APPENDIX A
POTENTIAL NEARSHORE BERM SITES

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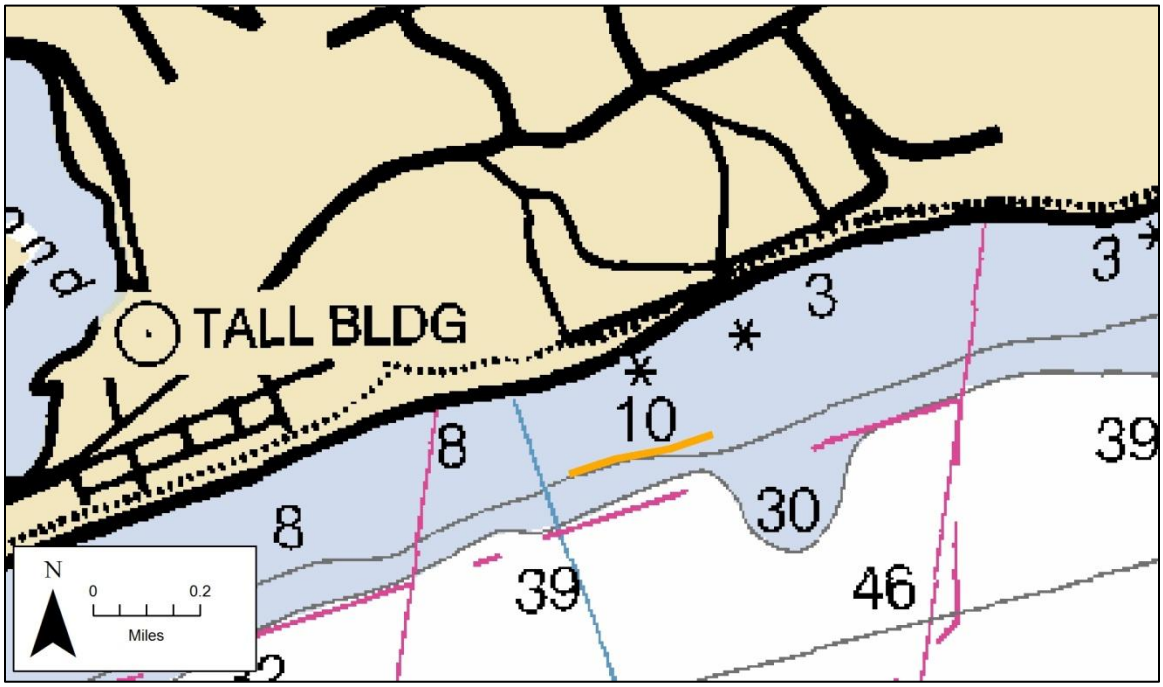
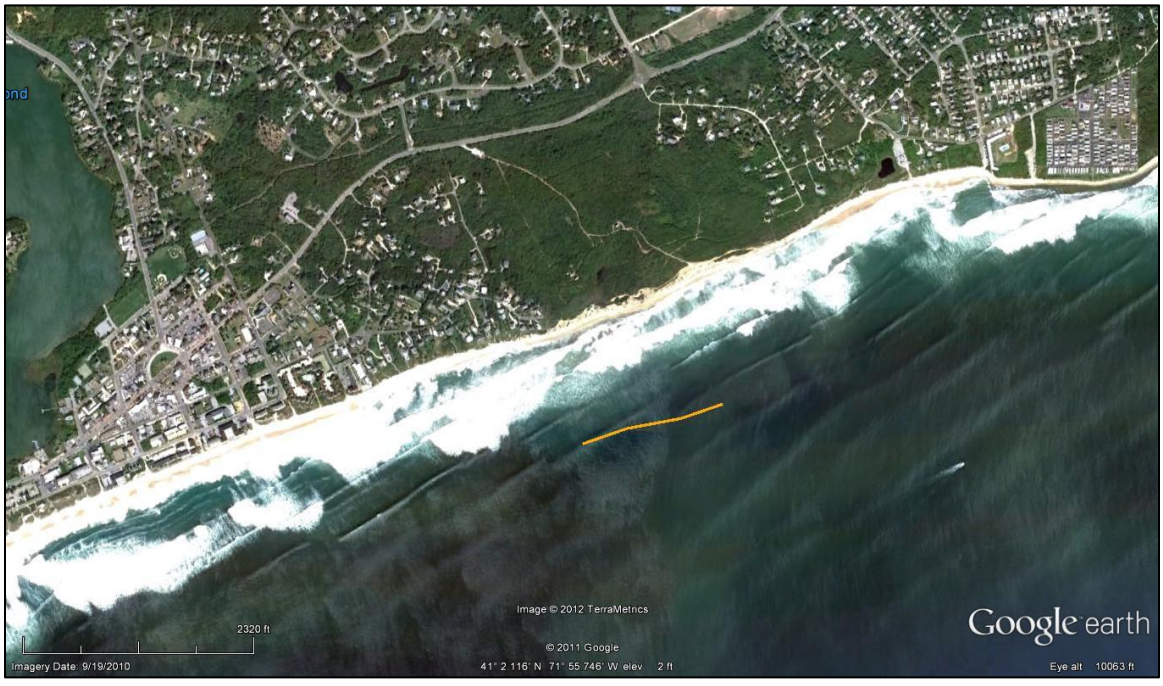
Nearshore Berm 177
Shadmoor State Park

Nearshore Berm 177 – Shadmoor State Park





Impacts to Environmental Resources - Berm 177 - Shadmoor State Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	-----	NA	----
Federal & State Listed Species	Documented in upland - within 1/2 mile of berm	No - resource not within berm footprint	No - resource in the upland	-----	Potential - resource inside possible shoreline erosion zone caused by wave focusing	No - resource in the upland	No - resource in the upland	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007150 (40 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	-----	Potential - physical change in sediment characteristics or water depth	-----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	-----	NA	----
Marine Protected Areas	Shadmoor State Park in upland shoreward of berm, within 1 mile	No - resource not within berm footprint	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms	Potential - increased erosion of shoreline at resource caused by potential wave focusing	----	No - resouce is in the upland	----
Birds	55 species documented within 1 mile radius	-----	-----	-----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	7 species documented	Potential - strikes during construction	-----	-----	Unlikely - scale of habitat large relative to project	Potential - during construction	Unlikely - scale of habitat large relative to project	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 177 - Shadmoor State Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Light intensity vessel use 1/2 mile seaward of berm	-----	Unlikely - active berm is likely to migrate shoreward	No - berm does not compromise navigation	No - resources not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	None documented	NA	NA	-----	NA	NA
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Shadmoor State Park is receiving beach shoreward of berm	No - resources not within berm footprint	Yes - active berm will migrate shoreward to receiving beach	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - reduced wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Berm 177 - Shadmoor State Park

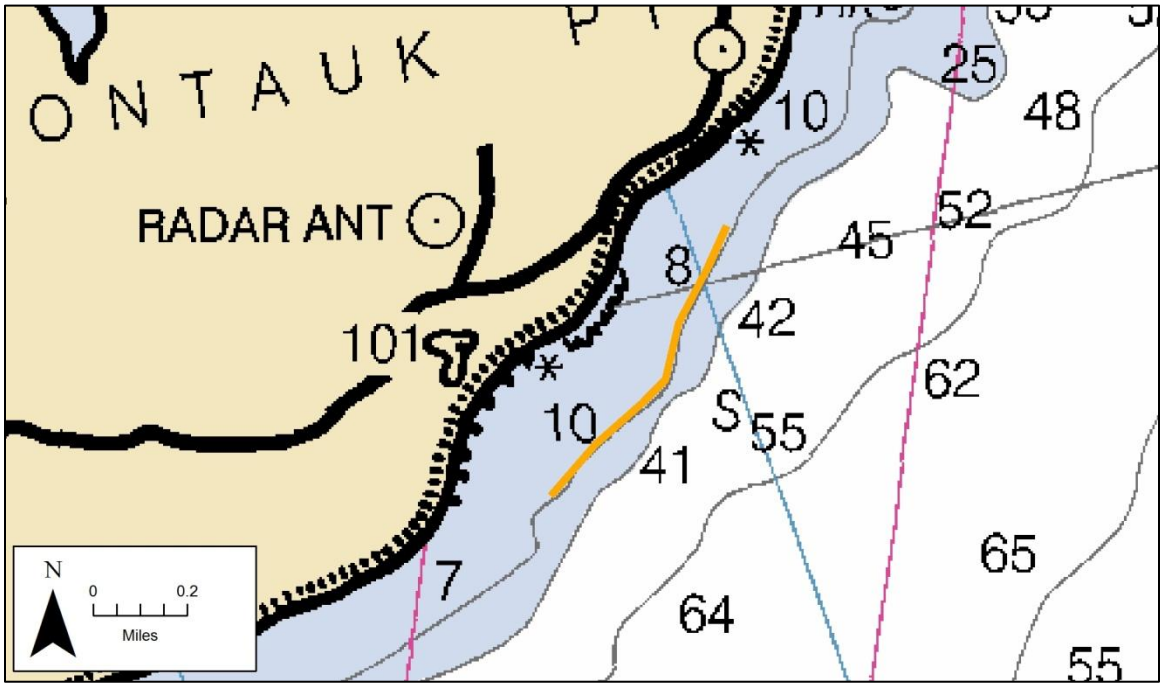
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	Montauk Association District in upland east of berm, within 1 mile	No - resource not within berm footprint	No - resource outside possible shoreline erosion zone caused by wave focusing. Potential positive impact from beach accretion by shoreward transport of active berm.	-----
Archaeological Sites	One documented in upland west of berm, within 1 mile	No - resource not within berm footprint	No - resource outside possible shoreline erosion zone caused by wave focusing	-----

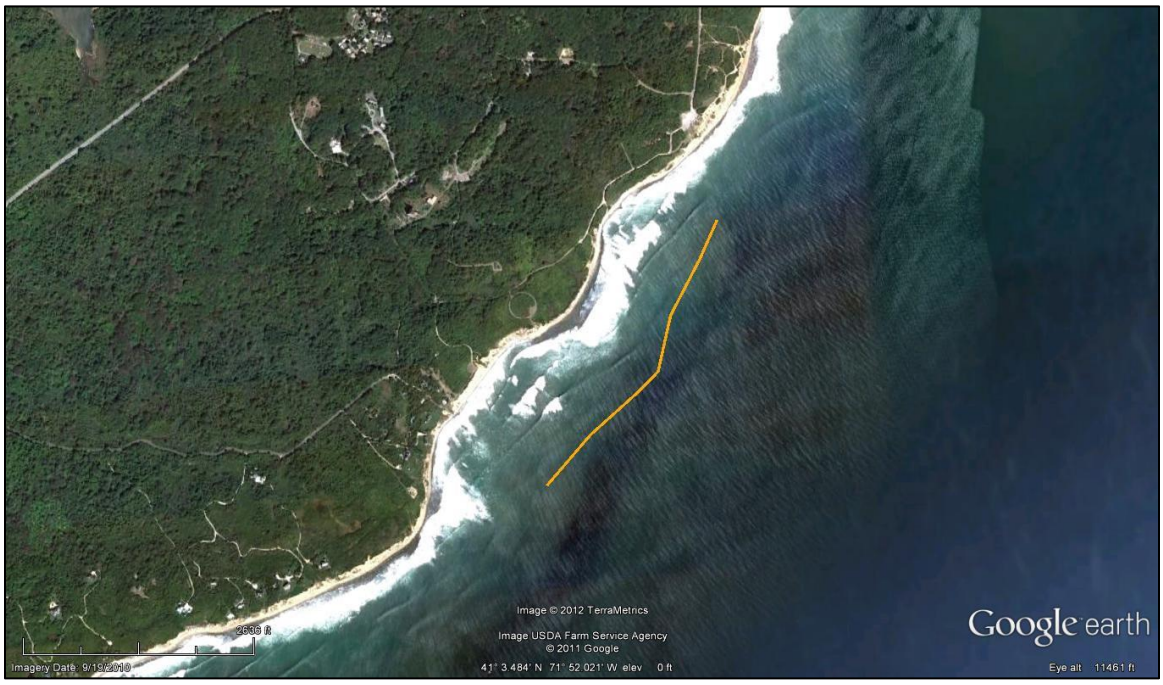
Impacts to Physical Resources - Berm 177 - Shadmoor State Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore area contain modern day sand deposits	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - temporary increase in rate as berm migrates onshore
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 178
Camp Hero State Park

Nearshore Berm 178 – Camp Hero State Park





Impacts to Environmental Resources - Berm 178 - Camp Hero State Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species, and NY "Significant Coastal Fish & Wildlife Habitat" documented in berm footprint and adjacent upland area	Potential - resource mapped within berm footprint	Likely - resource mapped within berm footprint	----	Likely - resource mapped within berm footprint	Potential - resource mapped within berm footprint	Likely - resource mapped within berm footprint	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007150 (40 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	Camp Hero State Park in upland shoreward of berm, within 1 mile	No - resource not within berm footprint	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms	Potential - increased erosion of shoreline at resource caused by potential wave focusing	----	No - resouce is in the upland	----
Birds	48 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	11 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 178 - Camp Hero State Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Light intensity vessel use 1/2 mile seaward of berm	-----	Unlikely - active berm is likely to migrate shoreward	No - berm does not compromise navigation	No - resources not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Shoreline armoring at Montauk Point within 1 mile northeast of berm	No - resource not within berm footprint	Unlikely - temporary increase in rate of littoral drift as berm migrates onshore but resource is far from berm	-----	No - resource not within berm footprint	Unlikely - resource outside area of shoreline erosion caused by wave focusing
Cable/power/utility crossings	Submerged cable area within 1 mile northeast of berm	No - resource not within berm footprint	Unlikely - temporary increase in rate of littoral drift as berm migrates onshore but resource is far from berm	-----	No - resource not within berm footprint	Unlikely - resource outside area of shoreline erosion caused by wave focusing
Recreational Areas	Camp Hero State Park is the receiving beach, Montauk Point State Park is within 1 mile northeast of berm	No - resources not within berm footprint	Yes - active berm will migrate shoreward to receiving beach	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - shoreline erosion caused by wave focusing
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Berm 178 - Camp Hero State Park

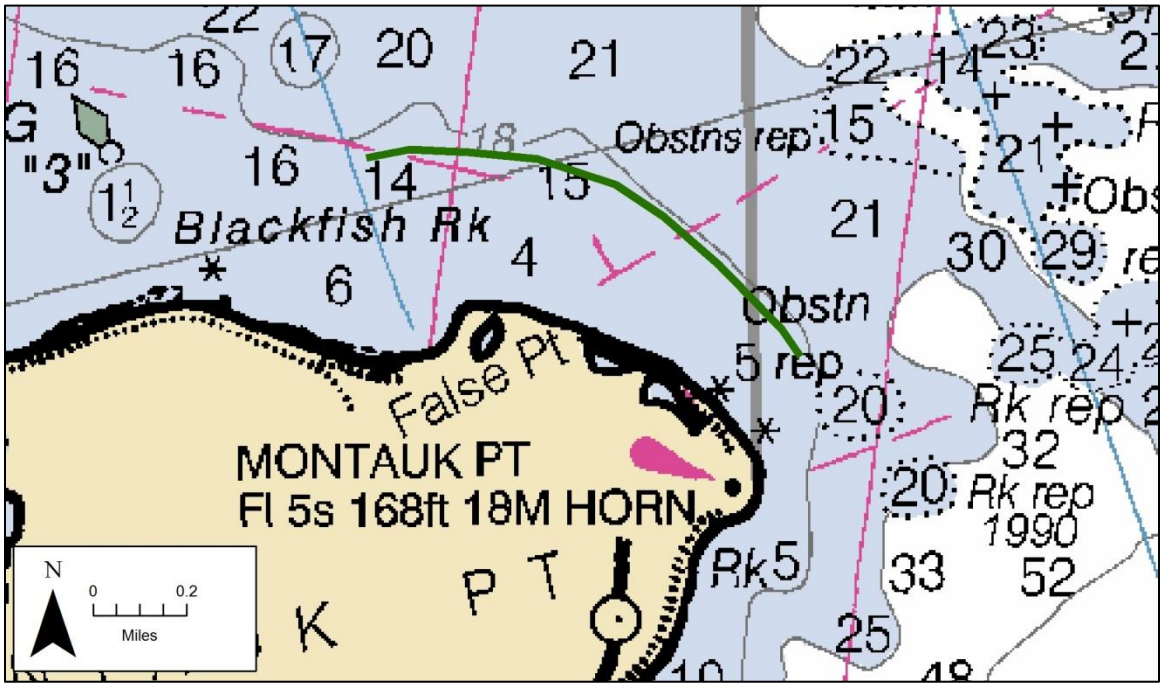
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	One documented in upland east of berm, within 1 mile	No - resource not within berm footprint	No - resource outside possible shoreline erosion zone caused by wave focusing	-----

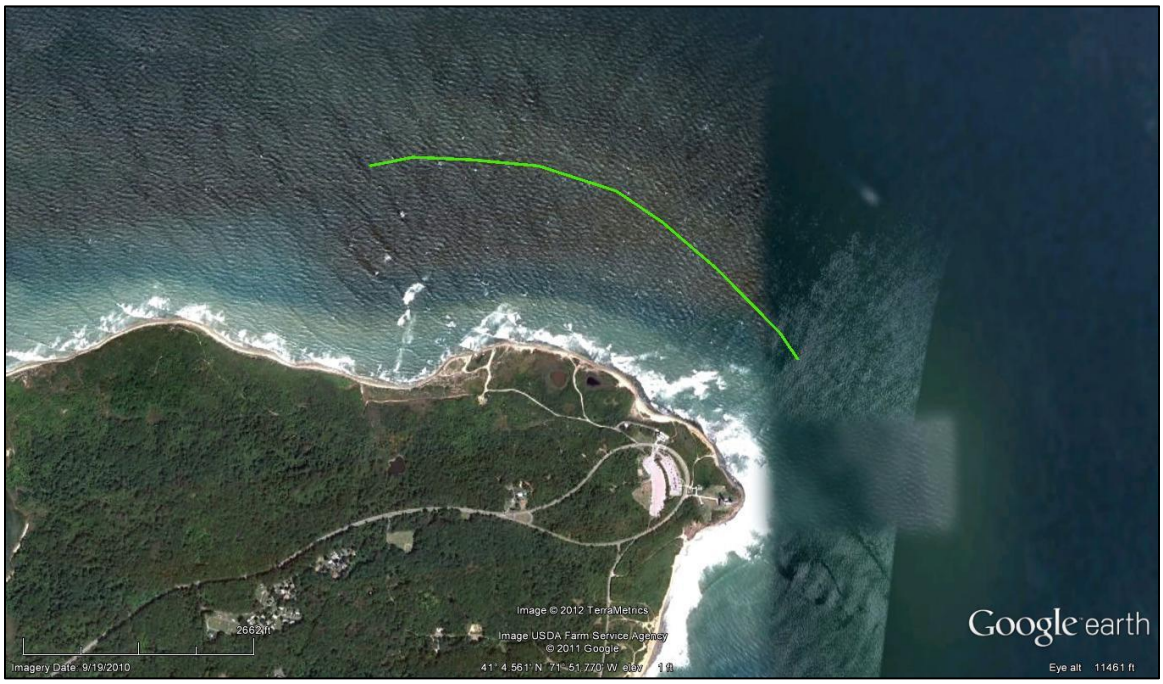
Impacts to Physical Resources - Berm 178 - Camp Hero State Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore area contain modern day sand deposits	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - temporary increase in rate as berm migrates onshore
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 179
Montauk Point State Park

Nearshore Berm 179 – Montauk Point State Park





Impacts to Environmental Resources - Berm 179 - Montauk Point State Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Berm footprint and nearshore areas mapped as Coastal Shoals, Bars, or Mudflats	No - resource will not be removed during construction	Yes - resource will be covered with berm material	Unlikely - sedimentation/erosion goverened by high energy wave events that would not be affected by berm	Likely - berm placement or migration would reduce structure by changing substrate from gravel to sand	----	Potential - short term impact during construction	----
Federal & State Listed Species	Listed species, and NY "Significant Coastal Fish & Wildlife Habitat" documented in berm footprint and upland	Potential - if species are immobile and in construction footprint	Potential - if species are immobile and in footprint area	----	Likely - berm placement or migration would reduce structure by changing substrate from gravel to sand	Potential - if species include marine mammals that can be struck during construction	Potential - short term impact to sedentary species	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007150 (40 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Likely - physical change in sediment characteristics from gravel to sand, and reduction in water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	Montauk Point State Park in upland shoreward of berm, within 1 mile	No - resource not within berm footprint	No - resource not within berm footprint	Unlikely - sedimentation/erosion goverened by high energy wave events that would not be affected by berm	Unlikely - shoreline erosion goverened by high energy wave events that would not be affected by berm	----	No - resouce is in the upland	----
Birds	48 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat large relative to zone of increased suspended sediment during construction	----
Marine Mammals	12 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 179 - Montauk Point State Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Light intensity vessel use 1/2 mile seaward of berm	-----	No - stable berm is not likely to migrate seaward	No - berm does not compromise navigation	No - resources not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Montauk Point is heavily armored in front of lighthouse	No - resource not within berm footprint	Potential - reduction in wave energy along shoreline during larger wave events	-----	No - resource not within berm footprint	Potential - increase in wave energy along shoreline during larger wave events
Cable/power/utility crossings	Cable area adjacent to Montauk Point	Potential - resource is within berm footprint	Yes - increased sedimentation caused by settling of suspended material generated during construction	-----	Yes - resource within berm footprint	Potential - increase in wave energy along shoreline during larger wave events
Recreational Areas	Montauk Point State Park is the receiving beach, Camp Hero State Park is within 1 mile southwest of berm	No - resources not within berm footprint	Unlikely - littoral drift dominated by high energy wave events and not influenced by berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase in wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Berm 179 - Montauk Point State Park

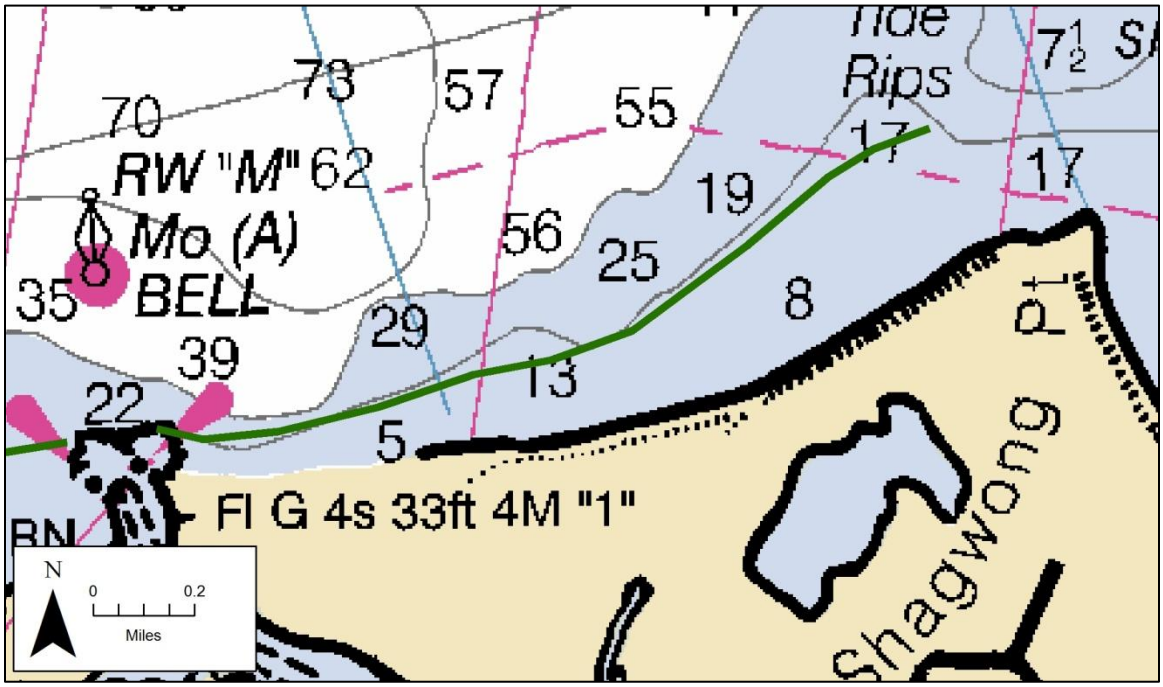
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	One documented immediately west and shoreward of berm	No - berm construction would not remove or disturb objects on the seafloor	Potential - increased sedimentation caused by diffusion of berm material during storms	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	None documented	NA	NA	----
Archaeological Sites	One documented in upland southwest of berm, within 1/2 mile	No - resource not within berm footprint	No - resource outside possible shoreline erosion zone caused by wave focusing	----

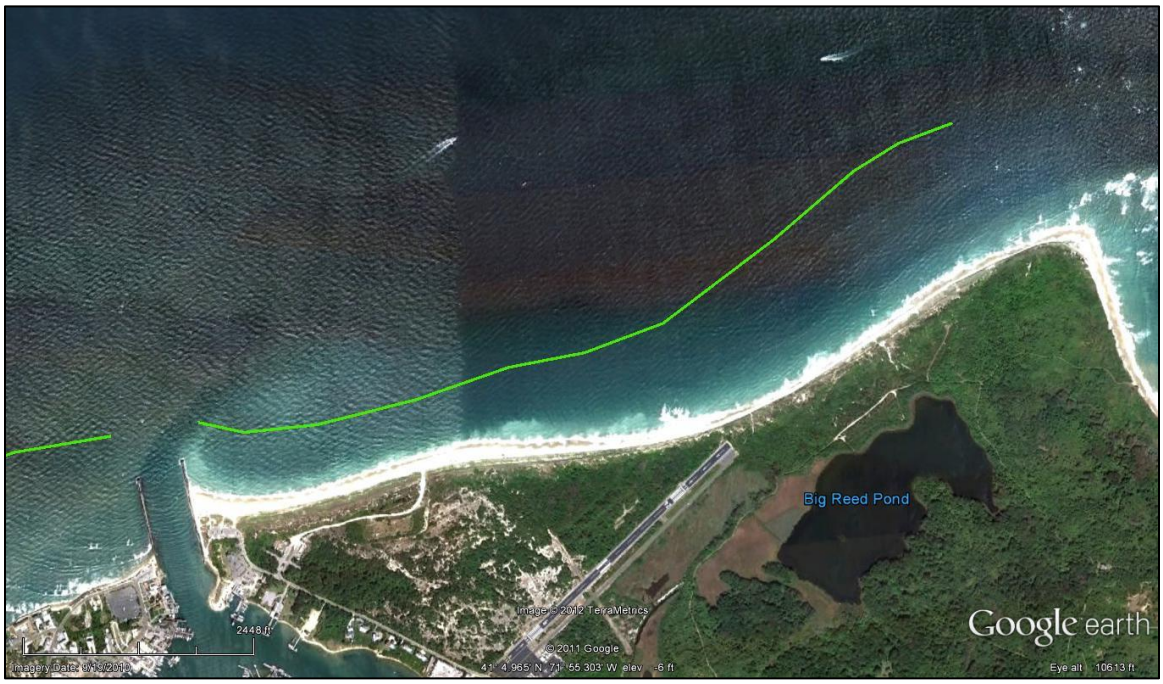
Impacts to Physical Resources - Berm 179 - Montauk Point State Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint and nearshore area mapped as gravel and gravel-sand	Unlikely - existing sediments characterized by coarse, granular material typically low in TOC	----
Littoral Drift	----	----	Unlikely - littoral drift dominated by high energy wave events and not influenced by berm
Currents	----	----	Potential - channalization of ambient tidal currents past headland at Montauk Point
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 121/446
Gin Beach & Theodore Roosevelt County Park

Nearshore Berm 121/446 – Gin Beach & Theodorre Roosevelt County Park





Impacts to Environmental Resources - Berm 121/446 - Gin Beach & Theodore Roosevelt County Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Nearshore areas shoreward of berm mapped as Coastal Shoals, Bars, or Mudflats	No - resource is not within berm footprint	No - resource is not within berm footprint	Potential - reduction in net littoral transport rate could affect wetland by changing sedimentation rate	Unlikely - berm and nearshore area mapped as sand so no change in sediment structure	----	Unlikely - except for short term impact in mixing zone during construction	----
Federal & State Listed Species	Listed species, and NY "Significant Coastal Fish & Wildlife Habitat" documented in berm footprint and adjacent upland area	Potential - if species are immobile and in construction footprint	Potential - if species are immobile and in footprint area	----	Unlikely - no expected change in substrate type or physical characteristics	Potential - short term impact if species include marine mammals that could be affected during construction	Potential - short term impact to sedentary species	----
Shellfish	4 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007150 (40 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	61 species documented within 1 mile radius	----	----	----	Unlikely - loss of coastline areas for shore dependent species not expected due to wave sheltering	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	10 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 121/446 - Theodore Roosevelt County Park & Gin Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Entrance to Montauk Harbor at western end of berm, medium intensity vessel traffic within 1/2 mile of berm - including seasonal Block Island Ferry	-----	Unlikely - reduction in net littoral transport rate from east to west caused by wave energy reduction	No - berm does not compromise navigation	No - resources not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Jetties at harbor entrance within 1/2 mile of berm	No - resource not within berm footprint	Potential - onshore sediment transport during higher energy wave events; net littoral drift is toward resource; increased sedimentation caused by settling of suspended material generated during construction	-----	No - resource not within berm footprint	Unlikely - reduced wave energy along shoreline during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Theodore Roosevelt County Park and Gin Beach are receiving beaches, Gosman's Beach within 1/2 mile of berm	No - resource not within berm footprint	Potential - stable berm may move onshore during storm events	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - reduced wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Berm 121/446 - Gin Beach & Theodore Roosevelt County Park

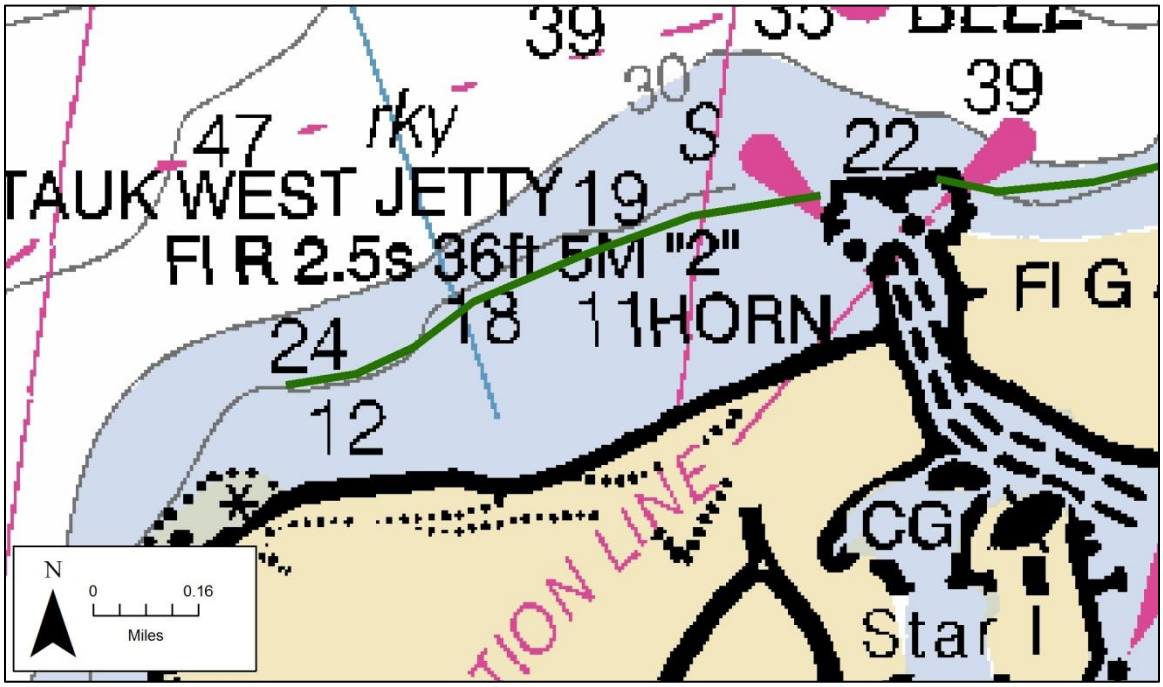
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

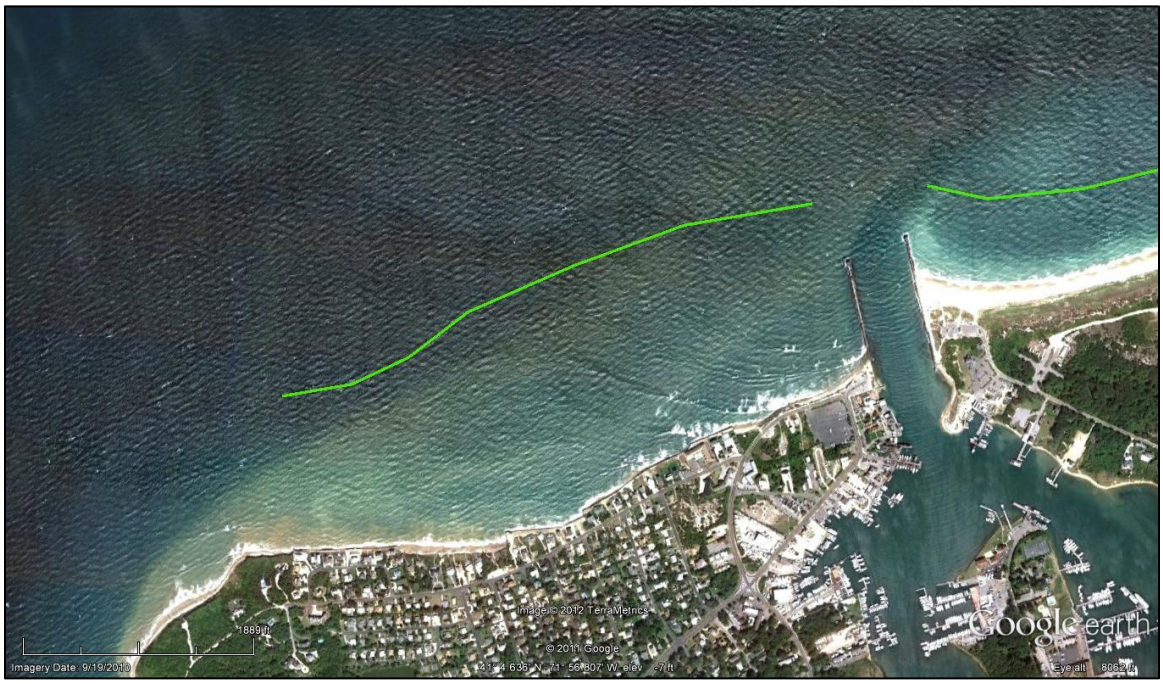
Impacts to Physical Resources - Berm 121/446 - Gin Beach & Theodore Roosevelt County Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore area mapped as sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect on ambient tidal currents
Waves	----	----	Potential - reduced wave energy along shoreline during larger wave events

Nearshore Berm 453
Lake Montauk Harbor

Nearshore Berm 453 – Lake Montauk Harbor





Impacts to Environmental Resources - Berm 453 - Lake Montauk Harbor

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Nearshore areas shoreward of berm mapped as Coastal Shoals, Bars, or Mudflats	No - resource is not within berm footprint	No - resource is not within berm footprint	Potential - reduction in net littoral transport rate could affect wetland by changing sedimentation rate	Unlikely - berm and nearshore area mapped as sand so no change in sediment structure	----	Unlikely - except for short term impact in mixing zone during construction	----
Federal & State Listed Species	Listed species documented in portion of berm footprint and upland area	Potential - if species are immobile and in construction footprint	Potential - if species are immobile and in footprint area	----	Unlikely - no expected change in substrate type or physical characteristics	Potential - short term impact if species include marine mammals that could be affected during construction	Potential - short term impact to sedentary species	----
Shellfish	4 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007150 (40 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	Mapped in nearshore areas shoreward and west of berm; within 1/2 mile	Unlikely - suspended sediment generated during construction not likely to move far from berm area due to granular nature of material	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms	Unlikely - nearshore water depths not expected to change due to limited natural sediment supply	----	Unlikely - temporary impacts to water quality during construction	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	60 species documented within 1 mile radius	----	----	----	Unlikely - loss of coastline areas for shore dependent species not expected due to wave sheltering	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	10 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 453 - Lake Montauk Harbor

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Entrance to Montauk Harbor at eastern end of berm, medium intensity vessel traffic within 1/2 mile of berm - including seasonal Block Island Ferry	-----	No - littoral transport is away from resource	No - berm does not compromise navigation	No - resources not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Jetties at harbor entrance within 1/2 mile of berm	No - resource not within berm footprint	Unlikely - increased sedimentation caused by settling of suspended material generated during construction; littoral transport is away from resource	-----	No - resource not within berm footprint	Unlikely - reduced wave energy along shoreline during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Gosman's Beach is receiving beach, Theodore Roosevelt County Park and Gin Beach within 1/2 mile of berm	No - resource not within berm footprint	Potential - stable berm may move onshore during storm events	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - reduced wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 453 - Lake Montauk Harbor

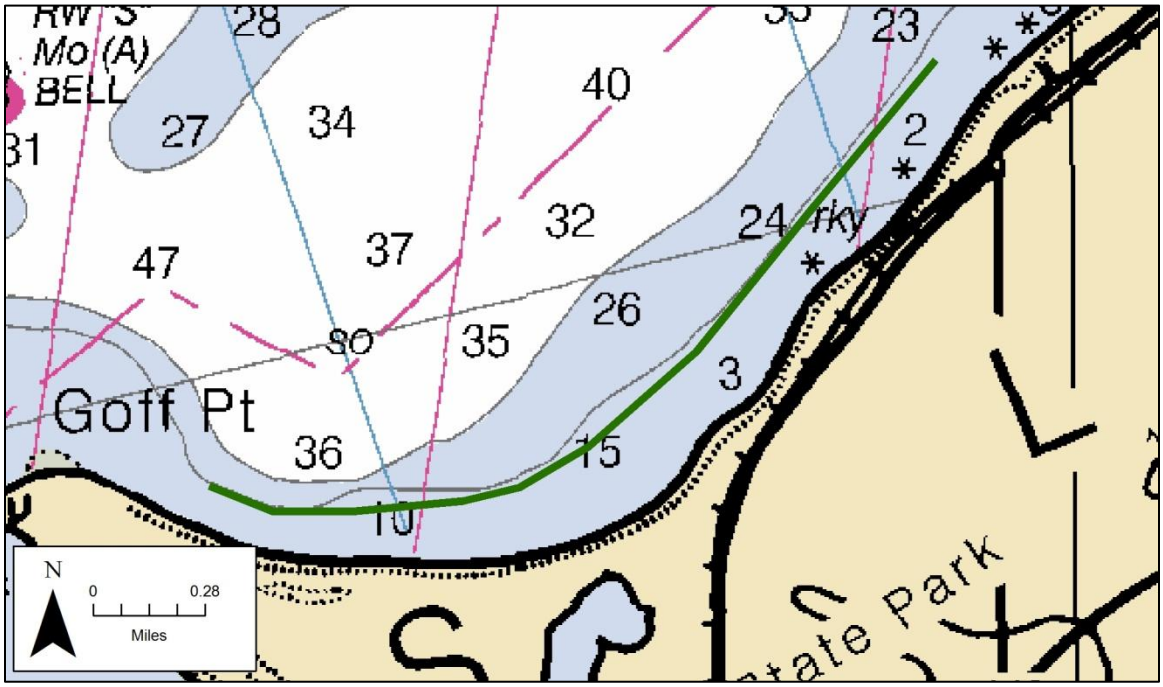
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	Two documented west of berm, within 1/2 mile	No - resources not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	One documented west of berm, within 1/2 mile	No - resource not within berm footprint	Potential - resource inside possible shoreline erosion zone caused by wave focusing	-----

Impacts to Physical Resources - Berm 453 - Lake Montauk Harbor

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore area mapped as sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm
Currents	----	----	Unlikely - minor, localized effect on ambient tidal currents
Waves	----	----	Potential - reduced wave energy along shoreline during larger wave events

Nearshore Berm 173
Hither Hills State Park

Nearshore Berm 173 – Hither Hills State Park



Impacts to Environmental Resources - Berm 173 - Hither Hills State Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Nearshore areas shoreward of berm mapped as Coastal Shoals, Bars, or Mudflats	No - resource is not within berm footprint	No - resource is not within berm footprint	Potential - reduced littoral transport rate could affect wetland	Potential - change to substrate could affect habitat type and structure	----	Unlikely - except for short term impact in mixing zone during construction	----
Federal & State Listed Species	Listed species and NY "Significant Coastal Fish & Wildlife Habitat" documented in upland - within 1/2 mile of berm	No - resource not within berm footprint	No - resource in the upland	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing	No - resource in the upland	No - resource in the upland	----
Shellfish	4 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007200 (38 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	Hither Hills State Park in upland shoreward of berm, within 1 mile	No - resource not within berm footprint	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms or reduction in the rate of littoral drift due to wave changes	Unlikely - berm will provide wave sheltering and reduced wave energy at shoreline along resource	----	No - resouce is in the upland	----
Birds	72 species documented within 1 mile radius	----	----	----	Unlikely - loss of coastline areas for shore dependent species not expected due to wave sheltering	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	10 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 173 - Hither Hills State Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Entrance to Napeague Harbor within 1 mile of berm	-----	Unlikely - reduction in net littoral transport rate from east to west caused by wave energy reduction; channel is far from berm	No - berm does not compromise navigation	No - resources not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	None documented	NA	NA	-----	NA	NA
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Hither Hills State Park is receiving beach	No - resource not within berm footprint	Potential - shoreline accretion caused by reduction in wave energy	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - berm would attenuate wave impacts to resource
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented, but fishing weir observed in Upland Disposal Report	No - resource not within berm footprint	Potential - increased sedimentation caused by settling of suspended material generated during construction; increased sedimentation caused by diffusion of berm material during storm events	-----	No - resource not within berm footprint	Unlikely - berm would attenuate wave impacts to resource
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 173 - Hither Hills State Park

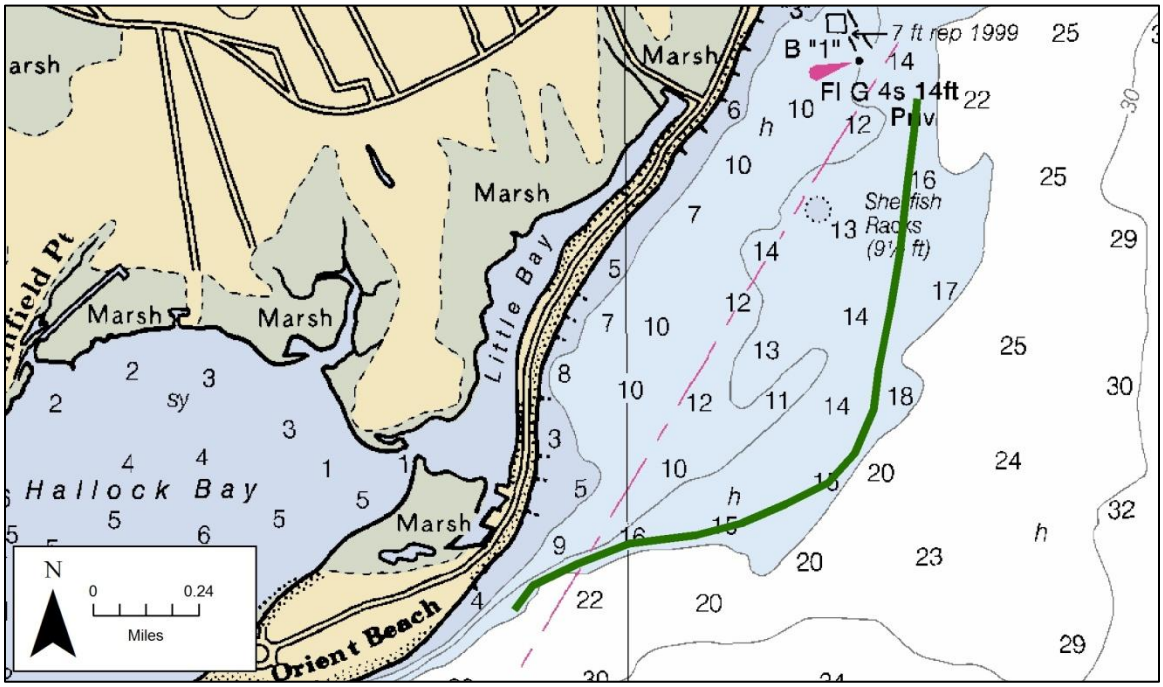
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 173 - Hither Hills State Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint and nearshore area mapped as silt-clay/sand, sand, and gravel	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - reduced wave energy along shoreline during larger wave events

Nearshore Berm 180
Orient Beach State Park

Nearshore Berm 180 – Orient Beach State Park



Impacts to Environmental Resources - Berm 180 - Orient Beach State Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Nearshore areas shoreward of berm mapped as Coastal Shoals, Bars, or Mudflats	No - resource is not within berm footprint	No - resource is not within berm footprint	Potential - reduction in net littoral transport rate could affect wetland by changing sedimentation rate	Potential - berm and nearshore area mapped as silt-clay/sand, sand, and gravel so change to sand substrate could affect habitat type and structure	----	Unlikely - except for short term impact in mixing zone during construction	----
Federal & State Listed Species	Listed species and NY "Significant Coastal Fish & Wildlife Habitat" documented in upland - within 1/4 mile of berm	No - resource not within berm footprint	No - resource in the upland	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing	No - resource in the upland	No - resource in the upland	----
Shellfish	7 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007210 (36 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	Mapped in nearshore areas shoreward of berm	Unlikely - suspended sediment generated during construction not likely to move far from berm area due to granular nature of material	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms; reduction/increase in the rate of littoral drift due to wave changes	Potential - shallower water depths associated with shoreline accretion caused by wave sheltering	----	Unlikely - temporary impacts to water quality during construction	----

Impacts to Environmental Resources - Berm 180 - Orient Beach State Park (continued)

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Marine Protected Areas	Orient Beach State Park in upland shoreward of berm, within 1 mile	No - resource not within berm footprint	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms; reduction/increase in the rate of littoral drift due to wave changes	Potential - increased erosion of shoreline at resource caused by potential wave focusing	----	No - resouce is in the upland	----
Birds	68 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	11 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 180 - Orient Beach State Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Channel for Cross Sound Ferry within 1/2 mile of berm, medium density vessel traffic within 1/2 mile of berm	-----	Unlikely - onshore sediment transport only during higher energy wave events; net littoral drift is away from resource; resource is outside zone of influence of particle settling during construction	No - berm does not compromise navigation	No - resources not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Shoreline armoring and multiple groins along park access road	No - resource not within berm footprint	Potential - shoreline accretion caused by reduction in wave energy	-----	No - resource not within berm footprint	Potential - shoreline erosion caused by wave focusing
Cable/power/utility crossings	Submerged cable area within 1 mile of berm	No - resource not within berm footprint	Unlikely - onshore sediment transport only during higher energy wave events; net littoral drift is away from resource; resource is outside zone of influence of particle settling during construction	-----	No - resources not within berm footprint	Unlikely - resource outside possible shoreline erosion zone caused by wave focusing
Recreational Areas	Orient Beach State Park is receiving beach, marina and boat ramp within 1/2 mile of berm	No - resource not within berm footprint	Potential - shoreline accretion caused by reduction in wave energy	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - shoreline erosion caused by wave focusing

Impacts to Infrastructure Resources - Nearshore Berm 180 - Orient Beach State Park (continued)

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Commercial & Industrial Facilities	Ferry terminal for Plum Island Animal Disease Center within 1/2 mile of berm	No - resource not within berm footprint	-----	-----	-----	-----
Aquaculture	NOAA chart indicates shellfish racks within 1/2 mile of berm	Unknown - precise location of resource not evident on chart	Potential - increased sedimentation caused by settling of suspended material generated during construction; increased sedimentation caused by diffusion of berm material during storm events	-----	Unknown - precise location of resource not evident on chart	Unlikely - berm would attenuate wave impacts to resource
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 180 - Orient Beach State Park

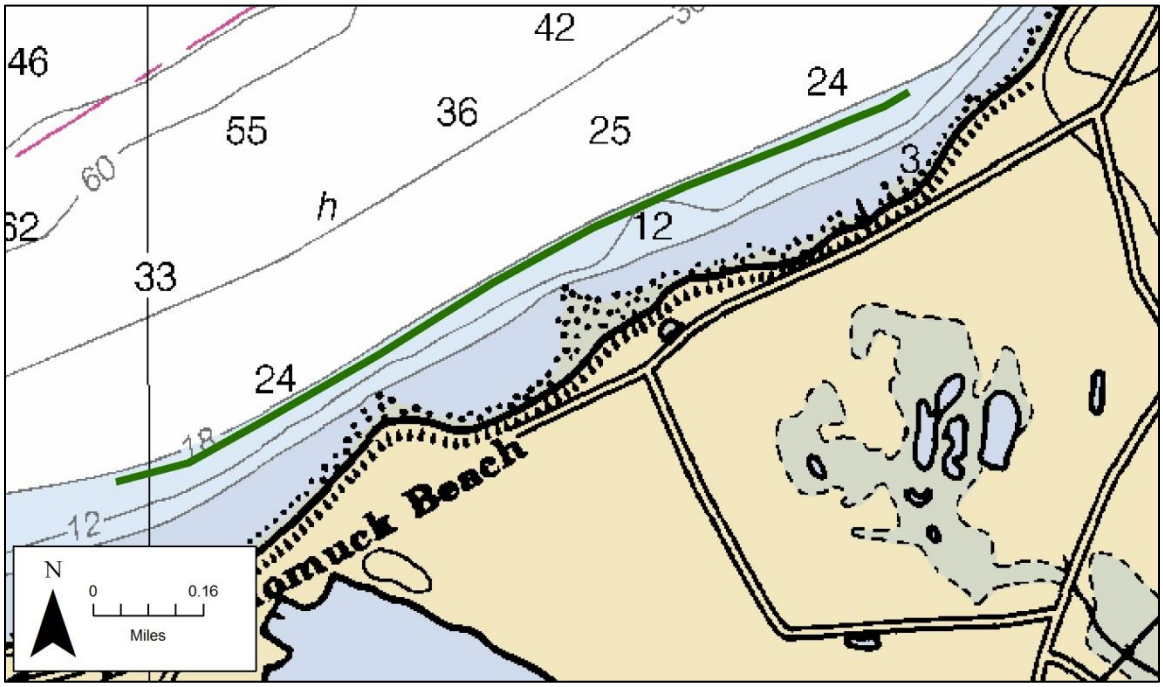
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 180 - Orient Beach State Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint and nearshore area mapped as silt-clay/sand and sand	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Potential - modification of clockwise currents directed towards Orient Point
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 454A
Hashamomuck Cove County Road 48

Nearshore Berm 454A – Hashamomuck Cove County Road 48



Impacts to Environmental Resources - Berm 454A - Hashamomuck Cove County Road 48

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat within berm footprint, and NY "Significant Coastal Fish & Wildlife Habitat" documented in upland - within 1/2 mile of berm	Potential - if species are immobile and in construction footprint	Potential - if species are immobile and in footprint area	----	Unlikely - no expected change in substrate type or physical characteristics	Potential - short term impact if species include marine mammals that could be affected during construction	Potential - short term impact to sedentary species	----
Shellfish	7 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007220 (34 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	56 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	11 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 454A - Hashamomuck Cove County Road 48

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins and bulkheads along shoreline	No - resource not within berm footprint	Unlikely - existing littoral transport minimal due to lack of sediment supply; no change expected with stable berm	-----	No - resource not within berm footprint	Potential - increase in wave energy to structures west of berm; reduction in wave energy shoreward of berm during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Southold Town Beach is a receiving beach; boat ramp within 1/2 mile of berm (both at western end of berm	No - resource not within berm footprint	Unlikely - existing littoral transport minimal due to lack of sediment supply; no change expected with stable berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase in wave energy to shoreline at western end of berm during larger wave events
Commercial & Industrial Facilities	Waterfront hotel and restaurant at eastern end of berm	No - resource not within berm footprint	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 454A - Hahamomuck Cove
County Road 48

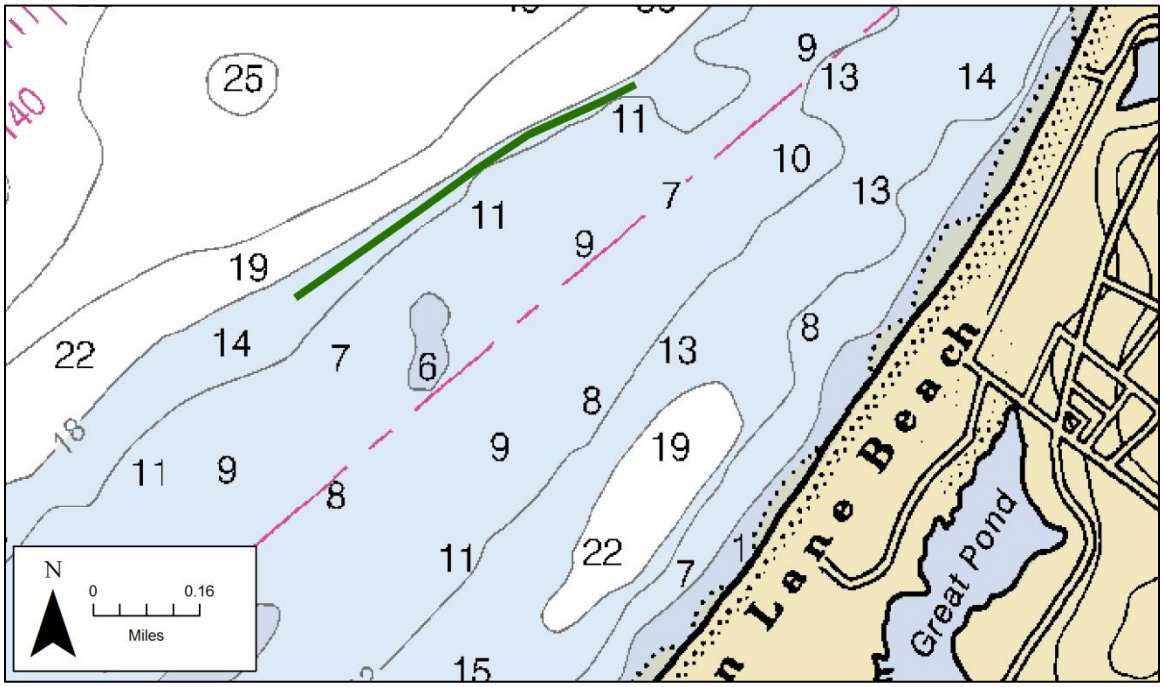
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	Two documented west of berm, within 1 mile	No - resources not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms	Unlikely - resource outside suspended sediment plume generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

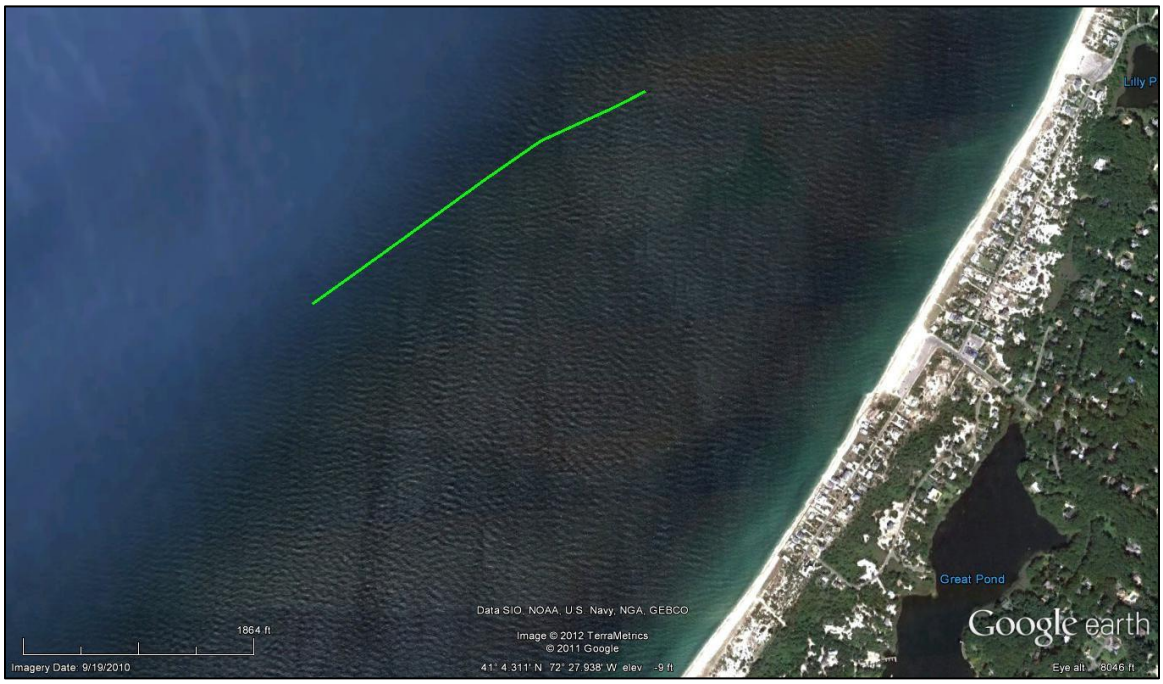
Impacts to Physical Resources - Berm 454A - Hashamomuck Cove County Road 48

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore area mapped as sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 454B
Hashamomuck Cove Kenney's Beach

Nearshore Berm 454B – Hashamomuck Cove Kenney's Beach





Impacts to Environmental Resources - Berm 454B - Hashamomuck Cove Kenney's Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Nearshore areas shoreward of berm mapped as Coastal Shoals, Bars, or Mudflats	No - resource is not within berm footprint	No - resource is not within berm footprint	Potential - reduction in net littoral transport rate could affect wetland by changing sedimentation rate	Unlikely - berm and nearshore area mapped as sand so no change in sediment structure	----	Unlikely - except for short term impact in mixing zone during construction	----
Federal & State Listed Species	Listed species habitat within berm footprint, and NY "Significant Coastal Fish & Wildlife Habitat" documented in upland - within 1/2 mile of berm	Potential - if species are immobile and in construction footprint	Potential - if species are immobile and in footprint area	----	Unlikely - no expected change in substrate type or physical characteristics	Potential - short term impact if species are sedentary, or include marine mammals that could be affected during construction	Potential - short term impact to sedentary species	----
Shellfish	4 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007220 (34 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	53 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	10 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 454B - Hashamomuck Cove Kenney's Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins and bulkheads along shoreline	No - resource not within berm footprint	Potential - reduction in net littoral transport rate caused by wave energy reduction	-----	No - resource not within berm footprint	Potential - increase in wave energy along shoreline during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Kenney's Beach is a receiving beach; Peconic Dunes County Park within 1 mile of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate caused by wave energy reduction	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase in wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 454B - Hahamomuck Cove Kenney's Beach

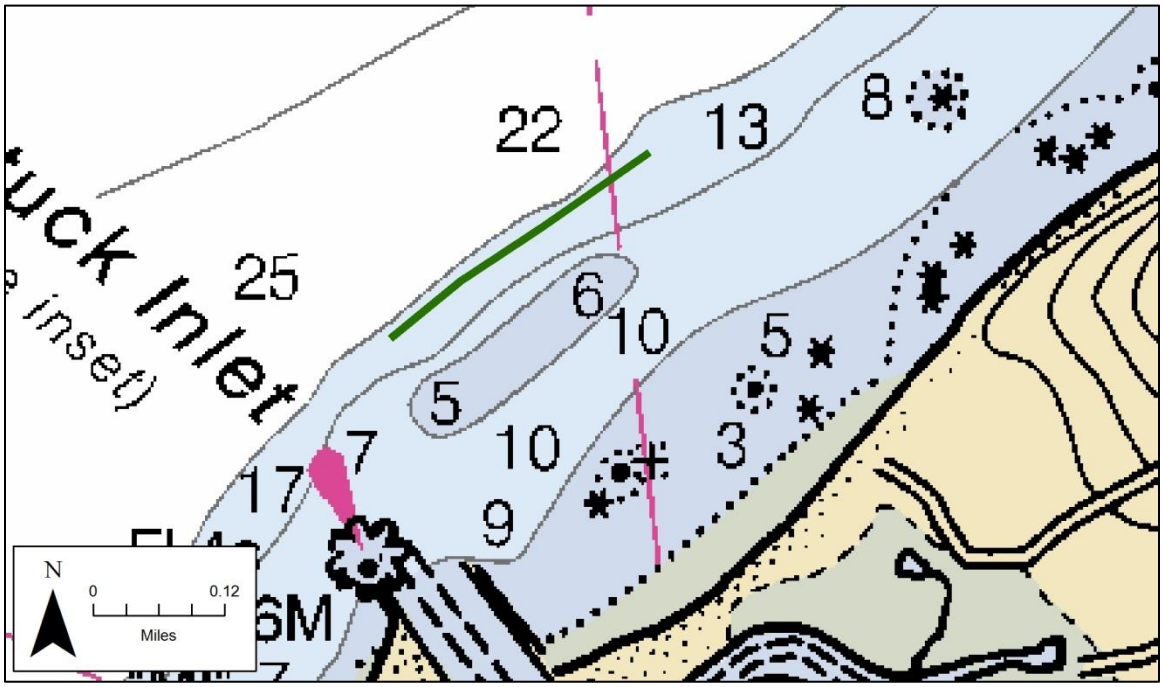
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 454B - Hashamomuck Cove Kenney's Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore area mapped as sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 455/82
Mattituck Harbor 111 & Bailie's Beach

Nearshore Berm 455/82 – Mattituck Harbor 111 & Bailie's Beach



Impacts to Environmental Resources - Berm 455/82 - Mattituck Harbor 111 & Bailie's Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Nearshore areas shoreward of berm mapped as Coastal Shoals, Bars, or Mudflats	No - resource is not within berm footprint	No - resource is not within berm footprint	Potential - reduction in net littoral transport rate could affect wetland by changing sedimentation rate	Potential - berm and nearshore area mapped as gravel so change in substrate and habitat structure is expected	----	Unlikely - except for short term impact in mixing zone during construction	----
Federal & State Listed Species	Listed species within berm footprint and in upland; NY "Significant Coastal Fish & Wildlife Habitat" documented in upland - within 1/2 mile of berm	Potential - if species are immobile and in construction footprint	Potential - if species are immobile and in footprint area	----	Unlikely - no expected change in substrate type or physical characteristics	Potential - short term impact if species are sedentary, or include marine mammals that could be affected during construction	Potential - short term impact to sedentary species	----
Shellfish	5 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007230 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	54 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	10 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 455/82 - Mattituck Harbor 111 & Bailie's Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Mattituck Inlet within 1/2 mile of western end of berm	-----	Unlikely - existing littoral transport minimal due to lack of sediment supply; no change expected with stable berm	No - berm does not compromise navigation	No - resources not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Mattituck Inlet jetties within 1/2 mile of western end of berm	No - resource not within berm footprint	Unlikely - existing littoral transport minimal due to lack of sediment supply; no change expected with stable berm	-----	No - resource not within berm footprint	Potential - increase in wave energy against jetty during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Bailie Beach is a receiving beach; Breakwater Beach within 1/2 mile of berm	No - resource not within berm footprint	Unlikely - existing littoral transport minimal due to lack of sediment supply; no change expected with stable berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - reduction in wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 455/82 - Mattituck Harbor 111 & Bailie's Beach

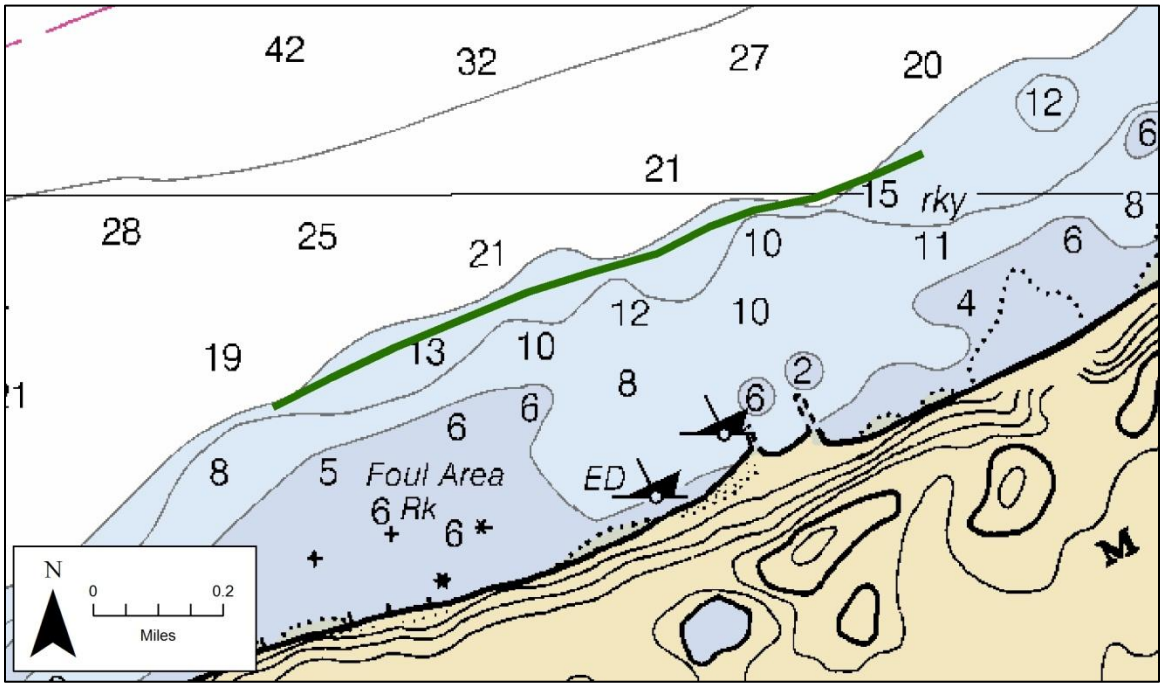
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

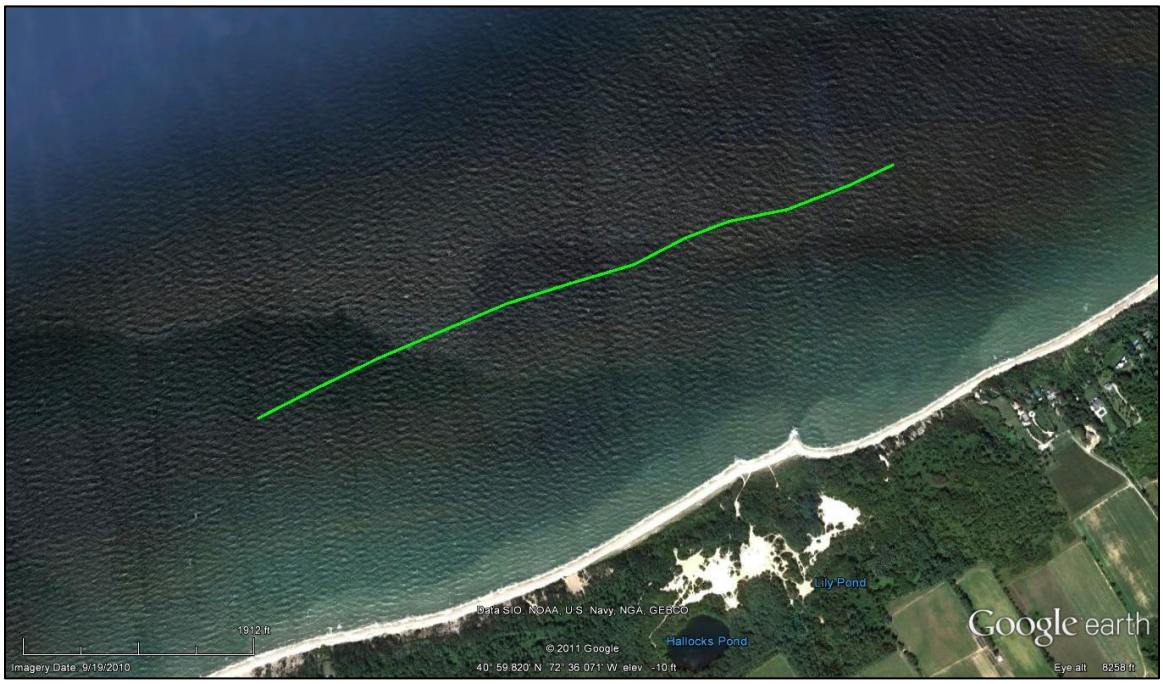
Impacts to Physical Resources - Berm 455/82 - Mattituck Harbor 111 & Bailie's Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint mapped as sand; nearshore area mapped as gravel	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Unlikely - low rates of existing littoral transport; no change expected with stable berm
Currents	----	----	Potential - minor channalization of tidal flow to/from Mattituck Harbor
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 445
Jamesport State Beach

Nearshore Berm 445 – Jamesport State Beach





Impacts to Environmental Resources - Berm 445 - Jamesport State Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Nearshore areas shoreward of berm mapped as Coastal Shoals, Bars, or Mudflats	No - resource is not within berm footprint	No - resource is not within berm footprint	Potential - reduction in net littoral transport rate could affect wetland by changing sedimentation rate	Unlikely - berm and nearshore area mapped as sand so no change in sediment structure	----	Unlikely - except for short term impact in mixing zone during construction	----
Federal & State Listed Species	Listed species within berm footprint	Potential - if species are immobile and in construction footprint	Potential - if species are immobile and in footprint area	----	Unlikely - no expected change in substrate type or physical characteristics	Potential - short term impact if species are sedentary, or include marine mammals that could be affected during construction	Potential - short term impact to sedentary species	----
Shellfish	4 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 40507230 (38 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	51 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	10 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 445 - Jamesport State Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins and bulkheads along shoreline, mostly west of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate caused by wave energy reduction may cause accumulation at groins shoreward of berm; structures west of berm will not be affected since direction of sediment transport is away from resource	-----	No - resource not within berm footprint	Potential - increase in wave energy along shoreline west of berm during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Jamesport State Beach is receiving beach; Iron Pier Beach and boatramp within 1 mile west of berm	No - resource not within berm footprint	Unlikely - existing littoral transport minimal due to lack of sediment supply; no change expected with stable berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase in wave energy along shoreline of Iron Pier Beach and boatramp during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 445 - Jamesport State Beach

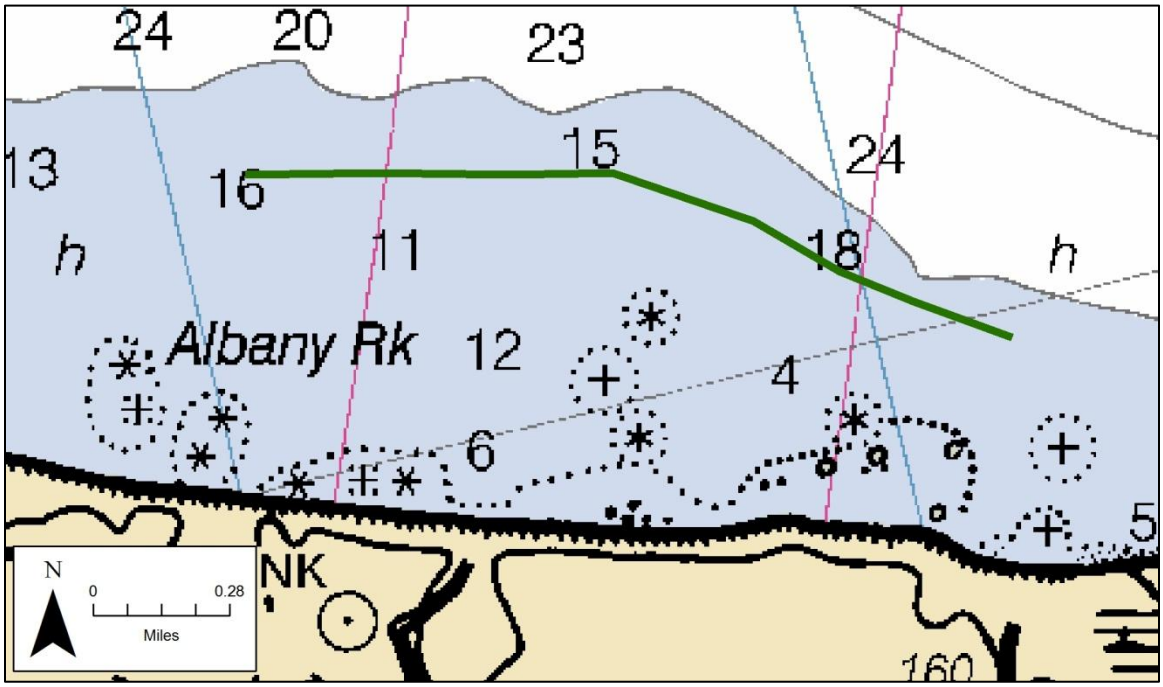
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	Four documented shoreward of berm; two documented west of berm, within 1 mile	No - resources not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms or a reduction in the rate of littoral drift shoreward of the berm	Potential - increased sedimentation to shoreward resources caused by settling of suspended material generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	Two documented in upland west of berm, within 1/2 mile	No - resource not within berm footprint	Potential - resource inside possible shoreline erosion zone caused by wave focusing	-----

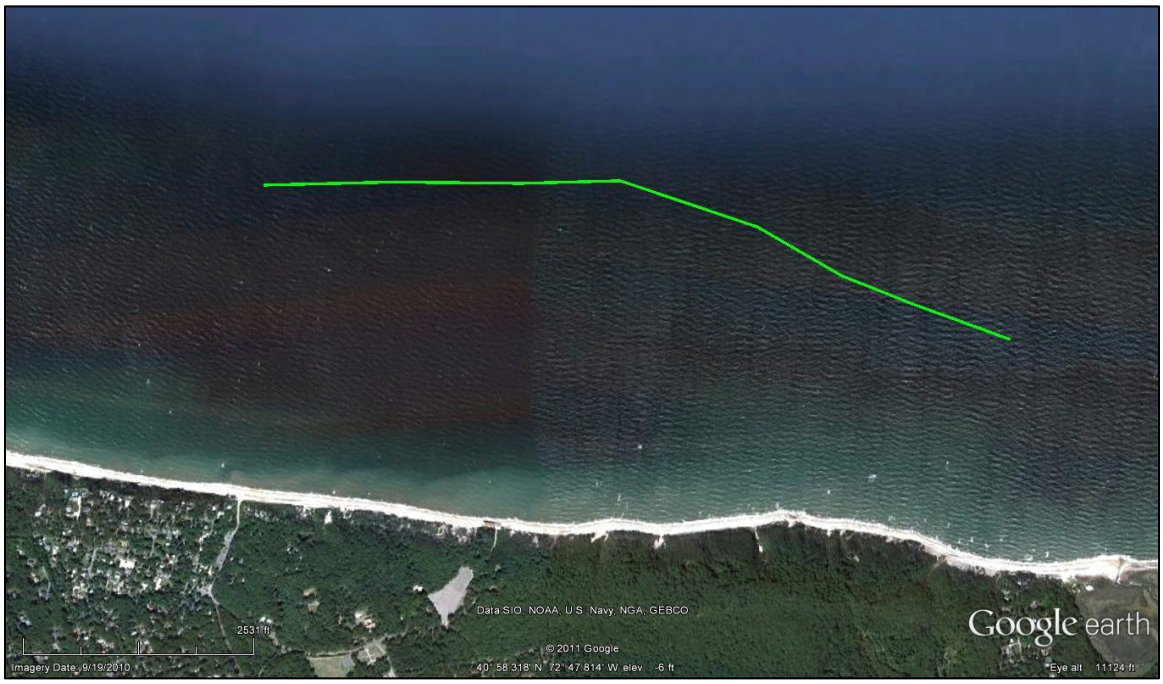
Impacts to Physical Resources - Berm 445 - Jamesport State Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore area mapped as sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 171
Wildwood State Park

Nearshore Berm 171 – Wildwood State Park





Impacts to Environmental Resources - Berm 171 - Wildwood State Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Nearshore areas shoreward of berm mapped as Coastal Shoals, Bars, or Mudflats	No - resource is not within berm footprint	No - resource is not within berm footprint	Potential - reduced littoral transport rate could affect wetland	Unlikely - no major change in sediment structure	----	Unlikely - except for short term impact in mixing zone during construction	----
Federal & State Listed Species	Listed species in upland; NY "Significant Coastal Fish & Wildlife Habitat" within berm footprint and in upland	Potential - if species are immobile and in construction footprint	Potential - if species are immobile and in footprint area	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	Potential - short term impact if species are sedentary	Potential - short term impact if species are sedentary	----
Shellfish	4 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 40507240 (38 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	Wildwood State Park in upland shoreward of berm, within 1 mile	No - resource not within berm footprint	No - resource not within berm footprint	Potential - increased sedimentation from berm material during storms; reduction/ increase in the rate of littoral drift due to wave changes	Potential - increased erosion of shoreline at resource caused by potential wave focusing	----	No - resouce is in the upland	----
Birds	53 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	4 species documented within 1 mile	Unlikely - whales not documented at site; other marine mammals not susceptible to strikes	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 171 - Wildwood State Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Bulkheads and groin at park concession stand, multiple bulkheads (to west) and groins (to east) along shoreline	No - resource not within berm footprint	Potential - reduction in net littoral transport rate caused by wave energy reduction may cause accumulation around concession stand infrastructure	-----	No - resource not within berm footprint	Potential - increase in wave energy along shoreline west and east of berm during larger wave events; wave focusing at park concession stand
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Wildwood State Park beach is receiving beach; boatramp within 1 mile east of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate caused by wave energy reduction may cause accumulation at beach	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase in wave energy along shoreline of Iron Pier Beach and boatramp during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 171 - Wildwood State Park

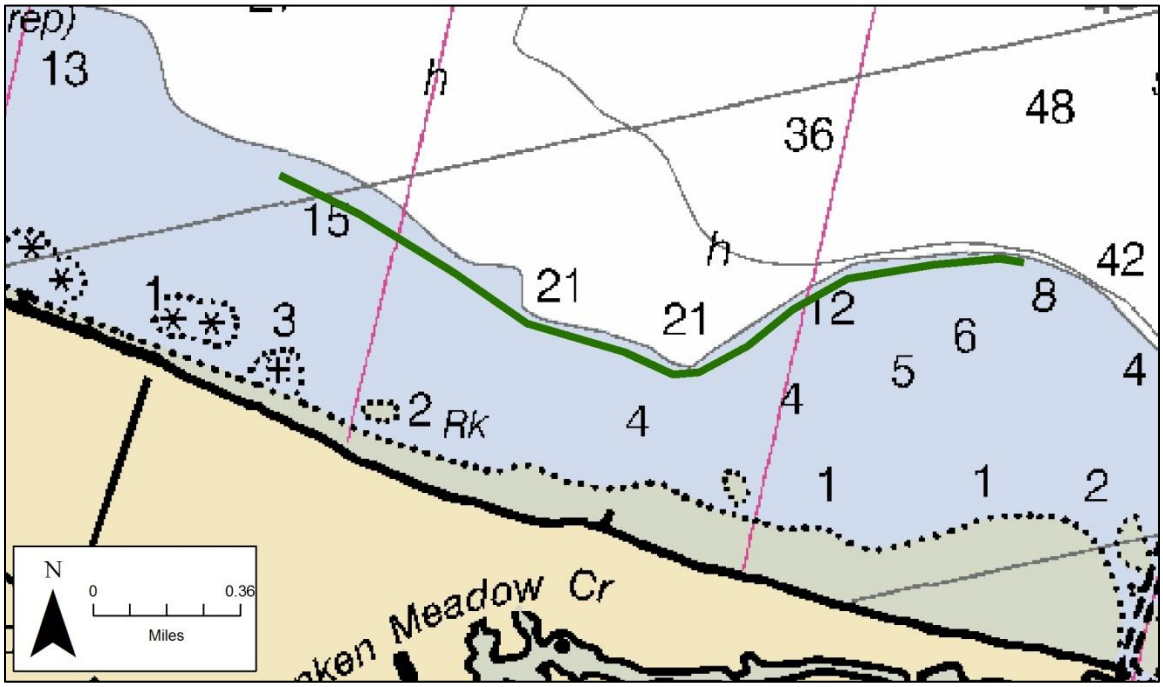
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 171 - Wildwood State Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint mapped as sand; nearshore area mapped as gravel-sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 170
Sunken Meadow State Park

Nearshore Berm 170 – Sunken Meadow State Park



Impacts to Environmental Resources - Berm 170 - Sunken Meadow State Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Nearshore areas shoreward of berm mapped as Coastal Shoals, Bars, or Mudflats	No - resource is not within berm footprint	No - resource is not within berm footprint	Potential - reduced littoral transport rate could affect wetland	Unlikely - no major change in sediment structure	----	Unlikely - except for short term impact in mixing zone during construction	----
Federal & State Listed Species	Listed species habitat, and NY "Significant Coastal Fish & Wildlife Habitat" documented in upland - within 1/2 mile of berm	No - resource not within berm footprint	No - resource in the upland	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	No - resource in the upland	No - resource in the upland	----
Shellfish	4 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 40507310 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	Governor Alfred E. Smith/Sunken Meadow State Park in upland shoreward of berm, within 1 mile	No - resource not within berm footprint	No - resource not within berm footprint	Potential - increased sedimentation from berm material during storms; reduction/ increase in the rate of littoral drift due to wave changes	Potential - increased erosion of shoreline at resource caused by potential wave focusing	----	No - resouce is in the upland	----
Birds	54 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	4 species documented within 1 mile	Unlikely - whales not documented at site; other marine mammals not susceptible to strikes	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 170 - Sunken Meadow State Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Channel to Nessequogue River within 1 mile east of berm	-----	Unlikely - reduction in net littoral transport rate towards channel caused by wave energy reduction; stable berm may migrate toward channel during storm events	No - berm does not compromise navigation	No - resources not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Large groin in front of park boardwalk, some bulkheads and groins along shoreline within 1 mile west of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate caused by wave energy reduction may cause accumulation around groin at park boardwalk	-----	No - resource not within berm footprint	Potential - increase in wave energy along shoreline west of berm during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Sunken Meadow State Park is receiving beach, Callahans Beach Park within 1 mile west of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate caused by wave energy reduction may cause accumulation at receiving beach	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase in wave energy along shoreline of Callahans Beach during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	Oyster/Mussel racks within 1 mile seaward and northwest of berm	No - resource not within berm footprint	No - resource is seaward of berm	-----	No - resource not within berm footprint	No - resource is seaward of berm
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 170 - Sunken Meadow State Park

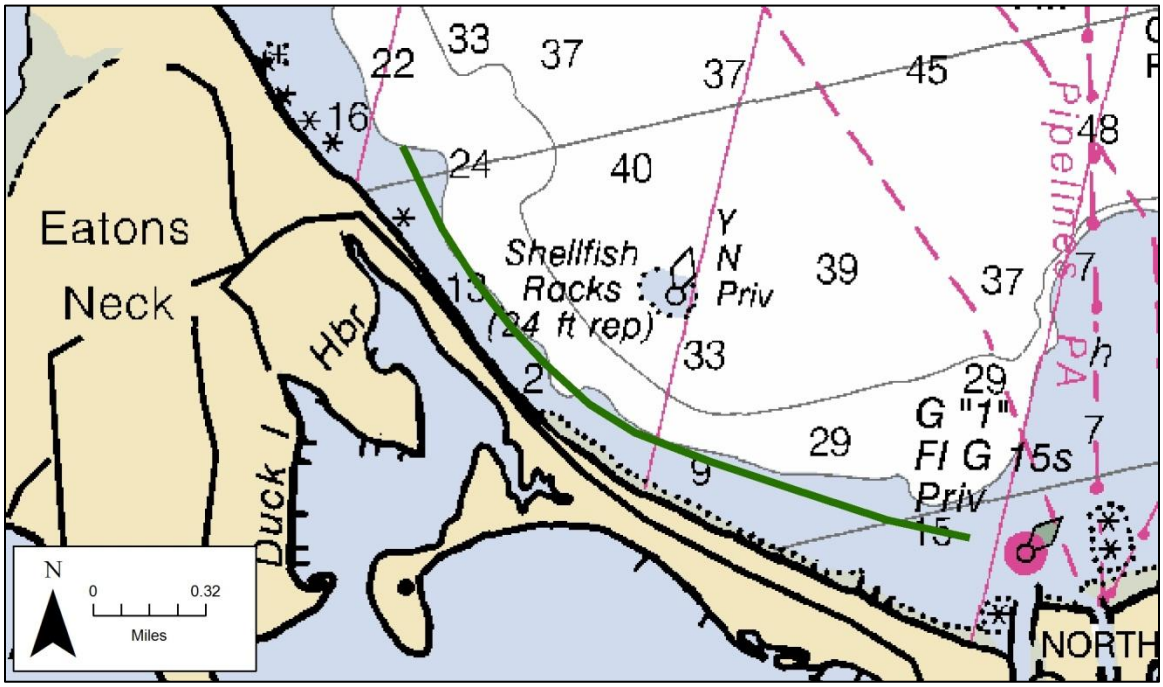
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

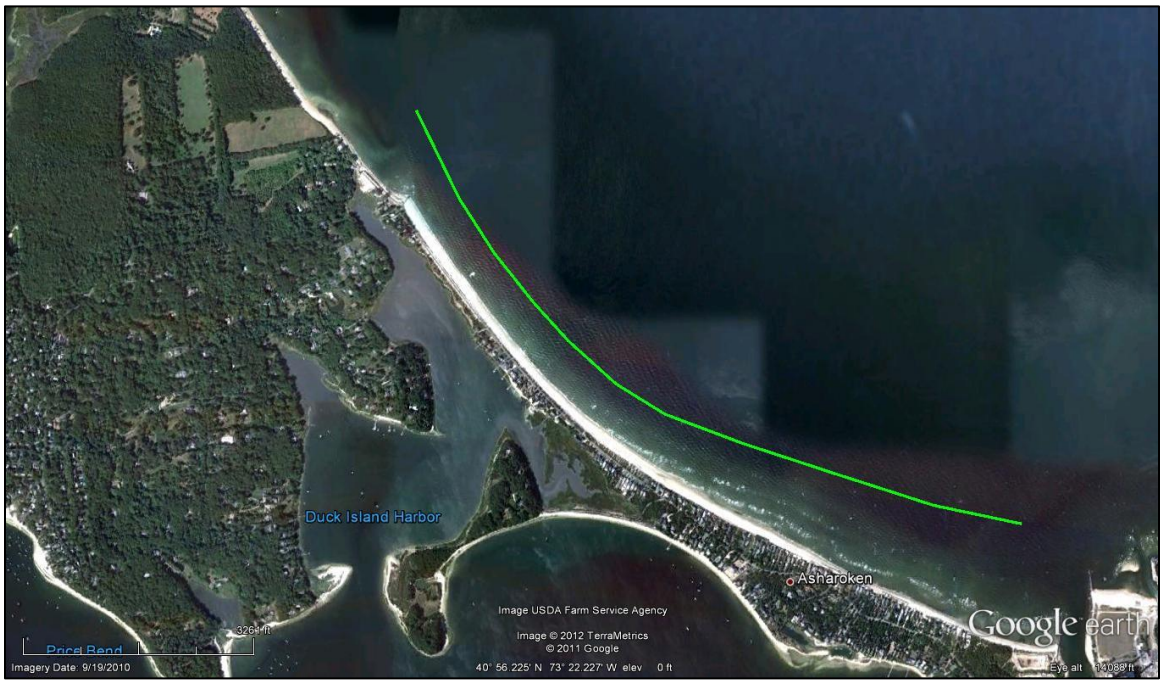
Impacts to Physical Resources - Berm 170 - Sunken Meadow State Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint mapped as sand/silt/clay, silt-clay/sand, and sand; nearshore area mapped as gravel-sand and gravel	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 63
Asharoken Beach

Nearshore Berm 63 – Asharoken Beach





Impacts to Environmental Resources - Berm 63 - Asharoken Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Nearshore areas shoreward of berm mapped as Coastal Shoals, Bars, or Mudflats	No - resource is not within berm footprint	No - resource is not within berm footprint	Potential - reduction in net littoral transport rate could affect wetland by changing sedimentation rate	Unlikely - berm and nearshore area mapped as sand and gravel/sand so no major change in sediment structure	----	Unlikely - except for short term impact in mixing zone during construction	----
Federal & State Listed Species	NY "Significant Coastal Fish & Wildlife Habitat" documented in upland - within 1/10 mile of berm	No - resource not within berm footprint	No - resource in the upland	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing	No - resource in the upland	No - resource in the upland	----
Shellfish	5 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 40507320 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	54 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	4 species documented within 1 mile	Unlikely - whales not documented at site; other marine mammals not susceptible to strikes	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 63 - Asharoken Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Channel to Northport Basin within 1/2 mile east of berm	-----	Unlikely - net littoral transport is away from channel	No - berm does not compromise navigation	No - resources not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple bulkheads and groins shoreward of berm; jetties for Northport Basin within 1/2 mile east of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate caused by wave energy reduction may cause accumulation shoreward of berm	-----	No - resource not within berm footprint	Potential - increase in wave energy against jetties east of berm during larger wave events
Cable/power/utility crossings	Norwalk-Northport cable area and Iroquois Gas Pipeline within 1/2 mile east of berm	No - resource not within berm footprint	Unlikely - net littoral transport is away from resource	-----	No - resource not within berm footprint	Unlikely - increase in wave energy along shoreline east of berm during larger wave events
Recreational Areas	Park and beach bordering Northport Basin within 1/2 mile east of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate caused by wave energy reduction may cause accumulation at beach	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - increase in wave energy along shoreline east of berm during larger wave events
Commercial & Industrial Facilities	Northport Power Station within 1/2 mile east of berm	No - resource not within berm footprint	-----	-----	-----	-----
Aquaculture	Oyster/Mussel racks within 1/2 mile seaward of berm	No - resource not within berm footprint	No - resource is seaward of berm	-----	No - resource not within berm footprint	No - resource is seaward of berm
Dredge Material Disposal Sites	None documented		NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 63 - Asharoken Beach

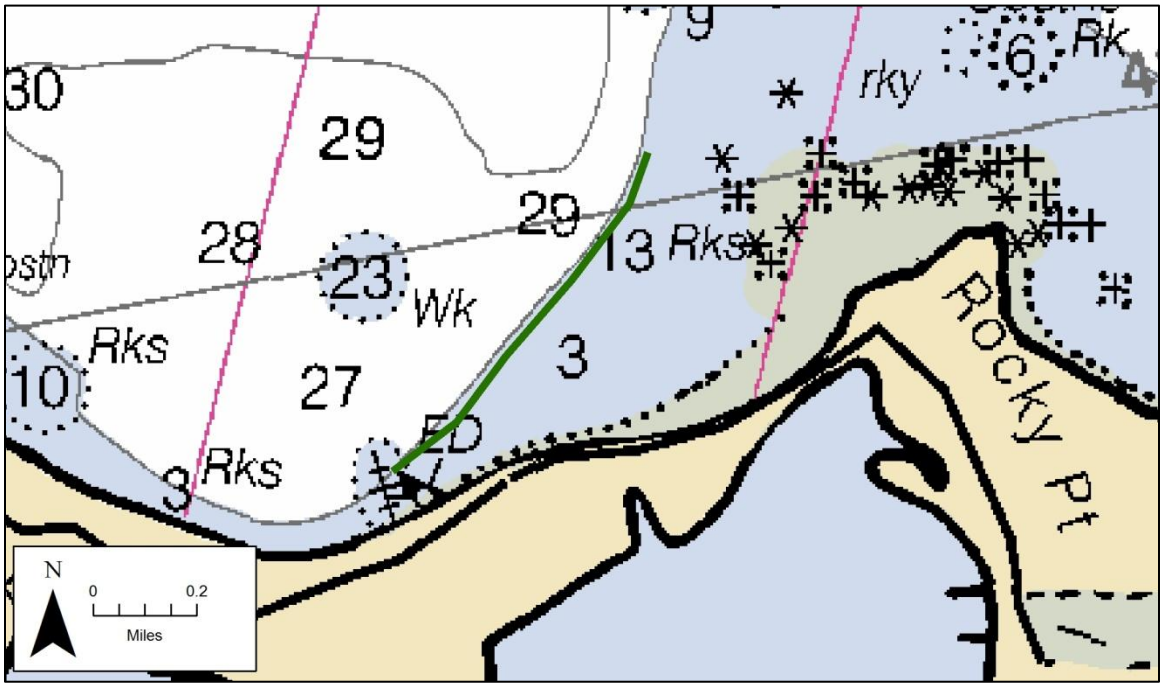
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	One documented seaward of berm, within 1/2 mile	No - resources not within berm footprint	Unlikely - diffusion during storms not likely to transport berm material offshore	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

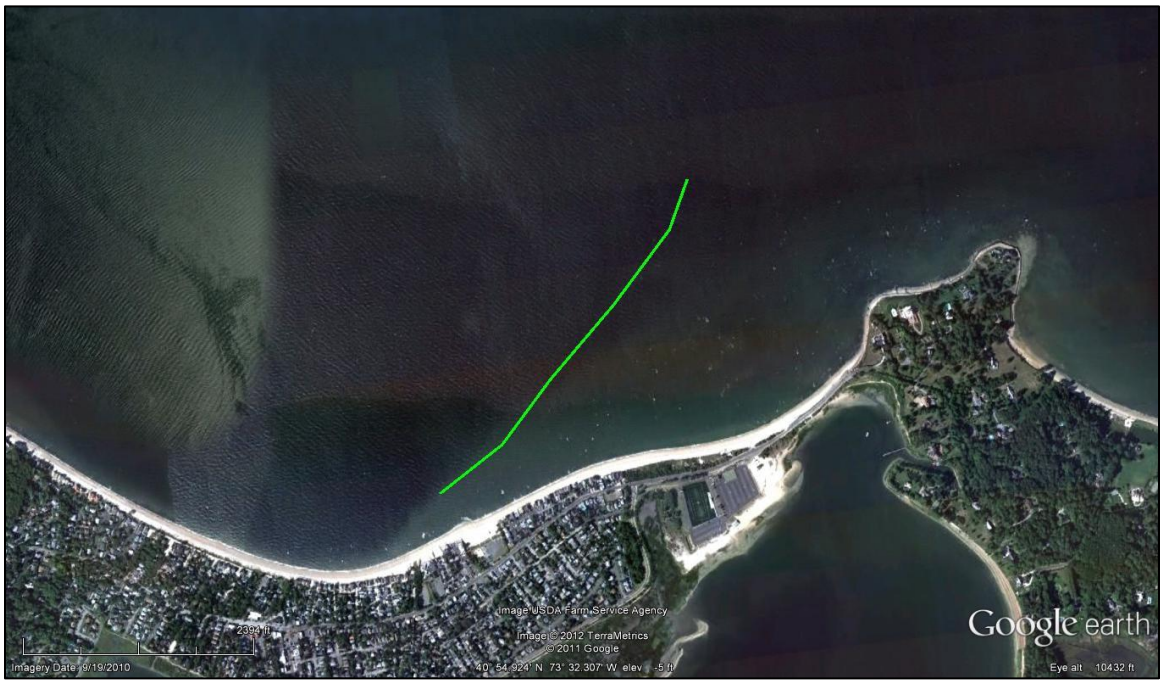
Impacts to Physical Resources - Berm 63 - Asharoken Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint and nearshore area mapped as sand and gravel-sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 456
Bayville

Nearshore Berm 456 – Bayville





Impacts to Environmental Resources - Berm 456 - Bayville

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Nearshore areas shoreward of berm mapped as Coastal Shoals, Bars, or Mudflats	No - resource is not within berm footprint	No - resource is not within berm footprint	Potential - reduction in net littoral transport rate could affect wetland by changing sedimentation rate	Unlikely - no major change in sediment structure	----	Unlikely - except for short term impact in mixing zone during construction	----
Federal & State Listed Species	NY "Significant Coastal Fish & Wildlife Habitat" documented in upland - within 1/10 mile of berm	No - resource not within berm footprint	No - resource in the upland	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing	No - resource in the upland	No - resource in the upland	----
Shellfish	5 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 40507330 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	Oyster Bay National Wildlife Refuge in estuary shoreward of berm, within 1 mile	No - resource not within berm footprint	No - resource in the upland	No - resource is separated from site by barrier beach; suspended sediment during construction temporary and localized	No - resource is separated from site by barrier beach; suspended sediment during construction temporary and localized	----	No - suspended sediment during construction temporary and localized	----
Birds	53 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	4 species documented within 1 mile	Unlikely - whales not documented at site; other marine mammals not susceptible to strikes	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 456 - Bayville

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple bulkheads shoreward of berm; shoreline armoring within 1/2 mile east of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate caused by wave energy reduction may cause accumulation shoreward of berm	-----	No - resource not within berm footprint	Potential - increase in wave energy against bulkheads on western end of berm during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Soundside Beach Park and Center Island Beach are receiving beaches	No - resource not within berm footprint	Potential - reduction in net littoral transport rate caused by wave energy reduction may cause accumulation at beach	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase in wave energy at Soundside Beach on western end of berm during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 456 - Bayville

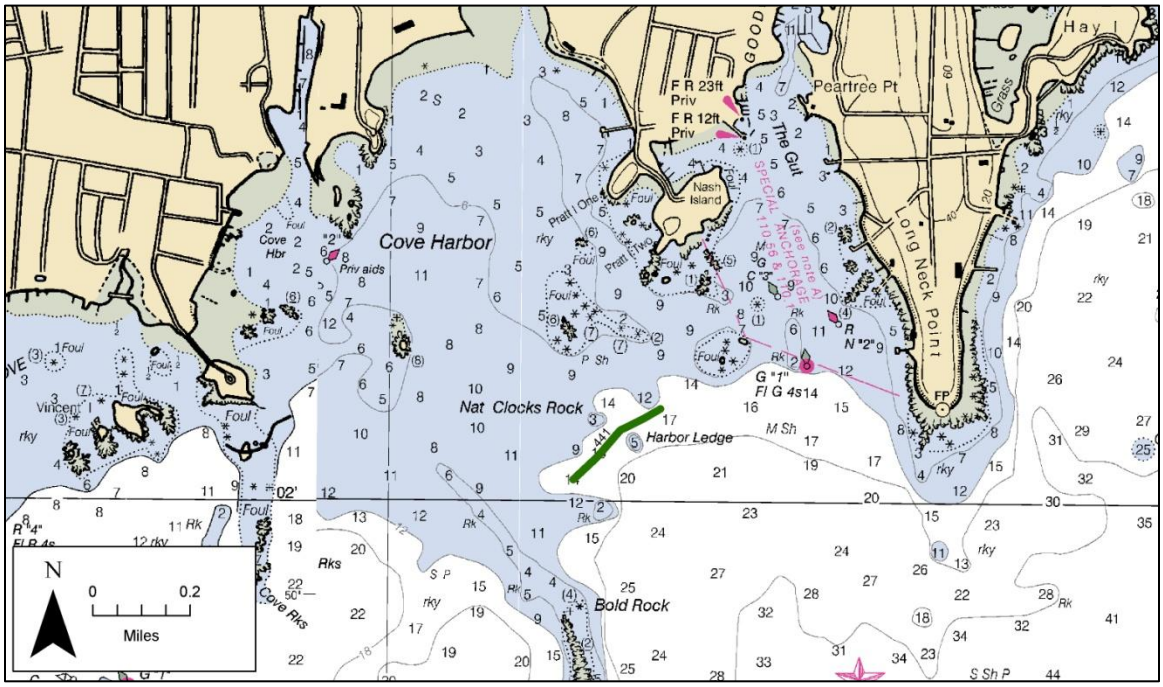
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	Five documented immediately west and shoreward of berm; three documented seaward of berm, within 1/2 mile; five documented west and east of berm, within 1 mile	No - berm construction would not remove or disturb objects on the seafloor	Potential - increased sedimentation caused by diffusion of berm material during storms or reduction in the rate of littoral drift shoreward of the berm	Potential - increased sedimentation to proximal resources caused by settling of suspended material generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

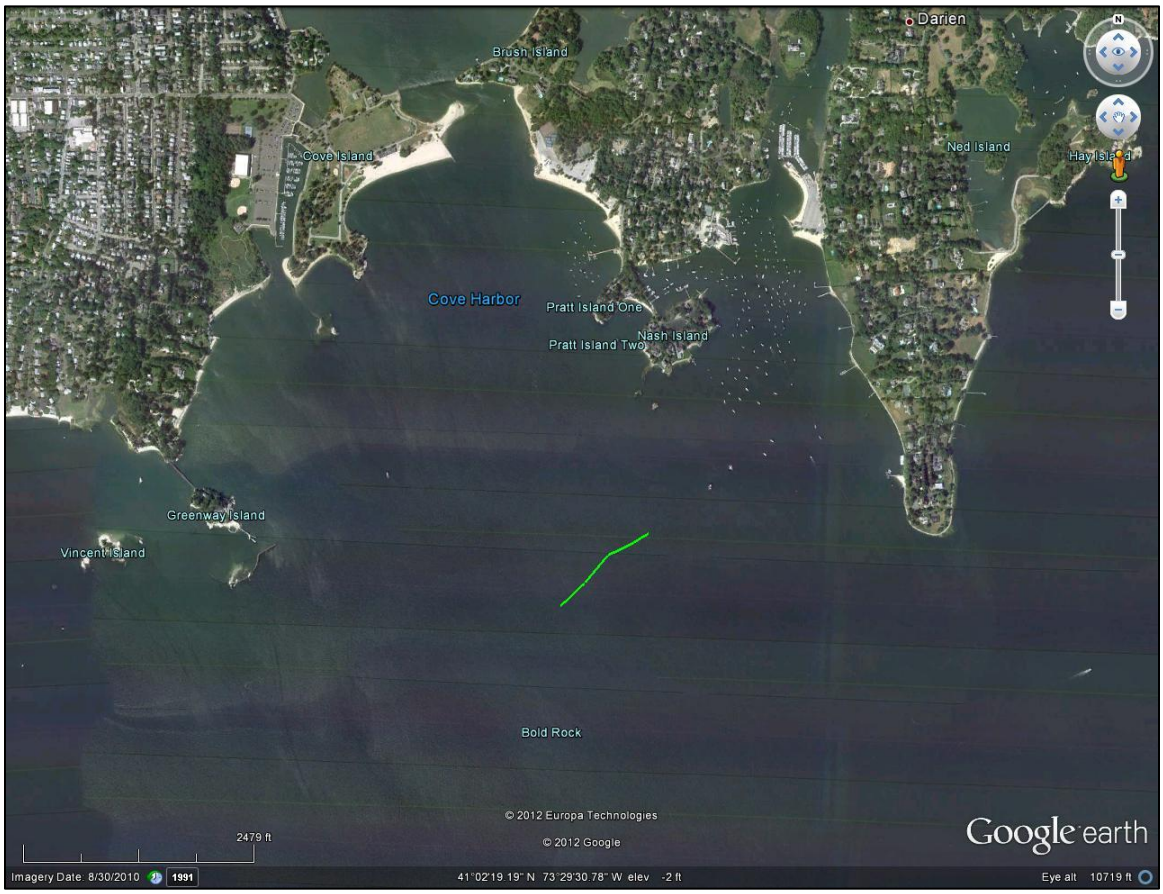
Impacts to Physical Resources - Berm 456 - Bayville

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint mapped as sand/silt/clay and silt-clay/sand; nearshore area mapped as sand	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Potential - minor channalization of tidal flow to/from Oyster Bay
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 441
Cove Island Beach

Nearshore Berm 441 – Cove Island Beach





Impacts to Environmental Resources - Berm 441 - Cove Island Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat in upland approximately 1 mile from site	No - resource not within berm footprint	No - resource in the upland	----	Unlikely - minimal increase/reduction in wave energy along shoreline due to wave interaction with berm; therefore no expected shoreline erosion caused by wave focusing	No - resource in the upland	No - resource in the upland	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007320 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	53 species documented within 1 mile radius	----	----	----	No - interaction of berm with incident waves will not result in loss of coastline habitat for shore dependent species	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	10 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 441 - Cove Island Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	Moorings in eastern Cove Harbor and Noroton Harbor special anchorage area within 1 mile of eastern end of berm	-----	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	No - post-construction water depths will not affect boat traffic to mooring areas	No - resource not within berm footprint	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Breakwater to northwest within 1 mile of berm, multiple shoreline armoring and groins within 1 mile of berm	No - resource not within berm footprint	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	-----	No - resource not within berm footprint	Unlikely - minimal increase/reduction in wave energy along shoreline due to wave interaction with berm
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Cove Island Park beach is receiving beach; Weed Beach Park within 1 mile to north; Norton Yacht Club and Darien Boat Club within 1 mile to northeast of berm	No - resource not within berm footprint	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - minimal increase/reduction in wave energy along shoreline due to wave interaction with berm
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 441 - Cove Island Beach

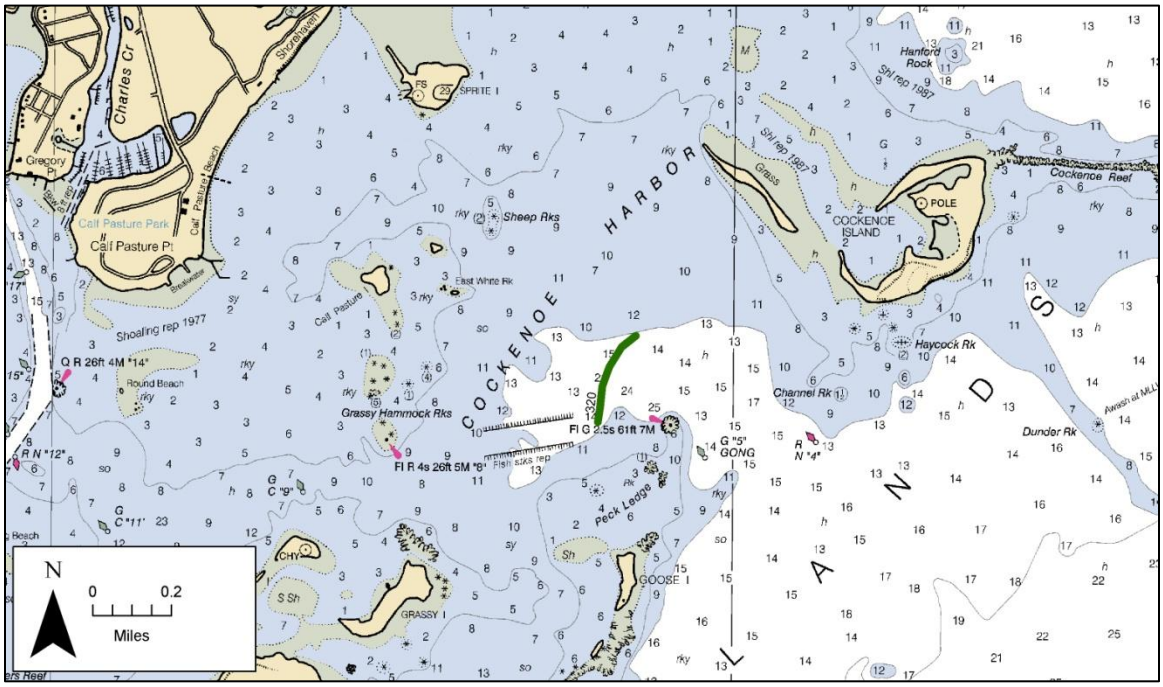
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	Multiple documented in nearshore areas shoreward of berm, within 1 mile	No - resources not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms	Unlikely - resources outside suspended sediment plume generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

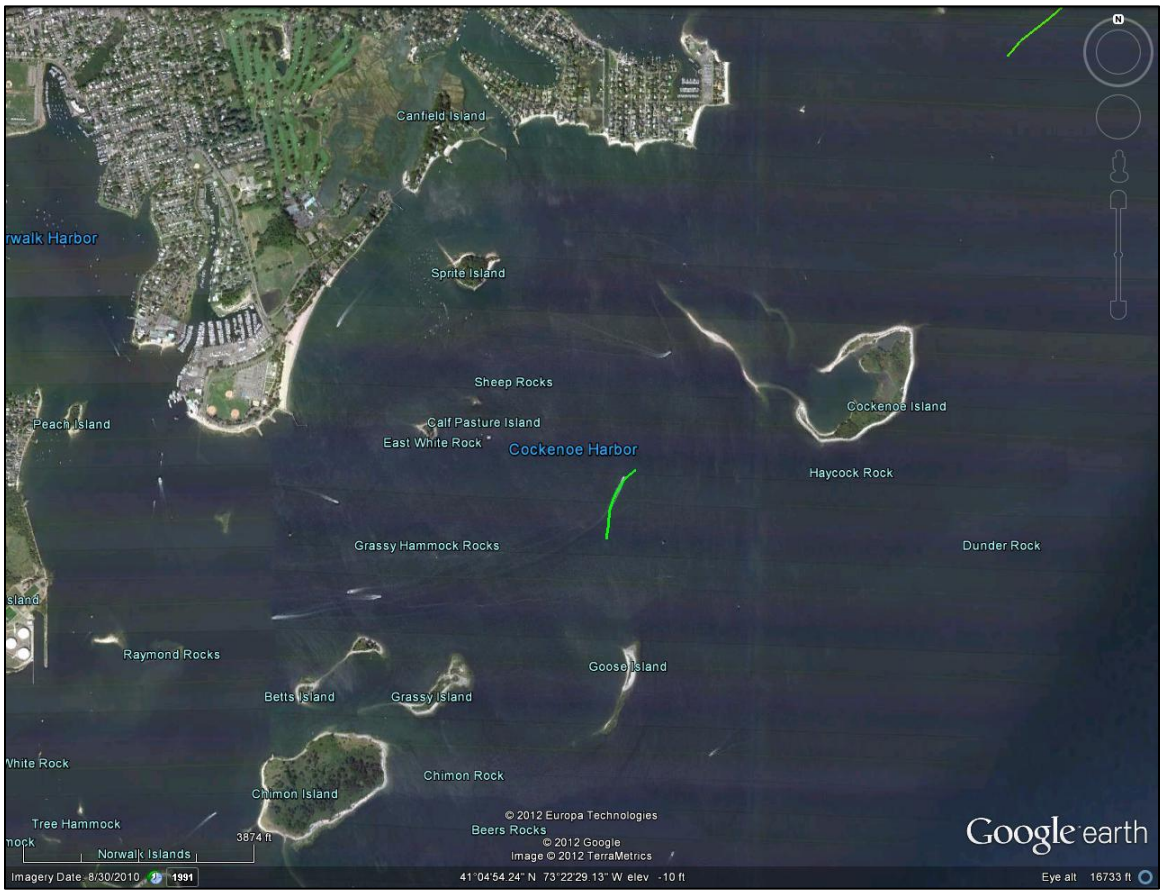
Impacts to Physical Resources - Berm 441 - Cove Island Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint and nearshore area mapped as gravel and silt-clay/sand	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Unlikely - minimal increase/reduction in wave energy along shoreline caused by wave interaction with berm

Nearshore Berm 320
Calf Pasture Beach

Nearshore Berm 320 – Calf Pasture Beach





Impacts to Environmental Resources - Berm 320 - Calf Pasture Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Portions of islands within 1/2 mile of site mapped as wetlands	No - resource is not within berm footprint	No - resource is not within berm footprint	Unlikely - minimal increase/reduction in erosion along shorelines due to wave interaction with berm	Unlikely - berm footprint mapped as silt-clay/sand; nearshore areas mapped as gravel-sand and sand, so no major change in sediment structure	----	Unlikely - except for short term impact in mixing zone during construction	----
Federal & State Listed Species	Listed species habitat on islands and nearshore area within 1/2 mile of site	No - resource not within berm footprint	No - resource on the adjacent islands	----	Unlikely - resource is not proximal to project footprint and little or no expected change in erosion along shorelines	Unlikely - resource on the adjacent islands	Unlikely - resource on the adjacent islands	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007320 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	Stewart B. McKinney National Wildlife Refuge on island SW of berm, within 1 mile	No - resource not within berm footprint	No - resource on the adjacent islands	No - wave impact zone from berm would not reach resource seaward and west of site	No - wave impact zone from berm would not reach resource seaward and west of site	----	No - resouce is in the upland	----
Birds	29 species documented within 1 mile radius	----	----	----	No - interaction of berm with incident waves will not result in loss of coastline habitat for shore dependent species	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 320 - Calf Pasture Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	Moorings at Sprite Island Yacht Club within 1 mile northwest of berm	-----	No - no change expected with stable berm	No - post-construction water depths will not affect boat traffic to mooring areas	No - resource not within berm footprint	-----
Navigation Channels & Shipping	Channel to Bermuda Lagoon within 1 mile north of berm	-----	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	No - post-construction water depths will not affect boat traffic to channel	No - resource not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins and shoreline armoring approximately 1 mile from berm	No - resource not within berm footprint	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	-----	No - resource not within berm footprint	Unlikely - minimal increase/reduction in wave energy along shoreline due to wave interaction with berm
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Calf Pasture Park beach is receiving beach	No - resource not within berm footprint	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - minimal increase/reduction in wave energy along shoreline due to wave interaction with berm
Commerical & Industrial Facilities	Sprite Island Yacht Club within 1 mile northwest of berm	No - resource not within berm footprint	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 320 - Calf Pasture Beach

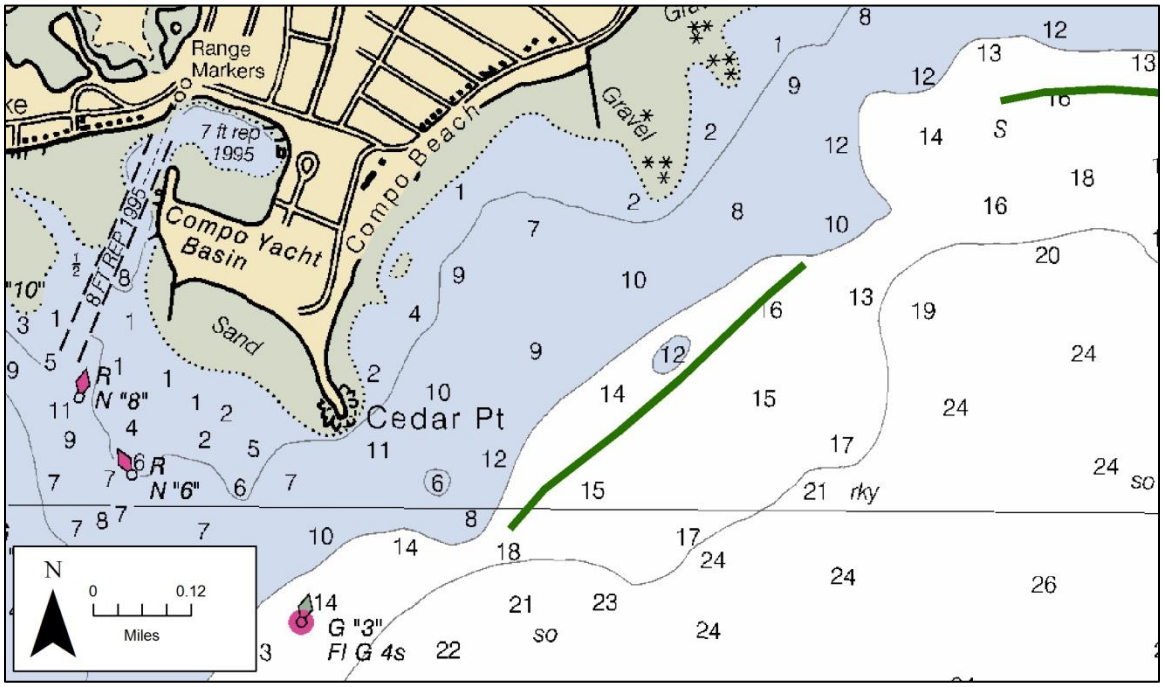
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	One documented shoreward and southeast of berm, within 1/2 mile; five documented seaward of berm, within 1/2 mile	No - resources not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 320 - Calf Pasture Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint mapped as silt-clay/sand; nearshore areas mapped as gravel-sand and sand	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Unlikely - minimal increase/reduction in wave energy along shoreline due to wave interaction with berm

Nearshore Berm 440
Compo Beach

Nearshore Berm 440 – Compo Beach



Impacts to Environmental Resources - Berm 440 - Compo Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Small wetland area located approximately 1/2 mile from site	No - resource not within berm footprint	No - resource not within berm footprint	Potential - change in wave action or migration of berm could affect wetland by changing sedimentation rate	Potential - change in wave action or migration of berm could affect wetland by changing sedimentation rate	----	Unlikely - except minor change in mixing zone during construction	----
Federal & State Listed Species	Listed species in upland within 1/2 mile of site	No - resource not within berm footprint	No - resource in the upland	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	No - resource in the upland	No - resource in the upland	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007320 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	22 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 440 - Compo Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins and shoreline armoring within 1 mile of berm	No - resource not within berm footprint	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	-----	No - resource not within berm footprint	Potential - increase/reduction in wave energy along shoreline during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Compo Beach is receiving beach; Sherwood Island State Park within 1 mile east of berm	No - resource not within berm footprint	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase/reduction in wave energy along shoreline of Compo Beachduring larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 440 - Compo Beach

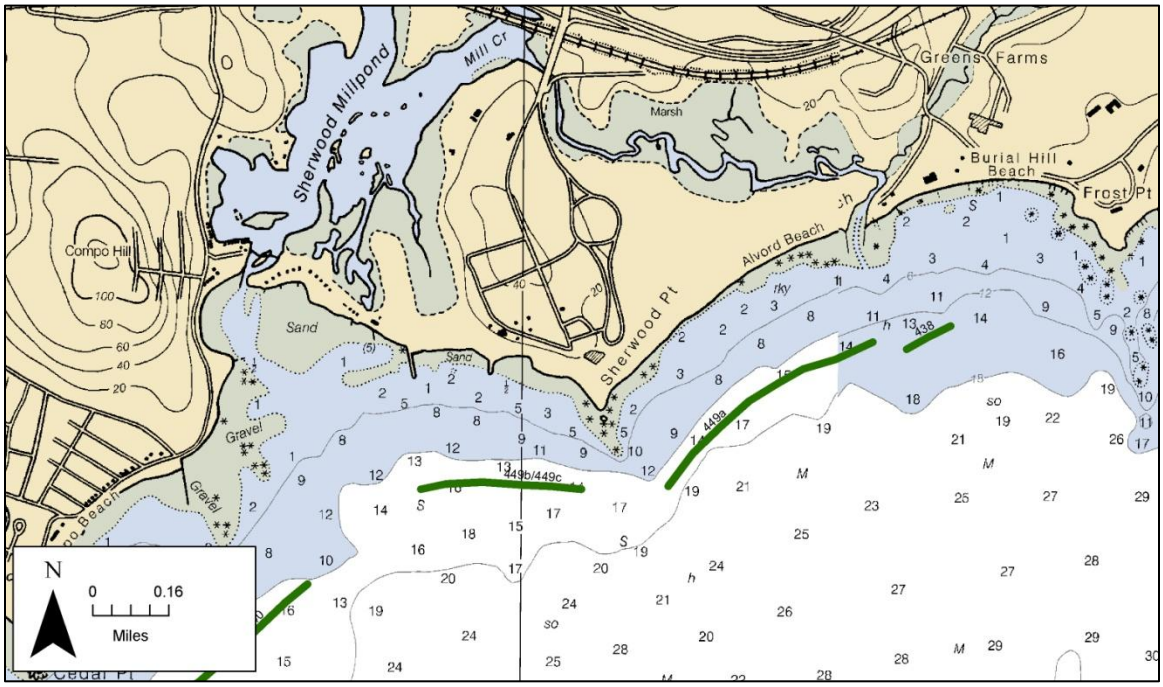
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	One documented shoreward of berm, within 1/2 mile; one documented seaward of berm, within 1/2 mile	No - resources not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms or reduction in the rate of littoral drift shoreward of the berm	Potential - increased sedimentation at shoreward recource caused by settling of suspended material generated during construction
Historic Districts	Compo/Owenoke Historic District shoreward of berm, within 1/2 mile	No - resources not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms or reduction in the rate of littoral drift shoreward of the berm	-----
Archaeological Sites	None documented	NA	NA	-----

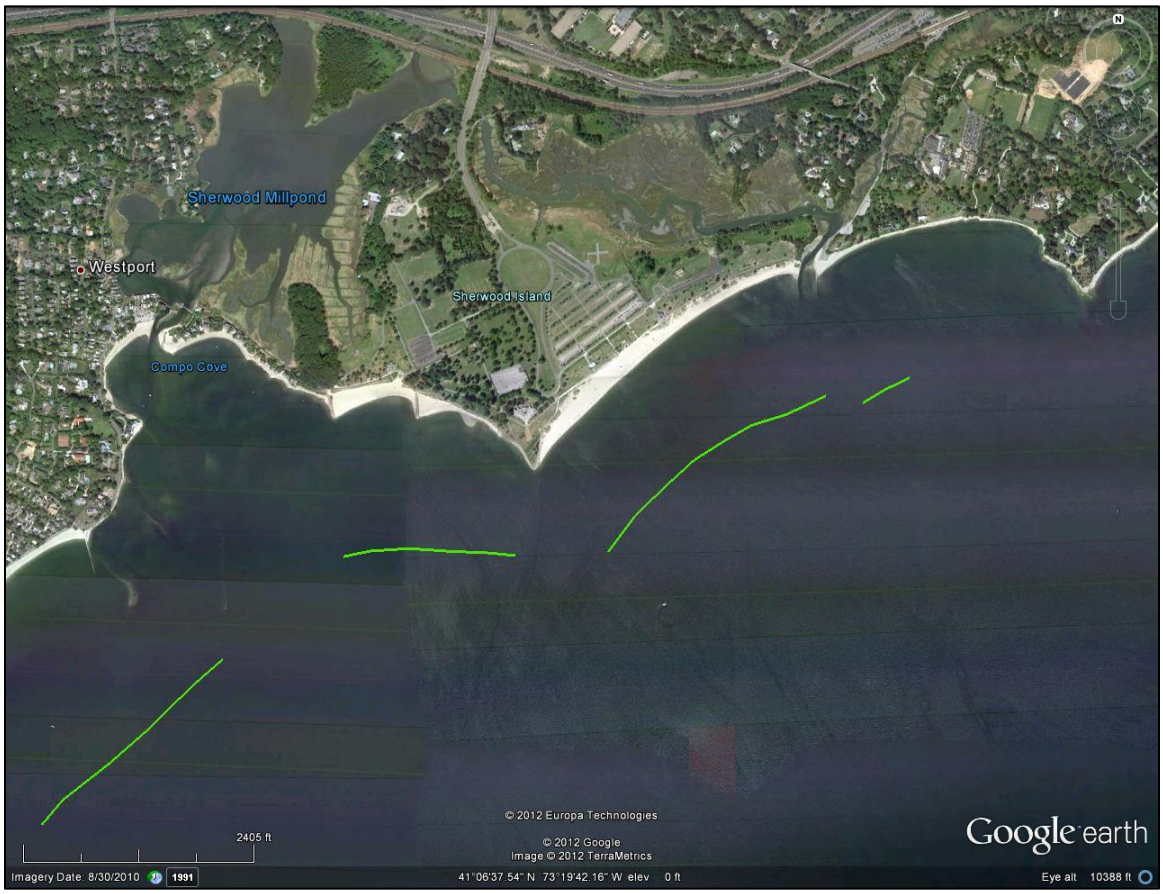
Impacts to Physical Resources - Berm 440 - Compo Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint mapped as sand, and silt-clay/sand; nearshore areas mapped as gravel-sand	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Potential - minor channalization of tidal flow to/from adjacent estuaries
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 449
Sherwood Island Beach

Nearshore Berm 449 – Sherwood Island Beach





Impacts to Environmental Resources - Berm 449 - Sherwood Island State Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species in upland within 1/4 mile of site	No - resource not within berm footprint	No - resource in the upland	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	No - resource in the upland	No - resource in the upland	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007310 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	6 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 449 - Sherwood Island State Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins within 1/2 mile of berms; jetties between Alvord Beach and Burial Hill Beach within 1/2 mile northeast of berms	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction	-----	No - resource not within berm footprint	Potential - increase/reduction in wave energy along shoreline during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Sherwood Island State Park beach and Alvord Beach are receiving beaches; Burial Hill Beach within 1/2 mile northeast of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase/reduction in wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 449 - Sherwood Island State Park

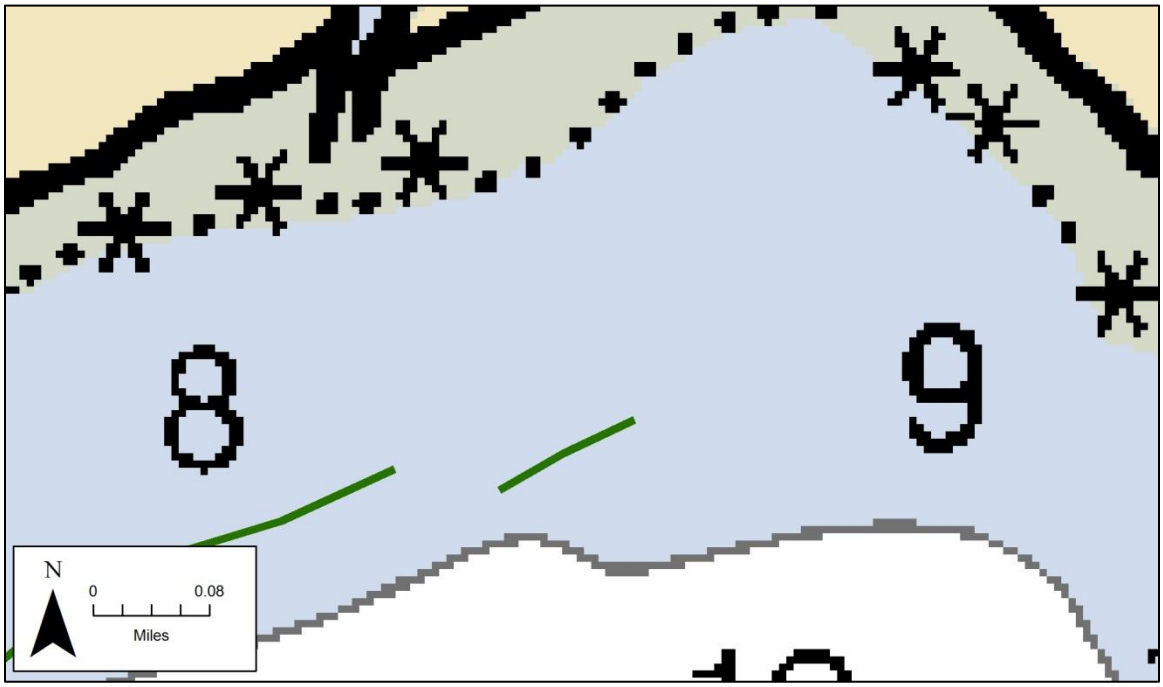
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	Mill Cove Historic District west of State Park beach, within 1/2 mile	No - resources not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms or reduction in the rate of littoral drift shoreward of the berm	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 449 - Sherwood Island State Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore areas mapped as sand and gravel-sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Potential - minor channalization of tidal flow to/from adjacent estuaries
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 438
Burial Hill Beach

Nearshore Berm 438 – Burial Hill Beach



Impacts to Environmental Resources - Berm 438 - Burial Hill Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat wthin berm footprint and in upland	Potential - if species are immobile and in construction footprint	Potential - if species are immobile and in footprint area	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	Potential - short term impact if species are sedentary	Potential - short term impact if species are sedentary	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007310 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	6 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 438 - Burial Hill Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Jetties between Alvord Beach and Burial Hill Beach within 1/2 mile of berm; multiple groins within 1 mile northeast and northwest of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction	-----	No - resource not within berm footprint	Potential - increase/reduction in wave energy along shoreline during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Burial Hill Beach is receiving beach; Sherwood Island State Park beach and Alvord Beach within 1 mile northwest of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase/reduction in wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 438 - Burial Hill Beach

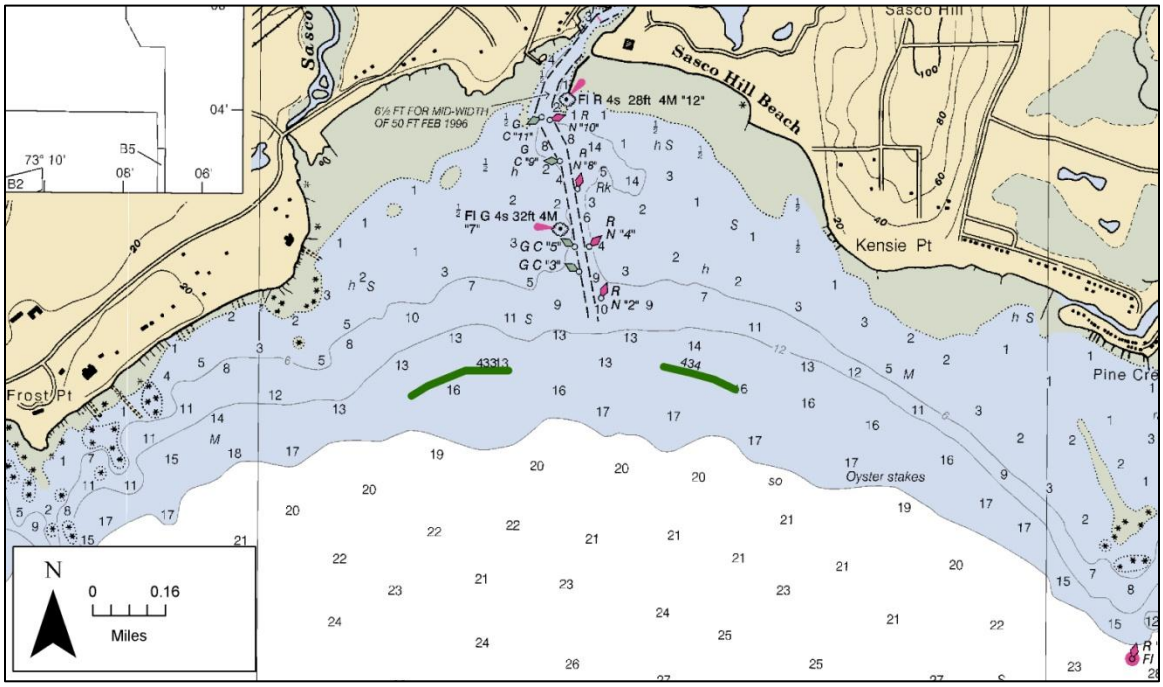
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

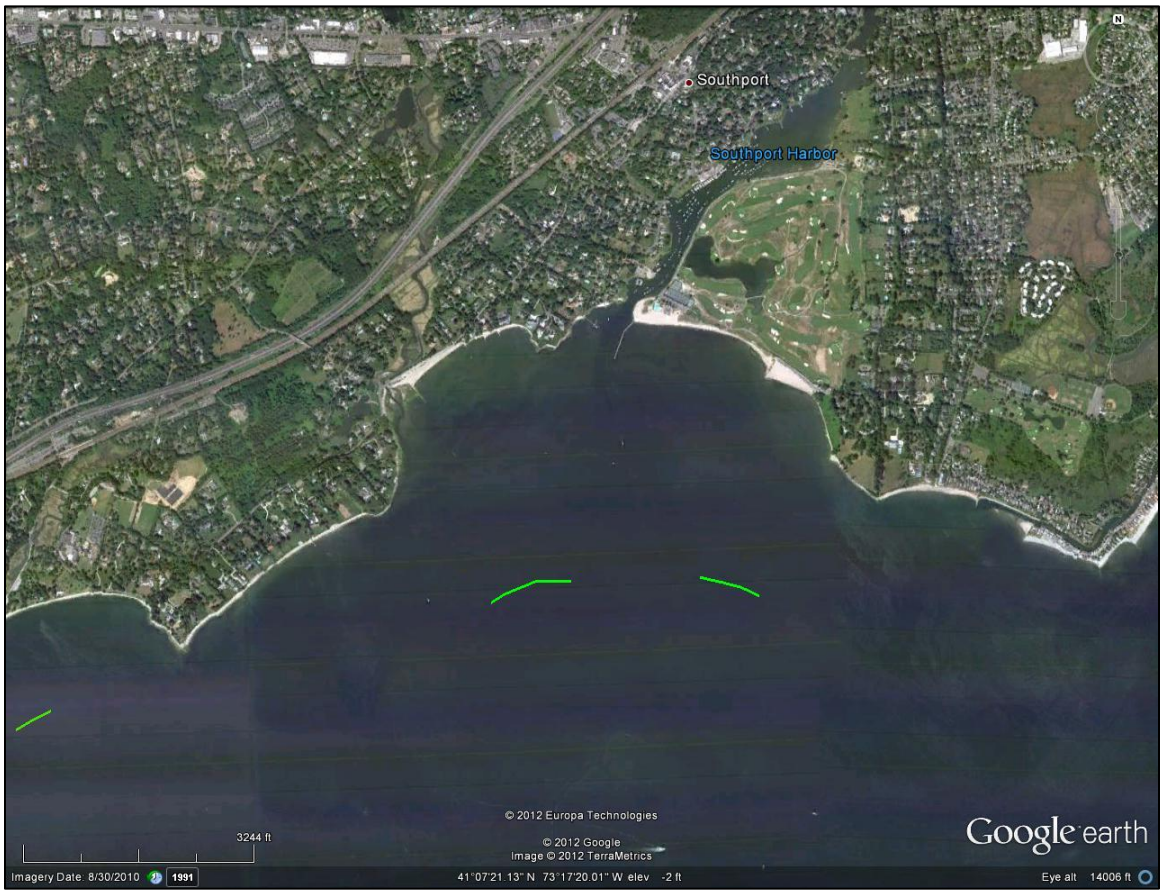
Impacts to Physical Resources - Berm 438 - Burial Hill Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore areas mapped as sand and gravel-sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Potential - minor channalization of tidal flow to/from adjacent estuary
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 433
Southport Beach

Nearshore Berm 433 – Southport Beach





Impacts to Environmental Resources - Berm 433 - Southport Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat in upland within 1 mile of site	No - resource not within berm footprint	No - resource in the upland	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	No - resource in the upland	No - resource in the upland	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007310 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	1 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 433 - Southport Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Channel to Southport Harbor within 1/2 mile to northeast of berm	-----	Unlikely - direction of net littoral transport is away from resource	Unlikely - post-construction water depths will not affect boat traffic to channel	No - resource not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Groins on Southport Beach; multiple groins and shoreline armoring, and jetty within 1 mile of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west at groins shoreward of berm caused by wave energy reduction	-----	No - resource not within berm footprint	Potential - increase/reduction in wave energy at adjacent structures/Southport Beach groins during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Southport Beach is receiving beach; Sasco Hill Beach and Country Club of Fairfield within 1 mile northeast of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west at receiving beach caused by wave energy reduction	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase/reduction in wave energy at adjacent beaches/Southport Beach during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 433 - Southport Beach

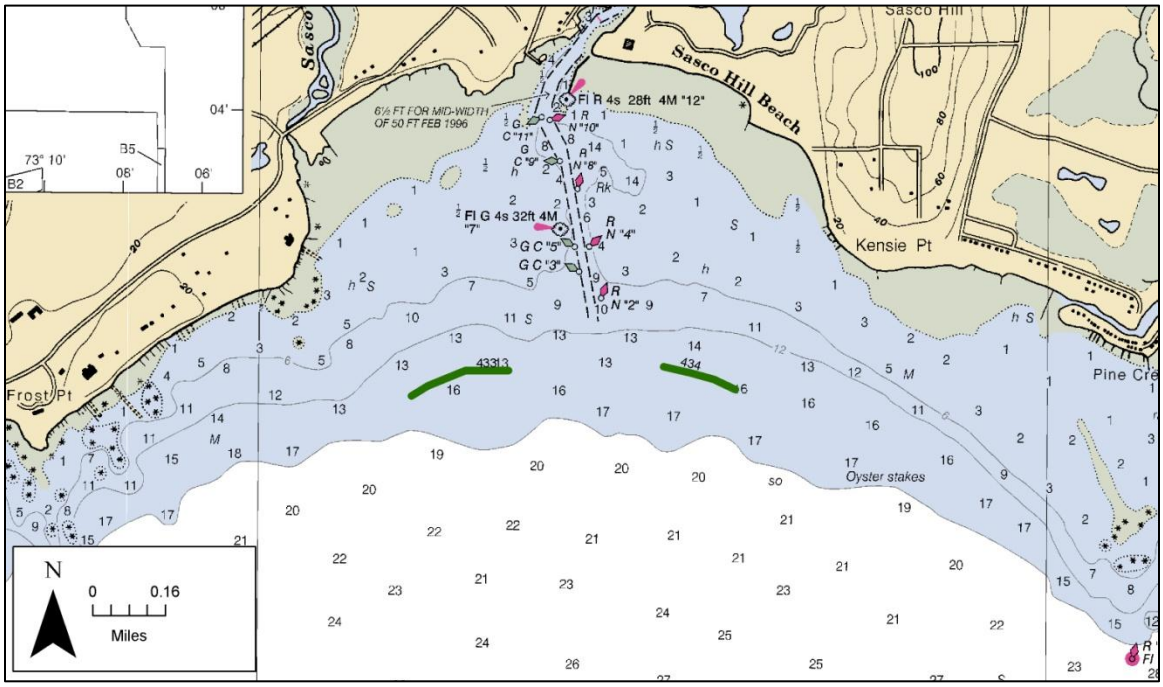
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	One documented west of berm, within 1/2 mile; one documented shoreward and east of berm, within 1/2 mile	No - resources not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	Southport and Sasco Hill Historic Districts shoreward of berm, within 1 mile	No - resources not within berm footprint	Potential - resources inside possible shoreline erosion zone caused by wave focusing	-----
Archaeological Sites	None documented	NA	NA	-----

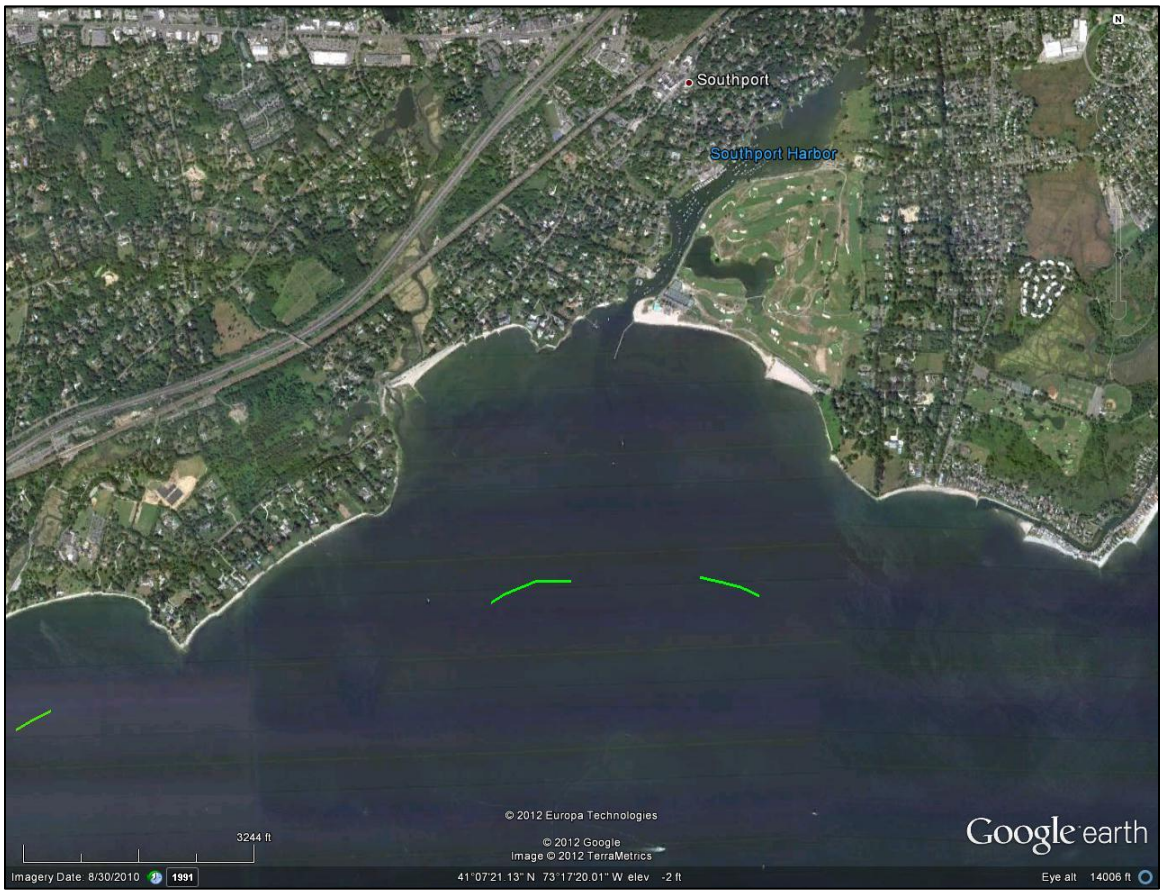
Impacts to Physical Resources - Berm 433 - Southport Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore areas mapped as sand, gravel-sand, and gravel	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 434
Sasco Hill Beach

Nearshore Berm 434 – Sasco Hill Beach





Impacts to Environmental Resources - Berm 434 - Sasco Hill Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat at shoreline within 1/2 mile of site	No - resource not within berm footprint	No - resource in the upland	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	Unlikely - resource at shoreline 1/2 mile from site	Unlikely - resource at shoreline 1/2 mile from site	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007310 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	1 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 434 - Sasco Hill Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Channel to Southport Harbor within 1/2 mile to northwest of berm	-----	Unlikely - reduction in net littoral transport rate from east to west at jetty northwest of berm caused by wave energy reduction	Unlikely - post-construction water depths will not affect boat traffic to channel	No - resource not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Groin and bulkhead bounding Sasco Hill Beach; multiple groins and shoreline armoring, and jetty within 1 mile of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west at groin shoreward of berm caused by wave energy reduction	-----	No - resource not within berm footprint	Potential - increase/reduction in wave energy at adjacent structures/Sasco Hill Beach groin during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Southport Beach is receiving beach; Sasco Hill Beach and Country Club of Fairfield within 1 mile northeast of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west at receiving beach caused by wave energy reduction	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase/reduction in wave energy at Country Club/Sasco Hill Beach during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 434 - Sasco Hill Beach

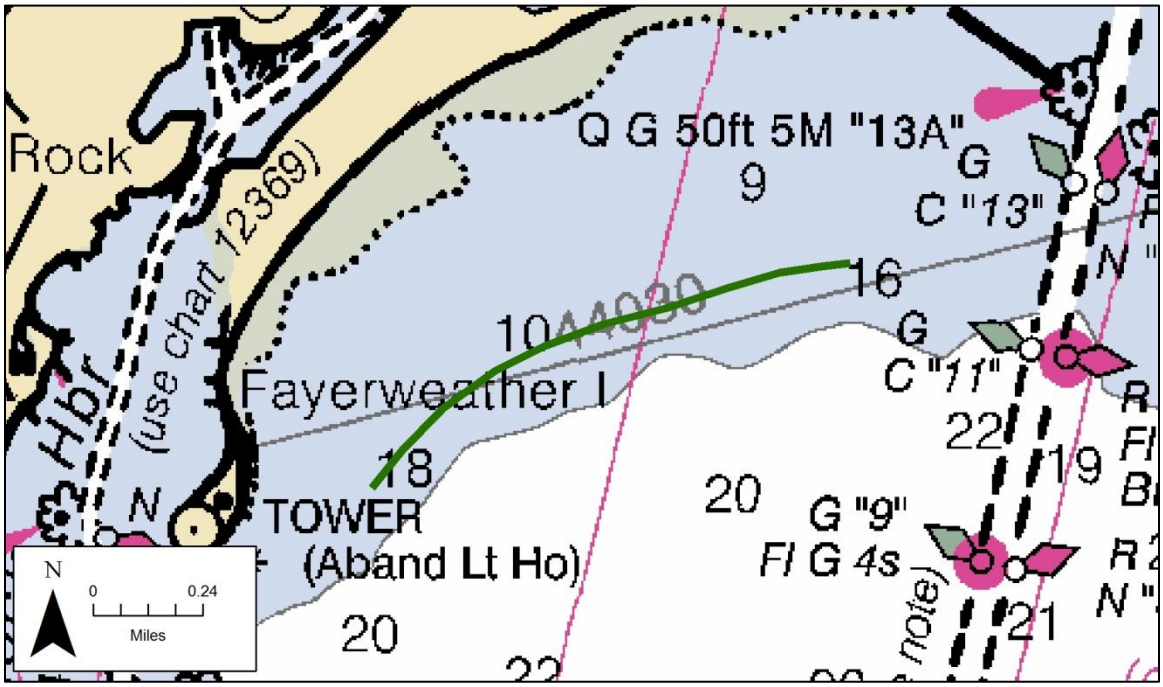
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	One documented west and shoreward of berm, within 1/2 mile	No - resources not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	Southport and Sasco Hill Historic Districts shoreward and west of berm, within 1 mile	No - resources not within berm footprint	Potential - resources inside possible shoreline erosion zone caused by wave focusing	-----
Archaeological Sites	None documented	NA	NA	-----

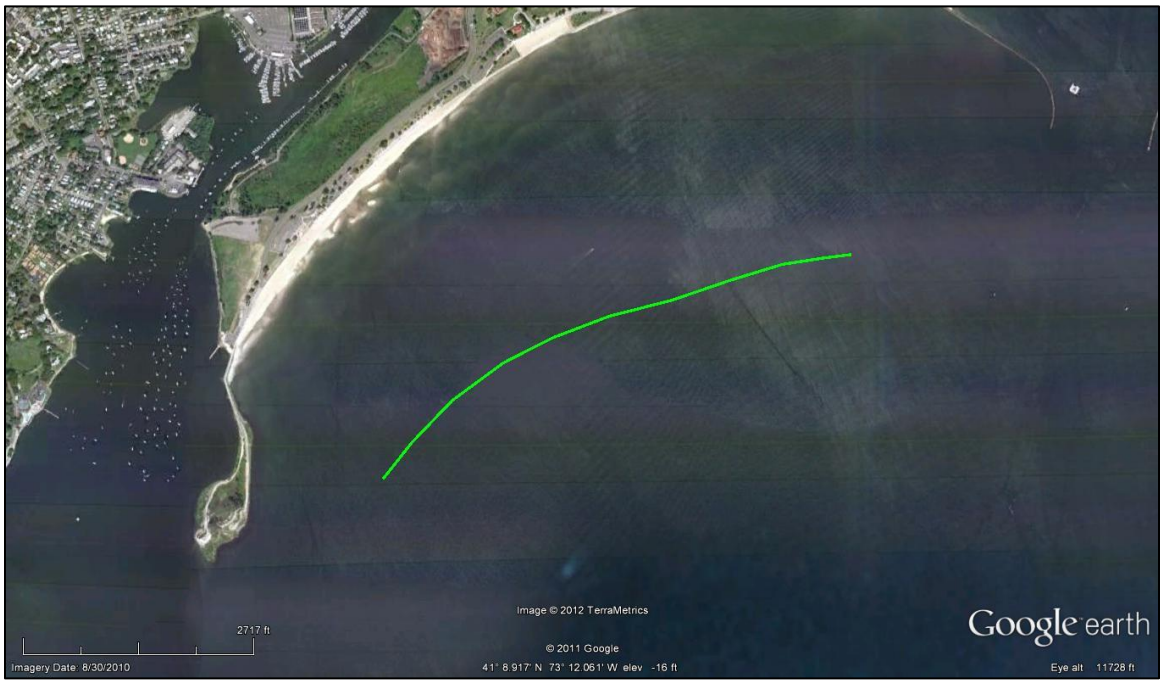
Impacts to Physical Resources - Berm 434 - Sasco Hill Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint and nearshore areas mapped as sand, and silt-clay/sand	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 323
Seaside Beach

Nearshore Berm 323 – Seaside Beach





Impacts to Environmental Resources - Berm 323 - Seaside Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species shoreward of site and in upland within 1/2 mile of site	No - resource not within berm footprint	No - resource not within berm footprint	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	Potential - if species are sedentary	Potential - short-term impact if species are sedentary	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007310 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	1 species documented within 1 mile radius	----	----	----	Unlikely - loss of coastline areas for shore dependent species not expected due to wave sheltering	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

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Impacts to Infrastructure Resources - Nearshore Berm 323 - Seaside Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	Black Rock Harbor behind Seaside Beach	-----	No - harbor isolated from harbor by Fayerweather Island and Seaside Beach	No - boat traffic to moorings does not overlap berm	No - resource not within berm footprint	-----
Navigation Channels & Shipping	Channels to Black Rock Harbor and Bridgeport Harbor within 1 mile to west and east of berm; medium to high density vessel traffic to both harbors	-----	Unlikely - reduction in net littoral transport rate from east to west at Fayerweather Island northwest of berm caused by wave energy reduction	Unlikely - current vessel patterns do not impinge on proposed berm footprint	No - resource not within berm footprint	-----
Ports	Port of Bridgeport within 1 mile northeast of berm	No - resource not within berm footprint	No - net littoral transport is away from resource	Unlikely - current vessel patterns do not impinge on proposed berm footprint	-----	-----
Coastal Structures	Seawalls and shoreline armoring on either side of beach; Bridgeport Harbor jetty within 1 mile northeast of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction may result in accumulation along armoring at Fayerweather Island	-----	No - resource not within berm footprint	Unlikely - reduced wave energy along seawall during larger wave events
Cable/power/utility crossings	Cable area near Black Rock Harbor channel within 1 mile west of berm	No - resource not within berm footprint	Unlikely - reduction in net littoral transport rate from east to west at Fayerweather Island northwest of berm caused by wave energy reduction	-----	No - resource not within berm footprint	Unlilkely - Fayerweather Island would attenuate any deflected waves from berm

Impacts to Infrastructure Resources - Nearshore Berm 323 - Seaside Beach (continued)

Recreational Areas	Seaside Beach is receiving beach; boat ramp in Black Rock Harbor behind beach	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west at receiving beach caused by wave energy reduction	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - reduced wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	Seaside Beach Park is a former landfill; Sikorsky Aircraft Company is adjacent to beach and park	No - resource not within berm footprint	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 323 - Seaside Beach

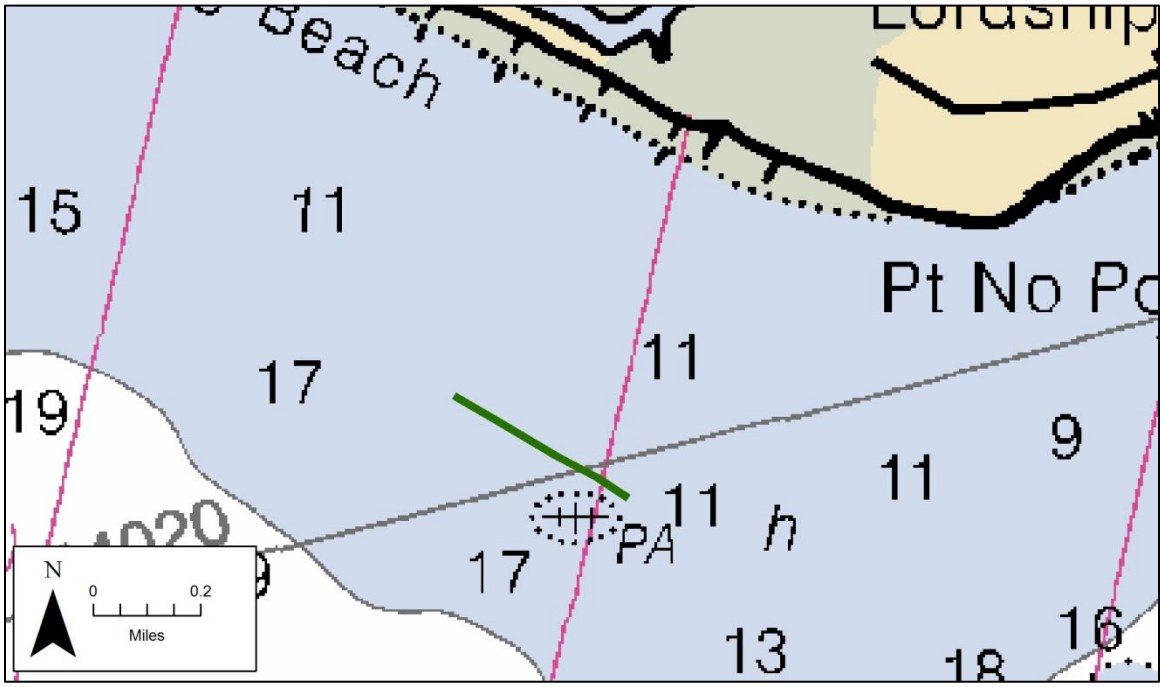
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	Two documented west of berm, within 1/2 to 3/4 mile; five documented east of berm, within 1/2 to 1 mile	No - resources not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	Seaside Park Historic District shoreward of berm, within 1/2 mile	No - resources not within berm footprint	Potential - resources inside possible shoreline erosion zone caused by wave focusing. Potential positive impact from beach accretion caused by diffusion of berm material during storms or reduction in the rate of littoral drift shoreward of the berm	-----
Archaeological Sites	None documented	NA	NA	-----

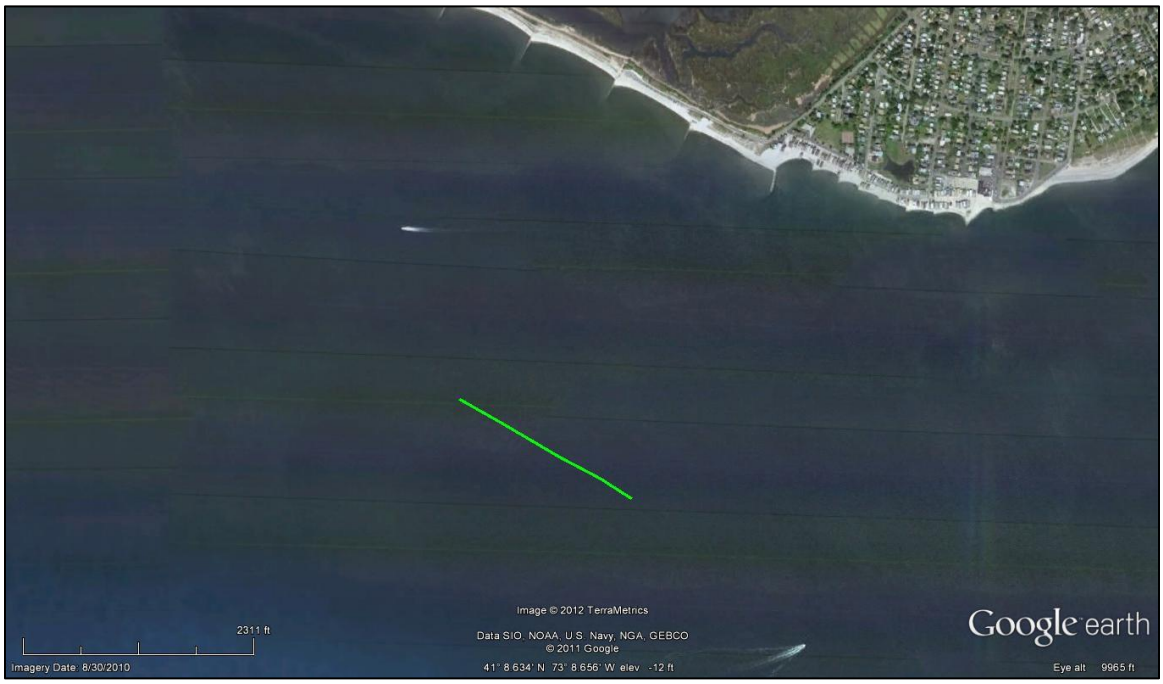
Impacts to Physical Resources - Berm 323 - Seaside Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint and nearshore areas mapped as sand, gravel-sand, and silt-clay/sand	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Potential - channalization of tidal flow to/from Bridgeport Harbor
Waves	----	----	Potential - reduced wave energy along shoreline during larger wave events

Nearshore Berm 467
Long Beach

Nearshore Berm 467 – Long Beach





Impacts to Environmental Resources - Berm 467 - Long Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Extensive wetland on landward side of barrier beach, but not within influence of berm	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat in nearshore and upland area within 3/4 mile of site	No - resource not within berm footprint	No - resource not within berm footprint	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	Potential - if species are sedentary	Potential - short-term impact if species are sedentary	----
Shellfish	2 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007300 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	Stewart B. McKinney National Wildlife Refuge in upland shoreward of berm, within 1 mile	No - resource not within berm footprint	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms; reduction/increase in the rate of littoral drift due to wave changes	Potential - increased erosion of shoreline at resource caused by potential wave focusing	----	No - resouce is in the upland	----
Birds	26 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 467 - Long Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins along shoreline within 1 mile of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction may result in accumulation at groins shoreward of berm	-----	No - resource not within berm footprint	Potential - increased wave energy at adjacent groins during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Long Beach is receiving beach	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction may result in accumulation at receiving beach	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increased wave energy at adjacent beaches during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 467 - Long Beach

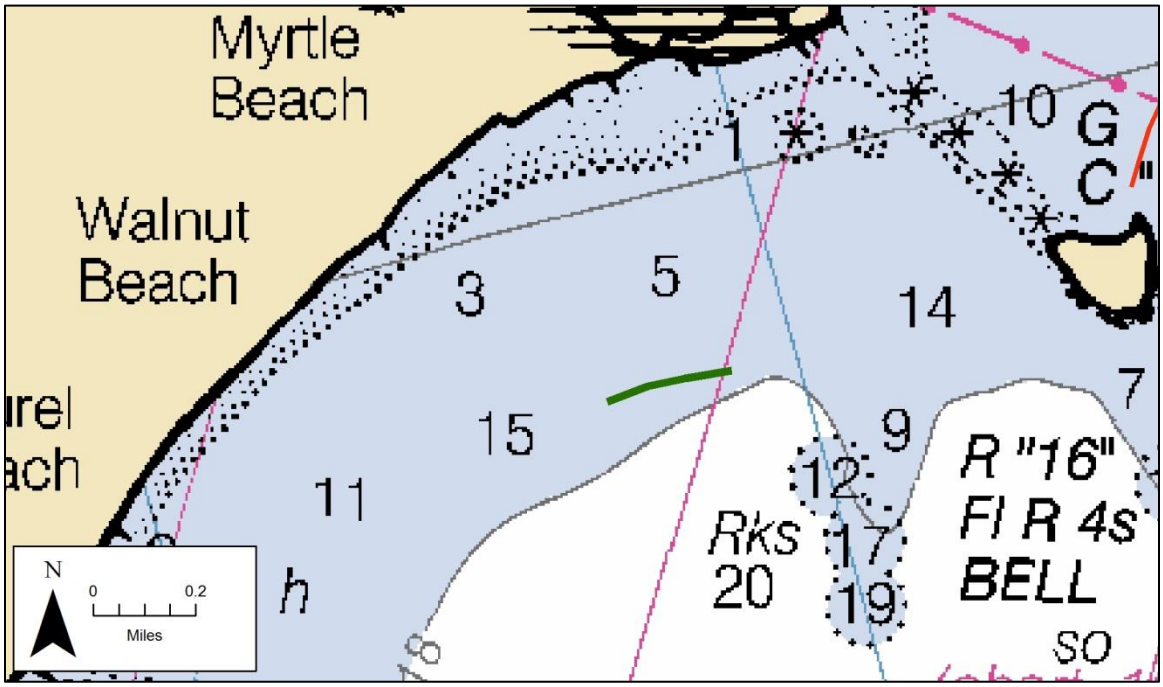
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	Two documented shoreward and west of berm, within 1/2 mile	No - resources not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

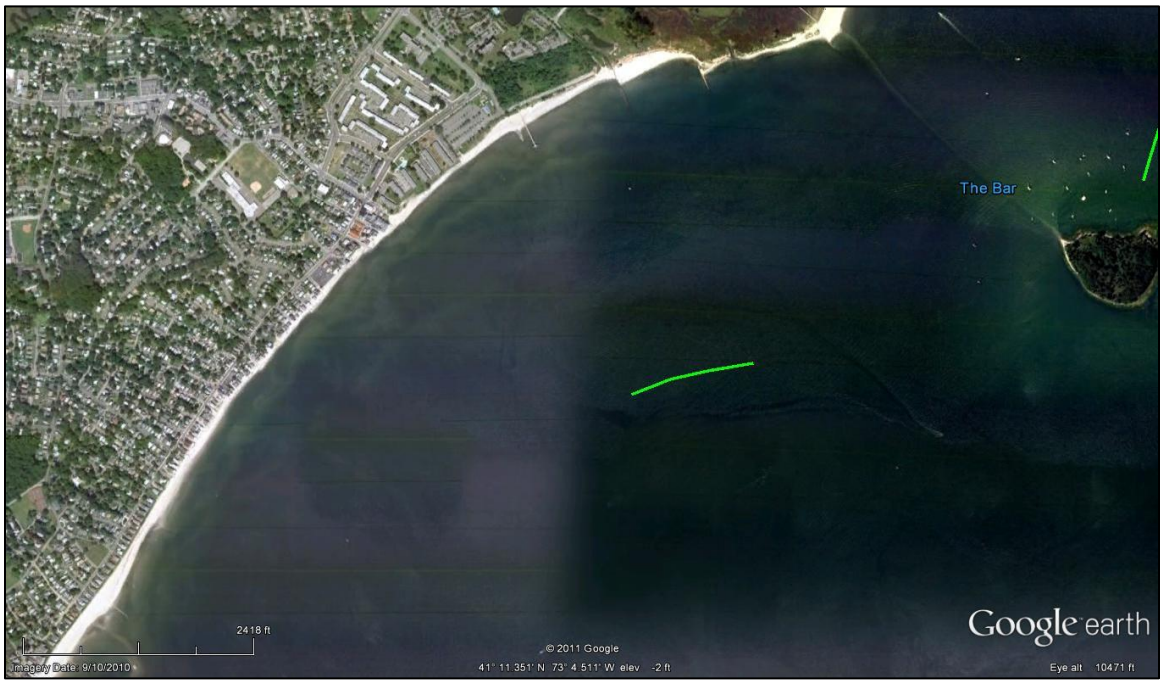
Impacts to Physical Resources - Berm 467 - Long Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore areas mapped as sand and gravel-sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction/increase in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 364
Silver Sands State Park

Near**shore Berm 364 – Silver Sands State Park**





Impacts to Environmental Resources - Berm 364 - Silver Sands State Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Small wetland on landward side of barrier beach, but not within influence of berm	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat within berm footprint and in upland and nearshore areas within 1/2 mile of site	Potential - if species are immobile and present within footprint area	Potential - if species are immobile and present within footprint area	----	Potential - resource habitat inside berm footprint, and mapped shoreline habitat subject to possible shoreline erosion caused by wave focusing during larger wave events	Potential - short term impact if species are sedentary	Potential - short term impact if species are sedentary	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007310 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	Silver Sands State Park/Charles Island Natural Area Preserve in upland shoreward of berm, within 1 mile	No - resource not within berm footprint	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms; reduction/increase in the rate of littoral drift due to wave changes	Potential - increased erosion of shoreline at resource caused by potential wave focusing	----	No - resouce is in the upland	----

Impacts to Environmental Resources - Berm 364 - Silver Sands State Park (continued)

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Birds	8 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 364 - Silver Sands State Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins along shoreline within 1 mile north and west of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction may result in accumulation at groins shoreward of berm	-----	No - resource not within berm footprint	Potential - increased wave energy at adjacent groins during larger wave events
Cable/power/utility crossings	Iroquois gas pipeline within 1 mile northeast of berm	No - resource not within berm footprint	No - net littoral transport is away from resource	-----	No - resource not within berm footprint	Unlikely - wave deflection not likely to produce scour
Recreational Areas	Silver Sands State Park Beach is receiving beach; boat launch at park within 1 mile northeast of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction may result in accumulation at receiving beach	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increased wave energy at adjacent beaches during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

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Impacts to Cultural Resources - Nearshore Berm 364 - Silver Sands State Park

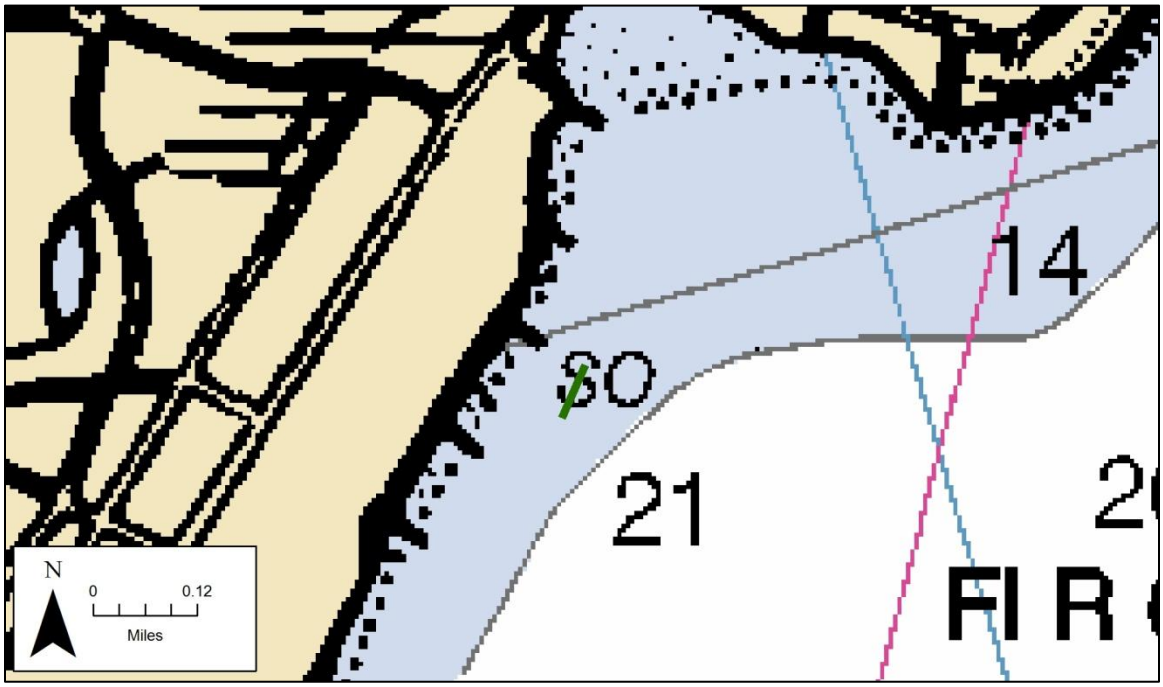
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

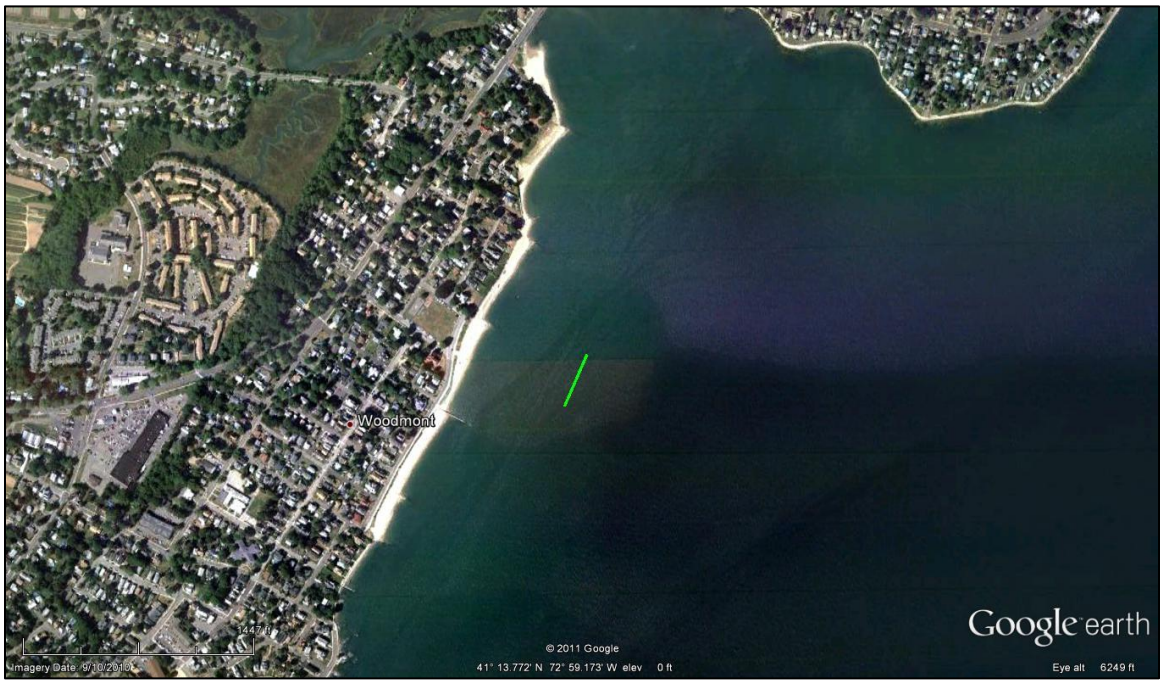
Impacts to Physical Resources - Berm 364 - Silver Sands State Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore areas mapped as sand and gravel-sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in littoral transport rate caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 451
Woodmont Shore Beach

Nearshore Berm 451 – Woodmont Shore Beach





Impacts to Environmental Resources - Berm 451 - Woodmont Shore Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat in nearshore area and marsh within 1/2 mile of site	No - resource not within berm footprint	No - resource in marsh and nearshore areas, not within berm footprint	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	Potential - if species immobile and present during construction	Potential - short term impact to sedentary species	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007250 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	5 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 451 - Woodmont Shore Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins and armoring along shoreline within 1 mile north and west of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from southwest to Northeast caused by wave energy reduction may result in accumulation at groins shoreward of berm	-----	No - resource not within berm footprint	Potential - increased wave energy at adjacent groins during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Woodmont Shore Beach is receiving beach	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from southwest to northeast caused by wave energy reduction may result in accumulation at receiving beach	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increased wave energy at adjacent beaches during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	-----	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 451 - Woodmont Shore Beach

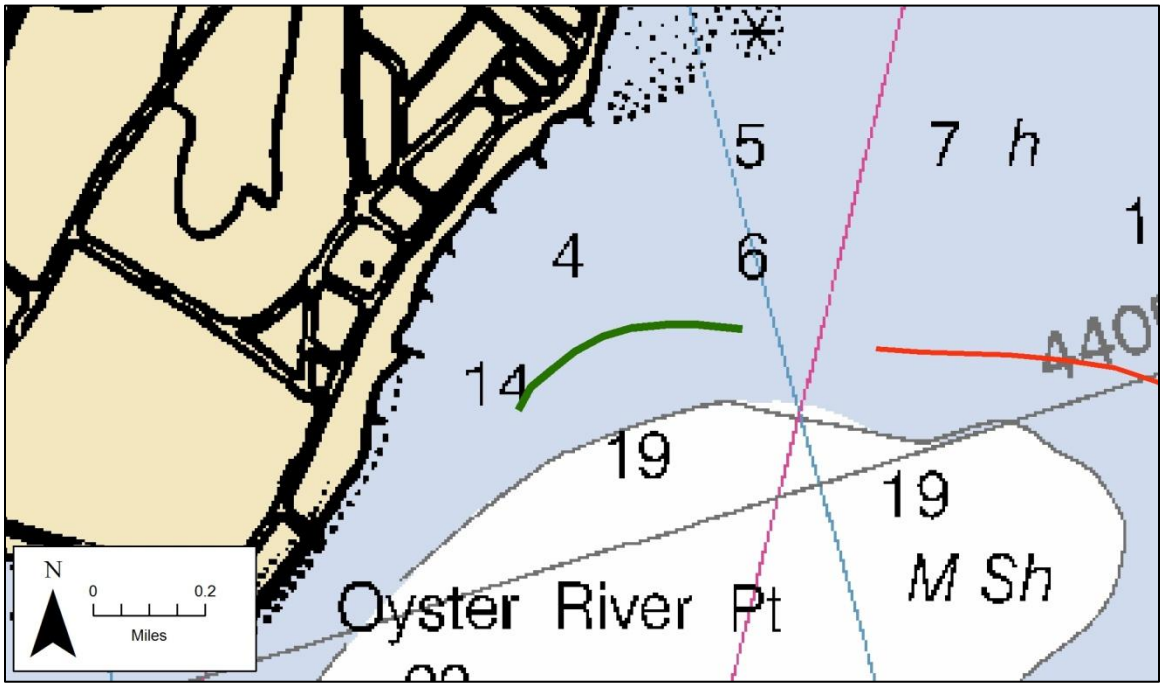
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

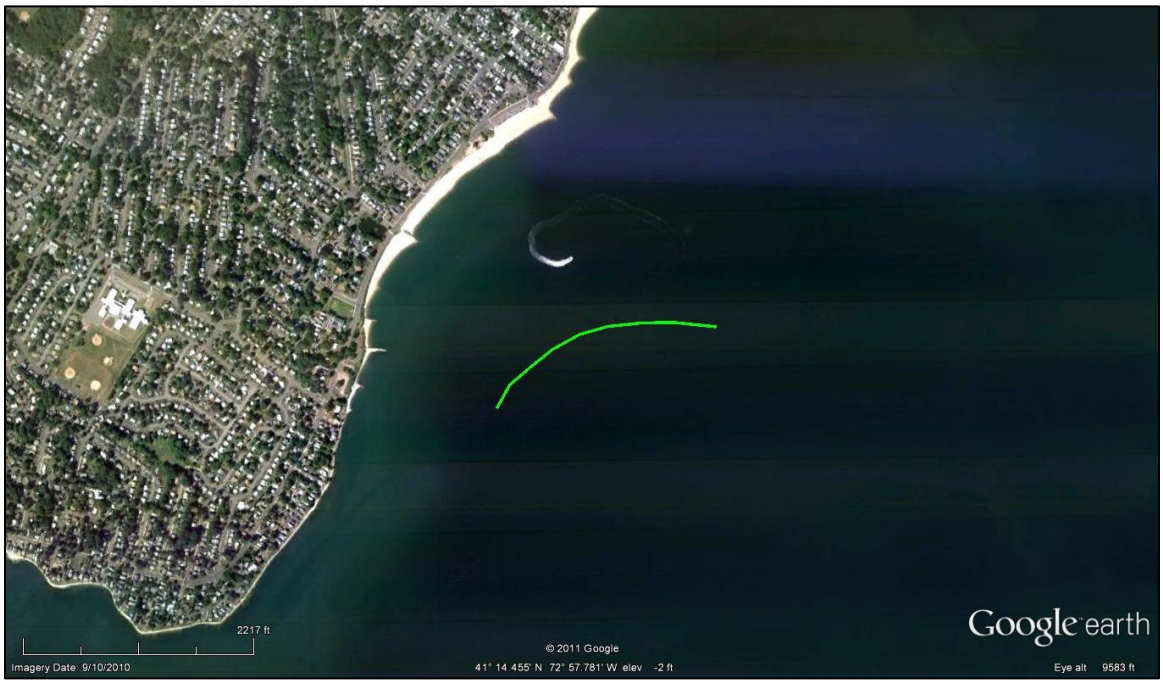
Impacts to Physical Resources - Berm 451 - Woodmont Shore Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint mapped as silt-clay/sand; nearshore areas mapped as sand	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from southwest to northeast caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 447
Prospect Beach

Nearshore Berm 447 – Prospect Beach





Impacts to Environmental Resources - Berm 447 - Prospect Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat wthin berm footprint, nearshore area, and upland	Potential - resource within berm footprint	Potential - resource within berm footprint	----	Potential - resource within berm footprint, and inside possible shoreline erosion zone caused by wave focusing during larger wave events	Potential - short term impact if species are sedentary	Potential - short term impact if species are sedentary	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007250 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	7 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 447 - Prospect Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins and armoring along shoreline within 1 mile north and west of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from southwest to northeast caused by wave energy reduction may result in accumulation at groins shoreward of berm	-----	No - resource not within berm footprint	Potential - increased wave energy at adjacent groins during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Prospect Beach is receiving beach; Bradley Point Park, Savin Rock Beach and Oak Street Beach within 1 mile to north	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from southwest to northeast caused by wave energy reduction may result in accumulation at receiving beach	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increased wave energy at adjacent beaches during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 447 - Prospect Beach

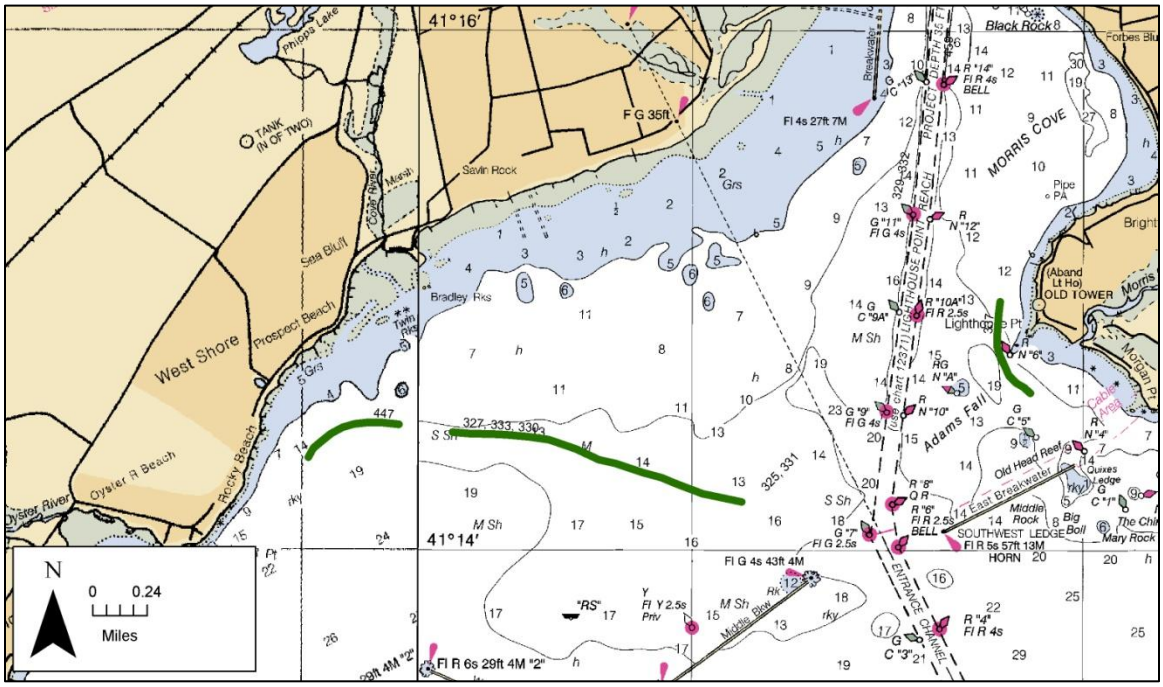
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 447 - Prospect Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint mapped as sand-clay/silt and silt-clay/sand; nearshore areas mapped as sand	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from southwest to northeast caused by wave energy reduction
Currents	----	----	Potential - channalization of tidal flow to/from New Haven Harbor
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 327
Bradley Point Park

Nearshore Berm 327 – Bradley Point Park



Impacts to Environmental Resources -Berm 327 - Bradley Point Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	None documented	NA	NA	----	NA	NA	NA	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007250 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	5 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 327 - Bradley Point Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins and armoring along shoreline within 1 mile north and west of berm	No - resource not within berm footprint	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm	-----	No - resource not within berm footprint	Potential - increased wave energy at adjacent groins during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Bradley Point Park Beach is receiving beach; Prospect Beach, Savin Rock Beach and Oak Street Beach within 1 mile to north or west	No - resource not within berm footprint	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increased wave energy at adjacent beaches during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 327 - Bradley Point Park

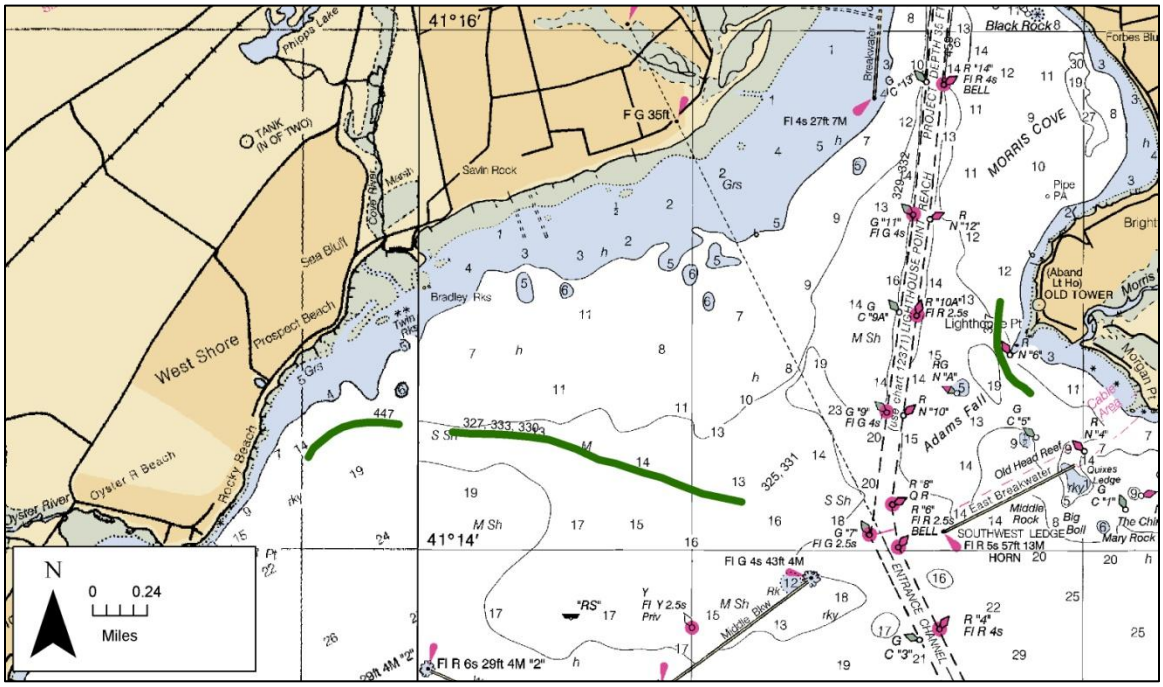
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 327 - Bradley Point Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore areas mapped as sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm
Currents	----	----	Potential - channalization of tidal flow to/from New Haven Harbor
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 333
Savin Rock

Nearshore Berm 333 – Savin Rock



Impacts to Environmental Resources - Berm 333 - Savin Rock

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	None documented	NA	NA	----	NA	NA	NA	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007250 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	5 species documented within 1 mile radius	----	----	----	No - loss of habitat for shore dependent species not expected due to existing coastal armoring	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 333 - Savin Rock

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins and armoring along shoreline within 1 mile north and west of berm	No - resource not within berm footprint	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm	-----	No - resource not within berm footprint	Potential - increased wave energy at adjacent groins during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Savin Rock is receiving beach; Bradley Point Park, Prospect Beach and Oak Street Beach within 1 mile to north or west	No - resource not within berm footprint	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increased wave energy at adjacent beaches during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 327 - Savin Rock

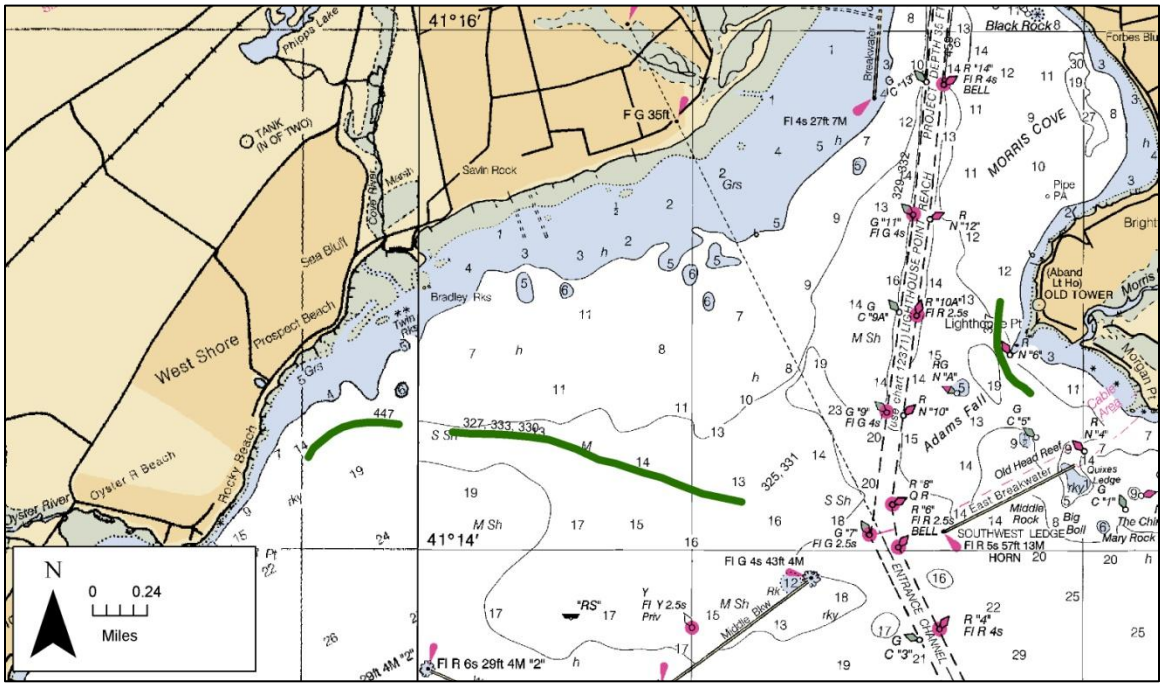
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 333 - Savin Rock

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore areas mapped as sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm
Currents	----	----	Potential - channalization of tidal flow to/from New Haven Harbor
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 330
Oak Street Beach

Nearshore Berm 330 – Oak Street Beach



Impacts to Environmental Resources - Berm 330 - Oak Street Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	None documented	NA	NA	----	NA	NA	NA	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007250 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	5 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 330 - Oak Street Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	New Haven Harbor Entrance Channel within 1 mile east of berm; high density vessel traffic in vicinity of channel	-----	Unlikely - no change to channel expected with stable berm	Unlikely - current vessel patterns only overlap with proposed berm in small light density traffic area	No - resource not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins and armoring along shoreline within 1 mile north and west of berm; middle breakwater within 1 mile south of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from southwest to northeast caused by wave energy reduction may result in accumulation at groins shoreward of berm	-----	No - resource not within berm footprint	Potential - increased wave energy at adjacent groins during larger wave events
Cable/power/utility crossings	Cross Sound Cable within 1 mile east of berm	No - resource not within berm footprint	Unlikely - no change to area expected with stable berm	-----	No - resource not within berm footprint	Unlikely - cable area is below a navigation channel
Recreational Areas	Oak Street Beach is receiving beach; Bradley Point Park, Prospect Beach and Savin Rock Beach within 1 mile to north or west	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from southwest to northeast caused by wave energy reduction may result in accumulation at receiving beach	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increased wave energy at adjacent beaches during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 330 - Oak Street Beach

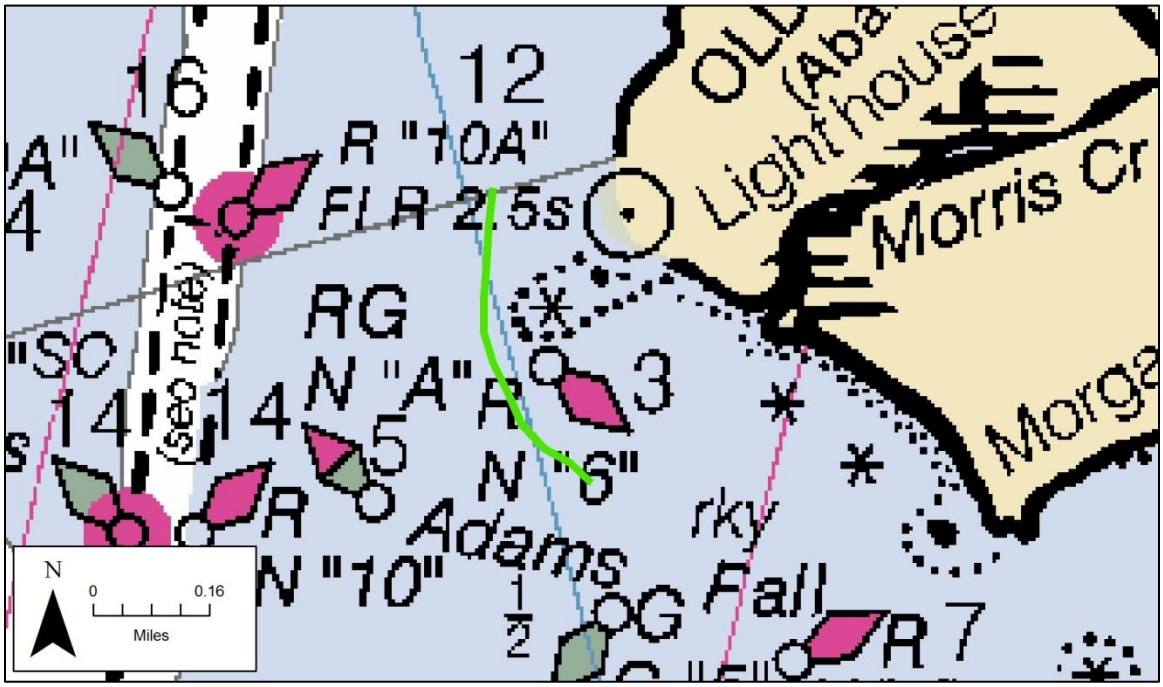
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 330 - Oak Street Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore areas mapped as sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from southwest to northeast caused by wave energy reduction
Currents	----	----	Potential - channalization of tidal flow to/from New Haven Harbor
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 337
Lighthouse Point Park Beach

Nearshore Berm 337 – Lighthouse Point Park Beach



Impacts to Environmental Resources - Berm 337 - Lighthouse Point Park Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat approximately 1 mile west of site	No - resource not within berm footprint	No - resource not within berm footprint	----	Unlikely - distance to resource beyond the area of impact from berm expected	Unlikely - distance to resource greater than that where local effect of berm expected	Unlikely - distance to resource greater than that where local effect of berm expected	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41007250 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	10 species documented within 1 mile radius	----	----	----	Unlikely - loss of coastline areas for shore dependent species not expected due to limited littoral drift	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 337 - Lighthouse Point Park Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	New Haven Harbor Entrance Channel within 1/2 mile west of berm; high density vessel traffic in vicinity of channel	-----	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	No - berm does not compromise navigation	No - resources not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Groins within 1/2 mile shoreward of berm; shoreline armoring within 1/2 mile east of berm; eastern breakwater within 1/2 mile seaward of berm	No - resources not within berm footprint	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	-----	No - resources not within berm footprint	Potential - wave focusing may contribute to erosion at groins; increase in wave energy due to deflection east of berm during larger wave events may impact armoring
Cable/power/utility crossings	Cross Sound Cable within 1/2 mile west of berm; cable area within 1/2 mile east of berm	No - resources not within berm footprint	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	-----	No - resources not within berm footprint	Unlikely - minor, localized effect of berm on ambient tidal currents
Recreational Areas	Lighthouse Point Park beach is receiving beach, Lighthouse Point Boat Launch is within 1/2 mile northeast of berm	No - resources not within berm footprint	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - wave focusing may contribute to erosion at beach
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	Morris Cove Disposal Site within 1 mile to northeast	-----	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	-----	-----	No - disposal site is sheltered by Morris Cove

Impacts to Cultural Resources - Nearshore Berm 337 - Lighthouse Point Park Beach

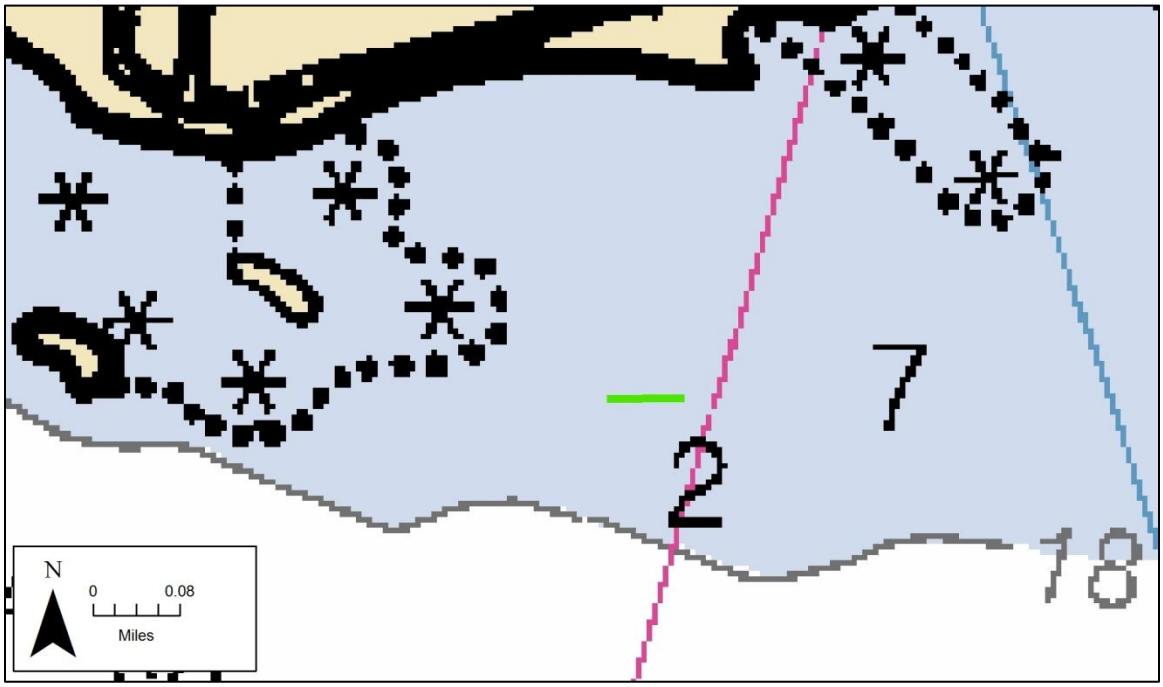
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	Two documented northeast and southeast of berm, within 1/2 mile	No - resource not within berm footprint	Unlikely - diffusion during storms not likely to transport berm material offshore or around headland	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 337 - Lighthouse Point Park Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint and nearshore areas mapped as sand-clay/silt, sand, gravel-sand, and gravel	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm
Currents	----	----	Potential - channalization of tidal flow to/from New Haven Harbor
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 457
East Wharf Beach

Nearshore Berm 457 – East Wharf Beach



Impacts to Environmental Resources - Berm 457 - East Wharf Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat in upland, and in vicinity of Tuxis Island, within 1/3 mile of site	No - resource not within berm footprint	No - resource in upland and on Tuxis Island, not within berm footprint	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	Potential - if species immobile and present during construction	Potential - short term impact to sedentary species	----
Shellfish	2 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41107230 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	Na	----	NA	----
Birds	10 species documented within 1 mile radius	----	----	----	Unlikely - loss of coastline areas for shore dependent species not expected due to existing shore protection structures	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 457 - East Wharf Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins, bulkheads and armoring along shoreline within 1 mile of berm; stone wharf adjacent to receiving beach	No - resource not within berm footprint	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm	-----	No - resources not within berm footprint	Potential - increased wave energy at adjacent structures during larger wave events
Cable/power/utility crossings	Cable area within 1 mile west of berm	No - resource not within berm footprint	Unlikely - no change to area expected with stable berm	-----	No - resource not within berm footprint	Unlikely - berm is small and comparatively far from cable area
Recreational Areas	East Wharf Beach is receiving beach; West Wharf Beach and Madison Beach Club within 1 mile west of berm	No - resource not within berm footprint	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - berm is small and comparatively far from other recreation areas
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 457 - East Wharf Beach

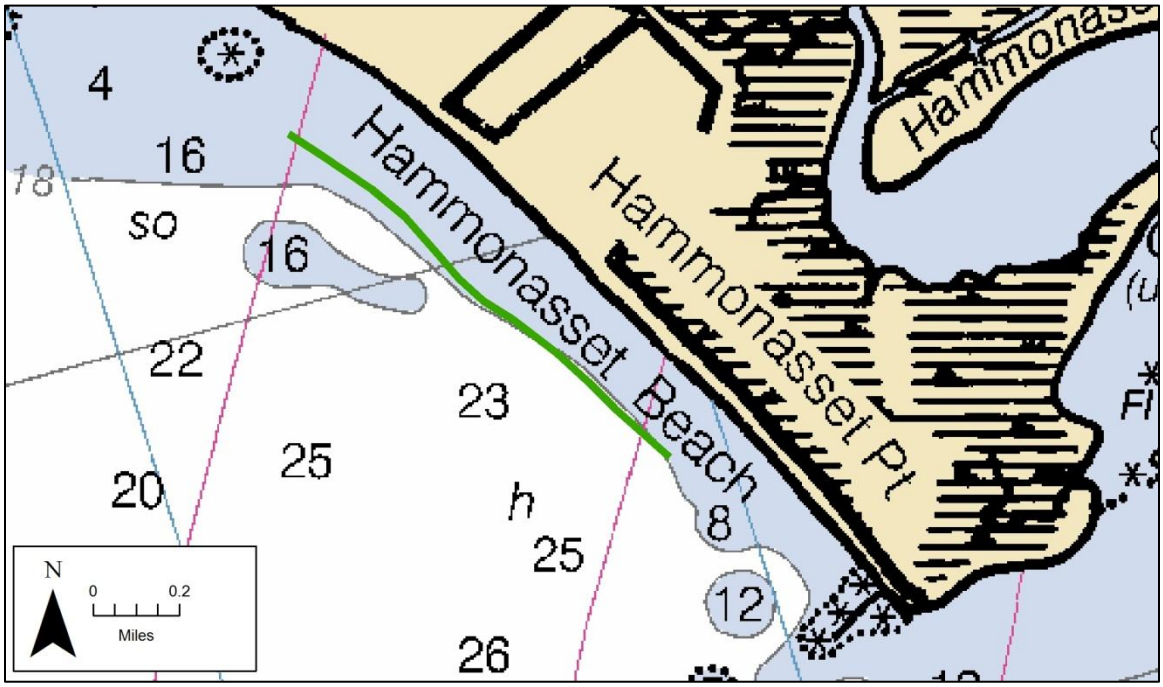
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 457 - East Wharf Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint mapped as sand; nearshore area mapped as gravel	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 365
Hammonasset State Park

Nearshore Berm 365 – Hammonasset State Park



Impacts to Environmental Resources - Berm 365 - Hammonasset State Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Extensive wetland on interior of barrier beach, but not within influence of site	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat within berm footprint and in upland and nearshore areas within 1/2 mile of site	Potential - if species are immobile and present within footprint area	Potential - if species are immobile and present within footprint area	----	Potential - resource habitat inside berm footprint, and mapped shoreline habitat subject to possible shoreline erosion caused by wave focusing during larger wave events	Potential - short term impact if species are sedentary	Potential - short term impact if species are sedentary	----
Shellfish	2 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41107230 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	Hammonasset Beach State Park and Natural Area Preserve in upland shoreward of berm, within 1 mile	No - resource not within berm footprint	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms; reduction/increase in the rate of littoral drift due to wave changes	Unlikely - berm will provide wave sheltering and reduced wave energy at shoreline along resource	----	No - resouce is in the upland	----

Impacts to Environmental Resources - Berm 365 - Hammonasset State Park (continued)

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Birds	17 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 365 - Hammonasset State Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Pair of large groins bracket Hammonasset Beach	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from west to east caused by wave energy reduction may result in accumulation at eastern groin	-----	No - resources not within berm footprint	Unlikely - reduction in wave energy along shoreline at western groin during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Hammonasset State Park Beach is receiving beach; park boat launch within 1 mile southeast of berm	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from west to east caused by wave energy reduction may result in accumulation at receiving beach	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - reduction in wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	Clinton Harbor Disposal Site within 1/2 mile southeast of berm	-----	Potential - increased sedimentation caused by settling of suspended material generated during construction	-----	-----	Unlikely - resource is seaward of berm and not expected to experience deflected waves

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Impacts to Cultural Resources - Nearshore Berm 365 - Hammonasset State Park

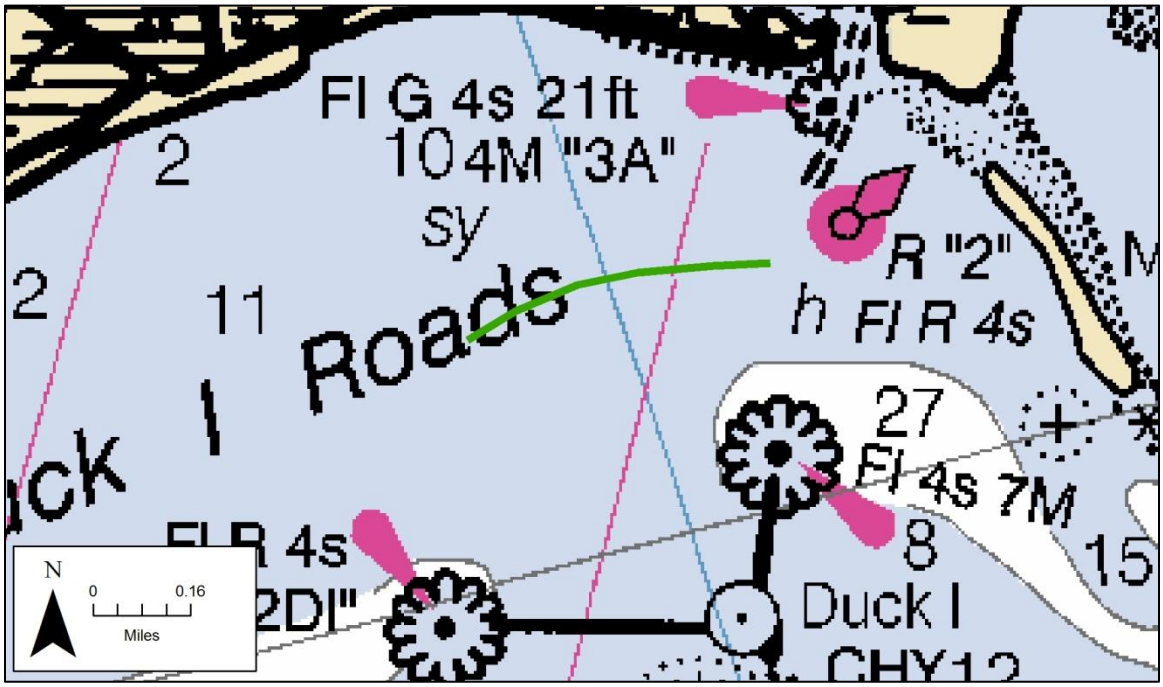
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	None documented	NA	NA	NA
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 365 - Hammonasset State Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint and nearshore areas mapped as gravel-sand, silt-clay/sand, and sand	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from west to east caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - reduction in wave energy along shoreline during larger wave events

Nearshore Berm
Grove Point Beach

Nearshore Berm – Grove Point Beach



Impacts to Environmental Resources - Berm - Grove Point Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Small wetland on interior of barrier beach, but not within influence of site	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat within berm footprint and in upland and nearshore areas within 1/2 mile of site	Potential - if species are immobile and present within footprint area	Potential - if species are immobile and present within footprint area	----	Potential - resource habitat inside berm footprint, and mapped shoreline habitat subject to possible shoreline erosion caused by wave focusing during larger wave events	Potential - short term impact if species are sedentary	Potential - short term impact if species are sedentary	----
Shellfish	2 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41107220 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	Mapped seaward of berm, adjacent to north sides of breakwater; within 1/2 mile	Unlikely - suspended sediment generated during construction not likely to move far from berm area due to granular nature of material	No - resource not within berm footprint	Unlikely - diffusion of berm material during storms not expected to move seaward towards breakwaters	Unlikley - berm will not alter more seaward habitat adjacent to breakwaters	----	Unlikely - temporary impacts to water quality during construction	----

Impacts to Environmental Resources - Berm - Grove Point Beach (continued)

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Marine Protected Areas	Stewart B. McKinney National Wildlife Refuge in upland shoreward of berm, within 1 mile; Duck Island Wildlife Management Area/Natural Area Preserve seawardof berm, within 1 mile	No - resources not within berm footprint	No - resources not within berm footprint	No - resources beyond zone of potential increase in suspended sediment	No - resources beyond zone of potential increase in suspended sediment	----	No - resources beyond zone of potential increase in suspended sediment	----
Birds	13 species documented within 1 mile radius	----	----	----	Unlikely - loss of coastline areas for shore dependent species not expected due to interaction of waves with berm	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	Endangered small mammal documented in upland north of berm, within 1 mile	No - resource not within CDF footprint	No - resource not within CDF footprint	----	No - underwater berm will not alter upland mammal habitat	No - disturbance limited to marine areas in vicinity of berm	----	----

Impacts to Infrastructure Resources - Nearshore Berm - Grove Point Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	Entrance channel to Patchogue River within 1/2 mile of berm	-----	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm	No - berm does not compromise navigation	No - resources not within berm footprint	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins along shoreline; jetty at entrance to Patchogue River within 1/2 mile northeast of berm; Duck Island breakwaters within 1 mile seaward of berm	No - resources not within berm footprint	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm	-----	No - resources not within berm footprint	Unlikely - minimal increase/reduction in wave energy along shoreline due to wave interaction with berm
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Grove Point Beach is receiving beach; Westbrook Town Beach within 1 mile northeast of berm	No - resource not within berm footprint	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - minimal increase/reduction in wave energy along shoreline due to wave interaction with berm
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

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Impacts to Cultural Resources - Nearshore Berm - Grove Point Beach

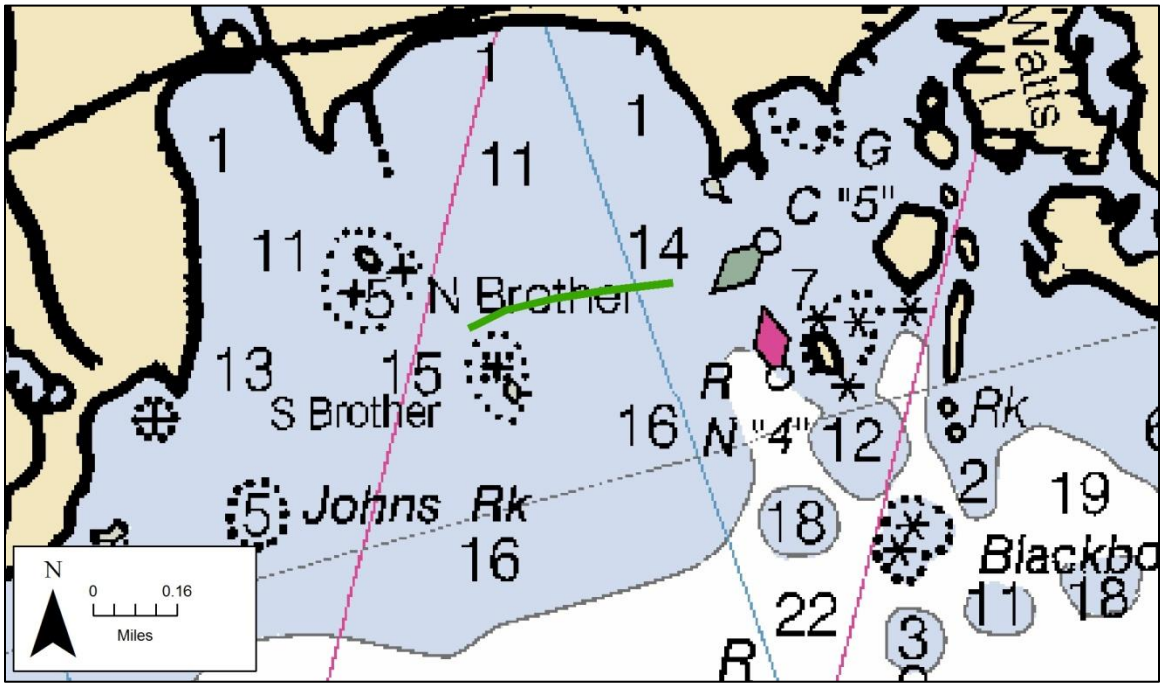
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	One documented seaward of berm, within 1/2 mile	No - resource not within berm footprint	Unlikely - diffusion during storms not likely to transport berm material offshore	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

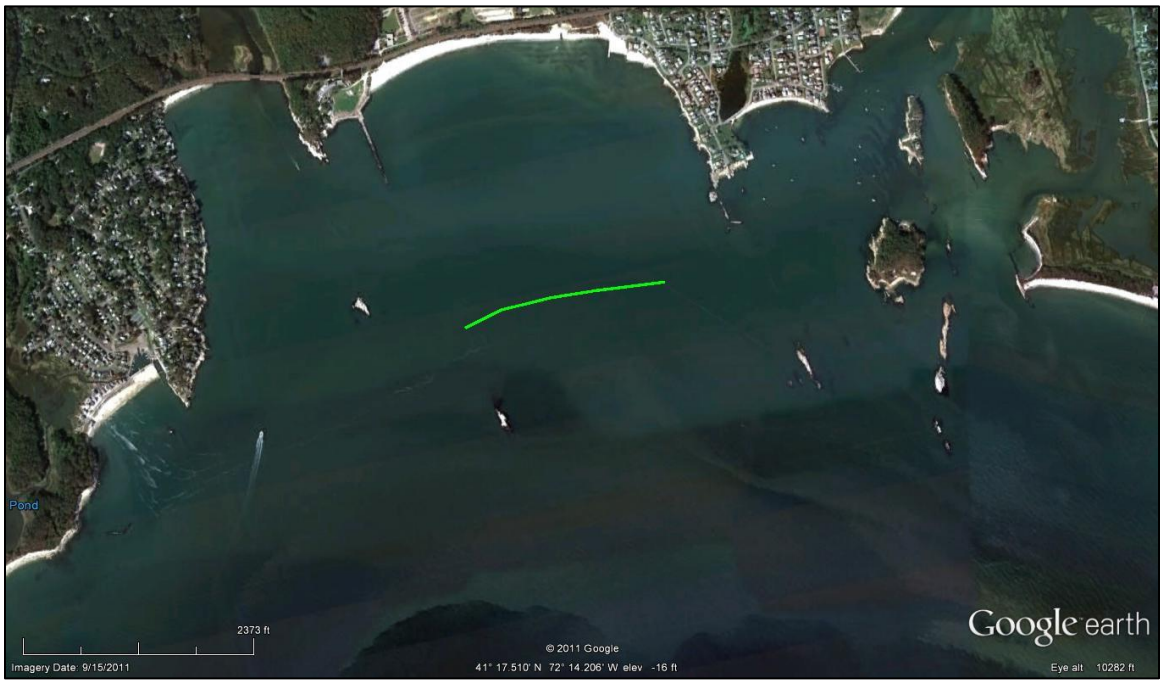
Impacts to Physical Resources - Berm - Grove Point Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint and nearshore areas mapped as silt-clay/sand and sand	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	Unlikely - existing littoral transport minimal due to limited sediment supply; no change expected with stable berm
Currents	----	----	Potential - channalization of tidal flow to/from adjacent estuary
Waves	----	----	Unlikely - minimal increase/reduction in wave energy along shoreline due to wave interaction with berm

Nearshore Berm 367
Rocky Neck State Park

Nearshore Berm 367 – Rocky Neck State Park





Impacts to Environmental Resources - Berm 367 - Rocky Neck State Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Wetland on interior of barrier beach not within influence of site	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat within berm footprint and in upland and nearshore areas within 1/2 mile of site	Potential - if species are immobile and present within footprint area	Potential - if species are immobile and present within footprint area	----	Potential - resource habitat inside berm footprint; erosion of shoreline habitat caused by wave focusing during larger wave events	Potential - short term impact if species are sedentary	Potential - short term impact if species are sedentary	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41107210 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	Mapped in nearshore areas shoreward of berm; within 1/2 mile	Unlikely - suspended sediment generated during construction not likely to move far from berm area due to granular nature of material	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms; reduction/increase in the rate of littoral drift due to wave changes	Potential - shallower water depths associated with shoreline accretion caused by wave sheltering	----	Unlikely - temporary impacts to water quality during construction	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	11 species documented within 1 mile radius	----	----	----	Potential - reduction in habitat for shore dependent species caused by wave focusing and shoreline erosion	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	9 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 367 - Rocky Neck State Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	U.S. Coast Guard special anchorage area on west side of entrance to Pataguanset River	-----	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	No - proposed berm does not constrict vessel access to anchorage	No - resources not within berm footprint	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Multiple groins along shoreline from Rocky Neck to Seal Rock	No - resources not within berm footprint	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	-----	No - resources not within berm footprint	Potential - increase in wave energy along shoreline during larger wave events
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Rocky Neck State Park Beach is receiving beach	No - resource not within berm footprint	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Potential - increase in wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	------	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 367 - Rocky Neck State Park

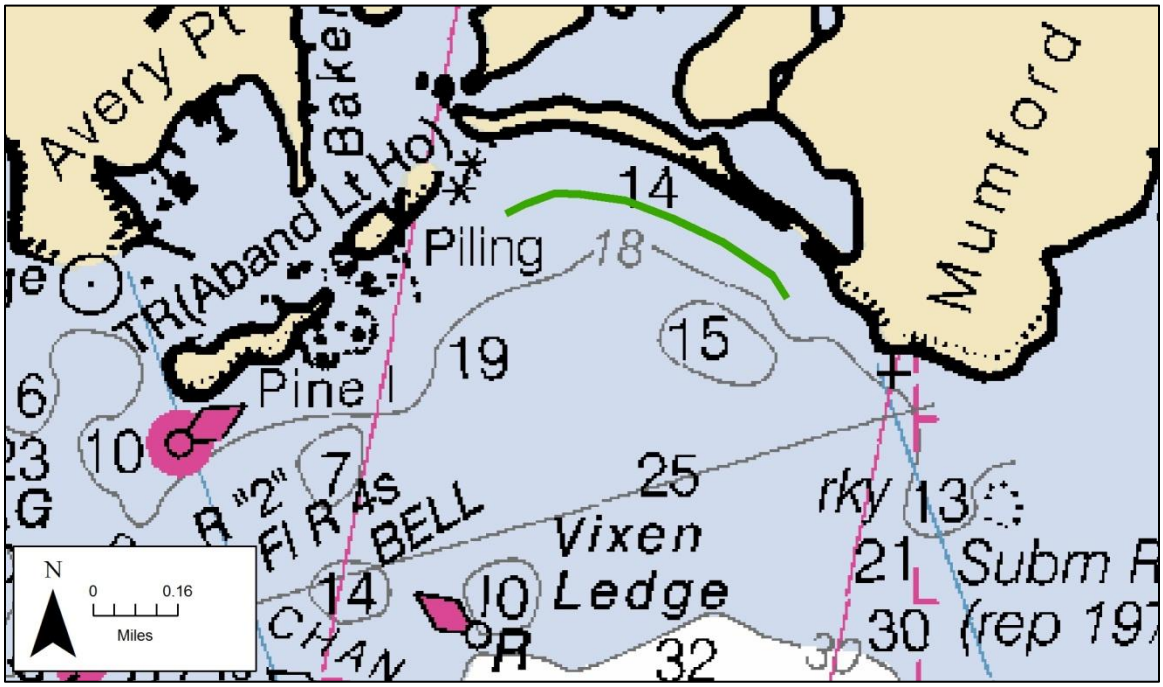
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	One documented seaward and southeast of berm, within 1 mile	No - resource not within berm footprint	Unlikely - diffusion during storms not likely to transport berm material offshore	Unlikely - resources outside suspended sediment plume generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 367 - Rocky Neck State Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	Potential - berm footprint mapped as silt-clay/sand; nearshore areas mapped as sand	Potential - existing finer grained sediments typically higher in TOC would be covered with granular material low in TOC	----
Littoral Drift	----	----	No - existing littoral transport minimal due to closed transport system; no change expected with stable berm
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events

Nearshore Berm 368
Bluff Point State Park

Nearshore Berm 368 – Bluff Point State Park



Impacts to Environmental Resources - Berm 368 - Bluff Point State Park

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Small wetland on interior of barrier beach, but not within influence of site	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat within berm footprint and in upland and nearshore areas within 1/2 mile of site	Potential - if species are immobile and present within footprint area	Potential - if species are immobile and present within footprint area	----	Potential - resource habitat inside berm footprint, and mapped shoreline habitat subject to possible shoreline erosion caused by wave focusing during larger wave events	Potential - short term impact if species are sedentary	Potential - short term impact if species are sedentary	----
Shellfish	4 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41107200 (35 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	Mapped in berm footprint and nearshore areas shoreward of berm; east and west ends of Bluff Point Beach; within 1/2 mile	Yes - destruction of resources in berm footprint	Yes - destruction of resource in berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms; reduction/increase in the rate of littoral drift due to wave changes	Potential - shallower water depths associated with shoreline accretion caused by wave sheltering	----	Unlikely - temporary impacts to water quality during construction	----

Impacts to Environmental Resources - Berm 368 - Bluff Point State Park (continued)

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Marine Protected Areas	Bluff Point State Park/Natural Area Preserve in upland landward of berm; within 1 mile	No - resource not within berm footprint	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms; reduction/increase in the rate of littoral drift due to wave changes	Unlikely - berm will provide wave sheltering and reduced wave energy at shoreline along resource	----	No - resource in the upland	----
Birds	9 species documented within 1 mile radius	----	----	----	Unlikely - loss of coastline areas for shore dependent species not expected due to interaction of waves with berm	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	7 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 368 - Bluff Point State Park

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	Special anchorage areas at Avery Point and Pine Island within 1/2 mile west of berm	-----	No - net littoral transport from east to west is isolated from anchorage by Bushy Island and Pine Island	No - proposed berm does not constrict vessel access to anchorage	No - resources not within berm footprint	-----
Navigation Channels & Shipping	Bayberry Lane Boat Launch and medium density vessel traffic in the vicinity of Avery Point	-----	No - traffic is restricted to immediate vicinity of Avery Point	No - traffic is restricted to immediate vicinity of Avery Point	No - traffic is restricted to immediate vicinity of Avery Point	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Shoreline armoring at Avery Point within 1 mile west of berm	No - resources not within berm footprint	No - net littoral transport from east to west is isolated from Avery Point by Bushy Island and Pine Island	-----	No - resources not within berm footprint	No - waves isolated from Avery Point by Bushy Island and Pine Island
Cable/power/utility crossings	Cable area within 1 mile seaward of berm	No - resources not within berm footprint	No - resources seaward of berm	-----	No - resources not within berm footprint	No - resources seaward of berm
Recreational Areas	Bluff Point State Park Beach is receiving beach	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction may cause accumulation at shoreline	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - reduction in wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

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Impacts to Cultural Resources - Nearshore Berm 368 - Bluff Point State Park

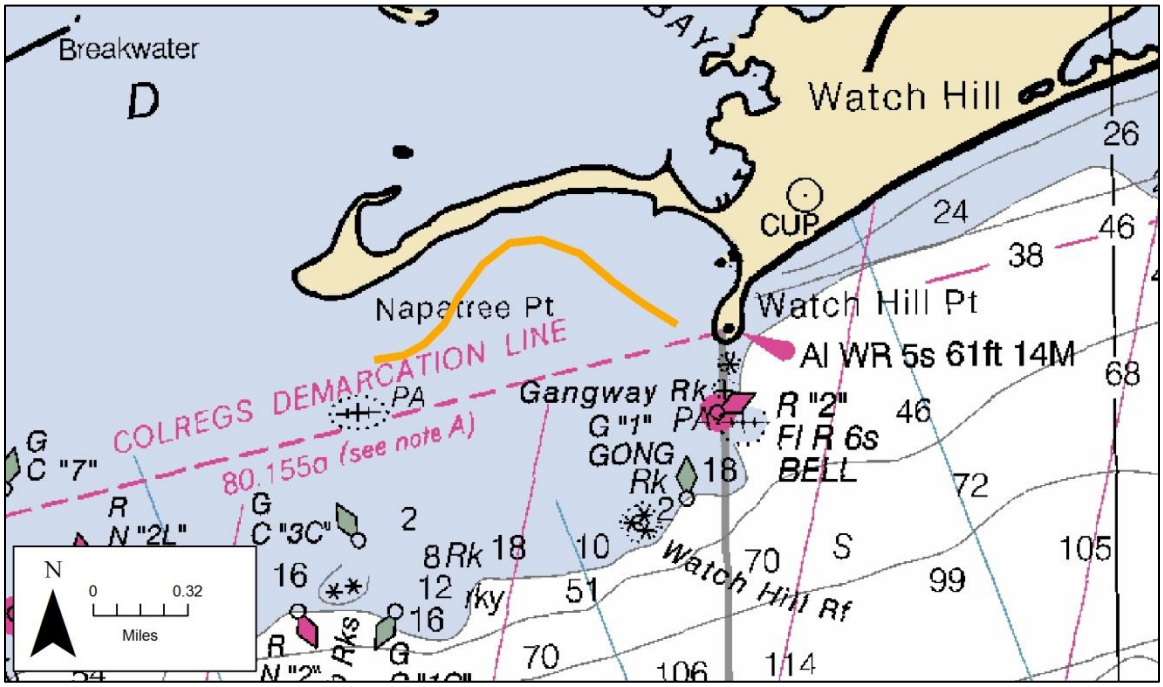
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	One documented east and shoreward of berm, within 1/2 mile	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms or reduction in the rate of littoral drift shoreward of the berm. Potential shoreline erosion	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	One documented southwest and seaward of berm, within 1 mile	No - resource not within berm footprint	No - resource outside possible shoreline erosion zone caused by wave focusing	-----

Impacts to Physical Resources - Berm 368 - Bluff Point State Park

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore area mapped as sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - reduction in wave energy along shoreline during larger wave events

Nearshore Berm 381/382
Watch Hill Beach/Napatree Point Beach

Nearshore Berm 381/382 – Watch Hill Beach/Napatree Point Beach



Impacts to Environmental Resources - Berm 381/382 - Watch Hill Beach/Napatree Point Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	None documented	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat on barrier beach within 1/4 mile of site	No - resource not within berm footprint	No - resource on barrier beach 1/4 mile from site	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	Potential - resource at shoreline within 1/4 mile of site	Potential - resource at shoreline within 1/4 mile of site	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41107150 (37 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	None documented	NA	NA	NA	NA	----	NA	----
Birds	18 species documented within 1 mile radius	----	----	----	Unlikely - loss of coastline areas for shore dependent species not expected due to reduced wave energy and wave sheltering	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat for waterfowl large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	7 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 381/382 - Watch Hill Beach/Napatree Point Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	Special anchorage area in Watch Hill Cove behind receiving barrier beach	-----	No - anchorage is behind barrier beach	No - anchorage is behind barrier beach	No - resources not within berm footprint	-----
Navigation Channels & Shipping	Medium density vessel traffic within 1/2 mile seaward of berm	-----	No - traffic is seaward of active berm	No - traffic is seaward of active berm	No - traffic is seaward of active berm	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Shoreline armoring at Watch Hill Lighthouse, groins at Watch Hill Beach within 1/2 mile shoreward of berm	No - resources not within berm footprint	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction may cause accumulation at western groin	-----	No - resources not within berm footprint	Unlikely - reduction in wave energy along shoreline during larger wave events
Cable/power/utility crossings	Cable area intersects berm and within 1/2 mile seaward of berm	Potential - cables may be disturbed during berm construction	Potential - increased sedimentation caused by settling of suspended material generated during construction	-----	Yes - proposed berm is on top of existing cable area	Unlikely - most cables are seaward of berm; deflected waves at eastern end of berm not expected to scour cable area
Recreational Areas	Watch Hill Beach and Napatree Point Beach are receiving beaches	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction may cause accumulation at shoreline	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - reduction in wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 381/382 - Watch Hill Beach/Napatree Point Beach

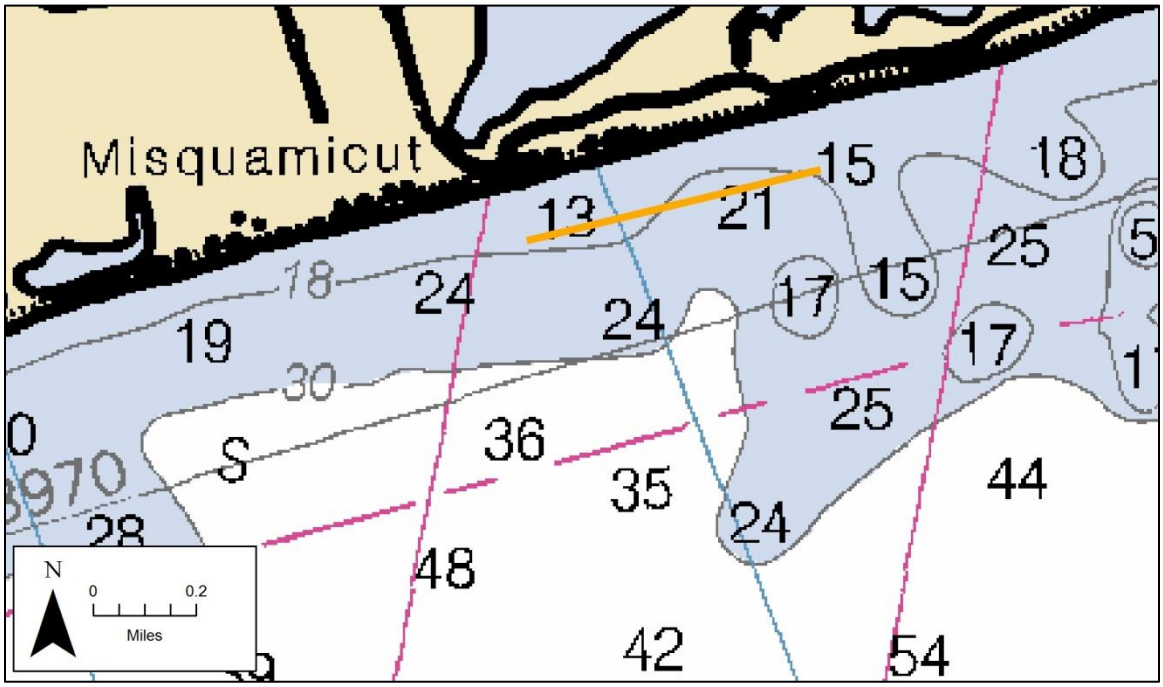
Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	Two documented east and seaward of berm, within 1/2 mile; two documented west and seaward of berm, within 1/2 mile	No - resource not within berm footprint	Unlikely - diffusion during storms not likely to transport berm material offshore	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	Watch Hill Historic District in upland shoreward of berm, within 1/2 mile	No - resource not within berm footprint	Potential - increased sedimentation caused by diffusion of berm material during storms or reduction in the rate of littoral drift shoreward of the berm	-----
Archaeological Sites	None documented	NA	NA	-----

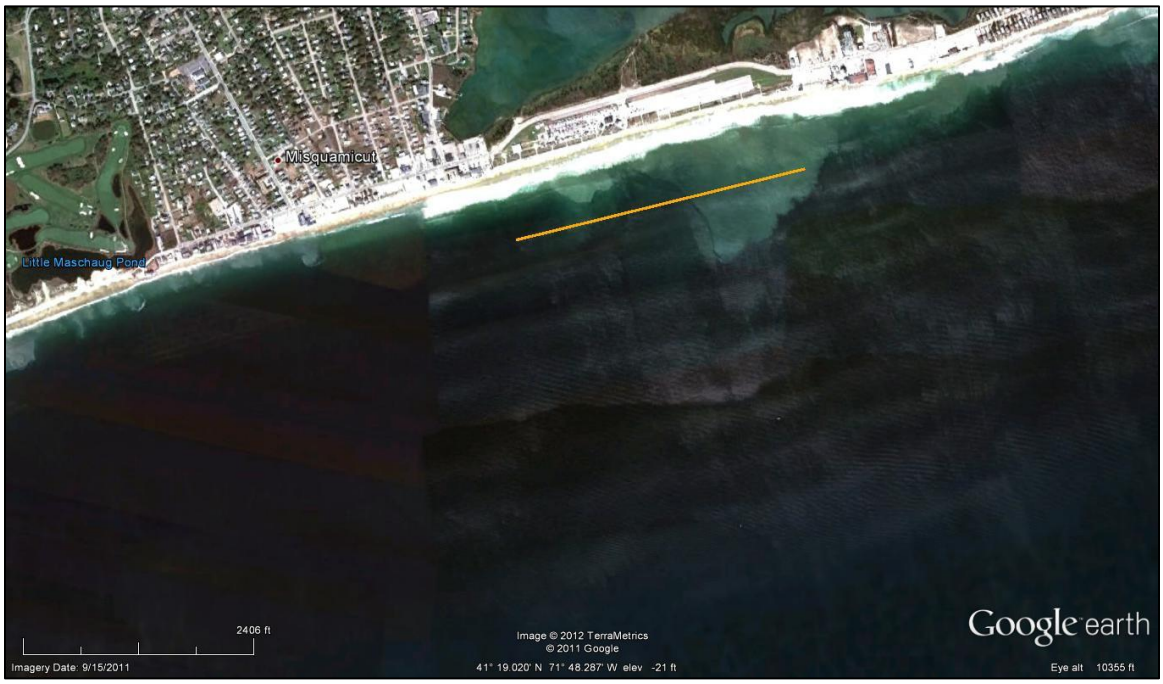
Impacts to Physical Resources - Berm 381/382 - Watch Hill Beach/Napatree Point Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore area mapped as sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate from east to west caused by wave energy reduction; increase in sediment supply as berm migrates onshore
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - reduction in wave energy along shoreline during larger wave events

Nearshore Berm 384
Misquamicut State Beach

Nearshore Berm 384 – Misquamicut State Beach





Impacts to Environmental Resources -Berm 384 - Misquamicut State Beach

Environmental Resources	Within Influence of Site	Direct Destruction	Burial	Changes in Local Sedimentation / Erosion	Habitat Impairment	Harassment	Water Quality Impairment	Habitat Enhancement
Wetlands	Extensive wetland on interior of barrier beach, but not within influence of site	NA	NA	NA	NA	----	NA	----
Federal & State Listed Species	Listed species habitat on barrier beach within 1/4 mile of site	No - resource not within berm footprint	No - resource on barrier beach 1/4 mile from site	----	Potential - resource inside possible shoreline erosion zone caused by wave focusing during larger wave events	Potential - resource at shoreline within 1/4 mile of site	Potential - resource at shoreline within 1/4 mile of site	----
Shellfish	3 species documented within 1 mile	Yes - loss of species within berm footprint	Yes - loss of species within berm footprint	----	Unlikely - sediment characteristics in nearshore habitat not expected to change	----	Unlikely - suspended sediment during construction temporary and localized	----
Federally Managed Species (Magnuson-Stevens)	EFH Square 41107140 (40 species documented)	Potential - bottom dwelling species	Potential - bottom dwelling species	----	Potential - physical change in sediment characteristics or water depth	----	Potential - short term impact to sedentary species	----
SAV (eelgrass)	None documented	NA	NA	NA	NA	----	NA	----
Marine Protected Areas	Coastal Salt Ponds Shellfish Management Area in Winnapaug Pond north of Misquamicut Beach, within 1 mile	No - resource not within berm footprint	No - resource not within berm footprint	No - resource is separated from site by barrier beach; suspended sediment during construction temporary and localized	No - resource is separated from site by barrier beach; suspended sediment during construction temporary and localized	----	No - suspended sediment during construction temporary and localized	----
Birds	18 species documented within 1 mile radius	----	----	----	Unlikely - loss of habitat for shore dependent species not expected due to reduced wave energy and wave sheltering	Unlikely - temporary vessel traffic during construction not likely to disturb mobile resource	Unlikely - scale of habitat large relative to potential/ temporary zone of increased suspended sediment during construction	----
Marine Mammals	7 species documented within 1 mile	Potential - strikes during construction	----	----	Unlikely - scale of habitat large relative to project area	Potential - during construction	Unlikely - scale of habitat large relative to project area	----
Terrestrial Wildlife	None documented	NA	NA	----	NA	NA	----	----

Impacts to Infrastructure Resources - Nearshore Berm 384 - Misquamicut State Beach

Infrastructure	Within Influence of Site	Direct Interference	Changes in Sedimentation Patterns	Changes in Vessel Traffic Patterns	Burial	Undermining / Erosion
Mooring Areas	None documented	-----	NA	NA	NA	-----
Navigation Channels & Shipping	None documented	-----	NA	NA	NA	-----
Ports	None documented	NA	NA	NA	-----	-----
Coastal Structures	Shoreline armoring at one parcel within 1/2 mile of eastern end of berm	No - resources not within berm footprint	Unlikely - armoring is parallel to shoreline and not designed to trap sediments	-----	No - resources not within berm footprint	Potential - increase in wave energy adjacent to berm during larger wave events due to wave deflection
Cable/power/utility crossings	None documented	NA	NA	-----	NA	NA
Recreational Areas	Misquamicut Beach is receiving beach	No - resource not within berm footprint	Potential - reduction in net littoral transport rate from west to east caused by wave energy reduction may cause accumulation at shoreline	Unlikely - post-construction water depths will not affect recreational boat traffic	No - resources not within berm footprint	Unlikely - reduction in wave energy along shoreline during larger wave events
Commercial & Industrial Facilities	None documented	NA	-----	-----	-----	-----
Aquaculture	None documented	NA	NA	-----	NA	NA
Dredge Material Disposal Sites	None documented	-----	NA	-----	-----	NA

Impacts to Cultural Resources - Nearshore Berm 384 - Misquamicut State Beach

Cultural Resources	Within Influence of Site	Direct Destruction	Changes in Local Sedimentation / Erosion	Burial
Shipwrecks	One documented seaward of berm, within 1/2 mile	No - resource not within berm footprint	Unlikely - diffusion during storms not likely to transport berm material offshore	Potential - increased sedimentation caused by settling of suspended material generated during construction
Historic Districts	None documented	NA	NA	-----
Archaeological Sites	None documented	NA	NA	-----

Impacts to Physical Resources - Berm 384 - Misquamicut State Beach

Physical Resources	Change in Grain Size	Change in TOC	Change in Direction, Rate, Amplitude, or Period
Sediments	No - berm footprint and nearshore area mapped as sand	Unlikely - existing sediments characterized by granular material typically low in TOC	----
Littoral Drift	----	----	Potential - reduction in net littoral transport rate caused by wave energy reduction; increase in sediment supply as berm migrates onshore
Currents	----	----	Unlikely - minor, localized effect of berm on ambient tidal currents
Waves	----	----	Potential - increase/reduction in wave energy along shoreline during larger wave events