LEEDS POND
AQUATIC SAND REMOVAL

Town Of North Hempstead
Plandome Manor, NY
August 2014

Prepared By:

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1. OVERVIEW

Leeds Pond is located in northwestern Nassau County in the Town of North Hempstead at the southern end of the Port Washington Peninsula. It is approximately 21.4 acres in size and has a tributary watershed area of approximately 2,275 acres. Storm water runoff from this watershed flows into Leeds Pond, prior to an overflow discharge to Manhasset Bay. (See Figure One for Watershed Boundary).

Figure One

Leeds Pond can be characterized as being a small shallow water body with a water depth currently averaging 2.5' and fed by several spring/stream corridors and three large storm water conduits entering the pond at the south end. An overflow outlet for Leeds Pond is located at the extreme northern end and consists of a concrete box culvert and spillway that controls the pond water level at Elevation 3.9± feet (NAVD 88). The culvert then discharges beneath Plandome Road to Manhasset Bay. Historical and current observations indicate that average high, lunar and storm tides breach the spillway elevation, providing a direct connection to the Bay. As a result, salinity levels vary significantly between the northern and southern pond limits and are directly related to storm water discharge volume and tidal exchange.

The tributary watershed for Leeds Pond consists predominantly of residential development with small portions of commercial and industrial development. There is a tract of approximately 35 acres known as the Leeds Pond Preserve consisting of natural forested area that is also contributory to the water shed.

As most of the watershed is developed with residential streets, much of the storm water is conveyed to the pond via below-grade drainage systems. Storm water surface runoff is designed to enter these systems via sheet flow and is conveyed through pipes and catch basins, primarily entering the pond at the south end as indicated.

2. STORM IMPACT

The impact of Hurricane Sandy throughout Leeds Pond caused damage not only from high winds and rain but primarily from the storm surge that accompanied the event. During this event, the storm impacted the ponds ability to adequately function as a storm water management measure, reduced the ponds ability to remove pollutants, increased sediment and salinity in the pond, and lessened the quality of marine and plant life within the water body. Additionally, debris impaired the ability of the upland drainage systems to convey storm water to the pond.

The pond functions as a storm water management measure in two key ways. First, it provides a mechanism to accept storm water from the tributary watershed areas to prevent flooding within

these areas. Second, it provides a method to allow pollutants to fall out of suspension and settle as sediment in the pond.

When hurricane Sandy made landfall, it carried with it a sediment load from Manhasset Bay. The estimated storm surge of approximately 10.0 feet (NAVD 88) overtopped the controlling spillway by approximately 6 feet. This overtopping conveyed both sediment from the Bay and a higher concentration of salt water directly to the pond. The height of the surge caused flooding of the surrounding areas of the pond and, upon receding, dragged sediment and debris into the pond. Additionally, N. Plandome Road, a Coastal Evacuation Route, was Impassable. (See Figure 2 – Hurricane Sandy Storm Tide Mapper Below)

Hurricane Sandy Storm Tide mapper

Hurricane Sandy Mapper

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community | FEMA MOTF

Figure 2 – Hurricane Sandy Storm Tide Mapper

Sediment accumulation in the pond impacts the ponds ability to accept runoff as well as its ability to reduce the pollutant load. The reduced pond depth restricts the flow condition at the outlets of the tributary areas. This restricted condition slows the flow of water in the pipes causing them to surcharge and adding to flooding conditions at the street level inlets throughout the tributary areas.

In addition to the flooding condition described above, the decreased pond depth creates a condition where the pond loses its ability to reduce the incoming pollutant load due to the relatively low retention time in the pond. Storm water entering the pond at the south end is flushed from the pond into the Bay without providing adequate amounts of time for the sediment and pollutants to fall out of suspension. As a result, the pond does a poor job of treating the runoff before entering Manhasset Bay inhibiting the growth of wildlife within the pond.

The damage from the high winds wrought throughout the tributary watershed area conveyed excessive amounts of debris into the storm drain systems. Tree limbs, trash, and other debris blown about during the storm was washed into the storm water collections systems of these areas. Debris that didn't immediately clog the system found its way downstream where it could potentially generate large backups of storm water or was deposited into the pond itself, as well as, blowing debris directly into the pond from surrounding properties.

3. BATHYMETRY AND SAND REMOVAL PLAN

A bathymetric survey, using sonar equipment, was conducted by Sidney B. Bowne & Son, LLP during April 2014 to determine the existing elevations of Leeds Pond. No data is available to determine the pre-Sandy conditions, however, historical interviews from residents and indications from the Town representatives, indicate that this was once a water body with depths to 10 feet.

The proposed sand removal plan, as presented in Appendix B, provides critical elements that will both enhance the function of the pond as a storm water measure, and, improve the quality of pond water and its function as a wildlife habitat.

The silt/sediment layer in the pond has a volume of approximately 80,500 CY and appears to be primarily in suspension. It is assumed that the condensed volume of silt/sediment to be 25% or 20,125 CY after being dried. For disposal. The total sand layer to be removed will be 20,300 CY with 18,700 CY used to re-contour to the Pond to the elevations proposed and create the emergent wetlands and siltation basin. The excess sand removed, approximately 3,600 CY, will be used for beach replenishment if acceptable after testing.

The proposed dredging plan calls for the construction of a siltation basin at the southern end of the pond where outfalls of the three largest sub-watersheds enter the pond. Sediment and pollutants would enter the pond and fall out of suspension in this location. The sediment basin is provided with a Nassau County right-of-way access that can be used to periodically remove sediment under a maintenance program.

North of the sediment basin for approximately 150 feet, a shallow section will be planted as an emergent wetland filtration bed. Plants in this location will use biological processes to aid in removing pollutants from the water.

As water flows past the wetland “berm” it is directed between two channels and into a deeper portion of the pond to the north allowing for additional pollutants to settle out, increasing the volume of the pond, thereby increasing the retention time of the water within the pond. The added volume will also help decrease the sensitivity of the pond to salt water influxes during extreme tide and storm events.

The changes to the pond as a result of the proposed sand removal plan will not only increase the ponds functionality as a storm water measure, but will serve to enhance the wildlife of the pond. The improved water quality, as a result of these measures, will allow plants and wildlife to populate both the wetland portions and the deeper portions of the pond.

4. REGULATORY OVERSIGHT AND PERMIT REQUIREMENTS

Leeds pond and the surrounding areas are all considered regulated freshwater wetlands by both the New York State Department of Environmental Conservation (NYSDEC) and the U.S. Army Corps of Engineers (USACE). As such, work within these areas will require a NYSDEC Freshwater wetland permit, USACE wetland permit, as well as, a Coastal Zone Management (CZM) permit. See Figure 3 – Leeds Pond Wetland Mapping below.

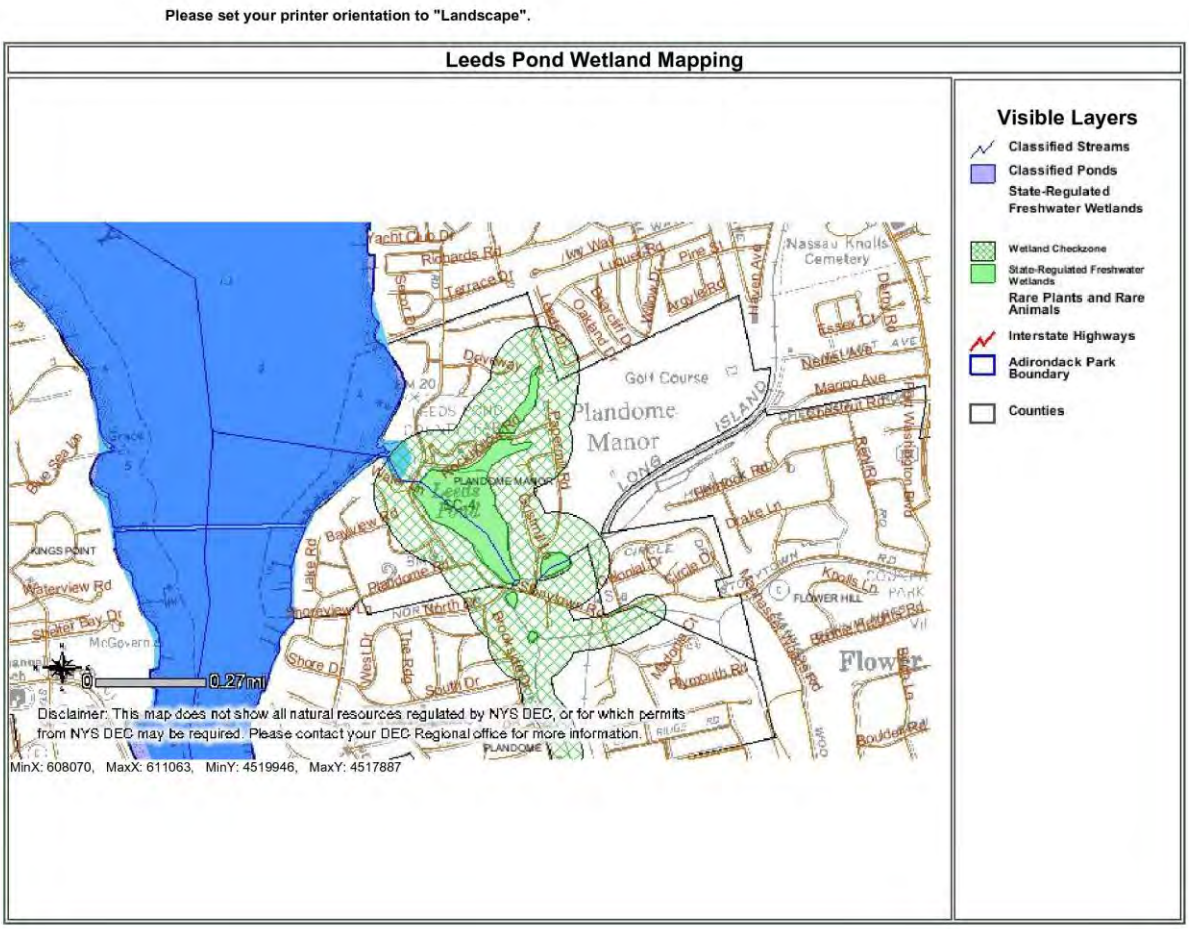


Figure 3 – Leeds Pond Wetland Mapping

Leeds Pond lies within the FEMA flood zone "VE – Costal Flood Zone with velocity hazard (wave action); base flood elevations determined" and "AE – Base Flood Elevations Determined". Base flood elevations for the pond vary between 13 feet and 14 feet. Areas adjacent and tributary to the pond are rated as Zone X.

5. RECOMMENDATIONS

The following restoration measures are recommended to both restore the pond and harden it against future storm events:

1) **Sediment and Sand Removal:** It is recommended the sediment and sand at the bottom of the pond be remove, re-contoured and disposed of as indicated in Appendix B. The proposed plan enclosed incorporates a pre-treatment area that would allow heavier sediment to accumulate initially at the south end of the Pond. This pretreatment area maintains access for regular maintenance to prevent a restricted outflow condition.

   Storm water would then flow through an emergent wetland area to remove pollutants through a biological processes. Ultimately, a large portion of the pond would be deepened from 0 to 2 feet deeper than the current sand layer condition which will increase the pond volume and reduce the flushing rate. The increased volume would increase the retention time of the pond thereby improving water quality. This increased volume would also lessen the sensitivity of the system to salt water inflow during extreme storm events.

2) **Clean upstream storm water collection systems:** It is recommended that the storm water collection systems of the tributary watershed be cleaned and ensured that they are free of debris. Debris as a result of storm damage that has entered the drainage systems prevents the initial leaching to ground water, blocks the flow of water from the inlets, and conveys debris into the pond. It is critical that these systems be cleaned to ensure they function properly.

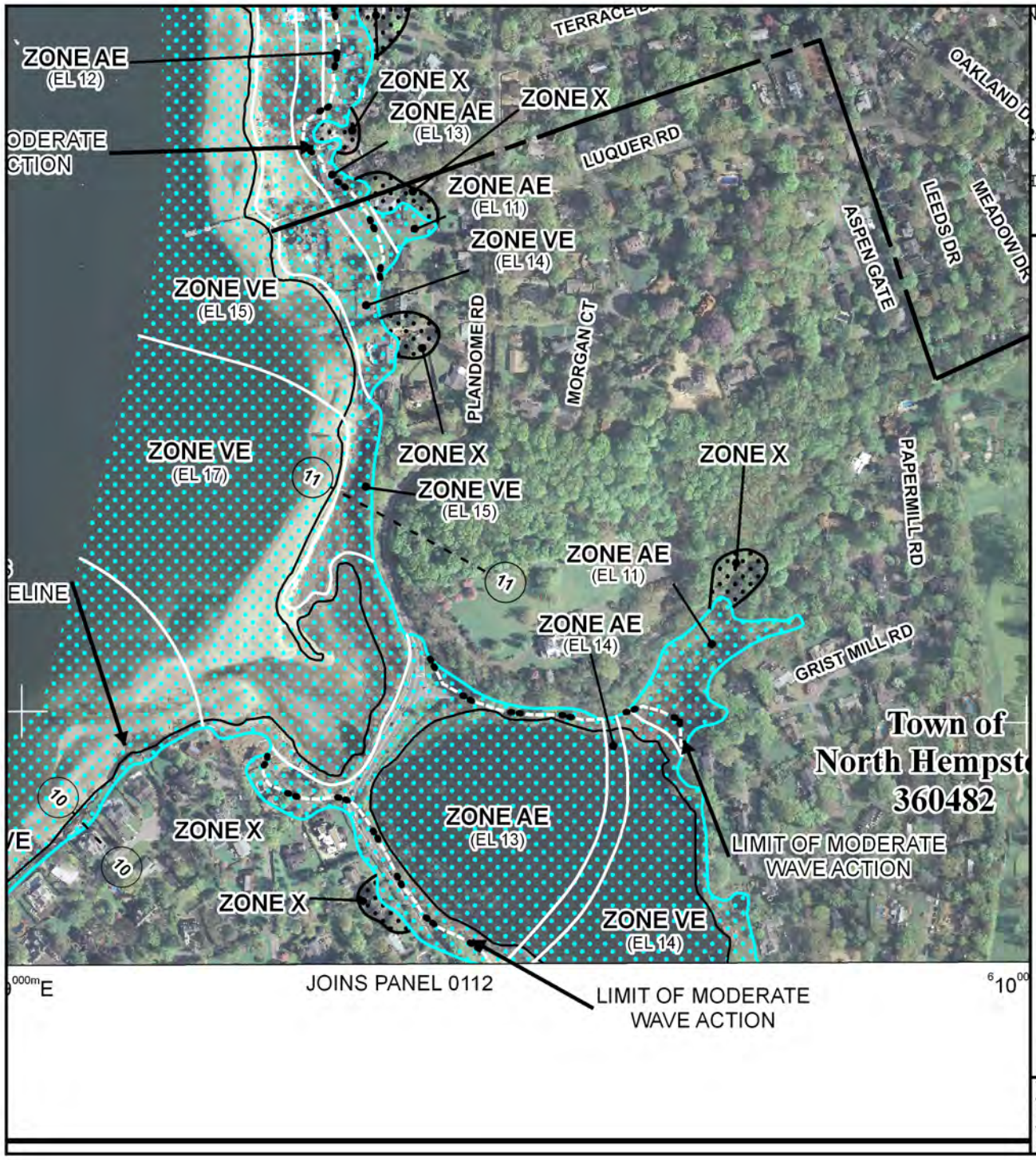
With respect to hardening for future storm surge events, it should be considered to secure a ten (10) year dredging and sediment removal permit from the NYSDEC at this time. It is recommended that a sample and testing program be put in place to determine the toxicity of the Lake and Pond Sediment.

3) **Costs:** The cost for the proposed sand removal is estimated to be $ 10,194.446.00 (See Table 1). This estimate will be revised during the design phase.

Table 1

ITEM	UNITS		$/UNIT	EXTENSION
General Contractor				
Mobilization	1	Ea.	$50,000.00	$50,000.00
Demobilization	1	Ea.	$50,000.00	$50,000.00
Sediment Removal/Disposal	20,125.00	CY	$230.00	$4,628,750.00
Aquatic Sand Removal/Beach Replenishment	3,600.00	CY	$85.00	$306,000.00
Aquatic Sand Re-Contouring	18,700.00	CY	$65.00	$1,215,500.00
Sub-total				**$6,250,250.00**
Sub-Total				**$6,250,250.00**
General Conditions	3.00%	Lump Sum		$187,507.50
Contingency	10.00%	Lump Sum		$625,025.00
Total General Contractor Cost				**$7,062,782.50**
Engineering				
Design Services	7.50%	Lump Sum		$529,708.69
Permitting	1.50%	Lump Sum		$105,941.74
Construction Administration	3.00%	Lump Sum		$211,883.48
Construction Inspections & Oversight	120	Days	$1,200.00	$144,000.00
Total Soft Costs				**$991,533.90**
Total Project Cost				
Total Project Cost				**$8,054,316.40**

APPENDIX A
FEMA Flood Zones



National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000

FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0104G

FIRM

FLOOD INSURANCE RATE MAP

for NASSAU COUNTY, NEW YORK
(ALL JURISDICTIONS)

CONTAINS:

COMMUNITY	NUMBER
BAXTER ESTATES, VILLAGE OF	360459
FLOWER HILL, VILLAGE OF	361604
KINGS POINT, VILLAGE OF	360473
MANORHAVEN, VILLAGE OF	360479
NORTH HEMPSTEAD, TOWN OF	360482
PLANDOME MANOR, VILLAGE OF	360486
PORT WASHINGTON NORTH, VILLAGE OF	361562
SANDS POINT, VILLAGE OF	360492

PANEL 104 OF 366

MAP SUFFIX: G

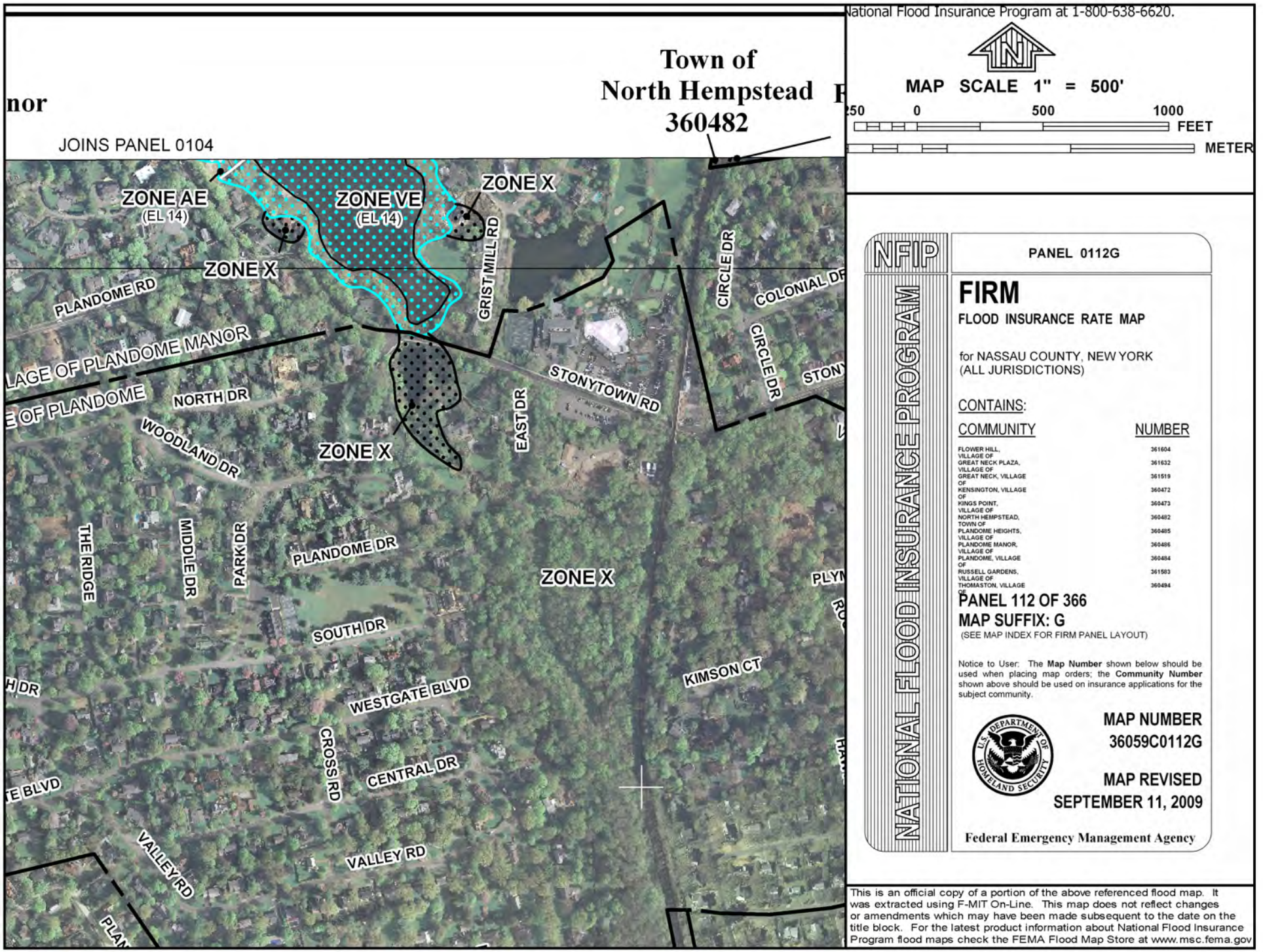
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
36059C0104G

MAP REVISED
SEPTEMBER 11, 2009

Federal Emergency Management Agency



National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000

FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0112G

FIRM

FLOOD INSURANCE RATE MAP

for NASSAU COUNTY, NEW YORK
(ALL JURISDICTIONS)

CONTAINS:

COMMUNITY	NUMBER
FLOWER HILL, VILLAGE OF	361604
GREAT NECK PLAZA, VILLAGE OF	361632
GREAT NECK, VILLAGE OF	361519
KENSINGTON, VILLAGE OF	360472
KINGS POINT, VILLAGE OF	360473
NORTH HEMPSTEAD, TOWN OF	360482
PLANDOME HEIGHTS, VILLAGE OF	360485
PLANDOME MANOR, VILLAGE OF	360486
PLANDOME, VILLAGE OF	360484
RUSSELL GARDENS, VILLAGE OF	361503
THOMASTON, VILLAGE OF	360494

PANEL 112 OF 366

MAP SUFFIX: G

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

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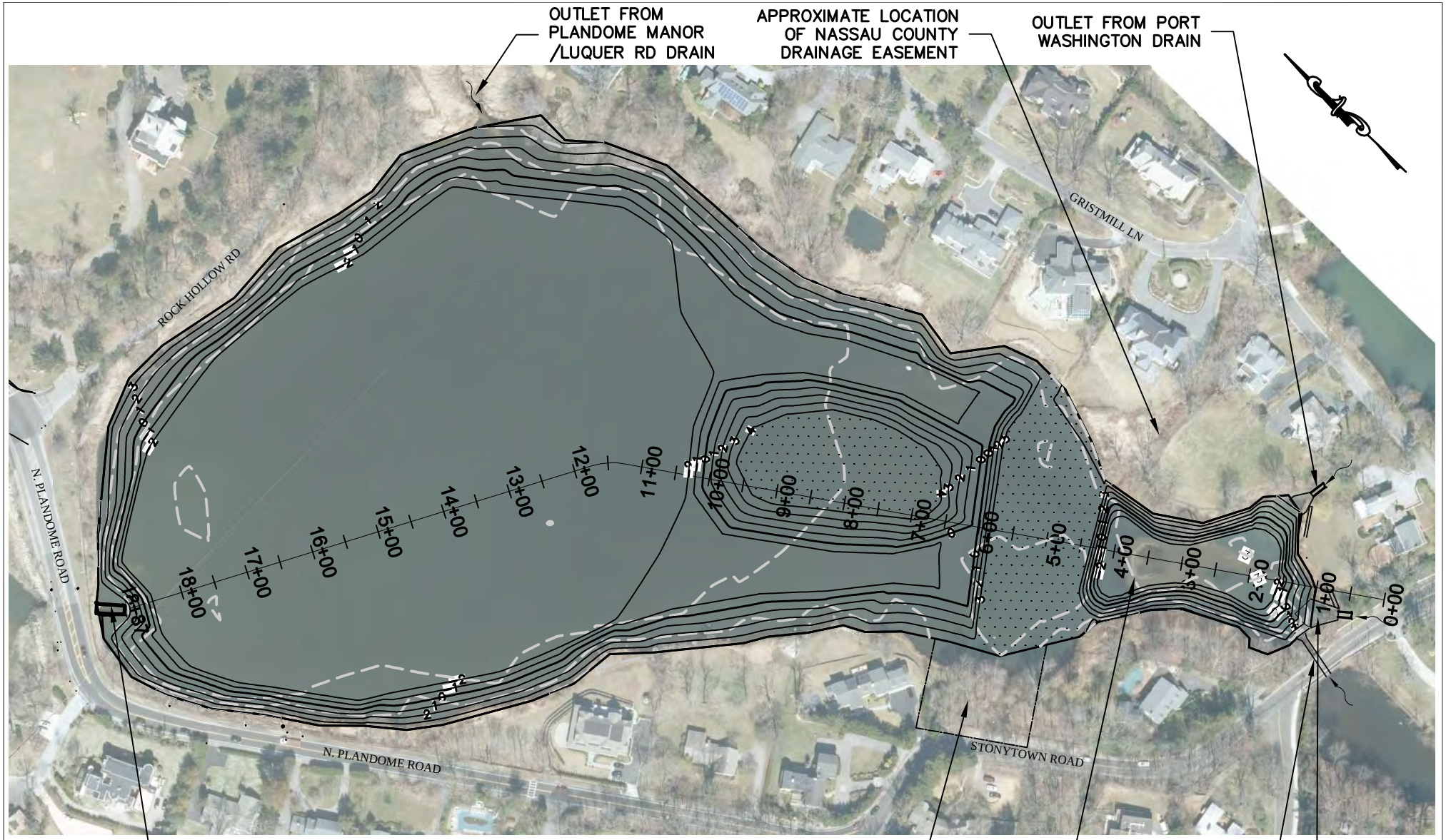
36059C0112G

MAP REVISED
SEPTEMBER 11, 2009

Federal Emergency Management Agency

APPENDIX B

Leeds Pond Bathymetric Survey & Proposed Cross-Sections



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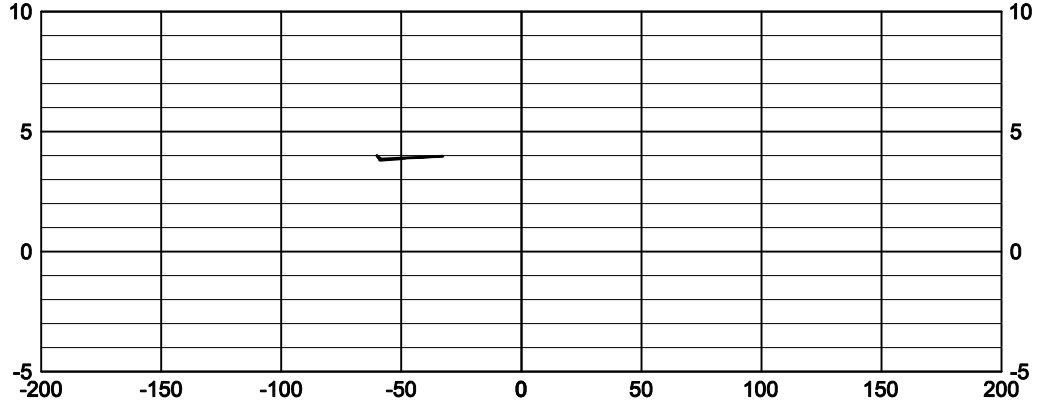
OVERALL PLAN

LEEDS POND
TOWN of NORTH HEMPSTEAD
AQUATIC SAND REMOVAL

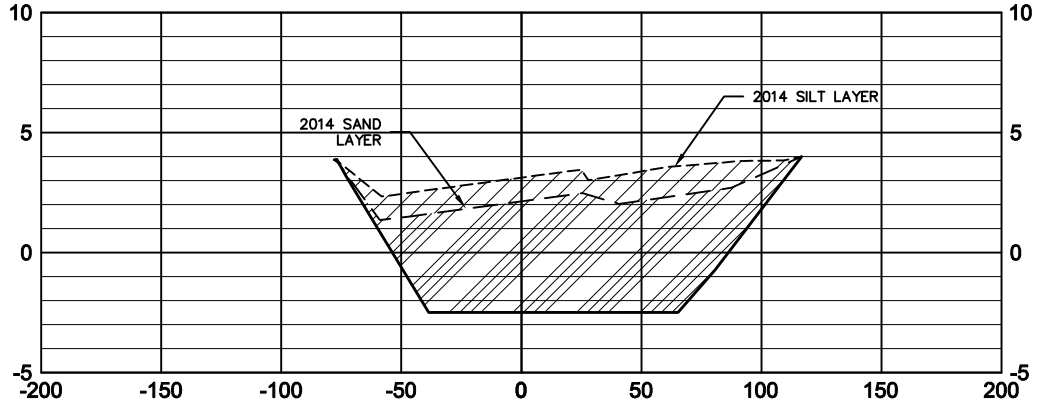
DESIGNED BY:	SF	SCALE:	1" = 200'
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	OVER-1

Section at Sta. 1+00



Adjustment at Sta. 1+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	0 SF	0 CY	0 CY
Sand Removed	0 SF	0 CY	0 CY
Sand Fill	1 SF	0 CY	0 CY

Section at Sta. 2+00



Adjustment at Sta. 2+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	177 SF	328 CY	328 CY
Sand Removed	650 SF	1,203 CY	1,203 CY
Sand Fill	0 SF	2 CY	2 CY

LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

SAND FILL

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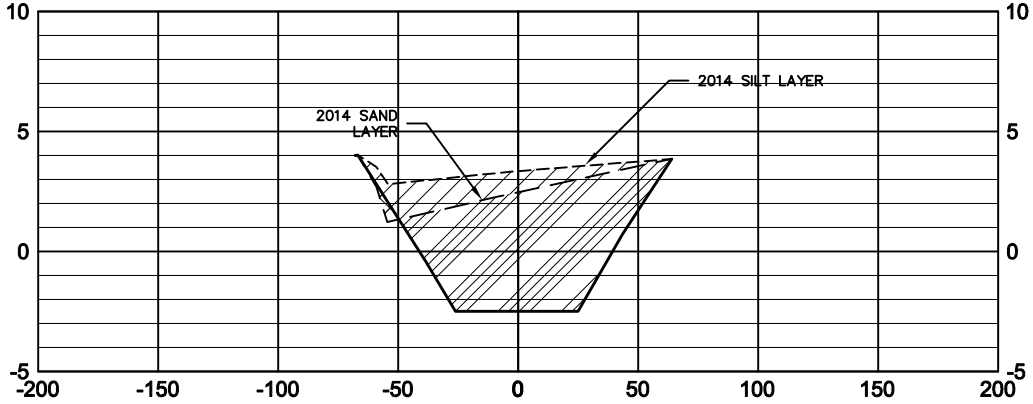
SECTIONS at STATIONS 1+00 and 2+00

LEEDS POND
TOWN of NORTH HEMPSTEAD
AQUATIC SAND REMOVAL

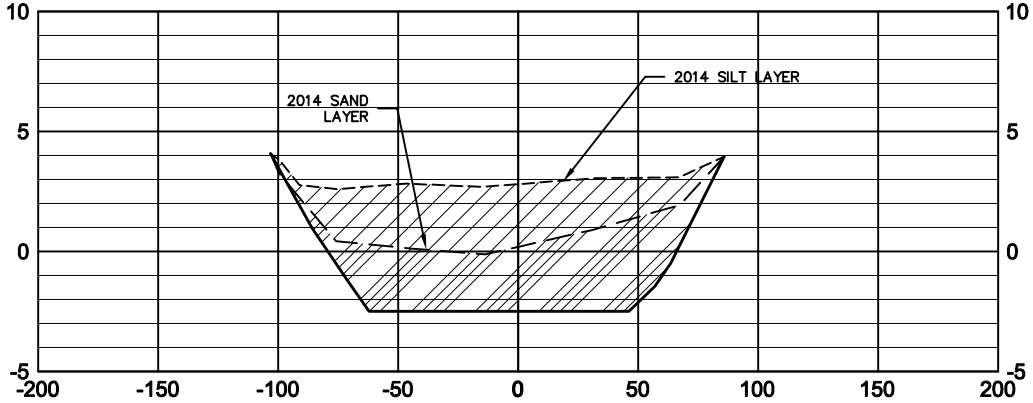
DESIGNED BY:	SF	SCALE:	1" = 80'
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	SEC-1

Section at Sta. 3+00



Adjustment at Sta. 3+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	104 SF	520 CY	848 CY
Sand Removed	407 SF	1,956 CY	3,159 CY
Sand Fill	5 SF	9 CY	11 CY

Section at Sta. 4+00



Adjustment at Sta. 4+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	370 SF	877 CY	1,725 CY
Sand Removed	424 SF	1,538 CY	4,697 CY
Sand Fill	1 SF	10 CY	21 CY

LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

SAND FILL

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SECTIONS at STATIONS 3+00 and 4+00

LEEDS POND
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AQUATIC SAND REMOVAL

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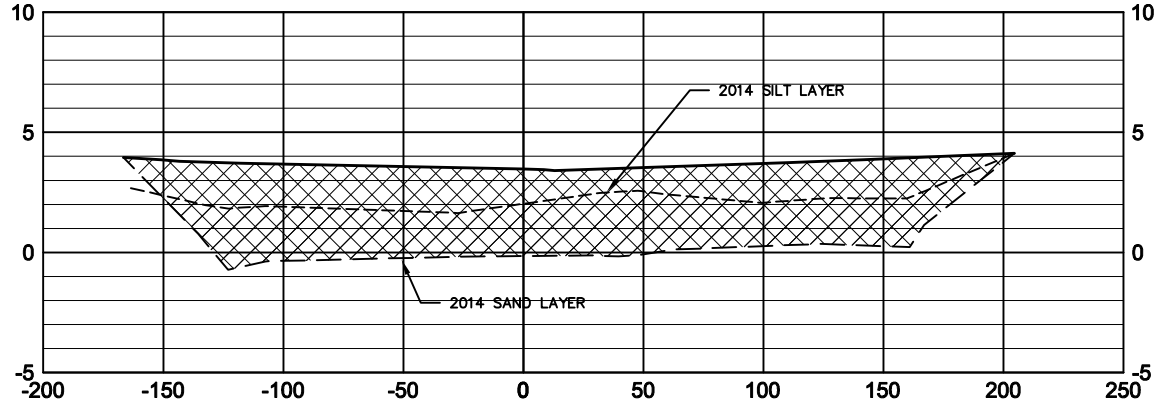
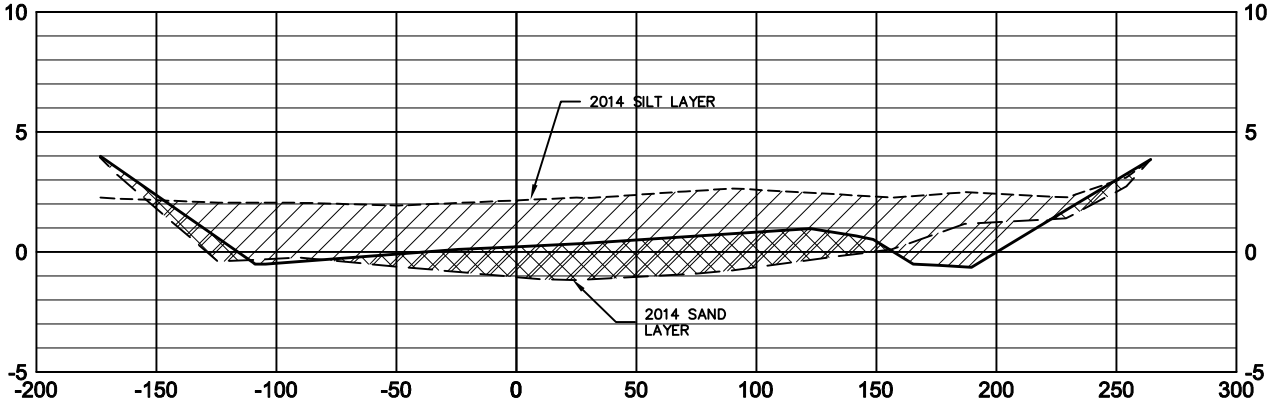
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	SEC-2

Section at Sta. 5+00



Adjustment at Sta. 5+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	676 SF	1,936 CY	3,661 CY
Sand Removed	0 SF	785 CY	5,482 CY
Sand Fill	1,211 SF	2,244 CY	2,266 CY

Section at Sta. 6+00



Adjustment at Sta. 6+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	966 SF	3,041 CY	6,702 CY
Sand Removed	73 SF	136 CY	5,618 CY
Sand Fill	310 SF	2,816 CY	5,082 CY

LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

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SECTIONS at STATIONS 5+00 and 6+00

LEEDS POND
TOWN of NORTH HEMPSTEAD
AQUATIC SAND REMOVAL

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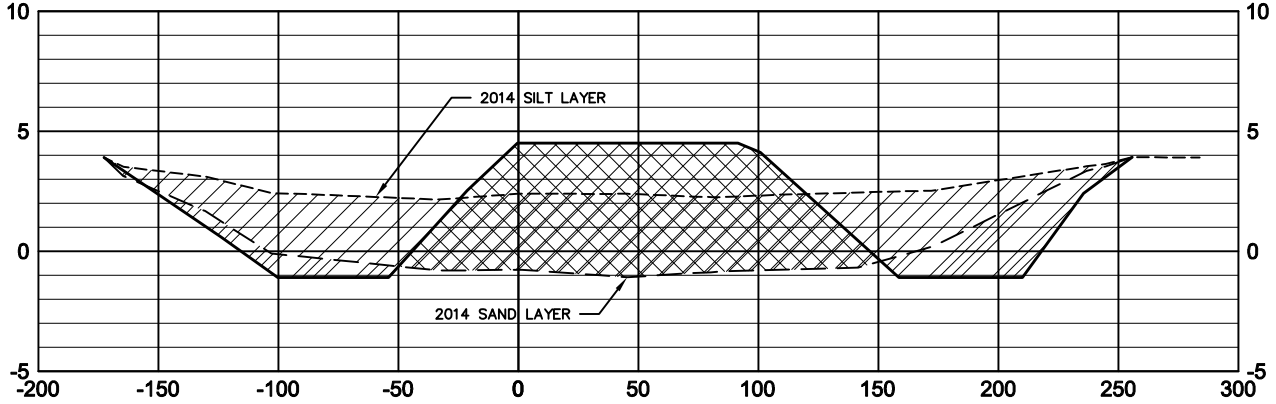
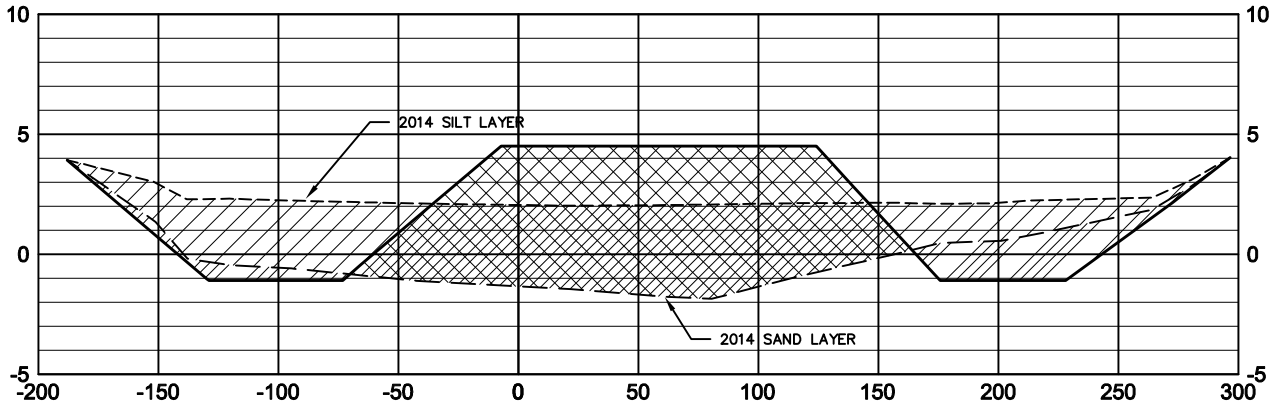
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	SEC-3

Section at Sta. 7+00



Adjustment at Sta. 7+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	1,005 SF	3,649 CY	10,351 CY
Sand Removed	226 SF	555 CY	6,173 CY
Sand Fill	815 SF	2,083 CY	7,165 CY

Section at Sta. 8+00



Adjustment at Sta. 8+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	1,150 SF	3,990 CY	14,342 CY
Sand Removed	200 SF	790 CY	6,963 CY
Sand Fill	1,076 SF	3,503 CY	10,668 CY

LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

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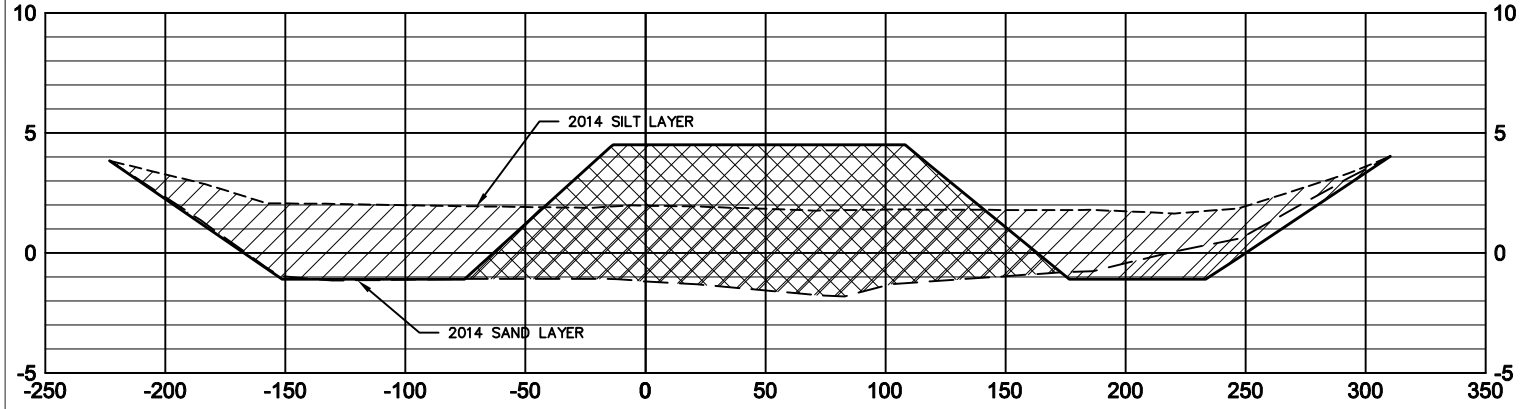
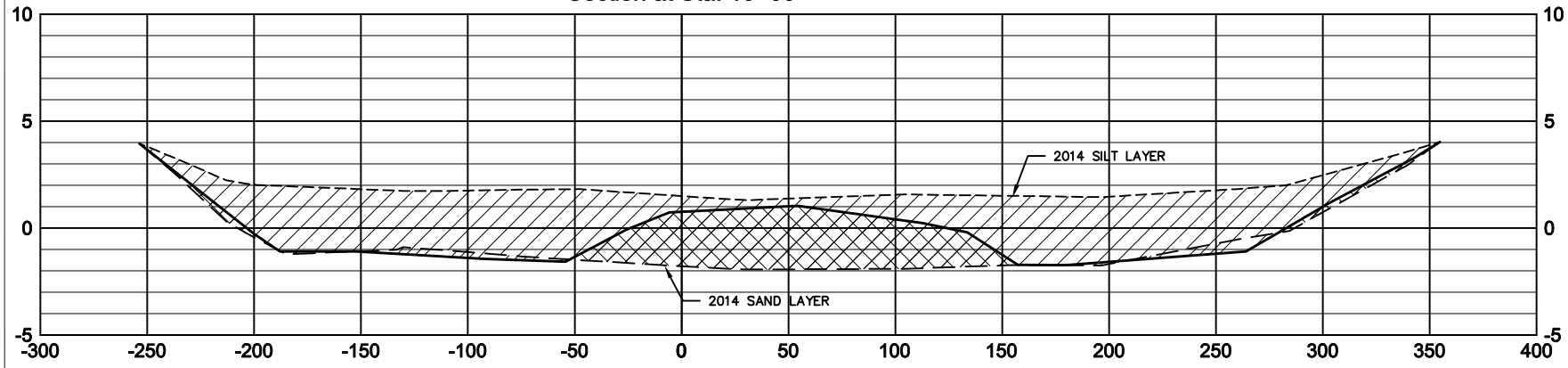
PROJECT NUMBER:	11338258	SHEET:	SEC-4

Section at Sta. 9+00



Adjustment at Sta. 9+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	1,294 SF	4,526 CY	18,867 CY
Sand Removed	92 SF	541 CY	7,504 CY
Sand Fill	1,086 SF	4,004 CY	14,672 CY

Section at Sta. 10+00



Adjustment at Sta. 10+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	1,638 SF	5,430 CY	24,297 CY
Sand Removed	43 SF	250 CY	7,754 CY
Sand Fill	466 SF	2,873 CY	17,545 CY

LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

SAND FILL

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SECTIONS at STATIONS 9+00 and 10+00

LEEDS POND
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PROJECT NUMBER:	11338258	SHEET:	SEC-5

LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

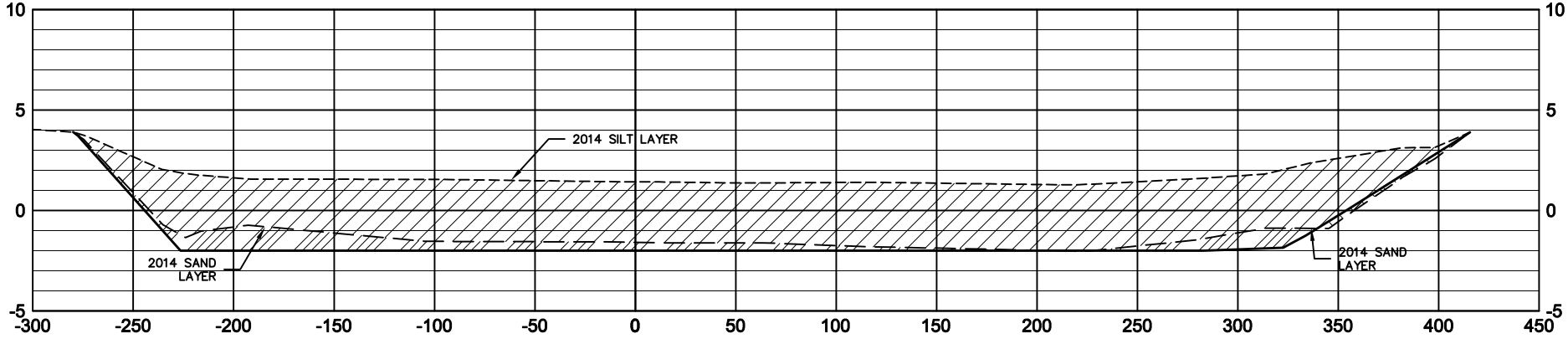
SAND REMOVED

SAND FILL

Adjustment at Sta. 11+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	1,918 SF	6,586 CY	30,882 CY
Sand Removed	277 SF	592 CY	8,347 CY
Sand Fill	14 SF	889 CY	18,434 CY

Adjustment at Sta. 11+50			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	1,936 SF	4,946 CY	35,828 CY
Sand Removed	390 SF	702 CY	9,048 CY
Sand Fill	1 SF	39 CY	18,474 CY

Section at Sta. 11+00



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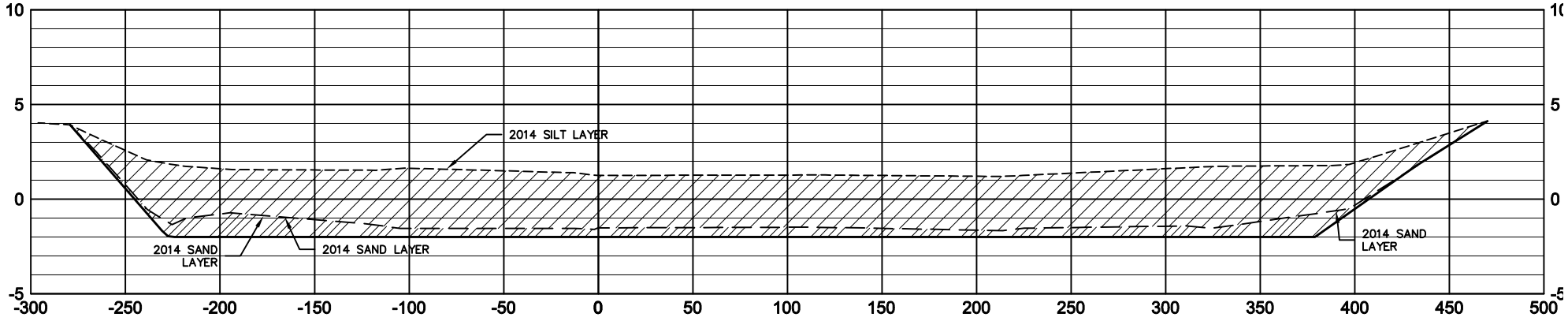

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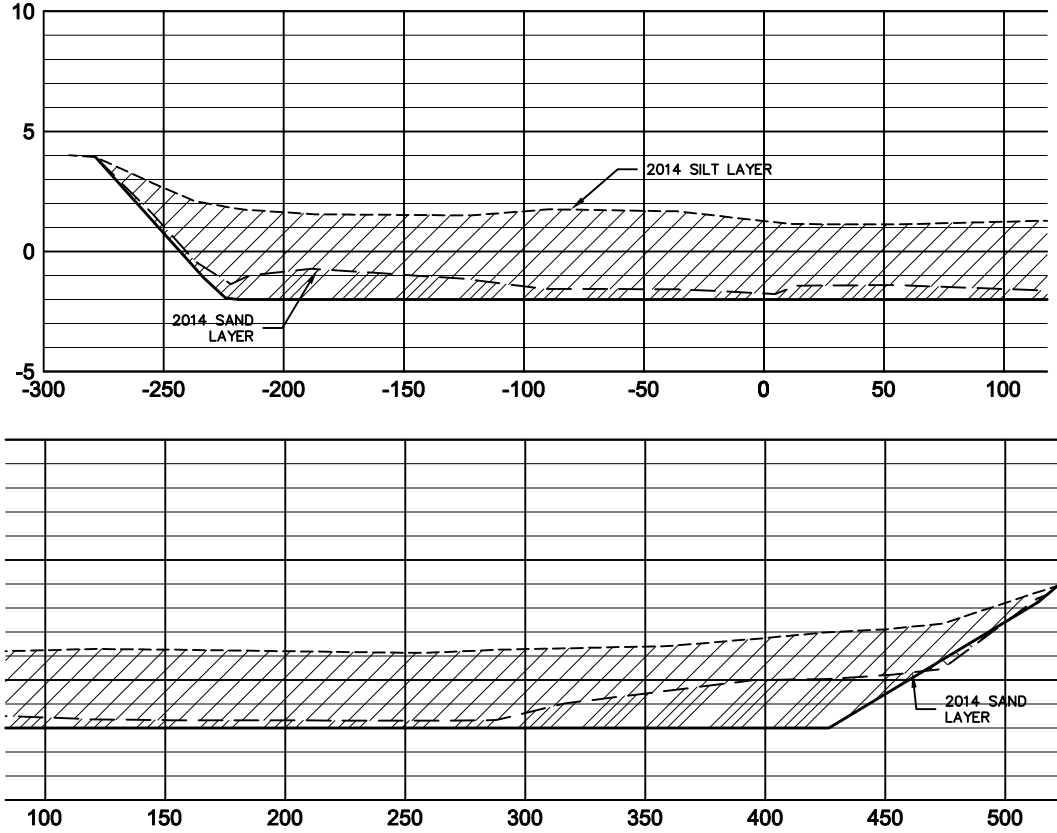
PROJECT NUMBER:	11338258	SHEET:	SEC-6

Section at Sta. 12+00



Adjustment at Sta. 12+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	1,954 SF	5,171 CY	40,999 CY
Sand Removed	534 SF	1,304 CY	10,353 CY
Sand Fill	7 SF	23 CY	18,496 CY

LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

SAND FILL

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Sidney B. Bowne & Son, LLP
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Phone: 516-746-2350 Fax: 516-747-1396
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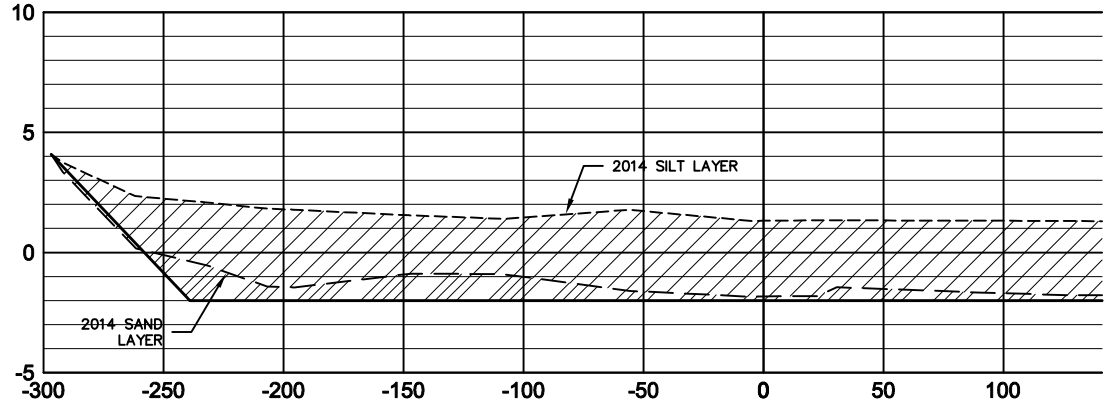
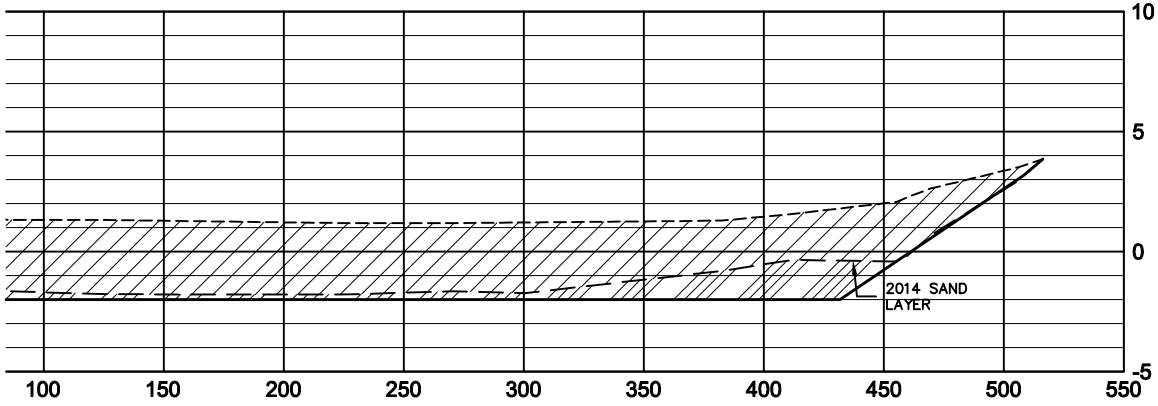
SECTION at STATION 12+00

LEEDS POND
TOWN of NORTH HEMPSTEAD
AQUATIC SAND REMOVAL

DESIGNED BY:	SF	SCALE:	1" = 80'
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	SEC-7

Section at Sta. 13+00





Adjustment at Sta. 13+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	2,118 SF	7,540 CY	48,539 CY
Sand Removed	439 SF	1,802 CY	12,155 CY
Sand Fill	8 SF	28 CY	18,524 CY

LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

SAND FILL

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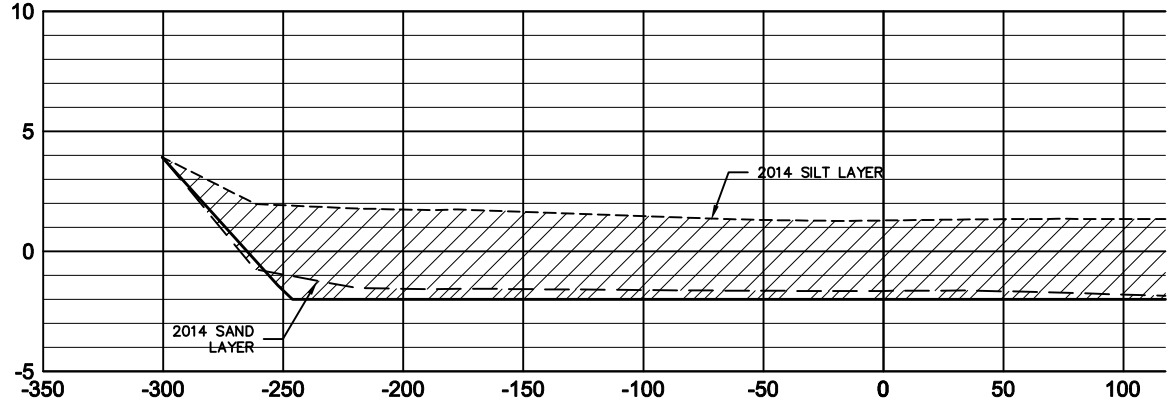
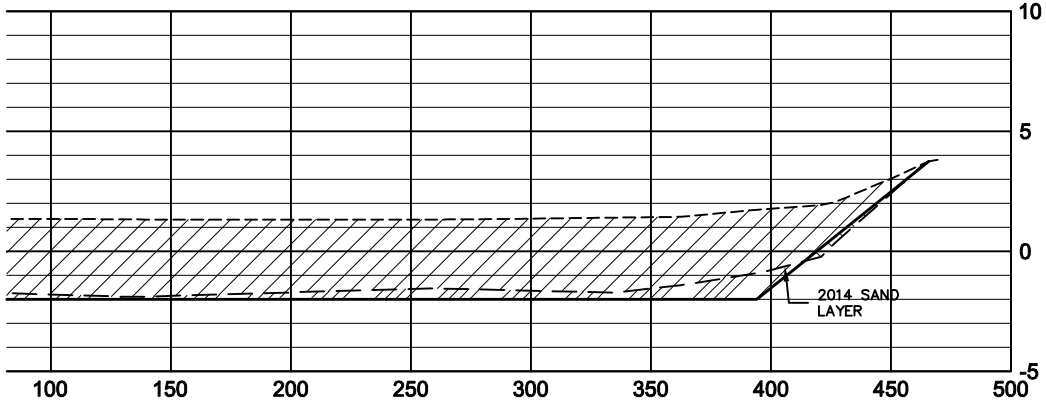
SECTION at STATION 13+00

LEEDS POND
TOWN of NORTH HEMPSTEAD
AQUATIC SAND REMOVAL

DESIGNED BY:	SF	SCALE:	1" = 80'
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	SEC-8

Section at Sta. 14+00





Adjustment at Sta. 14+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	2,157 SF	7,918 CY	56,457 CY
Sand Removed	260 SF	1,294 CY	13,449 CY
Sand Fill	16 SF	46 CY	18,570 CY

LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

SAND FILL

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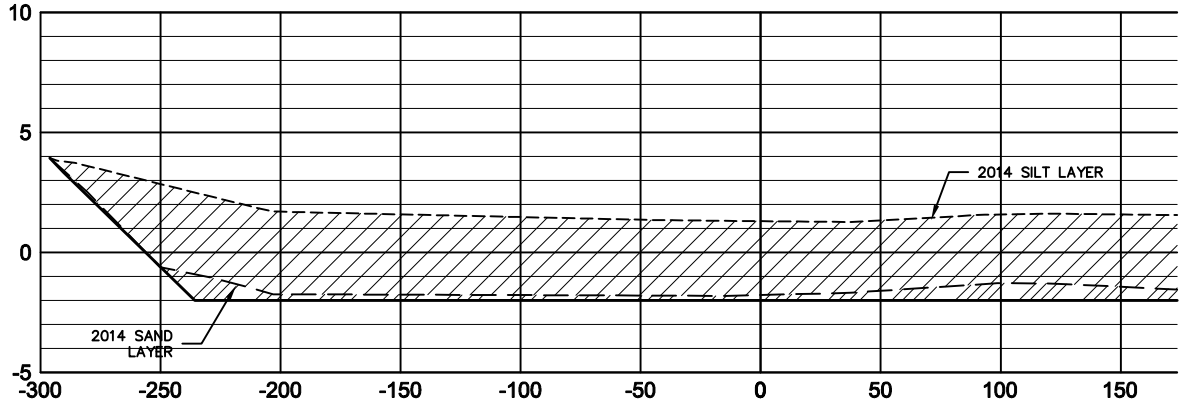
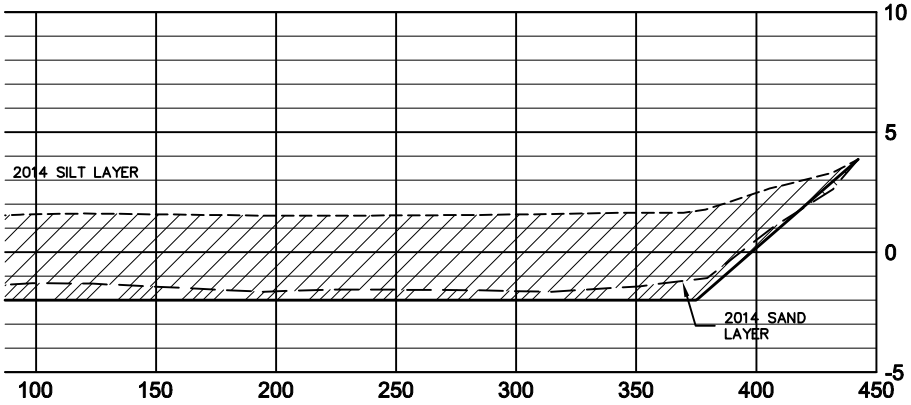
SECTION at STATION 14+00

LEEDS POND
TOWN of NORTH HEMPSTEAD
AQUATIC SAND REMOVAL

DESIGNED BY:	SF	SCALE:	1" = 80'
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	SEC-9

Section at Sta. 15+00





Adjustment at Sta. 15+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	2,148 SF	7,973 CY	64,430 CY
Sand Removed	274 SF	988 CY	14,438 CY
Sand Fill	4 SF	38 CY	18,609 CY

LEGEND

EXISTING SILT --------

EXISTING SAND — — — —

PROPOSED GRADE ————

SILT REMOVED

SAND REMOVED

SAND FILL

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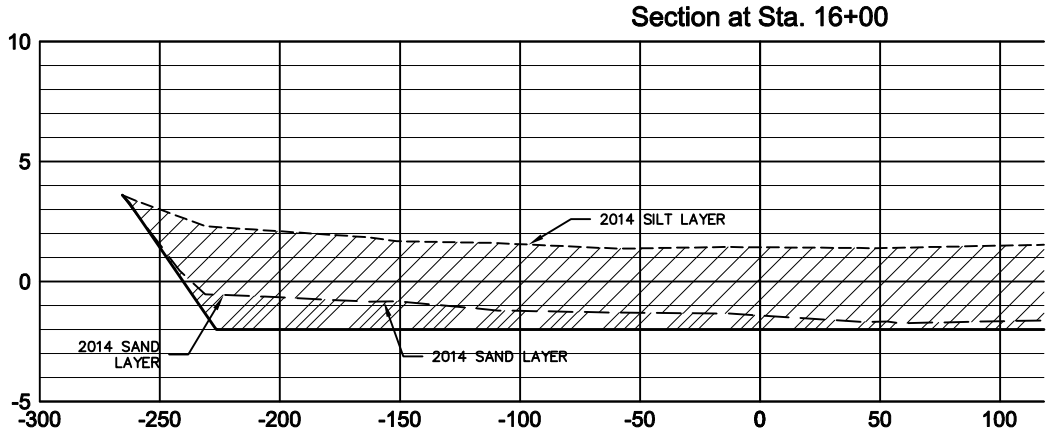
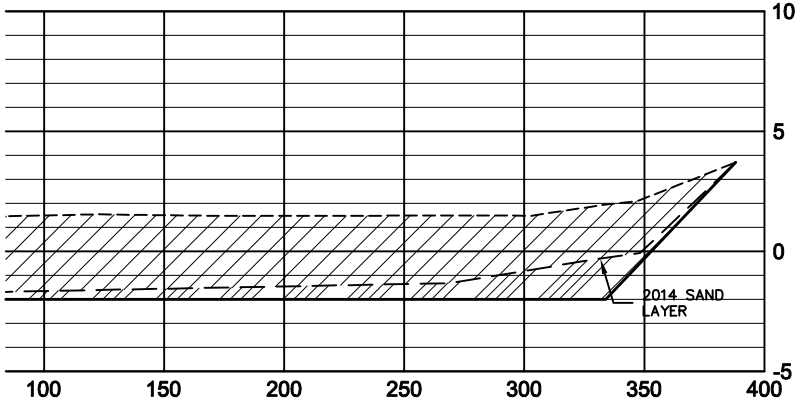
SECTION at STATION 15+00

LEEDS POND
TOWN of NORTH HEMPSTEAD
AQUATIC SAND REMOVAL

DESIGNED BY:	SF	SCALE:	1" = 80'
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	SEC-10





Adjustment at Sta. 16+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	1,723 SF	7,168 CY	71,598 CY
Sand Removed	454 SF	1,347 CY	15,785 CY
Sand Fill	0 SF	8 CY	18,617 CY

LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

SAND FILL

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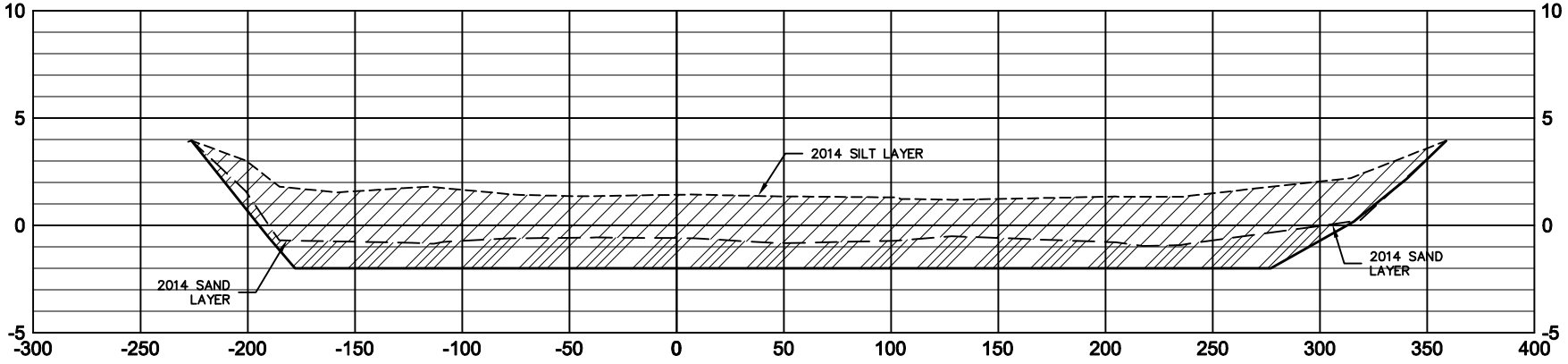
SECTION at STATION 16+00

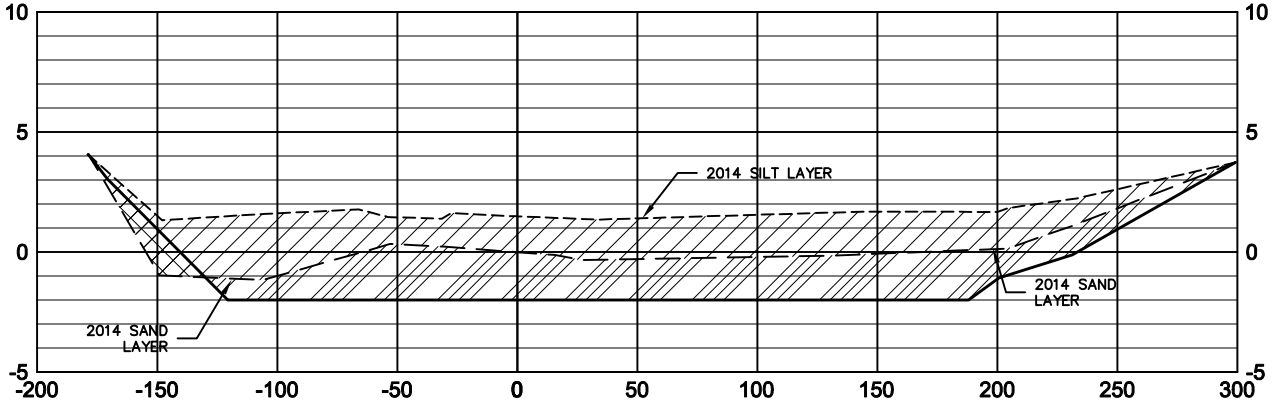
LEEDS POND
TOWN of NORTH HEMPSTEAD
AQUATIC SAND REMOVAL

DESIGNED BY:	SF	SCALE:	1" = 80'
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	SEC-11

Section at Sta. 17+00



Section at Sta. 18+00



Adjustment at Sta. 17+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	1,158 SF	5,336 CY	76,934 CY
Sand Removed	653 SF	2,050 CY	17,834 CY
Sand Fill	2 SF	4 CY	18,620 CY

Adjustment at Sta. 18+00			
Material Name	Area	Volume	Cumulative Volume
Silt Removed	744 SF	3,523 CY	80,457 CY
Sand Removed	658 SF	2,427 CY	20,262 CY
Sand Fill	42 SF	81 CY	18,701 CY

LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

SAND FILL

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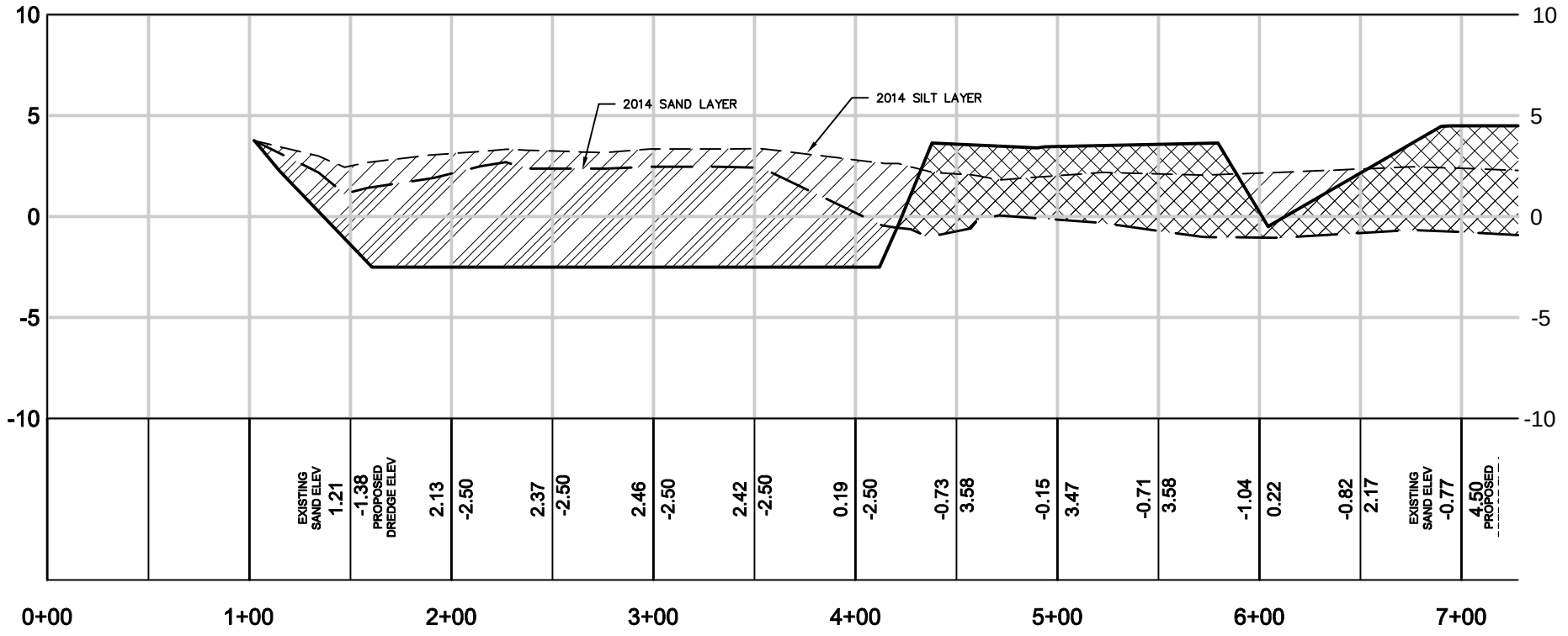
SECTIONS at STATIONS 17+00 and 18+00

LEEDS POND
TOWN of NORTH HEMPSTEAD
AQUATIC SAND REMOVAL

DESIGNED BY:	SF	SCALE:	1" = 80'
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	SEC-12



LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

SAND FILL

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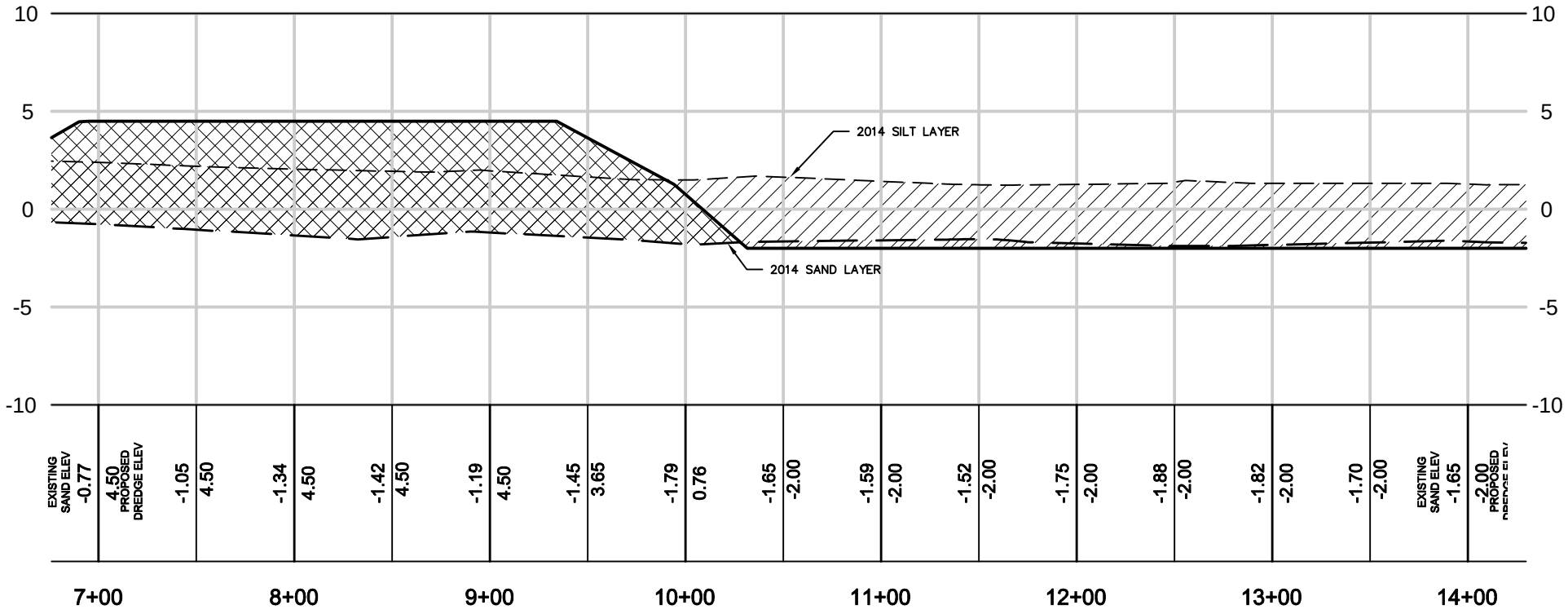
PROFILE STATIONS 0+00 to 7+00

LEEDS POND
TOWN of NORTH HEMPSTEAD
AQUATIC SAND REMOVAL

DESIGNED BY:	SF	SCALE:	1" = 80'
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	PROF-1



LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

SAND FILL

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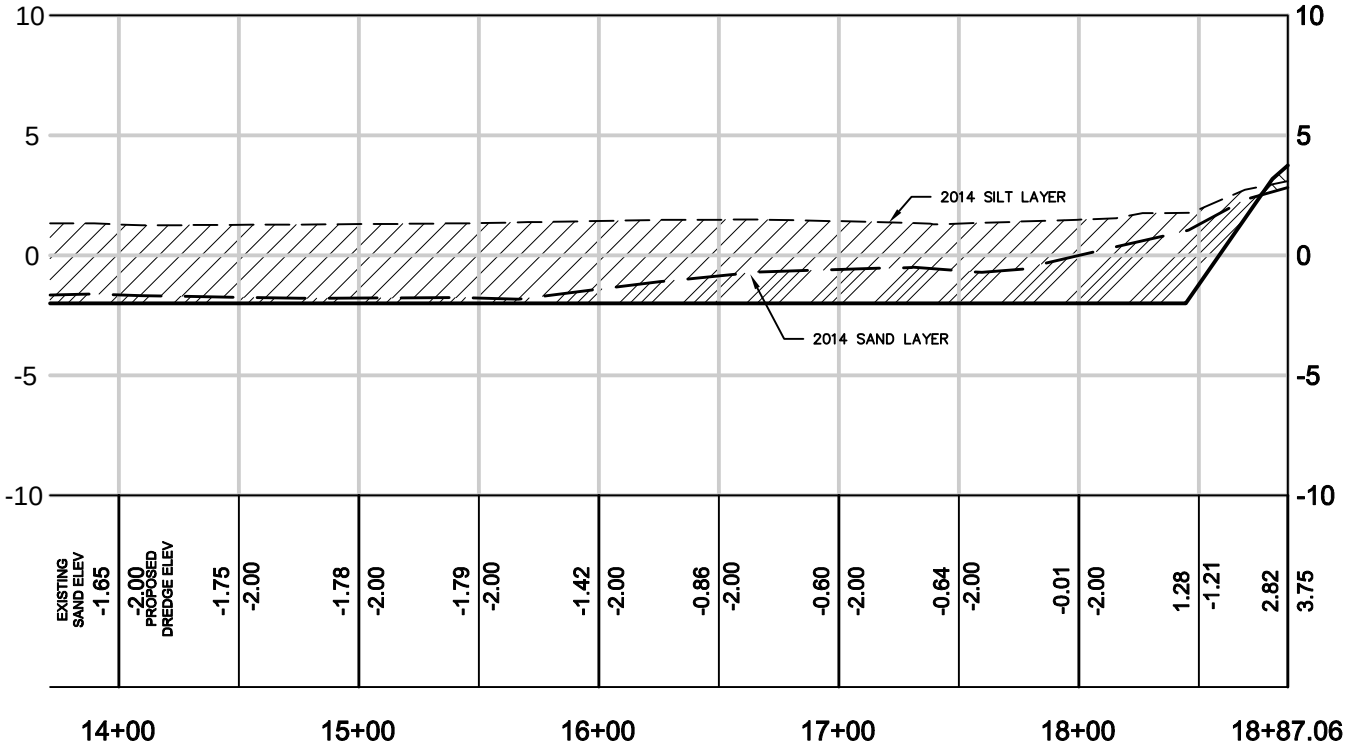
PROFILE STATIONS 7+00 to 14+00

LEEDS POND
TOWN of NORTH HEMPSTEAD
AQUATIC SAND REMOVAL

DESIGNED BY:	SF	SCALE:	1" = 80'
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	PROF-2



LEGEND

EXISTING SILT

EXISTING SAND

PROPOSED GRADE

SILT REMOVED

SAND REMOVED

SAND FILL

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PROFILE STATION 14+00 to 18+87

LEEDS POND
TOWN of NORTH HEMPSTEAD
AQUATIC SAND REMOVAL

DESIGNED BY:	SF	SCALE:	1" = 80'
CHECKED BY:	LL	DATE:	AUGUST 2014
PROJECT NUMBER:	11338258	SHEET:	PROF-3

APPENDIX C
Photos

Town Of North Hempstead
Leeds Pond, Plandome Manor, NY
AQUATIC SAND REMOVAL

Photo 1 – Leeds Pond Looking South

Photo 2 – Aerial of Spillway at N. Plandome Road

Town Of North Hempstead
Leeds Pond, Plandome Manor, NY
AQUATIC SAND REMOVAL

Photo 3 – N. Plandome Road Looking North at Culvert

Photo – Leeds Pond Aerial Looking South