

SEQUENCE OF CONSTRUCTION

EROSION AND SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION

INTRODUCTION

This narrative describes the erosion and sediment controls proposed for this project, discusses the construction sequence and states the requirements for inspection and maintenance of the erosion and sediment controls. The plan has been designed in accordance with the State of New York "Standards and Specifications for Erosion and Sediment Control."

The sequences provided include anticipated start dates, which are predicated on municipal and state agency approvals.

GENERAL SPECIFICATIONS

- Prior to construction, all existing utility line locations must be verified in field (Call Before You Dig) 1-800-962-7962 or 811
- Surveyor to stake out the location of proposed structures prior to start of construction.
- A pre-construction conference is to be held on the site with the design engineer, the owner, the construction contractor, the zoning enforcement officer, the town engineer, and the NYSDEC to review the Erosion and Sediment Control Plan.
- During construction, if storm event over a 1" storm takes place, contractor personnel must be on site with machinery and additional materials to address any erosion issues. The Engineer of Record (EOR) must be contacted of any such event.
- Erosion and sediment control measures are the responsibility of the developer of record. The responsibility includes installation and maintenance of all control measures, informing all parties involved in site construction of the plans objectives and requirements, notification of the Town of Yorktown of any transfer of this responsibility, and transferring a copy of the certified erosion and sediment control plan, should the title of all or part of the land be transferred, to respective parties.
- NYSDEC shall be notified of construction through filing of NOI with inspections under NYSDEC regulations. Individual lot NOI shall be coordinated with the Building Inspector.

NYSDEC Inspections

All erosion control measures are to be inspected and maintained on a regular basis throughout the construction period and until all disturbed land has been stabilized by vegetation.

In compliance with the NOI, twice per week inspection report and inspection before and after any storm events greater than 1" in depth are required by NYS Certified Erosion Control Inspectors or a Licensed Professional Engineer. Results of said inspection on NYSDEC Inspection forms shall be maintained within a Large Mail Box posted at the entrance to the site by the Contractor, available for inspection by NYSDEC personnel.

Refer to specific structures for required inspection schedules

For all items noted in the sequence refer to drawings SY2, and details provided on SY3.

SCOPE OF WORK

The project consists of the mechanical and hydraulic dredging of an existing pond of approximately 1.25 acres of surface area. Access to the pond site is proposed along existing paved driveway from Ridge Street as noted on the site plan. The access continues across a gravel finished geo-textile access way which shall be removed upon completion of the project. The project includes the installation of erosion control devices, suction harvesting of pond sediments into Geo-tubes for dewatering of the pond silt, dewatering of the sediment through percolation through the Geo-tubes and once dry, spreading of the soils within a material disposal area designated on the site plan. The final step shall be the planting of a vegetative shoreline buffer along the pond to provide a nutrient collection practice and repair areas disturbed during pond access. Each step shall be described in the following sequence of construction.

Phase I: Site Plan construction includes: dredging of pond sediments.

Duration - Approximately 1.5 Months (Oct 2016 to Nov 15 2017)

Area of Disturbance - Material Storage	0.90 Acres
Overflow Disposal Area as required:	0.90 Acres
Pond Dredging (not considered NYSDEC disturbance)	1.09 Acres
Total:	2.89 Acres

Note: accessway is not included since is existing

Construction Activity - Install of erosion control devices, installation of temporary piping, dredging and excavation.

Installation of Erosion Control Structures

- All existing utility line locations to be verified in field prior to start of construction. (Call Before You Dig) 1-800-962-7962 OR 811
- Contractor to photograph the entire area of disturbance to establish a base line for lawn remediation once the project is complete.
- Install limit of disturbance construction fence around the area of work. (ref 4/SY3)
- Install silt fence along the limit of disturbance per the approved plans for the pond and access drive. (ref 2/SY3)
- Install tree protection fencing around the access road trees, if required. (ref 6/SY4)
- Install construction entrance off driveway as shown. (ref 1/SY3)
- Install turbidity curtain 10.0 feet from existing dam and extend to pond bottom. Allow gap on west side to permit flow across undisturbed pond bottom to spillway. (ref 5/SY3)
- Install silt fence with hay bales backing along the pond side of the Material Depository Area. (ref 2/SY3)
- Install the Geo-tubes at the proposed locations and stabilize area around tubes with wood chips or washed gravel.
- The Town Engineer must inspect the erosion control devices prior to any pond hydraulic harvesting.
- Any area disturbed for a period of over 14 days shall be seeded and mulched for stability. This is especially relevant after the pond is dredged and the site is dormant during the Geo-tubes dewatering period.

Dredging of Pond

The contractor shall coordinate with the EOR on start date. If inclement weather is anticipated, the contractor shall delay work accordingly to minimize the potential of pond bottom sediment migration over the existing spillway. The pond is to be monitored for turbidity during each day of the dredging operation. If the pond turbidity allows material to exit the spillway, all work must cease for that day to allow settlement of the bottom. All wood and debris recovered from the pond shall be deposited within the silt fence area for removal off site on a weekly basis.

Location of the pump during the dredging operation shall require a gravel or wood pallet work area under the pump at each daily location. Damage to existing vegetation shall be minimized. Extend suction lines from pump to dredge location. A diver shall enter the water and guide the suction head around the interior of the pond to gather organic material.

Carefully suction dredge no closer than 5.0' from the edge of the pond to final grades. Work toward the middle of the pond to achieve required grades. If slope of 1/3 are not stable, extend to lower pond slopes to ensure stability. The dredging continues only if adequate capacity is present within the geo-tubes on the site. Add additional Geo-tubes as necessary.

The contractor shall ensure that the prescribed depths are developed as the work continues. Excessive dredging is the responsibility of the contractor and cannot be construed as an extra to the client. A daily chart must be maintained to document the dredging zone (40'x40') grid, completed each day and the depths achieved when work is stopped for the day. The contractor shall monitor any migration of silt/mud between suction zones.

Dewatering of Material

The contractor shall monitor the stability of the Geo-tubes as the work continues. During long periods of inclement weather, the contractor can cover the material with tarps, to, with the best effort, maintain the moisture content. Prior to the opening of any geotubes and depositing of material on-site, the EOR shall inspect the material for proper consistency and authorization to spread on the site.

Phase II: Phase completion includes spreading and plant stabilization.

Duration - Approximately 1 Month (March 2017 or after adequate dewatering)

Area of Disturbance - Material Storage and Disbursement Area	0.90 Acres
No work on Overflow area can take place until primary area of disbursement is completed with seed and blankets.	
Overflow Disbursement Area as required to maintain depth fill	0.90 Acres
Total:	1.80 Acres

Site Stabilization

- Once the pond has been dredged, the pump pads are to be removed and any trees repaired or pruned if any damage. The disturbed areas are to be filled with topsoil to original lawn grade and re-seeded as noted below after final disturbance with seed mixes noted. Mulch is required for seed protection. The temporary road shall be removed as the work progresses from the site.
- Geo-tube soil removal shall be coordinated by the contractor based upon manufacturers recommendation with all tube fabric disposed of at a certified land fill or into a dumper and removed off-site. Earth movement shall be with rubber clad machines to reduce surface disturbance in the material movement. All material shall be deposited in 12" lifts and compacted to ensure stability.
- All exposed areas shall be seeded and mulched within 14 days. All embankments are to be graded and seeded immediately upon being laid back and stabilized as follows:

Graded to finished slopes

- Scarified with debris clean-ups
- Top soiled with not less than four (4) inches of suitable topsoil material
- Temporarily seeded with the following mixture:

Mix	Lbs./Acres
Rye Grass	30
Winter Condition: Cert (arostok winter rye, coral rye)	100
- Mulched with not less than one (1) inch and not more than three (3) inches of straw or hay (two (2) tons/acre).

- The pond shall require topsoil on the sides to ensure adequate vegetation cover in areas of disturbance which shall be installed at this time.
- Install slope blankets on the soil disposal area where slopes exceed 15% in compliance with Detail 9/SY3.
- The pond shall be inspected by Town of Yorktown personnel and EOR for construction compliance.
- Only after the areas permanent seeding has achieved a complete vegetation cover shall the erosion control fencing and hay bales be removed and deposited off site.

This completes the common element of the construction.

Individual Elements

Plantings shall commence as weather permits, based upon the schedule provided in the Wetland Buffer Planting specifications and Drawing SY4. The intent is to plant along the edge of the pond and disturbed areas to ensure stability and along the shoreline once the elevation of the water table has stabilized.

Duration - Approximately 1 Month (April - May 2017)

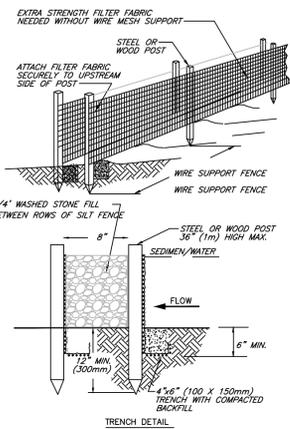
Area of Disturbance - Access Area of the Pond <0.08 Acres

Note: Pond water shall be used for plant watering using mobile gas or electric pumps.

CONSTRUCTION SPECIFICATIONS

- STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
- THICKNESS - NOT LESS THAN SIX (6) INCHES.
- WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
- FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
- SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DRIPPED, WASHED OR TRACED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
- HEAVY DUTY FABRIC PROPERTIES: TREVIRA SPUNBOND 1135, MIRAFLI 600X, OR EQUIVALENT.

1 STABILIZED CONSTRUCTION ENTRANCE

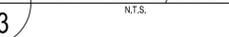


TRENCH DETAIL

NOTES:

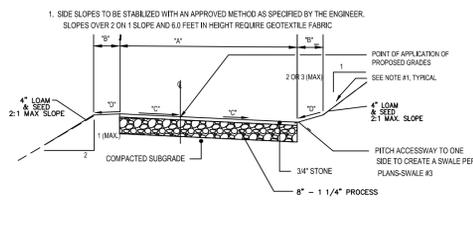
- SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
- INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" (225mm) MAXIMUM RECOMMENDED STORAGE HEIGHT.
- REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
- NOTE: ALONG ACCESSWAY, ONLY INSTALL ONE ROW OF SILT FENCE.

2 SILT FENCE W/GRAVEL



TEMPORARY GRAVEL ACCESS ROAD

ITEM	LIMITS
A	10' MIN
B	3' PREFERRED; 1' MIN.
C	3/8" PER FT.
D	1/2" PER FT.



CONSTRUCTION FENCE DETAIL

NOTES:

- SIDE SLOPES TO BE STABILIZED WITH AN APPROVED METHOD AS SPECIFIED BY THE ENGINEER. SLOPES OVER 2 ON 1 SLOPE AND 6.0 FEET IN HEIGHT REQUIRE GEOTEXTILE FABRIC.
- MINIMUM SPACING IS 8'-0".
- JOIN CONSTRUCTION FENCE SECTIONS BY OVERLAPPING END STAKES.
- INSPECT AND REPAIR PERIODICALLY TO MAINTAIN THE INTEGRITY OF THE CONSTRUCTION AREA.

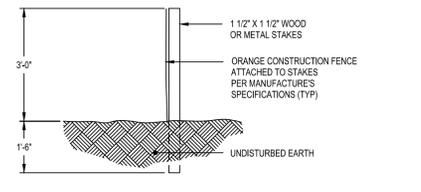
3 TEMPORARY GRAVEL ACCESS ROAD



CONSTRUCTION FENCE DETAIL

NOTES:

- SPACING MAY VARY AS PER MANUFACTURER'S RECOMMENDATIONS. MAXIMUM SPACING IS 8'-0".
- JOIN CONSTRUCTION FENCE SECTIONS BY OVERLAPPING END STAKES.
- INSPECT AND REPAIR PERIODICALLY TO MAINTAIN THE INTEGRITY OF THE CONSTRUCTION AREA.



CONSTRUCTION FENCE DETAIL

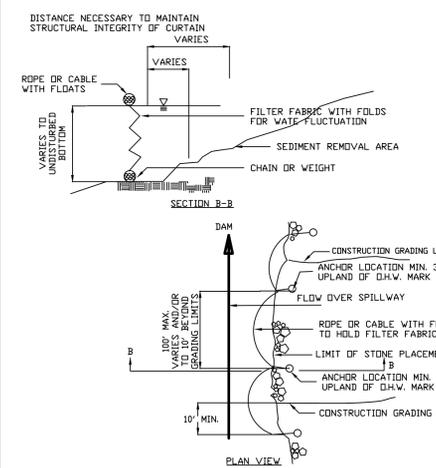
NOTES:

- SPACING MAY VARY AS PER MANUFACTURER'S RECOMMENDATIONS. MAXIMUM SPACING IS 8'-0".
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- INSPECT AND REPAIR PERIODICALLY TO MAINTAIN THE INTEGRITY OF THE CONSTRUCTION AREA.

4 CONSTRUCTION FENCE DETAIL



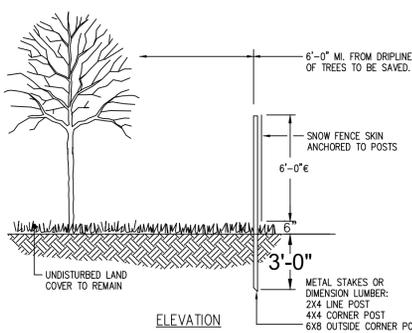
CONSTRUCTION FENCE DETAIL



5 TURBIDITY CURTAIN



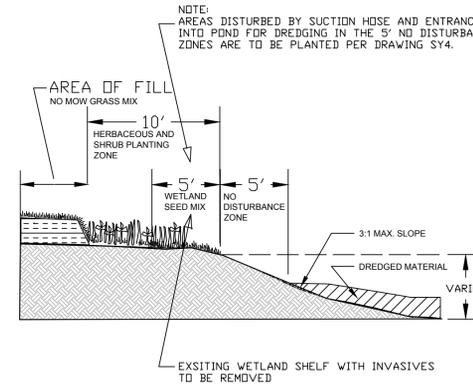
TURBIDITY CURTAIN



6 TREE PROTECTION DETAIL



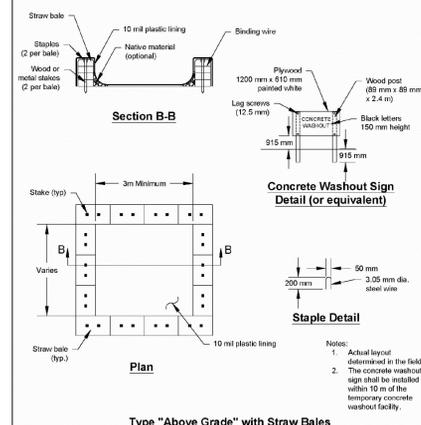
TREE PROTECTION DETAIL



7 POND EDGE DETAIL



POND EDGE DETAIL



8 CONCRETE PUMP OUT DETAIL



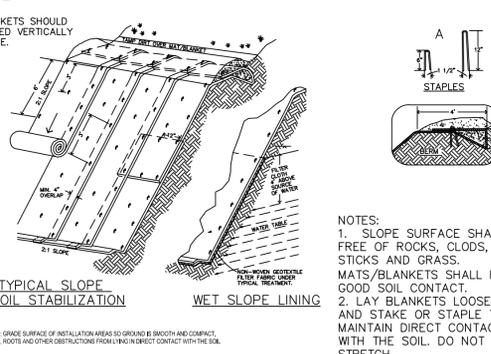
CONCRETE PUMP OUT DETAIL

SEEDING REQUIREMENTS			
SITE PREPARATIONS: LIME PH TO 6.0			
FERTILIZER: WITH 800#/ACRE OF 5-10-10 PER ACRE (20#/1000 SF)			
TOP SOIL: 2% WEIGHT FINE TEXTURE ORGANICS			
NOT LESS THAN #200 SIEVE, NOT MORE THAN 15% CLAY			
FREE OF STONES 1/4" - 1/2", LESS THAN 10% GRAVEL			
SOLUBLE SALTS LESS THAN 500 PPM.			
APPLY 5 INCHES MINIMUM			
MULCH PER SPECIFICATIONS			
TEMPORARY SEEDINGS:			
SEEDING REQUIREMENTS: RYE GRASS 800#/ACRE (0.7#/1000 SF.)			
WINTER CONDITION: CERTIFIED "groostok" winter rye (cereal rye)			
#100 #/acre (2.5#/1000 sf)			
required for november/october seeding			
PERMANENT SEEDINGS: within 100' Wetland buffer			
No Mow Mix			
Prairie Nursery 800-476-9453			
P.O. Box 306 Westfield, WI 53964			
CS@PRAIRIENURSERY.COM			
No Mow	Item #50091	Min. Percent	Origin Germ
Shadow II Chewings Fescue - Festuca commutata		24.67%	OR 85%
Quatro Sheep Fescue - Festuca ovina		24.58%	OR 85%
Henry Hard Fescue - Festuca brevipila (F. longifolia)		12.44%	OR 85%
Harpoon Hard Fescue - Festuca brevipila (F. longifolia)		12.38%	OR 85%
Lustrous Creeping Red Fescue - Festuca rubra		12.02%	OR 85%
Sea Fire Slender Red Fescue - F. rubra, subsp. rubra		11.79%	OR 85%
2.06% Inert Matter			
0.06% Other Crop Seed			
0.00% Weed Seed			
Noxious Weed Seed: None Found			
Tested: February 2015			
Lot Number: COL-15-3009			
APPLY AT 3.5 lbs per 1000 sf			
SEEDING SPECIFICATIONS			

PERMANENT SEEDINGS (CONT.)	
OVERFLOW DISPERSAL AREA (OPEN MEADOW)	
FREQUENTLY MOWED: DRY SITES	
CREeping RED FESCUE	ENSYLVA PENN LAIN BOREAL @ 20#/ACRE; 0.45#/1000 SF.
TALL FESCUE	KY31, REBEL @ 20#/ACRE; 0.45#/1000 SF.
PERENNIAL RYE	PENNYCUNJUN @ 5#/ACRE; 0.10#/1000 SF.
BIRDFOOT TREFOIL	EMPIRE, PARDEE @ 10#/ACRE; 0.45#/1000 SF.
MULCH REQUIREMENTS	
SITE PREPARATIONS:	
INSTALL TEMPORARY SEDIMENT CONTROL DEVICES	
JUTE NETTING	
UNDYED, UNBLEACHED PLAINWEAVE WARP: 78 END/YD, WEFT: 41 END/YD.	
APPLICATION RATE: 48" X 50 YDS /1000 SF (60 ROLL/ACRE)	
DEPTH APPLICATION: 60 SE. YDS.	
TIE DOWN PER MANUFACTURERS SPECIFICATIONS.	
BEST COMBINATION: FIBERS	
STRAW (SMALL GRAINED) MULCH	
APPLICATION RATE: 2 TONS (900#/1000 SF.)	
ANCHOR WITH WOOD FIBER MULCH (HYDRO-MULCH)	
APPLICATION RATE: 500-750#/ACRE (1#/1000 SF.)	
THE WOOD FIBER MUST BE APPLIED THROUGH HYDRO-SEEDER IMMEDIATELY AFTER MULCHING.	
ANCHORING:	
MULCH NETTING: HAY OR STRAW STAPLE WITH LIGHT-WEIGHT JUTE	
CHEMICAL: APPLY WITH TERRA TACK AR(45#) OR AEROSPRAY 70(60 GAL//ACRE)	
MULCH SPECIFICATIONS	

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NOTE: DO NOT SCALE DRAWINGS DIMENSIONS SUPERCEDE SCALE



9 EROSION BLANKET & REINFORCEMENT MAT SLOPE INSTALLATION

EROSION BLANKET & REINFORCEMENT MAT SLOPE INSTALLATION

NOTES:

- SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS.
- MATS/BANKETS SHALL HAVE GOOD SOIL CONTACT.
- LAY BANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

No.	Date	Description
A	10-5-16	REVISED PER NYCDP COMMENTS
B	10-17-16	REVISED PER TOWN YORKTOWN
C	10-21-16	REVISED PER TOWN YORKTOWN
D	2/5/19	REVISED PER TOWN ENGINEER

Revisions		Dwg. Title	Seal	Dwg. No.
P. W. SCOTT		EROSION CONTROL DETAILS	[Seal]	SY3
ENGINEERING & ARCHITECTURE, P.C.		2200 SAW MILL RIVER ROAD 2255 BROAD STREET TOWN OF YORKTOWN HEIGHTS, NY		
3871 ROUTE 6		Proj. No. 16-108	Drawn by PW/MA	
BREWSTER, NY 10509 845-278-2110		Date 8/12/16	Scale AS SHOWN	