Appendix H

Tree Removal Application

HEMPSTEAD LAKE STATE PARK

HEMPSTEAD LAKE DAM

&

SOUTH POND DAM

TREE REMOVAL

DAM SAFETY PERMIT APPLICATION

RESUBMISSION NOVEMBER 03, 2017

Prepared for:
NYS OPRHP – Long Island Region
Belmont Lake State Park
P.O. Box 247
Babylon, NY 11702

Prepared by:

LKB CONSULTING ENGINEERS
ENGINEERING EXCELLENCE SINCE 1889

STATE OF NEW YORK
LICENSED PROFESSIONAL ENGINEER
116

NEW YORK STATE | Department of Environmental Conservation | Office of General Services | Department of State

US Army Corps of Engineers

JOINT APPLICATION FORM

For Permits for activities activities affecting streams, waterways, waterbodies, wetlands, coastal areas, sources of water, and endangered and threatened species.

You must separately apply for and obtain Permits from each involved agency before starting work. Please read all instructions.

1. **Applications To:**

>NYS Department of Environmental Conservation ☑ Check here to confirm you sent this form to NYSDEC.

Check all permits that apply:
- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☑ Dams and Impoundment Structures
- ☑ 401 Water Quality Certification
- ☑ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Coastal Erosion Management
- ☐ Water Withdrawal
- ☐ Long Island Well
- ☐ Incidental Take of Endangered / Threatened Species

>US Army Corps of Engineers ☐ Check here to confirm you sent this form to USACE.

Check all permits that apply: ☐ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act

Is the project Federally funded? ☐ Yes ☐ No

If yes, name of Federal Agency:

General Permit Type(s), if known:

Preconstruction Notification: ☐ Yes ☐ No

>NYS Office of General Services ☐ Check here to confirm you sent this form to NYSOGS.

Check all permits that apply:
- ☐ State Owned Lands Under Water
- ☐ Utility Easement (pipelines, conduits, cables, etc.)
- ☐ Docks, Moorings or Platforms

>NYS Department of State ☐ Check here to confirm you sent this form to NYSDOS.

Check if this applies: ☐ Coastal Consistency Concurrence

2. **Name of Applicant**: NYS OPRHP - LI Region

Taxpayer ID (if applicant is NOT an individual):

Mailing Address: PO Box 247 Belmont Lake State Park

Post Office / City: Babylon | State: NY | Zip: 11702

Telephone: 631-669-1000 Email: scott.fish@parks.ny.gov

Applicant Must be (check all that apply): ☑ Owner ☑ Operator ☐ Lessee

3. **Name of Property Owner (if different than Applicant)**

Mailing Address | Post Office / City | State | Zip

Telephone | Email

For Agency Use Only	Agency Application Number:

4. Name of Contact / Agent

Lockwood, Kessler & Bartlett, Inc.

Mailing Address	Post Office / City	State	Zip
One Aerial Way	Syosset	NY	11791

Telephone 516-938-0600 ext 235 Email cprunty@lkbinc.com

5. Project / Facility Name

Tree Removal at Hempstead Lake (HL) Dam & South Pond (SP) Dam

Property Tax Map Section / Block / Lot Number: Section: 35 / Block: P / Lot: 249D

Project Street Address, if applicable	Post Office / City	State	Zip
Hempstead Lake State Park	West Hempstead	NY	11552

Provide directions and distances to roads, intersections, bridges and bodies of water

Exit 18 on Southern State Parkway (Eagle Ave) south approximately 1 mile becomes Lakeside Drive located on crest of HL Dam. South Pond Dam is located approx. 1 mile further south within the Park and is north of Lakeview Ave and west of Peninsula Blvd

☑ Town ☐ Village ☐ City

County	Stream/Waterbody Name
Nassau	Hempstead Lake/South Pond/Mill Creek

Hempstead

Project Location Coordinates: Enter Latitude and Longitude in degrees, minutes, seconds:

Latitude: 40 ° 40 ' 22 " Longitude: -73 ° 38 ' 49 "

6. Project Description: Provide the following information about your project. Continue each response and provide any additional information on other pages. **Attach plans on separate pages.**

a. Purpose of the proposed project:

This project is to remove trees and vegetation from the dam emabkments and crests, so State mandated safety inspections can be performed. Trees on the earthen embankments will be limbed, cut and stumps removed. The rootball voids will be filled with compacted clean, suitable fill. The embankments will be re-graded to form smooth, uniform slopes and will be top-soiled and seeded with native grass mix. The upstream side of Hempstead Lake Dam is stone-faced. Trees there will be limbed and cut to within a few inches of the existing stone facing ~~and sealed with a preservative.~~ Accumulated soil and leaf litter will be removed from the stone facing. Emergency repairs will be performed on the stone facing, if necessary, once it is exposed.

no Chems
per 11/2/17 email
revise/make a note

b. Description of current site conditions:

The dam embankments are covered with trees and vegetation. The HL Dam crest includes a 40' wide roadway with curb and guiderail on the north side. The upstream side of HL Dam is covered by 18" stone facing with a 3' wide capstone along the crest topped by a 6' chain link fence. The HL gatehouse has 4 overflow weirs and 5 non-functional sluice gates. The gatehouse will be restored and the gates will be replaced under a separate project. South Pond Dam embankments are covered in trees and vegetation and there is some settlement along the dam crest. There is a stone outlet weir and spillway that will be cosmetically repaired under a separate project.

c. Proposed site changes:

Trees and shrubs on the dams will be removed, earthen embankments will be re-graded to uniform slopes and then top-soiled and seeded. Additional work to restore and improve outlet conditions will be performed under a separate project.

d. Type of structures and fill materials to be installed, and quantity of materials to be used (e.g., square feet of coverage, cubic yards of fill material, structures below ordinary/mean high water, etc.):

Suitable fill will be placed in compacted lifts within the voids caused by stump removals and to fill dips in the SP Dam crest. Re-graded slopes will be covered by topsoil and seeded. Approximately 650 CY of fill and 1600 CY of topsoil will be applied to approximately 100000 SF of dam embankments. All work is to be performed above the upstream waterline of each dam.

e. Area of excavation or dredging, volume of material to be removed, location of dredged material placement:

No dredging will be performed. Approximately 1500 CY of accumulated soil and leaf litter will be removed from the upstream stone facing of HL Dam. Trees removed from the dams will be cut and chipped into mulch and disposed of outside of the Park.

f. Is tree cutting or clearing proposed? ☑ Yes If Yes, explain below. ☐ No

Timing of the proposed cutting or clearing (month/year): November 2017 - March 2018

Number of trees to be cut: 1050 Acreage of trees to be cleared: 4.0

g. Work methods and type of equipment to be used:

Trees will be limbed with the use of chainsaws. Stump removal will consist of stump grinding and the removal of root systems. Topsoil will be spread with the use of small bulldozers and seeding will be applied through a hydro seeding process. Soil will be removed from stone facing using light equipment and vacuum trucks.

h. Describe the planned sequence of activities:

Accepted erosion control measures will be installed. Tree/vegetation removal shall proceed from the upstream embankment to the dam crest to the downstream embankment and toe areas. Work shall be completed on the U/S side prior to the start on work on the crest, and the crest shall be completed prior to start of work on the D/S side. In addition, work shall proceed from one end of the dam to the other end in a similar fashion. (see notes on this contract). Tree stumps on earthen embankments shall be removed, filled, and compacted. Embankments will be re-graded to smooth slopes and then top-soiled and seeded. Soil and leaf litter will be removed from the stone facing. Non toxic wood preservative will be applied to stumps on the stone facing.

No preservatives per 11/2/17 email correct

i. Pollution control methods and other actions proposed to mitigate environmental impacts:

The contractor shall implement good housekeeping and spill control practices during construction to minimize the possibility of storm water contamination. For example, fuel will be stored in upland areas beyond the adjacent areas.

j. Erosion and silt control methods that will be used to prevent water quality impacts:

Silt fence/hay bales will be installed downslope of all operations. Turbidity curtains will be installed along shorelines and streams to prevent water quality impacts. See plans.

k. Alternatives considered to avoid regulated areas. If no feasible alternatives exist, explain how the project will minimize impacts:

There are no alternatives. Trees must be removed from the Dam's embankments as per NYSDEC regulations.

l. Proposed use: ☐ Private ☑ Public ☐ Commercial

m. Proposed Start Date: November 2017 Estimated Completion Date: March 2018

n. Has work begun on project? ☐ Yes If Yes, explain below. ☑ No

o. Will project occupy Federal, State, or Municipal Land? ☑ Yes If Yes, explain below. ☐ No

Project is located within Hempstead Lake State Park

p. List any previous DEC, USACE, OGS or DOS Permit / Application numbers for activities at this location:

None

q. Will this project require additional Federal, State, or Local authorizations, including zoning changes?

☐ Yes If Yes, list below. ☑ No

7. **Signatures.**
Applicant and Owner (If different) must sign the application.
Append additional pages of this Signature section if there are multiple Applicants, Owners or Contact/Agents.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief.

Permission to Inspect - I hereby consent to Agency inspection of the project site and adjacent property areas. Agency staff may enter the property without notice between 7:00 am and 7:00 pm, Monday - Friday. Inspection may occur without the owner, applicant or agent present. If the property is posted with "keep out" signs or fenced with an unlocked gate, Agency staff may still enter the property. Agency staff may take measurements, analyze site physical characteristics, take soil and vegetation samples, sketch and photograph the site. I understand that failure to give this consent may result in denial of the permit(s) sought by this application.

False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the NYS Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant | Date: 8/8/17

Applicant Must be (check all that apply): [X] Owner [X] Operator [ ] Lessee

Printed Name: Scott Fish, P.E. | Title: Director of Engineering

Signature of Owner (if different than Applicant) | Date:

Printed Name: | Title:

Signature of Contact / Agent | Date: 8/7/17

Printed Name: Christopher Prunty, P.E. | Title: Senior Civil Engineer

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Application Number

(Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative:

Printed Name | Title

Signature | Date

NEW YORK STATE OF OPPORTUNITY.

Department of Environmental Conservation

APPLICATION FOR PERMIT

FOR THE CONSTRUCTION, RECONSTRUCTION OR REPAIR OF A DAM OR OTHER IMPOUNDMENT STRUCTURE

Supplement D-1

Please read all instructions on the following page. Please TYPE or PRINT clearly in ink. Attach additional information as needed.

FOR DEPARTMENT USE ONLY
APPLICATION NO.
DAM NO.
WATERSHED

PROJECT DESCRIPTION

1. LOCATION On U.S. GEOLOGICAL SURVEY MAP
Name of Map: LYNBROOK | Latitude: 40o40'22" | Longitude: -73o38'49"

2. PROPOSED USE FOR IMPOUNDED WATER: EXISTING DAM LOCATED IN STATE PARK

3. STATE THE HEIGHT ABOVE SPILLCREST OF THE LOWEST PART OF THE IMMEDIATE UPSTREAM ADJOINING PROPERTY OR PROPERTIES: 4 Feet

4. IS THIS PROPOSED POND OR LAKE PART OF A PUBLIC WATER SUPPLY ☐ Yes ☑ No
If not, where is nearest downstream public water supply intake?
NO DOWNSTREAM POTABLE USE OF SURFACE WATER

5. SIZE OF AREA DRAINING INTO POND OR LAKE (Acres or Square Miles): 5.7 SQUARE MILES

HEIGHT OF DAM ABOVE STREAM BED? 16.6 Feet

6. THE DRAINAGE AREA IS COMPOSED OF: (Total = 100%)
5 % Forest, 0 % Cropland, 0 % Pasture, 0 % Other, 0 % Swamp, 60 % Suburban Lands, 35 % Urban Lands

7. TYPE OF SPILLWAY
☑ Service Spillway - Auxiliary Spillway Combination
☐ Pip Riser ONLY
☐ Single Spillway
☐ Other

8. DESIGNER'S ESTIMATE OF CLASS OF HAZARD (As described in 6NYCRR Part 673)
☐ Class "A" ☐ Class "B" ☑ Class "C"
NOTE: Provide descriptive information on character of downstream area.

9a. SPILLWAY INFLOW DESIGN FLOOD
Frequency 39%PMF Flood Peak 12213 cfs Runoff Volume 13.18 in.

9b. SERVICE SPILLWAY INFLOW DESIGN FLOOD
Frequency 25 YR Flood Peak 2719 cfs Runoff Volume 3.46 in.

10. THE SINGLE SPILLWAY OR AUXILIARY SPILLWAY IS COMPOSED OF:
☐ Vegetated Earth ☐ Concrete ☐ Timber ☐ Rock-filled Crib ☑ Masonry ☑ Other STONE GATEHOUSE WITH BRICK PIPE ARCH

11. MAXIMUM VELOCITY WITHIN THE SINGLE OR AUXILIARY SPILLWAY: 33.87 fps

12. SINGLE OR AUXILIARY SPILLWAY DISCHARGE AT DESIGN HIGH WATER: 1428 cfs

13. TYPE OF ENERGY DISSIPATER PROVIDED ON SINGLE SPILLWAY
☐ Hydraulic Jump Basin ☐ Drop Structure ☑ Other GATEHOUSE

14. POND OR LAKE WILL BE DRAINED BY MEANS OF
REPLACEMENT FUNCTIONAL SLUICE GATES

WATER WILL BE SUPPLIED TO RIPARIAN OWNERS DOWNSTREMA BY MEANS OF
SAME AS EXISTING

15. AREA CAPACITY DATA
Answer 1, 2 and 3, OR 1, 2, 4, 5

	ELEVATION, Referred to Assumed Benchmark	SURFACE AREA	VOLUME STORED
1. Top of Dam	35.6 Feet	180 Acres	2534 Acre-Feet
2. Design High Water	35.5 Feet	177 Acres	2501 Acre-Feet
3. Single Spillway Crest	N/A Feet	N/A Acres	N/A Acre-Feet
4. Auxiliary Spillway Crest	30.85 Feet	141 Acres	1763 Acre-Feet
5. Service Spillway Crest	16.0 Feet	54 Acres	139 Acre-Feet

16. TYPE OF ENERGY DISSIPATER AT OUTLET OF CONDUIT
☐ Impact Basin ☐ Hydraulic Jump Basin
☐ Plunge Pool ☑ Other GATEHOUSE

IS RISER PROVIDED WITH AN ANTI-VORTEX DEVICE? N/A
☐ Yes ☐ No

17. DRAWDOWN TIMES: Answer 1 and 2, OR 1, 3, and 4

	Yes	No
1. Has provision been made to evacuate 90% of the storage below the lowest spillway crest within fourteen days?	☑	☐
2. Can the single spillway evacuate 75% of the storage between the maximum design high water and the spillway crest within 48 hours?	☐	☐
3. Can the Service Spillway evacuate 75% of the storage between the auxiliary spillway and the Service Spillway crest within seven days?	☑	☐
4. Can the Service Spillway and the Auxiliary Spillway in combination evacuate the storage between the design high water and the auxiliary spillway crest within 12 hours?	☐	☑

18. SOIL DATA - State the character of the bed and banks in respect to natural types of soil materials, hardness, perviousness, water bearing, effect of exposure to air and water, uniformity, etc.

GRANULAR MATERIAL

If an earth dam, describe the material to be used in the embankment.

EMBANKMENT IS IN PLACE

What is the source of embankment fill material?

EMBANKMENT FILL MATERIAL HAS BEEN IN PLACE FOR SEVERAL DECADES.

Are there porous seams or fissures beneath the foundation of the proposed dam? ☐ Yes ☑ No

Method used to obtain the above soil data ☑ Soil Boring ☐ Test Pits

19. DESIGN ENGINEER Name of agency or individual	P.E. License No. of individual	20. CONSTRUCTION ENGINEER Name of agency or individual	P.E. License No. of Individual
MARIAN WYPYSKI	065630	MARIAN WYPYSKI	065630
Address: LKB, ONE AERIAL WAY, SYOSSET, NY 11791		Address: LKB, ONE AERIAL WAY, SYOSSET, NY 11791	
Title: DIRECTOR OF CIVIL ENGINEERING	Telephone No: 516-938-0600	Title: DIRECTOR OF CIVIL ENGINEERING	Telephone No: 516-938-0600

NEW YORK STATE OF OPPORTUNITY.

Department of Environmental Conservation

APPLICATION FOR PERMIT

FOR THE CONSTRUCTION, RECONSTRUCTION OR REPAIR OF A DAM OR OTHER IMPOUNDMENT STRUCTURE

Supplement D-1

Please read all instructions on the following page. Please TYPE or PRINT clearly in ink. Attach additional information as needed.

FOR DEPARTMENT USE ONLY
APPLICATION NO.
DAM NO.
WATERSHED

PROJECT DESCRIPTION

1. LOCATION On U.S. GEOLOGICAL SURVEY MAP
Name of Map: LYNBROOK | Latitude: 40o40'02" | Longitude: -73o39'05"

2. PROPOSED USE FOR IMPOUNDED WATER: EXISING DAM LOCATED IN STATE PARK

3. STATE THE HEIGHT ABOVE SPILLCREST OF THE LOWEST PART OF THE IMMEDIATE UPSTREAM ADJOINING PROPERTY OR PROPERTIES: 10 Feet

4. IS THIS PROPOSED POND OR LAKE PART OF A PUBLIC WATER SUPPLY? ☐ Yes ☑ No
If not, where is nearest downstream public water supply intake?
NO DOWNSTREAM POTABLE USE OF SURFACE WATER

5. SIZE OF AREA DRAINING INTO POND OR LAKE (Acres or Square Miles): 6.3 SQUARE MILES

HEIGHT OF DAM ABOVE STREAM BED? 10 Feet

6. THE DRAINAGE AREA IS COMPOSED OF: (Total = 100%)
5 % Forest, 0 % Cropland, 0 % Pasture, 0 % Other, 0 % Swamp, 60 % Suburban Lands, 35 % Urban Lands

7. TYPE OF SPILLWAY
☐ Service Spillway - Auxiliary Spillway Combination
☐ Pip Riser ONLY
☑ Single Spillway
☐ Other

8. DESIGNER'S ESTIMATE OF CLASS OF HAZARD (As described in 6NYCRR Part 673)
☑ Class "A" ☐ Class "B" ☐ Class "C"
NOTE: Provide descriptive information on character of downstream area.

9a SPILLWAY INFLOW DESIGN FLOOD
Frequency 100 YR Flood Peak 957 cfs Runoff Volume 2.06 in

9b. SERVICE SPILLWAY INFLOW DESIGN FLOOD
Frequency 5 YR Flood Peak 320 cfs Runoff Volume 0.64 in.

10 THE SINGLE SPILLWAY OR AUXILIARY SPILLWAY IS COMPOSED OF:
☐ Vegetated Earth ☐ Concrete ☐ Timber ☐ Rock-filled Crib ☑ Masonry ☐ Other

11 MAXIMUM VELOCITY WITHIN THE SINGLE OR AUXILIARY SPILLWAY: 4.5 fps

12 SINGLE OR AUXILIARY SPILLWAY DISCHARGE AT DESIGN HIGH WATER: 378 cfs

13. TYPE OF ENERGY DISSIPATER PROVIDED ON SINGLE SPILLWAY
☐ Hydraulic Jump Basin ☐ Drop Structure ☑ Other Rip Rap channel

14. POND OR LAKE WILL BE DRAINED BY MEANS OF: EXISTING SPILLWAY

WATER WILL BE SUPPLIED TO RIPARIAN OWNERS DOWNSTREMA BY MEANS OF: SAME AS EXISTING

15. AREA CAPACITY DATA
Answer 1, 2 and 3, OR 1, 2, 4, 5

	ELEVATION, Referred to Assumed Benchmark	SURFACE AREA	VOLUME STORED
1 Top of Dam	17.0 Feet	27.29 Acres	229.5 Acre-Feet
2 Design High Water	15.35 Feet	25.13 Acres	186.4 Acre-Feet
3. Single Spillway Crest	12.0 Feet	21.3 Acres	108.5 Acre-Feet
4. Auxiliary Spillway Crest	N/A Feet	Acres	Acre-Feet
5. Service Spillway Crest	N/A Feet	Acres	Acre-Feet

16. TYPE OF ENERGY DISSIPATER AT OUTLET OF CONDUIT:
☐ Impact Basin ☐ Hydraulic Jump Basin
☐ Plunge Pool ☑ Other N/A

IS RISER PROVIDED WITH AN ANTI-VORTEX DEVICE? N/A
☐ Yes ☐ No

17 DRAWDOWN TIMES: Answer 1 and 2, OR 1, 3, and 4

	Yes	No
1 Has provision been made to evacuate 90% of the storage below the lowest spillway crest within fourteen days?	☐	☑
2. Can the single spillway evacuate 75% of the storage between the maximum design high water and the spillway crest within 48 hours?	☑	☐
3. Can the Service Spillway evacuate 75% of the storage between the auxiliary spillway and the Service Spillway crest within seven days?	☐	☐
4. Can the Service Spillway and the Auxiliary Spillway in combination evacuate the storage between the design high water and the auxiliary spillway crest within 12 hours?	☐	☐

18 SOIL DATA - State the character of the bed and banks in respect to natural types of soil materials, hardness, perviousness, water bearing, effect of exposure to air and water, uniformity, etc.

GRANULAR MATERIALS

If an earth dam, describe the material to be used in the embankment
EMBANKMENT IS IN PLACE, REGRADING OF CREST WITH SUITABLE FILL TO CORRECT ANY CREST ELEVATION INCONSISTENCIES

What is the source of embankment fill material?
LOCAL SUITABLE FILL

Are there porous seams or fissures beneath the foundation of the proposed dam? ☐ Yes N/A ☐ No

Method used to obtain the above soil data: ☐ Soil Bearing ☐ Test Pits

19 DESIGN ENGINEER Name of agency or individual	P.E. License No. of Individual	20. CONSTRUCTION ENGINEER Name of agency or individual	P.E. License No. of Individual
MARIAN WYPYSKI	065630	MARIAN WYPYSKI	065630
Address: ONE AERIAL WAY, SYOSSET, NY 11791		Address: ONE AERIAL WAY, SYOSSET, NY 11791	
Title: DIRECTOR OF CIVIL ENGINEERING	Telephone No. 516-938-0600	Title: DIRECTOR OF CIVIL ENGINEERING	Telephone No. 516-938-0600

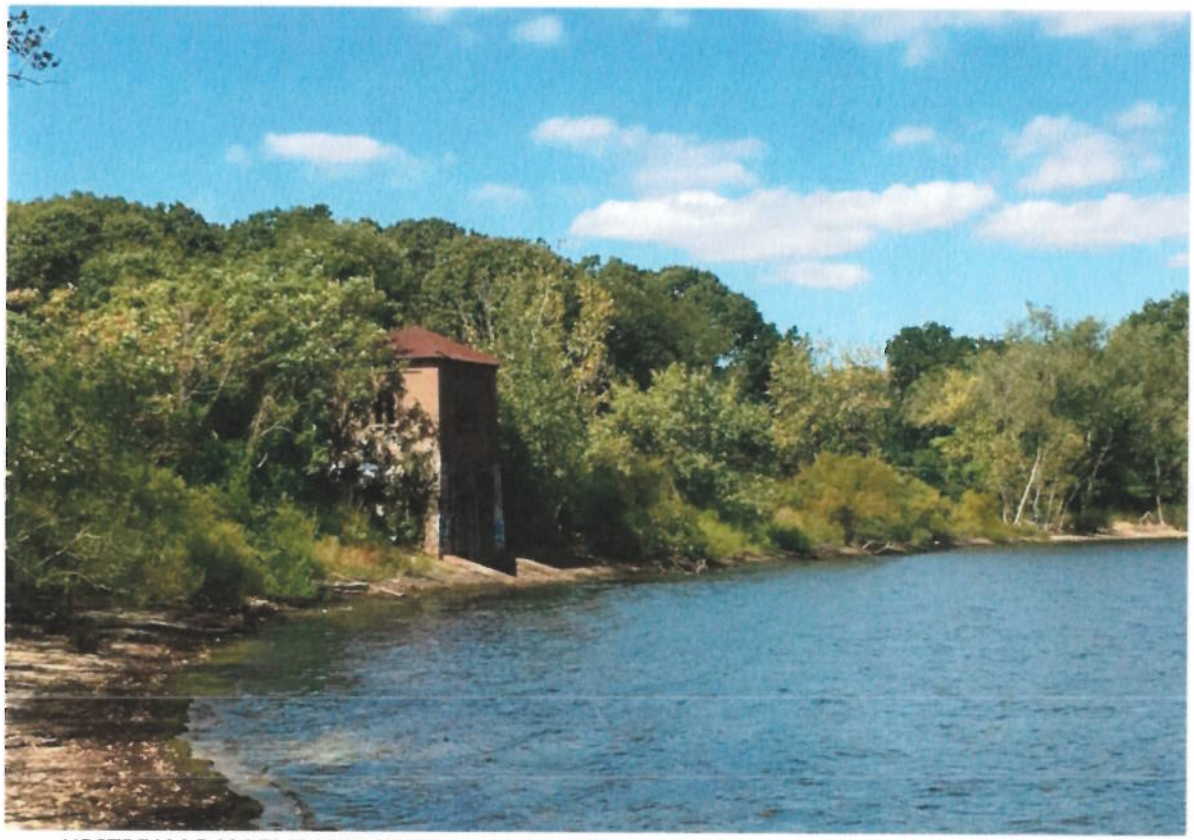
LOCATION MAPS & PHOTOS

LOCATION MAP – HEMPSTEAD LAKE DAM

HEMPSTEAD LAKE DAM

PHOTOGRAPHS - HEMPSTEAD LAKE DAM

UPSTREAM EMBANKMENT LOOKING EAST 4/18/17 11AM



UPSTREAM DAM EMBANKMENT LOOKING WEST WITH GATEHOUSE AT CENTER 9/15/16 11AM

CREST OF DAM LOOKING SOUTHWEST TO TREE COVER OF DOWNSTREAM EMBANKMENT 9/18/14 12PM

TREE COVERED DOWNSTREAM EMBANKMENT LOOKING WEST 9/18/14 12PM

LOCATION MAP – SOUTH POND DAM

SOUTH POND DAM

PHOTOGRAPHS - SOUTH POND DAM

DAM CREST LOOKING WEST 4/5/17 2PM

DAM CREST LOOKING WEST 4/5/17 2PM

ORIGINAL POND OUTLET STRUCTURE LOOKING SOUTHEAST 4/5/17 2PM

DAM SPILLWAY LOOKING NORTH 4/5/17 2PM

PLANS

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

Governor's Office of Storm Recovery

Living BAY

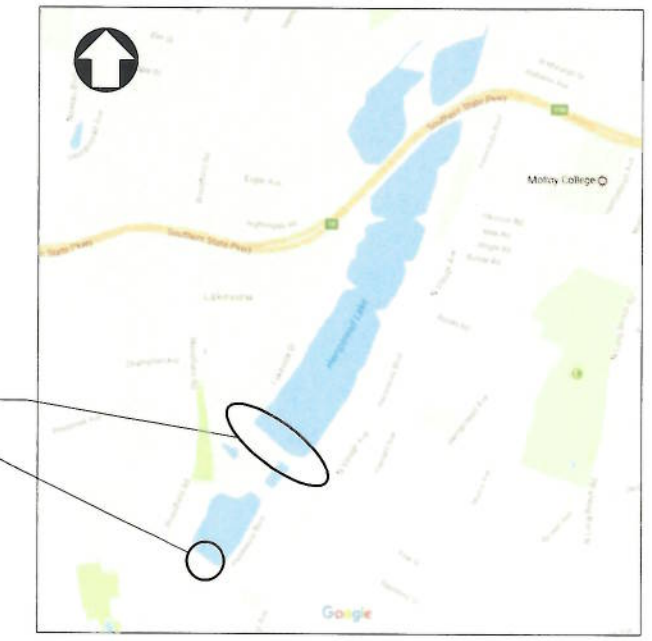
BID PACKAGE 1: HEMPSTEAD LAKE & SOUTH POND DAM TREE REMOVAL

REGIONAL MAP

HEMPSTEAD LAKE STATE PARK

NEW YORK STATE
OFFICE OF PARKS, RECREATION, AND HISTORIC PRESERVATION
LONG ISLAND REGIONAL OFFICE

OCTOBER 2017



LOCATION MAP
N.T.S.

DRAWING LIST		
SHEET	DWG. NO.	DRAWING TITLE
1	DWGNO	TITLE SHEET
2	L-1	LEGEND
3	GN-1	GENERAL NOTES
4	OSP-1	OVERALL SITE PLAN
5	ARP-1	HEMPSTEAD LAKE DAM ACCESS PLAN
6	ARP-2	SOUTH POND DAM ACCESS PLAN
7	E&S-1	HEMPSTEAD LAKE DAM E&S CONTROL PLAN
8	E&S-2	SOUTH POND DAM E&S CONTROL PLAN
9	ESD-1	EROSION AND SEDIMENT CONTROL DETAILS
10	TR-1	HEMPSTEAD LAKE DAM TREE REMOVAL LIMITS
11	TR-2	HEMPSTEAD LAKE DAM EXISTING SECTIONS
12	TR-3	SOUTH POND DAM TREE REMOVAL LIMITS
13	TRD-1	TREE REMOVAL DETAILS
14	GR-1	SOUTH POND DAM GRADING PLAN

RECOMMENDED BY: _____ DATE _____
ANDRE HADDAD, P.E.
PRESIDENT AND CHIEF EXECUTIVE OFFICER
LOCKWOOD, KESSLER & BARTLETT, INC.

CONTRACT NO.:

APPROVED BY: _____ DATE _____
WAYNE HORSELY
REGIONAL DIRECTOR
NYS OPRHP - LI REGION

APPROVED BY: _____ DATE _____
SCOTT G. FISH, P.E.
DIRECTOR OF ENGINEERING
NYS OPRHP - LI REGION

LKB CONSULTING ENGINEERS
ONE AERIAL WAY
SYOSSET , NY 11791
P: (516) 938-0600 F: (516) 931-6344

WARNING – IT IS A VIOLATION OF THE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER/ARCHITECT TO ALTER AN ITEM ON THESE PLANS IN ANY WAY.

LEGEND

DESCRIPTION	SYMBOL
STAKE	
SURVEY NAIL	
INLET	
SANITARY MANHOLE	
CLEAN OUT	
GROUND LIGHT	
PULL BOX	
GAS METER	
ELECTRIC METER	
TWO POST SIGN	
MANHOLE	
FLAG POLE	
IRRIGATION CONTROL BOX	
ALARM	A
CBASINC	
CBSQUARE	
FIREH	
GUYWIRE	
LPOLE	
LPOLE-S	
LPOLE-D	
LPOLE-M	
MAILBOX	M
MANHOLE	
PHONE BOOTH	P
PHONE POST	P
PMETER	
POLE	
POST	
POWERLT	
REFLECT	
RRCROSS	R
RRSWITCH	
SIGN	
TRBOX	TC

DESCRIPTION	SYMBOL
TRPEDCTR	
TRPOLE	
TRSIGNAL	
TRTRIG	
UTILBOX	
VALVE	
VALVESQ	
HANDICAP	
BENCH	
CELLDOOR	
DOOR	
HEADSTON	
PARKBUMP	
BUSH_D	
BUSH_E	
EVERGR	
STUMP	
TREE	
SWAMP	
DTM	×
SPOTELEV	×
SPOTNONS	×
CONTROL	+
CROSS	+
GRIDTICK	+
TARGET	+

DESCRIPTION	SYMBOL
TR_BRIDGE	
TR_CATCHB	
TR_CURB	
TR_CURB_FONT	
TR_DIRT	
TR_DROP	
TR_EXPANSION	
TR_GRATE	
TR_HANDICAP	
TR_JERSEY_BARRIER	
TR_PAINTL	
TR_PAVED	
TR_PAVEDS	
TR_RAILR	
TR_RAILR_3RD	
TR_STREET NAME	
TR_TRAFFIC_CTRL	
TR_TRAIL	
TR_WALK	
PAPER_FRAME	
PAPER_MATCH	
PAPER_TICS	
PAPER_TITLE	
VIEWPORT	
VP_CLIP	
PR_ATHLET	
PR_BULKHEAD	
PR_FENCE_FONT	—X—X—
PR_FIELDL	
PR_GOLF_FAIR	
PR_GOLF_GREEN	
PR_GOLF_TEE	
PR_GOLF_TRAP	

DESCRIPTION	SYMBOL
PR_GUIDR_FONT	
PR_GUIDR_FONT_DBL	
PR_JOB	
PR_MODEL	
PR_RETAIN	
PR_ROCK	
PR_ROCK_LEDGE	
PR_STOCK	
PR_STONEW_FONT	
PR_SURVEY	
PR_WALL	
WE_DRAIN	
WE_HEIGHT	
WE_SWAMP	
WE_WATER_FONT	
ST_BUILD	
ST_CULVERT	
ST_DAM	
ST_FOUNDA	
ST_HEADSTONE	
ST_PIPES	
ST_POOL	
ST_ROOF_SECTION	
ST_RUINS	
ST_STEP	
ST_STEPS	
ST_SUB	
ST_TOWER	
ST_UC	
VE_BRUSH	
VE_FOREST	
VE_HEDGE_FONT	
VE ORCHARD	

DESCRIPTION	SYMBOL
VE_TREE	
VE_3D_CONIFER	
VE_3D_DECID	
CO_BREAK	
CO_BREAK_CURB	
CO_DTM	
CO_INDEX	
CO_INDEXOB	
CO_INDEXDEP	
CO_INDEXDEPOBS	
CO_INTER	
CO_INTEROB	
CO_INTERDEP	
CO_INTERDEPOBS	
CO_OBSCURED	
CO_SPOT	
CO_SPOT_NONSURFACE	
FRAME	
GRID_CONTROL	
GRID_SYSTEM	
GRID_TARGETS	
MATCH	
MATCH_MS	
TEXT	
TICS	
TITLE	
UTILITY	

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SEAL

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PHASE

Revisions

Number	Description	Date
1		
2		
3		
4		
5		

Project Title

HEMPSTEAD LAKE STATE PARK

CONTRACT

HEMPSTEAD LAKE AND SOUTH POND DAM TREE REMOVAL

PROJECT # 4419-06

DATE OCTOBER 2017

DESIGNED BY C.P.

DRAWN BY E.J.Z.

CHECKED BY M.W. REVIEWED BY B.E.

SHEET TITLE

LEGEND

SHEET # 2

L-1

GENERAL NOTES:

1. CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS" DATED MAY 1, 2017 (AS AMENDED) AND AS NOTED IN "SPECIFICATIONS – TECHNICAL SPECIFICATIONS".

2. THE CONTRACTOR SHALL COORDINATE WORK WITH THE NYS PARKS DEPARTMENT TO AVOID CONFLICTS WITH PARKS OPERATIONS. ANY DAMAGES TO PARKS FACILITIES OR EQUIPMENT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

3. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE LUMP SUM BID PRICE.

4. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS IN CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD AND SHALL PERFORM THE WORK TO MEET FIELD CONDITIONS. THE CONTRACTOR SHALL PERFORM ALL REPAIR WORK SHOWN ON THE PLANS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. ALL DIMENSIONS SHOWN ARE APPROXIMATE.

5. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR VERIFICATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. ALL COSTS ASSOCIATED WITH VERIFICATION (INCLUDING TEST PITS) OF THE LOCATION OF UNDERGROUND FACILITIES (TONE OUTS) PURSUANT TO INDUSTRIAL CODE RULE #53, AS AMENDED SHALL BE INCLUDED IN CONTRACT BID PRICE.

6. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT DUE TO THE NATURE OF RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER AVAILABLE INFORMATION. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH FIELD CONDITIONS AND OR AS ORDERED BY ENGINEER (A.O.B.E.).

7. ALL AREAS OUTSIDE PROJECT LIMIT LINE SHALL REMAIN UNDISTURBED. ALL AREAS DAMAGED BY THE CONTRACTOR OR THE CONTRACTED EMPLOYEES WILL BE REPAIRED IN KIND TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

8. ALL AREAS DISTURBED AS A RESULT OF THE CONTRACTOR'S STAGING AND CONSTRUCTION OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. DISTURBED AREAS SHALL BE DETERMINED BY THE ENGINEER.

9. WHEREVER ANY ITEMS HAVE ARCHEOLOGICAL VALUE ARE ENCOUNTERED IN THE COURSE OF THE WORK, THE CONTRACTOR SHALL IMMEDIATELY HALT WORK IN THE VICINITY AND CALL TO THE ATTENTION OF THE ENGINEER THE PRESENCE OF SUCH ITEMS. THE ENGINEER WILL EITHER ORDER WORK TO PROCEED OR INSTRUCT THAT THE WORK BE HALTED UNTIL THE COUNTY ARCHEOLOGIST CAN BE CONSULTED AND PROPER STEPS CAN BE EMPLOYED TO PROTECT AND EXTRACT THE SPECIMENS. THE CONTRACTOR SHALL HAVE NO CLAIM TO OWNERSHIP OF ANY SUCH ITEMS NOR TO EXTRA PAYMENT FOR DELAY WHICH MAY RESULT.

10. THE CONTRACTOR'S ATTENTION IS DRAWN TO THE "GOLDEN NEMATODE QUARANTINE" OF THE NEW YORK STATE DEPARTMENT OF AGRICULTURE AND MARKETS REGULATING THE MOVEMENT OF TOPSOIL MACHINERY AND EQUIPMENT IN NASSAU AND SUFFOLK COUNTIES.

DAM SAFETY:

1. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE EXISTING DAMS AT HEMPSTEAD LAKE AND SOUTH POND AT ALL TIMES. WORK UPON THE DAMS SHALL BE PERFORMED IN ACCORDANCE WITH NYS DEPARTMENT OF CONSERVATION DAM SAFETY STANDARDS AND PERMIT REQUIREMENTS.

2. IF THE STRUCTURAL INTEGRITY OF HEMPSTEAD LAKE DAM IS IN QUESTION OR DAM FAILURE IS IMMINENT, THE CONTRACTOR SHALL NOTIFY THE PARK MANAGER AND THE ENGINEER IMMEDIATELY AND THE EMERGENCY ACTION PLAN SHALL BE IMPLEMENTED AS APPROPRIATE.

3. TREE REMOVALS UPON THE DAMS SHALL BE PERFORMED UNDER THE SUPERVISION OF A CERTIFIED ARBORIST IN A SAFE AND CAREFUL MANNER. TREE REMOVALS SHALL BE PERFORMED AND COMPLETED ON THE UPSTREAM SIDE OF THE DAM PRIOR TO REMOVALS ON THE CREST. TREE REMOVALS SHALL BE PERFORMED AND COMPLETED ON THE CREST OF THE DAM PRIOR TO REMOVALS ON THE DOWNSTREAM EMBANKMENT. VEGETATION AND TREE REMOVALS ON EARTHEN EMBANKMENT SHALL INCLUDE REMOVAL OF THE ROOT BALL, BACKFILL WITH SUITABLE MATERIAL, AND COMPACTION IN ACCORDANCE WITH NYSDEC STANDARDS.

4. TREE REMOVAL FROM THE STONE–LINED UPSTREAM EMBANKMENT OF THE HEMPSTEAD LAKE DAM SHALL INCLUDE CUTTING THE TREE TO WITHIN FOUR (4) INCHES OF THE STONE FACING WITHOUT CAUSING DAMAGE TO THE STONE.

5. THE STRUCTURAL INTEGRITY OF THE STONE FACING ON THE UPSTREAM SIDE OF HEMPSTEAD LAKE DAM SHALL BE MAINTAINED AT ALL TIMES. HEAVY EQUIPMENT (>10000 LBS) SHALL NOT BE ALLOWED ON THE STONE FACING. WHERE STONES HAVE BEEN REMOVED NEW STONES OF COMPARABLE SIZE, TYPE, COLOR AND QUALITY SHALL BE INSTALLED. WHEN NECESSARY TO COMPLETE STONE REPAIRS, MORTAR SHALL BE APPLIED IN A MANNER CONSISTENT WITH THE EXISTING HISTORICAL STONE WORK ON THE DAM.

6. THE HEMPSTEAD LAKE DAM AND GATEHOUSE, UNDERGROUND BRICK PIPE ARCH, SOUTH POND GATEHOUSE AND OUTLET WEIR ARE HISTORIC STRUCTURES AND SHALL BE REPAIRED AND RESTORED IN ACCORDANCE WITH NEW YORK STATE OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION (NYS OPRHP) REQUIREMENTS. THESE STRUCTURES ARE ALSO FUNCTIONAL WATER CONTROL FEATURES USED TO MAINTAIN FLOW THROUGH THE WATERSHED. FLOW SHALL BE MAINTAINED AT ALL TIMES. WHEN NECESSARY TO COMPLETE THE REPAIR/ RESTORATION WORK, THE CONTRACTOR SHALL PUMP FLOW AROUND THE WORK AREA DIRECTLY TO THE DOWNSTREAM WATERBODY. THE CONTRACTOR SHALL SUBMIT ALL DEWATERING/ PUMPING SCHEMES TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

7. THE CONTRACTOR SHALL COOPERATE AND COORDINATE AT NO EXTRA COST OR TIME FOR THE WORK REQUIRED OF NYS OPRHP TO PERFORM INSPECTIONS OF THE DAMS DURING AND AFTER TREE AND SEDIMENT REMOVAL.

STAGING, SCHEDULING AND SEQUENCING OF WORK:

1. STAGING AREAS WILL BE AS SHOWN ON THE PLANS AND APPROVED BY NYS PARKS PRIOR TO COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY IN AFFECTED AREAS OF CONSTRUCTION.

2. THE CONTRACTOR IS REQUIRED TO SUBMIT A CONSTRUCTION STAGING PLAN AT THE PRE– CONSTRUCTION MEETING ALONG WITH A CONSTRUCTION SCHEDULE. THE CONSTRUCTION–STAGING PLAN MUST PROVIDE SPECIFIC CONSIDERATION FOR SEQUENCING CONSTRUCTION OPERATIONS, WHICH INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

   A. PROVIDE EFFICIENT SCHEDULING OF MATERIAL DELIVERIES TO ACCOMMODATE BOTH CONSTRUCTION OPERATIONS AND THE AVAILABILITY OF STOCKPILE AREAS.

   B. ADDRESS CONSTRUCTION VEHICLE ACCESS, DEVELOP VEHICLE ROUTES TO AND FROM ASSIGNED STAGING AREAS TO EFFICIENTLY CARRY OUT CONSTRUCTION OPERATIONS.

   C. PROVIDE CONSTRUCTION SEQUENCING SO THAT CONSTRUCTION OPERATION WILL NOT DAMAGE CONSTRUCTION WORK, WHICH WAS PREVIOUSLY COMPLETED.

   D. ACCOUNT FOR ALL REQUIREMENTS CONTAINED IN THE CONTRACT DOCUMENTS, WHICH MIGHT IMPACT THE CONSTRUCTION SCHEDULE AND EFFICIENT CONSTRUCTION SEQUENCING AND ADDRESS THEM IN THE CONSTRUCTION STAGING PLAN.

3. THE CONTRACTOR SHALL COORDINATE WORK WITH NYS PARKS TO AVOID CONFLICTS WITH THEIR OPERATIONS. ANY DAMAGES TO NYS PARKS PROPERTY SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND INCLUDED IN THE CONTRACT BID PRICE.

WORKING HOURS:

1. THE CONTRACTOR'S OPERATIONS SHALL BE CONDUCTED DURING NORMAL WORKING HOURS. FOR THE PURPOSE OF THESE CONTRACTS, AND UNLESS OTHERWISE DIRECTED BY THE ENGINEER, NORMAL WORKING HOURS ARE DEFINED AS 8:00 AM TO 4:30 PM DURING WEEKDAYS, MONDAY THROUGH FRIDAY, EXCEPT LEGAL HOLIDAYS (OR OTHER EQUAL PERIOD OF TIME AGREED UPON BY THE NYS PARKS AND THE CONTRACTOR). IN EACH 8 ½ HOUR PERIOD OF TIME, A DEDUCTION OF AT LEAST ½ HOUR WILL BE MADE FOR A LUNCH BREAK, WHETHER ACTUALLY USED OR NOT.

2. FOR THE PURPOSE OF THIS CONTRACT, THE FOLLOWING DAYS SHALL BE RECOGNIZED AS LEGAL HOLIDAYS: NEW YEAR'S DAY, DR. MARTIN LUTHER KING DAY, LINCOLN'S BIRTHDAY, WASHINGTON'S BIRTHDAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, COLUMBUS DAY, GENERAL ELECTION DAY, VETERAN'S DAY, THANKSGIVING DAY, AFTERNOON OF LAST WORKING DAY BEFORE CHRISTMAS, CHRISTMAS DAY, AFTERNOON OF LAST WORKING DAY BEFORE NEW YEAR'S DAY.

3. NO WORK SHALL BE PERFORMED OUTSIDE OF NORMAL WORKING HOURS ON LEGAL HOLIDAYS AS SPECIFIED ABOVE, OR ON SATURDAYS AND SUNDAYS, UNLESS PREVIOUSLY ARRANGED WITH AND APPROVED BY THE ENGINEER.

MAINTENANCE AND PROTECTION OF TRAFFIC:

1. ALL MAINTENANCE AND TRAFFIC CONTROL DEVICES MUST CONFORM TO THE LATEST REVISION OF THE NATIONAL MUTCD–2009 EDITION AND THE NYS SUPPLEMENT TO THE NATIONAL MUTCD. THE CONTRACTOR SHALL FURNISH, INSTALL MAINTAIN, AND REMOVE ALL TRAFFIC CONTROL DEVICES AS REQUIRED AND DIRECTED BY THE ENGINEER.

2. THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR ENGINEER'S APPROVAL, A MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR ALL NECESSARY TRAVEL LANES AND SHOULDER CLOSURES IN ACCORDANCE WITH THE NATIONAL MUTCD AND NYS SUPPLEMENT. THE PLAN AND SCHEDULE OF OPERATIONS FOR THE MAINTENANCE PROTECTION AND DETOURING OF VEHICULAR AND PEDESTRIAN TRAFFIC AND FOR PARKING OF EQUIPMENT, SHOWING IN COMPLETE DETAIL THE METHODS, SEQUENCES PROCEDURES AND FACILITIES HE PROPOSES TO INSTALL. BEFORE THE CONTRACTOR SHALL IN ANY WAY OR MANNER RESTRICT OR INTERFERE WITH THE PRESENT FLOW OF TRAFFIC; HE MUST FIRST SECURE WRITTEN APPROVAL OF THE PROPOSED PLAN FROM NYS PARKS. THE CONTRACTOR'S MPT PLAN SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER CURRENTLY LICENSED IN NY. THE CONTRACTOR SHALL INCLUDE NECESSARY PROVISIONS FOR PEDESTRIAN SAFETY AND ACCESS CONTROL PLAN AS PART OF THE MPT SUBMISSION.

3. ALL LANES MUST BE OPEN TO TRAFFIC BEFORE 10:00 AM AND AFTER 3:00 PM. NO LANE CLOSINGS ARE PERMITTED ON WEEKENDS OR HOLIDAYS. NO LANE CLOSURES WILL BE PERMITTED FROM MEMORIAL DAY TO LABOR DAY. NIGHTTIME LANE CLOSINGS WILL NOT BE PERMITTED WITHOUT PRIOR APPROVAL FROM THE STATE PERMIT INSPECTOR.

4. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, A COMPLETE INVENTORY, DOCUMENTED WITH PHOTOGRAPHS OF ALL EXISTING TRAFFIC CONTROL SIGNS WITHIN THE PROJECT LIMITS AND LAKEVIEW AVENUE ADJACENT TO THE PROJECT LIMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THESE SIGNS AS A RESULT OF WORK OPERATIONS, AND SHALL REPLACE DAMAGED SIGNS AT HIS/HER OWN EXPENSE.

5. THE CONTRACTOR SHALL CONDUCT WORK IN A MANNER THAT WILL INSURE THE FREE FLOW OF TRAFFIC ON ADJACENT ROADWAYS ON WHICH HE IS WORKING. CONTRACTOR SHALL PROVIDE ACCESS FOR FIRE, POLICE, AND EMERGENCIES AND ALLOW FOR TRUCK DELIVERIES.

6. ALL CONSTRUCTION SIGNS SHALL HAVE AN ORANGE BACKGROUND, REFLECTORIZED IF USED AT NIGHT, WITH BLACK LETTERS AND BORDERS. THE CONTRACTOR SHALL SUBMIT THE SIZE AND LEGEND OF ALL CONSTRUCTION SIGNS TO THE ENGINEER PRIOR TO FABRICATION.

7. CONSTRUCTION SIGNS SHALL NOT BE PLACED AT LOCATIONS WHERE THEY ARE OBSCURED BY TEMPORARY OR PERMANENT OBJECTS AND ARE A HAZARD TO PUBLIC SAFETY. ALL TEMPORARY CONSTRUCTION SIGNS SHALL BE REMOVED AND RETAINED BY THE CONTRACTOR UPON COMPLETION OF THE WORK. ANY EXISTING SIGNS THAT IN THE OPINION OF THE ENGINEER WOULD CAUSE CONFUSION TO MOTORISTS DURING CONSTRUCTION SHALL BE COVERED WITH OPAQUE MATERIAL, A.O.B.E.

8. TEMPORARY FLAGPERSON(S) SHALL BE REQUIRED TO CONTROL INGRESS AND EGRESS OF EQUIPMENT AND VEHICLES.

9. ALL TRAFFIC SIGNS SHALL BE IN ACCORDANCE WITH THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

10. THE CONTRACTOR SHALL INSTALL WARNING SIGNS (2) TWO WEEKS PRIOR TO START OF CONSTRUCTION TO NOTIFY RESIDENTS THE ROADS WILL BE SUBJECT TO CLOSURE DURING CONSTRUCTION. SIGN WILL INCLUDE THE STARTING DATE OF CLOSURE AND CONSTRUCTION.

11. ALL MAINTENANCE OF TRAFFIC SCHEMES AND WORK ZONE CLOSURES SHALL COMPLY WITH NYSDOT STANDARDS SHEETS 619–01, 619–02, 619–04, 619–10 619–11, 619–12, 619–20, 619–60.

STORAGE OF MATERIALS:

1. ALL OPERATIONS OF THE CONTRACTOR (INCLUDING STORAGE OF MATERIALS) SHALL BE CONFINED TO AREAS AUTHORIZED OR APPROVED BY THE NYS PARKS. NYS PARKS SHALL APPROVE STORAGE AREAS PRIOR TO START OF ANY WORK. NO UNAUTHORIZED OR UNWARRANTED ENTRY UPON OR PASSAGE THROUGH, OR STORAGE OR DISPOSAL OF MATERIALS SHALL BE MADE UPON ANY PREMISES. THE CONTRACTOR SHALL BE LIABLE FOR ANY AND ALL DAMAGES CAUSED BY HIM TO THE NYS PARK PREMISES. ALL STORAGE AREAS SHALL BE RESTORED TO ITS ORIGINAL CONDITION TO THE SATISFACTION OF THE NYS PARKS UPON COMPLETION OF THE PROJECT.

2. THE SITE FOR STORAGE OF CONSTRUCTION MATERIALS AND EQUIPMENT SHALL BE SELECTED SO AS NOT TO CREATE A HAZARD TO THE GENERAL PUBLIC. ADEQUATE SIGNS, LIGHTS AND BARRICADES SHALL BE INSTALLED IN THESE AREAS AS A SAFEGUARD.

3. MATERIALS SHALL BE SO STORED AS TO ENSURE THE PRESERVATION OF THEIR QUALITY AND FITNESS FOR THE WORK. WHEN CONSIDERED NECESSARY, THEY SHALL BE PLACED ON WOODEN PLATFORMS OR OTHER HARD SURFACES AND NOT ON THE GROUND AND/OR THEY SHALL BE PLACED UNDER COVER. STORED MATERIALS SHALL BE LOCATED SO AS TO FACILITATE PROMPT INSPECTION. NYS PARKS SHALL APPROVE STORAGE AREAS PRIOR TO START OF ANY WORK.

PROTECTION OF EXISTING VEGETATION, STRUCTURES, UTILITIES AND IMPROVEMENTS:

1. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL STRUCTURES, EQUIPMENT, LANDSCAPING (TREES, SHRUBS, GRASS, ETC.) ON OR ADJACENT TO THE WORK SITE, WHICH ARE NOT TO BE REMOVED AND WHICH DO NOT UNREASONABLY INTERFERE WITH THE WORK REQUIRED UNDER THIS CONTRACT. THE CONTRACTOR SHALL ONLY TRIM OR REMOVE TREES WHEN SPECIFICALLY AUTHORIZED TO DO SO, AND SHALL AVOID DAMAGING VEGETATION THAT WILL REMAIN IN PLACE. IF ANY LIMBS OR BRANCHES OF TREES ARE BROKEN DURING CONTRACT PERFORMANCE OR BY CARELESS OPERATION OF EQUIPMENT, OR WORKMEN, THE CONTRACTOR SHALL TRIM THOSE LIMBS OR BRANCHES WITH A CLEAN CUT AND PAINT THE CUT WITH A TREE PRUNING COMPOUND AS DIRECTED BY THE ENGINEER.

2. LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE BASED ON INFORMATION AVAILABLE WHEN THESE PLANS WERE PREPARED AND SHOULD BE CONSIDERED APPROXIMATE. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD AND ARE THE RESPONSIBILITY OF THE CONTRACTOR. WATER, GAS AND SEWER SERVICES MAY NOT BE SHOWN ON THE PLANS.

3. THE CONTRACTOR IS ALERTED TO THE RULES AND REGULATIONS OF INDUSTRIAL CODE RULE 53 AND IS DIRECTED TO COMPLY WITH IT. THE CONTRACTOR, FOR THE PURPOSE OF SAFETY, SHALL NOTIFY THE UTILITY COMPANIES INVOLVED IF ANY OF THEIR UTILITIES ARE EXPOSED AND/OR UNDERMINED DURING THE COURSE OF CONSTRUCTION. THE STATE PARKS AND RECREATION DEPARTMENT SHALL NOT BE LIABLE FOR COSTS INCURRED BY THE CONTRACTOR AS A RESULT OF THE COMPLIANCE, NON–COMPLIANCE, OR IMPROPER COMPLIANCE BY THE FRANCHISED OPERATOR OF UNDERGROUND FACILITIES, WITH SUB PART 53.3 OF RULE 53 OF THE INDUSTRIAL CODE.

4. IN THE EVENT OF DAMAGE TO EXISTING CABLES AND UTILITIES, THE ENGINEER AND THE UTILITIES ARE TO BE NOTIFIED IMMEDIATELY AND THE CONTRACTOR SHALL IMMEDIATELY REPAIR THE DAMAGE AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

5. THE CONTRACTOR IS CAUTIONED THAT THE LOCATIONS OF UNDERGROUND UTILITIES NOT SHOWN MAY EXIST. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF AND VOLTAGES OF OVERHEAD AND UNDERGROUND UTILITIES PRIOR TO WORKING IN THE AREA AND TO AVOID INTERFERENCE. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

CLEAN UP:

1. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO KEEP THE SURROUNDING HIGHWAY OVER WHICH EQUIPMENT FOR THE PROJECT TRAVEL, CLEAN AND FREE FROM DIRT, DUST AND MUD DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS. ANY PAVEMENT DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED BY HIM AT HIS EXPENSE AND AT NO EXTRA COST TO THE NYS PARKS. THE METHOD OF REPAIR SHALL REQUIRE THE ENGINEER'S APPROVAL.

2. THE CONTRACTOR SHALL TAKE SPECIAL MEASURES INCLUDING BUT NOT LIMITED TO WETTING DOWN, ADDING CALCIUM CHLORIDE, ETC TO CONTROL DUST ON THE SITE. THE COST SHALL BE INCLUDED IN THE LUMP SUM CONTRACT BID PRICE.

3. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN CONTRACT BID PRICE. THE CONTRACTOR SHALL CLEAN UP, AND REMOVE FROM THE SITE ALL HIS RUBBISH AND SURPLUS MATERIALS AS FAST AS ACCUMULATED AND SHALL NOT ALLOW IT TO ACCUMULATE OR BE SCATTERED ABOUT THE SITE. THE AREA SHALL BE LEFT NEAT AND CLEAN TO THE SATISFACTION OF THE OWNER/ ENGINEER.

EROSION & SEDIMENT CONTROL:

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

2. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO PREVENT CONTAMINATION OF NATURAL WATER BODIES BY SILT, SEDIMENT, FUELS, SOLVENTS, LUBRICANTS, EPOXY COATINGS, CONCRETE, LEACHATE, OR ANY OTHER POLLUTANT ASSOCIATED WITH CONSTRUCTION AND CONSTRUCTION PROCEDURES.

3. ALL AREAS OF SOIL DISTURBANCE RESULTING FROM THIS PROJECT SHALL BE SEEDED WITH SPECIFIED GRASS SEED MIX AND PROTECTED WITH A SPECIFIED SOIL EROSION CONTROL BLANKET WITHIN ONE WEEK OF FINAL GRADING. IF CONSTRUCTION ACTIVITIES ARE DISCONTINUED IN AREAS OF SOIL DISTURBANCE BEFORE FINAL GRADING IS COMPLETE, TEMPORARY GRADING SHALL BE SEEDED AND MULCHED, A.O.B.E. MULCH SHALL BE MAINTAINED UNTIL A SUITABLE VEGETATIVE COVER IS ESTABLISHED.

4. PERIODIC CLEANING OF TEMPORARY SOIL EROSION CONTROL DEVICES MAY BE NECESSARY, A.O.B.E.

5. ALL CONTROL MEASURES SHALL BE PLACED PRIOR TO STARTING EARTHWORK OPERATIONS AND SHALL REMAIN IN PLACE UNTIL THE NEW SLOPES ARE STABILIZED AND SEEDED.

6. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING DITCHES OR WATERCOURSES.

7. IN ADDITION TO ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHOWN, THE CONTRACTOR SHALL COMPLY WITH ALL ADDITIONAL MEASURES DEEMED NECESSARY BY THE ENGINEER PRIOR TO AND/OR DURING THE COURSE OF CONSTRUCTION.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL SEDIMENTATION AND EROSION CONTROL DEVICES.

9. REVEGETATED AREAS SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE FOR AT LEAST ONE FULL GROWING SEASON.

10. TREE/VEGETATION BARRIERS SHALL BE INSTALLED AND MAINTAINED AT LOCATIONS DIRECTED BY THE ENGINEER.

11. THE CONTRACTOR IS RESPONSIBLE TO SUBMIT A CATALOG REFERENCE PAGE OF SEDIMENT CONTROL PRIOR TO ALL SEDIMENT CONTROL INSTALLATIONS.

SURVEY:

1. THE CONTRACTOR SHALL PERFORM ALL STAKEOUT SURVEY WORK NECESSARY TO INSURE THAT ALL WORK IS PERFORMED AS SHOWN ON THE PLANS. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE EXISTENCE OF MARKERS, PIPES, MONUMENTS, STAKES, ETC., THAT FALL ON OR NEAR THE WORK AREAS. THESE MARKERS ARE TO BE RETAINED. IN THE EVENT THESE MARKERS ARE REMOVED, BROKEN, OR DESTROYED BY THE CONTRACTOR, THE CONTRACTOR SHALL REPLACE THESE AT HIS EXPENSE WITH MARKERS OF EQUAL SIZE AND QUALITY AND SHALL BE REPLACED TO THE SATISFACTION OF THE ENGINEER IN THE IDENTICAL LOCATION TO THOSE REMOVED.

2. HORIZONTAL COORDINATES SHOWN HEREON REFER TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), NEW YORK STATE PLANE COORDINATE SYSTEM, LONG ISLAND ZONE 3104.

3. VERTICAL ELEVATIONS SHOWN HEREON REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) WHICH IS BASED ON THE UNITED STATES COAST & GEODETIC SURVEY MEAN SEA LEVEL AT SANDY HOOK, NEW JERSEY.

4. BASE MAPPING AND TOPOGRAPHICAL DATA IS A COMBINATION OF H2M 2016 BASE MAPPING AND FIELD SURVEY BY LKB INC., OF APRIL 2015.

GROUNDWATER:

1. THE CONTRACTOR IS ADVISED THAT GROUNDWATER MAY BE ENCOUNTERED DURING CONSTRUCTION AND SUCH GROUNDWATER ELEVATION MAY CHANGE SEASONALLY. THE CONTRACTOR SHALL PROVIDE TEMPORARY MEANS (PIPES, PUMPS, ETC.) TO DRAIN ANY GROUNDWATER FLOODING WITHIN THE PROJECT LIMITS FOR THE DURATION OF CONSTRUCTION. THE CONTRACTOR MUST HAVE ALL DRAINAGE SCHEMES APPROVED BY THE ENGINEER PRIOR TO EACH CONSTRUCTION STAGE. COST OF THIS WORK SHALL BE DEEMED TO HAVE BEEN INCLUDED IN THE BID PRICE FOR ALL SCHEDULED ITEMS.

ENVIRONMENTAL MITIGATION MEASURES:

1. IDLING RESTRICTION. ON–SITE VEHICLE IDLE TIME WILL BE RESTRICTED TO 5 MINUTES FOR ALL EQUIPMENT AND VEHICLES THAT ARE NOT USING THEIR ENGINES TO OPERATE A LOADING, UNLOADING, OR PROCESSING DEVICE (E.G., CONCRETE MIXING TRUCKS) OR OTHERWISE REQUIRED FOR THE PROPER OPERATION OF THE ENGINE.

2. UTILIZATION OF NEWER EQUIPMENT. EPA'S TIER 1 THROUGH 4 STANDARDS FOR NONROAD ENGINES REGULATE THE EMISSION OF CRITERIA POLLUTANTS FROM NEW ENGINES, INCLUDING PARTICULATE MATTER, CARBON MONOXIDE, NITROGEN OXIDES AND HYDROCARBONS. ALL NONROAD CONSTRUCTION EQUIPMENT WITH A POWER RATING OF 50 HORSEPOWER OR GREATER SHALL MEET AT LEAST THE TIER 2 EMISSIONS STANDARD TO THE EXTENT PRACTICABLE.

3. BEST AVAILABLE TAILPIPE REDUCTION TECHNOLOGIES. NONROAD DIESEL ENGINES WITH A POWER RATING OF 50 HORSEPOWER OR GREATER AND CONTROLLED TRUCK FLEETS (I.E., TRUCK FLEETS UNDER LONG–TERM CONTRACT WITH THE PROJECT) INCLUDING BUT NOT LIMITED TO CONCRETE MIXING AND PUMPING TRUCKS SHALL UTILIZE THE BEST AVAILABLE TAILPIPE (BAT) TECHNOLOGY FOR REDUCING DIESEL PARTICULATE MATTER EMISSIONS. DIESEL PARTICULATE FILTERS (DPFS) HAVE BEEN IDENTIFIED AS BEING THE TAILPIPE TECHNOLOGY CURRENTLY PROVEN TO HAVE THE HIGHEST REDUCTION CAPABILITY. ALL DIESEL NONROAD ENGINES RATED AT 50 HORSEPOWER OR GREATER SHALL UTILIZE DPFS, EITHER INSTALLED BY THE ORIGINAL EQUIPMENT MANUFACTURER OR RETROFITTED. RETROFITTED DPFS MUST BE VERIFIED BY EPA. ACTIVE DPFS OR OTHER TECHNOLOGIES PROVEN TO ACHIEVE AN EQUIVALENT REDUCTION MAY ALSO BE USED.

4. ALL PROJECT–RELATED SOLID WASTE MATERIALS WOULD BE MANAGED AND TRANSPORTED IN ACCORDANCE WITH THE NEW YORK STATE SOLID AND HAZARDOUS WASTE RULES.

5. VEGETATION AND WILDLIFE. TREE REMOVALS ARE RESTRICTED TO THE TIME PERIOD NOVEMBER 1ST TO MARCH 31ST TO AVOID IMPACTS ON NORTHERN LONG–EARED BATS AND MIGRATORY BIRDS.

6. CONSTRUCTION NOISE SHALL BE MINIMIZED BY THE USE OF MUFFLERS ON ALL EQUIPMENT AND COMPLIANCE WITH TOWN OF HEMPSTEAD NOISE ORDINANCES.

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CONSULTANTS:

LKB CONSULTING ENGINEERS

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Revisions

Number	Description	Date
1	REVISED NOTES AS PER NYSDEC COMMENTS	10/31/17
2		
3		
4		
5		

Project Title

HEMPSTEAD LAKE STATE PARK

CONTRACT

HEMPSTEAD LAKE AND SOUTH POND DAM TREE REMOVAL

PROJECT # 4419-06

DATE OCTOBER 2017

DESIGNED BY C.P.

DRAWN BY E.J.Z.

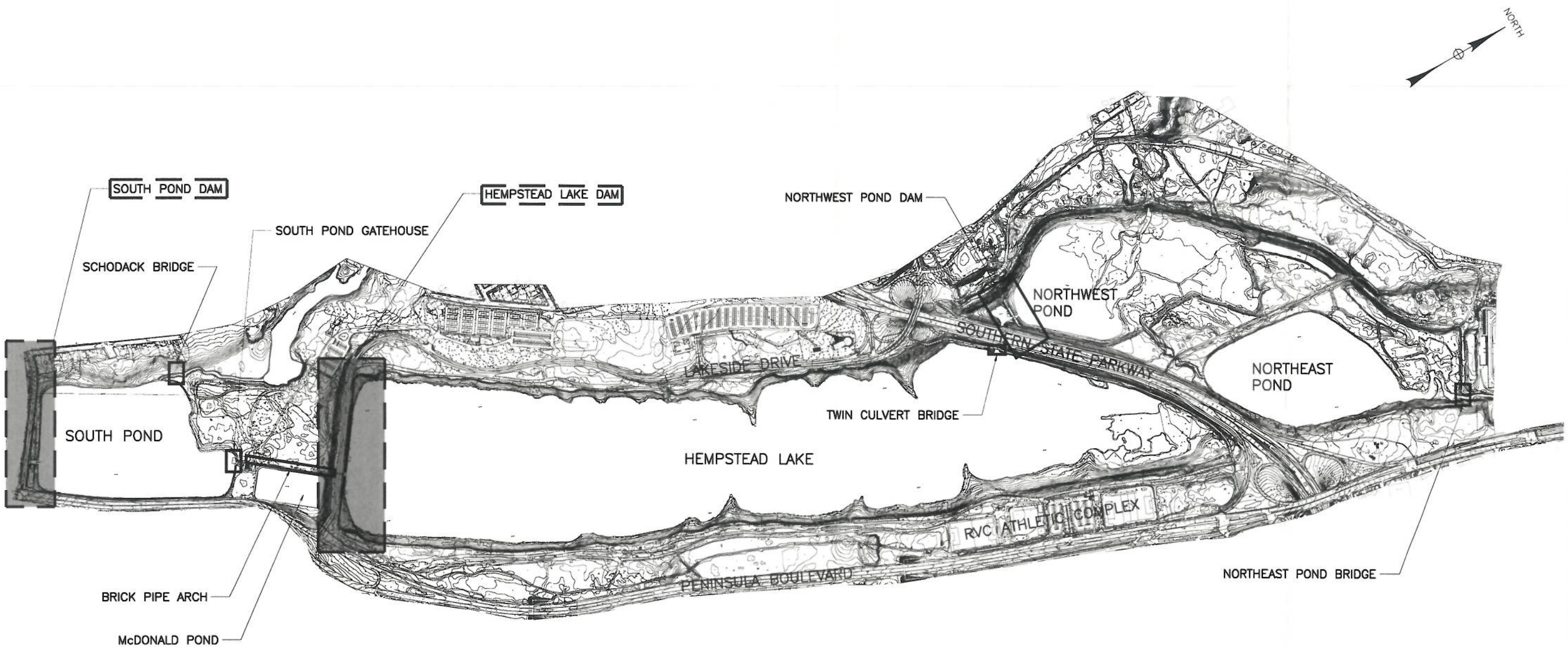
CHECKED BY M.W. REVIEWED BY B.E.

SHEET TITLE

GENERAL NOTES

SHEET # 3

GN-1



LEGEND:

WORK INCLUDED IN THIS CONTRACT

NOTE:

EXISTING BASE MAPPING PROVIDED BY SURVEY INFORMATION FROM H2M ARCHITECTS AND ENGINEERS.

0 400' 800'

Governor's Office of Storm Recovery

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Project Title

HEMPSTEAD LAKE STATE PARK

CONTRACT

HEMPSTEAD LAKE AND SOUTH POND DAM TREE REMOVAL

PROJECT # 4419-06

DATE OCTOBER 2017

DESIGNED BY C P

DRAWN BY E J Z

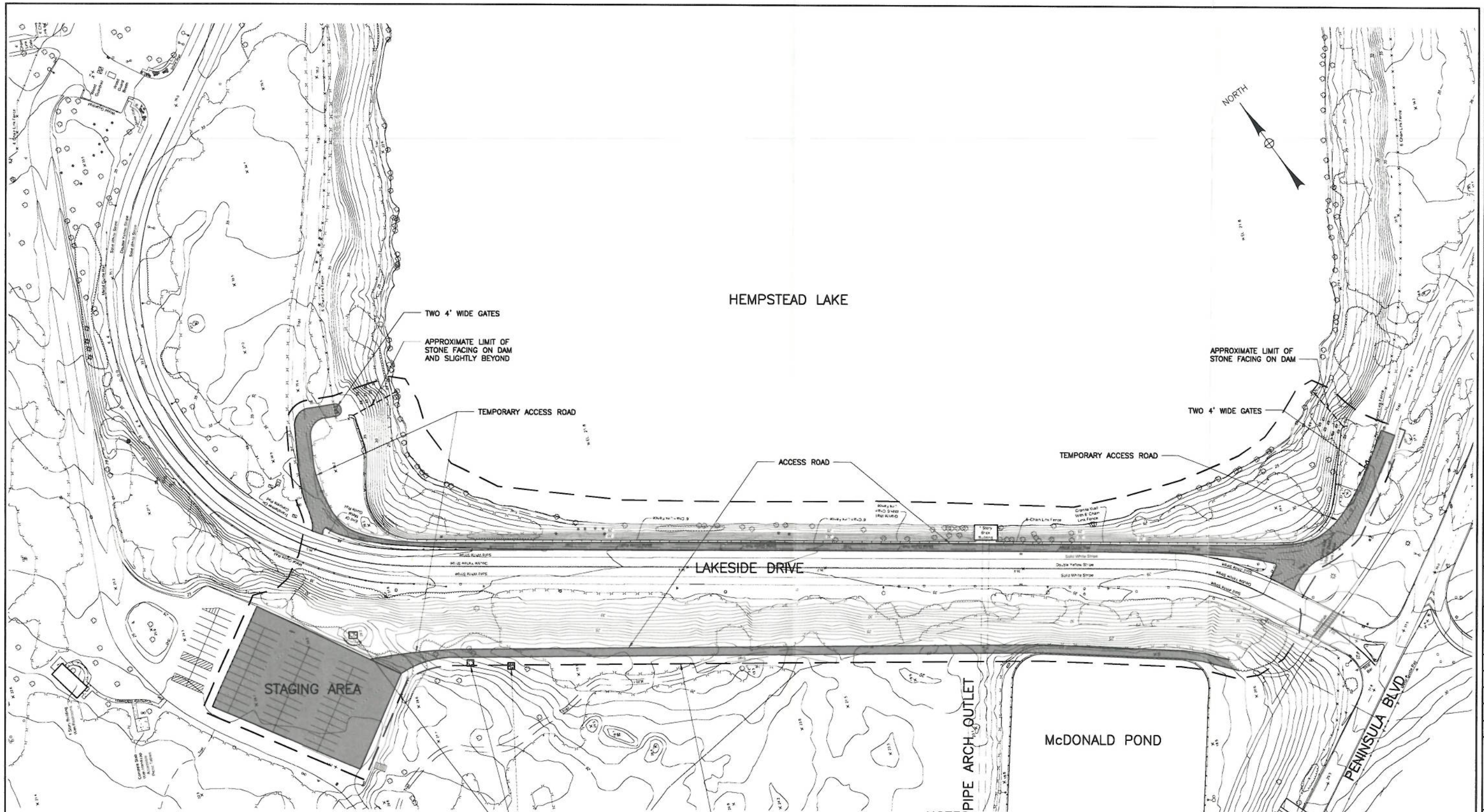
CHECKED BY M W | REVIEWED BY B E

SHEET TITLE

OVERALL SITE PLAN

SHEET # 4

OSP-1



NOTE:

EXISTING BASE MAPPING PROVIDED BY SURVEY INFORMATION FROM H2M ARCHITECTS AND ENGINEERS.

NOTES:

1. STAGING AREA TO BE A PORTION OF PARKING LOT 3 AS SHOWN. REMAINDER OF LOT TO REMAIN OPEN TO THE PUBLIC. ACCESS FROM THE STAGING AREA TO THE UPSTREAM FACE AND DAM CREST SHALL BE LIMITED TO THE EXISTING ASPHALT PAVEMENT ON THE ENTRANCE DRIVE AND LAKESIDE DRIVE.
2. ACCESS TO EACH UPSTREAM END ON THE DAM IS VIA TWO 4' WIDE GATES IN 6' HIGH CHAIN LINK FENCE AND FROM EXISTING DIRT TRAILS.
3. PORTIONS OF FENCE FABRIC MAY BE TEMPORARILY REMOVED ALONG TOP OF DAM FOR ACCESS PURPOSES BUT WORK AREAS MUST BE SECURED FROM THE PUBLIC AT ALL TIMES.
4. AT NO TIME SHALL HEAVY EQUIPMENT (>10000 LBS) BE PERMITTED ON THE STONE CAP OR UPSTREAM STONE FACING AND SHALL BE USED WITH CAUTION ON THE DOWNSTREAM EMBANKMENT IN THE VICINITY OF THE PIPE ARCH OUTLET FOR THE DAM.
5. ALL OPERATIONS EFFECTING TRAFFIC INCLUDING BUT NOT LIMITED TO LANE CLOSURES, LANE SHIFTS, AND SHOULDER CLOSURES SHOULD BE IN ACCORDANCE WITH NYSDOT MUTCD GUIDELINES, NYSDOT 619 TRAFFIC CONTROL SPECIFICATIONS, AND WITH PRIOR APPROVAL FROM NYS OPRHP.
6. ACCESS FROM THE STAGING AREA TO THE DOWNSTREAM FACE SHALL BE AS INDICATED IN NOTE 1 ABOVE, OR FROM THE SE CORNER OF THE PARKING LOT STAGING AREA ALONG TEMPORARY ACCESS ROAD TO DOWNSTREAM TOE. AREAS BEYOND LIMITS OF WORK SHALL NOT BE DISTURBED.

0 60' 120'

Governor's Office of Storm Recovery

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NEW YORK STATE Parks, Recreation and Historic Preservation

CONSULTANTS:

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Project Title

HEMPSTEAD LAKE STATE PARK

CONTRACT

HEMPSTEAD LAKE AND SOUTH POND DAM TREE REMOVAL

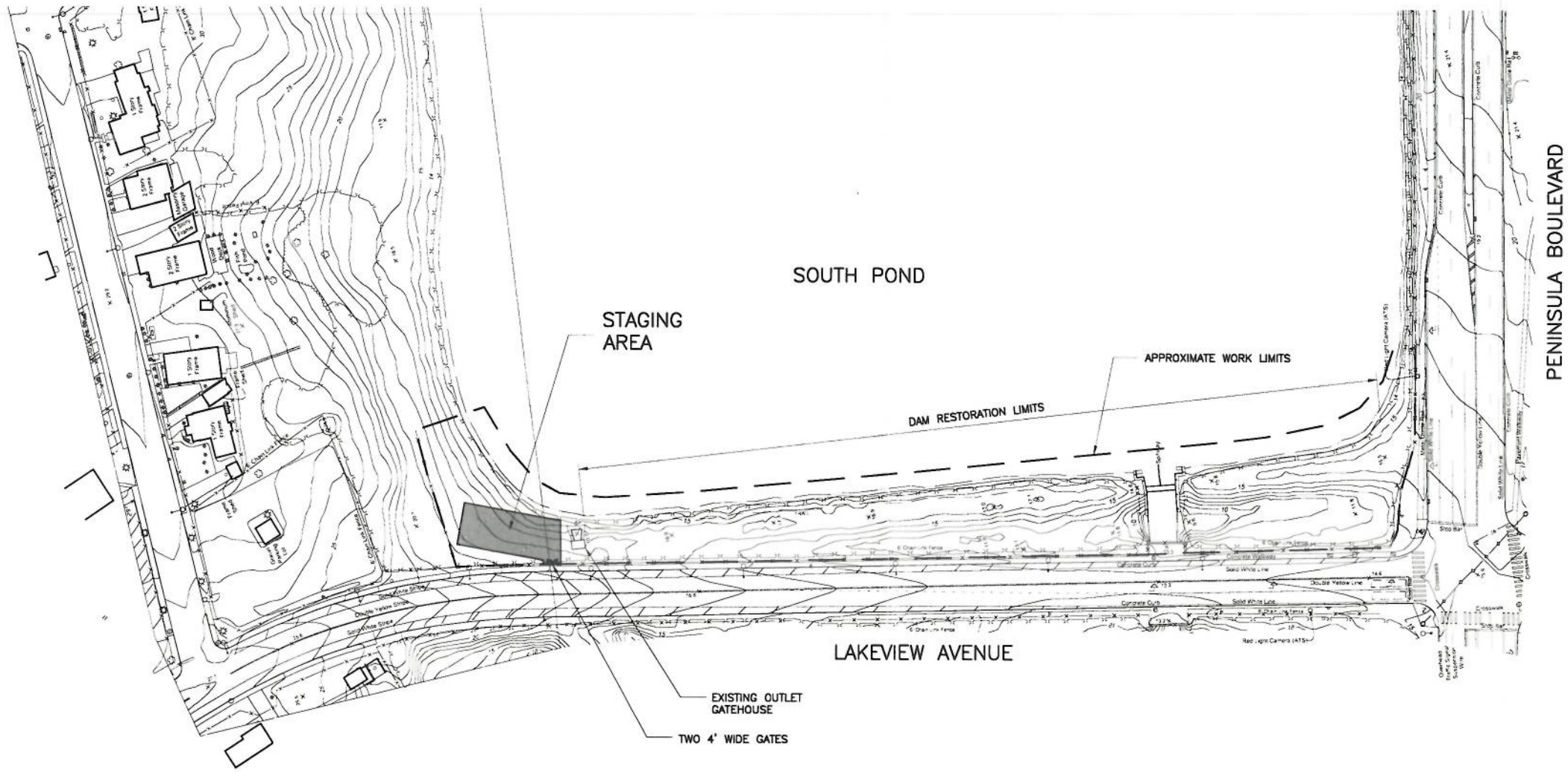
PROJECT #	4419-06
DATE	OCTOBER 2017
DESIGNED BY	C P
DRAWN BY	E J Z
CHECKED BY	M W
REVIEWED BY	B E

SHEET TITLE

HEMPSTEAD LAKE DAM ACCESS PLAN

SHEET # 5

ARP-1



NOTES:

1. ACCESS TO SOUTH POND DAM IS FROM LAKEVIEW AVENUE VIA GATES IN 6' HIGH CHAIN LINK FENCE AT BACK OF SIDEWALK.
2. STAGING AREA WILL BE LOCATED WEST OF OUTLET GATEHOUSE AND WITHIN THE PARK BOUNDARIES.
3. SOUTH POND DAM TO BE RESTORED/REGRADED EAST OF OUTLET GATEHOUSE AND UP TO (BUT NOT WITHIN) COUNTY RIGHT-OF-WAY FOR PENINSULA BOULEVARD AND LAKEVIEW AVENUE.
4. ALL OPERATIONS AFFECTING TRAFFIC INCLUDING BUT NOT LIMITED TO LANE CLOSURES, LANE SHIFTS, AND SHOULDER CLOSURES SHOULD BE IN ACCORDANCE WITH NYSDOT MUTCD GUIDELINES AND HAVE PRIOR APPROVAL FROM NYS OPRHP.
5. CONTRACTOR TO PROVIDE DETAIL OF STREAM CROSSING FOR ACCESS EAST OF SPILLWAY FOR APPROVAL BY ENGINEER.
6. AT NO TIME SHALL HEAVY EQUIPMENT (>10000 LBS) BE ALLOWED ON THE DAM.

0 60' 120'

Governor's Office of Storm Recovery

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NEW YORK STATE Parks, Recreation and Historic Preservation

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HEMPSTEAD LAKE AND SOUTH POND DAM TREE REMOVAL

PROJECT # 4419-06

DATE OCTOBER 2017

DESIGNED BY C.P.

DRAWN BY E.J.Z.

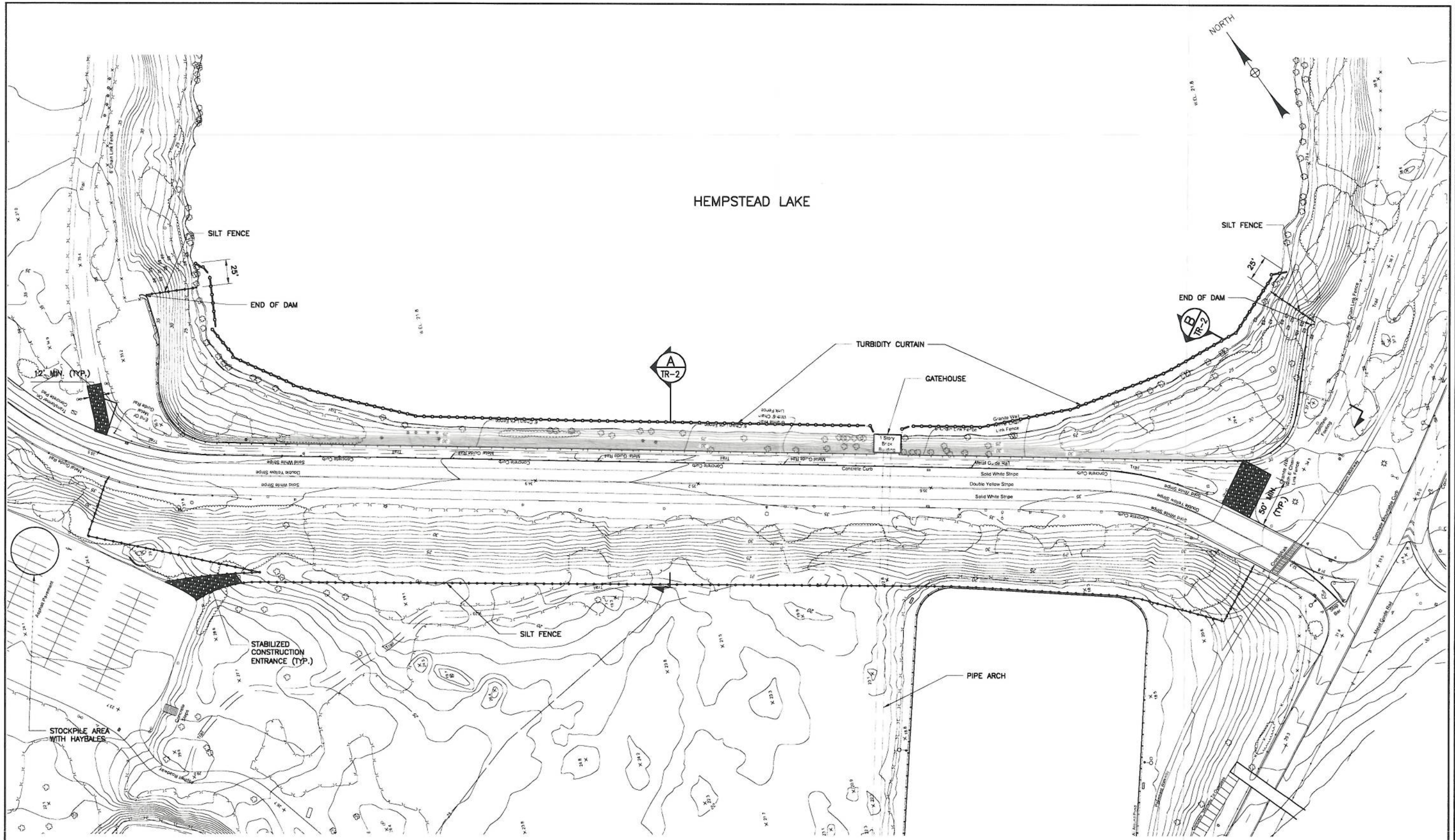
CHECKED BY M.W. REVIEWED BY B.E.

SHEET TITLE

SOUTH POND DAM ACCESS PLAN

SHEET # 6

ARP-2



LEGEND:

- SILT FENCE
- TURBIDITY CURTAIN

NOTES:

1. INSTALL SILT FENCE AROUND PERIMETER OF CLEARING LIMITS ON DOWNSTREAM SIDE OF DAM AND AT ENDS OF WORK AREAS ON NORTH SIDE OF DAM.
2. INSTALL TURBIDITY CURTAIN ALONG UPSTREAM TOE FROM GATEHOUSE WINGWALL TO 25 FEET BEYOND CLEARING LIMIT AT EACH END OF DAM. MAINTAIN FLOW THROUGH GATEHOUSE DURING TREE AND SEDIMENT REMOVALS.
3. ALL OPERATIONS TO BE PERFORMED IN ACCORDANCE WITH NYSDEC STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, AND SHALL CONFORM TO THE REQUIREMENTS OF STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THIS PROJECT.
4. FURNISH AND INSTALL EROSION CONTROL BLANKETS AS SPECIFIED, ON ALL DISTURBED SLOPES 1:3 AND GREATER, AFTER FINAL SEEDING OPERATIONS.

0 50' 100'

Governor's Office of Storm Recovery

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DATE OCTOBER 2017

DESIGNED BY C.P.

DRAWN BY E.J.Z.

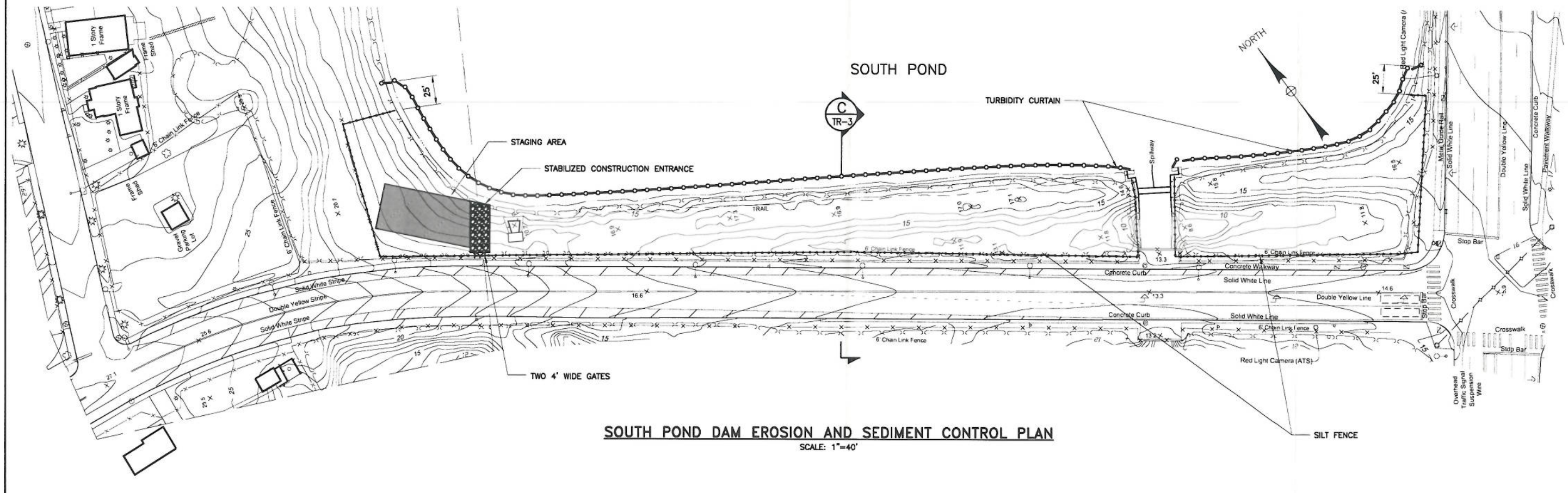
CHECKED BY M.W. REVIEWED BY B.E.

SHEET TITLE

HEMPSTEAD LAKE DAM E&S CONTROL

SHEET # 7

E&S-1



SOUTH POND DAM EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1"=40'

LEGEND:

SILT FENCE

TURBIDITY CURTAIN

EROSION CONTROL NOTES:

1. INSTALL SILT FENCE ALONG PERIMETER OF DOWNSTREAM TOE AND ALONG SPILLWAY OUTLET CHANNEL.
2. INSTALL TURBIDITY CURTAIN ALONG UPSTREAM TOE FROM EDGE OF WEIR TO 25 FEET BEYOND CLEARING LIMIT AT EACH END OF DAM. MAINTAIN FLOW AT WEIR DURING TREE REMOVAL AND REGRADING WORK.
3. INSTALL TURBIDITY CURTAIN ALONG SIDES OF OUTLET CHANNEL AS NEEDED TO PREVENT SEDIMENT TRANSPORT DOWNSTREAM.
4. △ ALL OPERATIONS TO CONFORM WITH NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
5. FURNISH AND INSTALL EROSION CONTROL BLANKETS AS SPECIFIED, ON ALL DISTURBED SLOPES 1:3 AND GREATER, AFTER FINAL SEEDING OPERATIONS.

0 40' 80'

Governor's Office of Storm Recovery

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PROJECT # 4419-06

DATE OCTOBER 2017

DESIGNED BY C P

DRAWN BY E J Z

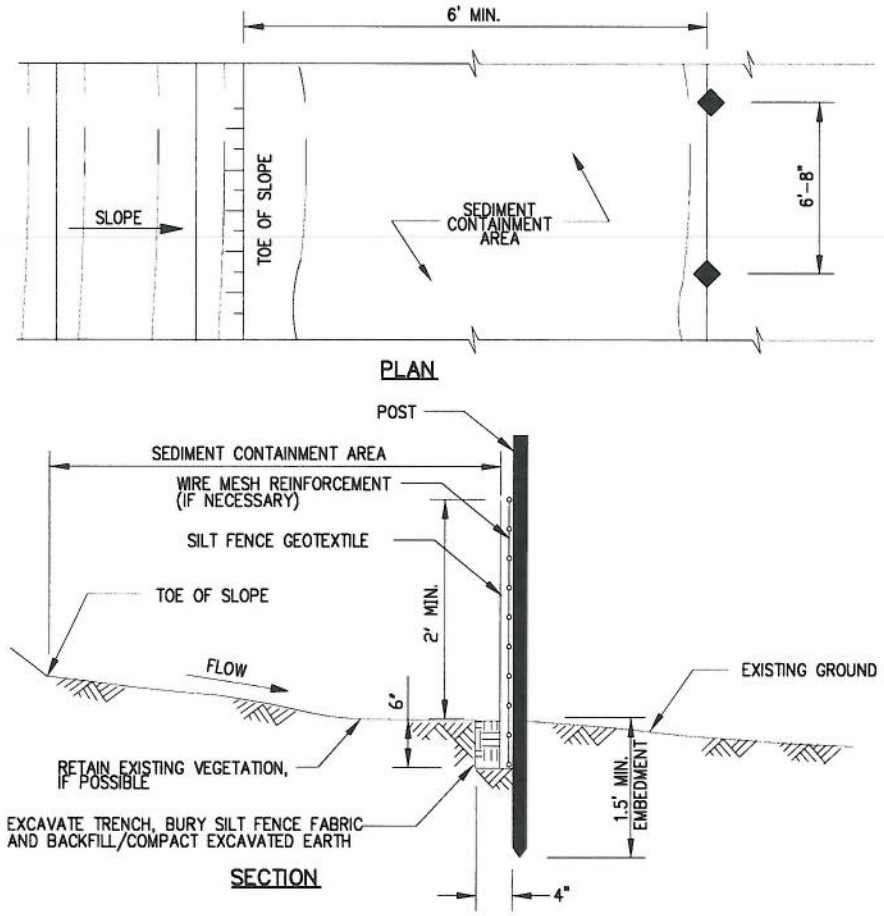
CHECKED BY M W | REVIEWED BY B E

SHEET TITLE

SOUTH POND DAM E&SC PLAN

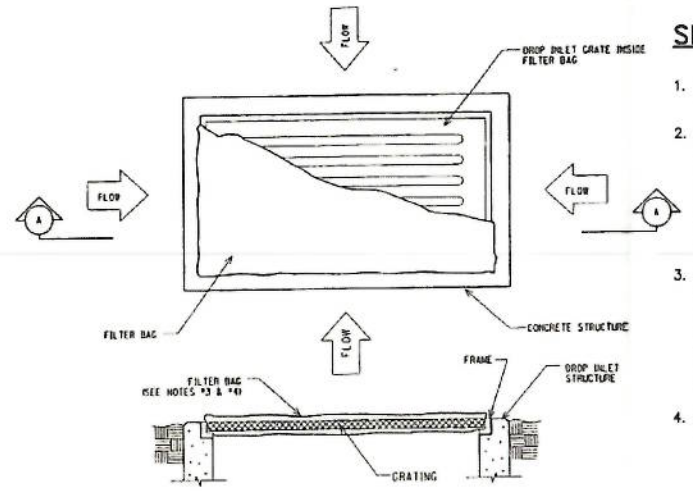
SHEET # 8

E&S-2



SILT FENCE – TEMPORARY

N.T.S.

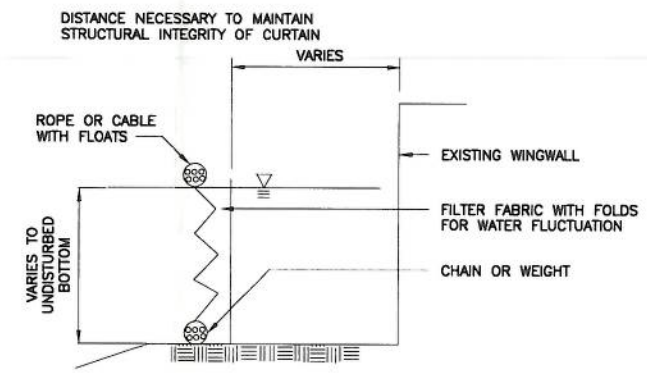


SECTION A-A

NOT TO SCALE

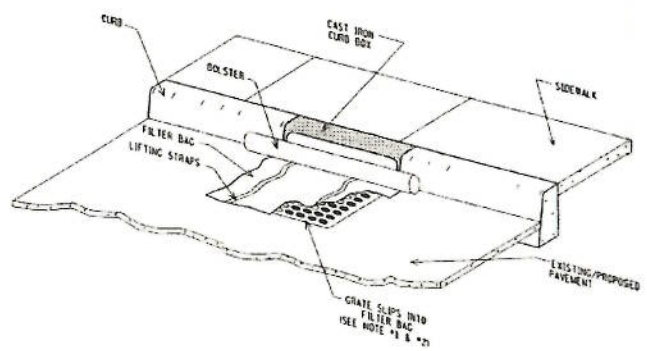
SEDIMENT CONTROL BAG DETAIL NOTES:

1. MAINTENANCE: WITH A STIFF BRISTLE BROOM, SWEEP SILT AND OTHER DEBRIS OFF SURFACE AFTER EACH EVENT.
2. INSTALLATION: STAND GRATE ON END. SLIDE THE SILT BAG ON WITH THE DAM ON TOP OF THE GRATE. PULL ALL THE EXCESS DOWN. LAY THE UNIT ON ITS SIDE AND CAREFULLY TUCK THE FLAP IN. PRESS THE VELCRO STRIPS TOGETHER. INSTALL THE UNIT MKING SURE THE FRONT EDGE OF THE GRATE IS INSERTED IN THE FRAME FIRST THEN LOWER IT BACK INTO PLACE. PRESS THE VELCRO DOTS THAT ARE LOCATED UNDER THE LIFTING STRAPS TOGETHER. THIS INSURES THAT THE STRAPS REMAIN FLUSH WITH THE GUTTER.
3. INSTALLATION: STAND THE GRATE ON END. PLACE THE SILT BAG OVER THE GRATE. FLIP THE GRATE OVER SO THAT THE OPEN END IS UP. PULL UP THE SLACK AND TUCK THE FLAP IN. BE SURE THAT THE END OF THE GRATE IS COMPLETELY COVERED BY THE FLAP OR THE DANDY BAG WILL NOT FIT PROPERLY. WHILE HOLDING HANDLES, CARFULLY PLACE DANDY BAG WITH THE GRATE INSERTED INTO THE CATCH BASIN FRAME SO THAT THE RED DOT ON THE TOP OF THE DANDY BAG IS VISIBLE.
4. MAINTENANCE: AFTER THE SILT HAS DRIED. REMOVE IT FROM THE SURFACE OF THE SILT BAG WITH A BROOM.



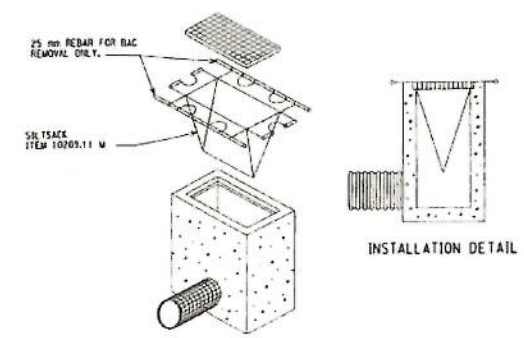
TURBIDITY CURTAIN

NTS



DETAIL
INLET SEDIMENT CONTROL BAG
DRAINAGE STRUCTURE WITH CURB BOX

ITEM 10209.11 M
NOT TO SCALE

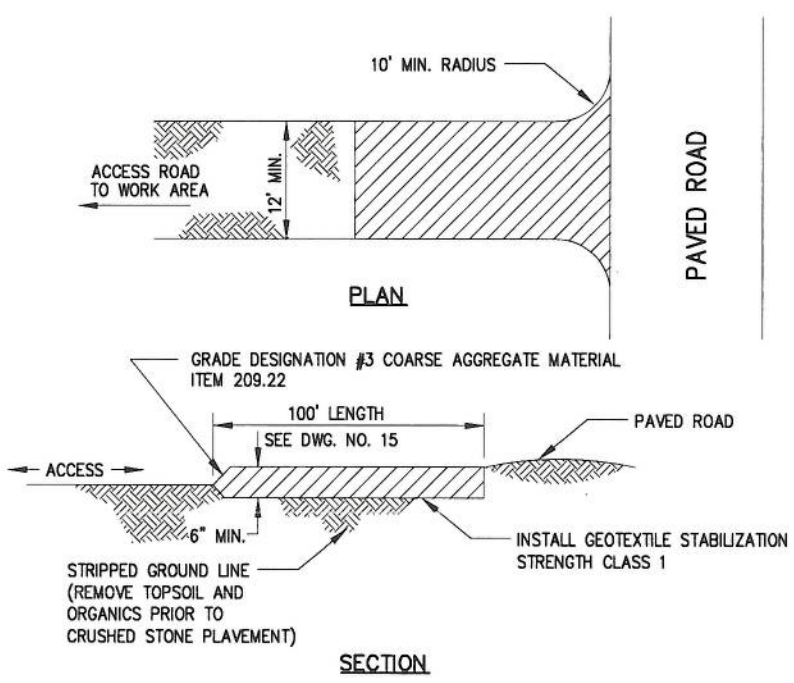


INLET SEDIMENT CONTROL BAG DETAIL

ITEM 10209.11 M
NOT TO SCALE

TEMPORARY SEDIMENT FILTER BAG FOR DRAINAGE STRUCTURE

N.T.S.



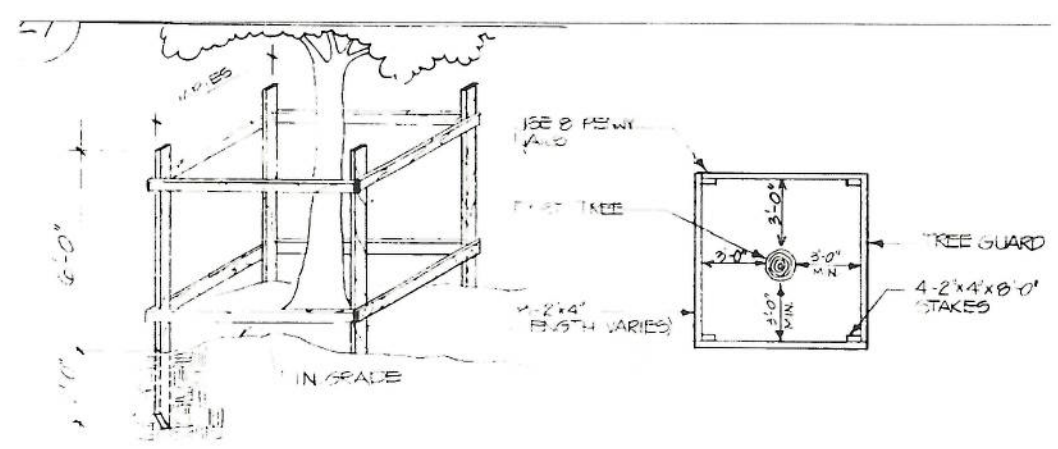
TYPICAL STABILIZED CONSTRUCTION ENTRANCE

N.T.S.

NOTES:

DRAINAGE STRUCTURE PROTECTION SHALL BE PROVIDED AT LOCATIONS OF IMMEDIATE IMPACT TO SITE ON CROOKED HILL ROAD AND CAMPUS ROAD.

THE CONTRACTOR SHALL MAINTAIN PROTECTION TO NEWLY INSTALLED DRAINAGE STRUCTURES ON–SITE TILL COMPLETION. PAYMENT IS INCLUDED UNDER INSTALLATION OF STORM AND/OR SANITARY STRUCTURES.



TREE VEGETATION BARRIER

N.T.S.

SOIL EROSION CONTROL GENERAL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
2. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO PREVENT CONTAMINATION OF NATURAL WATER BODIES BY SILT, SEDIMENT, FUELS, SOLVENTS, LUBRICANTS, EPOXY COATINGS, CONCRETE, OR ANY OTHER POLLUTANT ASSOCIATED WITH CONSTRUCTION AND CONSTRUCTION PROCEDURES.
3. ALL AREAS OF SOIL DISTURBANCE RESULTING FROM THIS PROJECT SHALL BE SEEDED WITH SPECIFIED GRASS SEED MIX AND PROTECTED WITH A SPECIFIED SOIL EROSION CONTROL BLANKET WHERE REQUIRED WITHIN ONE WEEK OF FINAL GRADING. IF CONSTRUCTION ACTIVITIES ARE DISCONTINUED IN AREAS OF SOIL DISTURBANCE BEFORE FINAL GRADING IS COMPLETE, TEMPORARY GRADING SHALL BE SEEDED AND MULCHED, A.O.B.E. MULCH SHALL BE MAINTAINED UNTIL A SUITABLE VEGETATIVE COVER IS ESTABLISHED.
4. PERIODIC CLEANING OF TEMPORARY EROSION CONTROL DEVICES MAY BE NECESSARY, A.O.B.E.
5. ALL CONTROL MEASURES SHALL BE PLACED PRIOR TO STARTING EARTHWORK OPERATIONS AND SHALL REMAIN IN PLACE UNTIL THE NEW SLOPES ARE STABILIZED AND SEEDED.
6. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING DITCHES OR WATERCOURSES.
7. IN ADDITION TO ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHOWN, THE CONTRACTOR SHALL COMPLY WITH ALL ADDITIONAL MEASURES DEEMED NECESSARY BY THE ENGINEER PRIOR TO AND/OR DURING THE COURSE OF CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL SEDIMENTATION AND EROSION CONTROL DEVICES.
9. REVEGETATED AREAS SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE FOR AT LEAST ONE FULL GROWING SEASON.

Governor's Office of Storm Recovery

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CONTRACT

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PROJECT # 4419-06

DATE OCTOBER 2017

DESIGNED BY C P

DRAWN BY E J Z

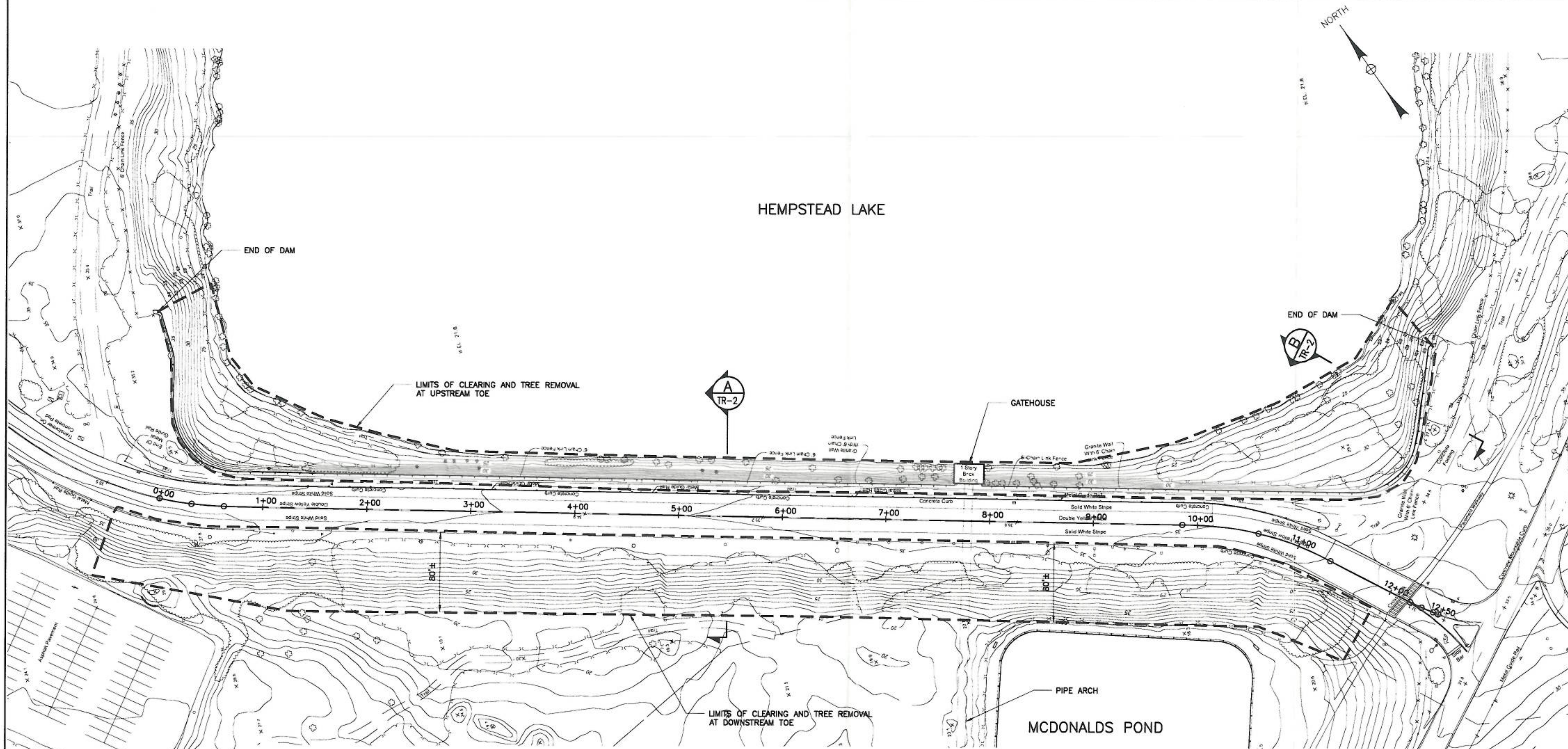
CHECKED BY M W | REVIEWED BY B E

SHEET TITLE

EROSION AND SEDIMENT CONTROL DETAILS

SHEET # 9

ESD-1



HEMPSTEAD LAKE DAM TREE REMOVAL				
STATION	UPSTREAM EMBANKMENT		DOWNSTREAM EMBANKMENT	
	TREE COUNT	AVG. DIA.	TREE COUNT	AVG. DIA.
BEHIND WEST CAP	30	18" - 30"	-	-
STA 0+00 to 1+00	90	12" - 24"	8	18" - 30"
STA 1+00 to 2+00	40	12" - 24"	10	12" - 24"
STA 2+00 to 3+00	25	12" - 24"	40	12" - 24"
STA 3+00 to 4+00	10	6" OR LESS	35	12" - 24"
STA 4+00 to 5+00	10	6" OR LESS	30	12" - 30"
STA 5+00 to 6+00	11	6" OR LESS	18	12" - 30"
STA 6+00 to 7+00	10	6" OR LESS	25	12" - 24"
STA 7+00 to 8+00	20	6" OR LESS	20	12" - 24"
STA 8+00 to 9+00	30	6" - 18"	35	12" - 24"
STA 9+00 to 10+00	20	6" - 18"	25	12" - 24"
STA 10+00 to 11+00	25	12" - 24"	32	12" - 30"
STA 11+00 to 12+00	50	12" - 24"	25	12" - 24"
STA 12+00 to 13+00	55	12" - 30"	-	-
BEHIND EAST CAP	30	12" - 24"	-	-
TOTAL	456		303	

NOTES:

1. SEDIMENT ON THE UPSTREAM STONE FACE SHOULD BE COMPLETELY REMOVED EXPOSING THE ENTIRE SURFACE OF THE STONE FACING.
2. SEDIMENT SHOULD BE REMOVED STARTING AT THE TOP OF THE SLOPE AND MOVING DOWN TOWARDS THE TOE OF THE SLOPE TO THE WATER LINE
3. AFTER TREES ARE REMOVED ON THE DOWNSTREAM SLOPE, 4" OF TOPSOIL SHOULD BE PLACED AND SEEDED WITH A NATIVE SEED MIX.
4. REMOVE TREES FROM UPSTREAM FACE PRIOR TO REMOVAL FROM CREST OR DOWNSTREAM EMBANKMENT.
5. TREE REMOVAL PROCEDURE

   A. UPSTREAM STONE FACE

   △1 • REMOVE CROWN AND TRUNK OF TREE TO WITHIN 4 INCHES OF THE STONE FACING

   B. DOWNSTREAM FACE

   • SEE DWG TRD-1 FOR TREE REMOVAL DETAIL AND NOTES
6. INSTALL TURBIDITY CURTAIN 10± FEET BEYOND WATERLINE AT DAM FACING PRIOR TO COMMENCING REMOVAL WORK
7. INSTALL SILT FENCE ALONG DOWNSTREAM TOE PRIOR TO COMMENCING REMOVAL WORK

0 50' 100'

Governor's Office of Storm Recovery

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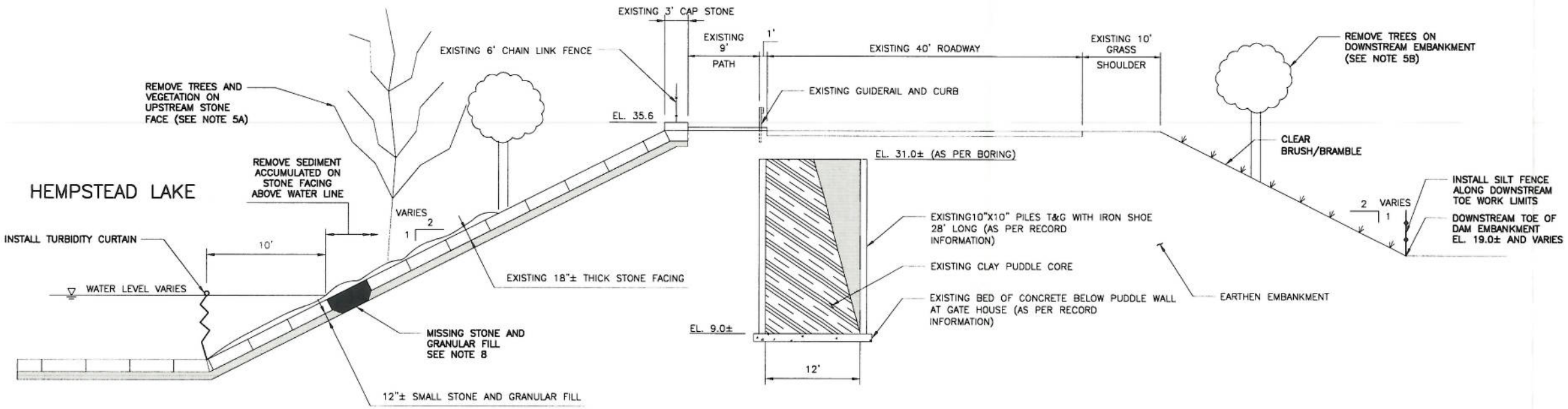
DRAWN BY	E J Z
CHECKED BY	M W
REVIEWED BY	B E

SHEET TITLE

HEMPSTEAD LAKE DAM TREE REMOVAL LIMITS

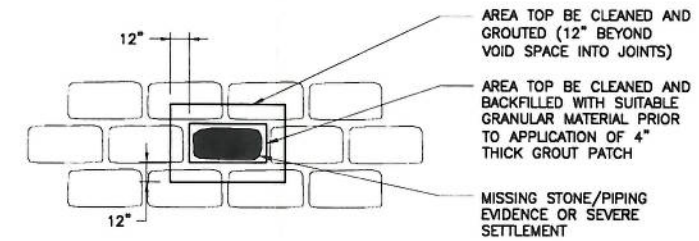
SHEET # 10

TR-1



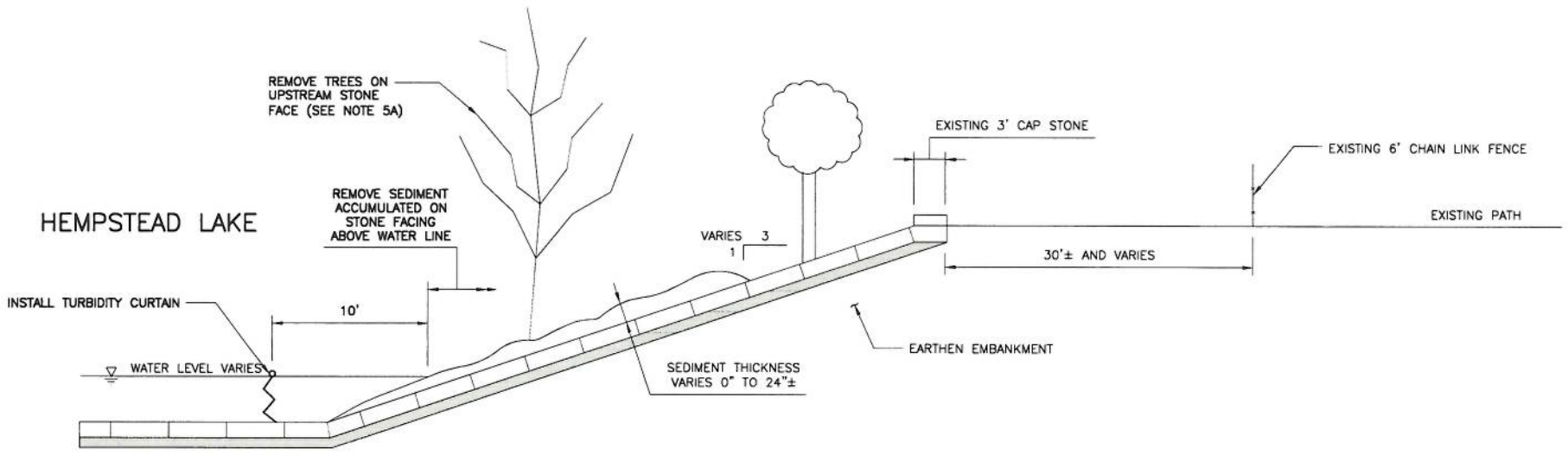
A E&S-1 HEMPSTEAD LAKE DAM SECTION SECTION A–A

SCALE: 1" = 8'



TEMPORARY GROUT PATCH

N.T.S.



B E&S-2 HEMPSTEAD LAKE DAM SECTION SECTION B–B

SCALE: 1" = 8'

NOTES:

1. SEDIMENT ON THE UPSTREAM STONE FACE SHOULD BE COMPLETELY REMOVED EXPOSING THE ENTIRE SURFACE OF THE STONE FACING.
2. SEDIMENT SHOULD BE REMOVED STARTING AT THE TOP OF THE SLOPE AND MOVING DOWN TOWARDS THE TOE OF THE SLOPE TO THE WATER LINE
3. AFTER TREES ARE REMOVED ON THE DOWNSTREAM SLOPE, 4" OF TOPSOIL SHOULD BE PLACED AND SEEDED WITH A NATIVE SEED MIX.
4. REMOVE TREES FROM UPSTREAM FACE PRIOR TO REMOVAL FROM CREST OR DOWNSTREAM EMBANKMENT.
5. TREE REMOVAL PROCEDURE

   A. UPSTREAM STONE FACE

   - REMOVE CROWN AND TRUNK OF TREE TO WITHIN 4 INCHES OF THE STONE FACING

   B. DOWNSTREAM FACE

   - SEE DWG TRD–1 FOR TREE REMOVAL DETAIL AND NOTES

6. INSTALL TURBIDITY CURTAIN 10± FEET BEYOND WATERLINE AT DAM FACING PRIOR TO COMMENCING REMOVAL WORK.
7. INSTALL SILT FENCE ALONG DOWNSTREAM TOE PRIOR TO COMMENCING REMOVAL WORK.
8. WHERE STONE FACING IS MISSING OR WHERE PIPING AND/OR SETTLEMENT IS A CONCERN, A TEMPORARY GROUT PATCH SHALL BE INSTALLED AS ORDERED BY THE ENGINEER. SEE TEMPORARY GROUT PATCH DETAIL ON THIS SHEET.

Governor's Office of Storm Recovery

Living Water Bay

NEW YORK STATE Parks, Recreation and Historic Preservation

CONSULTANTS:

LKB CONSULTING ENGINEERS

SEAL

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PHASE

Revisions

Number	Description	Date
1	REVISED NOTES AS PER NYSDEC COMMENTS	10/31/17
2		
3		
4		
5		

Project Title

HEMPSTEAD LAKE STATE PARK

CONTRACT

HEMPSTEAD LAKE AND SOUTH POND DAM TREE REMOVAL

PROJECT # 4419-06

DATE OCTOBER 2017

DESIGNED BY C P

DRAWN BY E J Z

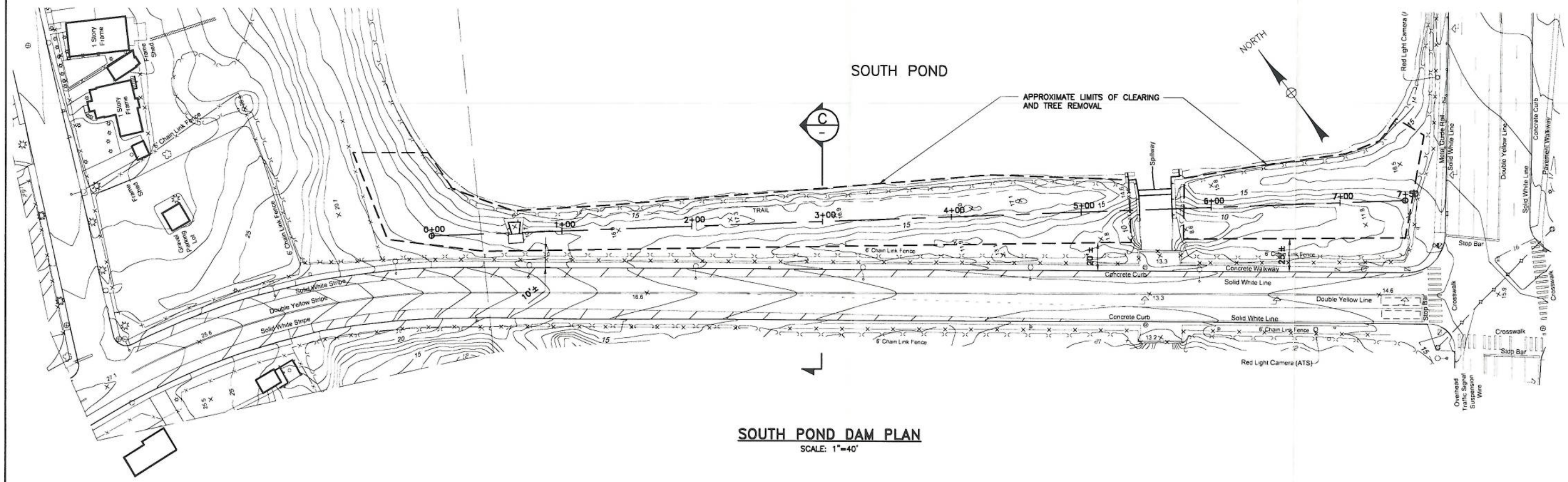
CHECKED BY M W | REVIEWED BY B E

SHEET TITLE

HEMPSTEAD LAKE DAM SECTIONS

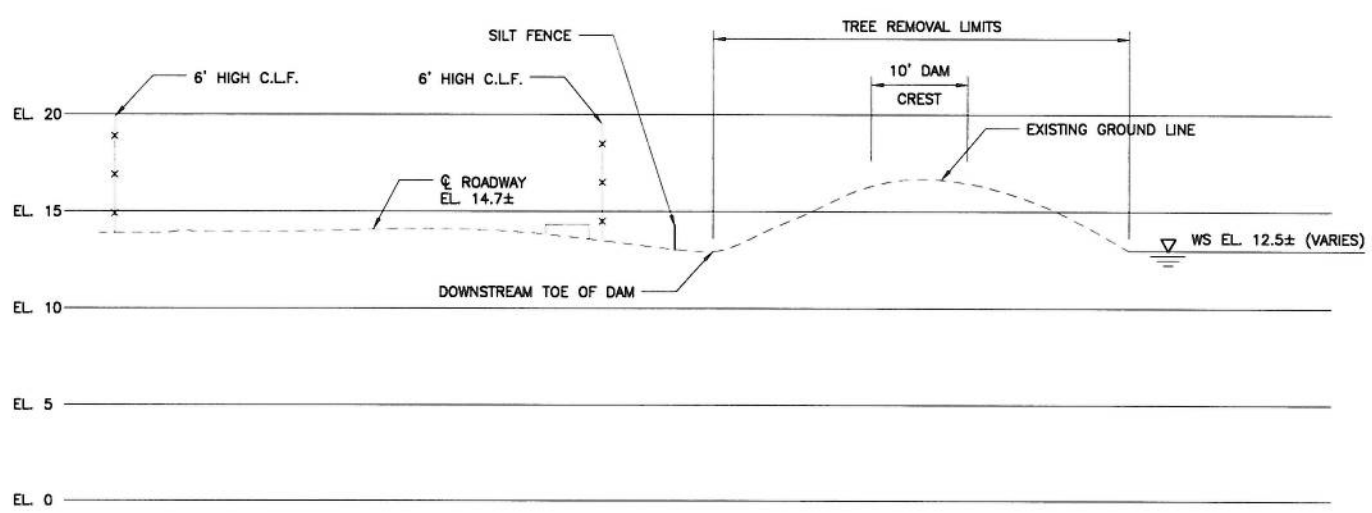
SHEET # 11

TR-2



SOUTH POND DAM PLAN

SCALE: 1"=40'



SECTION C–C

SCALE: HORIZ: 1"=10'
VERT: 1"=5'

SOUTH POND DAM TREE REMOVAL

STATION	UPSTREAM EMBANKMENT		DOWNSTREAM EMBANKMENT	
	TREE COUNT	AVG. DIA.	TREE COUNT	AVG. DIA.
STA 0+00 to 1+00	9	12" - 18"	11	12" - 24"
STA 1+00 to 2+00	13	12" - 18"	29	6" - 12"
STA 2+00 to 3+00	13	3" - 12"	23	12" - 18"
STA 3+00 to 4+00	17	3" - 6"	24	12" - 18"
STA 4+00 to 5+00	25	6" - 12"	27	12" - 18"
STA 5+00 to 6+00	5	6" - 12"	25	12" - 24"
STA 6+00 to 7+00	0	-	46	6" - 12"
STA 7+00 to 7+50	0	-	15	6" - 12"
TOTAL	82		200	

NOTES:

1. TREE REMOVALS UPON THE DAMS SHALL BE PERFORMED UNDER THE SUPERVISION OF A CERTIFIED ARBORIST IN A SAFE AND CAREFUL MANNER. TREE REMOVALS SHALL BE COMPLETED ON THE UPSTREAM SIDE OF THE DAM PRIOR TO REMOVALS ON THE CREST. TREE REMOVALS SHALL BE PERFORMED AND COMPLETED ON THE CREST OF THE DAM PRIOR TO REMOVALS ON THE DOWNSTREAM EMBANKMENT. VEGETATION AND TREE REMOVALS ON EARTHEN EMBANKMENT SHALL INCLUDE REMOVAL OF THE ROOT BALL. BACKFILL WITH SUITABLE MATERIAL, AND COMPACTION SHALL BE IN ACCORDANCE WITH NYSDEC STANDARDS AND PROJECT SPECIFICATIONS. IN ADDITION TO TREE REMOVAL, ALL REMAINING AREA WITHIN THE TREE REMOVAL LIMITS SHALL BE CLEARED AND GRUBBED. THIS INCLUDES THE REMOVAL AND DISPOSAL OF ALL UNDERSTORY, VEGETATION, SHRUBS, GRASSES, VINES, ETC.
2. AFTER TREES ARE REMOVED, AND THE REMAINING WORK AREA IS CLEARED AND GRUBBED, CLEAN FILL SHALL BE PLACED AND COMPACTED TO ACHIEVE DESIRED SUBGRADE ELEVATION. APPLY 4" TOPSOIL AND SEED WITH A NATIVE SEED MIX.
3. APPLY EROSION CONTROL BLANKETS
4. TREE REMOVAL PROCEDURE
   - SEE DWG TRD–1 FOR TREE REMOVAL DETAIL AND NOTES.
5. TREE REMOVAL OPERATION TO BE LIMITED TO 20% OF THE DAM AT ANY ONE TIME.

EROSION CONTROL NOTES:

1. INSTALL SILT FENCE ALONG PERIMETER OF DOWNSTREAM TOE AND ALONG SPILLWAY OUTLET CHANNEL
2. INSTALL TURBIDITY CURTAIN ALONG UPSTREAM TOE FROM EDGE OF WEIR TO 25 FEET BEYOND CLEARING LIMIT AT EACH END OF DAM. MAINTAIN FLOW AT WEIR DURING TREE REMOVAL AND REGRADING WORK
3. INSTALL TURBIDITY CURTAIN ALONG SIDES OF OUTLET CHANNEL AS NEEDED TO PREVENT SEDIMENT TRANSPORT DOWNSTREAM

0 40' 80'

Governor's Office of Storm Recovery

Living with the BAY

NEW YORK STATE Parks, Recreation and Historic Preservation

CONSULTANTS:

LKB CONSULTING ENGINEERS

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Project Title

HEMPSTEAD LAKE STATE PARK

CONTRACT

HEMPSTEAD LAKE AND SOUTH POND DAM TREE REMOVAL

PROJECT # 4419-06

DATE OCTOBER 2017

DESIGNED BY C P

DRAWN BY E J Z

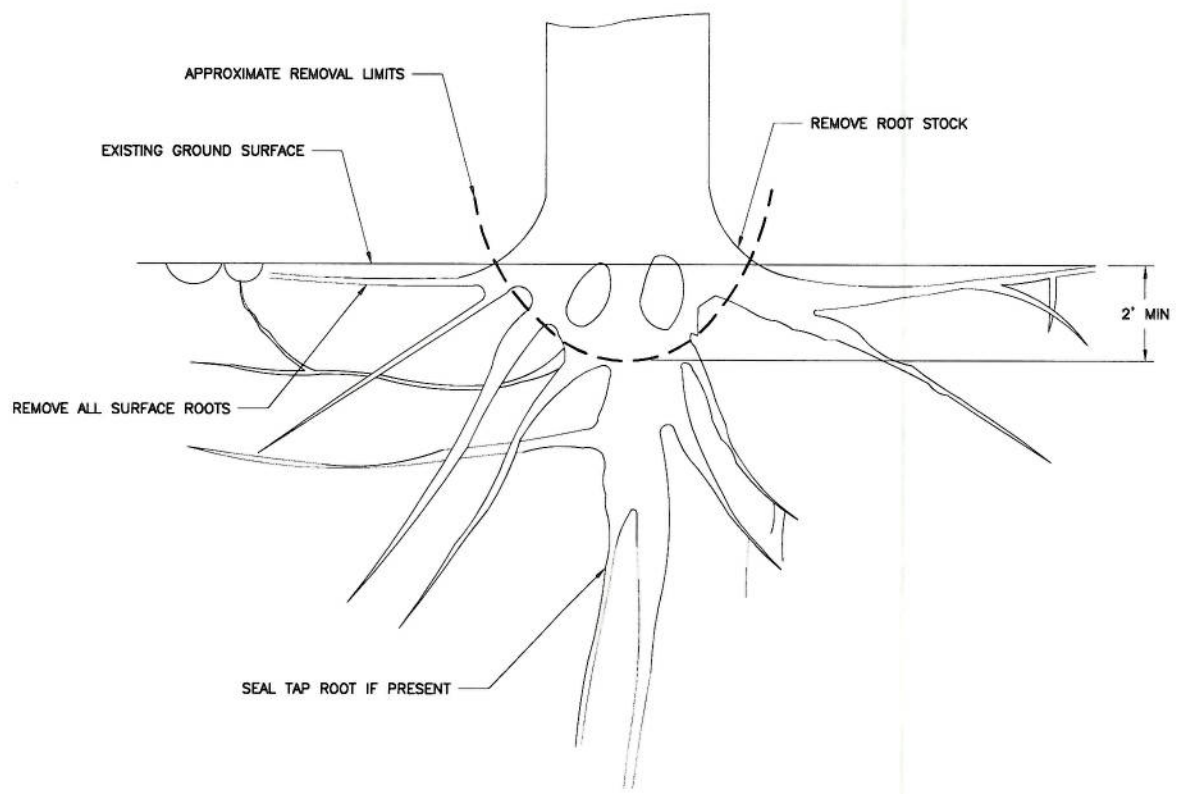
CHECKED BY M W | REVIEWED BY B E

SHEET TITLE

SOUTH POND DAM TREE REMOVAL LIMITS

SHEET # 12

TR-3



NOTES:

1. REMOVE ROOT STOCK TO A MINIMUM DEPTH OF 2' AND ½ DIAMETER OF TREE CANOPY OR AS ORDERED BY ENGINEER.
2. REMOVE ALL VISIBLE SURFACE ROOTS.
3. PLACE AND COMPACT SUITABLE FILL IN ACCORDANCE WITH NYSDEC STANDARDS AND PROJECT SPECIFICATIONS TO SUBGRADE ELEVATION.
4. PLACE 4" TOPSOIL AND SEED WITH NATIVE SEED MIX.
5. SEE DWG TR–1 AND TR–3 FOR TREE REMOVAL LIMITS. (1)
6. THE DETAIL ON THIS DRAWING APPLIES TO TREE REMOVALS ON DAM EARTHEN EMBANKMENTS.

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Project Title

HEMPSTEAD LAKE STATE PARK

CONTRACT

HEMPSTEAD LAKE AND SOUTH POND DAM TREE REMOVAL

PROJECT # 4419-06

DATE OCTOBER 2017

DESIGNED BY C.P.

DRAWN BY E.J.Z.

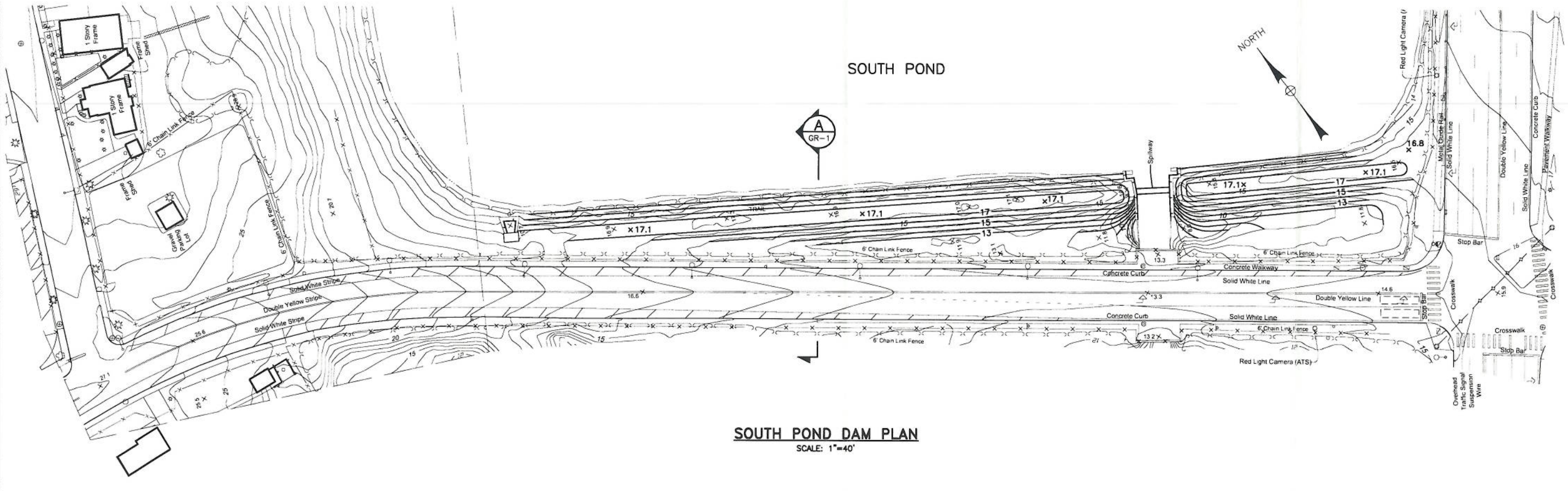
CHECKED BY M.W. | REVIEWED BY B.E.

SHEET TITLE

TREE REMOVAL DETAILS

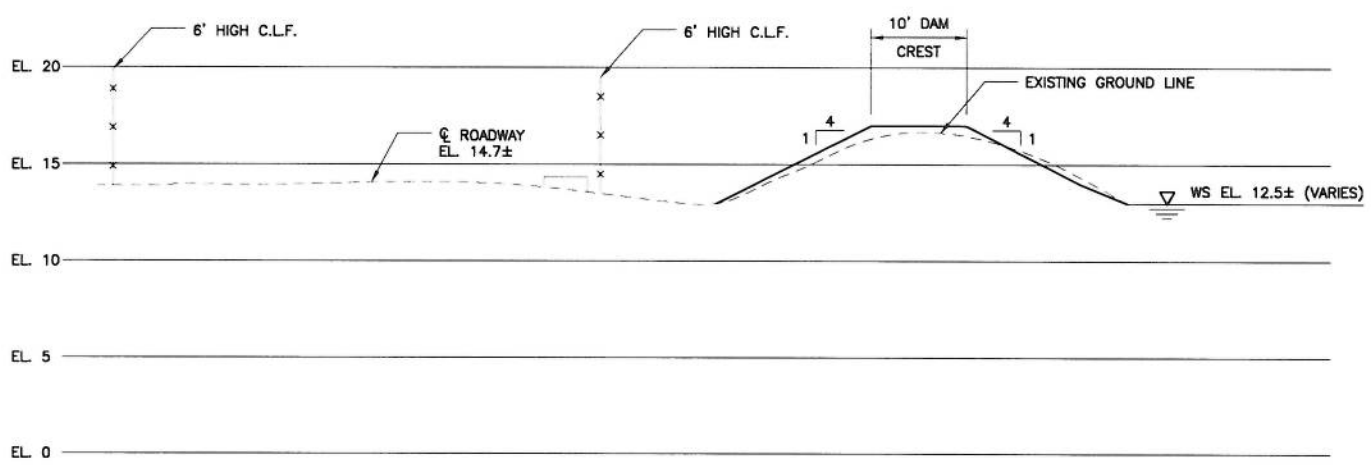
SHEET # 13

TRD-1



SOUTH POND DAM PLAN

SCALE: 1"=40'



SECTION A–A

SCALE: HORIZ: 1"=10'
VERT: 1"=5'

NOTES:

1. SEE DWG E&S–2 FOR EROSION AND SEDIMENT CONTROL PLAN
2. SEE DWG TRD–1 FOR TREE REMOVAL PROCEDURE

0 40' 80'

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1		
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Project Title

HEMPSTEAD LAKE STATE PARK

CONTRACT

HEMPSTEAD LAKE AND SOUTH POND DAM TREE REMOVAL

PROJECT # 4419-06

DATE OCTOBER 2017

DESIGNED BY C P

DRAWN BY E J Z

CHECKED BY M W | REVIEWED BY B E

SHEET TITLE

SOUTH POND DAM GRADING PLAN

SHEET # 14

GR-1

SPECIFICATIONS

SECTION 01 1000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: Bid Package 1: Hempstead Lake and South Pond Dam Tree Removal

B. Owner's Name: New York Sate Office of Parks, Recreation, Historic Preservation (NYSOPRHP).

C. The Project consists of the construction of Dam Safety Improvments.

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00 5200 - Agreement Form.

1.03 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is shown on drawings.

1.04 OWNER OCCUPANCY

A. Owner intends to occupy the Project upon Substantial Completion.

B. Owner intends to occupy a certain portion of the Project prior to the completion date for the conduct of normal operations.

C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

D. Schedule the Work to accommodate Owner occupancy.

1.05 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.

B. Provide access to and from site as required by law and by Owner:
   1. Do not obstruct roadways, sidewalks, or other public ways without permit.

1.06 WORK SEQUENCE

A. Coordinate construction schedule and operations with Owner.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 1400
WORK RESTRICTIONS

PART 1-GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division I Specification Sections, apply to this Section.

1.02 USE OF PREMISES

A. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of site beyond areas in which the Work is indicated.

B. Limits: Confine construction operations to limits as indicated on the plans.

C. Owner Occupancy: Allow for Owner occupancy of site and use by the public during operating season.

D. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

E. Schedule deliveries to minimize use of driveways and entrances.

F. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.03 OCCUPANCY REQUIREMENTS

A. Partial Owner Occupancy: Owner reserves the right to occupy and to place and install equipment in completed areas of site, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.

1.04 TIME RESTRICTIONS

A. Tree removal operations shall take place only during the allowable window of November 1 to March 31. Stump removals may occur outside the allowable window.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 2000

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change procedures.

1.02 RELATED REQUIREMENTS

A. Section 00 5000 - Contracting Forms and Supplements: Forms to be used.

B. Section 00 5200 - Agreement Form: Contract Sum, retainages, payment period, monetary values of unit prices.

C. Section 01 2100 - Allowances: Payment procedures relating to allowances.

1.03 SCHEDULE OF VALUES

A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.

B. Forms filled out by hand will not be accepted.

C. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

D. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization.

E. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

C. Forms filled out by hand will not be accepted.

D. For each item, provide a column for listing each of the following:
   1. Item Number.
   2. Description of work.
   3. Scheduled Values.
   4. Previous Applications.
   5. Work in Place and Stored Materials under this Application.
   6. Authorized Change Orders.
   7. Total Completed and Stored to Date of Application.
   8. Percentage of Completion.
   9. Balance to Finish.
   10. Retainage.

E. Execute certification by signature of authorized officer.

F. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

G. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

H. Submit one electronic and three hard-copies of each Application for Payment.

I. Include the following with the application:
   1. Transmittal letter as specified for submittals in Section 01 3000.
   2. Construction progress schedule, revised and current as specified in Section 01 3000.

3. Current construction photographs specified in Section 01 3000.
4. Partial release of liens from major subcontractors and vendors.
5. Project record documents as specified in Section 01 7800, for review by Owner which will be returned to the Contractor.
6. Affidavits attesting to off-site stored products.

J. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

A. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or subcontractors of changes to the Contract Documents.

B. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.

C. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
   1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
   2. Promptly execute the change.

D. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within _____ days.

E. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01 6000.

F. Substantiation of Costs: Provide full information required for evaluation.
   1. On request, provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. Support each claim for additional costs with additional information:
      a. Origin and date of claim.
      b. Dates and times work was performed, and by whom.
      c. Time records and wage rates paid.
      d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
   3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

G. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

H. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

I. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

J. Promptly enter changes in Project Record Documents.

1.06 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:

1. All closeout procedures specified in Section 01 7000.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2100
ALLOWANCES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Contingency allowance.

B. Inspecting and testing allowances.

C. Payment and modification procedures relating to allowances.

1.02 RELATED REQUIREMENTS

A. Section 01 2000 - Price and Payment Procedures: Additional payment and modification procedures.

1.03 CONTINGENCY ALLOWANCE

A. Funds will be drawn from the Contingency Allowance only by Change Order.

B. At closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order.

1.04 INSPECTING AND TESTING ALLOWANCES

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 3000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Electronic document submittal service.

B. Preconstruction meeting.

C. Site mobilization meeting.

D. Progress meetings.

E. Construction progress schedule.

F. Progress photographs.

G. Submittals for review, information, and project closeout.

H. Number of copies of submittals.

I. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 00 7200 - General Conditions: Duties of the Construction Manager.

B. Section 01 7000 - Execution and Closeout Requirements: Additional coordination requirements.

C. Section 01 7800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 REFERENCE STANDARDS

1.04 PROJECT COORDINATOR

A. Project Coordinator: Construction Manager.

B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for vehicle access, traffic, and parking facilities.

C. During construction, coordinate use of site and facilities through the Project Coordinator.

D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities. Responsibility for providing temporary utilities and construction facilities is identified in Section 01 1000 - Summary.

F. Coordinate field engineering and layout work under instructions of the Project Coordinator.

G. Make the following types of submittals to Architect through the Project Coordinator:
   1. Requests for Interpretation.
   2. Requests for substitution.
   3. Shop drawings, product data, and samples.
   4. Test and inspection reports.
   5. Design data.
   6. Manufacturer's instructions and field reports.
   7. Applications for payment and change order requests.
   8. Progress schedules.
   9. Coordination drawings.
   10. Correction Punch List and Final Correction Punch List for Substantial Completion.
   11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SUBMITTAL SERVICE

A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.
   1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Interpretation (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
   2. Contractor and Architect are required to use this service.
   3. It is Contractor's responsibility to submit documents in allowable format.
   4. Subcontractors, suppliers, and Architect's consultants are to be permitted to use the service at no extra charge.
   5. Users of the service need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
   6. Paper document transmittals will not be reviewed; emailed electronic documents will not be reviewed.
   7. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.

B. Cost: The cost of the service is to be paid by Contractor; include the cost of the service in the Contract Sum.

C. Training: One, one-hour, web-based training session will be arranged for all participants, with representatives of Architect and Contractor participating; further training is the responsibility of the user of the service.

D. Project Closeout: Architect will determine when to terminate the service for the project and is responsible for obtaining archive copies of files for Owner.

3.02 PRECONSTRUCTION MEETING

A. Project Coordinator will schedule a meeting after Notice of Award.

B. Attendance Required:
   1. Owner.
   2. Architect.
   3. Contractor.

C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract, Contractor and Architect.
   6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   7. Scheduling.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 SITE MOBILIZATION MEETING

A. Project Coordinator will schedule meeting at the Project site prior to Contractor occupancy.

B. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Engineer\Architect.
   4. Contractor's superintendent.
   5. Major subcontractors.

C. Agenda:
   1. Use of premises by Owner and Contractor.
   2. Owner's requirements and occupancy prior to completion.
   3. Construction facilities and controls provided by Owner.
   4. Temporary utilities provided by Owner.
   5. Survey and building layout.
   6. Security and housekeeping procedures.
   7. Schedules.
   8. Application for payment procedures.
   9. Procedures for testing.
   10. Procedures for maintaining record documents.
   11. Requirements for start-up of equipment.
   12. Inspection and acceptance of equipment put into service during construction period.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the work at maximum bi-monthly intervals.

B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Contractor's superintendent.
   5. Major subcontractors.

D. Agenda:
   1. Review minutes of previous meetings.
   2. Review of work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Maintenance of progress schedule.
   7. Corrective measures to regain projected schedules.
   8. Planned progress during succeeding work period.
   9. Maintenance of quality and work standards.
   10. Effect of proposed changes on progress schedule and coordination.
   11. Other business relating to work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.05 CONSTRUCTION PROGRESS SCHEDULE

A. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

B. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.

C. Within 10 days after joint review, submit complete schedule.

D. Submit updated schedule with each Application for Payment.

3.06 PROGRESS PHOTOGRAPHS

3.07 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below .

3.08 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.09 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in conformance to requirements of Section 01 7800 - Closeout Submittals:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.10 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.11 SUBMITTAL PROCEDURES

A. General Requirements:

END OF SECTION

SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 -GENERAL

1.01 RELATED DOCUMENTS

1.02 DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND OTHER DIVISION 1 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.03 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.

B. DEFINITIONS
   1. Action Submittals: Written and graphic information that requires Engineer's responsive action.
   2. Informational Submittals: Written information that does not require Engineer's approval. Submittals may be rejected for not complying with requirements.

C. SUBMITTAL PROCEDURES
   1. General: Electronic copies of CAD Drawings of the Contract Drawings will be provided by the Engineer for Contractor's use in preparing submittals.
   2. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
      a. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
      b. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
      c. The Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
      d. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal.
      e. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
      f. Identification: Place a permanent label or title block on each submittal for identification.
      g. Indicate name of firm or entity that prepared each submittal on label or title block.
      h. Provide a space approximately 4 by 5 inches (100 by 125 mm) on label or beside title block to record Contractor's review and approval markings and action taken by Engineer.
      i. Include the following information on label for processing and recording action taken:
         1) Project name.
         2) Date.
         3) Name and address of Contractor.
         4) Name and address of supplier.
         5) Name of manufacturer.
         6) Unique identifier, including revision number.
         7) Number and title of appropriate Specification Section.
         8) Drawing number and detail references, as appropriate.
         9) Proposed use for each item submitted.

j. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.

k. Additional Copies: Unless additional copies are required for final submittal, and unless Engineer observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.

l. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. The Engineer will return submittals, without review, received from sources other than Contractor.

1) On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Engineer on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.

2) Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.

3) Transmittal Form: Provide locations on form for the following information:

(a) Project name.

(b) Date.

(c) Destination (To:).

(d) Source (From:).

(e) Names of subcontractor, manufacturer, and supplier.

(f) Category and type of submittal.

(g) Submittal purpose and description.

(h) Submittal and transmittal distribution record.

(i) Remarks.

(j) Signature of transmitter.

(k) Review by the Engineer: Engineer will not review submittals that do not meet the requirements indicated in this section.

(l) Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

(m) Use for Construction: Use only final submittals with mark indicating action taken by Engineer in connection with construction.

PART 2- PRODUCTS

ACTION SUBMIITALS

3.01 GENERAL: PREPARE AND SUBMIT ACTION SUBMITTALS REQUIRED BY INDIVIDUAL SPECIFICATION SECTIONS.

A. Number of Copies: Submit 5 copies of each submittal, unless otherwise indicated.

1. Engineer will return two copies. Mark up and retain one returned copy as a Project Record Document.

2. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

a. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.

b. Mark each copy of each submittal to show which products and options are applicable.

c. Include the following information, as applicable:

1) Manufacturer's written recommendations.

2) Manufacturer's product specifications.

3) Manufacturer's installation instructions.

4) Standard color charts.

5) Manufacturer's catalog cuts.
6) Wiring diagrams showing factory-installed wiring.
7) Printed performance curves.
8) Operational range diagrams.
9) Mill reports.
10) Standard product operating and maintenance manuals.
11) Compliance with recognized trade association standards.
12) Compliance with recognized testing agency standards.
13) Application of testing agency labels and seals.
14) Notation of coordination requirements.
15) Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
16) Preparation: Include the following information, as applicable:
    (a) Dimensions.
    (b) Identification of products.
    (c) Fabrication and installation drawings.
    (d) Roughing-in and setting diagrams.
    (e) Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
    (f) Shopwork manufacturing instructions.
    (g) Templates and patterns.
    (h) Schedules.
    (i) Design calculations.
    (j) Compliance with specified standards.
    (k) Notation of coordination requirements.
    (l) Notation of dimensions established by field measurement.
17) Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
18) Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-112 by 11 inches (215 by 280 mm) but no larger than 24 by 36 inches (750 by 1000 mm).
19) Coordination Drawings: Comply with requirements in Division 1 Section "Project Management and Coordination."
20) Product Schedule or List: Prepare a written summary indicating types of products required for the Work and their intended location.
21) Contractor's Construction Schedule: Comply with requirements in Division 1 Section
22) "Construction Progress Documentation" for Construction Manager's action.
23) Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation".
24) Schedule of Values: Comply with requirements in Division 1 Section "Payment Procedures."
25) Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
26) Name, address, and telephone number of entity performing subcontract or supplying products.
27) Number and title of related Specification Section(s) covered by subcontract.
28) Drawing number and detail references, as appropriate, covered by subcontract.

3. INFORMATIONAL SUBMITTALS

a. General: Prepare and submit Informational Submittals required by other Specification Sections.
b. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Engineer will not return copies.
c. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
d. Test and Inspection Reports: Comply with requirements in Division I Section "Quality Requirements."
e. Contractor's Construction Schedule: Comply with requirements in Division I Section "Construction Progress Documentation."
f. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of Engineers and owners, and other information specified.
g. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
h. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
i. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
j. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
k. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
l. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
m. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements.
n. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
o. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.
p. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
q. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
    1) Name of evaluation organization.
    2) Date of evaluation.
    3) Time period when report is in effect.

4) Product and manufacturers' names.
5) Description of product.
6) Test procedures and results.
7) Limitations of use.

r. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

s. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
1) Preparation of substrates.
2) Required substrate tolerances.
3) Sequence of installation or erection.
4) Required installation tolerances.
5) Required Adjustments
6) Required adjustments.\par7) Recommendations for cleaning and protection.
8) Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
9) Name, address, and telephone number of factory-authorized service representative making report.
10) Statement on condition of substrates and their acceptability for installation of product.
11) Statement that products at Project site comply with requirements.
12) Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
13) Results of operational and other tests and a statement of whether observed performance complies with requirements.
14) Statement whether conditions, products, and installation will affect warranty.
15) Other required items indicated in individual Specification Sections.
16) Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
17) Material Safety Data Sheets: Submit information directly to Owner. If submitted to Engineer, Engineer will not review this information but will return it with no action taken.

PART 3- EXECUTION

4.01 CONTRACTOR'S REVIEW

A. Review each submittal and check for compliance with the Contract Documents.

B. Note corrections and field dimensions.

C. Mark with approval stamp before submitting to Engineer.
1. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

4.02 ENGINEER'S ACTION

A. General: Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
   1. Approved or Conforms
   2. Approved as Noted, or Conforms as Noted
   3. Not Approved or Rejected
   4. Revise and Resubmit

C. Informational Submittals: Engineer will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.

D. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

E. Shop drawings are approved for design intent. Field fitting and dimensions are the responsibility of the Contractor.

END OF SECTION

SECTION 01 4000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. References and standards.

D. Testing and inspection agencies and services.

E. Control of installation.

F. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittal procedures.

B. Section 01 6000 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCE STANDARDS

A. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2014a.

B. IAS AC89 - Accreditation Criteria for Testing Laboratories; 2010.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of inspector.
      d. Date and time of sampling or inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of test/inspection.
      h. Date of test/inspection.
      i. Results of test/inspection.
      j. Conformance with Contract Documents.
      k. When requested by Architect/Engineer, provide interpretation of results.
   2. Test report submittals are for Architect's/Engineer's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.

C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor to Architect/Engineer, in quantities specified for Product Data.
   1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

D. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
   2. Data indicating inappropriate or unacceptable Work may be subject to action by Engineer\ Architect and/or Owner.

1.05 QUALITY ASSURANCE

A. Testing Agency Qualifications:
   1. Prior to start of Work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
   2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
   3. Qualification Statement: Provide documentation showing testing laboratory is accredited under IAS AC89.

1.06 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Engineer\Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Engineer\Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.07 TESTING AND INSPECTION AGENCIES AND SERVICES

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have Work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 TESTING AND INSPECTION

A. See individual specification sections for testing and inspection required.

B. Testing Agency Duties:
   1. Test samples of mixes submitted by Contractor.
   2. Provide qualified personnel at site. Cooperate with Engineer\Architect and Contractor in performance of services.

3. Perform specified sampling and testing of products in accordance with specified standards.
4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
5. Promptly notify Engineer\Architect and Contractor of observed irregularities or non-conformance of Work or products.
6. Perform additional tests and inspections required by Engineer\Architect.
7. Submit reports of all tests/inspections specified.

C. Limits on Testing/Inspection Agency Authority:
1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the Work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the Work.

D. Contractor Responsibilities:
1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
3. Provide incidental labor and facilities:
   a. To provide access to Work to be tested/inspected.
   b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
   c. To facilitate tests/inspections.
   d. To provide storage and curing of test samples.
4. Notify Engineer\Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

E. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Architect.

F. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

3.03 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not conforming to specified requirements.

B. If, in the opinion of Engineer\Architect, it is not practical to remove and replace the Work, Engineer\Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary sanitary facilities.

B. Temporary Controls: Barriers, enclosures, and fencing.

C. Security requirements.

D. Vehicular access and parking.

E. Waste removal facilities and services.

F. Project identification sign.

G. Field offices.

1.02 RELATED REQUIREMENTS

A. Section 01 5213 - Field Offices and Sheds.

B. Section 01 5500 - Vehicular Access and Parking.

1.03 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Maintain daily in clean and sanitary condition.

1.04 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C. Provide protection for plants designated to remain. Replace damaged plants.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.05 SECURITY - SEE SECTION 01 3553

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.06 VEHICULAR ACCESS AND PARKING - SEE SECTION 01 5500

A. Coordinate access and haul routes with governing authorities and Owner.

B. Provide and maintain access to fire hydrants, free of obstructions.

C. Provide means of removing mud from vehicle wheels before entering streets.

D. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.07 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site periodically.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.08 PROJECT IDENTIFICATION

A. Provide project identification sign of design and construction indicated on Drawings.

B. Erect on site at location indicated.

C. No other signs are allowed without Owner permission except those required by law.

1.09 FIELD OFFICES - SEE SECTION 01 5213

A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.

B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

C. Locate offices a minimum distance of 30 feet (10 m) from existing and new structures.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 5213
FIELD OFFICES AND SHEDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary field offices for use of Engineer/Architect.

B. Temporary field offices for use of Contractor.

C. Maintenance and removal.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: use of premises and responsibility for providing field offices.

B. Section 01 5000 - Temporary Facilities and Controls:
   1. Temporary sanitary facilities required by law.

C. Section 01 5000: Parking and access to field offices.

D. Section 01 5500: Parking and access to field offices.

1.03 USE OF EXISTING FACILITIES

A. Existing facilities shall not be used for field offices.

1.04 USE OF PERMANENT FACILITIES

A. Permanent facilities shall not be used for field offices.

PART 2 PRODUCTS

2.01 MATERIALS, EQUIPMENT, FURNISHINGS

A. Materials, Equipment, Furnishings: Serviceable, new or used, adequate for required purpose.

2.02 CONSTRUCTION

A. Portable or mobile buildings, or buildings constructed with floors raised above ground, securely fixed to foundations, with steps and landings at entrance doors.

B. Construction: Structurally sound, secure, weather tight enclosures for office. Maintain during progress of Work; remove when no longer needed.

C. Temperature Transmission Resistance of Floors, Walls, and Ceilings: Compatible with occupancy requirements.

D. Exterior Materials: Weather resistant, finished in one color.

E. Interior Materials in Offices: Sheet type materials for walls and ceilings, prefinished or painted; resilient floors and bases.

F. Lighting for Offices: 50 fc (538 lx) at desk top height, exterior lighting at entrance doors.

G. Fire Extinguishers: Appropriate type fire extinguisher at each office.

2.03 ENVIRONMENTAL CONTROL

A. Heating, Cooling, and Ventilating: Automatic equipment to maintain comfort conditions.

2.04 CONTRACTOR OFFICE AND FACILITIES

A. Size: For Contractor's needs and to provide space for project meetings.

B. Other Furnishings: Contractor's option.

C. Equipment: Six adjustable band protective helmets for visitors, one 10 inch (250 mm) outdoor weather thermometer .

2.05 OWNER AND ARCHITECT/ENGINEER OFFICE

A. Separate space for sole use of Owner and Architect, with separate entrance door with new lock and two keys.

B. Area: At least 150 sq ft (14 sq m), with minimum dimension of 8 ft (2.4 m).

C. Windows: At least three, with minimum total area equivalent to 10 percent of floor area, with an operable sash and insect screen. Locate to provide views of construction area.

D. Electrical Distribution Panel: Two circuits minimum, 110 volt, 60 hz service.

E. Minimum four 110 volt duplex convenience outlets, one on each wall.

F. Sanitary Facilities: As specified in Section 01 5000.

G. Furnishings:
   1. One desk 54 by 30 inch (1372 by 762 mm), with three drawers.
   2. One drafting table 36 by 72 inch (914 by 1829 mm), with one equipment drawer and a 48 inch wide parallel straight edge.
   3. One computer workstation with 24 by 48 inch (609 by 1219 mm) work surface, CPU shelf, retractable keyboard tray, and space for computer monitor and 11 by 17 inch (279 by 432 mm) printer.
   4. One metal, double-door storage cabinet under table.
   5. One standard four-drawer legal size metal filling cabinet with locks and two keys per lock.
   6. Six linear ft (2 m) of metal bookshelves.
   7. Two swivel arm chairs.
   8. One drafting table stool.
   9. One tackboard 36 by 30 inch (914 by 762 mm).
   10. One waste basket per desk and table.

PART 3 EXECUTION

3.01 PREPARATION

A. Fill and grade sites for temporary structures to provide drainage away from buildings.

3.02 INSTALLATION

A. Install office spaces ready for occupancy 15 days after date fixed in Notice to Proceed.

3.03 MAINTENANCE AND CLEANING

A. Weekly janitorial services for offices; periodic cleaning and maintenance for offices.

B. Maintain approach walks free of mud, water, and snow.

3.04 REMOVAL

A. At completion of Work remove buildings, foundations, utility services, and debris. Restore areas.

END OF SECTION

SECTION 01 5500
VEHICULAR ACCESS AND PARKING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Access roads.

B. Parking.

C. Existing pavements and parking areas.

D. Construction parking controls.

E. Haul routes.

F. Maintenance.

G. Removal, repair.

1.02 RELATED REQUIREMENTS

A. Section 01 5813 - Temporary Project Signage: Post Mounted and Wall Mounted Traffic Control and Informational Signs.

B. Section 31 2200 - Grading: Specifications for earthwork and paving bases.

PART 2 PRODUCTS

2.01 MATERIALS

A. Temporary Construction: Contractor's option.

2.02 SIGNS, SIGNALS, AND DEVICES

A. Post Mounted and Wall Mounted Traffic Control and Informational Signs: Specified in Section 01 5813 - Temporary Project Signage.

PART 3 EXECUTION

3.01 PREPARATION

A. Clear areas, provide surface and storm drainage of road, parking, area premises, and adjacent areas.

3.02 ACCESS ROADS

A. Tracked vehicles not allowed on paved areas.

B. Construct new temporary all-weather access roads from public thoroughfares to serve construction area, of a width and load bearing capacity to provide unimpeded traffic for construction purposes.

C. Location as indicated.

D. Provide and maintain access to fire hydrants free of obstructions.

3.03 PARKING

A. Use of designated areas of existing parking facilities by construction personnel is permitted.

B. Arrange for temporary parking areas to accommodate use of construction personnel.

C. Locate as indicated.

3.04 CONSTRUCTION PARKING CONTROL

A. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.

B. Prevent parking on or adjacent to access roads or in non-designated areas.

3.05 HAUL ROUTES

A. Drawings indicate haul routes designated by authorities for use of construction traffic.

B. Confine construction traffic to designated haul routes.

C. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

3.06 MAINTENANCE

A. Maintain traffic and parking areas in a sound condition free of excavated material, construction equipment, products, mud, snow, and ice.

B. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

3.07 REMOVAL, REPAIR

A. Repair existing facilities damaged by use, to original condition.

B. Remove equipment and devices when no longer required.

C. Repair damage caused by installation.

END OF SECTION

SECTION 01 5713

TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Prevention of erosion due to construction activities.

B. Prevention of sedimentation of waterways, open drainage ways, and storm and sanitary sewers due to construction activities.

C. Restoration of areas eroded due to insufficient preventive measures.

D. Performance bond.

E. Compensation of Owner for fines levied by authorities having jurisdiction due to non-compliance by Contractor.

1.02 RELATED REQUIREMENTS

A. Section 31 1000 - Site Clearing: Limits on clearing; disposition of vegetative clearing debris.

B. Section 31 2200 - Grading: Temporary and permanent grade changes for erosion control.

1.03 REFERENCE STANDARDS

A. ASTM D4355/D4355M - Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus; 2014.

B. ASTM D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity; 1999a (Reapproved 2014).

C. ASTM D4533/D4533M - Standard Test Method for Trapezoid Tearing Strength of Geotextiles; 2015.

D. ASTM D4632/D4632M - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles; 2015a.

E. ASTM D4751 - Standard Test Method for Determining Apparent Opening Size of a Geotextile; 2012.

F. ASTM D4873/D4873M - Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples; 2016.

G. EPA (NPDES) - National Pollutant Discharge Elimination System (NPDES), Construction General Permit; Current Edition.

H. FHWA FLP-94-005 - Best Management Practices for Erosion and Sediment Control; 1995.

1.04 PERFORMANCE REQUIREMENTS

A. Comply with requirements of EPA (NPDES) for erosion and sedimentation control, as specified by the NPDES, for Phases I and II, and in compliance with requirements of Construction General Permit (CGP), whether the project is required by law to comply or not.

B. Also comply with all more stringent requirements of State of New York Erosion and Sedimentation Control Manual.

C. Develop and follow an Erosion and Sedimentation Prevention Plan and submit periodic inspection reports.

D. Do not begin clearing, grading, or other work involving disturbance of ground surface cover until applicable permits have been obtained; furnish all documentation required to obtain applicable permits.

   1. Owner will obtain permits and pay for securities required by authority having jurisdiction.

E. Provide to Owner a Performance Bond covering erosion and sedimentation preventive measures only, in an amount equal to 100 percent of the cost of erosion and sedimentation control work.

F. Timing: Put preventive measures in place as soon as possible after disturbance of surface cover and before precipitation occurs.

G. Storm Water Runoff: Control increased storm water runoff due to disturbance of surface cover due to construction activities for this project.
   1. Prevent runoff into storm and sanitary sewer systems, including open drainage channels, in excess of actual capacity or amount allowed by authorities having jurisdiction, whichever is less.
   2. Anticipate runoff volume due to the most extreme short term and 24-hour rainfall events that might occur in 25 years.

H. Erosion On Site: Minimize wind, water, and vehicular erosion of soil on project site due to construction activities for this project.
   1. Control movement of sediment and soil from temporary stockpiles of soil.
   2. Prevent development of ruts due to equipment and vehicular traffic.
   3. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.

I. Erosion Off Site: Prevent erosion of soil and deposition of sediment on other properties caused by water leaving the project site due to construction activities for this project.
   1. Prevent windblown soil from leaving the project site.
   2. Prevent tracking of mud onto public roads outside site.
   3. Prevent mud and sediment from flowing onto sidewalks and pavements.
   4. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.

J. Sedimentation of Waterways On Site: Prevent sedimentation of waterways on the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
   1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
   2. If sediment basins are used as temporary preventive measures, pump dry and remove deposited sediment after each storm.

K. Sedimentation of Waterways Off Site: Prevent sedimentation of waterways off the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
   1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.

L. Open Water: Prevent standing water that could become stagnant.

M. Maintenance: Maintain temporary preventive measures until permanent measures have been established. Contractor shall inspect all erosion control measures to ensure compliance with SWPPP requirements until all proposed work is fully stabilized and the NOT is filed.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Erosion and Sedimentation Control Plan:
   1. Submit within 2 weeks after Notice to Proceed.
   2. Include:
      a. Site plan identifying soils and vegetation, existing erosion problems, and areas vulnerable to erosion due to topography, soils, vegetation, or drainage.
      b. Measurements of existing turbidity of waterways.
      c. Site plan showing grading; new improvements; temporary roads, traffic accesses, and other temporary construction; and proposed preventive measures.

d. Where extensive areas of soil will be disturbed, include storm water flow and volume calculations, soil loss predictions, and proposed preventive measures.
e. Schedule of temporary preventive measures, in relation to ground disturbing activities.
f. Other information required by law.
g. Format required by law is acceptable, provided any additional information specified is also included.

3. Obtain the approval of the Plan by authorities having jurisdiction.
4. Obtain the approval of the Plan by Owner.

C. Certificate: Mill certificate for silt fence fabric attesting that fabric and factory seams comply with specified requirements, signed by legally authorized official of manufacturer; indicate actual minimum average roll values; identify fabric by roll identification numbers.

D. Inspection Reports: Submit report of each inspection; identify each preventive measure, indicate condition, and specify maintenance or repair required and accomplished.

PART 2 PRODUCTS

2.01 MATERIALS

A. Grass Seed For Temporary Cover: Select a species appropriate to climate, planting season, and intended purpose. If same area will later be planted with permanent vegetation, do not use species known to be excessively competitive or prone to volunteer in subsequent seasons.

B. Bales: Air dry, rectangular straw bales.
1. Cross Section: 14 by 18 inches (350 by 450 mm), minimum.
2. Bindings: Wire or string, around long dimension.

C. Bale Stakes: One of the following, minimum 3 feet (1 m) long:
1. Steel U- or T-section, with minimum mass of 1.33 lb per linear foot (1.98 kg per linear m).
2. Wood, 2 by 2 inches (50 by 50 mm) in cross section.

D. Silt Fence Fabric: Polypropylene geotextile resistant to common soil chemicals, mildew, and insects; non-biodegradable; in longest lengths possible; fabric including seams with the following minimum average roll lengths:
1. Average Opening Size: 30 U.S. Std. Sieve (0.600 mm), maximum, when tested in accordance with ASTM D4751.
2. Permittivity: 0.05 sec^-1, minimum, when tested in accordance with ASTM D4491.
3. Ultraviolet Resistance: Retaining at least 70 percent of tensile strength, when tested in accordance with ASTM D4355/D4355M after 500 hours exposure.
4. Tensile Strength: 100 lb-f (450 N), minimum, in cross-machine direction; 124 lb-f (550 N), minimum, in machine direction; when tested in accordance with ASTM D4632/D4632M.
5. Elongation: 15 to 30 percent, when tested in accordance with ASTM D4632/D4632M.
6. Tear Strength: 55 lb-f (245 N), minimum, when tested in accordance with ASTM D4533/D4533M.
7. Color: Manufacturer's standard, with embedment and fastener lines preprinted.

E. Silt Fence Posts: One of the following, minimum 5 feet (1500 mm) long:
1. Softwood, 4 by 4 inches (100 by 100 mm) in cross section.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine site and identify existing features that contribute to erosion resistance; maintain such existing features to greatest extent possible.

3.02 PREPARATION

A. Schedule work so that soil surfaces are left exposed for the minimum amount of time.

3.03 SCOPE OF PREVENTIVE MEASURES

A. In all cases, if permanent erosion resistant measures have been installed temporary preventive measures are not required.

B. Construction Entrances: Traffic-bearing aggregate surface.
   1. Width: As required; 20 feet (7 m), minimum.
   2. Length: 50 feet (16 m), minimum.
   3. Provide at each construction entrance from public right-of-way.
   4. Where necessary to prevent tracking of mud onto right-of-way, provide wheel washing area out of direct traffic lane, with drain into sediment trap or basin.

C. Linear Sediment Barriers: Made of silt fences.
   1. Provide linear sediment barriers:
      a. Along downhill perimeter edge of disturbed areas, including soil stockpiles.
   2. Space sediment barriers with the following maximum slope length upslope from barrier:
      a. Slope of Less Than 2 Percent: 100 feet (30 m)..
      b. Slope Between 2 and 5 Percent: 75 feet (23 m).
      c. Slope Between 5 and 10 Percent: 50 feet (15 m).
      d. Slope Between 10 and 20 Percent: 25 feet (7.5 m).
      e. Slope Over 20 Percent: 15 feet (4.5 m).

D. Storm Drain Curb Inlet Sediment Trap: Protect each curb inlet using one of the following measures:
   1. Filter fabric wrapped around hollow concrete blocks blocking entire inlet face area; use one piece of fabric wrapped at least 1-1/2 times around concrete blocks and secured to prevent dislodging; orient cores of blocks so runoff passes into inlet.
   2. Straw bale row blocking entire inlet face area; anchor into pavement.

E. Storm Drain Drop Inlet Sediment Traps: As detailed on drawings.

F. Temporary Splash Pads: Stone aggregate over filter fabric; size to suit application; provide at downspout outlets and storm water outlets.

G. Soil Stockpiles: Protect using one of the following measures:
   1. Cover with polyethylene film, secured by placing soil on outer edges.
   2. Cover with mulch at least 4 inches (100 mm) thickness of pine needles, sawdust, bark, wood chips, or shredded leaves, or 6 inches (150 mm) of straw or hay.

H. Mulching: Use only for areas that may be subjected to erosion for less than 6 months.

I. Temporary Seeding: Use where temporary vegetated cover is required.

3.04 INSTALLATION

A. Traffic-Bearing Aggregate Surface:
   1. Excavate minimum of 6 inches (150 mm).
   2. Place geotextile fabric full width and length, with minimum 12 inch (300 mm) overlap at joints.
   3. Place and compact at least 6 inches (150 mm) of 1.5 to 3.5 inch (40 to 90 mm) diameter stone.

B. Silt Fences:
   1. Store and handle fabric in accordance with ASTM D4873/D4873M.
   2. Where slope gradient is less than 3:1 or barriers will be in place less than 6 months, use nominal 16 inch (405 mm) high barriers with minimum 36 inch (905 mm) long posts spaced at 6 feet (1830 mm) maximum, with fabric embedded at least 4 inches (100 mm) in ground.
   3. Where slope gradient is steeper than 3:1 or barriers will be in place over 6 months, use nominal 28 inch (710 mm) high barriers, minimum 48 inch (1220 mm) long posts spaced at 6 feet (1830 mm) maximum, with fabric embedded at least 6 inches (150 mm) in ground.

4. Where slope gradient is steeper than 3:1 and vertical height of slope between barriers is more than 20 feet (6 m), use nominal 32 inch (810 mm) high barriers with woven wire reinforcement and steel posts spaced at 4 feet (1220 mm) maximum, with fabric embedded at least 6 inches (150 mm) in ground.
5. Install with top of fabric at nominal height and embedment as specified.
6. Embed bottom of fabric in a trench on the upslope side of fence, with 2 inches (50 mm) of fabric laid flat on bottom of trench facing upslope; backfill trench and compact.
7. Do not splice fabric width; minimize splices in fabric length; splice at post only, overlapping at least 18 inches (460 mm), with extra post.
8. Fasten fabric to wood posts using one of the following:
   a. Four nails per post with 3/4 inch (19 mm) diameter flat or button head, 1 inch (25 mm) long, and 14 gage, 0.083 inch (2.11 mm) shank diameter.
   b. Five staples per post with at least 17 gage, 0.0453 inch (1.150 mm) wire, 3/4 inch (19 mm) crown width and 1/2 inch (12 mm) long legs.
9. Wherever runoff will flow around end of barrier or over the top, provide temporary splash pad or other outlet protection; at such outlets in the run of the barrier, make barrier not more than 12 inches (300 mm) high with post spacing not more than 4 feet (1220 mm).

C. Straw Bale Rows:
1. Install bales in continuous rows with ends butting tightly, with one bale at each end of row turned uphill.
2. Install bales so that bindings are not in contact with the ground.
3. Embed bales at least 4 inches (100 mm) in the ground.
4. Anchor bales with at least two stakes per bale, driven at least 18 inches (450 mm) into the ground; drive first stake in each bale toward the previously placed bale to force bales together.
5. Fill gaps between ends of bales with loose straw wedged tightly.
6. Place soil excavated for trench against bales on the upslope side of the row, compacted.

D. Temporary Seeding:
1. When hydraulic seeder is used, seedbed preparation is not required.
2. When surface soil has been sealed by rainfall or consists of smooth undisturbed cut slopes, and conventional or manual seeding is to be used, prepare seedbed by scarifying sufficiently to allow seed to lodge and germinate.
3. If temporary mulching was used on planting area but not removed, apply nitrogen fertilizer at 1 pound per 1000 sq ft (0.5 kg per 100 sq m).
4. On soils of very low fertility, apply 10-10-10 fertilizer at rate of 12 to 16 pounds per 1000 sq ft (6 to 8 kg per 100 sq m).
5. Incorporate fertilizer into soil before seeding.
6. Apply seed uniformly; if using drill or cultipacker seeders place seed 1/2 to 1 inch (12 to 25 mm) deep.
7. Irrigate as required to thoroughly wet soil to depth that will ensure germination, without causing runoff or erosion.
8. Repeat irrigation as required until grass is established.

3.05 MAINTENANCE

A. Inspect preventive measures weekly, within 24 hours after the end of any storm that produces 0.5 inches (13 mm) or more rainfall at the project site, and daily during prolonged rainfall.

B. Repair deficiencies immediately.

C. Silt Fences:
1. Promptly replace fabric that deteriorates unless need for fence has passed.
2. Remove silt deposits that exceed one-third of the height of the fence.
3. Repair fences that are undercut by runoff or otherwise damaged, whether by runoff or other causes.

D. Straw Bale Rows:

1. Promptly replace bales that fall apart or otherwise deteriorate unless need has passed.
2. Remove silt deposits that exceed one-half of the height of the bales.
3. Repair bale rows that are undercut by runoff or otherwise damaged, whether by runoff or other causes.

E. Clean out temporary sediment control structures weekly and relocate soil on site.

F. Place sediment in appropriate locations on site; do not remove from site.

3.06 CLEAN UP

A. Remove temporary measures after permanent measures have been installed, unless permitted to remain by Architect/Engineer.

B. Clean out temporary sediment control structures that are to remain as permanent measures.

C. Where removal of temporary measures would leave exposed soil, shape surface to an acceptable grade and finish to match adjacent ground surfaces.

END OF SECTION

SECTION 01 5813

TEMPORARY PROJECT SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project identification sign.

1.02 REFERENCE STANDARDS

A. FHWA (SHS) - Standard Highway Signs; Federal Highway Administration; 2004.

PART 2 PRODUCTS

2.01 PROJECT IDENTIFICATION SIGN

A. One painted sign, 48 sq ft (4.5 sq m) area, bottom 6 feet (2 m) above ground.

B. Content:
   1. Project number, title, logo and name of Owner as indicated on Contract Documents.
   2. Names and titles of authorities.
   3. Names and titles of Architect and Consultants.
   4. Name of Prime Contractor and major Subcontractors.

C. Lettering: Standard Alphabet Series C, as specified in FHWA (SHS).

PART 3 EXECUTION

3.01 INSTALLATION

A. Install project identification sign within 30 days after date fixed by Notice to Proceed.

B. Erect at designated location.

C. Erect supports and framing on secure foundation, rigidly braced and framed to resist wind loadings.

D. Install sign surface plumb and level, with butt joints. Anchor securely.

3.02 MAINTENANCE

A. Maintain signs and supports clean, repair deterioration and damage.

3.03 REMOVAL

A. Remove signs, framing, supports, and foundations at completion of Project and restore the area.

END OF SECTION

SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations.

1.02 REFERENCE STANDARDS

A. C2C (DIR) - C2C Certified Products Registry; Cradle to Cradle Products Innovation Institute; www.c2ccertified.org/products/registry.

B. CAN/CSA Z809 - National Standard for Sustainable Forest Management; CSA International Inc; 2008.

C. EN 15804 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products; 2012.

D. GreenScreen (LIST) - GreenScreen for Safer Chemicals List Translator; Clean Production Action; www.greenscreenchemicals.org.

E. GreenScreen (METH) - GreenScreen for Safer Chemicals Method v1.2; Clean Production Action; www.greenscreenchemicals.org.

F. HPDC (Tool) - Create an HPD On-Line Tool; Health Product Declaration Collaborative; http://www.hpd-collaborative.org/.

G. ISO 14025 - Environmental labels and declarations -- Type III environmental declarations -- Principles and procedures; 2006.

H. ISO 14040 - Environmental management -- Life cycle assessment -- Principles and framework; 2006.

I. ISO 14044 - Environmental management -- Life cycle assessment -- Requirements and guidelines; 2006.

J. ISO 21930 - Sustainability in building construction -- Environmental declaration of building products; 2007.

K. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.03 SUBMITTALS

A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
   1. Submit within 15 days after date of Agreement.
   2. For products specified only by reference standards, list applicable reference standards.

B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

1.04 QUALITY ASSURANCE

A. Cradle-to-Cradle Certified: End use product certified Cradle-to-Cradle v2 Basic or Cradle-to-Cradle v3 Bronze, minimum, as evidenced by C2C (DIR).

B. Environmental Product Declaration (EPD): Publicly available, critically reviewed life cycle analysis having at least a cradle-to-gate scope.
   1. Good: Product-specific; compliant with ISO 14044.
   2. Better: Industry-wide, generic; compliant with ISO 21930, or with ISO 14044, ISO 14040, ISO 14025, and EN 15804; Type III third-party certification with external verification, in which the manufacturer is recognized as the program operator.
   3. Best: Commercial-product-specific; compliant with ISO 21930, or with ISO 14044, ISO 14040, ISO 14025, and EN 15804; Type III third-party certification with external verification, in which the manufacturer is recognized as the program operator.
   4. Where demonstration of impact reduction below industry average is required, submit both industry-wide and commercial-product-specific declarations; or submit at least 5 declarations for products of the same type by other manufacturers in the same industry.

C. GreenScreen Chemical Hazard Analysis: All ingredients of 100 parts-per-million or greater evaluated using GreenScreen (METH).
   1. Good: GreenScreen (LIST) evaluation to identify Benchmark 1 hazards; a Health Product Declaration includes this information.
   2. Better: GreenScreen Full Assessment.
   3. Best: GreenScreen Full Assessment by GreenScreen Licensed Profiler.
   4. Acceptable Evidence: GreenScreen report.

D. Health Product Declarations (HPD): Complete, published declaration with full disclosure of known hazards, prepared using HPDC (Tool); HPD's with "unknown" listed for any hazard will not be considered acceptable.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.

B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by the Contract Documents.

B. DO NOT USE products having any of the following characteristics:
   1. Made outside the United States.
   2. Made using or containing CFC's or HCFC's.

C. Where all other criteria are met, Contractor shall give preference to products that:
   1. If used on interior, have lower emissions, as defined in Section 01 6116.
   2. If wet-applied, have lower VOC content, as defined in Section 01 6116.
   3. Are extracted, harvested, and/or manufactured closer to the location of the project.
   4. Have longer documented life span under normal use.
   5. Result in less construction waste.
   6. Are made of vegetable materials that are rapidly renewable.
   7. Are made of recycled materials.
   8. If made of wood, are made of sustainably harvested wood, wood chips, or wood fiber.
   9. If bio-based, other than wood, are or are made of Sustainable Agriculture Network certified products.

10. Are Cradle-to-Cradle Certified.
11. Have a published Environmental Product Declaration (EPD).
12. Have a published Health Product Declaration (HPD).
13. Have a published GreenScreen Chemical Hazard Analysis.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 01 2500 - Substitution Procedures.

B. Substitution Submittal Procedure (after contract award):
   1. Engineer\Architect or Owner will notify Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

G. Comply with manufacturer's warranty conditions, if any.

H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

I. Prevent contact with material that may cause corrosion, discoloration, or staining.

J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 7000

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Cutting and patching.

C. Surveying for laying out the work.

D. Cleaning and protection.

E. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

F. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

A. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

B. Section 01 5000 - Temporary Facilities and Controls: Temporary exterior enclosures.

C. Section 01 5713 - Temporary Erosion and Sediment Control: Additional erosion and sedimentation control requirements.

D. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties and bonds.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in conformance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.
   6. Include in request:
      a. Identification of Project.
      b. Location and description of affected work.
      c. Necessity for cutting or alteration.
      d. Description of proposed work and products to be used.
      e. Alternatives to cutting and patching.
      f. Effect on work of Owner or separate Contractor.
      g. Written permission of affected separate Contractor.
      h. Date and time work will be executed.

D. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.04 QUALIFICATIONS

A. For survey work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.

B. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.05 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

E. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

F. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
   1. Minimize amount of bare soil exposed at one time.
   2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
   3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
   4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

G. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

1.06 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect of any discrepancies discovered.

C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

D. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

F. Utilize recognized engineering survey practices.

G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.

H. Periodically verify layouts by same means.

I. Maintain a complete and accurate log of control and survey work as it progresses.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.06 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

3.07 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.08 FINAL CLEANING

A. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

B. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

C. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, drainage systems, and pipes.

D. Clean site; sweep paved areas, rake clean landscaped surfaces.

E. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.09 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Engineer\Architect and Owner.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Engineer\Architect when work is considered ready for Engineer\Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Engineer's\Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Engineer's/Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Engineer\Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Engineer\Architect when work is considered finally complete and ready for Engineer's\Architect's Substantial Completion final inspection.

H. Complete items of work determined by Engineer\Architect listed in executed Certificate of Substantial Completion.

3.10 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

SECTION 01 7419

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.

E. Methods of trash/waste disposal that are not acceptable are:
   1. Burning on the project site.
   2. Burying on the project site.
   3. Dumping or burying on other property, public or private.
   4. Other illegal dumping or burying.
   5. Incineration, either on- or off-site.

F. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. Section 01 5000 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

C. Section 01 6000 - Product Requirements:. Waste prevention requirements related to delivery, storage, and handling.

D. Section 01 7000 - Execution and Closeout Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

E. Section 31 1000 - Site Clearing: Handling and disposal of land clearing debris.

1.03 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.

1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
2. Submit Report on a form acceptable to Owner.
3. Landfill Disposal: Include the following information:
   a. Identification of material.
   b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the project disposed of in landfills.
   c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
   d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
4. Recycled and Salvaged Materials: Include the following information for each:
   a. Identification of material, including those retrieved by installer for use on other projects.
   b. Amount, in tons or cubic yards (cubic meters), date removed from the project site, and receiving party.
   c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
   d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
5. Material Reused on Project: Include the following information for each:
   a. Identification of material and how it was used in the project.
   b. Amount, in tons or cubic yards (cubic meters).
   c. Include weight tickets as evidence of quantity.
6. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 PRODUCTS

2.01 PRODUCT SUBSTITUTIONS

A. See Section 01 6000 - Product Requirements for substitution submission procedures.

B. For each proposed product substitution, submit the following information in addition to requirements specified in Section 01 6000:
   1. Relative amount of waste produced, compared to specified product.
   2. Cost savings on waste disposal, compared to specified product, to be deducted from the Contract Price.
   3. Proposed disposal method for waste product.
   4. Markets for recycled waste product.

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01 3000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. See Section 01 5000 for additional requirements related to trash/waste collection and removal facilities and services.

C. See Section 01 6000 for waste prevention requirements related to delivery, storage, and handling.

D. See Section 01 7000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.
   1. Pre-bid meeting.
   2. Pre-construction meeting.
   3. Regular job-site meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. Provide containers as required.
   2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 01 7800
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

B. Section 01 7000 - Execution and Closeout Requirements: Contract closeout procedures.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Addenda.
   3. Change Orders and other modifications to the Contract.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Record Drawings : Legibly mark each item to record actual construction including:
   1. Field changes of dimension and detail.
   2. Details not on original Contract drawings.

END OF SECTION

SECTION 02 1000

SITE PREPARATION AND RESTORATION

PART 1 GENERAL

1.01 SUMMARY

A. This Section provides specifications for the preparation and restoration of the work area vicinity.

B. Section Includes: Work to be performed under this Section shall include all site preparation and restoration work not otherwise included in other Sections of the Contract. The Contractor shall provide all labor, materials, equipment, supervision and services and perform all operations required to complete all work of this Section and related work as indicated on the Contract Drawings and specified herein, including but not necessarily limited to the following:

1. Restore all areas surrounding the new work.
2. Locate utilities.
3. Existing condition repair survey.
4. Maintain existing drainage structures
5. Maintenance and protection of traffic
6. Furnish and install temporary chain link protective security fences around construction site, staging areas and stockpile areas.
7. Provide adequate scaffolding or other means of safely gaining access to the required building heights and related work.
8. Removal and disposal of existing fence posts, rails, mesh, etc. as indicated on the plans and as directed by the Engineer.
9. Mobilization and demobilization.

C. Related Documents: Applicable provisions of the Contract Documents govern the work of this Section. The Contractor's attention is called to the Contract's scope of work defined under Section 01100-Summary of Work of these Contract Specifications and applicable requirements stipulated in the New York State Specifications. Additional requirements and information necessary to complete the Work of this Section may be found in other Sections.

1. References herein to the NYSDOT Specifications shall be to the Standard Specifications, Construction and Materials, Office of Engineering, latest edition, New York State Department of Transportation. Specifications are hereby incorporated into this Contract to the same extent as though written out in full.

D. Related Sections:

1. 1. Section 023001- Excavating, Grading and Sub grade Preparation

1.02 QUALITY ASSURANCE

A. State and local laws and code requirements shall govern the hauling and disposal of trees, shrubs, stumps, roots, rubbish, debris, and other matter.

1.03 JOB CONDITIONS

A. Protection:

1. The Contractor shall be responsible for protecting against injury all persons within the area of construction operations.
2. The Contractor shall protect and be responsible for maintaining all adjacent existing properties and the proposed work within the area of operations under this Contract. Any disturbance or damage to the adjacent existing facilities and/or to proposed work, or any impairment of facilities or adjacent structures resulting directly or indirectly from the operations of this Contract shall be immediately restored, repaired or replaced to the satisfaction of the Engineer without additional cost to the State.
3. Existing active utility lines encountered that will remain in use shall be protected or rerouted as shown on the Contract Drawings or as directed by the Director's representative.

4. The Contractor shall maintain and protect existing trees and shrubs where indicated on the Contract Drawings, or as directed by the Director's representative, within the Contract limits.
5. Streets, access roads, and other works and structures shall be protected throughout the entire project. Contractor shall return to original condition, satisfactory to the Director's representative, facilities damaged by the Contractor's operations.
6. Trees, shrubs, and grassed areas, which are to remain, shall be protected by fences, barricades, wrapping or other methods. Equipment storage, material stockpiles, etc. shall not be permitted within tree branch spread.
7. No cleared matter, debris or soils shall be stored in construction work area.
8. No trees, shrubs, roots, branches, wood, concrete or other debris shall be buried in fills, embankments or stockpiles.
9. No trees or shrubs shall be removed in conjunction with the work without the special approval of the Engineer.

1.04 GUARANTEE

A. Contractor shall guarantee that work performed under this Contract will not permanently damage trees, shrubs, turf or plants designated to remain, or other adjacent work or facilities. If damage resulting from Contractor's operations appears during the period up to 12 months after completion of the project of the Contractor shall replace damaged items at his expense.

1.05 SUBMITTALS

A. Provide all submittals as specified herein, in addition to the submittal requirements specified in the State Specifications.

B. Submit for approval proposed methods, equipment, and operations sequence. Include coordination for temporary services, continuation of utility services, coordination of construction work by other trades and other applicable items.

C. Shop Drawings

D. Prior to ordering any materials for protecting fencing, the Contractor shall submit to the Engineer for approval, shop drawings of the proposed fence installation showing complete details of material sizes, shapes and heights, proposed methods of fastening and complete details of wall hardware to be used.

1.06 SUBMIT METHODS OF SCAFFOLDING OR OTHER MEANS OF SAFELY GAINING ACCESS TO THE REQUIRED BUILDING HEIGHTS AND RELATED WORK. METHODS SHALL BE APPROVED, STAMPED AND SIGNED BY A NYS LICENSED PROFESSIONAL ENGINEER. SCAFFOLDING SHALL MEET ALL STATE, LOCAL BUILDING CODE REQUIREMENTS.

1.07 WORK WITHIN PUBLIC R.O.W.

A. Work within the State right-of-way shall conform to all requirements of New York State regulations and permits.

PART 2 PRODUCTS

2.01 MOBILIZATION/DEMOBILIZATION SHALL CONFORM TO ITEM 699, MOBILIZATION, MATERIALS, OF THE NYSDOT SPECIFICATIONS.

2.02 MAINTENANCE AND PROTECTION OF TRAFFIC

A. Maintenance and Protection of Traffic including construction signs shall comply with the requirements of Item 619- Maintenance and Protection of Traffic of the NYSDOT Specifications.

2.03 EARTHWORK MATERIAL

A. All material necessary to perform the required work shall be in accordance with Section 02 3001 - Excavating, Grading and Sub grade Preparation of these Specifications.

2.04 TEMPORARY PROTECTIVE CHAIN LINK FENCES

A. Fences: The Contractor shall verify the location of all fences in the field prior to installation.

B. All fencing used whether it be galvanized fence, aluminum fence, or vinyl coated fence, shall meet the requirements for Item 607, Fences of the NYSDOT Specifications, and shall be minimum of 7 ft in height.

C. Entrance gates shall be provided with locks approved by the Engineer. A set of keys for locks shall be provided to the Engineer.

PART 3 EXECUTION

3.01 NO WORK SHALL BE PERMITTED UNTIL REQUIREMENTS OF SUBMITTING METHODS OF SCAFFOLDING OR OTHER MEANS IN PART 1.5D OF THIS SECTION HAS BEEN MET.

3.02 EXAMINATION OF THE SITE

A. The Contractor shall visit and thoroughly familiarize himself with the site and with the scope of the work to be done. He is advised to carefully examine any and all existing conditions which would affect the costs of the work required under the contract and to judge for himself conditions which will exist when he carries out his contract as he will be entitled to no extra compensation for any additional work required thereby.

1. When the Contractor submits his proposal, it will be interpreted to mean that he has examined the site, fully understands the existing and proposed conditions, and he has made allowances for them in his proposal.

3.03 MOBILIZATION/DEMOBILIZATION SHALL CONFORM TO ITEM 699, MOBILIZATION OF THE NYSDOT SPECIFICATIONS.

3.04 DEMOLITION AND REMOVALS

A. The Contractor shall remove the existing chain link fence fabric (but not posts) located along the dam cap stone as needed to access the upstream face of the Hempstead Lake dam. Chain link fencing outside of the cap stone in the immediate vicinity of the work area at the Hempstead Lake dam may be removed entirely and disposed of by the Contractor.

B. Upon completion of the tree and sidement removal work on the upstream side of the Hempstead Lake Dam, the existing chain link fence fabric located along the dam cap stone shall be removed and disposed of by the Contractor.

C. The Contractor shall demolish, remove, abandon, or relocate site features and utilities where indicated on the Contract Drawings and/or as directed by the Director's representative. Materials included under this specification are shown on the Contract Drawings and include, but are not limited to, those stipulated in Part 1, 1.1A of these specifications. Following the Engineer's direction, materials, which are removed, shall be stockpiled for future NYS Parks and Recreation Department use or shall be broken up and properly disposed of off-site.

D. All materials indicated for stockpiling on the Contract Drawings and/or as directed by the Director's representative, shall be carefully removed from their existing location in such a way as to ensure the re-use of the material or equipment. These items shall be stored in an acceptable manner and in a safe secure on-site location approved by the Director's representative. The Contractor shall be responsible for the maintenance of the condition and security against theft or vandalism of these items.

E. 1. Where indicated on the Contract Drawings, existing inactive or abandoned utility lines encountered shall be properly disconnected, capped or sealed at the mains or other points of origin in strict accordance with the requirements of the public utility company, and the local agency having jurisdiction.

F. Protection:

1. At no time shall heavy equipment be allowed to work directly on the upstream Hempstead Lake dam embankment. Heavy equipment shall be limited to the existing roadway along the crest of the dam which has concrete base pavement and area around the perimeter of the dam at the east and west ends which are 20 feet away from the stone cap.

2. The Contractor shall execute the demolition and removal work to prevent damage or injury to existing structures, adjacent features or State personnel which might result from demolition activities and so as not to interfere with the operations of the State.
3. Closing or obstructing of roadways, State access roads, sidewalks, and passageways adjacent to the work by the placement or storage of materials will not be permitted, and all operations shall be conducted with a minimum interference to vehicular or pedestrian traffic.
4. The Contractor shall erect and maintain barriers, lights, and other required protective devices as shown on the Contract plans and/or as directed by the Engineer.
5. The Contractor shall repair damages caused by his operation to facilities to remain, or to any property belonging to the State, Utilities or Occupants of the facilities.
6. The Contractor shall exercise precautions for fire protection. Burning of debris shall not be permitted. The necessary number and appropriate type of portable fire extinguishers per National Fire Protection Associations (NFPA) standards Nos. 10 and 24 latest editions, shall be provided for all construction areas.
   a. As require by the Joint Commission on Accreditation of Healthcare, smoking shall be prohibited in or adjacent to all construction areas in buildings.
   b. All flammable liquids shall be handled, stored and used in accordance with NFPA Standard No. 30, 1993 or latest edition.
   c. All temporary electrical wiring and equipment used for construction shall be installed and used in accordance with pertinent provisions of NFPA standard No 70, 1996 or latest edition.
   d. Maintain construction site to permit access of Fire Department vehicles as necessary. Clear Building Construction area of unnecessary obstructions so that all portions are accessible for Fire Department apparatus and permit emergency egress of construction and other personnel.
7. The work shall comply with the applicable provisions and recommendation of ANSI AIO.2, Safety Code for Building Construction, and all governing codes and as hereinafter specified.

G. Scheduling:
1. The Contractor shall carry out all operations so as to avoid interference with operations and work in the existing facilities and the work under other Contracts.
2. The Contractor shall be solely responsible for making all necessary arrangements and for performing all necessary work involving the discontinuance or interruption of utilities or services.
3. Any equipment piping and appurtenances removed without proper authorization shall immediately be replaced to the satisfaction of the Engineer at no cost to the State.

H. Notification:
1. At least 48 hours prior to commencement of a demolition or removal, the Contractor shall notify the Director's representative in writing of his proposed schedule therefore. The State will inspect the existing equipment and review with the Contractor those items, which are to remain the property of the State. No removals shall be started without the permission of the Director's representative.

I. Explosives:
1. Do not bring explosives on site. No explosives will be permitted for this project.

J. The Contractor shall dispose of all demolition materials, equipment, debris, and all other items not to remain as property of the State, off the site and in conformance with all existing applicable laws and regulations.

K. All concrete, brick, concrete block, reinforcement, structural or miscellaneous metals, wire mesh and other items shall be removed and taken from the site, unless otherwise approved by the Director's representative. Demolished items shall not be used in backfill.

L. Abandonment and Removals:

1. The Contractor shall remove/abandon in place those items shown on the Contract Drawings. All open ends of existing pipe to be abandoned shall be properly plugged in a manner acceptable to the Engineer.

M. The Contractor shall maintain all existing drainage structures within the limits of work, free from debris, site, etc. The existing drainage structures shall be cleaned in a manner acceptable to the Director's representative.

3.05 LAYOUT OF WORK AND LAYOUT LINES AND LEVELS

A. The Contract Drawings indicate existing grade elevations in addition to new finished grade elevations. Neither the State nor the Engineer assumes any responsibility for the correctness of these elevations. The Contractor shall verify all elevations using a licensed surveyor and satisfy himself as to their correctness by visiting the site of the proposed work and examining the actual condition prior to the beginning of the work.

B. The layout shall be subject to possible modifications whether by inaccuracies in existing grades or by other site conditions. These modifications shall not entitle the Contractor to additional compensation.

3.06 CLEAN UP AND RESTORATION

A. The Contractor shall clean up and remove from the site all rubbish and surplus material on an ongoing basis as it accumulates and shall not permit it to be scattered about the building or site. If he fails to attend to this clean up promptly and satisfactorily, the State shall have the right to employ others for the work and charge the cost of such employment against his obligation to the Contractor.

B. All stones, debris, tools, equipment, etc. shall be removed from the site upon completion of the work under this Contract. The entire site shall be left in a neat and sightly condition.

C. All areas beyond the Contract limit lines disturbed by operations under this Contract shall be restored by the Contractor as directed by the Engineer.

3.07 RESTORATION WORK

A. The Contractor shall restore all paved areas outside the limit of work destroyed by this project (including pavement destroyed by the work of other trades in the other Contracts or utility companies, i.e., utility trenches etc.) to a condition at least equal to that existing prior to the beginning of work and in accordance with the specifications as shown on the Contract Drawings and as directed by and to the satisfaction and approval of the Engineer.

3.08 MAINTENANCE AND PROTECTION OF TRAFFIC

A. Maintenance and Protection of Traffic and construction signs shall be performed as shown on the drawings and/or as directed by the Engineer and shall comply with the requirements of Item 619- Maintenance and Protection of Traffic of the NYSDOT Specifications.

3.09 TEMPORARY PROTECTIVE CHAIN LINK FENCES

A. The Contractor shall provide for the safety and welfare of the general public by providing temporary protective fencing to secure the work zone area as shown on the Contract plans and/or as ordered by the Engineer.

B. Posts shall be round; well seasoned and sound cedar, oak, spruce or other approved metallic material not less than four (4) inches in diameter. Braces shall be four (4) inches round or square. Posts shall be embedded in the earth a minimum of three (3) feet and shall be spaced at maximum of eight (8) feet center to center. Braces shall be provided or required to maintain structural rigidity of the fencing.

C. Fence fabric shall be seven (7) feet high with mesh openings not to exceed two (2) inches by two (2) inches. It shall be of sufficient strength and weight to span the distance between posts. The fabric shall be installed with no gaps or openings beneath or along the line of fence.

D. Used material is acceptable providing it is structurally sound.

END OF SECTION

SECTION 02 3001

EXCAVATION, GRADING, AND SUBGRADE PREPARATION

PART 1 - GENERAL

1.01 SUMMARY

A. This Section provides specifications for the excavating, grading and filling where indicated on the Contract Drawings, and as directed by the Engineer. In addition to the specifications herein, all excavation, grading, sheeting and bracing as required, materials, etc., shall be in accordance with Section 200 Earthwork of the State Standard Specifications.

1.02 SECTION INCLUDES: THE WORK TO BE PERFORMED UNDER THIS SECTION SHALL INCLUDE BUT NOT LIMITED TO THE FOLLOWING:

A. Stripping and stockpiling topsoil.

B. Excavation, filling and grading.

C. Disposal of all excavated material not suitable or required for fill.

D. Sheeting, shoring and bracing as required for the proper execution of the work.

E. Pumping, draining and ditching necessary to maintain the area in safe and workable condition.

1.03 RELATED DOCUMENTS:

A. Applicable provisions of the Contract Documents govern the work of this Section. The Contractor's attention is called to the Contract's scope of work defined under Section 01100 Summary of work of these Contract Specifications and applicable requirements stipulated in the NYS Specifications. Additional requirements and information necessary to complete the work of this Section may be found in other Sections.

B. References herein to the NYSDOT Specifications shall be to the Standard Specifications, Construction and Materials, Office of Engineering, January 8, 2015, New York State Department of Transportation. Specifications are hereby incorporated into this Contract to the same extent as though written out in full. As modified herein.

1.04 RELATED SECTIONS:

A. Site Preparation and Restoration: 02100

B. State Specification Section 206 Trench, Culvert and Structure Excavation.

C. State Specification Item 552 Externally Stabilized Cut Structures

1.05 DEFINITIONS:

A. Words "excavating", "excavate", or "excavation", "carried down","remove", etc. mean removal of all existing work, including, but not limited to, all brick work, all rubble rubbish, earth, as well as rock, boulders and old concrete, and all other materials and obstructions of every nature and description encountered in obtaining the required lines and grades.

B. Classify rock which requires drilling and blasting, and boulders over the one cubic yard in size as "rock excavation" and shall include any rock excavation encountered in trench excavations.

C. Consider old concrete uncovered within excavation as earth excavation, except old concrete over 1 cubic yard in size which after demolition, cannot be excavated by standard power equipment without drilling and blasting.

D. Where earth is referred to herein it means all material including pavements, sub base, existing drainage pipe, catch basin, and manhole structures, except rock and old concrete as described above.

1.06 SUBMITTALS

A. Certificates: Submit certificates from quarries for aggregates used in fills or backfill, if such material is referenced to State Specifications, to confirm type and gradation specified.

B. Tests: The Engineer, at his option, will take soil tests and analyses for each layer of fill material placed in trenches and under pavements to determine conformance to the specifications.

Should tests indicate non-conformance with specifications, all costs incident to subsequent testing including Engineer's time, shall be the responsibility of the Contractor, and he shall bear the cost of all other tests, inspections and approvals.

C. Contractor shall provide labor to the Engineer for taking of any tests unless otherwise provided.

PART 2 - PRODUCTS AND EXECUTION

2.01 2.2 STRIPPING AND STOCKPILING TOPSOIL:

A. Topsoil, where encountered, shall be removed from all areas where excavation or filling is required. Unless otherwise specified, topsoil shall be removed to its full depth.

B. Stockpile the stripped topsoil on the project site where directed. Stockpiled topsoil shall be free from trash, brush, and stones over 1 inch in diameter, and other extraneous matter.

C. Stockpile topsoil in clear, open, well-drained area. Stockpiles shall be of such shape and size as will reduce loss by wind and water erosion to a minimum. Any surplus topsoil is the property of the NYS Parks and Recreation Department and shall, unless otherwise specified or directed by the Engineer, remain on the site.

D. Notify the Engineer 24 hours in advance of topsoil removal work to allow for an Engineering inspection of the existing dam crest once topsoil has been removed.

2.02 SHEETING, BRACING AND WATER REMOVAL

A. Furnish and maintain the necessary sheeting and shoring of all excavations and trenches. Remove same after work is completed. Temporary sheeting shall be installed wherever required to maintain the banks of excavations and trenches, for the safety of personnel and to comply with Local, County, State and Federal regulations.

B. Do all necessary pumping to keep excavations free of water.

C. Under no circumstances lay pipe or install appurtenances in water. Do all necessary pumping in connection with the work of this Section and in such manner that it will not interfere with the work of other contractors and conduct work so that water is not pumped into privately owned property. The presence of groundwater in the soil or the necessity for sheeting or bracing trenches and excavations and pumping shall not constitute a condition for which any increase may be made in the contract price.

D. Sheeting, shoring and bracing shall conform to the requirements of local, County, State and federal regulations.

2.03 ROCK EXCAVATION:

A. "Rock Excavation" shall include the removal of rock (as defined in 1.03 of this Section) which cannot be broken and removed by use of power equipment and removal of which requires drilling or the use of explosives.

B. If rock is encountered in excavation, notify the Engineer before proceeding so that an investigation can be made to prevent unnecessary rock excavation. No rock shall be removed unless authorized by the Engineer

C. Rock excavation encountered in trenches shall be executed as follows:

1. Excavate to sub grades indicated on the drawings or described in specifications and allow 2'-0" outside the neat line of valve boxes, and structures, with vertical side surfaces. Rock excavated below the level of bottom surface of structures, without the authorization, shall be replaced with concrete at the Contractor's expense.
2. For pipes, allow space at bottom of trench equal to 2'-0" wide on either side of pipe, walls to be vertical. Below pipes, excavate to 6 inches below outer bottom of pipe. Refill with bedding material (as described in 2.03 of this Section).
3. The quantity of rock excavation shall be determined by a licensed land surveyor or professional engineer employed by the Contractor, approved by the Engineer.
4. Where excavation for rock is authorized below new grades, the grades shall be brought to new grade levels with approved earth or granular material properly compacted.

2.04 EXCAVATING, FILLING AND GRADING

A. Suitable material from excavation shall be used toward formation of proposed site sub grade elevations, and in the adjustment of grades and contours shown on drawings or as may be directed by the Engineer. Filling material shall be free from debris or any material subject to decay and shall be porous, permitting free percolation of water, and shall consist of soil, gravel, and small stones, with less than 15% by volume of stone larger than 6" or greatest dimension. Material used for top 6" of sub grade below pavements, shall be non-frost susceptible with a maximum size of 3 inches and with less than 3% finer than 0.02 mm; and shall be graded within these limits.

B. Stone or broken masonry with largest dimension not exceeding 24 inches may be placed in fills provided that they are not closer than 24 inches to sub grade levels. No stone or rubble over 6 inches in greatest dimension shall be placed within 18 inches of the finished grade. Large stones shall not be placed in nests, but shall be distributed over the area and the interstices filled with spalls, finer fragments or earth to form a compact mass.

C. The work shall be performed in such manner that all deep fills are made first so that they may be afforded a maximum time for settlement.

D. Fills, other than on hill slopes, shall be placed in layers not exceeding 9" in depth under pavements and 12" under lawns and planted areas, and shall be consolidated by means of rollers weighing not less than 330 pounds per lineal inch of tread of rear wheels. In places where the character of the material makes the use of this roller impractical, other approved compacting equipment shall be used. Material in fill shall be compacted to 95% of maximum density at optimum moisture content.

E. When compaction to a percent of maximum density at optimum moisture content is specified herein, the density and moisture content shall be determined by Modified A.A.S.H.T.O. Standard T-180.

F. Cutting, filling and grading operations shall be conducted in such manner as to afford adequate and positive drainage at all times.

G. Provide clean earth for all required additional fill if a sufficient quantity of suitable material therefore is not available from the required excavation on the site. Stockpile suitable excess material at location designated by the Engineer. Remove and legally dispose of rubbish and material not suitable for fill, from the site.

H. The Contractor shall furnish, place and compact as approved, select granular fill to the line, grade, and details shown on the drawings (if applicable). Select granular fill shall be sand and consist of hard, natural, uncrusted, well rounded particles and shall be free from coatings, lumps, clay, organic matter or objectionable material and shall be uniformly graded as determined by ASTM D422. The gradation shall be as follows:

	US Standard Sieve Size	Percent Fines by Weight
1.	No. 4	100
2.	No. 6	55 to 80
3.	No. 10	40 to 60
4.	No. 30	8 to 30
5.	No. 50	0 to 10

I. The sand will not be considered acceptable if it contains more than 5 percent by volume of loam or silt.

J. No frozen soil or organic material shall be placed in any embankments and no embankment material shall be placed on a frozen surface.

2.05 FINISH GRADING OF THE SUBGRADE

A. In grass areas: all surfaces and slopes shall be brought to the required sub grade elevations by rolling with an approved machine. Tops and bottoms of slopes shall be carefully rounded off in easy transition curves. The borders of the area of ground disturbed shall be merged with surrounding surface by compacting or other measures, to permit water runoff and to present a uniform slope. The surfaces of the finished sub grade shall be maintained by depositing additional fill to take care of any settlement or erosion. The surface on which additional fill is to be deposited shall be raked or otherwise satisfactorily prepared to insure a proper bond.

2.06 FILLING HOLES CREATED BY TREE ROOTBALL REMOVAL

A. All locations where tree root balls and roots are removed shall be filled with suitable compacted fill and shall conform to the requirements of Section 2.04 - Excavating, Filling and Grading of this specification.

END OF SECTION

SECTION 31 1000
SITE CLEARING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Clearing and protection of vegetation.

B. Removal of existing debris.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

C. Section 01 5713 - Temporary Erosion and Sediment Control.

D. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products.

E. Section 01 7419 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

F. Section 31 2200 - Grading: Topsoil removal.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Site Plan: Showing:
   1. Vegetation removal limits.
   2. Areas for temporary construction and field offices.

1.04 QUALITY ASSURANCE

A. Clearing Firm: Company specializing in the type of work required.
   1. Minimum of 5 years of documented experience.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 SITE CLEARING

A. Comply with other requirements specified in Section 01 7000.

B. Minimize production of dust due to clearing operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

C. Tree and vegetation removal shall progress along the upstream side to the dam crest and then move to the downstream side. Tree removals on one side shall be completed before work begins on the next side. Contractor shall notify the Engineer once the downstream embankment has been cleared of vegetation so that an Engineering Inspection can be performed prior to seeding operations.

D. If any signs of seepage, piping, erosion or damage to the stone face are discovered during this work all work shall stop and the Engineer shall be notified immediately so the dam can be inspected prior to resuming work.

E. Tree Felling - At no time shall trees be allowed to fall down in an uncontrolled manner which might impact the dam gatehouse and embankment, vehicular and pedestrian traffic along the dam crest, the existing fence, or uproot other trees located on the stone facing.

3.02 EXISTING UTILITIES AND BUILT ELEMENTS

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Protect existing structures and other elements that are not to be removed.

3.03 VEGETATION

A. Scope: Remove trees, shrubs, brush, and stumps in areas as shown on the plans and as directed by the engineer.

B. Do not remove or damage vegetation beyond the limits indicated on drawings.

C. Install substantial tree and vegetation, highly visible barrier at least 3 feet (1 m) high to prevent inadvertent damage to vegetation to remain:
   1. At vegetation removal limits.
   2. Around trees to remain within vegetation removal limits; locate no closer to tree than at the drip line.
   3. Around other vegetation to remain within vegetation removal limits.
   4. Tree and Vegetation barrier shall be fixed so it cannot be moved easily; but the material can be flexible, such as orange snow fence attached to T-posts driven into the ground, and shall act as an effective deterrent to deliberate or accidental damage to trees or vegetation.

D. In areas where vegetation must be removed but no construction will occur other than pervious paving, remove vegetation with minimum disturbance of the subsoil.

E. Vegetation Removed: Do not burn, bury, landfill, or leave on site, except as indicated.
   1. Chip, grind, crush, or shred vegetation for mulching, composting, or other purposes; preference should be given to on-site uses.
   2. Remove existing brush, vines and shrub vegetation from the upstream side of the dam without damaging the stone facing or grout work.
   3. Trees: Sell if marketable; if not, treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches (450 mm) except at Hempstead Lake Dam stone facing. Stumps in Hempstead Lake Dam stone facing to remain.
   4. Trees on Hempstead Lake Dam stone face: Cut down trees on upstream dam embankment to within four inches of the stone facing and remove from dam.
   5. Fill holes left by removal of stumps and roots, using suitable fill material, with top surface neat in appearance and smooth enough not to constitute a hazard to pedestrians.

F. Dead Wood: Remove all dead trees (standing or down), limbs, and dry brush on entire site; treat as specified for vegetation removed.

G. Restoration: If vegetation outside removal limits or within specified protective fences is damaged or destroyed due to subsequent construction operations, replace at no cost to Owner.

3.04 DEBRIS

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 31 2200
GRADING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Finish grading.

B. Place topsoil

1.02 RELATED REQUIREMENTS

A. Section 02 3001 - Excavation, Grading and Subgrade Preparation

B. Section 32 9219 - Seeding: Finish ground cover.

1.03 QUALITY ASSURANCE

A. Perform Work in accordance with State of New York, Highway Department standards.

PART 3 EXECUTION

2.01 FINISH GRADING

A. Before Finish Grading:
   1. Verify subgrade has been contoured and compacted.

B. Remove debris, roots, branches, stones, in excess of 1/2 inch (13 mm) in size. Remove soil contaminated with petroleum products.

C. Where topsoil is to be placed, scarify surface to depth of 3 inches (75 mm).

D. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 3 inches (75 mm).

E. Place topsoil in areas where seeding are indicated.

F. Place topsoil where required to level finish grade.

G. Place topsoil to the following compacted thicknesses:
   1. Areas to be Seeded with Grass: 6 inches (150 mm).

H. Place topsoil during dry weather.

I. Remove roots, weeds, rocks, and foreign material while spreading.

J. Near plants spread topsoil manually to prevent damage.

K. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.

L. Lightly compact placed topsoil.

2.02 TOLERANCES

A. Top Surface of Subgrade: Plus or minus 0.10 foot (1-3/16 inches) (30 mm) from required elevation.

B. Top Surface of Finish Grade: Plus or minus 0.04 foot (1/2 inch) (13 mm).

END OF SECTION

SECTION 31 3700

RIPRAP

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Riprap .

PART 2 PRODUCTS

2.01 MATERIALS

A. Stone to match existing stone on dam face. Existing displaced stone on site may be used with prior approval of the Engineer.

B. Cement grout shall consist of 1 part Portland Cement Type 2 and 3 parts Concrete Sand as described in NYSDOT specifications section 733-22 RIP-RAP

PART 3 EXECUTION

3.01 PLACEMENT

A. Place geotextile fabric over substrate, lap edges and ends.

B. Place stone at stone dam face.

C. Place stone upon well compacted suitable fill. Stone to be securely fitted within adjacent existing stones. The surface of the stone shall be flush with the adjacent existing stones to remain.

D. New stone shall have the spaces in between the stones filled with cement grout.

E. Existing stones shall have empty spaces next to adjacent stones filled with cement grout.

END OF SECTION

SECTION 32 3113
CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fence framework, fabric, and accessories.

B. Manual gates and related hardware.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.

C. ASTM A392 - Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric; 2011a.

D. ASTM A428/A428M - Standard Test Method for Weight (Mass) of Coating on Aluminum-Coated Iron or Steel Articles; 2010 (Reapproved 2014).

E. ASTM A491 - Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric; 2011.

F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

G. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2015.

H. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2016a.

I. ASTM F567 - Standard Practice for Installation of Chain-Link Fence; 2014a.

J. ASTM F668 - Standard Specification for Polyvinyl Chloride (PVC) and Other Organic Polymer-Coated Steel Chain-Link Fence Fabric; 2011.

K. ASTM F1043 - Standard Specification for Strength and Protective Coatings on Steel Industrial Fence Framework; 2016a.

L. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures; 2013.

M. ASTM F1665 - Standard Specification for Poly(Vinyl Chloride)(PVC) and Other Conforming Organic Polymer-Coated Steel Barbed Wire Used with Chain-Link Fence; 2008 (Reapproved 2013).

N. CLFMI CLF 2445 - Product Manual; 1997.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on fabric, posts, accessories, fittings and hardware.

C. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, and schedule of components.

D. Samples: Submit two samples of fence fabric, 24 inch (____ mm) by 24 inch (____ mm) in size illustrating construction and colored finish.

E. Manufacturer's Installation Instructions: Indicate installation requirements, post foundation anchor bolt templates, and other information required per manufacturer.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Chain Link Fences and Gates:
   1. Master-Halco, Inc; website: www.masterhalco.com or approved equal
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 MATERIALS

A. Posts, Rails, and Frames: ASTM F1083 Schedule 40 hot-dipped galvanized steel pipe, welded construction, minimum yield strength of 30 ksi (205 MPa).

B. Posts, Rails, and Frames: Formed from hot-dipped galvanized steel sheet, ASTM A653/A653M, HSLAS, Grade 50, with G90 (Z275) zinc coating.

C. Wire Fabric: ASTM A392 zinc coated steel chain link fabric.

D. Concrete shall meet the requirements of NYSDOT Item 555.0105 (Class A concrete)

E. In locations where the existing posts are being retained, new posts being placed over the existing posts shall be ASTM F1083 Schedule 40 hot-dipped galvanized steel pipe, welded construction, minimum yield strength of 30 ksi (205 MPa). New posts shall be the smallest diameter possible that will fit over the existing posts to remain. The new post shall be 6 feet high.

2.03 COMPONENTS

A. Line Posts: 1.9 inch (48 mm) diameter.

B. Corner and Terminal Posts: 2.38 inch (60 mm).

C. Gate Posts: 3.5 inch (89 mm) diameter.

D. Top and Brace Rail: 1.66 inch (42 mm) diameter, plain end, sleeve coupled.

E. Gate Frame: 1.66 inch (42 mm) diameter for welded fabrication.

F. Fabric: 2 inch (51 mm) diamond mesh interwoven wire, 6 gage, 0.1620 inch (4.12 mm) thick, top selvage knuckle end closed, bottom selvage twisted tight.

G. Tension Wire: 6 gage, 0.1620 inch (4.12 mm) thick steel, single strand.

H. Tension Band and Strap per the manufacturers recommendations.

I. Tie Wire: Aluminum alloy steel wire.

2.04 ACCESSORIES

A. Caps: Cast steel galvanized; sized to post diameter, set screw retainer.

B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; steel.

C. Hardware for Single Swinging Gates: 180 degree hinges, 2 for gates up to 60 inches (1525 mm) high, 3 for taller gates; fork latch with gravity drop and padlock hasp; keeper to hold gate in fully open position.

D. Hardware for Double Swinging Gates: 180 degree hinges, 2 for gates up to 60 inches (1525 mm) high, 3 for taller gates; drop bolt on inactive leaf engaging socket stop set in concrete, active leaf latched to inactive leaf preventing raising of drop bolt, padlock hasp; keepers to hold gate in fully open position.

2.05 FINISHES

A. Components and Fabric: Vinyl coated over coating of 1.8 oz/sq ft galvanizing (over coating of 550 g/sq m galvanizing).

B. Hardware: Hot-dip galvanized to weight required by ASTM A153/A153M.

C. Accessories: Same finish as framing.

D. Color(s): Black.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install framework, fabric, accessories and gates in accordance with ASTM F567.

B. Place fabric on outside of posts and rails.

C. Set intermediate posts plumb, in concrete footings with top of footing 2 inches above finish grade. Slope top of concrete for water runoff.

D. Line Post Footing Depth Below Finish Grade: ASTM F567.

E. Corner, Gate and Terminal Post Footing Depth Below Finish Grade: ASTM F567.

F. Brace each gate and corner post to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail one bay from end and gate posts.

G. Provide top rail through line post tops and splice with 6 inch (150 mm) long rail sleeves.

H. Install center brace rail on corner gate leaves.

I. Do not stretch fabric until concrete foundation has cured 28 days.

J. Stretch fabric between terminal posts or at intervals of 100 feet (30 m) maximum, whichever is less.

K. Position bottom of fabric 2 inches (50 mm) above finished grade.

L. Fasten fabric to top rail, line posts, braces, and bottom tension wire with tie wire at maximum 15 inches (380 mm) on centers.

M. Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.

N. Install bottom tension wire stretched taut between terminal posts.

O. Engineer shall be sole judge as to whether an existing fence post shall remain and be reused.

P. New posts that are being installed over existing posts shall be placed on top of existing posts and then slid down so the entire existing post is covered. Contractor shall not damage the existing post.

Q. New posts that are being installed in locations where the existing posts are not present shall be installed into the cap stone of the dam and the resulting void shall be filled with non-shrink grout sloped away from the post. Post embedment shall be per the manufacturers recommendations.

R. Do not attach the hinged side of gate to building wall; provide gate posts.

S. Install hardware and gate with fabric and barbed wire overhang to match fence.

T. Provide concrete center drop to footing depth and drop rod retainers at center of double gate openings.

U. Install gate locking device as directed by the Engineer.

3.02 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch (6 mm).

B. Maximum Offset From True Position: 1 inch (25 mm).

C. Components shall not infringe adjacent property lines.

END OF SECTION

SECTION 32 9219
SEEDING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preparation of subsoil.

B. Placing topsoil.

C. Seeding

D. Maintenance.

1.02 RELATED REQUIREMENTS

A. Section 31 2200 - Grading: Topsoil material.

B. Section 31 2200 - Grading: Preparation of subsoil and placement of topsoil in preparation for the work of this section.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Topsoil samples.

C. Maintenance Data: Include maintenance instructions, cutting method and maximum grass height; types, application frequency, and recommended coverage of fertilizer.

D. Maintenance Contract.

1.04 REGULATORY REQUIREMENTS

A. Comply with regulatory agencies for fertilizer and herbicide composition.

B. Provide certificate of compliance from authority having jurisdiction indicating approval of seed mixture.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable. Deliver seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.

B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

PART 2 PRODUCTS

2.01 SEED MIXTURE

A. Seed Mixture shall be:

DESCRIPTION GRASSES	MINIMUM PURITY	MINIMUM GERMINATION	PURE LIVE SEED RATE PER ACRE
SCHIZACHYRIUM SCOPARIUM (Little Blue Stem)	70%	75%	6 lbs.
ANDROPOGON GERARDI (Big Blue Stem)	70%	75%	3 lbs.
PANICUM VIRGATUM (Swith Grass)	95%	75%	2 lbs.
SORGASTRUM NUTANS (Indian Grass)	70%	75%	3 lbs.

ANNUAL RYE - Applied by broadcasting/hydroseeding as specified	95%	90%	75 lbs.

2.02 SOIL MATERIALS

A. Topsoil is subject to the testing protocols and approval of the Engineer. The topsoil shall be a sandy loam as classified by the U.S. Department of Agriculture and shall be free of refuse, hard clods, woody vegetation, stiff clay, construction debris (of any kind), boulders, stones larger than 1 ½" inches, chemicals, or other deleterious material toxic to any vegetation used on this site.

B. Topsoil shall have a minimum organic content of 3 percent and a maximum of 5 percent. If the source soil requires amendment to meet the topsoil organic content requirement, leaf compost will be the only approved admixture. No soil mixing shall be permitted during or after topsoil placement. Topsoil shall be tested for compliance with Contract Specifications and submitted for approval prior to delivery to the site.

C. The organic content of soils shall be determined by a laboratory using the loss on ignition method as specified in the "Soil Testing Procedures for The Northeastern United States, 2nd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware, Bulletin #493, 12/95".

D. The gradation of topsoil shall be determined by a laboratory using the Buoyoucous Hydrometer Analysis conforming to the methodology of the most current ASTM D422. The gradation of the topsoil as determined by USDA classifications shall be within the following ranges:

Ranges	0-8% Gravel 75-85% Sand 10-15% Silt 5-10% Clay

Classification/sieve size	2" to 2.0 mm	gravel
	2.0 mm to 0.5 mm	sand
	0.5 mm to 0.002 mm	silt
	< .002 mm	clay

E. In addition to the above gradation, the Contractor shall provide the percentage of particle sizes corresponding to U.S.D.A. classifications:
   1. Very coarse sand (2.0 mm to 1.0 mm)
   2. Coarse sand (1.0 to .5 mm)
   3. Medium sand (.5mm To .25 mm)
   4. Fine sand (.25 to .1 mm)
   5. Very fine sand (.1 to .05 mm)
   6. Silt (.05 to .002 mm)
   7. Clay (<.002 mm)

F. The pH value of topsoil shall be (5-7.0) as determined by an approved Laboratory using soil pH (Water (1:1, V:V)) procedures as specified in the "Soil Testing Procedures for The Northeastern United States, 2nd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware, Bulletin #493, 12/95". Amendment of soil to lower pH to meet Contract requirements is not permitted.

G. The soluble salt value of the topsoil shall be (0-.4mmhos cm-1) as determined by an approved Laboratory using the soluble salt (1:1(V:V) procedures as specified in the "Soil Testing Procedures for The Northeastern United States, 2nd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware, Bulletin #493, 12/95".

H. The value for Macro (N, P, K) and Micro Nutrients (Mg, Ca, Mn, Zn, Cu and B) shall be as outlined below as determined by an approved laboratory using the procedures as specified in the "Soil Testing Procedures for The Northeastern United States, 2nd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware, Bulletin #493, 12/95".
   1. N- Total Kjedahl Nitrogen range is 0.1% to 0.13% (with nitrate (NO-3) form of nitrogen not to exceed 6 ppm of total)
   2. P- Acceptable range is 20 lbs/acre to 85 lbs/acre
   3. K- Acceptable range is 70 lbs/acre to 200 lbs/acre
   4. Ca- Acceptable range is 400 lbs/acre to 1400 lbs/acre
   5. Mg-Acceptable range is 200 lbs/acre to 300 lbs/acre
   6. Mn-Acceptable range is 2 ppm to 30 ppm
   7. B-Acceptable range is 0.8 ppm to 2.3 ppm
   8. Cu-Acceptable range is 0.1 ppm to 6 ppm
   9. Z- Acceptable range is 1 ppm to 10 ppm

I. A Soil Sulfate -S test is required to determine the potential for decreases in soil pH after oxidation. The pH value of the solution shall be greater than 4.5 as determined by an approved laboratory using the soil sulfate -S content procedures as specified in the "Soil Testing Procedures for The Northeastern United States, 2nd Edition, Northeast Region Publication, Agricultural Experiment Station, University of Delaware, Bulletin #493, 12/95". Topsoil shall not contain any traces of hydrocarbons, petroleum products, chemically prohibited substances or any other elements considered to be toxic to any vegetation used on this site (see Chemical Testing Section of the Specification from Contract No. LF - FAL - G4.).

2.03 ACCESSORIES

A. Mulching Material: Oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are not acceptable.

B. Mycorrihizal Inoculant & Fertilizer
   1. Natural Biofertilizer/Mycorrhizal Inoculant shall be MycroApply All Purpose Granular, as manufactured by Mycorrhizal Applications, Inc, (866) 474-7800, www.mycorrhizae.com <http://www.mycorrhizae.com>, or approved equal., or approved equal. Biofertilizer/ Mycorrhizal Inoculant shall have the following composition:
      a. High Quality Slow Release Organic Fertilizer
         1) Total Nitrogen 3%
         2) Available Phosphoric Acid (P2O5) 1%
         3) Soluble Potash (K2O) 1%
      b. Mycorrhizal Inoculant
         1) Endomycorrhizal fungi (30,000 spores/lb):
            (a) Glomus intraradices, Glomus mosseae, Glomus aggregatum, Glomus etunicatum, Glomus clarum, Glomus deserticola, Glomus monosporum, Paraglomus brasilianum, Gigaspora margarita.
         2) Ectomycorrhizal fungi (140 million spores/lb.):
            (a) Rhizopogon villosullus, Rhizopogon luteolus, Rhizopogon amylopogon, Rhizopogon fulvigleba, Pisolithus tinctorius, Scleroderma Cepa and Scleroderma citrinum.
      c. Bacteria (6 billion cfu/lb.)
         1) Bacillus subtilus, B.acillus licheniformis, Bacillus pumpulis, Bacillus amyloliquefaciens and Bacillus megatarium
   2. Submittals
      a. Prior to the procurement and delivery of Biofertilizer/Mycorrhizal Inoculant, the following information and samples are required for review and approval for each source:
         1) The Contractor shall furnish a product specification sheet or certified report from an approved testing laboratory, showing a full analysis of a representative

sample of the Biofertilizer/Mycorrhizal Inoculation that is proposed to be used. The fertilizer shall not contain Animal or Poultry Manure.

2) The Contractor shall provide a list of application equipment, the method of operation and schedule.

3) The Contractor will provide the Engineer a 1-lb. sample of each type of Biofertilizer/Mycorrhizal Inoculant 2 weeks prior to the start of the application, unless otherwise approved by the Engineer.

3. Execution

a. Biofertilizer/Mycorrhizal inoculation shall be limited to conditions in which the temperature of the inoculum may be kept below 90? F and above 32? F at all times.

b. Biofertilizer/Mycorrhizal inoculum shall be stored and transported out of direct sunlight and in all cases prevented from rising above 90? F.

c. Topsoil shall not be compacted or made smooth and level after the inoculation. All operations are to be performed in the presence of the Engineer. All empty containers of the fungi shall be turned in at the end of each day for verification of use.

d. There shall be no exceptions in the application of these materials.

e. Biofertilizer/Mycorrhizal Inoculant application rates may be increased or decreased should the soil test results indicate a deficiency or excess in any specific nutrient(s).

f. Biofertilizer/Mycorrhizal Inoculant shall arrive at site in original unopened bags. Each fully labeled, conforming to the name or trademark and warranty of the producer.

g. Biofertilizer/Mycorrhizal Inoculant shall be packed in the manufacturer's standard containers weighing not more than 100 pounds each. The name of the material, net weight of contents and the manufacturer's name and guaranteed analysis shall appear on each container. The Engineer reserves the right to reject any material that has become caked or otherwise damaged. If the material is not used immediately after delivery, it shall be stored in a dry place in such manner that its effectiveness will not be impaired.

h. Application Rates:

1) Grasses - All seeded areas shall be inoculated with the vegetation specific Biofertilizer/Mycorrhizal Inoculant. Inoculation shall be thoroughly incorporated into the soil immediately prior to or during seeding. The Contractor shall do the following:

(a) (175) One Hundred seventy-five pounds of the specific Biofertilizer/Mycorrhizal Inoculant for the native warm season grasses/wildflowers per acre.

(b) Biofertilizer/Mycorrhizal Inoculant application shall be carried out before or during seeding and incorporated thoroughly into the top 4" of the topsoil.

C. Water: Clean, fresh and free of substances or matter that could inhibit vigorous growth of grass.

D. Erosion Control Blanket: Shall be Bionet R 5150BNR short term biodegradable bionet straw blanket as manufactured by North American Green or approved equal.

1. Shall contain 100% straw fiber matrix stitched between biodegradable top and bottom nets.
2. Blanket shall offer up to 12 months of erosion control and vegetation support.
3. Blankets shall be installed as per manufacturer's instructions.
4. All fasteners shall be included.

E. Stakes: Softwood lumber, chisel pointed.

F. String: Inorganic fiber.

2.04 TESTS

A. Provide analysis of topsoil fill under provisions of Section 01 4000.

B. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.

C. Submit minimum 10 oz (280 g) sample of topsoil proposed. Forward sample to approved testing laboratory in sealed containers to prevent contamination.

D. Testing is not required if recent tests are available for imported topsoil. Submit these test results to the testing laboratory for approval. Indicate, by test results, information necessary to determine suitability.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that prepared soil base is ready to receive the work of this Section.

3.02 PREPARATION

A. Prepare subgrade in accordance with Section 31 2200.

B. Place topsoil in accordance with Section 31 2200.

3.03 FERTILIZING

A. Apply fertilizer in accordance with manufacturer's instructions.

B. Apply after smooth raking of topsoil and prior to roller compaction.

C. Do not apply fertilizer at same time or with same machine as will be used to apply seed.

D. Mix thoroughly into upper 2 inches (50 mm) of topsoil.

E. Lightly water to aid the dissipation of fertilizer.

3.04 SEEDING

A. Apply seed per manufacturers directions. Seeding rate 40 pounds per acre. Rake in lightly.

B. Seed from October to May.

C. Do not seed areas in excess of that which can be mulched on same day.

D. Do not sow immediately following rain, when ground is too dry, or during windy periods.

E. Immediately following seeding and compacting, apply mulch to a thickness of 1/8 inches (3 mm). Maintain clear of shrubs and trees.

F. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches (100 mm) of soil.

G. Following germination, immediately re-seed areas without germinated seeds that are larger than 4 by 4 inches (100 by 100 mm).

3.05 PROTECTION

A. Identify seeded areas with stakes and string around area periphery. Set string height to 12" . Space stakes at 72 inches (____ mm) unless otherwise directed by the Engineer.

B. Cover seeded slopes where grade is 4 inches per foot (____ mm per m) or greater with erosion control blanket as specified in accordance with manufacturer's instructions and as directed herein. Roll fabric onto slopes without stretching or pulling.

C. Lay fabric smoothly on surface, bury top end of each section in 6 inch (150 mm) deep excavated topsoil trench. Provide 12 inch (300 mm) overlap of adjacent rolls. Backfill trench and rake smooth, level with adjacent soil.

D. Secure outside edges and overlaps at 36 inch (900 mm) intervals with stakes.

E. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches (150 mm).

3.06 MAINTENANCE

A. Provide maintenance at no extra cost to Owner; Owner will not pay for water.

B. See Section 01 7000 - Execution Requirements, for additional requirements relating to maintenance service.

C. Maintain seeded areas immediately after placement until grass is well established and exhibits a vigorous growing condition.

D. Mow grass at regular intervals to maintain at a maximum height of 2-1/2 inches (65 mm). Do not cut more than 1/3 of grass blade at any one mowing.

E. Neatly trim edges and hand clip where necessary.

F. Immediately remove clippings after mowing and trimming.

G. Water to prevent grass and soil from drying out.

H. Roll surface to remove minor depressions or irregularities.

I. Control growth of weeds. Apply herbicides in accordance with manufacturer's instructions. Remedy damage resulting from improper use of herbicides.

J. Immediately reseed areas that show bare spots.

K. Protect seeded areas with warning signs during maintenance period.

END OF SECTION

SECTION 33 1256

TURBIDITY CURTAIN

PART 1 - GENERAL

1.01 THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, REPAIRING, MAINTAINING, AND REMOVING TURBIDITY CURTAINS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND AS DIRECTED BY THE ENGINEER.

PART 2 - PRODUCTS

2.01 THE TURBIDITY CURTAIN SHALL BE A COMMERCIALLY AVAILABLE, PREASSEMBLED SYSTEM, INCLUDING A GEOTEXTILE, FLOTATION SYSTEM, BOTTOM WEIGHT, AND ANCHORING AND SECURING MECHANISM. IF ASSEMBLED IN PANELS, IT SHALL INCLUDE A SECURE MECHANISM FOR JOINING PANELS TOGETHER.

2.02 CURTAIN GEOTEXTILES SHALL BE FROM INDIAN VALLEY INDUSTRIES, INC.

IVI 66 TURBIDITY CURTAIN

NTPEP (GTX): 2015-01-226

AASHTO Strength Class/Structure: 1/NP - NW

OR AN APPROVED EQUAL.

A. Hemmed pockets shall be sewn or heat bonded to contain flotation material, bottom weights, and for anchor lines. The flotation material shall maintain buoyancy if punctured or cut. The bottom weight shall be sufficient to hold the curtain in a vertical position. For sites not subject to tidal or heavy wave action, the curtain shall be capable of molding to conform to bottom contours so that suspended sediment is prevented from escaping underneath the curtain.

B. Anchorage lines shall be provided of sufficient strength and number to support the curtain and maintain it in position under normally expected conditions. End anchors shall be provided, with intermediate anchor points (for stakes or anchors) such that unanchored spans do not exceed 100 feet, sufficient to maintain the turbidity curtain in place. Where the turbidity curtain is constructed in panels, anchor-line and shackle connections securing the panels together shall be sufficient for normally expected current, wind, or wave conditions.

PART 3 - EXECUTION

3.01 SYSTEMS REQUIREMENTS.

A. For sites not subject to tidal or heavy wave action the curtain height shall provide sufficient slack to allow the top of the curtain to rise to the maximum expected high-water level (including waves) while the bottom maintains continuous contact with the bottom of the water body. The bottom edge of the curtain shall have a weight system capable of holding the bottom of the curtain down and conforming to the bottom of the water body, so as to prohibit escape of turbid water under the curtain.

B. For sites subject to tidal or heavy wave action, the curtain height shall provide sufficient slack to allow the top of the curtain to rise to the maximum expected high-water level (including waves) while the bottom remains 12 inches above the bottom. The weight system shall hold the lower edge of the curtain in place so as to allow 12 inches of clearance above the bottom at mean low water, so that the curtain does not stir up sediment by repeatedly striking the bottom.

C. If constructed in panels, panels shall be connected in such a manner as to prevent suspended particles passing through joints. Load lines shall be connected so as to develop the full strength of the line across the joint.

D. Flotation material shall be arranged so as to be flexible and to provide continuous support.

E. The flotation and curtain top shall be such as to provide a minimum of 4 inches of freeboard along the entire length of the curtain, to prohibit escape of turbid water over the top.

3.02 INSTALLATION

A. The turbidity curtain shall be installed as shown in the contract documents in accordance with the manufacturer's instructions. It shall be placed as close to the site of disturbance as possible without interfering with construction activity.

B. Turbidity curtain shall be installed and maintained in a manner that precludes entry of equipment, other than hand-held equipment or boats, to the water body outside the protected area.

C. The fully assembled turbidity curtain shall be prepared for installation by being furled and tied at intervals of 5 feet for the length of the curtain. It shall be placed and secured in the furled condition, then released to allow the bottom edge to sink.

D. At sites subject to tidal or heavy wave action, adjustment lines may be used to achieve the required height of the curtain.

E. At sites not subject to tidal or heavy wave action, excess curtain material shall lay on the bottom, away from construction activity.

F. Turbidity curtain shall be placed as nearly as possible parallel to current flow. It shall not be deployed across a flowing water course.

G. The ends of the installation shall be anchored securely well up the bank. Intermediate anchors of a type and number sufficient to hold the curtain in place under expected conditions shall be placed, and firmly fastened to the top of the curtain assembly. Maximum spacing between anchorage points shall not exceed 100 feet.

H. In situations with flow velocities that exceed 5 feet/sec use a redirection barrier. The redirection barrier shall be installed prior to installation of the turbidity curtain wherever possible, and care should be exercised in order to minimize disturbance of the bottom of the water body during installation of the redirection barrier.

3.03 MAINTENANCE

A. The turbidity curtain shall be inspected daily, with additional monitoring of performance during storms or significant flow events.

B. Any visible plume of cloudy water passing beyond the curtain from the enclosed construction area shall constitute inadequate performance of the turbidity curtain. The Contractor shall immediately modify, adjust, or repair any portion of the turbidity curtain to correct inadequate performance.

C. The turbidity curtain shall remain in place until the protected construction activities have ceased and the turbidity of the water enclosed is reduced to acceptable levels. The curtain shall be removed within 72 hours of this condition being met.

D. Removal
   1. The turbidity curtain shall be removed in such a way as to minimize release of sediment.
   2. Sediment behind the curtain shall be removed before removal of the curtain, if directed by the Engineer. If so, any resulting turbidity shall be allowed to settle before removal proceeds.

E. Basis for Payment
   1. The bid price shall include the cost of furnishing all labor, materials, and equipment necessary to satisfactorily complete the work, including redirection barrier and the cost of removal associated with the removal of accumulated sediment.
   2. Progress payments of fifty percent of the price bid will be paid after installation, and the remaining percentage will be paid when the turbidity curtain is removed.
   3. Payment will not be made for work which is attributed to the Contractor's negligence, carelessness or failure to install temporary or permanent controls in accordance with the contract documents.

END OF SECTION

SECTION 46 4600

SEDIMENT REMOVAL ON DAM FACING

PART 1 - GENERAL

1.01 WORK INCLUDED

A. See Specification 011000 "Summary".

B. After the existing trees have been trimmed and removed from the dam stone facing, the Contractor shall remove the existing built-up organic material and sediment along the entire dam facing area.

C. The Contractor shall manage his operations so as not to affect Hempstead Lake and the associated dam.

D. The Contractor shall remove all interfering fencing fabric in the vicinity of their operations, temporary storage, and reinstallation of fabric upon completion of work.

E. The Contractor shall be also responsible for site safety, access, traffic control and protection of existing facilities, features, the dam facing and structures at all times.

1.02 REFERENCE STANDARDS

A. New York State Department of Environmental Conservation (NYSDEC) Standards.

B. State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Site Storm Water Runoff.

1.03 QUALITY ASSURANCE

A. All work described in these specifications or shown on drawings, and all work necessary to completely finish work as described or shown, shall be performed in a professional manner.

B. All work shall be done by persons who are thoroughly experienced and trained in their particular trade or craft.

1.04 SITE CONDITIONS

A. Protect existing buildings, dam facing, landscaping, walks, roads, fences, drives, utilities, and other features from damage from work.

B. In event of damage, immediately make all repairs and replacements necessary subject to approval of ENGINEER and at no additional cost to the NYS Parks Department.

1.05 MATERIAL TO BE REMOVED

A. The material to be removed is accumulated loose organic material and sediments (including trash and rocks if encountered).

B. Existing tree stumps in the stone facing are to remain in place.

1.06 DAM FACING

A. Sediment removal adjacent to the dam facing shall be done in a matter that no undermining or damage shall be done to the dam. Any damage that occurs due to the Contractor's operations shall be restored at his expense.

B. 1.08 ENVIRONMENTAL PROTECTION REQUIREMENTS

1. Provide and maintain during the life of the contract, environmental protective measures. Also, provide environmental protective measures required to correct conditions, such as oil spills or debris, which occur during the sediment removal operations.

PART 2 - PRODUCTS

2.01 NONE

PART 3 - EXECUTION

3.01 PREPARATION

A. Protect the existing stone dam surface and tree stumps, structures, or other items that are not designated on Drawings to be removed.

B. PERMITS:
   1. New York State DEC SPDES Notice-of-Intent: This permit has been secured.
   2. Verify with ENGINEER that all permits to do the Work are obtained.
   3. Dispose of all excavated and excess materials. Comply with laws and regulations regarding transportation and disposal of all materials. New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) has first right to all excess materials of salvageable items. If the NYSOPRHP does not want these materials, it will become the CONTRACTOR'S responsibility to remove them off site. The NYSOPRHP will take no responsibility if the CONTRACTOR fails to comply with State of New York laws with his disposal of materials.

C. Proposed sediment removal method shall be approved by the Engineer prior to commencement of this work.

D. The Contractor shall notify the Engineer 24 hours prior to commencing sediment removal and as work progresses to allow for periodic Engineering inspection of the upstream dam embankment as the stone is exposed.

3.02 CONDUCT OF SEDIMENT REMOVAL WORK

A. Order of Work: The order of work for the removal of all loose organic material and sediment shall be performed from the top of the dam longitudinally and continue downwards to the toe of the dam facing to the limits as depicted in the contract plans or as directed by the engineer. The NYSOPRHP reserves the right to change the limits or order of work at any time.

B. Equipment: Maintain the sediment removal equipment to meet the requirements of the work. No Heavy equipment will be permitted on the stone facing at any time. No high pressure water jetting shall be permitted.

C. Stone Facing: where existing stone facing is missing, or has been damaged shall be replaced in kind. Should it be determined that immediate repairs are needed for the stone facing, the Contractor shall comply.

D. Safety of Structures: The prosecution of work shall ensure the stability of the Hempstead Lake Dam stone facing, remaining tree stumps, and other structures lying on or adjacent to the site of the work, insofar as stone dam facing may be jeopardized by sediment removal operations. Repair all damage in kind that has resulted from removal operations. All costs associated with the repaired damage from sediment removal operations shall be the responsibility of the contractor.

3.03 HEALTH AND SAFETY

A. The CONTRACTOR is responsible to determine health and safety requirements sufficient to provide for employee and public protection.

B. CONTRACTOR shall comply with all federal, State of New York, and New York State Parks Department regulations, and with any site specific safety plans.

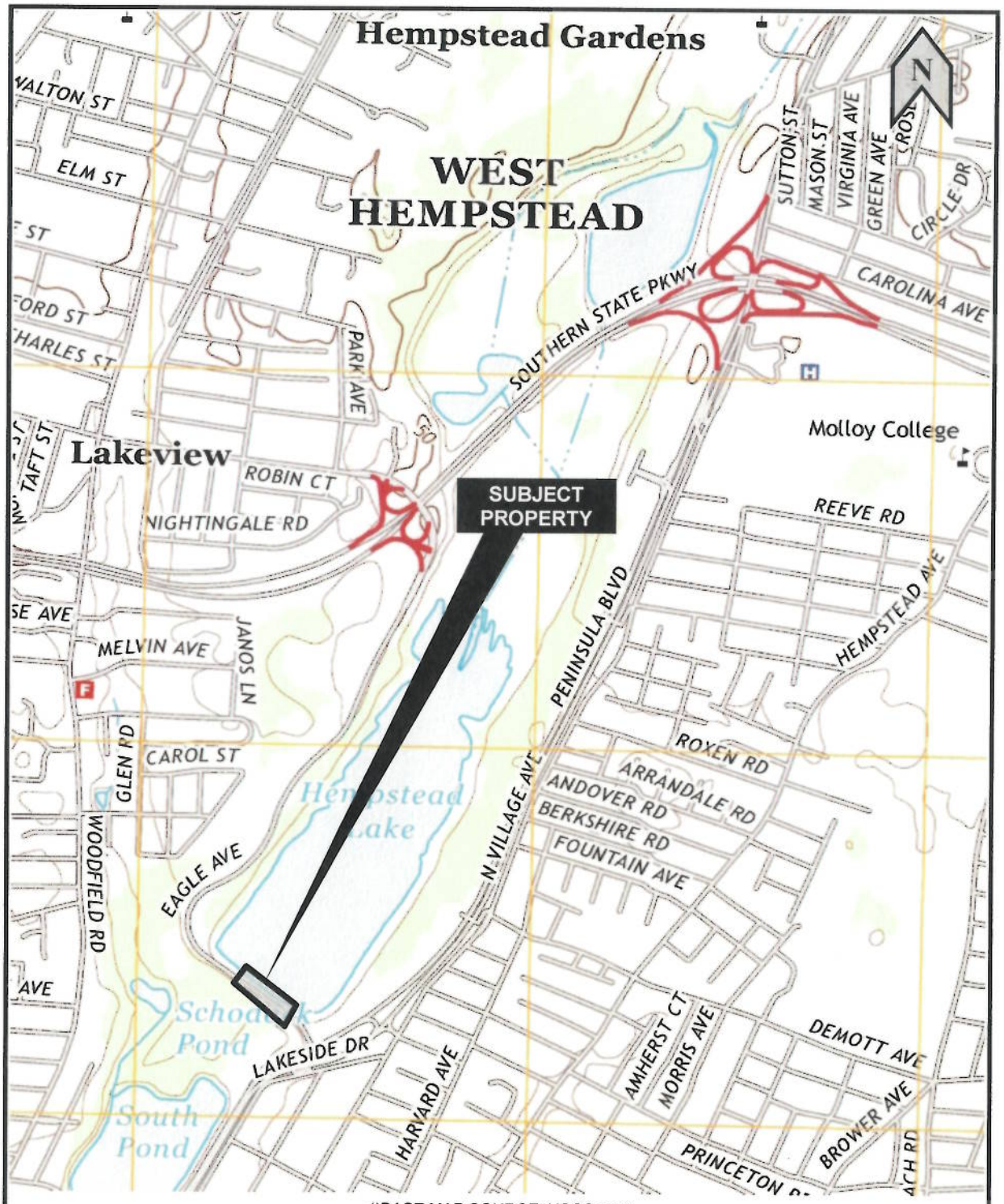
C. At end of each working day, the contractor is responsible for securing the site from access.

D. The contractor is responsible to maintain the structural integrity of the existing dams at Hempstead Lake and South Pond at all times. Work upon the dams shall be performed in accordance with the NYS Department of Conservation Dam Safety Standards and Permit Requirements.

E. If the structural integrity of Hempstead Lake Dam is in question or dam failure is imminent, the contractor shall notify the park manager and the engineer IMMEDIATELY and the emergency action plan shall be implemented as appropriate.

END OF SECTION

BORING LOCATIONS, LOGS & DATA



(*BASE MAP SOURCE: USGS.gov)

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Consulting, Municipal & Environmental Engineers
Planners ▪ Surveyors ▪ Landscape Architects

New Jersey New York Pennsylvania Virginia
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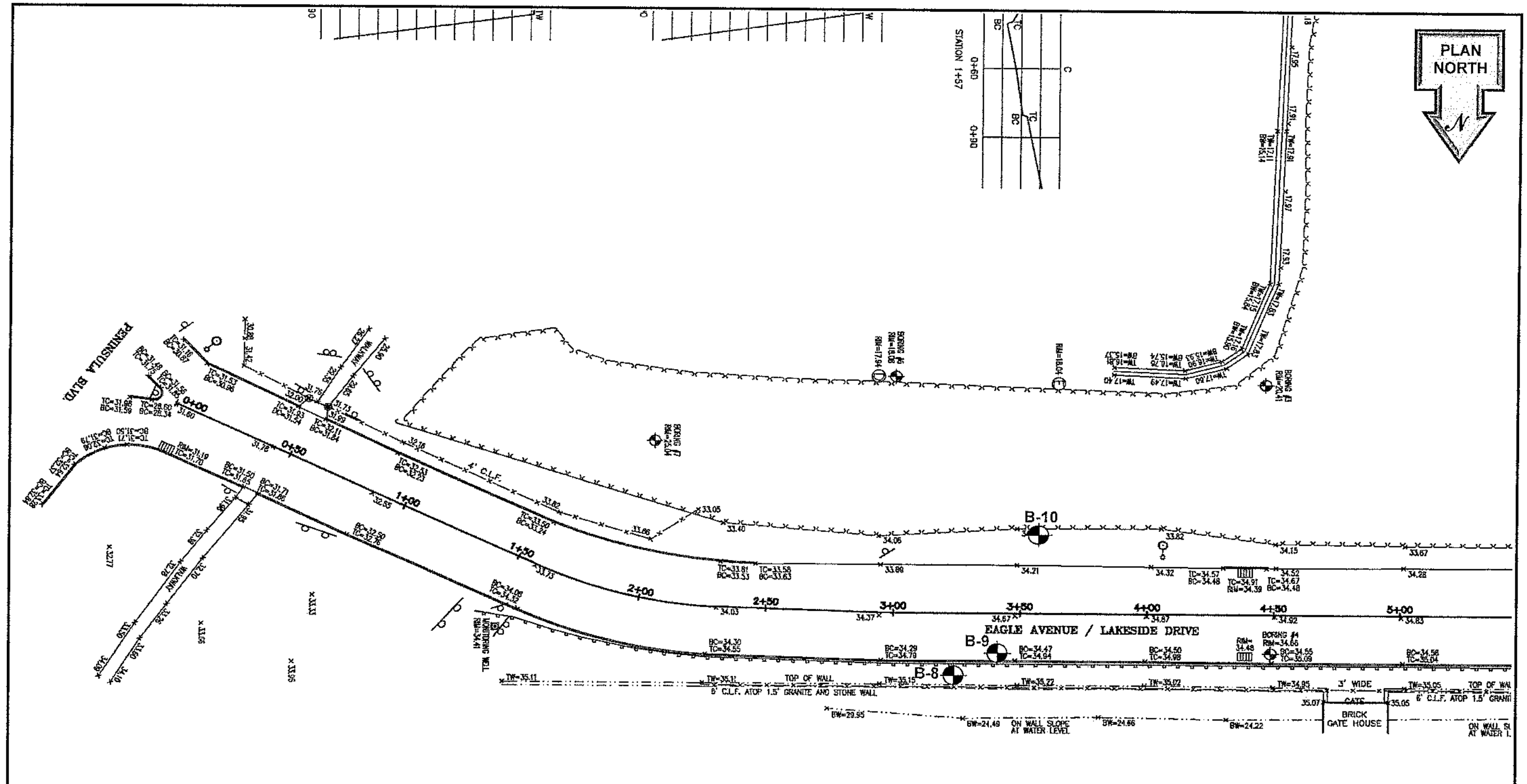
TITLE: SITE LOCATION MAP			
PROJECT: **HEMPSTEAD LAKE DAM REHABILITATION** HEMPSTEAD LAKE STATE PARK NASSAU COUNTY, NEW YORK			
DRAWN BY: *	CHECKED BY: JCW	PROJECT NO.: 15001353A	
SCALE: N.T.S.	DATE: 10/28/2015	FIGURE NO.: 1	



LEGEND:

B-1 INDICATES THE NUMBERS AND APPROXIMATE LOCATIONS OF TEST BORINGS PERFORMED FOR THIS STUDY.

NOTES:

1.) *SURVEY PLAN PREPARED BY LOCKWOOD, KESSLER, & BARTLETT, INC. ENTITLED "PARTIAL TOPOGRAPHICAL SURVEY OF HEMPSTEAD STATE PARK" DATED APRIL 19, 2010.

2.) THIS DRAWING IS PART OF MASER'S GEOTECHNICAL REPORT (PROJECT NO. 15001353A) DATED OCTOBER 2015 AND SHOULD ONLY BE USED IN CONJUNCTION WITH THE

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TITLE: EXPLORATION LOCATION PLAN		
PROJECT: DAM REHABILITATION HEMPSTEAD LAKE TOWN OF HEMPSTEAD, NASSAU COUNTY, LONG ISLAND, NEW YORK		
		DATE:
PROFESSIONAL ENGINEER: JOHN C. WALTON, P.E.		LICENSE NO.: 85339
DRAWN BY: *	CHECKED BY: JCW	PROJECT NO.: 15001353A
SCALE: N.T.S.	DATE: 10/08/2015	FIGURE NO.: 2

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Project: DAM REHABILITATION - HEMPSTEAD LAKE
Location: TOWN OF HEMPSTEAD, NASSAU COUNTY, LONG ISLAND, NEW YORK
Number: 15001353A

BORING B-08

Date Started: 9/28/15
Date Completed: 9/28/15
Drilling Contractor: Soil Testing, Inc.
Driller: Matt DeAngelo
Equipment: CME-550
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Ground Surface Elevation (ft.): 35
Datum: Topo

Groundwater:	Depth (ft.)	Date
First Encountered ▽	15	9/28/2015
End of Drilling (0 Hrs.) ▼	NR	9/28/2015
After Drilling (≥ 24 Hrs.) ▼		

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft.)	ELEVATION (ft.)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS (per 6 in.)	N-VALUE	REMARKS
	Brown, mf SAND, little mf Gravel, little Silt (1)	0	35.0	S-01	18	13-10-11-8	21	
	Orange-brown, brown, cmf SAND, little mf Gravel (3)			S-02	18	8-8-8-8	16	
	Orange-brown, brown, cmf SAND, little f Gravel; occasional brown seam (4)							
	Tan, orange-brown, cmf SAND, little f Gravel, trace Silt (8)	5	30.0	S-03	18	3-5-9-9	14	
				S-04	18	6-7-6-7	13	
	Brown, cmf SAND, little mf Gravel, little Clay (Moist) (9)			S-05	18	6-7-6-6	13	
	Tan, light brown, cmf SAND, little mf Gravel, little Clay (Moist) (10)	10	25.0					
	Tan, orange-brown seams, cmf SAND, little mf Gravel, trace Silt (14)			S-06	18	3-3-3-4	6	
				S-07	18	3-3-4-6	7	
	Light brown, orange-brown, dark brown, cmf SAND, little mf Gravel, trace Silt (Moist to Wet) (16)	15	▽ 20.0	S-08	18	3-4-4-3	8	
	Dark brown, cmf SAND, some mf Gravel, little Silt (Wet) (18)			S-09	24	3-2-3-4	5	
	Light brown, cmf SAND, some mf Gravel (Wet)	20	15.0	S-10	14	5-6-4-6	10	

(Continued Next Page)

Logged By: MJC Checked By: JCW

Notes: Boring performed between gaurd rail and fence; 65 inches from fence and face of guard rail, and 150 feet from pump house. Borehole tremie-grouted to surface.

BORING B-08
PAGE 1 OF 2

MASER BORING - KZA DATA TEMPLATE.GDT - 10/27/15 13:07 - N:\MVCAD01\GEOTECH\GINT\PROJECTS\15001353A HEMPSTEAD LAKE.GPJ

MASER CONSULTING P.A.
New Jersey New York Pennsylvania Virginia
Customer Loyalty through Client Satisfaction

Project: DAM REHABILITATION - HEMPSTEAD LAKE
Location: TOWN OF HEMPSTEAD, NASSAU COUNTY, LONG ISLAND, NEW YORK
Number: 15001353A

BORING B-08

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft.)	ELEVATION (ft.)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS (per 6 in.)	N-VALUE	REMARKS
		20	15.0					
	Light brown, cmf SAND, some mf Gravel (Wet) *(continued)*							
	23							
	Light brown, dark brown, cmf SAND, some mf Gravel, trace Wood and Rock Fragements (Wet)			S-11	18	4-2-3-17	5	
		25	10.0					
	28							
	Light brown, dark brown, cmf SAND, some mf Gravel, trace Cinders, trace Wood and Rock Fragements (Wet)			S-12	18	14-24-63-50/2"	87	
		30	5.0					
	33							
	Light brown, cmf SAND, little mf Gravel (Wet)			S-13		19-24-32-41	56	
	34.5							
	Green-gray, tan, mf SAND, some Silt (Wet)	35	0.0					
	35							
	Green-gray, tan, cmf SAND, some Clay, trace f Gravel			S-14		11-13-16-22	29	
	38							
	Tan, cmf SAND, little mf Gravel; occasional layer of green-gray mf Sand and Clay			S-15		9-20-50/4"	70	
	39.3							

Bottom of Boring at 39.3 Ft.

Logged By: MJC Checked By: JCW

Notes: Boring performed between gaurd rail and fence; 65 inches from fence and face of guard rail, and 150 feet from pump house. Borehole tremie-grouted to surface.

BORING B-08
PAGE 2 OF 2

MASER BORING - KZA DATA TEMPLATE.GDT - 10/27/15 13:07 - \\MVCAD01\GEOTECH\GINT\PROJECTS\15001353A HEMPSTEAD LAKE.GPJ

MASER CONSULTING P.A.

New Jersey New York Pennsylvania Virginia
Customer Loyalty through Client Satisfaction

Project: DAM REHABILITATION - HEMPSTEAD LAKE
Location: TOWN OF HEMPSTEAD, NASSAU COUNTY, LONG ISLAND, NEW YORK
Number: 15001353A

BORING B-09

Date Started: 9/28/15
Date Completed: 9/29/15
Drilling Contractor: Soil Testing, Inc.
Driller: Matt DeAngelo
Equipment: CME-550
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Ground Surface Elevation (ft.): 34.5
Datum: Topo

Groundwater:	Depth (ft.)	Date
First Encountered ▽	4	9/28/2015
End of Drilling (0 Hrs.) ▼	24	9/29/2015
After Drilling (≥ 24 Hrs.) ▼	NR	9/30/2015

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft.)	ELEVATION (ft.)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS (per 6 in.)	N-VALUE	REMARKS
	9 inches of Asphalt (0.8)	0	34.5					
	8 inches of Concrete (1.4)							
	Tan, mf SAND, little f Gravel (3.5)			S-01	10	4-7-5-5	12	
	Red-brown, CLAY & SILT, little f Sand (Mica) (4)		▽					Clay core encountered at 3.5 feet Groundwater is likely perched on the clay core.
	Orange-brown, CLAY & SILT, little cmf Sand, little mf Gravel; layer of Sand at 5.0 feet (Wet) (6)	5	29.5	S-02	12	4-5-6-8	11	
	Orange-brown, gray, CLAY & SILT, little mf Sand; layer of Sand at 5.0 feet (Wet) (8)			S-03	18	4-6-8-11	14	
	Green-gray, brown, CLAY & SILT (10)	10	24.5	S-04	24	5-9-12-12	21	
	Gray, CLAY & SILT (12)			S-05	6	9-6-7-13	13	
	Gray-brown, red-brown, CLAY & SILT, little m Sand, trace f Rock Fragments (Moist to Wet) (14)			S-06		14-14-13-12	27	
	Light brown, gray, mf(+) SAND, some Silt & Clay (16)	15	19.5	S-07	22	5-10-8-9	18	
	Light brown, gray, orange-brown, SILT & CLAY, some mf(+) Sand (18)			S-08	20	15-20-20-19	40	
	Light brown, gray, orange-brown, SILT & CLAY, some mf(+) Sand (Wet to Moist)	20	14.5	S-09	21	11-14-16-15	30	

(Continued Next Page)

Logged By: NRC Checked By: JCW

Notes: Boring located in the road approximately 13 feet from fence and 133.5 feet from pump house. Borehole tremie-grouted to surface.

BORING B-09
PAGE 1 OF 2

MASER BORING - KZA DATA TEMPLATE.GDT - 10/27/15 13:07 - \\MVCAD01\GEOTECH\GINT\PROJECTS\15001353A HEMPSTEAD LAKE.GPJ

MASER CONSULTING P.A.

New Jersey New York Pennsylvania Virginia
Customer Loyalty Through Client Satisfaction

Project: DAM REHABILITATION - HEMPSTEAD LAKE
Location: TOWN OF HEMPSTEAD, NASSAU COUNTY, LONG ISLAND, NEW YORK
Number: 15001353A

BORING B-09

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft.)	ELEVATION (ft.)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS (per 6 in.)	N-VALUE	REMARKS
		20	14.5					
	Light brown, gray, orange-brown, SILT & CLAY, some mf(+) Sand (Wet to Moist) *(continued)* 21.8			S-10	22	6-10-6-11	16	
	Light brown, gray, orange-brown, SILT & CLAY, little m Sand 24			S-11	16	16-14-14-14	28	
	Gray, light brown, SILT & CLAY, some cmf Sand (Wet) 25.5	25	9.5	S-12	18	6-8-9-101	17	
	Light brown, mf GRAVEL and cmf Sand, trace Silt (Wet) 28			S-13	2	100/2"		Bottom of clay core at approximatey 25.5 feet
	Light brown, cmf SAND, some mf Gravel, trace Silt (Wet) 30	30	4.5	S-14	18	5-13-19-22	32	
	Light brown, cm(+)f SAND, trace f Gravel, trace Silt (Wet) 35	35	-0.5	S-15	19	5-11-21-31	32	
	Gray, cmf SAND, little mf Gravel, trace Silt (Wet) 40	40	-5.5	S-16	6	5-7-15-21	22	
	Tan, cm(+)f SAND, trace f Gravel, trace Silt, trace Clay (Wet) 42			S-17		5-8-12-19	20	

Bottom of Boring at 42.0 FL

Logged By: NRC Checked By: JCW

Notes: Boring located in the road approximately 13 feet from fence and 133.5 feet from pump house. Borehole tremie-grouted to surface.

BORING B-09
PAGE 2 OF 2

MASER BORING - KZA DATA TEMPLATE.GDT - 10/27/15 13:07 - \\MVCAD01\GEOTECH\GINT\PROJECTS\15001353A HEMPSTEAD LAKE.GPJ

MASER CONSULTING

New Jersey New York Pennsylvania Virginia
Customer Loyalty through Client Satisfaction

Project: DAM REHABILITATION - HEMPSTEAD LAKE
Location: TOWN OF HEMPSTEAD, NASSAU COUNTY, LONG ISLAND, NEW YORK
Number: 15001353A

BORING B-10

Date Started:	9/29/15	Ground Surface Elevation (ft.):	34		
Date Completed:	9/29/15	Datum:	Topo		
Drilling Contractor:	Soil Testing, Inc.	Groundwater:	Depth (ft.)	Date	
Driller:	Matt DeAngelo	First Encountered	20	9/29/2015	
Equipment:	CME-550	End of Drilling (0 Hrs.)	NR	9/29/2015	
Drilling Method:	Hollow Stem Auger	After Drilling (≥ 24 Hrs.)			
Sampling Method:	Split Spoon				

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft.)	ELEVATION (ft.)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS (per 6 in.)	N-VALUE	REMARKS
	3 inches of Topsoil (0.3)	0	34.0					
	Brown, cmf SAND, little mf Gravel, trace Silt, trace Roots (5)			S-01	12	3-7-7-7	14	
	Light brown, cm SAND, some m(-)f Gravel, trace Silt (10)	5	29.0	S-02	7	2-2-3-3	5	
		10	24.0	S-03	0	24-20-19-18	39	
	Brown, orange-brown, occasional tan layer, cm(+) SAND, little(-) f Gravel, trace Silt (20)	15	19.0	S-04	11	4-5-6-6	11	
		20	14.0					

(Continued Next Page)

Logged By: NRC Checked By: JCW

Notes:

BORING B-10
PAGE 1 OF 2

MASER BORING - KZA DATA TEMPLATE.GDT - 10/27/15 13:08 - \\MVCAD01\GEOTECH\GINT\PROJECTS\15001353A HEMPSTEAD LAKE.GPJ

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Project: DAM REHABILITATION - HEMPSTEAD LAKE
Location: TOWN OF HEMPSTEAD, NASSAU COUNTY, LONG ISLAND, NEW YORK
Number: 15001353A

BORING B-10

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft.)	ELEVATION (ft.)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS (per 6 in.)	N-VALUE	REMARKS
		20	14.0					
	Tan, crn SAND, little f Gravel, trace Silt (Wet)			S-05	14	1-1-1-3	2	
	25	25	9.0					
	Gray, tan, white, c(+)m Sand and mf Gravel, trace Silt (Wet)			S-06	13	7-11-13-15	24	
	30	30	4.0					
	Brown, tan, m(+)f SAND, trace f Gravel, trace Silt (Wet)			S-07	24	5-10-14-28	24	
	32							

Bottom of Boring at 32.0 Ft.

Logged By: NRC Checked By: JCW

Notes:

BORING B-10
PAGE 2 OF 2

MASER BORING - KZA DATA TEMPLATE.GDT - 10/27/15 13:08 - \\MVCAD01\GEOTECH\GINT\PROJECTS\15001353A HEMPSTEAD LAKE.GPJ

Summary of Laboratory Test Results

Source	Sample I.D.	Depth (Ft.)	Moisture Content (%)	<#200 Sieve (%)	Liquid Limit	Plasticity Index	K-Class	Dry Density (pcf)	Optimum Moisture Content (%)	Void Ratio	Satur-ation (%)		
B-08	S-01	0.0	4.2										
B-08	S-02	2.0	6.0										
B-08	S-03	4.0	5.8	4.5									
B-08	S-04	6.0	7.4										
B-08	S-05	8.0	6.8										
B-08	S-06	10.0	6.6										
B-08	S-07	12.0	3.9										
B-08	S-08	14.0	13.6										
B-08	S-09	16.0	13.7										
B-08	S-10	18.0	19.1										
B-08	S-11	23.0	21.5										
B-08	S-12	28.0	14.6										
B-08	S-13	33.0	17.3										
B-08	S-14	35.0	16.0	31.2									
B-08	S-15	38.0	23.9										
B-09	S-01	2.0	17.1										
B-09	S-02	4.0	22.4	69.9	36	11							
B-09	S-03	6.0	24.4										
B-09	S-04	8.0	19.3										
B-09	S-05	10.0	17.6										
B-09	S-06	12.0	17.8	75.0	30	14							
B-09	S-07	14.0	16.7										
B-09	S-08	16.0	20.4										
B-09	S-09	18.0	20.1										
B-09	S-10	20.0	22.0										
B-09	S-11	22.0	16.8	79.0	29	8							
B-09	S-12	24.0	21.6										
B-09	S-13	26.0	16.8										
B-09	S-14	28.0	17.3										
B-09	S-15	30.0	13.0										
B-09	S-16	35.0	15.1										
B-09	S-17	40.0	22.3										
B-10	S-01	0.0	6.3										
B-10	S-02	5.0	1.7	4.5									
B-10	S-04	15.0	4.7										
B-10	S-05	20.0	18.6	0.7									
B-10	S-06	25.0	10.7										
B-10	S-07	30.0	23.8										

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Project: DAM REHABILITATION - HEMPSTEAD LAKE

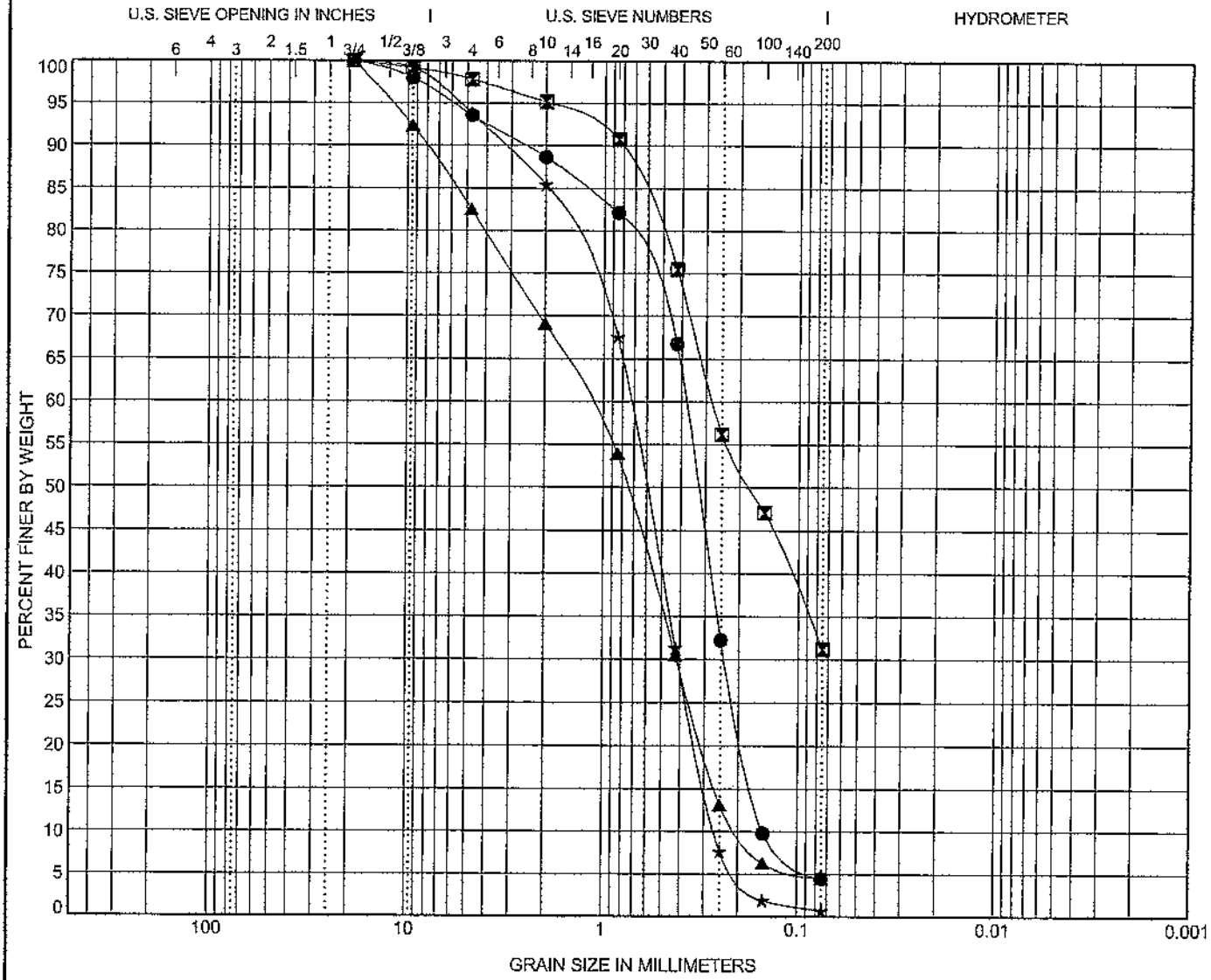
Location: TOWN OF HEMPSTEAD, NASSAU COUNTY, LONG ISLAND, NEW YORK

Number: 15001353A

Figure LS- 1

LAB SUMMARY: NON KZA PROJECTS - US_LAB.GDT - 11/25/15 15:50 - \\MVCAD01\GEOTECH\GINT\PROJECTS\15001353A HEMPSTEAD LAKE.GPJ

GRAIN SIZE DISTRIBUTION



COBBLES	GRAVEL			SAND			SILT OR CLAY
	coarse	medium	fine	coarse	medium	fine	

Source		I.D.	Depth	Classification	LL	PL	PI	Cc	Cu
●	B-08	S-03	4.0	cmf SAND, little f Gravel, trace Silt/Clay				0.98	2.54
⊠	B-08	S-14	35.0	cmf SAND, some Silt/Clay, trace f Gravel					
▲	B-10	S-02	5.0	cm SAND, some f Gravel, trace Silt/Clay				0.74	6.05
★	B-10	S-05	20.0	cm SAND, little f Gravel, trace Silt/Clay				0.88	2.79

Source		I.D.	Depth	W (%)	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-08	S-03	4.0	5.8	19	0.38	0.24	0.15	11.3	84.2	4.5	
⊠	B-08	S-14	35.0	16.0	19	0.28			4.8	63.9	31.2	
▲	B-10	S-02	5.0	1.7	19	1.2	0.42	0.2	30.9	64.6	4.5	
★	B-10	S-05	20.0	18.6	19	0.74	0.41	0.26	14.5	84.8	0.7	

*Testing performed in accordance with ASTM Standards

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New Jersey New York Pennsylvania Virginia
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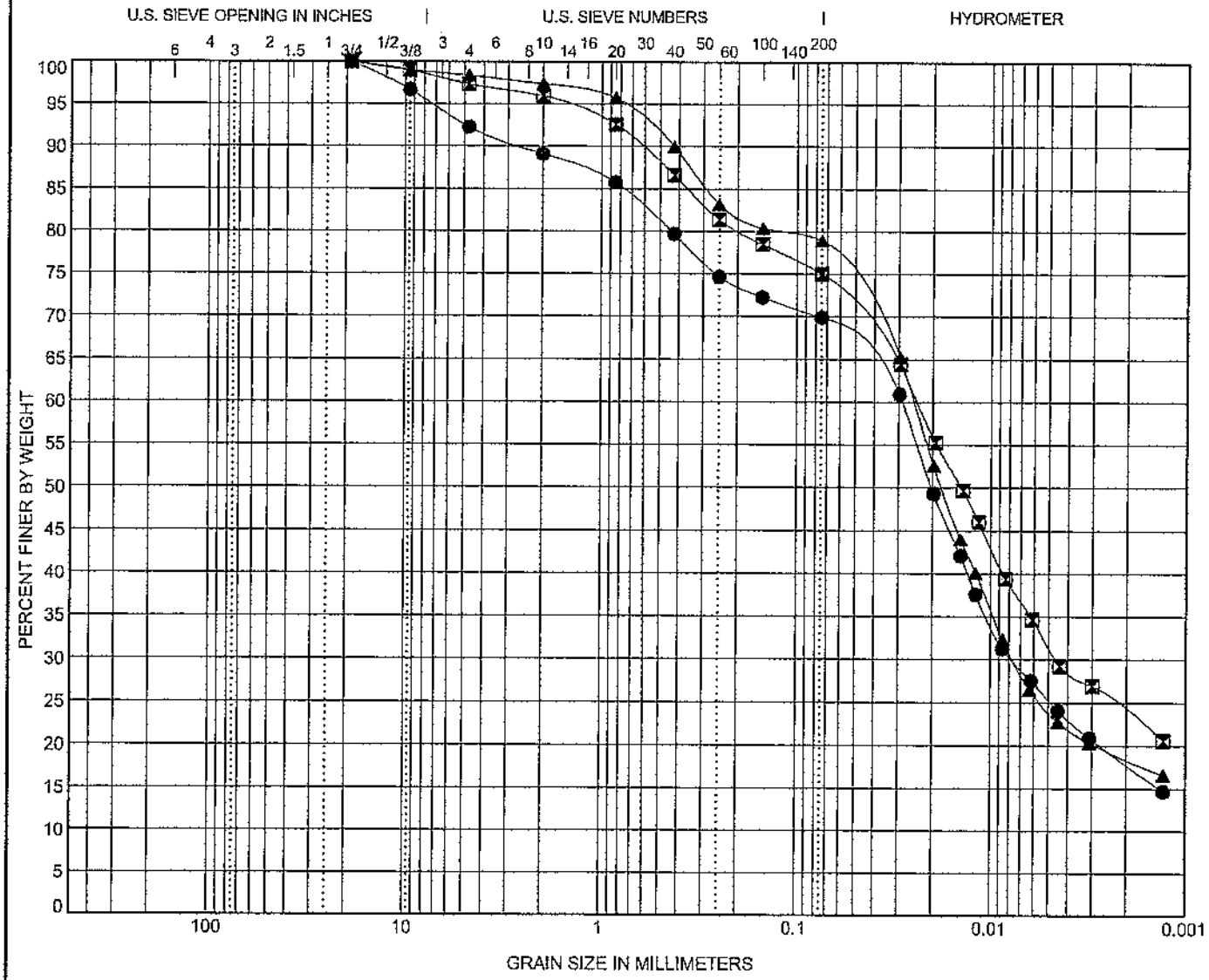
Project: DAM REHABILITATION - HEMPSTEAD LAKE

Location: TOWN OF HEMPSTEAD, NASSAU COUNTY, LONG ISLAND, NEW YORK

Number: 15001353A

Figure GS- 1

GRAIN SIZE DISTRIBUTION



COBBLES	GRAVEL			SAND			SILT OR CLAY
	coarse	medium	fine	coarse	medium	fine	

Source		I.D.	Depth	Classification	LL	PL	PI	Cc	Cu
●	B-09	S-02	4.0	CLAY & SILT, little cmf Sand, little mf Gravel	36	25	11		
⊠	B-09	S-06	12.0	CLAY & SILT, some m Sand, trace f Gravel	30	16	14		
▲	B-09	S-11	22.0	SILT & CLAY, little m Sand, trace f Gravel	29	21	8		

Source		I.D.	Depth	W (%)	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-09	S-02	4.0	22.4	19	0.03	0.01		10.9	19.2	44.7	25.2
⊠	B-09	S-06	12.0	17.8	19	0.02	0		4.0	21.0	43.6	31.4
▲	B-09	S-11	22.0	16.8	19	0.03	0.01		2.6	18.5	55.0	23.9

*Testing performed in accordance with ASTM Standards

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Project: DAM REHABILITATION - HEMPSTEAD LAKE

Location: TOWN OF HEMPSTEAD, NASSAU COUNTY, LONG ISLAND, NEW YORK

Number: 15001353A

Figure GS- 1