

U.S. Army Corps
of Engineers
New York District

**US Army Corps of Engineers
New York State Department of Environmental Conservation
Village of Asharoken**



PUBLIC INFORMATION MEETING

**North Shore of Long Island, Asharoken, New York
Coastal Storm Risk Management Project**

Hurricane Sandy Draft Feasibility Report & Draft Environmental Assessment



6:30 – 7:30

7:30 – 7:40

7:40 – 8:00

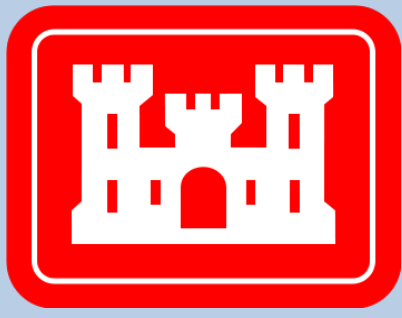
8:00

Poster Board Viewing

Non-Federal Local Sponsor Remarks

US Army Corps of Engineers Presentation

Question and Comment Period



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New York District

**US Army Corps of Engineers
New York State Department of Environmental Conservation
Village of Asharoken**



PUBLIC INFORMATION MEETING

Meeting Purpose

The National Environmental Policy Act (NEPA) provides for public involvement and ensures that public officials consider the environmental effects of proposed actions and alternatives in order to foster better decision-making. An Environmental Assessment (EA) has been prepared to evaluate this federal action.

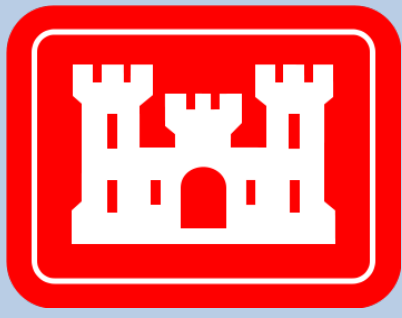
The purpose of this meeting is to provide key information contained in the Draft EA to the public and to receive public comments on the Draft EA.

The Draft Environmental Assessment is open for public comment through January 29, 2016.

Please address your comments to:

**US Army Corps of Engineers – New York District
Attn: Mr. Howard Ruben
26 Federal Plaza, Room 2151
New York, NY 10278
howard.ruben@usace.army.mil**

Public comment cards are available at this Information Meeting



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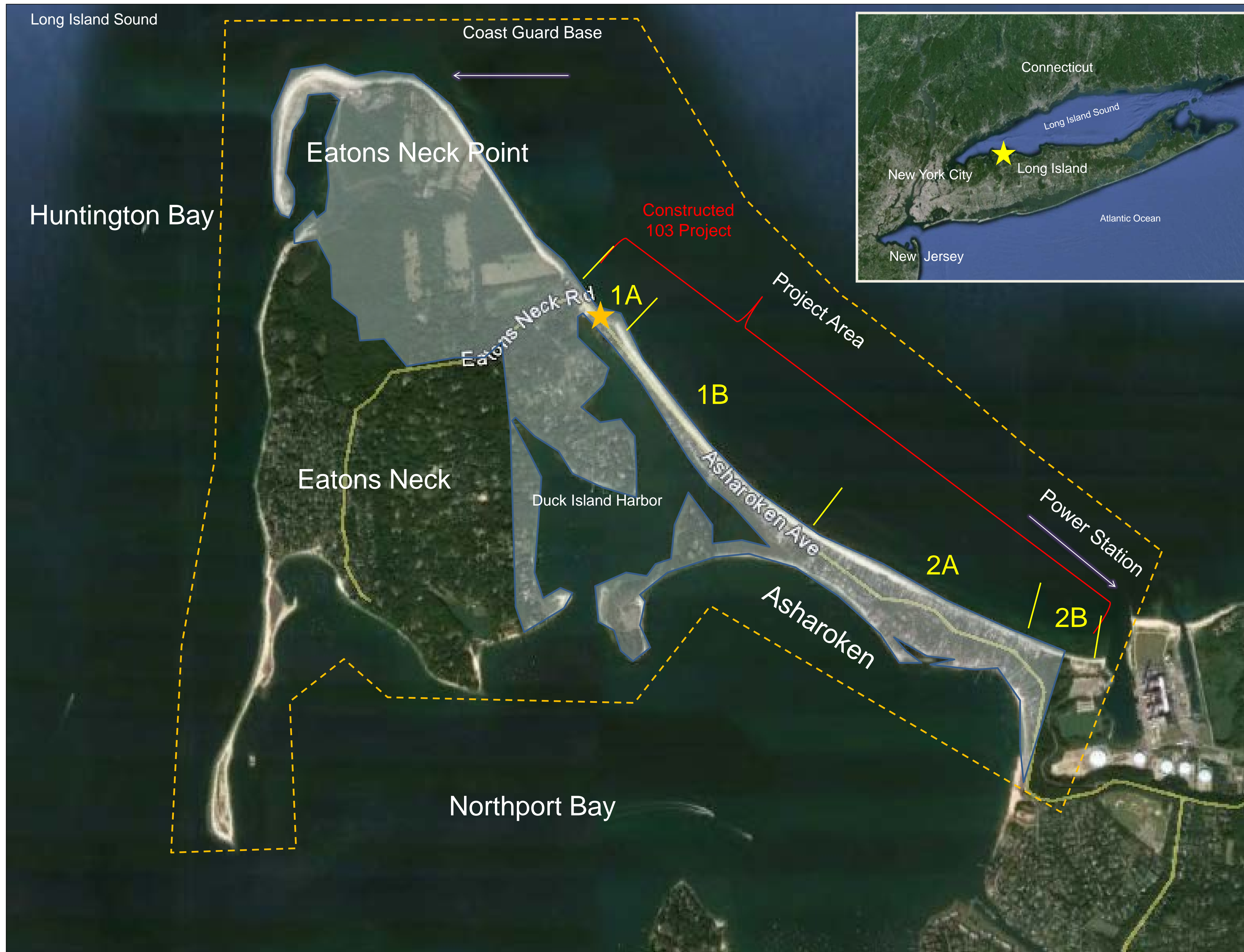
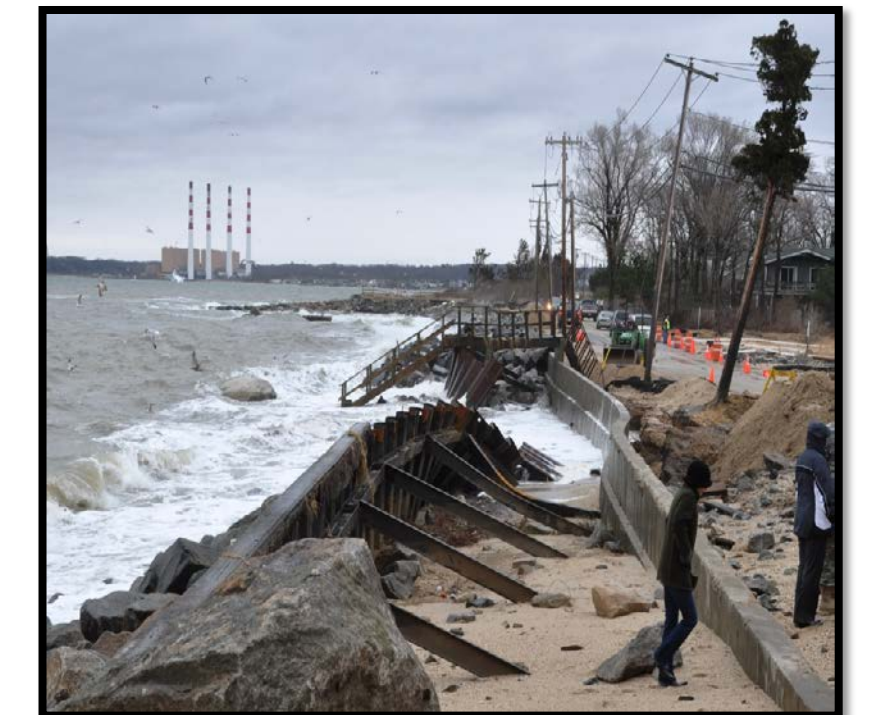
Study Area

North Shore of Long Island, Asharoken, New York
Coastal Storm Risk Management Study



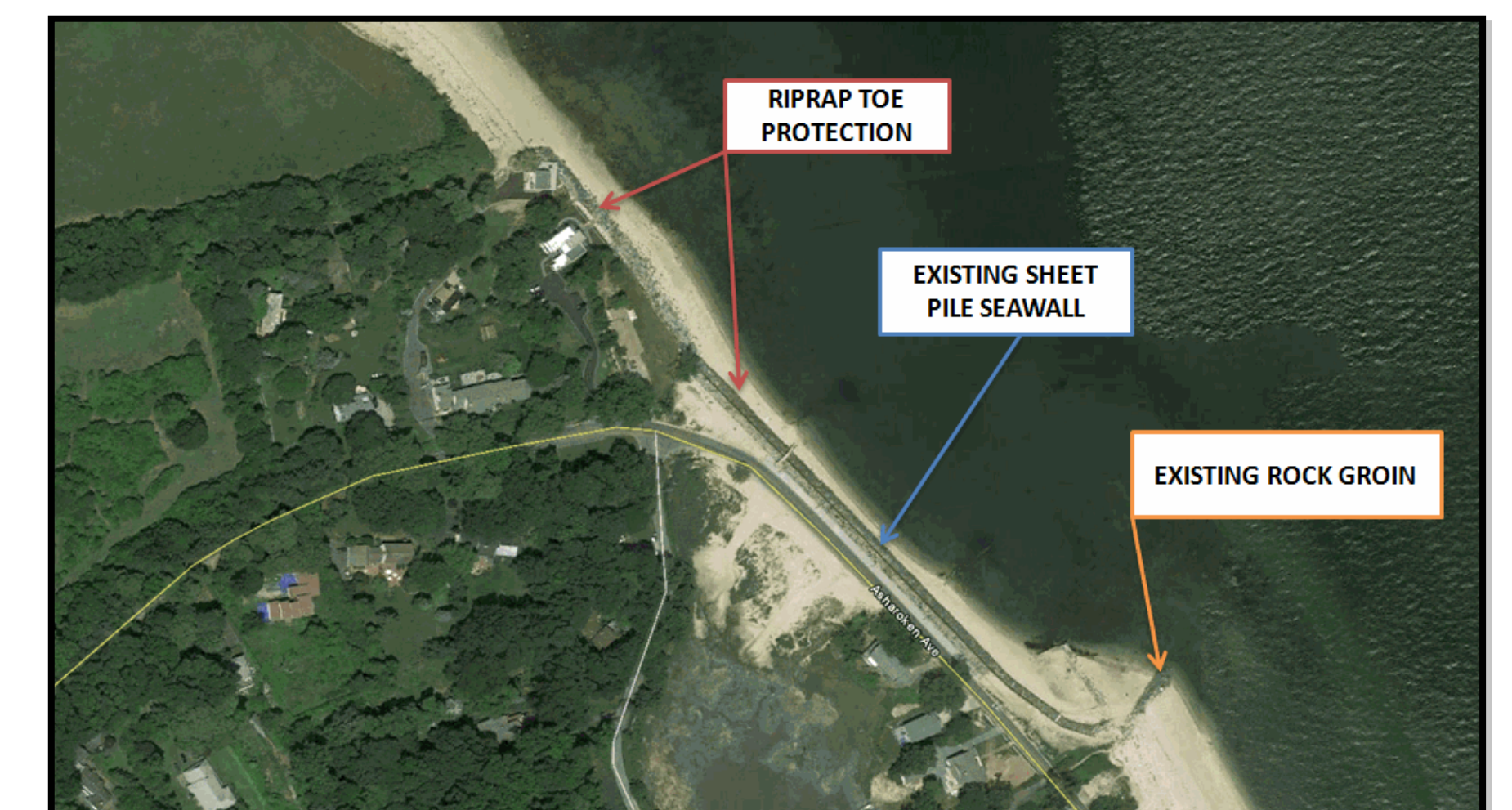
The study area encompasses the Village of Asharoken:

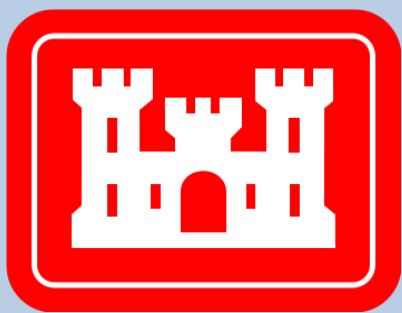
- Bordered by Huntington Bay, Northport Bay, Eaton's Neck, and Long Island Sound.
- Asharoken Avenue provides the only land access to Eaton's Neck and western parts of the Village.
- Northport Power Station is located south of the Village boundary.



★ Existing Section 103 Project (Asharoken Seawall)

- Project was constructed in 1997.
- Designed and evaluated to bridge the gap until a larger plan could be implemented.
- Project includes a “reinforced dune,” shallow-depth sheet pile with tie-back structure, fronted with armor stone.
- When the project was designed it was evaluated with a 100-foot-wide fronting beach.
- Significant erosion has occurred since construction (waves now break directly on structure).
- Past storm events have repeatedly exceeded project design level, significantly damaging the project and Asharoken Avenue.
- Repairs were made in 2010, 2011 and 2012.
- Project is subject to damages by 10-year event.
- With continued erosion, future project damages could occur at a 5-year storm event.
- Overtopping and periods of road closure occur throughout the year.





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Problem Identification

North Shore of Long Island, Asharoken, New York
Coastal Storm Risk Management Study



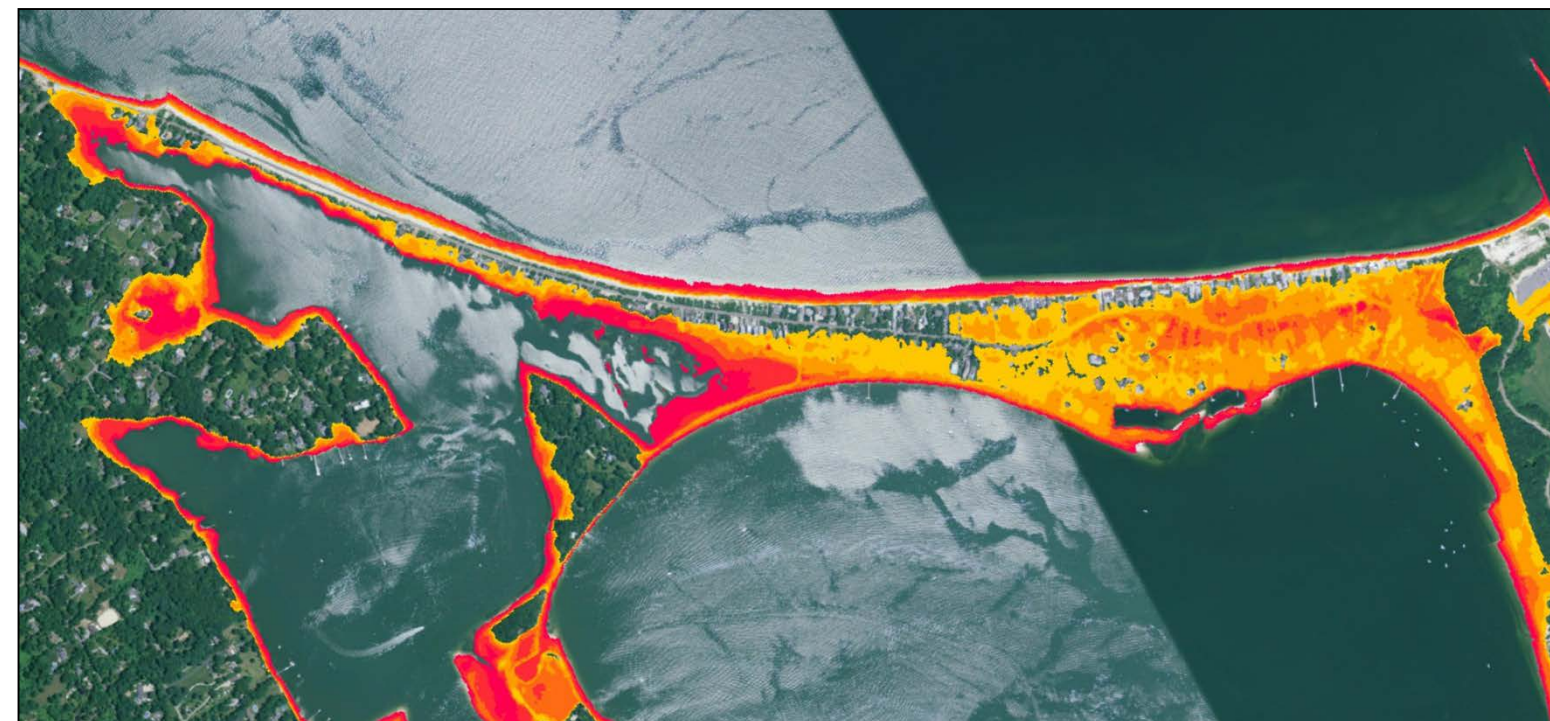
The Village of Asharoken experiences moderate to severe beach erosion on the Long Island Sound shore.

The **problems** in the study area have been identified as:

- i. Damage to structures (including buildings, and existing coastal structures) caused by:
 - Wave attack (including run up and overtopping of dunes and bulkheads)
 - Storm surge inundation (Long Island Sound and Northport Bay)
 - Long-term erosion
 - Storm recession
- ii. Disruption to Asharoken Avenue due to storm-induced wave attack, erosion, and flooding, closing the only route to and from the Village of Asharoken and Eaton's Neck.



Storm surge concentrated on the western critical erosion area.



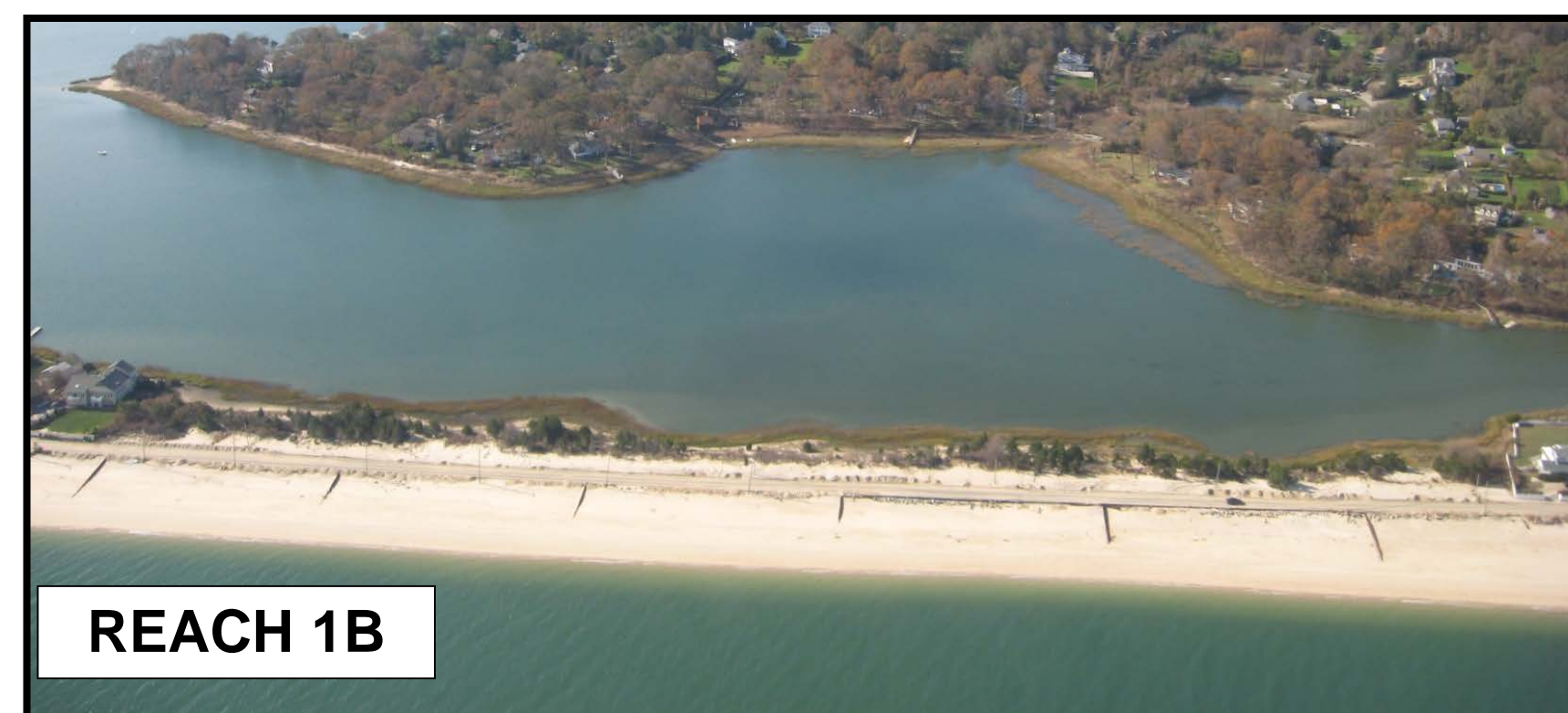
Inundation Mapping shows Asharoken Avenue disruption.

Sediment Budget and Erosion

The jetties by the Northport Basin located in the Long Island Power Authority (LIPA) Northport Power Station have contributed to the long-term erosion problems west of the west jetty, although coastal effects from Long Island Sound dominate the erosion processes along the entire downdrift coastline.



REACH 2A

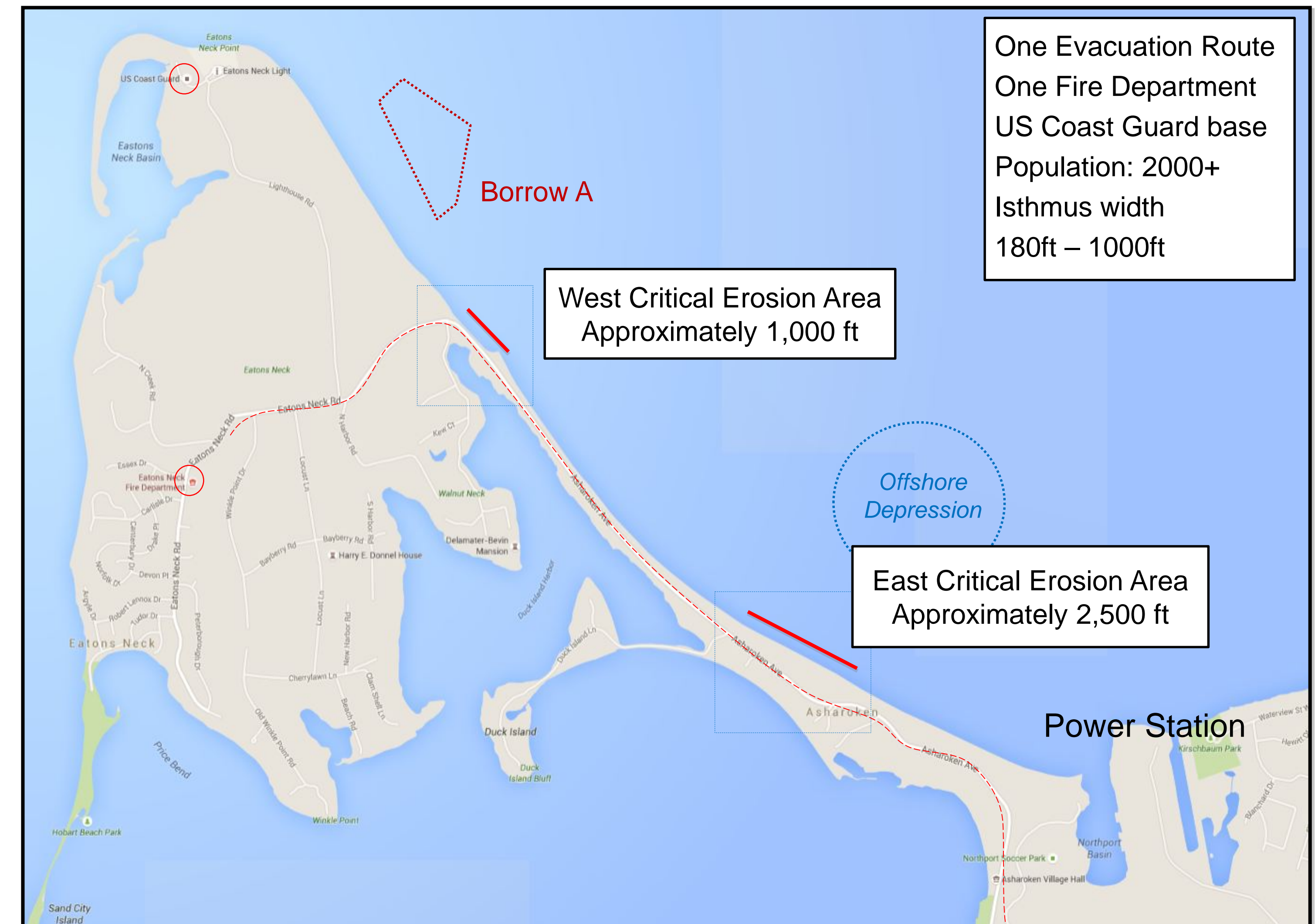


REACH 1B



REACH 1A

Critical Areas and Infrastructure



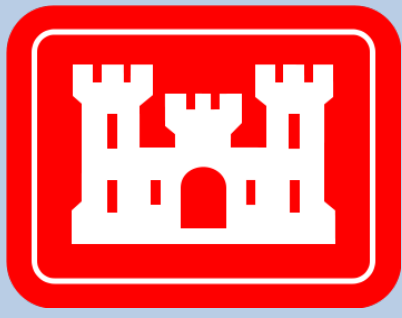
One Evacuation Route
One Fire Department
US Coast Guard base
Population: 2000+
Isthmus width
180ft – 1000ft

West Critical Erosion Area
Approximately 1,000 ft

East Critical Erosion Area
Approximately 2,500 ft

No action will result in continued:

- Financial losses from storm, erosion and wave attack damages to property and infrastructure.
- Beach erosion at rate of 10 feet per year in east and west critical erosion areas.
- Threats to life and safety from flood induced disruptions to Asharoken Avenue.



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Preliminary Screening of Alternatives

North Shore of Long Island, Asharoken, New York
Coastal Storm Risk Management Study



The following tables describe the alternatives considered when selecting the plan. The preliminary screening shows the full array of measures considered. The detailed evaluation of alternatives shows the alternative plans that were evaluated further to arrive at the tentatively selected plan (TSP).

Preliminary Screening Measures

Measure	Screening	Reason for Consideration/Elimination
Buy-Outs	Eliminated	Not Cost effective (100 houses, 50M)
Zoning	Eliminated	Not effective for existing structures
Retrofitting	Eliminated	Not effective for most structures facing L.I. Sound which are subject to erosion and wave attack.
Relocation	Eliminated	Not Cost Effective
Floodwalls and Levees	Eliminated	Not effective against erosion and wave attack
Beach Nourishment	Carried Forward	Cost Effective (12,400 ft length; 22M)
Reinforced Dune with Beach Nourishment	Carried Forward	Cost Effective (12,400 ft length; 43M)
Bulkhead or Bulkhead with Raised Dune	Eliminated	Not recommended because of frequent maintenance
Groins with Beach Fill	Eliminated	Not Cost Effective (24 groins; 45M)
Localized Groins with Beach Nourishment	Carried Forward	Cost Effective
Offshore Breakwater with Beach Fill	Eliminated	Not Cost Effective (10 breakwater segments; 50M)
Sand Bypassing	Eliminated	Not effective to reduce storm damage risk. Limited updrift supply of material available..
Installation of a Diffusion Pipe	Eliminated	Not effective as jetties and intake channel form an effective littoral blockage
Modification of the Jetties	Eliminated	Not effective as storm damage reduction measures. Would adversely impact power plant operations.
Dredging the Updrift Fillet Areas	Eliminated	Not Cost Effective
Causeway	Eliminated	Not Cost Effective
Road Raising	Eliminated	Not Cost Effective, Incomplete Solution
Road Raising with beachfill	Eliminated	Not Cost Effective

Detailed Analysis of Alternatives

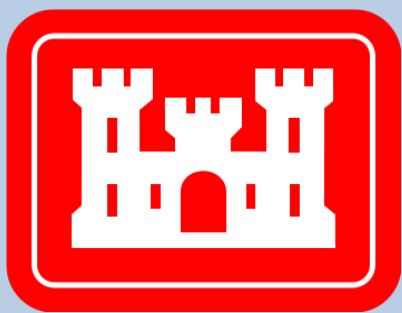
	WEST	1A	1B	2A	2B	EAST
1	Dune and Beachfill					
2	Reinforced Dune and Beachfill					
3A	Reinforced Dune and Beachfill			Beachfill		
3B	Beachfill			Reinforced Dune and Beachfill		
4	Groin Field	Beachfill				
5	Groin Field	Beachfill		Groin Field	Beachfill	

Asharoken, Long Island, New York

	Alternative 1 Beachfill Only	Alternative 2 Beachfill and Buried Seawall-full shoreline	Alternative 3 Beachfill and Buried Seawall-half shoreline	Alternative 4 Beachfill with West Groins	Alternative 5 Beachfill with West and East Groins
Initial Fill Volume (CY)	600,000	375,000	450,000	600,000	600,000
Coastal Structures	n/a	buried seawall	partial buried seawall	3 rock groins	11 rock groins
Nourishment (cy/period)	60,000 cy/3 yrs	200,000 cy/10 yrs	200,000 cy/10 yrs	80,000 cy/5 yrs	100,000 cy/10 yrs
Total Nourishment in 50yrs	1,000,000 cy	1,000,000 cy	1,000,000 cy	800,000 cy	500,000 cy
COSTS					
Initial Construction Cost	\$21,552,000	\$66,931,000	\$45,940,000	\$23,665,000	\$32,426,000
Annualized Initial Constr.	\$734,000	\$2,310,000	\$1,579,000	\$806,000	\$1,114,000
Annual Nourishment Cost	\$1,143,000	\$997,000	\$997,000	\$883,000	\$504,000
Annualized Monitoring Cost	\$50,000	\$50,000	\$50,000	\$50,000	\$93,000
Annual OMRR Cost	\$147,000	\$353,000	\$259,000	\$156,000	\$196,000
Total Annual Cost	\$2,074,000	\$3,710,000	\$2,885,000	\$1,895,000	\$1,907,000
Annual Damage Benefits	\$2,570,900	\$2,570,900	\$2,570,900	\$2,570,900	\$2,570,900
Net Benefit:	\$496,900	-\$1,139,100	-\$314,100	\$675,900	\$663,900
Benefit/Cost Ratio:	1.24	0.69	0.89	1.36	1.35

The Tentatively Selected Plan is identified as Alternative 4. The TSP is subject to change based upon public and agency review.

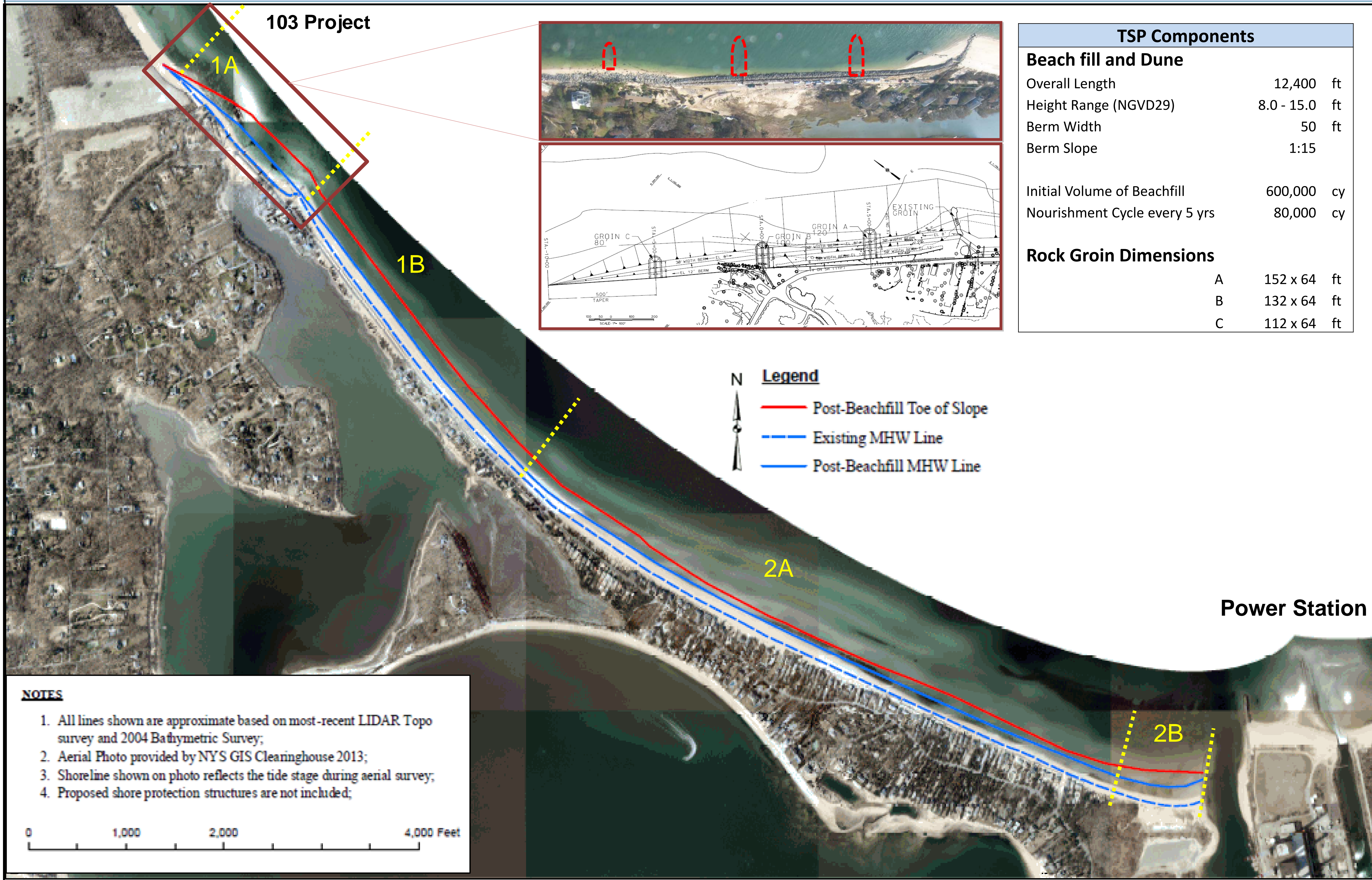
- Alt 4 has the lowest total cost and lowest Federal costs over project life
- Alt 1 has the lowest first costs
- Lifecycle costs of alternatives very similar



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Tentatively Selected Plan Overview

North Shore of Long Island, Asharoken, New York
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TSP Components		
Beach fill and Dune		
Overall Length	12,400	ft
Height Range (NGVD29)	8.0 - 15.0	ft
Berm Width	50	ft
Berm Slope	1:15	
Initial Volume of Beachfill	600,000	cy
Nourishment Cycle every 5 yrs	80,000	cy
Rock Groin Dimensions		
A	152 x 64	ft
B	132 x 64	ft
C	112 x 64	ft

Legend

N

— Post-Beachfill Toe of Slope

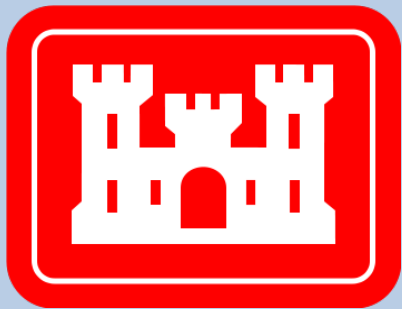
- - - Existing MHW Line

— Post-Beachfill MHW Line

NOTES

1. All lines shown are approximate based on most-recent LIDAR Topo survey and 2004 Bathymetric Survey;
2. Aerial Photo provided by NYS GIS Clearinghouse 2013;
3. Shoreline shown on photo reflects the tide stage during aerial survey;
4. Proposed shore protection structures are not included;

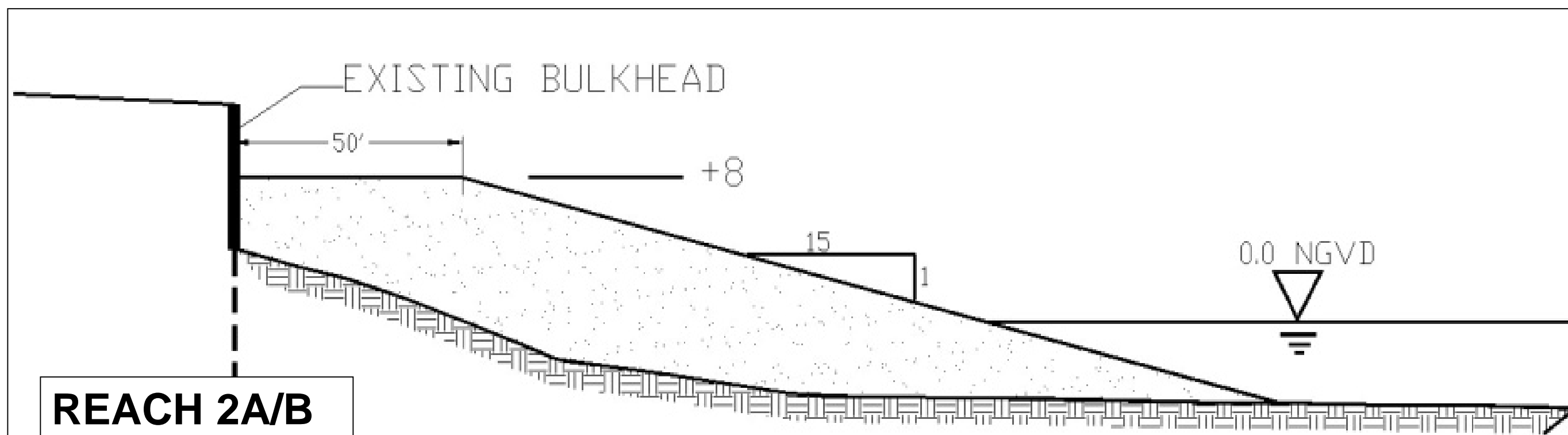
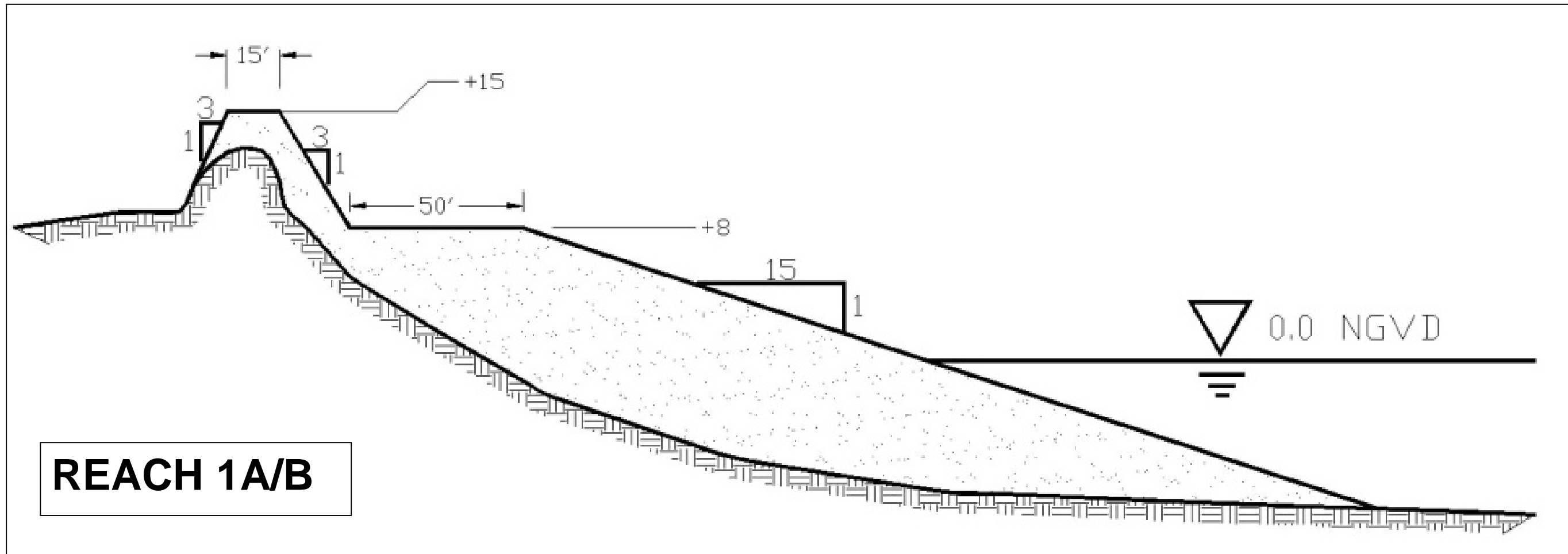
0 1,000 2,000 4,000 Feet



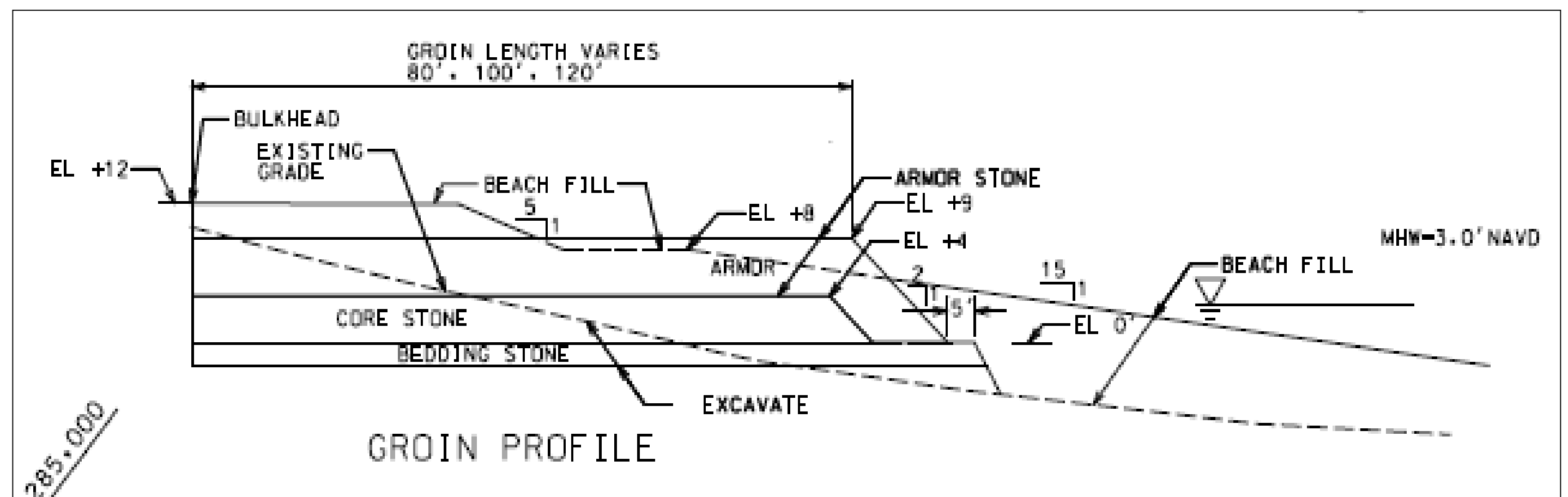
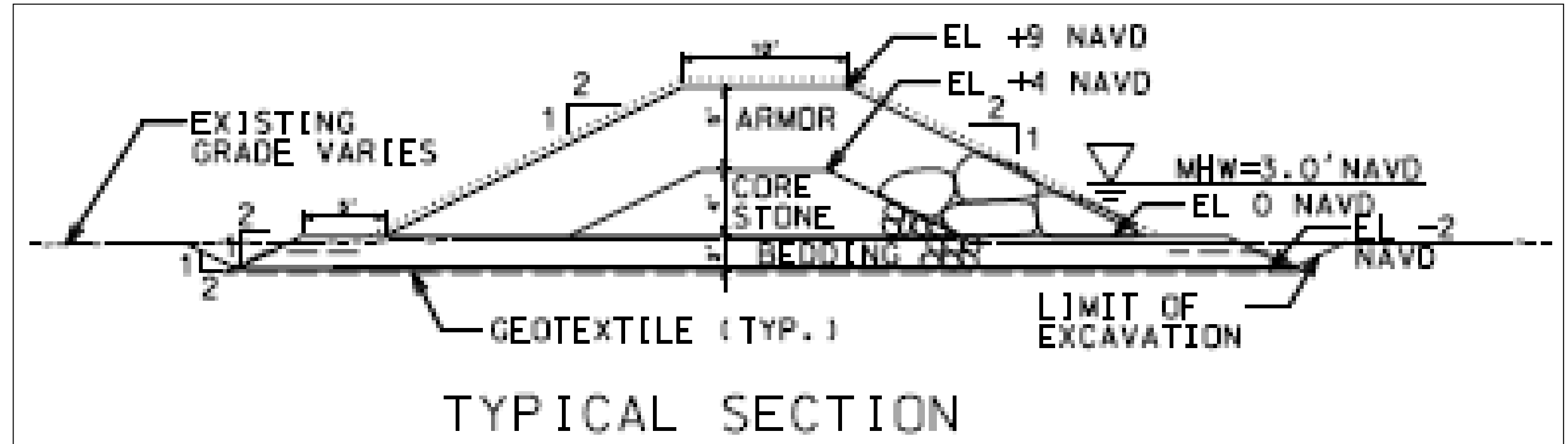
Plan Elements



Dune and Beach Fill Component



Groin Component



Project performance varies by reach and over time:

Under continued historic Sea Level Rise projections:

Reach 1 – reduces damages up to a 200-year storm event.

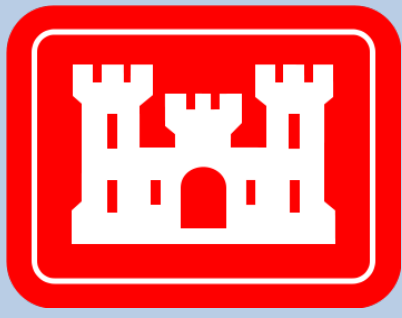
Reach 2 – reduces damages up to a 50-year storm event.

With 0.4 ft of Sea Level Rise (over 50 years):

Reach 1 – reduces damages up to a 100-year storm event.

Reach 2 – reduces damages up to a 50-year storm event.

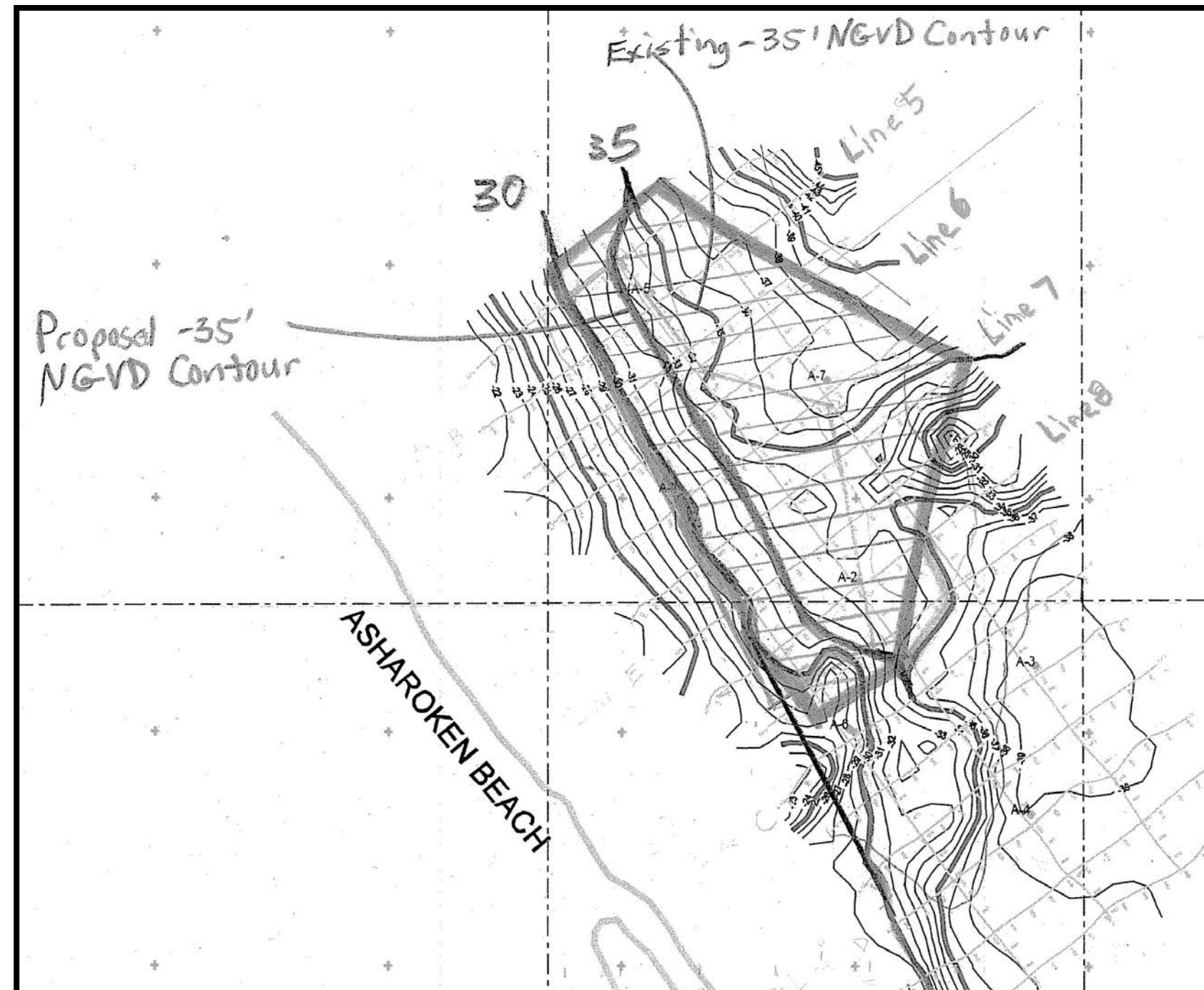
- 12,400 linear feet of beach berm and dune fill, from intersection of Bevin Road and Asharoken Avenue south, east to the west jetty of the power facility's inlet basin.
- Dune height at elevation +15 ft NGVD29 with a 15 ft dune crest width, landward and seaward dune slopes of 1V:3H (Reach 1A/1B).
- 50 ft berm width at elevation +8 ft NGVD29 and a foreshore slope of 1V:15H to the existing bottom (Reach 2A/2B).



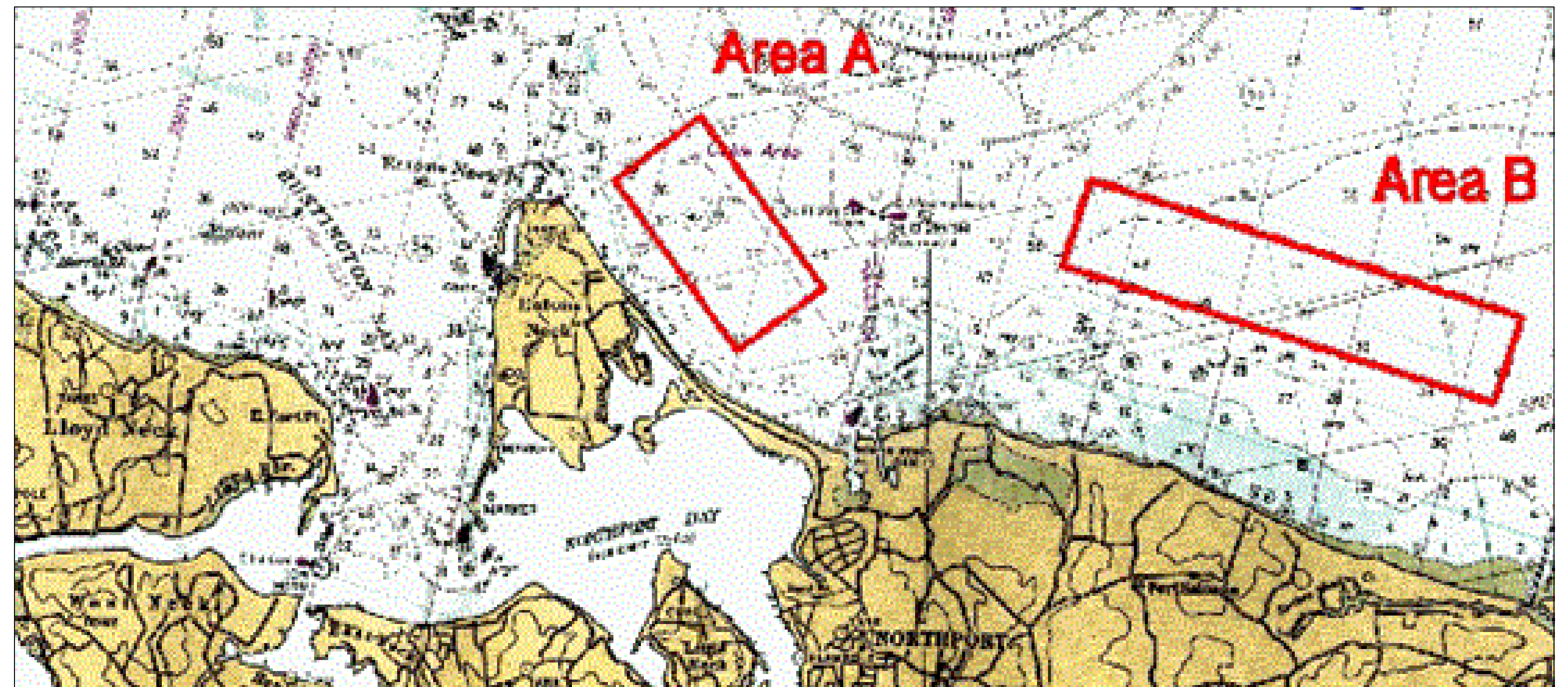
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Offshore Borrow Area

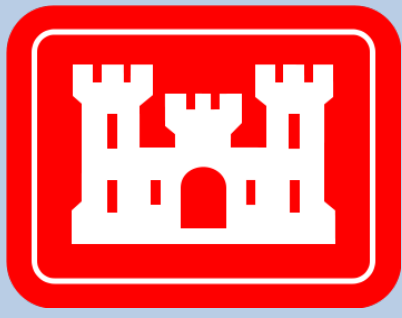
North Shore of Long Island, Asharoken, New York
Coastal Storm Risk Management Study



- Borrow area usage in Long Island Sound will balance sand needs, and environmental impacts associated with dredging.
- The offshore sand borrow source will be used only for initial beach fill as previously coordinated with NYSDEC Region 1.
- The costs of upland sand for renourishment is less expensive than the cost of borrow area sand, based upon volume required and expected mobilization and demobilization costs.



Borrow Location/ Potential Volume	Distance from Project Site	Method of Construction for Dredging/Transportation
Asharoken Offshore Borrow Area A 3.75 million cubic yards (Recommended)	2 miles	Cutterhead pipeline dredge
Asharoken Offshore Borrow Area B 0.8 million cubic yards (Alternative Site)	5 miles	3,000 cy hopper dredge with booster pump
Upland Long Island Horan Sand and Gravel (Renourishment Source)	20 miles	Trucked to site
Upland Long Island Ranco Sand and Stone (Renourishment Source)	40 miles	Trucked to Site



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Environmental Considerations



Unavoidable, Permanent, Minimal & Temporary Impacts

Geology, Topography, Soils: Offshore dredging and removal of 600,000 cy sand and subsequent placement on Asharoken Beach. Beach/berm elevation increase from 8-15, dredge site average depth change -35' to -45'. Approximately 55 ac of offshore bottom disturbed, @ 75 ac of intertidal and littoral buried. Dredging window October – January 15. Three (tapering) groins will be constructed at the western end of the project beach. Collectively they will cover 0.58 ac of beach and intertidal area. Groin construction will proceed from October until March.

Land Use and Transportation: Project implementation will not change traditional accepted land use in or around the project site. Construction may temporarily increase traffic congestion due to road closures or detours to accommodate project construction.

Fish and Benthic Invertebrates: Dredging and placement will impact fish and benthic organisms at both action areas. Mobile species will be displaced to adjacent areas, slow-moving species including many benthic invertebrates, small demersal early life history stages of some fish and sessile (non-moving) invertebrates will be entrained by the dredge or buried by the fill, respectively. Most organisms entrained or buried will be lost. Affected offshore and intertidal/ nearshore areas are expected to fully recover, ecologically, within 1 to 2 years.

Wildlife: Construction of the project will disturb some wildlife which will be displaced to adjacent areas. Impacts to small mammals related to vehicle contact may increase due to the localized increase in vehicle and equipment movement.

Vegetation: Movement and storage of equipment and placement of fill sand may eliminate some existing beach vegetation.

Water Quality: No significant impacts to water quality are expected. Dredging and placement will create temporary localized increases in turbidity on the order of 100s out of meters from the work area for the duration of construction.

Noise and Air Quality: For the duration of project construction, there will be an increase in ambient noise due to construction. No significant impacts to air quality are anticipated; however, certain construction activities are likely to raise dust levels during dry conditions.

Recreation: Areas of the beach and compatible uses will be temporarily unavailable around the area of active construction. This safety buffer will move along the beach as construction progresses.

Impacts Considered

Geology, Topography, Soils, Water Quality, Vegetation and Wetlands, Wildlife, Threatened and Endangered Species, Socioeconomics and Environmental Justice, Cultural Resources, Land Use and Zoning, Recreation, Aesthetics, Coastal Zone Management, Hazardous, Toxic and Radioactive Material (HTRW), Transportation, Air Quality and Noise.

Benefits and Adverse Impacts Avoided/Minimized

Land Use and Zoning: Project will not conflict with local zoning, displace existing uses, or result in new residential/commercial development. Groins will help stabilize the beach and decrease sand lost to erosional forces

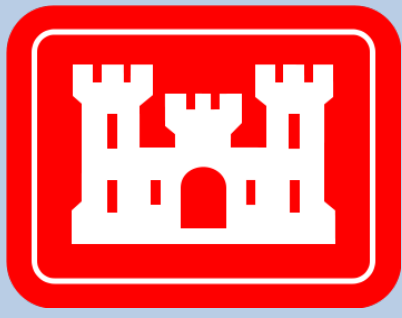
Wildlife: Enhanced and enlarged beach habitat will benefit shore birds and waterfowl as well as spawning habitat for horseshoe crabs. Groins will become reef habitats providing structured substrate and increasing local diversity of marine fish and invertebrates. The timing of the dredging window and use of a pipeline cutter-head dredge will minimize impacts to early life history stages of many important fish species that spawn in the summer. The dredge window and use of a cutter-head dredge also help to avoid any impacts to State or Federal listed species which include sea turtles, whales and sturgeon. The window will protect the Piping Plover as construction is slated to be completed (March) prior to the birds return in April. Groins will provide roosting and foraging areas for many species of birds.

Vegetation (upland): Project protection levels will greatly decrease overwash of sediments into the back bay decreasing rate of invasion by Phragmites. The new beach will be planted with dune grass, greatly increasing wildlife habitat value and strengthening storm protection.

Recreation: The beach will be greatly enlarged providing much more area for typical beach activities. Groins will attract many species of finfish sought by recreational fishermen.

Cultural Resources: The project will not effect any cultural resources

HTRW: The potential for the project to produce any hazardous material issues will be minimized by the adoption of and attention to the Standard Operating Procedures and the Health and Safety Plan.



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Schedule & Costs

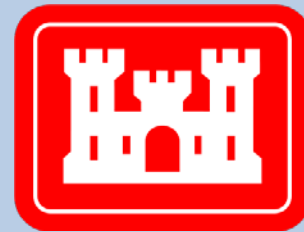


Item	Date
Draft Report/DEA	Nov-15
Public information meeting	Dec-15
End of Public Comment Period on DEIS	8-Jan-16
	*Extended to 29 January 2016
Chief of Engineers Report	Fall 2016
Initiate Plans & Specifications	Summer 2017
Construction Funds Agreement (PPA)	Fall 2017
Acquire Real Estate	Spring 2018
Construction Start	Fall 2018
Construction Completion	Spring 2019

Notes: Schedule has been updated from that contained in the draft report
Construction reflects a dredge window from Oct 1 – Jan 15

	Cost Apportionment		
	Federal Share	Non-Federal Share	Total Cost
Project First Costs**			
Cash Contribution	\$ 15,382,000	\$ 2,411,000	\$ 17,793,000
Real Estate Lands and Damages	-	\$ 5,872,000	\$ 5,872,000
Total First Cost	\$ 15,382,000	\$ 8,283,000	\$ 23,665,000
Continuing Construction***			
Beach Renourishment	\$ 28,883,000	\$ 28,883,000	\$ 57,765,000
Annual Beach Renourishment	\$ 442,000	\$ 442,000	\$ 883,000
Annual Coastal Monitoring	\$ 5,000	\$ 5,000	\$ 9,000
Annual Environmental Monitoring	\$ 21,000	\$ 21,000	\$ 41,000
Annual Continuing Construction Cost	\$ 468,000	\$ 468,000	\$ 933,000
Annual Beach and Groin Maintenance Cost	-	\$ 26,000	\$ 26,000
Annual Major Rehabilitation Cost	-	\$ 130,000	\$ 130,000
Total Annual OMRR&R Costs	-	\$ 156,000	\$ 156,000

* October 2014 Price Level
 ** Shared based on 65% Federal and 35% non-Federal for construction
 *** Shared based on 50% Federal and 50% non-Federal for renourishment



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Non-Federal Sponsor

North Shore of Long Island, Asharoken, New York
Coastal Storm Risk Management Study



The non-Federal sponsor for the study is the **New York State Department of Environmental Conservation**. New York State Department of Environmental Conservation's Local Sponsor for the study is the Village of Asharoken.

Cost Sharing Allotment:

- Study completion: 100% Federal
- Initial construction: 65% Federal, 35% Non-Federal
- Non-Federal portion is 70% State, 30% Village of Asharoken
- Future beach nourishment: 50% Federal, 50% Non-Federal

Non-Federal Responsibilities Include:

- Support for the plan
- Cost-Share the Plan
- Acquire Real Estate
- Operate and Maintain the Project
- Identify public access plan, and provide public access or adjust cost-sharing

Key Real Estate Requirements:

- Location of sand placement requires a permanent easement
- Locations of groin construction and public access must be in municipal ownership
- Costs for obtaining real estate required for project construction, maintenance, or public access are credited towards the Village's share of the project cost.

Public Access Requirements:

- Public access is required for eligibility of Federal cost-sharing
- Village of Asharoken & NYSDEC have prepared a Public Access Plan
- Public Access Plan appears to meet Corps / State requirements (under formal review):
 - Access consistent with expected use of the area
 - Access points to the beach, open to the public every ½ mile
 - Parking at east and west sites, with intermediate drop-off locations
 - Specific access points to be identified by Village of Asharoken

