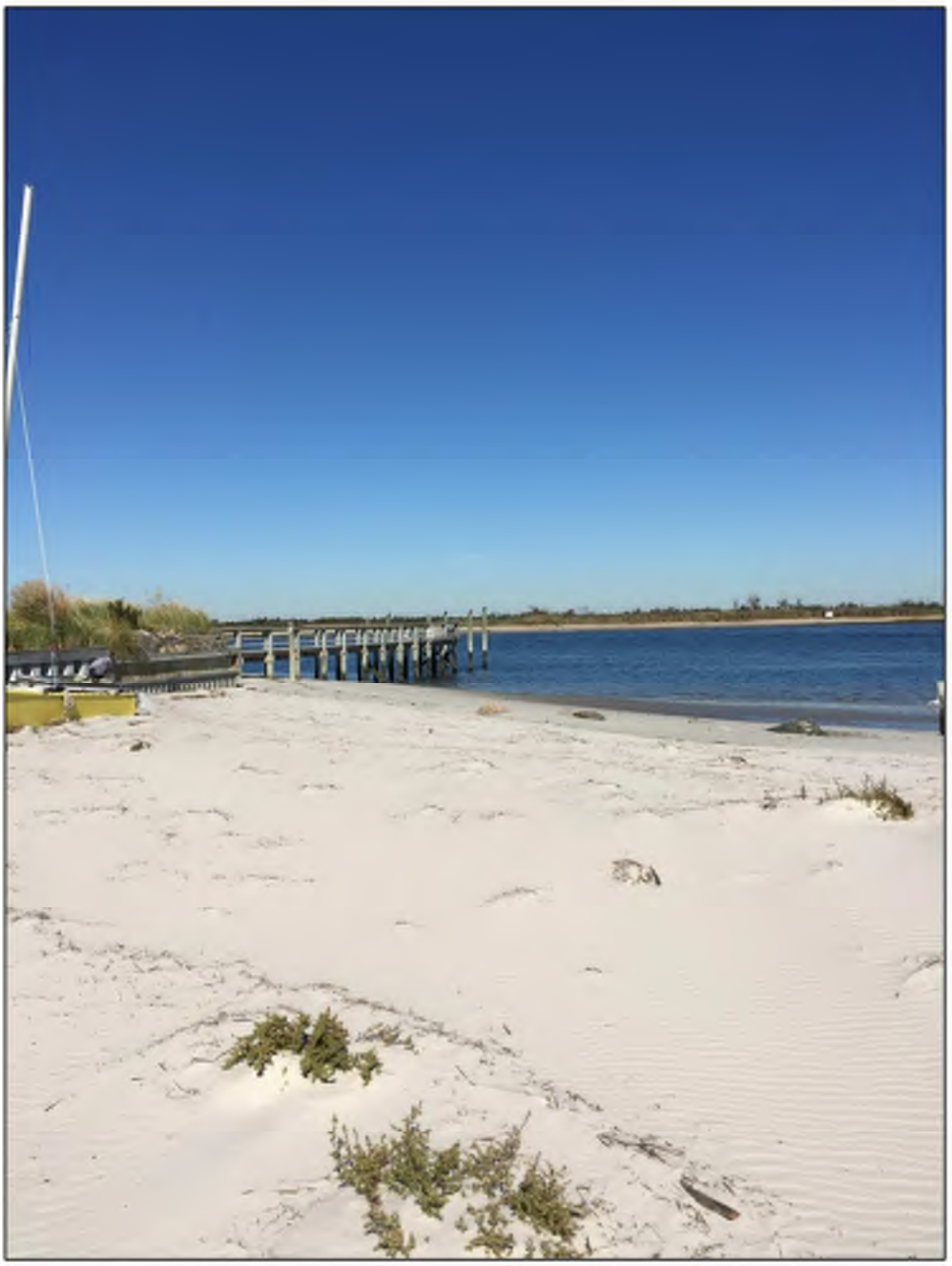


Figure 6: Zone C, project site northern boundary (private property at 177 Bayside Drive, tax parcel 61 57 20). Photo 1

Figure 7: Zone C, sandy beach, view at the northern groin. Photo 2

Figure 8: Zone C, sandy beach, view at the southern groin. Photo 3

Figure 9: Zone B, existing revetment. Photo 4

Figure 10: Zone B, existing revetment. Photo 5

Figure 11: Zone B, existing revetment. Photo 6

Figure 12: Zone B, existing revetment. Photo 7

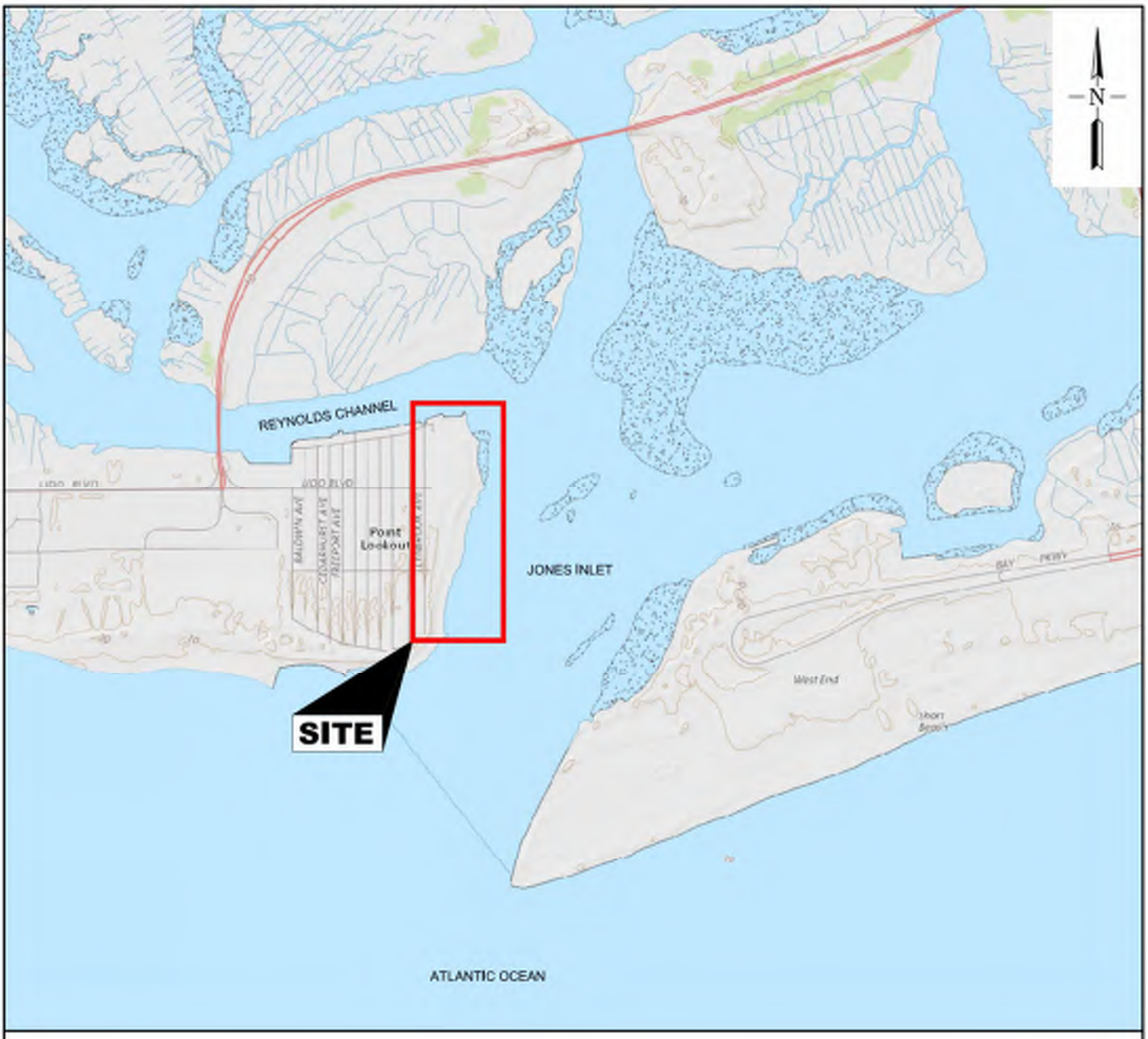
Figure 13: Zone B to Zone A transition. Photo 8

Figure 14: Zone A existing revetment. Photo 9

Figure 15: Zone A existing revetment. Photo 10

Figure 16: Zone A existing revetment. Project site southern boundary (tax parcel 61 A 226). Photo 11

4 Permit Drawings



USGS THE NATIONAL MAP: NATIONAL BOUNDARIES DATASET, NATIONAL ELEVATION DATASET, GEOGRAPHIC NAMES INFORMATION SYSTEM, NATIONAL HYDROGRAPHY DATASET, NATIONAL LAND COVER DATABASE, NATIONAL STRUCTURES DATASET, AND NATIONAL TRANSPORTATION DATASET; U.S. CENSUS BUREAU - TIGER/LINE; HERE ROAD DATA. DATA REFRESHED JULY, 2017

VICINITY MAP

0 2000 4000 FEET

APPROX. SCALE 1" = 2000'

REVISION 1

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APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

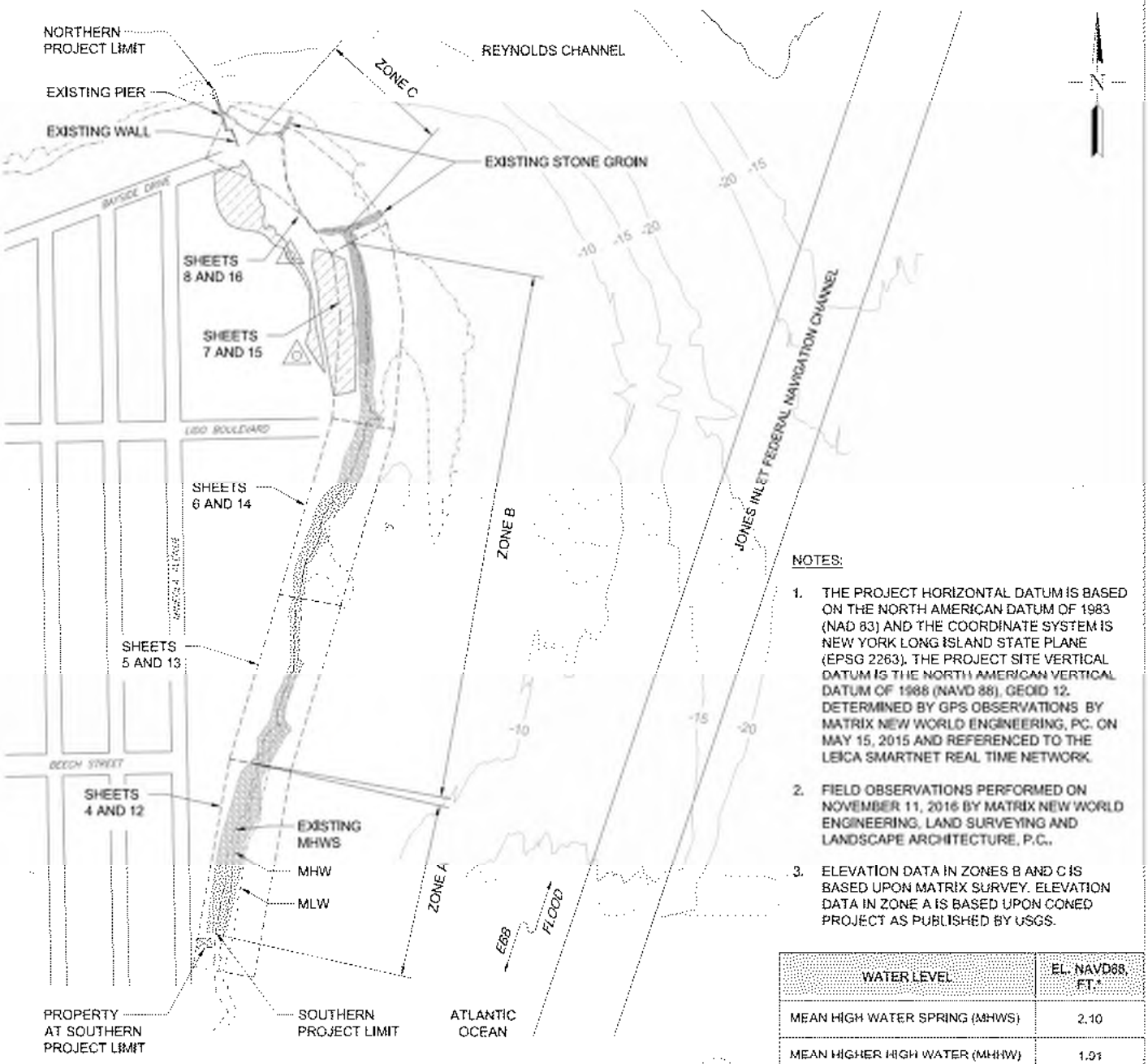
AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

SHEET 1 OF 21



EXISTING SITE PLAN

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

0 500 FEET

SCALE 1" = 500'

NOTES:

1. THE PROJECT HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) AND THE COORDINATE SYSTEM IS NEW YORK LONG ISLAND STATE PLANE (EPSG 2263). THE PROJECT SITE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), GEOID 12, DETERMINED BY GPS OBSERVATIONS BY MATRIX NEW WORLD ENGINEERING, PC. ON MAY 15, 2015 AND REFERENCED TO THE LEICA SMARTNET REAL TIME NETWORK.
2. FIELD OBSERVATIONS PERFORMED ON NOVEMBER 11, 2016 BY MATRIX NEW WORLD ENGINEERING, LAND SURVEYING AND LANDSCAPE ARCHITECTURE, P.C..
3. ELEVATION DATA IN ZONES B AND C IS BASED UPON MATRIX SURVEY. ELEVATION DATA IN ZONE A IS BASED UPON CONED PROJECT AS PUBLISHED BY USGS.

WATER LEVEL	EL. NAVD88, FT.*
MEAN HIGH WATER SPRING (MHWS)	2.10
MEAN HIGHER HIGH WATER (MHHW)	1.91
MEAN HIGH WATER (MHW)	1.59
NAVD88	0.00
MEAN SEA LEVEL (MSL)	-0.50
MEAN LOW WATER (MLW)	-2.56
MEAN LOWER LOW WATER (MLLW)	-2.74

* WATER LEVELS AS PER STATION 8516402 POINT LOOKOUT, NY

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DATE : 06/11/2019

SHEET 2 OF 21

	ZONE A (ABOVE MHWS)	ZONE B (ABOVE MHWS)			ZONE C		TOTAL
		B1	B2	B3	BELOW MHWS	ABOVE MHWS	
ARMOR STONE (D50=40 in; W50=3.05 ton) (yd^3)	1,183	2,123	2,323	2,353	2,904	3,633	14,520
UNDERLAYER STONE (D50=16 in; W50=391 lbm) (yd^3)	0	0	0	0	1,258	1,724	2,981
GRANULAR FILL (D50=7 in; W50=33 lbm) (yd^3)	271	264	289	293	175	248	1,541
GEOTEXTILE FABRIC (ft^2)	0	0	0	0	14,125	18,362	32,487

PROPOSED MATERIAL QUANTITIES

	ABOVE MHWS		BELOW MHWS	
ZONE	CUT (yd^3)	FILL (yd^3)	CUT (yd^3)	FILL (yd^3)
A	0	1,454	0	0
B1	0	2,388	0	0
B2	0	2,612	0	0
B3	0	2,612	0	0
C	2,493	2,647	5,995	4,337
TOTAL	2,493	14,705	5,995	4,337

PROPOSED CUT AND FILL VOLUMES

NOTES:

1. NO CUT OR FILL BELOW MHWS IS PROPOSED IN ZONES A, B1, B2, AND B3.

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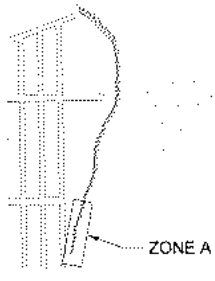
EXISTING PARTIAL SITE PLAN - ZONE A

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA



KEY PLAN

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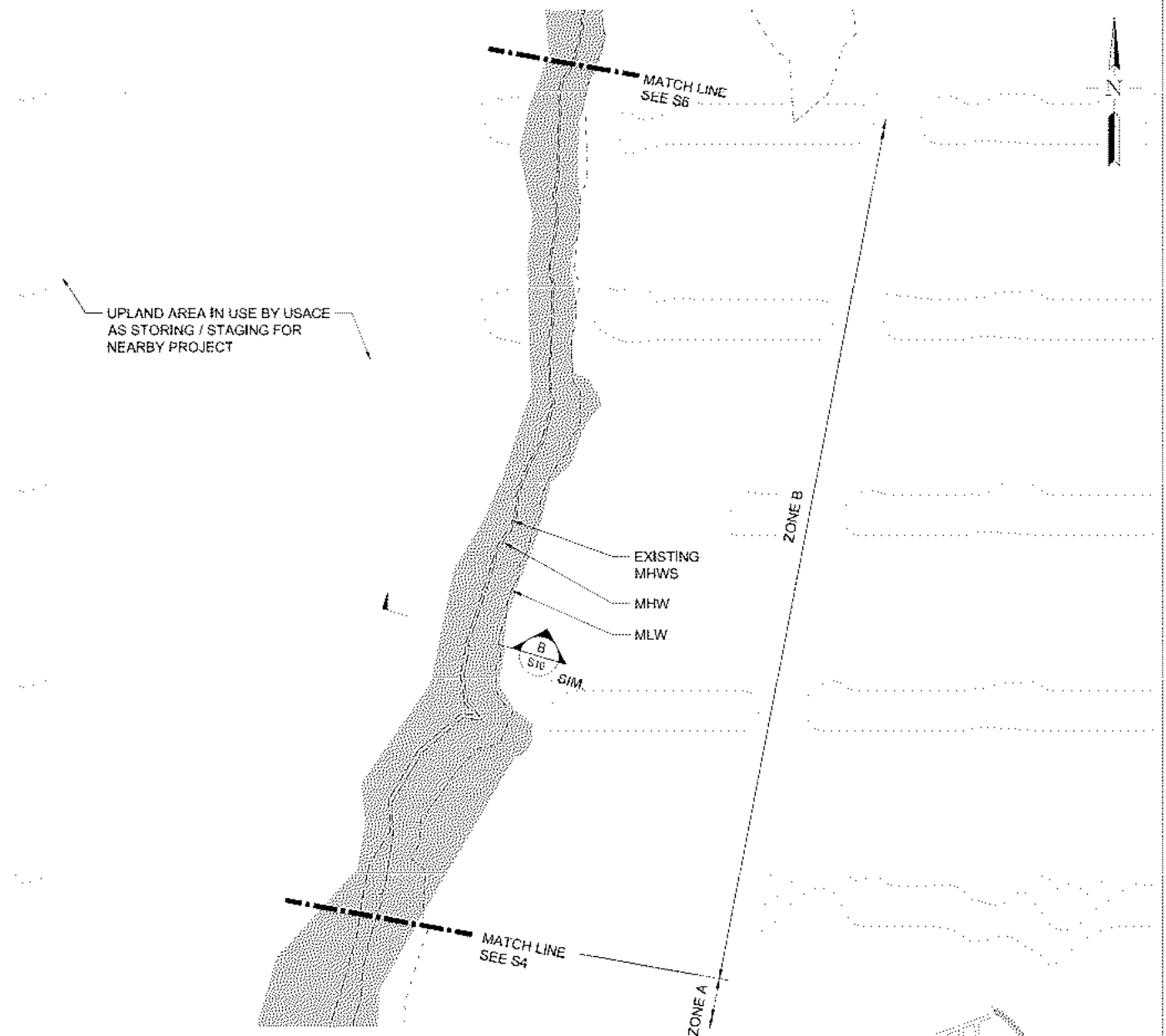
SHEET 4 OF 21



EXISTING PARTIAL SITE PLAN - ZONE B1

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA

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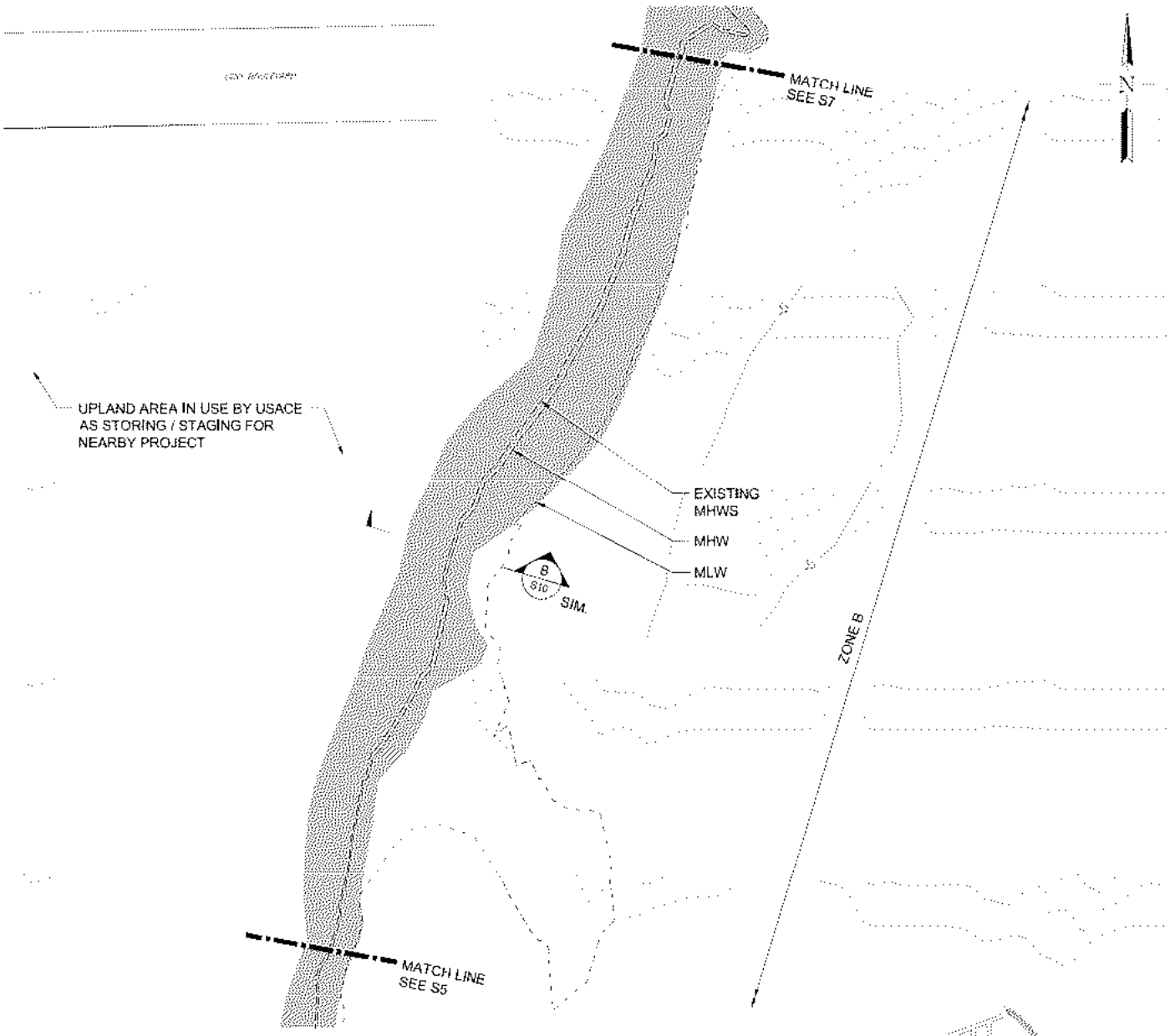
DATE : 06/11/2019

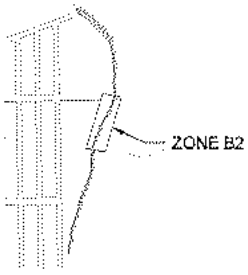
SHEET 5 OF 21



EXISTING PARTIAL SITE PLAN - ZONE B2

0 100 FEET

SCALE 1" = 100'



KEY PLAN

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA

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EXISTING PARTIAL SITE PLAN - ZONE B3

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

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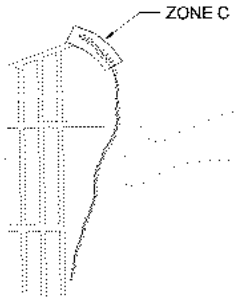
SHEET 7 OF 21

EXISTING PARTIAL SITE PLAN - ZONE C

0 100 FEET

SCALE 1" = 100'



KEY PLAN

LEGEND

- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

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SHEET 9 OF 21

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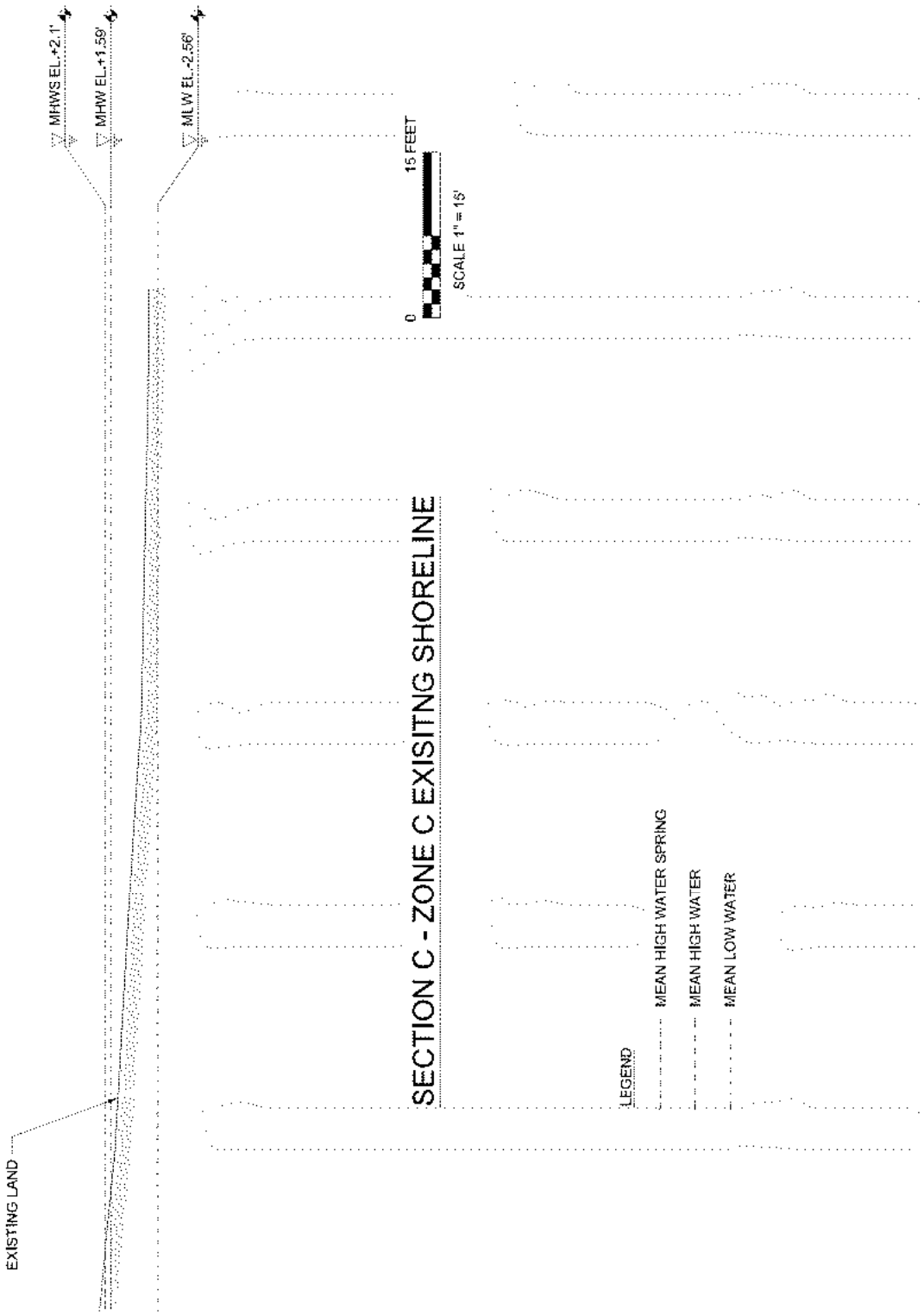
SHEET 10 OF 21



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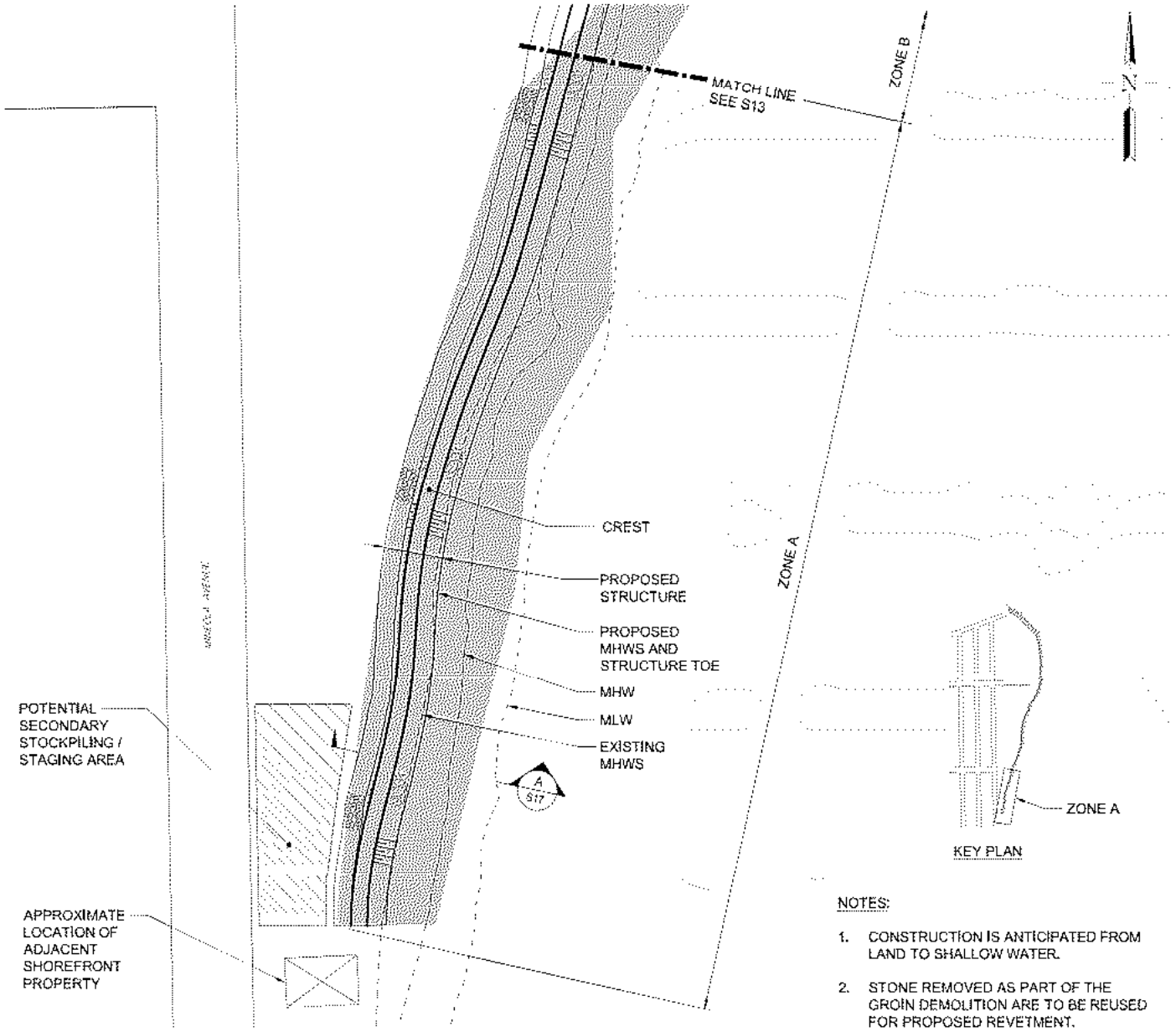
DATE : 06/11/2019

SHEET 11 OF 21



PROPOSED PARTIAL SITE PLAN - ZONE A

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- POTENTIAL STOCKPILING / STAGING AREA

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.
5. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE A IS 1450 CU. YD. WITH PLANAR AREA OF 2300 SQ. YD. NO MATERIAL IS PLACED BELOW MHWS WITHIN ZONE A.

REVISION 1

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

DATUM: N.A.V.D. 88

APPLICATION BY: TOWN OF HEMPSTEAD

APPLICATION NO:

AGENT: COWI

LIDO BEACH / POINT LOOKOUT
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

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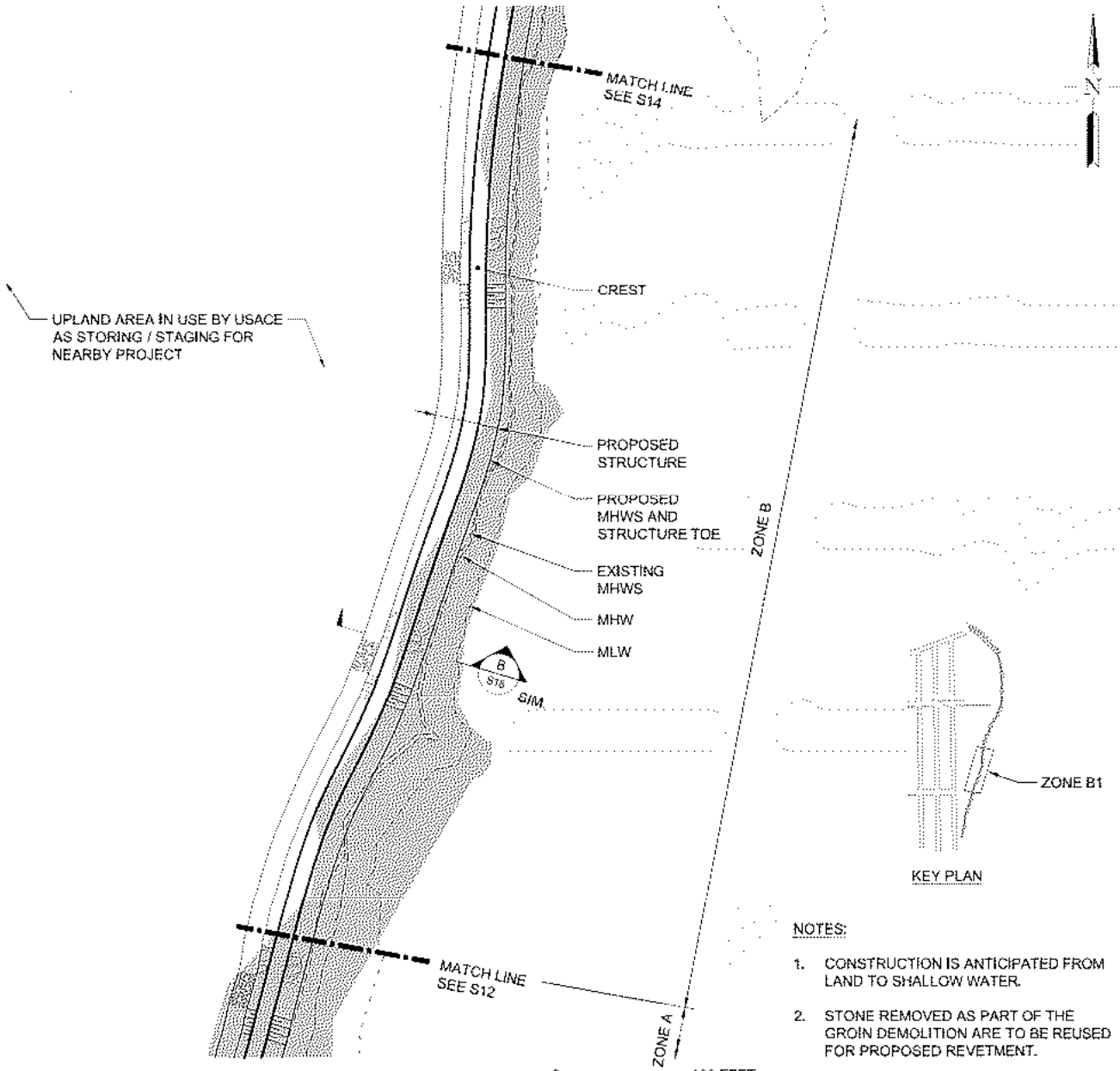

PROPOSED PARTIAL SITE PLAN - ZONE B1

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.
5. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE B1 IS 2390 CU. YD. WITH PLANAR AREA OF 2400 SQ. YD. NO MATERIAL IS PLACED BELOW MHWS WITHIN ZONE B1.

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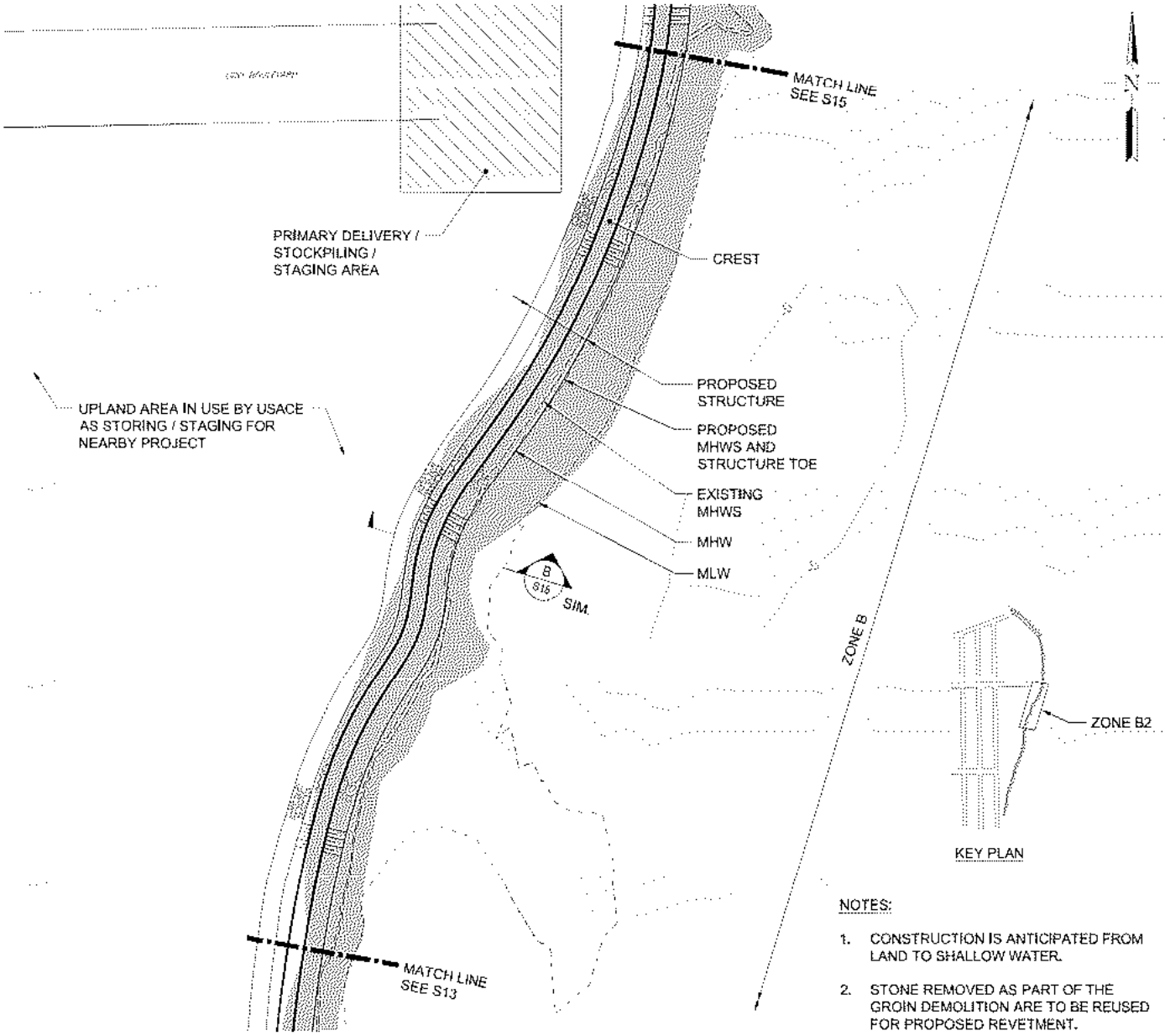

PROPOSED PARTIAL SITE PLAN - ZONE B2

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- POTENTIAL STOCKPILING / STAGING AREA

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.
5. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE B2 IS 2610 CU. YD. WITH PLANAR AREA OF 2650 SQ. YD. NO MATERIAL IS PLACED BELOW MHWS WITHIN ZONE B2.

REVISION 1

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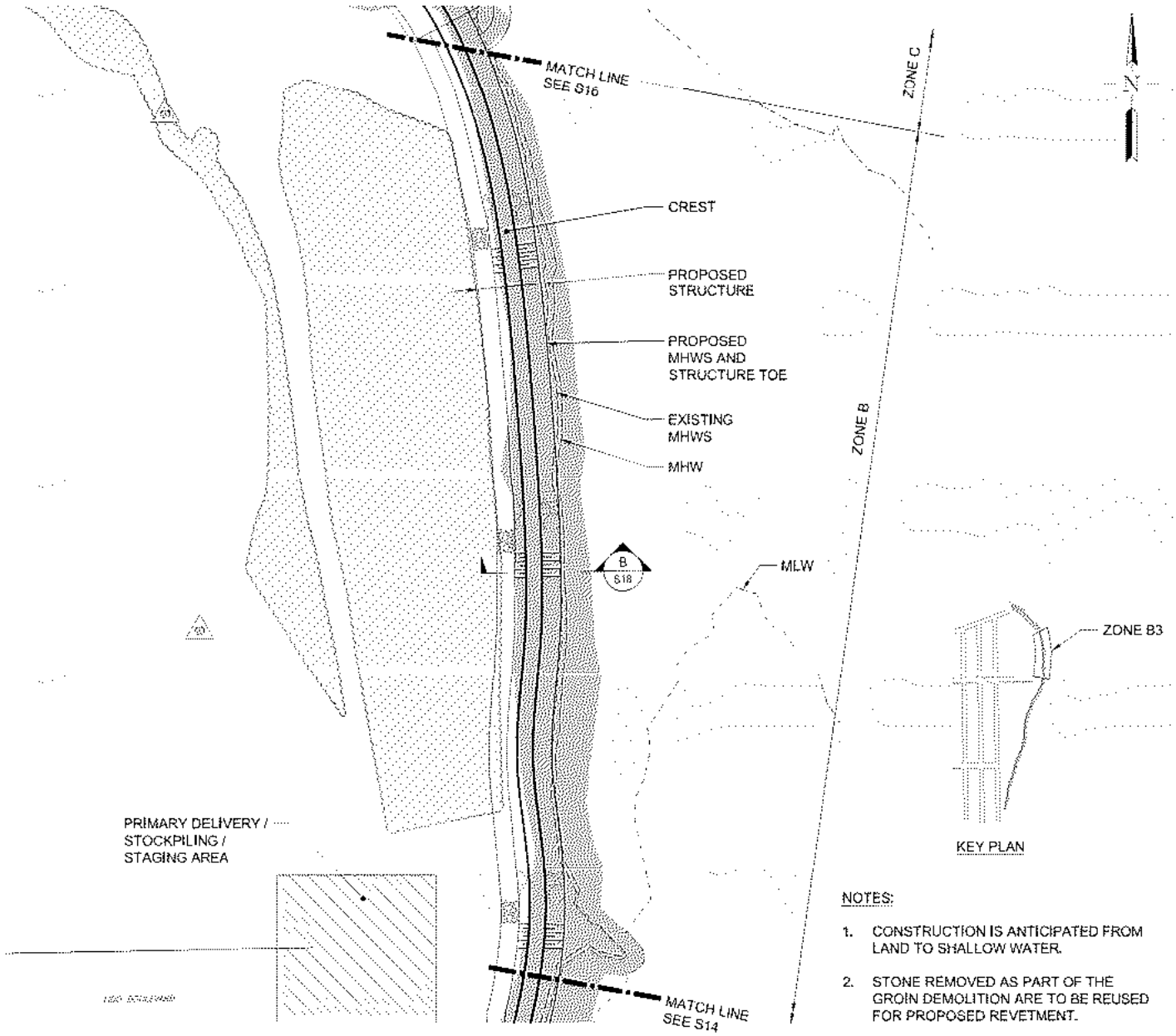
SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

SHEET 14 OF 21



PROPOSED PARTIAL SITE PLAN - ZONE B3

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- POTENTIAL STOCKPILING / STAGING AREA
- BENCHMARK

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. FOR ZONES A AND B, THE TOE OF PROPOSED STRUCTURE IS THE PROPOSED MHWS CONTOUR.
5. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE B3 IS 2650 CU. YD. WITH PLANAR AREA OF 2700 SQ. YD. NO MATERIAL IS PLACED BELOW MHWS WITHIN ZONE B3.

REVISION 1

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STATE OF NEW YORK

DATE : 06/11/2019

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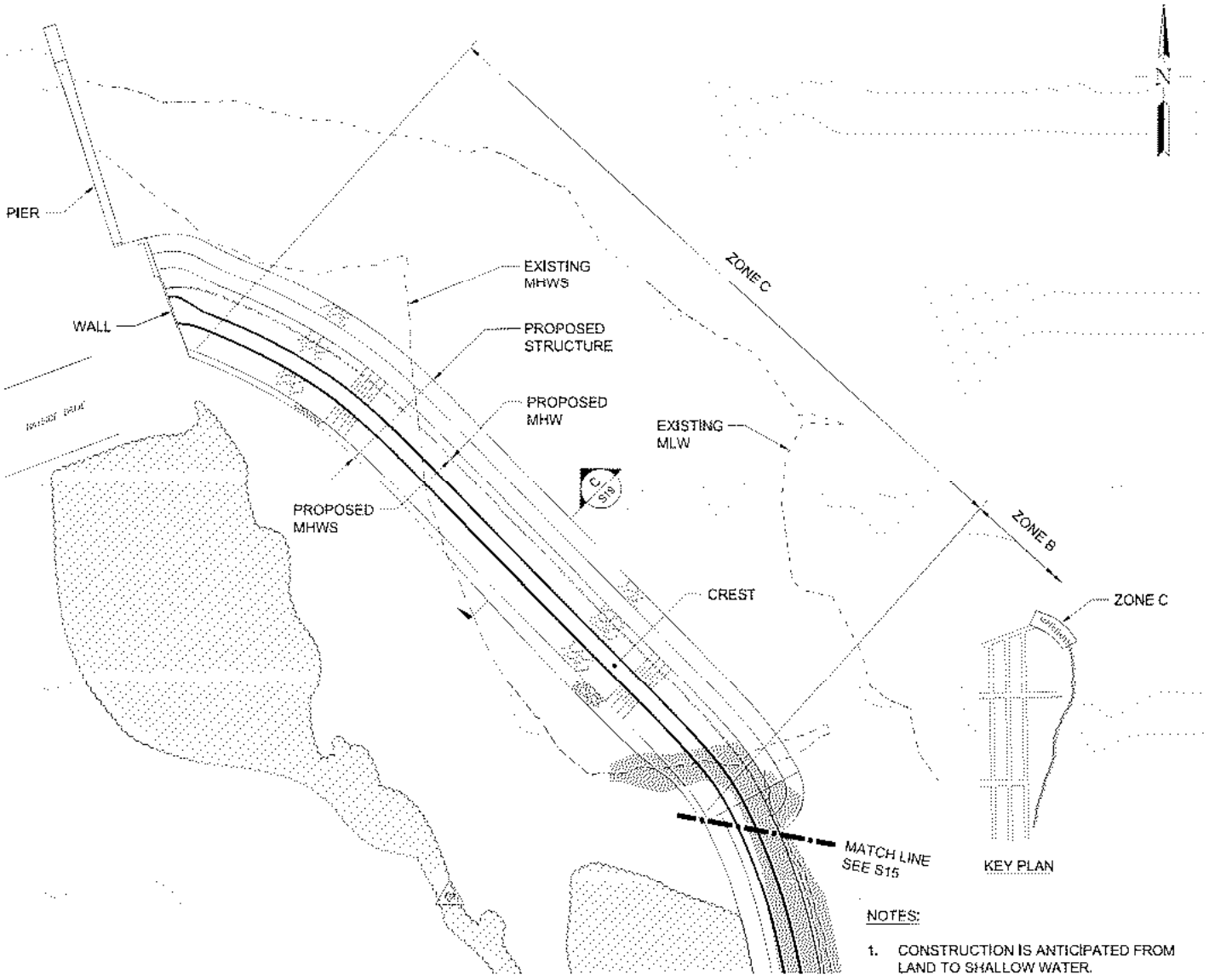

PROPOSED PARTIAL SITE PLAN - ZONE C

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- PROPOSED REVETMENT
- PROPOSED SCOUR PROTECTION
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

NOTES:

1. CONSTRUCTION IS ANTICIPATED FROM LAND TO SHALLOW WATER.
2. STONE REMOVED AS PART OF THE GROIN DEMOLITION ARE TO BE REUSED FOR PROPOSED REVETMENT.
3. THE PROPOSED MHWS CONTOUR WAS CREATED BASED UPON THE EXISTING MHWS CONTOUR BUT SMOOTHED OUT FOR SIMPLICITY AND CONSTRUCTION FEASIBILITY.
4. TOTAL AMOUNT OF FILL ABOVE MHWS IN ZONE C IS 5600 CU. YD. AND TOTAL AMOUNT OF CUT IS 2500 CU. YD TOTAL AMOUNT OF FILL BELOW MHWS IN ZONE C IS 4340 CU. YD. TOTAL AMOUNT OF CUT IS 6000 CU. YD. TOTAL PLANAR AREA OF FILL IS 2140 SQ. YD. AND OF CUT IS 1610 SQ. YD. FOR AREA OF IMPACT BELOW MHWS SEE TABLE ON SHEET 21.

REVISION 1

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SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
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STATE OF NEW YORK

DATE : 06/11/2019

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HEMPSTEAD, LONG ISLAND
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SECTION C - ZONE C PROPOSED REVETMENT

NOTES:

1. THE SEWARD SIDE OF THE REVETMENT IS PROPOSED TO HAVE THE TOE START AT MHWS; THE LEEWARD SIDE OF THE REVETMENT IS PROPOSED TO HAVE THE TOE EXTEND TO THE EXISTING LAND ELEVATION.

LEGEND

- MEAN HIGH WATER SPRING
- MEAN HIGH WATER
- MEAN LOW WATER

REVISION 1

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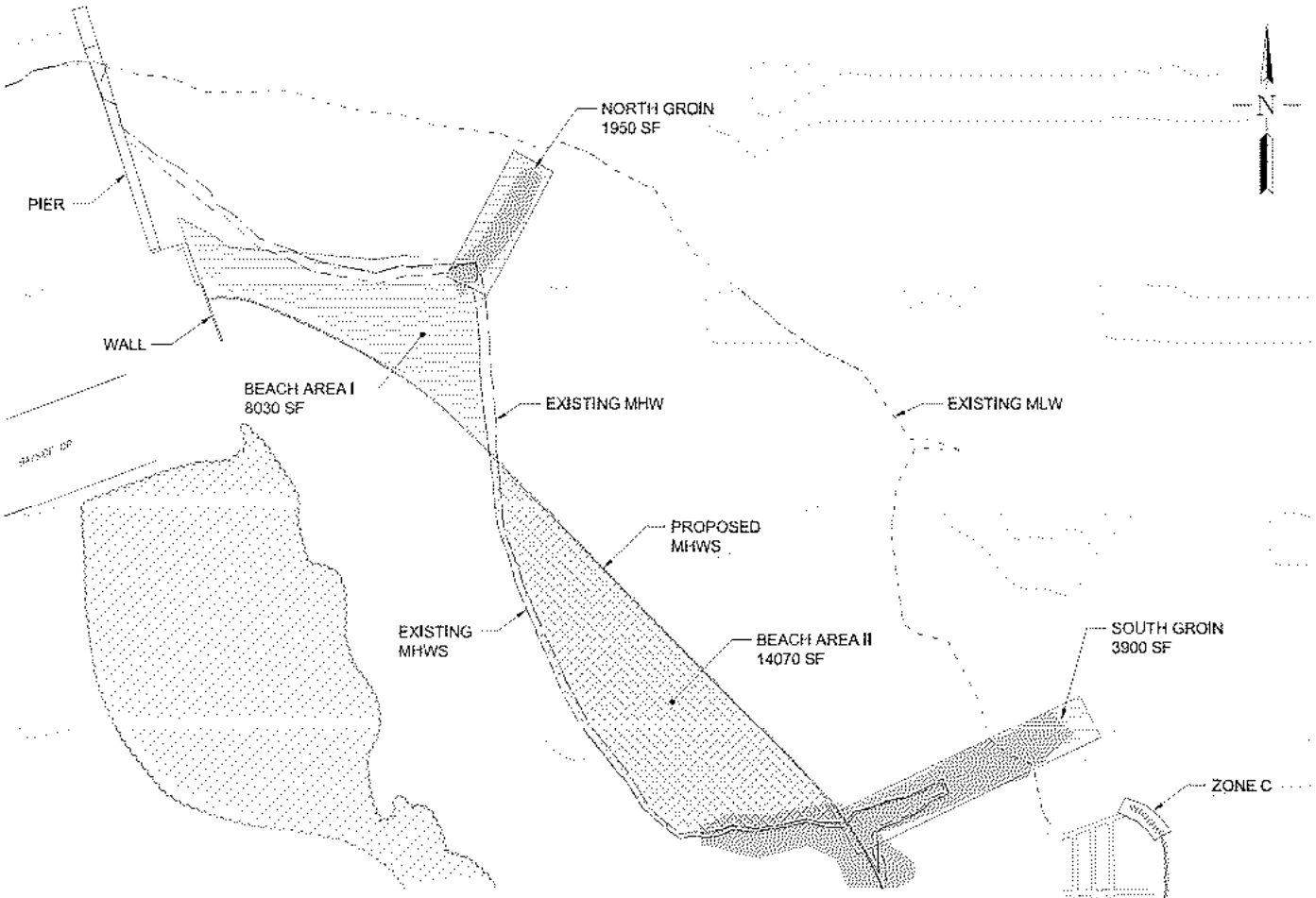
HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

SHEET 19 OF 21

AREA	RECLAIMED (ft^2)	REMOVED (ft^2)	NET CHANGE (ft^2)	RECLAIMED (yd^2)	REMOVED (yd^2)	NET CHANGE (yd^2)
BEACH AREA I	0	8,030	-8,030	0	892	-892
BEACH AREA II	14,070	0	14,070	1,563	0	1,563
NORTH GROIN	0	1,950	-1,950	0	217	-217
SOUTH GROIN	0	3,900	-3,900	0	433	-433
TOTAL	14,070	13,880	190	1,563	1,542	21



ZONE C - PROPOSED SUB-MHWS AREAS CHANGE

0 100 FEET

SCALE 1" = 100'

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- REMOVE AREA
- RECLAIM AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK

KEY PLAN

NOTES:

1. AREAS QUANTIFIED AS PER THE EXISTING MHWS CONTOUR.

REVISION 1

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HEMPSTEAD, LONG ISLAND
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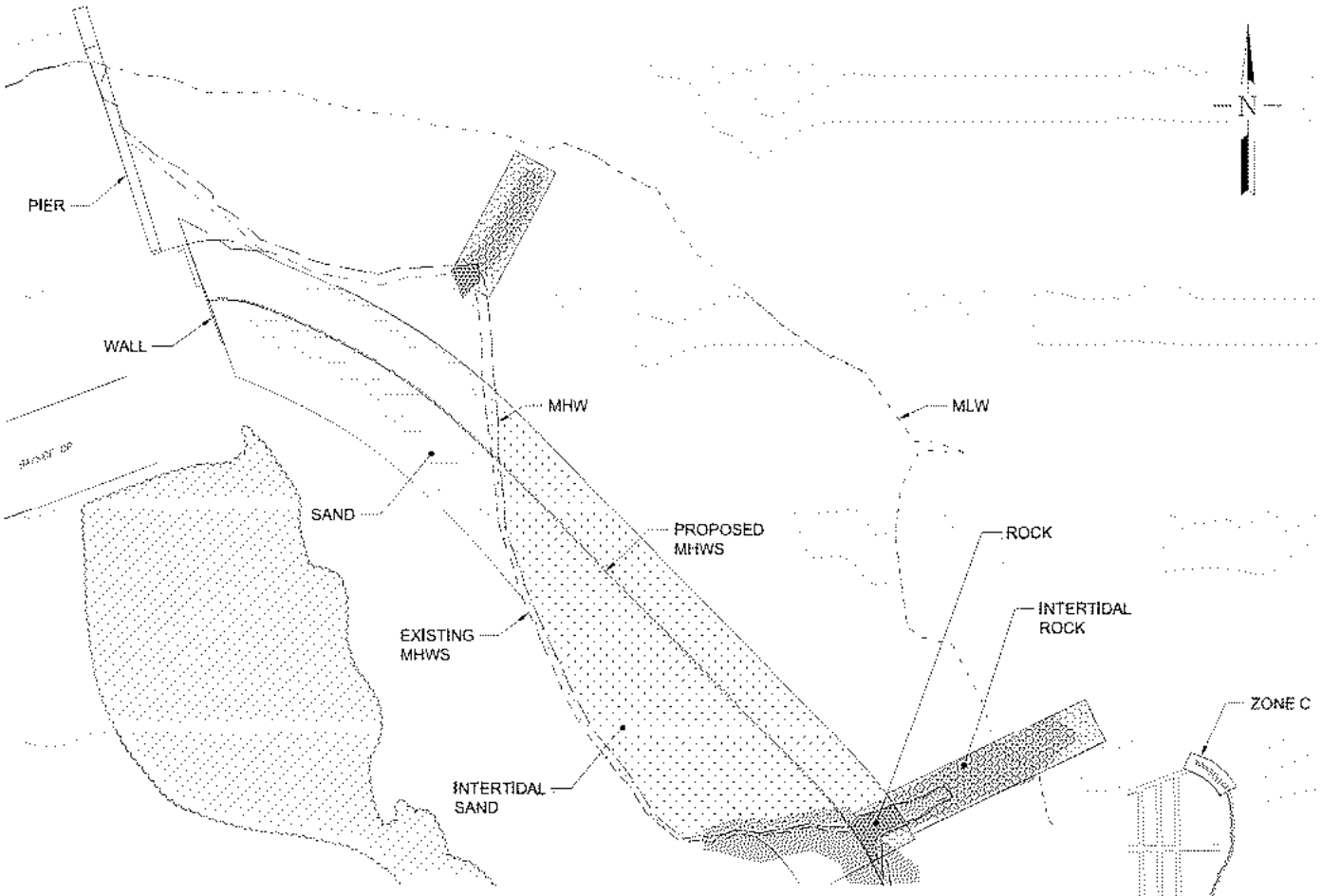
STATE OF NEW YORK

DATE : 06/11/2019

SHEET 20 OF 21

	GAIN	LOSS	NET (ft²)	NET (yd²)
INTERTIDAL SAND	7,392.20	22,204.09	-14,811.88	-1,645.76
INTERTIDAL ROCK	13,496.46	4,679.36	8,817.11	979.68
SAND	3,584.84	15,496.92	-11,912.09	-1,323.57
ROCK	18,087.00	180.14	17,906.86	1,989.65



PROPOSED ZONE C BEACH AREA CHANGE

LEGEND

- MEAN HIGH WATER SPRING PROPOSED
- MEAN HIGH WATER SPRING EXISTING
- MEAN HIGH WATER
- MEAN LOW WATER
- EXISTING REVETMENT AREA
- REMOVE AREA
- RECLAIM AREA
- EXISTING VEGETATED DUNE AREA
- BENCHMARK
- SAND
- INTERTIDAL SAND
- ROCK
- INTERTIDAL ROCK

KEY PLAN

NOTES:

1. AREA CHANGE WAS QUANTIFIED AS PER THE EXISTING MHWS CONTOUR.
2. HATCHES SHOWN REPRESENT THE EXISTING BEACH AREAS CHANGING THEIR TYPE DURING THE PROPOSED CONSTRUCTION.

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SHORELINE STABILIZATION & REVETMENT

HEMPSTEAD, LONG ISLAND
COUNTY OF NASSAU
STATE OF NEW YORK

DATE : 06/11/2019

SHEET 21 OF 21

5 Adjacent Property Owners List

Tax lot owner and category are based on parcel data provided by the Nassau County in 2017.

SECTION	BLOCK	LOTS	OWNER	CATEGORY	STREET ADDRESS
61	57	20	JEMAIL EST. NATALIE	RESIDENTIAL	177 BAYSIDE DR
61	A	1;3	GIOVINAZZO VINCENT & ROSEMARY	RESIDENTIAL	170 BAYSIDE DR
61	A	4;5;6;7	DALY ROGER & JANE	RESIDENTIAL	6 MINEOLA AVE
61	A	8;9;10;11	LASKAS SUZANNE & MEYER DANE & MEYER DREW	RESIDENTIAL	10 MINEOLA AVE
61	A	12;13;14;15	LASKAS-OLOTKA MARY	RESIDENTIAL	14 MINEOLA AVE
61	A	16;17;18;19	CONKLIN RONALD & DANA	RESIDENTIAL	18 MINEOLA AVE
61	A	25;26;27;339;342	NEARY MATTHEW & CYNTHIA	RESIDENTIAL	26 MINEOLA AVE
61	A	29;30;31;340	WITTSCHEN THOMAS & LINDA	RESIDENTIAL	30 MINEOLA AVE
61	A	32;33;34	36 MINEOLA LLC	RESIDENTIAL	36 MINEOLA AVE
61	A	35;36;37	HEARN GEORGE & CECELIA	RESIDENTIAL	250 LIDO BLVD

SECTION	BLOCK	LOTS	OWNER	CATEGORY	STREET ADDRESS
61	A	101;102;103;104	HELLER FRANK X & DUFFY CATHERINE	RESIDENTIAL	50 MINEOLA AVE
61	A	105;106;107;108	CAREY EDWARD C & MOREEN C	RESIDENTIAL	54 MINEOLA AVE
61	A	109;110;111;112	MORLEDGE LOUIS	RESIDENTIAL	56 MINEOLA AVE
61	A	113;114;115;116	BUTLER TRUST	RESIDENTIAL	60 MINEOLA AVE
61	A	117;118;119;120	FOX MARY CHRISTINA & GROGAN MARGARET	RESIDENTIAL	64 MINEOLA AVE
61	A	121;122	GOUDSMIT JAAP & VAN DER WAALS FRANSJE W	RESIDENTIAL	66 MINEOLA AVE
61	A	123;124	BONO JOHN	RESIDENTIAL	68 MINEOLA AVE
61	A	125;126	PANTONY ANGELA	RESIDENTIAL	70 MINEOLA AVE
61	A	127;128	GROGAN JOHN & MARGARET	RESIDENTIAL	72 MINEOLA AVE
61	A	129;130	RUDOLPH RAYMOND J & LAUREN	RESIDENTIAL	74 MINEOLA AVE
61	A	131;132	CROCE REALTY LLC	RESIDENTIAL	76 MINEOLA AVE
61	A	133;134	CARMODY DANIEL J & JEAN	RESIDENTIAL	78 MINEOLA AVE
61	A	135;136	GOMEZ PAUL	RESIDENTIAL	82 MINEOLA AVE
61	A	137;138	MELLAND MICHELE & STRASSBERG RICHARD	RESIDENTIAL	84 MINEOLA AVE
61	A	139;140	COFFEY FRANCIS G & COFFEY ALEXANDRA &	RESIDENTIAL	86 MINEOLA AVE
61	A	141;142	BINKHORST AUDREY	RESIDENTIAL	88 MINEOLA AVE
61	A	143;144	BINKHORST AUDREY	RESIDENTIAL	92 MINEOLA AVE
61	A	145;146	GALLAGHER LESLIE C & THOMAS C	RESIDENTIAL	94 MINEOLA AVE
61	A	147;14	REID	RESIDENTIAL	64 BEECH ST

SECTION	BLOCK	LOTS	OWNER	CATEGORY	STREET ADDRESS
		8;149	THOMAS V & MARION C		
61	A	201;202	DAGOSTINO NICHOLAS	RESIDENTIAL	100 MINEOLA AVE
61	A	226;227;228;229;230	CAHILL & SONS LLC	RESIDENTIAL	124 MINEOLA AVE
61	A	231;232;233;234;235;236;237;338	SULLIVAN ERIC P	RESIDENTIAL	128 MINEOLA AVE
61	A	341	MULVEY JOSEPH P & LINDA A TRUST	RESIDENTIAL	20 MINEOLA AVE

6 USACE Environmental Questionnaire

This is intended to supplement ENG Form 4345, Application for Department of the Army Permit, or the Joint Application for Permit used in the State of New York. Please provide complete answers to all questions below which are relevant to your project. Any answers may be continued on separate sheet(s) of paper to be attached to this form.

PRIVACY ACT STATEMENT

The purpose of this form is to provide the Corps of Engineers with basic information regarding your project. This information will be used to facilitate evaluation of your permit application and for public dissemination as required by regulation. Failure to provide complete information may result in your application being declared incomplete for processing, thereby delaying processing of your application.

GENERAL-APPLICABLE TO ALL PROJECTS

1 Explain the need for, and purpose of, the proposed work.

The purpose of the project is to stabilize shoreline along the Jones Inlet shoreline of Point Lookout. Additionally, the purpose of proposed revetment within the northern area of the site (between a privately owned bulkhead, located on parcel 61-57-20, and the Southern Groin - further referred to as Zone C) is to eliminate accumulation of decaying biomass (Sea Lettuce or Ulva Lactuca) and to stabilize the shoreline.

2 Provide the names and addresses of property owners adjacent to your work site (if not shown on the application form or project drawings).

Full list of adjacent land parcels and property owners is provided in Section 5.

(Please note that depending upon the nature and extent of your project, you may be requested to provide the names and addresses of additional property owners proximate to your project site to ensure proper coordination.)

3 Photographs of the project site should be submitted. For projects in tidal areas, photographs of the waterway vicinity should be taken at low tide. Using a separate copy of your plan view, indicate the location and direction of each photograph as well as the date and time at which the photograph was taken. Provide a sufficient number of photographs so as to provide a clear understanding of conditions on and proximate to your project site.

Aerial and site photographs are provided in Section 5.

4 Provide a copy of any environmental impact statement, or any other environmental report which was prepared for your project.

The State Environmental Quality Review Act – Short Environmental Assessment Form is provided in Section 9.

5 Provide a thorough discussion of alternatives to your proposal. This discussion should include, but not necessarily be limited to, the "no action" alternative and alternative(s) resulting in less disturbance to waters of the United States. For filling projects in waters of the United States, including wetlands, your alternatives discussion should demonstrate that there are no practicable alternatives to your proposed filling and that your project meets with current mitigation policy (i.e. avoidance, minimization and compensation).

Alternatives are discussed in Section 2.3.

DREDGING PROJECTS

Answer the following if your project involves dredging.

1 **Indicate the estimated volume of material to be dredged and the depth (below mean low water) to which dredging would occur. Would there be overdepth dredging?**

No dredging.

2 **You can apply for a ten-year permit for maintenance dredging. If you wish to apply for a ten-year permit, please provide the number of additional dredging events during the ten-year life of the permit and the amount of material to be removed during future events.**

No dredging.

3 **Indicate on your drawings the dewatering area (if applicable) and disposal site for the dredged material (except landfill sites). Submit a sufficient number of photographs of the dewatering and disposal sites as applicable so as to provide a clear indication of existing conditions. For ten-year maintenance dredging permits, indicate the dewatering/disposal sites for future dredging events, if known.**

No dredging.

4 **Describe the method of dredging (i.e. clamshell, dragline, etc.) and the expected duration of dredging.**

No dredging.

5 **Indicate the physical nature of the material to be dredged (i.e. sand, silt, clay, etc.) and provide estimated percentages of the various constituents if available. For beach nourishment projects, grain size analysis data is required.**

No dredging.

6 **Describe the method of dredged material containment (i.e. hay bales, embankment, bulkhead, etc.) and whether return flow from the dewatering/disposal site would reenter any waterway. Also indicate if there would be any barge overflow.**

No dredging.

MOORING FACILITIES

Answer the following if your project includes the construction or rehabilitation of recreational mooring facilities.

7 It is generally recommended that any fixed piers and walk ramps be limited to four feet in width, and that floats be limited to eight feet in width and rest at least two feet above the waterway bottom at mean low water. Terminal floats at private, non- commercial facilities should be limited to 20 feet in length. If you do not believe your proposal can meet with these recommendations, please provide the reason(s).

No mooring facilities.

8 Using your plan view, show to scale the location(s), position(s) and size(s) (including length, beam and draft) of vessel(s) to be moored at the proposed facility, including those of transient vessel(s) if known.

No mooring facilities.

9 For commercial mooring sites such as marinas, indicate the capacity of the facility and indicate on the plan view the location(s) of any proposed fueling and/or sewage pumpout facilities. If pumpout facilities are not planned, please discuss the rationale below and indicate the distance to the nearest available pumpout station.

No mooring facilities.

10 Indicate on your plan view the distance to adjacent marine structures, if any are proximate and show the locations and dimensions of such structures.

No mooring facilities.

11 Discuss the need for wave protection at the proposed facility. Please be advised that if a permit is issued, you would be required to recognize that the mooring facility may be subject to wave action from wakes of passing vessels, whose operations would not be required to be modified. Issuance of a permit would not relieve you of ensuring the integrity of the authorized structure(s) and the United States would not be held responsible for damages to the structure(s) and vessel(s) moored thereto from wakes from passing vessels.

No mooring facilities.

BULKHEADING/BANK STABILIZATION/FILLING ACTIVITIES

Answer the following if your project includes construction of bulkheading (also retaining walls and seawalls) with backfill, filling of waters/wetlands, or any other bank stabilization fills such as riprap, revetments, gabions, etc.

1 Indicate the total volume of fill (including backfill behind a structure such as a bulkhead) as well as the volume of fill to be placed into waters of the United States. The amount of fill in waters of the United States can be determined by calculating the amount of fill to be placed below the plane of spring high tide in tidal areas and below ordinary high water in non-tidal areas.

Total sub-MHWS fill volume for the project is 10,602 yd^3, with amount of fill for each material type provided in Section 2.2.5.

2 Indicate the source(s) and type(s) of fill material.

Geotextile fabric (14,125 $ft.^2$), quarry run stone (175 yd^3), stone D_{50}=16 in or W_{50}=391 lbm (1,258 yd^3), stone D_{50}=40 in or W_{50}=3.05 ton (2,904 yd^3). Stone material will be procured from local quarries with a portion of the material to be provided by the Town of Hempstead currently stockpiled within the project vicinity. Stone, extracted from the existing structures within Zone C, may be reused during revetment construction if determined appropriate.

3 Indicate the method of fill placement (i.e. by hand, buildozer, crane, etc.). Would any temporary fills be required in waterways or wetlands to provide access for construction equipment? If so, please indicate the area of such waters and/or wetlands to be filled, and show on the plan and sectional views.

Fill will likely be placed using a track excavator with larger armor stones placed using hydraulic grab arm (may be a part of the excavator). Excavation will be performed during low water to avoid excavated sediment suspension. Contractor may construct a temporary berm within Zone C to temporary isolate the construction zone. Revetment within Zone C was designed in a manner to minimize erosion and scour. For more details see Section 2.2.4.

The foregoing requests basic information on the most common types of projects requiring Department of the Army permits. It is intended to obviate or reduce the need for requesting additional information; however, additional information may be requested above and beyond what is requested in this form.

Please feel free to add any additional information regarding your project which you believe may facilitate our review.

7 Federal Consistency Assessment Form

NEW YORK STATE DEPARTMENT OF STATE
COASTAL MANAGEMENT PROGRAM

Federal Consistency Assessment Form

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

A. APPLICANT (please print)

1. Name: Town of Hempstead/Jeffery M. Tierney, Deputy Commissioner of Engineering

2. Address: 350 Front Street, Room 235, Hempstead, N.Y. 11550-4037

3. Telephone: Area Code ( ) (516) 812-3483

B. PROPOSED ACTIVITY

1. Brief description of activity:

The project site was split into three zones: A, B, and C. Zone A is at the southern end of the site located between a private residence at 128 Mineola Avenue and Beech Street and consists of a revetment in fair condition; Zone B is located between Beach Street and the southern groin at Point Lookout and consists of a revetment in serious condition; and Zone C is located between a privately owned bulkhead in the north and the southern groin and consists of a sandy beach and two groins (north and south groins) in satisfactory condition. Refurbishment of the existing

2. Purpose of activity:

The purpose of the project is to stabilize shoreline along the Jones Inlet shoreline of Point Lookout. Additionally, the purpose of proposed revetment within Zone C is to eliminate accumulation of decaying biomass (Sea Lettuce or Ulva Lactuca) and to stabilize the shoreline.

3. Location of activity:

Nassau	Town of Hempstead	Point Lookout shoreline
County	City, Town, or Village	Street or Site Description

4. Type of federal permit/license required: USACE Individual Permit - Section 10 and 404

5. Federal application number, if known:

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

NYSDEC Permit, 1-2820-02003

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

1. Will the proposed activity result in any of the following:	YES	NO
a. Large physical change to a site within the coastal area which will require the preparation of an environmental impact statement? (11, 22, 25, 32, 37, 38, 41, 43)	☐	☒
b. Physical alteration of more than two acres of land along the shoreline, land under water or coastal waters? (2, 11, 12, 20, 28, 35, 44)	☐	☒
c. Revitalization/redevelopment of a deteriorated or underutilized waterfront site? (1)	☐	☒
d. Reduction of existing or potential public access to or along coastal waters? (19, 20)	☐	☒
e. Adverse effect upon the commercial or recreational use of coastal fish resources? (9,10)	☐	☒
f. Siting of a facility essential to the exploration, development and production of energy resources in coastal waters or on the Outer Continental Shelf? (29)	☐	☒
g. Siting of a facility essential to the generation or transmission of energy? (27)	☐	☒
h. Mining, excavation, or dredging activities, or the placement of dredged or fill material in coastal waters? (15, 35)	☒	☐
i. Discharge of toxics, hazardous substances or other pollutants into coastal waters? (8, 15, 35)	☐	☒
j. Draining of stormwater runoff or sewer overflows into coastal waters? (33)	☐	☒
k. Transport, storage, treatment, or disposal of solid wastes or hazardous materials? (36, 39)	☐	☒
l. Adverse effect upon land or water uses within the State's small harbors? (4)	☐	☒

2. Will the proposed activity affect or be located in, on, or adjacent to any of the following:	YES	NO
a. State designated freshwater or tidal wetland? (44)	☒	☐
b. Federally designated flood and/or state designated erosion hazard area? (11, 12, 17,)	☐	☒
c. State designated significant fish and/or wildlife habitat? (7)	☐	☒
d. State designated significant scenic resource or area? (24)	☐	☒
e. State designated important agricultural lands? (26)	☐	☒
f. Beach, dune or barrier island? (12)	☒	☐
g. Major ports of Albany, Buffalo, Ogdensburg, Oswego or New York? (3)	☐	☒
h. State, county, or local park? (19, 20)	☒	☐
i. Historic resource listed on the National or State Register of Historic Places? (23)	☐	☒

3. Will the proposed activity require any of the following:	YES	NO
a. Waterfront site? (2, 21, 22)	☒	☐
b. Provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (5)	☐	☒
c. Construction or reconstruction of a flood or erosion control structure? (13, 14, 16)	☒	☐
d. State water quality permit or certification? (30, 38, 40)	☒	☐
e. State air quality permit or certification? (41, 43)	☐	☒

4. Will the proposed activity occur within and/or affect an area covered by a State approved local waterfront revitalization program? (see policies in local program document)	☐	☒

D. ADDITIONAL STEPS

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

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

E. CERTIFICATION

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

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

Applicant/Agent's Name: Town of Hempstead/Jeffrey M. Tierney, Deputy Commissioner of Engineering

Address: 350 Front Street, Room 235, Hempstead, NY 11550-4037

Telephone: Area Code (516) 812-3483

Applicant/Agent's Signature: _____ Date: 8/20/18

F. SUBMISSION REQUIREMENTS

1. The applicant or agent shall submit the following documents to the **New York State Department of State, Office of Coastal, Local Government and Community Sustainability, Attn: Consistency Review Unit, 1 Commerce Plaza, 99 Washington Avenue - Suite 1010, Albany, New York 12231.**

a. Copy of original signed form.
b. Copy of the completed federal agency application.
c. Other available information which would support the certification of consistency.

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

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

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

8 New York State Coastal Policies

DEVELOPMENT POLICIES

POLICY 2: FACILITATE THE SITING OF WATER-DEPENDENT USES AND FACILITIES ON OR ADJACENT TO COASTAL WATERS.

The proposed project includes the construction of a revetment along Point Lookout in Zone C which is a sandy and eroding shoreline located between a privately owned bulkhead (north end of site) to the southern groin, as well as the enhancement of the existing revetment (in serious-fair condition) through the implementation of a perched revetment along Zones A and B which run the rest of Point Lookout beach located between the southern groin and a private residence at 128 Mineola Avenue (south end). In its existing form, public access into the water at the site is not encouraged as it is a potential hazard due to the current dynamic state of shoreline and the boat traffic and currents within Jones Inlet and Reynolds Channel. A large recreational beaches (Lido Beach, Long Beach) just south of the project site provides the same waterfront activities and access into the water. Additionally, the implementation of the revetment in Zone C is intended to stabilize the sandy beach at the north end of the site, allowing for safer public access to enjoy land-based activities. Therefore, the benefit of the erosion protection structures are consistent with the policy.

FLOODING AND EROSION HAZARDS POLICIES

POLICY 12: ACTVITIES OR DEVELOPMENT IN COASTAL AREA WILL BE UNDERTAKEN SO AS TO MINIMIZE DAMAGE TO NATURAL RESOURCES AND PROPERTY FROM FLOODING AND EROSION BY PROTECTING NATURAL PROTECTIVE FEATURES INCLUDING BEACHES, DUNES, BARRIER ISLANDS AND BLUFFS.

The proposed project will stabilize and protect the shoreline with the construction of revetment in areas that are currently experiencing erosion and loss of lands. The proposed project is intended to enhance the shoreline's ability to withstand erosional forces, as well as to protect the existing dune systems west of the project.

POLICY 13: THE CONSTRUCTION OR RECONSTRUCTION OF EROSION PROTECTION STRUCTURES SHALL BE UNDERTAKEN ONLY IF THEY HAVE A REASONABE PROBABILITY OF CONTROLLING EROSION FOR AT LEAST THIRTY YEARS AS DEMONSTRATED IN DESIGN AND CONSTRUCTION STANDARDS AND/OR ASSURED MAINTENANCE OR REPLACEMENT PROGRAMS.

The proposed revetment in all zones was designed based upon a 30 year design life. Specifically, the crest elevation was chosen based upon projected relative sea-level rise by year 2050. Other design parameters incorporated into the proposed revetment include armor and underlayer stone sizes to combat the significant 50-year wave height. In order to account for the occurrence of overtopping during extreme events, the proposed revetment design also includes scour protection 10 feet from the leeward extent of the revetment landward.

POLICY 14: ACTIVITIES AND DEVELOPMENT, INCLUDING THE CONSTRUCTION OR RECONSTRUCTION OF EROSION PROTECTION STRUCTURES, SHALL BE UNDERTAKEN SO THAT THERE WILL BE NO MEASURABE INCREASE IN EROSION OR FLOODING AT THE SITE OF SUCH ACTIVITIES OR DEVELOPMENTM OR AT OTHER LOCATIONS.

The project proposes the removal of the two (2) existing groins that currently cause/experience unbalanced sediment accretion and erosion in the northern half of the site. The location of the proposed revetment was chosen based upon the results of hydrodynamic models that were created in order to understand wave mechanics, water flow, and sediment transport patterns at and around the site. Therefore, the chosen location of the proposed revetment accommodates the natural flow path of currents in the area and are not expected to interfere with the natural coastal processes in adjacent areas.

POLICY 15: MINING, EXCAVATION, OR DREDGING IN COASTAL WATERS SHALL NOT SIGNIFICANTLY INTERFERE WITH THE NATURAL COASTAL PROCESSES WHICH SUPPLY BEACH MATERIALS TO LAND ADJACENT TO SUCH WATERS AND SHALL BE UNDERTAKEN IN A MANNER WHICH WILL NOT CAUSE INCREASE IN EROSION OF SUCH LAND.

The project proposes the removal and excavation of the two (2) existing groins and some beach area at the northern end of the site in order to allow the natural flow of water currents to reshape the shoreline in this area. The proposed revetment will reinforce and stabilize the currently eroding shoreline, in which the sand currently migrates southerly. Numerical modeling of the nearshore area indicates that any effects to sand migration will be localized and are not expected to interfere with the natural coastal processes in adjacent areas.

POLICY 16: PUBLIC FUNDS SHALL ONLY BE USED FOR EROSION PROTECTIVE STRUCTURES WHERE NECESSARY TO PROTECT HUMAN LIFE, AND NEW DEVELOPMENT WHICH REQUIRES A LOCATION WITHIN OR ADJACENT TO AN EROSION HAZARD AREA TO BE ABLE TO BE ABLE TO FUNCTION, OR EXISTING DEVELOPMENT; AND ONLY WHERE THE PUBLIC BENEFITS OUTWEIGH THE LONG TERM MONETARY AND OTHER COSTS INCLUDING THE POTENTIAL FOR INCREASING EROSION AND ADVERSE EFFECTS ON NATURAL PROTECTIVE FEATURES.

The proposed project serves to protect the shoreline along Point Lookout beach in the Town of Hempstead. In its existing form, zones A and B consist of a revetment in moderate-serious condition; zone C consists of two (2) groins and a sandy beach that experiences continual erosion. These existing conditions pose a potential hazard for the residential community adjacent to the project site. The project site is intended to stabilize and protect the shoreline through the construction of a revetment, and is not expected to interfere with the natural coastal processes in adjacent areas.

PUBLIC ACCESS POLICIESPOLICY 19: PROTECT, MAINTAIN, AND INCREASE THE LEVEL AND TYPES OF ACCESS TO PUBLIC WATER RELATED RECREATION RESOURCES AND FACILITIES.

The proposed project includes the construction of a revetment along Point Lookout (Zones A, B, and C; see description in Policy 2). In its existing form, public access to the water at the site for recreational use is not encouraged as it is a potential hazard due to the current dynamic state of shoreline and the boat traffic and currents within Jones Inlet and Reynolds Channel. A large recreational beaches (Lido Beach, Long Beach) just south of the project site provides the same waterfront activities and access into the water. Additionally, the implementation of the revetment in Zone C is intended to stabilize the sandy beach at the north end of the

site, allowing for safer public access to enjoy land-based activities. Therefore, the benefit of the erosion protection structures are consistent with the policy.

POLICY 20: ACCESS TO THE PUBLICLY-OWNED FORESHORE AND TO LANDS IMMEDIATELY ADJACENT TO THE FORESHORE OR THE WATER'S EDGE THAT ARE PUBLICLY-OWNED SHALL BE PROVIDED AND IT SHALL BE PROVIDED IN A MANNER COMPATIBLE WITH ADJOINING USES.

The project site, in its existing condition, consists of revetment running approximately 2,350 LF of the total 2,950 LF of the shoreline to be stabilized. The remaining length of shoreline (north end of site) consists of two (2) groins and a sandy beach that currently experiences erosion, resulting in a dynamic shoreline that risks a potential hazard to the public. The proposed project will stabilize the shoreline through the construction of revetment in these areas that are currently experiencing erosion and loss of lands open to the public.

POLICY 21: WATER DEPENDENT AND WATER ENHANCED RECREATION WILL BE ENCOURAGED AND FACILITATED, AND WILL BE GIVEN PRIORITY OVER NON-WATER-RELATED USES ALONG THE COAST.

The proposed project will stabilize the shoreline of a public area that currently serves water-enhanced recreational uses (e.g. viewing, sunning, and walking). In its existing form, public access into the water at the site is not encouraged as it is a potential hazard due to the current dynamic state of the shoreline and the boat traffic and currents within Jones Inlet and Reynolds Channel. The use of the large recreational beaches (Lido Beach, Long Beach) just south of the project site are encouraged for similar uses. The proposed project may reduce the existing scenic overlooks due to the proposed structure's crest height (+10.00 ft. NAVD88), however, it is weighed against the erosion and loss of beach area at the site. Additionally, the implementation of the revetment in Zone C is intended to stabilize the sandy beach at the north end of the site, allowing for greater and safer public access to enjoy land-based activities.

POLICY 22: DEVELOPMENT WHEN LOCATED ADJACENT TO THE SHORE WILL PROVIDE FOR WATER-RELATED RECREATION WHENEVER SUCH USE IS COMPATIBLE WITH REASONABLY ANTICIPATED DEMAND FOR SUCH ACTIVITIES, AND IS COMPATIBLE WITH THE PRIMARY PURPOSE OF THE DEVELOPMENT.

The proposed project will stabilize the shoreline of a public area that currently provides recreational fields (northern half of site) and an undeveloped area that acts as a buffer between the ocean and a residential community (southern half of site). The intent of the project is not to redevelop the shoreline to serve a new purpose, but rather to stabilize and protect the shoreline against erosional forces.

WATER AND AIR RESOURCES POLICIES

POLICY 30: MUNICIPAL, INDUSTRIAL, AND COMMERCIAL DISCHARGE OF POLLUTANTS, INCLUDING BUT NOT LIMITED TO, TOXIC AND HAZARDOUS SUBSTANCES, INTO COASTAL WATERS WILL CONFORM TO STATE AND NATIONAL WATER QUALITY STANDARDS.

The intent of the proposed project is not to redevelop the shoreline to serve a new purpose, but rather to stabilize and protect the shoreline against erosional forces through the repair of existing structures (Zones A and B) and the construction of a revetment in Zone C. As such, this operation will not include the discharge of pollutants into coastal waters.

POLICY 35: DREDGING AND FILLING IN COASTAL WATERS AND DISPOSAL OF DREDGED MATERIAL WILL BE UNDERTAKEN IN A MANNER THAT MEETS EXISTING STATE PERMIT REQUIREMENTS, AND PROTECTS SIGNIFICANT FISH AND WILDLIFE HABITATS, SCENIC RESOURCES, NATURAL PROTECTIVE FEATURES, IMPORTANT AGRICULTURAL LANDS, AND WETLANDS.

The project proposes the removal of the two (2) existing groins and the fill of some beach area at the northern end of the site in order to allow the natural flow of water currents to reshape the shoreline in this area. The location of the proposed revetment in this area will create approximately the same quantity of new habitat area as it will reclaim. Please refer to the permit drawings, as well as Section 2.2.5, for more information on the calculation of the habitat areas impacted by the proposed activity.

POLICY 38: THE QUALITY AND QUANTITY OF SURFACE WATER AND GROUNDWATER SUPPLIES WILL BE CONSERVED AND PROTECTED, PARTICULARLY WHERE SUCH WATERS CONSTITUTE THE PRIMARY OR SOLE SOURCE OF WATER SUPPLY.

This policy is not applicable to the proposed project. The project is along the shoreline of Point Lookout in the Town of Hempstead, in which the repair and enhancement of existing revetment in Zones A and B, and the construction of a revetment in Zone C is proposed to combat erosional forces at the site. Therefore, the project will not occur in an area where the surface water serves as a primary source of the water supply.

POLICY 40: EFFLUENT DISCHARGED FROM MAJOR STEAM ELECTRIC GENERATING AND INDUSTRIAL FACILITIES INTO COASTAL WATERS WILL NOT BE UNDULY INJURIOUS TO FISH AND WILDLIFE AND SHALL CONFORM TO STATE WATER QUALITY STANDARDS.

This policy is not applicable to the proposed project. The proposed revetment will not discharge any effluent that will be unduly injurious to the propagation and protection of fish and wildlife, the industrial development of the State, the public health, and public enjoyment of the receiving waters.

WETLANDS POLICY

POLICY 44: PRESERVE AND PROTECT TIDAL AND FRESHWATER WETLANDS AND PRESERVE THE BENEFITS DERIVED FROM THESE AREAS.

The proposed project is intended to provide a stable shoreline to the adjacent littoral zone of Jones Inlet. The project has been developed such that the quantity of land currently below MHW reclaimed is approximately equal to the quantity to be created. Please refer to the permit drawings for more information on the calculation of the habitat areas impacted by the proposed activity. As discussed in the Erosion Policies and Public Access Policies, the project will protect the Point Lookout shoreline and existing dune system from erosional forces, thereby addressing the potential public hazard posed by the existing dynamic shoreline. Therefore the project is consistent with preserving the benefits of the tidal wetlands.

9 State Environmental Quality Review Act – Short Environmental Assessment Form

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information

Name of Action or Project:
Lido Beach/ Pt. Lookout Shoreline Stabilization & Revetment

Project Location (describe, and attach a location map):
Point Lookout, NY 11569

Brief Description of Proposed Action:
The purpose of the project is to stabilize the Jones Inlet shoreline of Point Lookout.
The project site was split into three zones: Zone A - located between a private residence at 128 Mineola Avenue (tax parcel 61 A 226) and Beech Street; Zone B - located between Beech Street and the Southern Groin at Point Lookout; Zone C - located between a privately owned bulkhead in the north (tax parcel 61 57 20) and the Southern Groin at Point Lookout.
The description of work performed in each zone is the following:
Zones A and B - refurbishment of the existing revetment through placement of a perched revetment. Zone C - groin and derelict revetment removal, revetment construction.

Name of Applicant or Sponsor:	Telephone: (516) 812-3483
Town of Hempstead/Jeffery M. Tierney, Deputy Commissioner of Engineering	E-Mail: Jefftie@tohmail.org

Address:
350 Front Street, Room 235

City/PO:	State:	Zip Code:
Hempstead	NY	11550-4037

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval: NYSDEC/USACE Joint Permit Application and NYSDOS Permit Application. Funded by: U.S. Department of Housing & Urban Development (HUD), as part of its Community Development Block Grant – Disaster Recovery (CDBG-DR) Program	☐	☑

3.a. Total acreage of the site of the proposed action? 36.1 acres
b. Total acreage to be physically disturbed? 3.02 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 36.1 acres

4. Check all land uses that occur on, adjoining and near the proposed action.
☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☑ Residential (suburban)
☐ Forest ☐ Agriculture ☑ Aquatic ☐ Other (specify): _____
☑ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☐	☑
b. Consistent with the adopted comprehensive plan?	☐	☐	☑

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?		
If Yes, identify:	☑	☐

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☑	☐
b. Are public transportation service(s) available at or near the site of the proposed action?	☑	☐
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?	☑	☐

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements?		
If the proposed action will exceed requirements, describe design features and technologies:		
N/A - The proposed action is a construction of revetment.	☑	☐

	NO	YES
10. Will the proposed action connect to an existing public/private water supply?		
If No, describe method for providing potable water:		
N/A - The proposed action is a construction of revetment.	☑	☐

	NO	YES
11. Will the proposed action connect to existing wastewater utilities?		
If No, describe method for providing wastewater treatment:		
N/A - The proposed action is a construction of revetment.	☑	☐

	NO	YES
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	☑	☐
b. Is the proposed action located in an archeological sensitive area?	☑	☐

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☐	☑
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres:		
The proposed project is located adjacent to Jones Inlet and Reynold's Channel. The proposed project would alter a portion of the waterbody but the net balance of material removed and added will be in equilibrium.		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☑ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional

☑ Wetland ☐ Urban ☐ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☑	☐

	NO	YES
16. Is the project site located in the 100 year flood plain?	☐	☑

	NO	YES
17. Will the proposed action create storm water discharge, either from point or non-point sources?		
If Yes,		
a. Will storm water discharges flow to adjacent properties? ☑ NO ☐ YES	☑	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?		
If Yes, briefly describe: ☑ NO ☐ YES		

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____	☑	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____	☑	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: _____	☑	☐

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: Town of Hempstead / Jeffrey M. Tierney, Deputy Commissior Date: 8/20/18

Signature: _____

PRINT FORM

10 Structural Archaeological Assessment Form (SAAF)

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

STRUCTURAL ARCHAEOLOGICAL ASSESSMENT FORM (SAAF)
Supplement to the Joint Application Form

PART 1 – APPLICANT COMPLETES

APPLICANT INFORMATION

1. Applicant Name: Town of Hempstead

2. Applicant Address:

PROJECT INFORMATION

3. Project/Facility Name: Lido Beach/Pt. Lookout Shoreline Stabilization & Revetment

4. Project/Facility Location: Point Lookout, NY 11569

5. Is the proposed project adjacent to, or does it contain a building or structure listed in the State or National Register of Historic Places? ☐ Yes ■ No

6. Are there any buildings or structures 50 years old or older adjacent to or within the proposed project area? ☐ Yes ■ No

If the answer to question 5 and /or 6 is yes, provide the following information for each building and structure (use attachments if necessary):

a. Name of structure:

b. Location:

c. Type of structure (ex. house, outbuilding, barn, bridge, dam, ruins):

d. Approximate age or date of construction:

7. Might the proposed project have any impact (physical/visual) upon any buildings or structures listed in the State or National Register of Historic Places or 50 years old or older? ☐ Yes ■ No

If yes, describe briefly (use attachments if necessary):

APPLICANT SECTION CONTINUES ON REVERSE SIDE

8. Provide photographs of every building and structure that may be impacted by the project as described in number 7, on the opposite side of this page. The following standards are recommended:

- Minimum of 2 photographs
- Photographs must be 3.5" x 5" in size or larger
- Photos must be clear and focused
- Digital photographs must be printed on photo paper and be produced at a printer setting of a minimum of 600 dpi
- Clearly label photos so it is obvious what is being illustrated; key photos to map or plan, if possible
- Photo 1: show both the entire front and side of the structure in a single shot from as close to the building as possible. Be sure the structure is not partially or fully blocked by trees or other obstructions
- Photo 2: show relationship of building or structure to roadway or surroundings

9. Has the land within the proposed project area been previously disturbed or altered (excavated, landscaped, filled, utilities installed)? ■ Yes ☐ No

If yes, describe briefly, including depth of disturbance (use attachments if necessary):

Construction of revetment and two groins by the USACE in 1942. Construction of baseball fields done by the Town of Hempstead.

10. Approximate percentage of proposed project area with slopes:

- 0-10% 10 %
- 10-15% 20 %
- 15% or greater 70 %

11. Approximate percentage of proposed project site with the following drainage characteristics:

- Well drained 95 %
- Moderately well drained 5 %
- Poorly drained 0 %

Prepared By (Print or type name): Todd P. Manson, PE

Signature: Todd P Manson Date: 8/22/18

RESET PART 1

PART 2 – DEPARTMENT OF ENVIRONMENTAL CONSERVATION (DEC) COMPLETES

APPLICANT/PROJECT INFORMATION

1.Applicant Name:

2. Project/Facility Name:

3. DEC Number:

BUILDINGS AND STRUCTURES

4. Might the proposed project have any impact (physical/visual) upon any buildings or structures listed in the State or National Register of Historic Places or 50 years old or older? ☐ Yes ☐ No

If yes, DEC must consult with the Office of Parks, Recreation and Historic Preservation (OPRHP). DEC must request a determination of eligibility for the State Register of Historic Places and/or comments regarding project impact. Include information supplied by the applicant in response to questions 5, 6, 7 and 8 of **Part 1** of this form.

ARCHAEOLOGICAL SITES

5. Does the proposed project area coincide with a circle, square or stippled area on OPRHP's Statewide Archaeological Inventory Map? ☐ Yes ☐ No

6. Is the proposed project area outside of a circle or square, but one for which information has been provided (ex: documented reports of known sites) that suggests the area is archaeologically sensitive? ☐ Yes ☐ No

If yes, what is the nature and source of information?

7. Is the proposed project area apparently undisturbed? ☐ Yes ☐ No

8. Will the proposed action include a physical disturbance of the project area? ☐ Yes ☐ No

9. Is the slope in the area characteristically less than 15% (unless on limestone/flint escarpments)? ☐ Yes ☐ No

DEC SECTION CONTINUES ON REVERSE SIDE

10. Is the proposed project area characteristically moderately well or well drained? ☐ Yes ☐ No

If the answers to 5, 7-10 are yes, an archeological survey should be performed by the applicant. Provide the applicant with a copy of or the link to the *State Historic Preservation Office Phase 1 Archaeological Report Format Requirements (08/05)*.

If the answer to 5 is no, but answers to 6-10 are yes, DEC must consult with OPRHP before requiring that the applicant perform an archaeological survey.

RESULTS OF EVALUATION

☐ SHPA-1 No buildings, structures or archaeological sites identified at the project location.

☐ SHPA-2 Buildings, structures or archaeological sites identified, but no impacts will occur, no survey required. No further cultural resources review required.

☐ Consultation by DEC with OPRHP required. ☐ Structures ☐ Archaeology

☐ Archaeological survey required.

Prepared by: Date:

RESET PART 2

11 Essential Fish Habitat (EFH) Worksheet

11.1 Summary of Essential Fish Habitat (EFH) Designation

10' x 10' Square Coordinates:

Boundary	**North**	**East**
Coordinate	40° 35.0' N	73° 34.0' E

Square Description (i.e. habitat, landmarks, coastline markers): Atlantic Ocean waters

Species	**Eggs**	**Larvae**	**Juveniles**	**Adults**
Red Hake *(Urophycis chuss)*				X
Winter Flounder *(Pseudopleuronectes americanus)*	X	X	X	X
Windowpane Flounder *(Scophthalmus aquosus)*	X	X	X	X
Atlantic Herring *(Clupea harengus)*			X	X
Monkfish *(Lophius americanus)*	X	X		
Bluefish *(Pomatomus saltatrix)*			X	X
Atlantic Butterfish *(Peprilus*			X	

triacanthus)				
Atlantic Mackerel *(Scomber scombrus)*	X	X	X	X
Summer Flounder *(Paralichthys dentatus)*			X	X
Scup *(Stenotomus chrysops)*			X	X
Black Sea Bass *(Centropristis striata)*			X	X
Spiny Dogfish *(Squalus acanthias)*				X
Sandbar Shark *(Carcharhinus plumbeus)*			X	X
Little Skate (*Leucoraja erinacea*)			X	X
Winter Skate (*Leucoraja ocellata*)			X	X
Bluefin Tuna			X	
Skipjack Tuna				X
Smoothhound Shark Complex (Atlantic Stock)	X	X	X	X
Ocean Pout	X			X
Atlantic Cod				X
Pollock			X	
Yellowtail Flounder				X
White Hake			X	

The notation "X" in a table indicates that EFH has been designated within the square for a given species and life stage.

11.2 EFH Worksheet for Federal Agencies

PROJECT NAME: Lido Beach/Pt. Lookout Shoreline Stabilization & Revetment
DATE: August 6, 2018
LOCATION: Point Lookout, New York
PREPARER: Marcieli Bartlow, COWI NA

Step 1. Use the Habitat Conservation Division EFH webpage, Guide to Essential Fish Habitat Designations in the Northeastern United States to generate the list of designated EFH for federally-managed species for the geographic area of interest (http://www.nero.noaa.gov/hcd/index2a.htm) Use the species list as part of the initial screening process to determine if EFH for those species occurs in the vicinity of the proposed action. Attach that list to the worksheet because it will be used in later steps. Make a preliminary determination on the need to conduct an EFH Consultation.

1. INITIAL CONSIDERATIONS		
EFH Designations	**Yes**	**No**
Is the action located in or adjacent to EFH designated for eggs?	X	
Is the action located in or adjacent to EFH designated for larvae?	X	
Is the action located in or adjacent to EFH designated for juveniles?	X	
Is the action located in or adjacent to EFH designated for adults?	X	
Is the action located in or adjacent to EFH designated for spawning adults?	X	
If you answered no to all questions above, then EFH consultation is not required -go to Section 5. If you answered yes to any of the above questions proceed to Section 2 and complete remainder of the worksheet.		

Step 2. In order to assess impacts, it is critical to know the habitat characteristics of the site before the activity is undertaken. Use existing information, to the extent possible, in answering these questions. Please note that, there may be circumstances in which new information must be collected to appropriately characterize the site and assess impacts.

2. SITE CHARACTERISTICS	
Site Characteristics	**Description**
Is the site intertidal, sub-tidal, or water column?	Intertidal and sub-tidal.
What are the sediment characteristics?	Grey sand and trace silt.
Is Habitat Area of Particular Concern (HAPC) designated at or near the site? If so what type, size, characteristics?	No, there is no HAPC located near the site.
Is there submerged aquatic vegetation (SAV) at or adjacent to project site? If so describe the spatial extent.	No, there is no SAV at or adjacent to the site.
What is typical salinity and temperature regime/range?	21 to 35 Practical Salinity Units (PSU). Water temperature ranges from 28^0 F. to 82^0 F.
What is the normal frequency of site disturbance, both natural and man-made?	Daily disturbance from tidal currents and minor vessel traffic moving through the area.
What is the area of proposed impact (work footprint & far afield)?	All underwater activities will be confined to Zone C between the southern groin and the private property at 177 Bayside Drive. The disturbed area underwater for Zone C are the following (see Sheet 18 of the Permit Drawings): Total footprint of revetment below MHWS = 0.32 acres. This area represents planar area of the proposed revetment seaward of MHWS contour. Total area lost below MHWS = 0.31 acres. This

	area represents area of beach seaward of MHWS contour removed as a result of revetment construction. Total area gained below MHWS = 0.32 acres. This area represents total planar area created below MHWS contour (this area used to be above MHWS).

Step 3. This section is used to describe the anticipated impacts from the proposed action on the physical/chemical/biological environment at the project site and areas adjacent to the site that may be affected.

3. DESCRIPTION OF IMPACTS			
Impacts	**Y**	**N**	**Description**
Nature and duration of activity(s)			The purpose of the project is to stabilize the Jones Inlet shoreline of Point Lookout. The project site was split into three zones: Zone A - located between a private residence at 128 Mineola Avenue (tax parcel 61 A 226) and Beech Street; Zone B - located between Beech Street and the Southern Groin at Point Lookout; Zone C - located between a privately owned bulkhead in the north (tax parcel 61 57 20) and the Southern Groin at Point Lookout. The description of work performed in each zone is the following: Zones A and B - refurbishment of the existing revetment through placement of a perched revetment. Zone C - groin and derelict revetment removal, revetment construction. The construction of the revetment will be completed in 4 months (Spring/2019 to Summer/2019).
Will benthic community be disturbed?	X		The revetment construction around Zone C will possibly remove the benthic community within the area. However, recovery will be relatively rapid due to the natural conditions created by the tidal currents and waves passing through the Jones Inlet and the Reynold's Channel at the project site. Benthic disturbance will be temporary and localized.
Will SAV be impacted?		X	No, there is no SAV on site.

Will sediments be altered and/or sedimentation rates change?		X	No, sediments will not be altered.
Will turbidity increase?		X	No, turbidity is expected to decrease due to groin removal and revetment construction.
Will water depth change?		X	No, the water depth will not change.
Will contaminants be released into sediments or water column?		X	No, any sediments placed underwater will be free of contaminants.
Will tidal flow, currents or wave patterns be altered?	X		Tidal flow along Zone C will be altered due to the groin removal.
Will ambient salinity or temperature regime change?		X	No, neither the salinity nor water temperature will be altered by the proposed project.
Will water quality be altered?		X	No, the tidal currents washing the area will disperse any sediment suspension caused by the revetment construction quickly to ambient levels.

Step 4. This section is used to evaluate the consequences of the proposed action on the functions and values of EFH as well as the vulnerability of the EFH species and their life stages. Identify which species from the EFH species list (generated in Step 1) will be adversely impacted from the action. Assessment of EFH impacts should be based upon the site characteristics identified in Step 2 and the nature of the impacts described within Step 3. The Guide to EFH Descriptions webpage (http://www.nero.noaa.gov/hcd/list.htm) should be used during this assessment to determine the ecological parameters/preferences associated with each species listed and the potential impact to those parameters.

4. EFH ASSESSMENT			
Functions and Values	**Y**	**N**	**Describe habitat type, species and life stages to be adversely impacted**
Will functions and values of EFH be impacted for:			
Spawning		X	The proposed project would not adversely affect spawning of the impacted species since in-water work would be avoided during recommended time of year (TOY) restrictions.
Nursery		X	Similarly, the proposed project would not adversely affect nursery areas of the impacted species since in-water work would be avoided during recommended time of year (TOY) restrictions.
Forage		X	The project would not adversely affect the forage areas of the impacted species. Some temporary impacts would occur during construction of the in-water portions of the project; however most will be avoided during the time of year (TOY) restrictions.
Shelter		X	The open waters of the project site is unlikely to provide significant ecological value as sheltering habitat.
Will impacts be temporary or permanent?			The proposed groin removal and revetment construction will be permanent, but the impacts will be temporary, localized and minor on any functional EFH present at the site.

Will compensatory mitigation be used?		X	The proposed project will have a net balance in equilibrium between sub-tidal areas created and removed.

Step 5. This section provides the Federal agency's determination on the degree of impact to EFH from the proposed action. The EFH determination also dictates the type of EFH consultation that will be required with NOAA Fisheries.

5. DETERMINATION OF IMPACT		
		Federal Agency=s EFH Determination
Overall degree of adverse effects on EFH (not including compensatory mitigation) will be: (check the appropriate statement)		There is no adverse effect on EFH. EFH Consultation is not required.
		The adverse effect on EFH is not substantial. This is a request for an abbreviated EFH consultation. This worksheet is being submitted to NMFS to satisfy the EFH Assessment requirement.
		The adverse effect on EFH is substantial. This is a request for an expanded EFH consultation. A detailed written EFH assessment will be submitted to NMFS expanding upon the impacts revealed in this worksheet.

Step 6. Consultation with NOAA Fisheries may also be required if the proposed action results in adverse impacts to other NOAA-trust resources, such as anadromous fish, shellfish, crustaceans, or their habitats. Some examples of other NOAA-trust resources are listed below. Inquiries regarding potential impacts to marine mammals or threatened/endangered species should be directed to NOAA Fisheries' Protected Resources Division.

6. OTHER NOAA-TRUST RESOURCES IMPACT ASSESSMENT	
Species known to occur at site (list others that may apply)	**Describe habitat impact type (i.e., physical, chemical, or biological disruption of spawning and/or egg development habitat, juvenile nursery and/or adult feeding or migration habitat).**
Alewife	n/a
American eel	n/a
American shad	n/a
Blueback herring	n/a
Rainbow smelt	n/a
Atlantic sturgeon	n/a
Atlantic menhaden	n/a
American lobster	n/a
Blue mussels	n/a
Soft-shell clams	n/a
Northern quahog	n/a
Other species:	

Attachment 11

Agricultural and NRCS Soil Resource Documents

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

New York State Agricultural District Map (2018)

Legend

- Approximate Project Areas
- NY Agricultural Districts

Created: 6/20/2019
Data Sources: NYS Agricultural District Map data provided by Cornell University Geospatial Information Repository.
http://cugir.mannlib.cornell.edu/datatheme.jsp?id=2

Tectonic

1:35,000
0 1,800 3,600 7,200 Feet

Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau County, New York

United States Department of Agriculture

NRCS

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 Nassau County, New York

July 17, 2019

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.

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Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map (Point Lookout).....9
Legend.....10
Map Unit Legend (Point Lookout).....11
Map Unit Descriptions (Point Lookout).....11
Nassau County, New York.....13
Bc—Beaches.....13
HDR—Hooksan-Dune land complex, 3 to 15 percent slopes.....13
UdA—Udipsamments, nearly level.....15
Ug—Urban land.....16
Uu—Urban land-Udipsamments complex.....17
W—Water.....18
Soil Information for All Uses.....19
Suitabilities and Limitations for Use.....19
Land Classifications.....19
Farmland Classification (Point Lookout).....19
References.....25

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 (Point Lookout)

Map Scale: 1:5,880 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

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 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
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: Nassau County, New York
Survey Area Data: Version 15, 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 (Point Lookout)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Bc	Beaches	3.7	8.3%
HDR	Hooksan-Dune land complex, 3 to 15 percent slopes	12.5	28.4%
UdA	Udipsamments, nearly level	3.3	7.5%
Ug	Urban land	0.9	2.1%
Uu	Urban land-Udipsamments complex	2.9	6.5%
W	Water	20.8	47.2%
Totals for Area of Interest		**44.1**	**100.0%**

Map Unit Descriptions (Point Lookout)

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.

Nassau County, New York

Bc—Beaches

Map Unit Setting

National map unit symbol: 9tsk
Elevation: 0 to 100 feet
Mean annual precipitation: 42 to 46 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 190 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Beaches: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Beaches

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydric soil rating: Unranked

HDR—Hooksan-Dune land complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2x1kt
Elevation: 0 to 90 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hooksan and similar soils: 50 percent
Dune land: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hooksan

Setting

Landform: Dunes
Landform position (two-dimensional): Backslope, shoulder, footslope, summit
Landform position (three-dimensional): Crest, base slope, side slope
Down-slope shape: Convex
Across-slope shape: Convex, linear
Parent material: Sandy eolian deposits

Typical profile

C1 - 0 to 20 inches: sand

C2 - 20 to 30 inches: sand
C3 - 30 to 64 inches: sand

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (14.17 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Hydric soil rating: No

Description of Dune Land

Setting

Landform: Dunes
Landform position (two-dimensional): Summit, backslope, shoulder, footslope
Landform position (three-dimensional): Side slope, base slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy eolian deposits

Properties and qualities

Slope: 3 to 15 percent
Runoff class: Very low
Frequency of flooding: Rare

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: Unranked

Minor Components

Beaches

Percent of map unit: 10 percent
Landform: Beaches
Landform position (three-dimensional): Riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Hydric soil rating: Unranked

Succotash

Percent of map unit: 5 percent
Landform: Barrier flats, dunes, spits
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Linear, concave

Across-slope shape: Linear
Hydric soil rating: No

Matunuck

Percent of map unit: 5 percent
Landform: Tidal marshes
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Tidal Salt Low Marsh mesic very frequently flooded (R144AY001CT), Tidal Salt High Marsh mesic very frequently flooded (R144AY002CT)
Hydric soil rating: Yes

UdA—Udipsamments, nearly level

Map Unit Setting

National map unit symbol: 9ttn
Mean annual precipitation: 42 to 46 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 190 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Udipsamments, nearly level, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udipsamments, Nearly Level

Typical profile

H1 - 0 to 72 inches: coarse sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 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 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Hempstead
Percent of map unit: 2 percent
Hydric soil rating: No

Sudbury
Percent of map unit: 2 percent
Hydric soil rating: No

Plymouth
Percent of map unit: 2 percent
Hydric soil rating: No

Montauk
Percent of map unit: 2 percent
Hydric soil rating: No

Riverhead
Percent of map unit: 2 percent
Hydric soil rating: No

Ug—Urban land

Map Unit Setting
National map unit symbol: 9ttq
Mean annual precipitation: 42 to 46 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 190 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition
Urban land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Enfield
Percent of map unit: 2 percent
Hydric soil rating: No

Riverhead
Percent of map unit: 2 percent
Hydric soil rating: No

Hempstead
Percent of map unit: 2 percent
Hydric soil rating: No

Udipsamments
Percent of map unit: 2 percent

Hydric soil rating: No

Udorthents

Percent of map unit: 2 percent
Hydric soil rating: No

Uu—Urban land-Udipsamments complex

Map Unit Setting

National map unit symbol: 9tv3
Mean annual precipitation: 42 to 46 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 190 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 70 percent
Udipsamments and similar soils: 25 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udipsamments

Typical profile

H1 - 0 to 72 inches: coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 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 3.6 inches)

Minor Components

Riverhead

Percent of map unit: 3 percent
Hydric soil rating: No

Sudbury

Percent of map unit: 2 percent
Hydric soil rating: No

W—Water

Map Unit Setting

National map unit symbol: 9tv7
Mean annual precipitation: 42 to 46 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 190 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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.

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 (Point Lookout)

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 (Point Lookout)

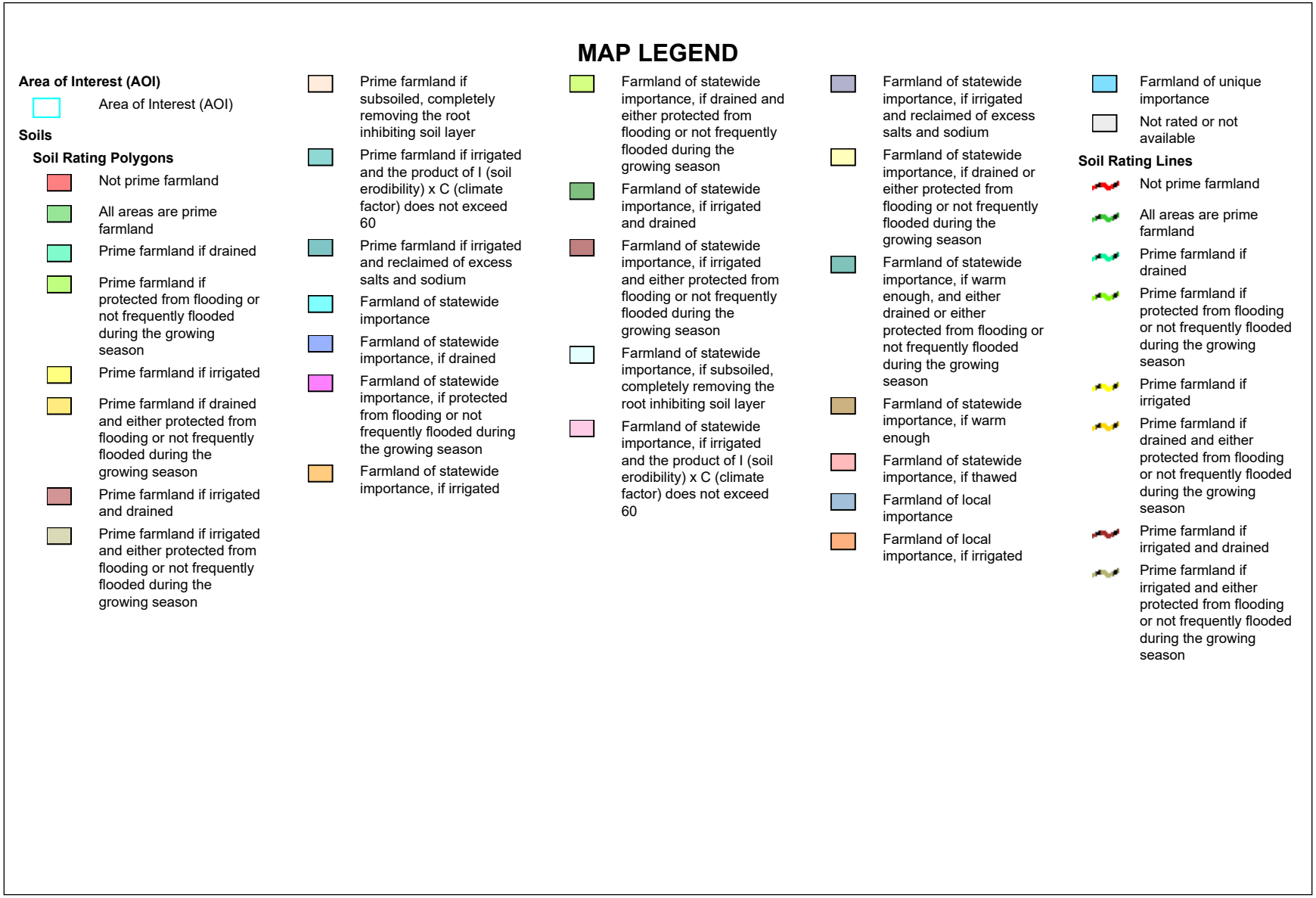
Map Scale: 1:5,880 if printed on A portrait (8.5" x 11") sheet.

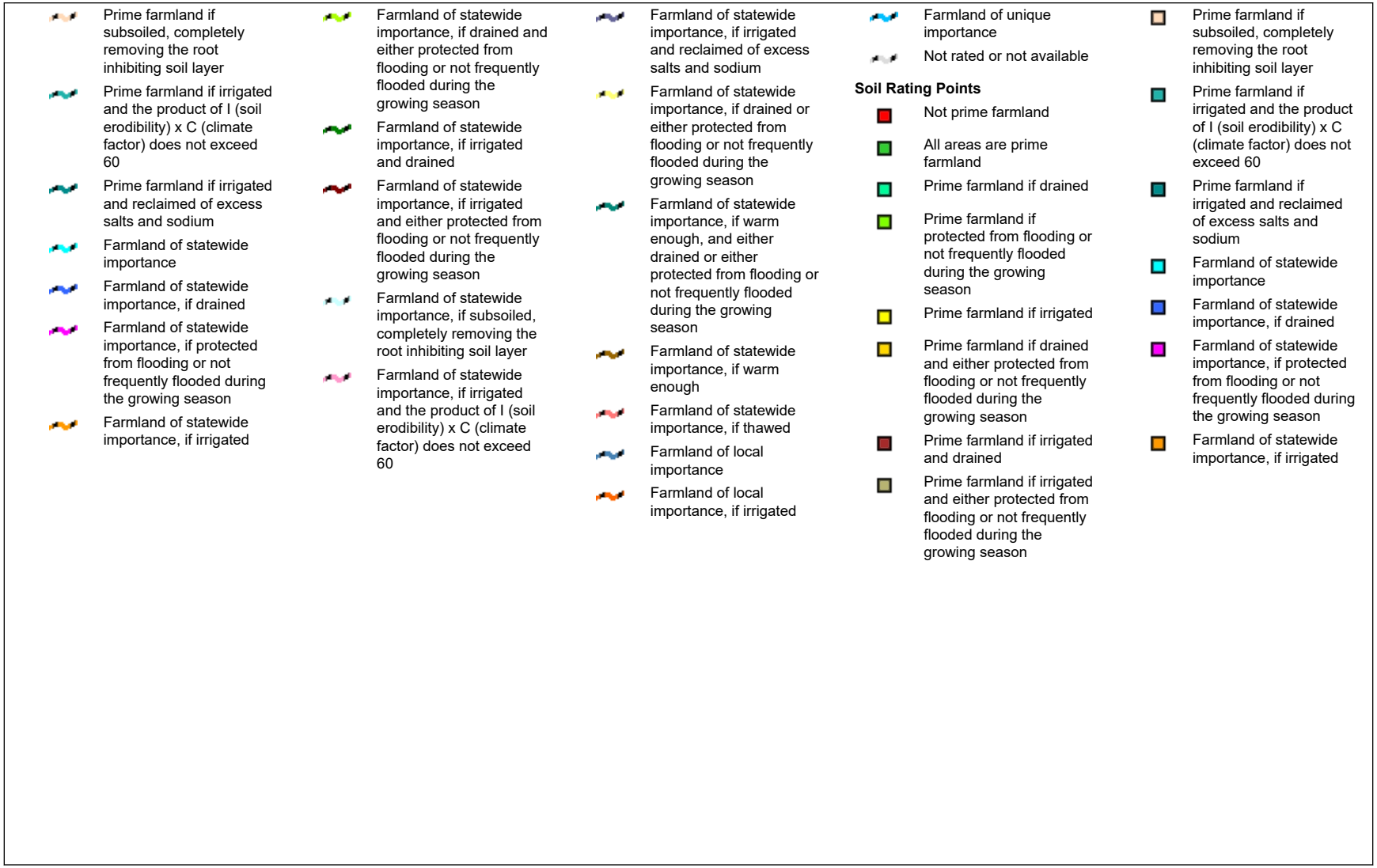
N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

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 statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
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 statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
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 statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

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

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
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: Nassau County, New York
Survey Area Data: Version 15, 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.

Table—Farmland Classification (Point Lookout)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Bc	Beaches	Not prime farmland	3.7	8.3%
HDR	Hooksan-Dune land complex, 3 to 15 percent slopes	Not prime farmland	12.5	28.4%
UdA	Udipsamments, nearly level	Not prime farmland	3.3	7.5%
Ug	Urban land	Not prime farmland	0.9	2.1%
Uu	Urban land-Udipsamments complex	Not prime farmland	2.9	6.5%
W	Water	Not prime farmland	20.8	47.2%
Totals for Area of Interest			**44.1**	**100.0%**

Rating Options—Farmland Classification (Point Lookout)

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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Attachment 12

SHPO Documentation

SHPO Response

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

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

September 20, 2018

Mrs. Kim Croshier
Sr. Environmental Scientist
Tectonic Engineering & Surveying Consultants P.C.
70 Pleasant Hill Rd
Mountainville, NY 10953

Re: HUD
Lido Beach/Point Lookout Shoreline Stabilization and Revetment Project
128 MIneola, Point Lookout, NY 11569
18PR06114

Dear Mrs. Croshier:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project 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 potential 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 upon this review, the New York SHPO has determined that no historic properties will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Michael F. Lynch, P.E., AIA
Director, Division for Historic Preservation

Attachment 13

US EPA Sole Source Aquifer Documents

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

EPA Sole Source Aquifer Map

Tectonic

1:25,000

0 1,300 2,600 5,200 Feet

Point Lookout Shoreline Stabilization & Revetment Project
Point Lookout Beach District Park
Hamlet of Point Lookout, Town of Hempstead
Nassau 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. 2141
Date:	August 18, 2019