EROSION CONTROL NOTES

AT ANY PARTICULAR TIME, LAND DISTURBANCE SHALL BE KEPT TO A MINIMUM. RESTABILIZATION SHALL BE SCHEDULED AS SOON AS POSSIBLE. DO NOT WAIT FOR BUILDING CONSTRUCTION TO BE COMPLETED FOR STABILIZATION OF GRASS AND PAVED AREAS TO PROCEED. IF PERMANENT SLOPES CAN NOT BE COMPLETED IMMEDIATELY UPON THEIR PLACEMENT, TEMPORARY MULCH OR GRASS COVER SHALL BE ESTABLISHED.

SILT FENCE AND/OR HAY BALE BERMS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS AT THE LOCATIONS SHOWN ON THE PLANS, AND STAKED IN PLACE. ALL SUCH PROTECTIVE MEASURES SHALL BE IN PLACE PRIOR TO ANY CUTTING OR FILLING PROCEEDS.

CATCH BASINS SHALL BE PROTECTED WITH SILT FENCE OR HAY BALES THROUGHOUT THE CONSTRUCTION PERIOD. THE STRUCTURES SHALL BE ENCIRCLED COMPLETELY AT LOW POINTS. ON SLOPED AREAS THE SILT FENCE SHALL FORM A POCKET TO TRAP WATER IMMEDIATELY UPSTREAM FROM THE STRUCTURE. STABILIZATION OF GRASS AND PAVED AREAS SHALL BE COMPLETE BEFORE REMOVAL OF THE FENCE.

ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL".

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION IN ANY WATERSHED AREA UNLESS SPECIFIC PERMISSION IS OBTAINED FROM THE TOWN TO OTHERWISE PROCEED FOR SPECIFIC AREAS.

ALL CONTROL MEASURES SHALL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE STABILIZED WITH EITHER PAVEMENT, GRASS OR APPROVED GROUND COVER. CONTROL MEASURES SHALL BE CHECKED BY THE RESPONSIBLE INDIVIDUAL OR HIS DESIGNATED REPRESENTATIVE BEFORE AND AFTER ALL RAIN STORMS AND AFTER EACH WORKING DAY.

THE SITE CONTRACTOR IS ASSIGNED THE RESPONSIBILITY OF IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. HE SHALL APPOINT A SITE REPRESENTATIVE FOR DAILY INSPECTIONS, AND SHALL FURNISH THAT NAME TO THE TOWN. THE RESPONSIBILITY STILL SHALL REST WITH THE SITE CONTRACTOR FOR THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, NOTIFYING THE COMMISSION STAFF OF ANY TRANSFER OF THE DAILY ON-SITE RESPONSIBILITY.

ADDITIONAL CONTROL MEASURES SHALL BE IMMEDIATELY INSTALLED, AS REQUIRED BY THE INTENT OF THIS PLAN AND/OR IF REQUESTED BY THE TOWN. 300 FEET OF UNUSED SILT FENCE SHALL BE KEPT AVAILABLE ON THE SITE FOR THIS PURPOSE.

ALL DISTURBED AND STOCKPILED MATERIALS SHALL BE SEEDED AS SOON AS POSSIBLE. IN THE CASE OF WINTER CONSTRUCTION, MULCH SHALL BE PLACED AND EROSION CONTROL MEASURES PLACED TO PREVENT WASHOUTS OF THE STOCKPILED MATERIAL. THE SAME REQUIREMENTS MAY BE NEEDED FOR CONSTRUCTION DURING OTHER SEASONS AS DIRECTED BY THE TOWN AND THE ENGINEER.

IF IN THE OPINION OF THE TOWN, HAY BALES SHOULD BE USED INSTEAD OF SILT FENCE, SUCH SUBSTITUTION SHALL BE MADE AT THE LOCATIONS REQUESTED. FOR ANY AREAS WHERE SILT FENCE IS DIFFICULT TO MAINTAIN DUE TO WATER FLOW OR OTHER REASON, THE FENCE SHALL BE BACKED UP WITH HAY BALES STAKED INTO PLACE.

A SCHEDULE OF PLANNED ACTIVITIES INCLUDING EROSION AND SEDIMENT CONTROL MEASURE INSTALLATION SHALL BE SUBMITTED TO THE TOWN ALONG WITH ANY OTHER REPORTS REQUESTED BY THE COMMISSION. PLANNED ACTIVITIES SHALL INCLUDE PLANNED PERIODS WHEN SEEDING AND/OR PAVING WILL BE PLACED, WHEN UTILITY LINES WILL BE INSTALLED, WHEN BUILDING CONSTRUCTION WILL TAKE PLACE AND WHEN CUTTING AND FILLING WILL OCCUR. THE SCHEDULE SHALL ALSO INCLUDE DATA ON TRUCK MOVEMENT TO AND FROM THE SITE TO MOVE MATERIAL ONTO OR OFF OF THE SITE. TRUCK MOVEMENTS OFF OF THE SITE SHALL BE RESTRICTED AS DIRECTED BY THE TOWN FOR PEAK TRAFFIC TIMES AND FOR TIMES WHEN NOISE WOULD DISTURB THE PROPERTY NEIGHBORS.

SEEDING MIXTURES SHALL BE IN COMPLIANCE WITH CHAPTER 6 OF THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL". TEMPORARY SEEDING SHALL BE USED WHEN THE GROWING SEASON REMAINING IS LESS THAN 60 DAYS. PERMANENT SEEDING SHALL BE USED WHEN MORE THAN 60 DAYS REMAINS. FOR SEASONS WHEN SEEDING IS NOT POSSIBLE, SUCH AS THE WINTER OR THE DRY PART OF THE SUMMER, MULCH SHALL BE USED AT THE RATE OF TWO TONS PER ACRE. PERMANENT SEEDING SHALL REPLACE TEMPORARY SEEDING AS SOON AS THE SEASON PERMITS AND AS APPROVED BY THE TOWN ENGINEER. REFER TO SEEDING CHARTS ON THE DETAIL SHEETS.

HAY MULCH SHOULD BE APPLIED AT THE RATE OF TWO TONS PER ACRE (40 BALES PER ACRE) ON AREAS TO BE LEFT BARE FOR UP TO 30 DAYS. TEMPORARY SEEDING SHOULD BE USED ON THOSE AREAS FOR MORE THAN 30 DAYS.

SOIL STABILIZATION SHALL BE COMPLETED WITHIN FIVE (5) DAYS OF CLEARING OR INACTIVITY IN CONSTRUCTION.

E&S CONTROLS BE INSPECTED WEEKLY AND AFTER RAINFALL EVENTS OF GREATER THAN 0.1 INCH.

THE CONTRACTOR SHALL NOTIFY THE TOWN ENGINEER/ENVIRONMENTAL PLANNER/CONSERVATION OFFICER AT LEAST TWO WORKING DAYS BEFORE THE FOLLOWING:

1. START OF CONSTRUCTION
2. COMPLETION OF CLEARING LIMIT DEMARCATION
3. INSTALLATION OF E&S MEASURES
4. COMPLETION OF SITE CLEARING
5. COMPLETION OF ROUGH GRADING
6. COMPLETION OF FINAL GRADING
7. CLOSE OF CONSTRUCTION SEASON
8. COMPLETION OF FINAL LANDSCAPING
9. PRIOR TO THE REMOVAL OF CONSTRUCTION E&S CONTROL MEASURES

ALL WASTE MATERIALS (INCLUDING WASTEWATER) SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL LAW. LITTER SHALL BE PICKED UP AT THE END OF EACH WORK DAY. CONCRETE WASHOUT SHALL ON-SITE MUST MEET THE FOLLOWING CONDITIONS:

- CONCRETE TRUCK WASHOUT SHALL BE DONE IN DESIGNATED AREAS ONLY OUTSIDE OF THE INLAND WETLANDS (REFER TO AREA SHOWN ON PLANS).
- CONCRETE TRUCKS SHALL BE INFORMED OF THE DESIGNATED WASHOUT AREA TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.
- CONCRETE WASHOUT MATERIALS MUST BE CONTAINED WHERE WASTE CONCRETE CAN SOLIDIFY IN PLACE AND EXCESS WATER CAN SAFELY EVAPORATE.
- TEMPORARY WASHOUT AREAS SHOULD HAVE A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH TO CONTAIN ALL LIQUID AND WASTE CONCRETE MATERIALS FROM WASHOUT.
- WEEKLY INSPECTIONS OF THE WASHOUT AREA SHALL BE CONDUCTED TO ASSESS THE HOLDING CAPACITY AND FUNCTIONALITY OF THE AREA.

COVER OR WATER TEMPORARY SOIL STOCKPILES AND SITE TO PREVENT WIND EROSION AS NEEDED.

SITE CONTRACTOR SHALL PROVIDE WATER AND/OR CALCIUM CHLORIDE FOR DUST CONTROL DURING CONSTRUCTION.

CONSTRUCTION SEDIMENT TRAPS (ROUGH GRADED DEPRESSIONS) SHALL BE INSTALLED WHERE PRACTICAL DURING CONSTRUCTION IN AREAS THAT WILL NOT BE IN THE AREAS OF MACHINE TRAFFIC. THESE SHALL ALSO BE USED AT THE ENDS OF LONG SWALES PRIOR TO ANY WATER RUNNING OFF-SITE.

EROSION CONTROL LEGEND

CONTROL MEASURE	ILLUSTRATION
INLET PROTECTION	
SILT FENCE	SF SF
CONSTRUCTION ENTRANCE	
STONE CHECK DAM	SCD
TOP SOIL STOCKPILE AREA	

EROSION CONTROL INTENT

THE EROSION CONTROL PLAN IS INTENDED TO MINIMIZE THE MOVEMENT OF MATERIAL INTO ADJACENT WETLANDS AND WATERCOURSES BY ONE OR MORE OF THE FOLLOWING.

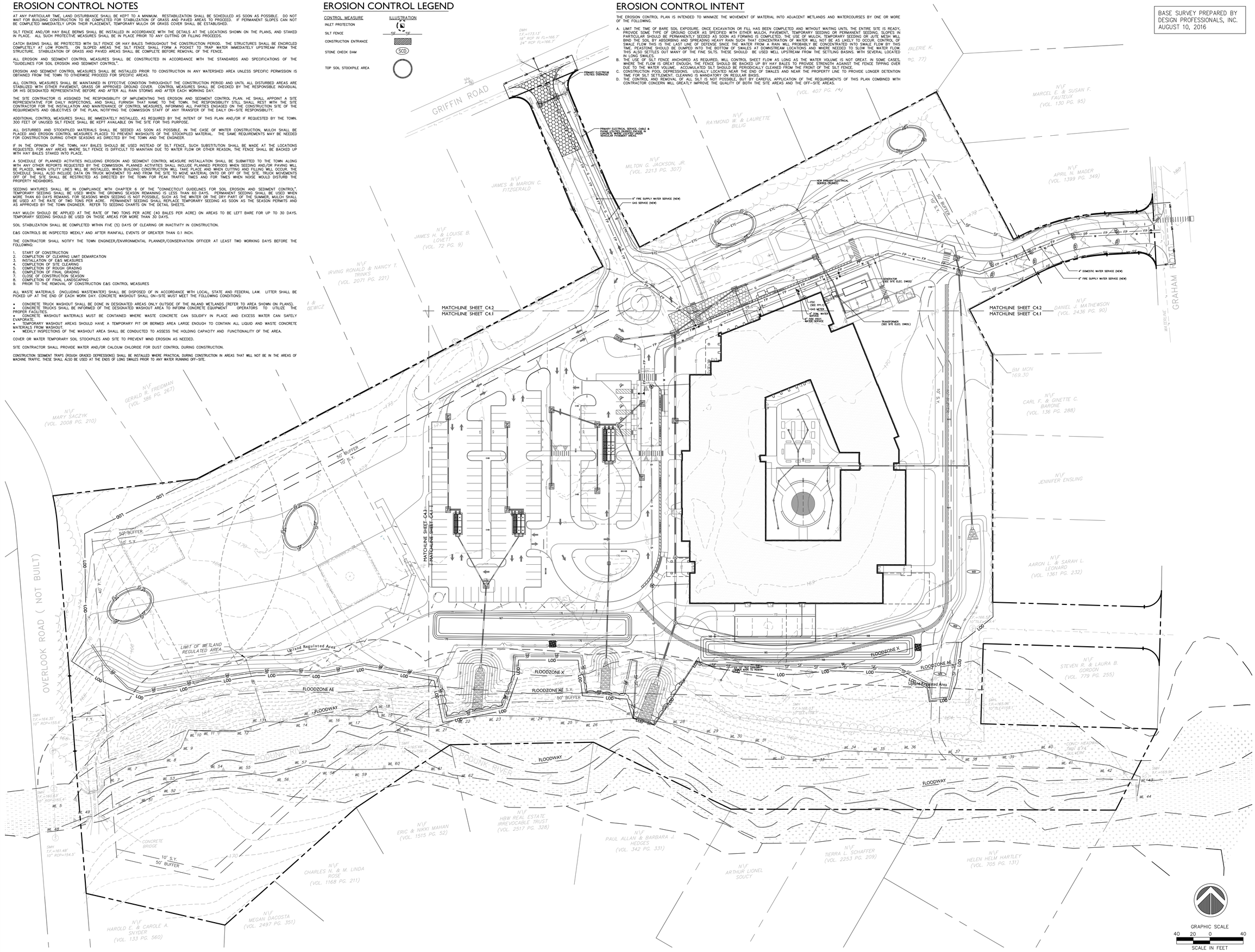
A. LIMIT THE TIME OF BARE SOIL EXPOSURE, ONCE EXCAVATION OR FILL HAS BEEN COMPLETED AND WITHOUT WAITING UNTIL THE ENTIRE SITE IS READY, PROVIDE SOME TYPE OF GROUND COVER AS SPECIFIED WITH EITHER MULCH, PAVEMENT, TEMPORARY SEEDING OR PERMANENT SEEDING. SLOPES IN PARTICULAR SHOULD BE PERMANENTLY SEEDED AS SOON AS FORMING IS COMPLETED. THE USE OF MULCH, TEMPORARY SEEDING OR JUTE MESH WILL BIND THE SOIL BY ABSORBING AND SPREADING HEAVY RAIN SUCH THAT CONCENTRATION OF WATER WILL NOT BE AS LIKELY TO OCCUR. CONTROL OF SWALE FLOW THIS IS THE LAST LINE OF DEFENSE SINCE THE WATER FROM A RAIN WILL PROBABLY BE CONCENTRATED INTO SWALE FLOW BY THIS TIME. PEASTONE SHOULD BE DUMPED INTO THE BOTTOM OF SWALES AT DOWNSTREAM LOCATIONS AND WHERE NEEDED TO SLOW THE WATER FLOW. THIS ALSO SETTLES OUT MANY OF THE FINE SILTS. THESE SHOULD BE USED WELL UPSTREAM FROM THE SETTLING BASINS. WITH SEVERAL LOCATED IN LONG SWALES.

B. THE USE OF SILT FENCE ANCHORED AS REQUIRED, WILL CONTROL SHEET FLOW AS LONG AS THE WATER VOLUME IS NOT GREAT. IN SOME CASES, WHERE THE FLOW IS GREAT ENOUGH THE FENCE SHOULD BE BACKED UP BY HAY BALES TO PROVIDE STRENGTH AGAINST THE FENCE TIPPING OVER DUE TO THE WATER VOLUME. ACCUMULATED SILT SHOULD BE PERIODICALLY CLEANED FROM THE FRONT OF THE SILT FENCE.

C. CONSTRUCTION POOL DEPRESSIONS. USUALLY LOCATED NEAR THE END OF SWALES AND NEAR THE PROPERTY LINE TO PROVIDE LONGER DETENTION TIME FOR SILT SETTLEMENT. CLEANING IS MANDATORY ON REGULAR BASIS.

D. THE CONTROL AND REMOVAL OF ALL SILT IS NOT POSSIBLE, BUT BY CAREFUL APPLICATION OF THE REQUIREMENTS OF THIS PLAN COMBINED WITH CONTRACTOR CONCERN WILL GREATLY IMPROVE THE QUALITY OF BOTH THE SITE AREAS AND THE OFF-SITE AREAS.

BASE SURVEY PREPARED BY
DESIGN PROFESSIONALS, INC.
AUGUST 10, 2016



REVISIONS
CONSTRUCTION DOCUMENTS

STATE PROJECT NO.
132-0088 N
Phase 1 of 4

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TITLE
OVERALL SEDIMENTATION & EROSION CONTROL PLAN

DATE 11/02/2018

DWG. NO.
C4.0

MPN Project Number: 2017226.00

Figure PS-3 Seed Mixtures for Permanent Seeding

No.	Seed Mixture (Variety)[4]	Lbs/Acre	Lbs/1,000 Sq. Ft.
1[5]	Kentucky Bluegrass	20	.45
	Creeping Red Fescue (Pennlawn, Wintergreen)	20	.45
	Perennial Ryegrass (Norlea, Manhatten)	5	.10
		Total 45	1.00
2[5]	Creeping Red Fescue (Pennlawn, Wintergreen)	20	.45
	Redtop (streeking, Common)	2	.05
	Tall Fescue (Kentucky 31) or	20	.45
	Smooth Bromegrass (Saratoga, Lincoln)	Total 42	.95
3[5]	Creeping Red Fescue (Pennlawn, Wintergreen) [1]	20	.45
	Bird's-foot Trefoil (Empire, Viking) with inoculant [1]	8	.20
	Tall Fescue (Kentucky 31) or	20	.45
	Smooth Bromegrass (Saratoga, Lincoln)	Total 48	1.10
4[5]	Creeping Red Fescue (Pennlawn, Wintergreen) or Tall Fescue (Kentucky 31)	20	.45
	Redtop (Streeker, Common)	2	.05
	Bird's-foot Trefoil (Empire, Viking) with inoculant [1]	8	.20
		Total 30	.70
5[5]	White Clover	10	.25
	Perennial Rye Grass	2	.05
		Total 12	.30
6[5]	Creeping Red Fescue	10	.50
	Redtop (streeker, Common)	2	.05
	Perennial Rye Grass	20	.50
		Total 42	1.05
7[5]	Smooth Bromegrass (Saratoga, Lincoln)	15	.35
	Perennial Ryegrass (Norlea, Manhattten)	5	.10
	Bird's-foot Trefoil (Empire, Viking) with inoculant [1]	10	.25
		Total 30	.70
8[6]	Switchgrass (Blackwell, Shelter, Cave-in-rock)	10[1]	.25
	Weeping Lovegrass	3	.07
	Little Bluestem (Blaze, Aldous, Camper)	10[1]	.25
		Total 23	.57
9[6]	Creeping Red Fescue (Pennlawn, Wintergreen)	10	.25
	Crown Vetch (Chemung, Penngift) with inoculant [1]	15	.35
	(or Flatpea (Lathco) with inoculant [1])	(30)	(.75)
	Tall Fescue (Kentucky 31) or Smooth Bromegrass (Saratoga, Lincoln)	15	.35
	Redtop (streeker, Common)	2	.05
		Total 42 (or 57)	1.00 (or 1.40)
10[5]	Creeping Red Fescue (Pennlawn, Wintergreen)	20	.45
	Redtop (streeker, Common)	2	.5
	Crown Vetch (Chemung, Penngift) with inoculant	15	.35
	(or Flatpea (Lathco) with inoculant)	(30)	(.75)
		Total 37 (or 52)	.85 (or 1.25)
11[5]	Bird's-foot Trefoil (Empire, Viking) with inoculant [1]	8	.20
	Crown Vetch (Chemung, Penngift) with inoculant [1]	15	.35
	Creeping Red Fescue (Pennlawn, Wintergreen) or Tall Fescue (Kentucky 31)		
12[6]	Switchgrass (Blackwell, Shelter, Cave-in-rock)	101	.25
	Perennial Ryegrass (Norlea, Manhatten)	5	.10
	Crown Vetch (Chemung, Penngift) with inoculant [1]	15	.35
		Total 45	1.05
13–15	Not used		
16[5]	Tall Fescue (Kentucky 31)	20	.45
	Flatpea (Lathco) with inoculant [1]	30	.75
		Total 50	1.20
17 & 18	Not used		
19[5]	Chewing Fescue	35	.80
	Hard Fescue	30	.70
	Colonial Bentgrass	5	.10
	Bird's-foot Trefoil (Empire, Viking)	10	.20
	Perennial Ryegrass	20	.50
		Total 100	2.3
21[5]	Creeping Red Fescue (Pennlawn, Wintergreen)	Total 60	1.35
22[5]	Creeping Red Fescue (Pennlawn, Wintergreen)	40	.90
	Tall Fescue (Kentucky 31)	20	.45
		Total 60	1.35
23[5]	Creeping Red Fescue (Pennlawn, Wintergreen)	15	.35
	Flatpea (Lathco) with inoculant [1]	30	.75
		Total 45	3.60
24–28	Not Used		
29	Turf Type Tall Fescue (Bonanza, Mustang, Rebel II, Spartan, Jaguar) or Perennial Rye ("Future 2000" mix, Fiesta II, Blazer II, and Dasher II)	175 to 250	6 to 8

[1] Use proper inoculant for legume seeds, use four times recommended rate when hydroseeding.

[2] Use Pure Live Seed (PLS) = $\frac{\% \text{ Germination} \times \% \text{ Purity}}{100}$

EXAMPLE: Common Bermuda seed with 70% germination and 80% purity=

$\frac{70 \times 80}{100}$ or $\frac{56}{100}$ or 56%

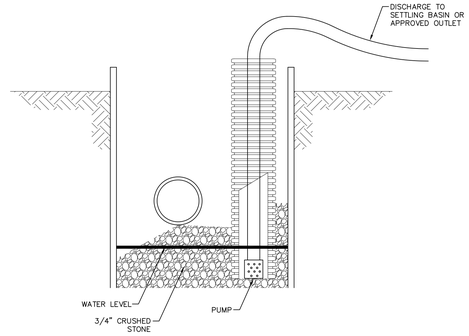
$\frac{10 \text{ lbs PLS/acre}}{56\%}$ = 17.9 lbs/acre of bagged seed

[3] DOT All purpose mix

[4] Wild flower mix containing New England Aster, Baby's Breath, Black Eye Susan, Catchfly, Dwarf Columbine, Purple Coneflower, Lance-leaved Coreopsis, Cornflower, Ox-eye Daisy, Dame's Rocket, Scarlet Flax, Foxglove, Gayfeather, Rocky Larkspur, Spanish Larkspur, Corn Poppy, Spurred Snapdragon, Wallflower and/or Yarrow may be added to any seed mix given. Most seed suppliers carry a wild flower mixture that is suitable for the Northeast and contains a variety of both annual and perennial flowers. Seeding rates for the specific mixtures should be followed.

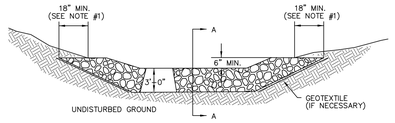
[5] Considered to be a cool season mix.

[6] Considered to be a warm season mix.



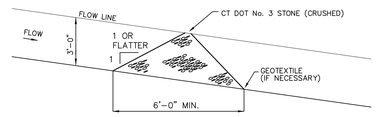
NOTES:
1. PLACE 15 INCH DIAMETER PERFORATED HDPE PIPE AND CRUSHED STONE BELOW TRENCH BOTTOM AHEAD OF WORK AREA. SET INTAKE OF PUMP INSIDE PIPE AND DEWATER TRENCH.
2. DISCHARGE MUDDY WATER TO OUTLET PROTECTION OF A DIRT BAG, TANK TRUCK, PUMP OUTLET BARREL, SETTLING BASIN OR OTHER APPROVED OUTLET. DO NOT DISCHARGE MUDDY WATER TO THE ROAD GUTTER, STORM DRAINAGE SYSTEM, WETLANDS OR STREAMS.
3. MAINTAIN INLET PER SECTION 5-13 DEWATERING OF THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

1 TRENCH DEWATERING - PUMP INTAKE PROTECTION
SCALE: NTS



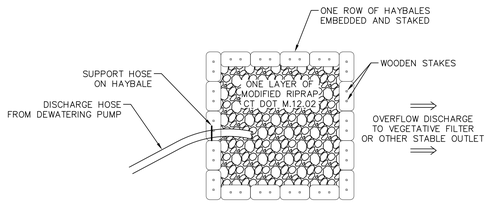
VIEW LOOKING UPSTREAM

NOTES:
1. KEY STONE INTO THE DITCH BANKS AND EXTEND INTO THE ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW FROM FLANKING THE CHECK DAM.
2. THE MINIMUM DESIGN CAPACITY SHALL CONVEY A 2 YEAR – 24 HOUR PEAK FLOW.
3. SPACE STONE CHECK DAMS 50' APART.

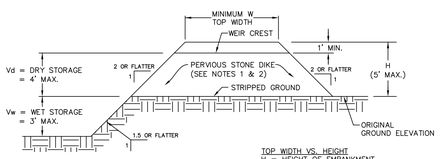


SECTION A–A

2 STONE CHECK DAM DETAIL
SCALE: NTS



3 TRENCH DEWATERING - SETTLING BASIN
SCALE: NTS

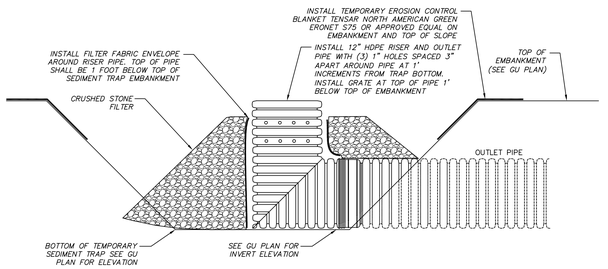


NOTES
1. PERVIOUS STONE DIKE SHALL BE CONSTRUCTED OF CT DOT MODIFIED RIPRAP WITH #3 STONE ON FACE.
2. NON-OVERFLOW PORTIONS AND ABUTMENTS OF TEMPORARY SEDIMENT TRAPS MAY BE CONSTRUCTED OR COMPACTED EARTHFILL.
3. SEDIMENT TRAP SHALL HAVE A STORAGE VOLUME OF 134 CUBIC YARDS PER CONTRIBUTING DRAINAGE AREA, HALF OF WHICH SHALL BE IN THE FORM OF WET STORAGE VOLUME.

TOP WIDTH VS. HEIGHT
H = HEIGHT OF EMBANKMENT
W = TOP WIDTH OF EMBANKMENT

H (ft.)	W (ft.)
1.5	2.0
2.0	2.0
2.5	2.5
3.0	2.5
3.5	3.0
4.0	3.0
4.5	4.0
5.0	4.5

4 TEMPORARY SEDIMENT TRAP DETAIL
SCALE: NTS



5 TEMPORARY SEDIMENT TRAP DETAIL
SCALE: NTS

1.0 POST CONSTRUCTION INSPECTION & MAINTENANCE

Post-construction, regularly scheduled inspections and maintenance will be necessary to ensure the permanent structural features such as the stormwater management basins, water quality units and the stormwater conveyance system components remain optimally functional and continue to reduce the risk of sediment loading of inland wetlands and surface water bodies.

When construction is complete, the Contractor will remain responsible for the site until the entire site has reached final stabilization. The site is considered stabilized when all soil disturbing activities have been completed and a full uniform, perennial vegetative cover has been established or equivalent stabilization measures such as the use of mulches or geotextiles have been employed on all unpaved areas and areas not covered by permanent structures. Weekly inspections should continue until the site has reached this point. Additionally, visual inspections should be performed after every rain event of 0.5 inches or more in 24–hours for the lifetime of the permanent stormwater control measures.

At the time of final stabilization, the Owner's Engineer shall perform a final inspection of the site and certify that the site has successfully undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls such as silt fence, not needed for long term use, have been removed. At this point, the Owner is responsible for the following:

1. Submit to the CTDEEP a Notice of Termination prepared by the Owners' Engineer.
2. Identify all the permanent stormwater management structures that have been constructed and provide the Land Owner with an Operations and Maintenance (O&M) manual that will be necessary in order for the structures to function properly after the site has been stabilized. Section 1.0 of this report satisfies the O&M requirements.
3. Transfer the Engineering Summary Report and Stormwater Pollution Prevention Control Plan (SWPPP) to the Land Owner.
4. Certify that the permanent structures have been constructed as described by this plan and the drawings.

The Land Owner shall overtake responsibility of inspecting and maintaining drainage and erosion control features over the lifetime of the structures. Maintenance personnel, employed by the Land Owner, must be aware of the SWPPP and should be trained to recognize signs that stabilization measures may not be performing optimally or are failing. The inspection of on-site stabilization measures will become part of routine preventative maintenance practiced by the Land Owner. Inspections should be performed after rain events of 0.5 inches or greater in a 24–hour period for the lifetime of the permanent stormwater control measures and at a minimum of twice per year (April 1st and Nov 1st). Inspections and maintenance should be performed as described below within this section.

1.1 Inspection

Overall Site Inspection

The overall site, embankments, vegetation and stormwater conveyance system components including water quality units, outlet pipes, 4' deep catch basin sumps, culverts and swales should be inspected after every major rain event of 0.5 inch or greater in a 24–hour period for the lifetime of the permanent stormwater control measures and twice per year (April 1st and Nov 1st). A rain gauge should be installed and permanently maintained at the site. The inspections should include but are not limited to:

1. Density and condition of vegetation and ground cover.
2. Erosion, differential settlement or cracking of embankment.
3. Bulging or sliding of toe of embankments.
4. Sedimentation of on–site or downstream water bodies.
5. Sedimentation of culverts or swales.
6. Sedimentation of lawn areas, paved areas, water quality unit outlets or catch basin sumps. Parking Area Surface Cleaning – All paved parking areas shall be swept annually between April 1st and July 1st.
7. Accumulation of pollutants, including oils or grease in water quality units and outlet structure sumps.
8. Damage or fatigue of storm sewer structures or associated components.
9. Accumulation of sediment and debris at paved catch basin grates. All basin rim areas and sumps shall be kept clear of sediment, trash, and debris. All catch basins shall be inspected annually between May 1st and September 15th and sumps shall be cleaned when the depth of accumulated material exceeds 1 foot.
10. Rip–Rap outlet protection areas should be inspected at least semi–annually and after substantial rainfall events. These areas shall be cleared of all sediment deposits and invasive plant species. Damage and deterioration of the areas shall be repaired immediately.

Stormwater Basin/ Water Quality Practice Inspection

Stormwater management basins and other water quality practices and all associated features such as spillways, inlets, outlets, forebays and rip rap filter berms should be inspected after every major rain event of 0.5 inch or greater in a 24–hour period for the lifetime of the permanent stormwater control measures and twice per year (April 1st and Nov 1st). Inspections should include but are not limited to:

1. Density and condition of vegetation and ground cover.
2. All features of the basin should be clear of brush and tree growth.
3. Erosion, differential settlement or cracking of basin embankments.
4. Bulging or sliding of toe of embankments.
5. Presence of animal burrows.
6. Evidence of clogging or sedimentation at inlets or outlets, including paved leak–offs.
7. Erosion or sedimentation of the extended flow path through the detention basin.
8. Spillways should be inspected for structural integrity.
9. Spillways should be clear of obstructions.
10. Inlet/outlet riprap should be inspected for scour and dislodged stones and obstructions should be removed. These areas should be inspected at least semi–annually and after substantial rainfall events. These areas shall be cleared of all sediment deposits and invasive plant species. Damage and deterioration of the areas shall be repaired immediately.
11. Accumulation of sediments at inlets, outlets, silt traps, and catch basin grates. All basin rim areas and sumps shall be kept clear of sediment, trash, and debris. All catch basins shall be inspected annually between May 1st and September 15th and sumps shall be cleaned when the depth of accumulated material exceeds 1 foot.

1.2 Maintenance

Overall Site Maintenance

Maintaining vegetative and structural measures for soil protection is necessary to keep the storm water system functioning properly. Maintenance should occur after every major rain event of 0.5 inch or greater in a 24–hour period for the lifetime of the permanent stormwater control measures and twice per year (April 1st and Nov 1st), and should include but is not limited to:

Seasonal Maintenance

1. Vegetated areas should be maintained to promote vigorous and dense growth. Lawn areas should be mowed at least three times a year but may require more frequent mowings depending on the growth rate.

2. Accumulation of litter and debris should be removed during each mowing or sweep operation. Parking Area Surface Cleaning – All paved parking areas shall be swept annually between April 1st and July 1st.

3. Structural components of the storm sewer system such as culverts, water quality units, underground detention system and outlet structures (including sumps) which require repair or replacement should be addressed immediately following identification. All basin rim areas and sumps shall be kept clear of sediment, trash, and debris. All catch basins shall be inspected annually between May 1st and September 15th and sumps shall be cleaned when the depth of accumulated material exceeds 1 foot. Outlet control structures shall be inspected annually between May 1st and September 15th. Debris and sediment within the structures shall be removed annually.

4. Swale and drainageway maintenance will include periodic mowing, occasional spot reseeding and weed control. Weeds and woody plants should be eradicated or cut back since they reduce the efficiency of the drainageway.

5. Rip rap outlet protection that show signs of scour should be repaired. Weed and brush growth at the inlets and outlets should controlled as needed. These areas should be inspected at least semi–annually and after substantial rainfall events. These areas shall be cleared of all sediment deposits and invasive plant species. Damage and deterioration of the areas shall be repaired immediately.

Winter Maintenance

1. Remove snow and ice from catch basin grates, basin inlet and outlet structures and away from culvert end sections.

2. Snow removed from paved areas should not be piled at inlets/outlets of the storm water management basin or on the catch basin grates.

3. Use of deicing materials should be limited to sand and environmentally friendly chemical products. Use of salt mixtures should be kept to a minimum.

4. Sand used for deicing should be clean, course material free of fines, silt, and clay.

5. Materials used for deicing should be removed during the early spring by sweeping and/or vacuuming. Parking Area Surface Cleaning – All paved parking areas shall be swept annually between April 1st and July 1st.

Stormwater Management/Water Quality Maintenance

1. Side slope, embankments, inlets and overflow spillways should be mowed at least three times a year but may require more frequent mowings depending on the growth rate.

2. Trees and shrubs should be removed at the inlets and outlets.

3. Accumulation of litter and debris should be removed during each mowing or sweep operation. Parking Area Surface Cleaning – All paved parking areas shall be swept annually between April 1st and July 1st.

4. Structural components of the basin which require repair or replacement should be addressed immediately following identification.

5. Optimum operation of the stormwater management basins is dependent on storage capacity, inflow and sediment load. Basins and forebays should be monitored periodically for sediment accumulation. Sediments should be removed when capacity has been reduced by 10%, inlets/outlets become clogged or restricted, or when 6 inches has accumulated. When sediment removal is required, original grades should be restored as shown on the Construction Plans. Outlet control structures shall be inspected annually between May 1st and September 15th. Debris and sediment within the structures shall be removed annually.

6. Optimum operation of the underground infiltration units is dependent on storage capacity, inflow and sediment load. The outlet structure should be monitored periodically for sediment and or debris accumulation. Sediments and debris should be removed from the outlet structure immediately upon inspection as the structure controls the rate of release from the system.

7. The water quality units should be maintained by manufacturer's specifications after construction is complete, when the site has reached a full uniform, perennial vegetative cover. The water quality units should also be maintained twice a year (April 1st and Nov 1st) per manufacturer's specifications; which typically involves measurements of sludge depth with a "sludge judge" followed by removal with a "vac–truck". These maintenance measures are to be performed at the Land Owners expense.

8. Spillways should be cleared of obstructions.

9. Inlet / outlet riprap damage due to scour and sedimentation should be repaired. These areas should be inspected at least semi–annually and after substantial rainfall events. These areas shall be cleared of all sediment deposits and invasive plant species. Damage and deterioration of the areas shall be repaired immediately.

REVISIONS
CONSTRUCTION DOCUMENTS

STATE PROJECT NO.
132-0088 N
Phase 1 of 4

TOWN OF SOUTH WINDSOR
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TITLE
SEDIMENTATION/ EROSION CONTROL DETAILS

DATE 11/02/2018

DWG. NO.
C5.5

Nov 01, 2018 @ 2:32pm hthomas Z:\Jobresources\data\2017 Jobs\17-2144 MPN SW Eli Terry\Dwg\2017-2144.dwg
Layout: 24x36 C5.5

MPN Project Number: 20172226.00

EROSION CONTROL NOTES

AT ANY PARTICULAR TIME, LAND DISTURBANCE SHALL BE KEPT TO A MINIMUM. RESTABILIZATION SHALL BE SCHEDULED AS SOON AS POSSIBLE. DO NOT WAIT FOR BUILDING CONSTRUCTION TO BE COMPLETED FOR STABILIZATION OF GRASS AND PAVED AREAS TO PROCEED. IF PERMANENT SLOPES CAN NOT BE COMPLETED IMMEDIATELY UPON THEIR PLACEMENT, TEMPORARY MULCH OR GRASS COVER SHALL BE ESTABLISHED.

SILT FENCE AND/OR HAY BALE BERMS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS AT THE LOCATIONS SHOWN ON THE PLANS, AND STAKED IN PLACE. ALL SUCH PROTECTIVE MEASURES SHALL BE IN PLACE PRIOR TO ANY CUTTING OR FILLING PROCEEDS.

CATCH BASINS SHALL BE PROTECTED WITH SILT FENCE OR HAY BALES THROUGHOUT THE CONSTRUCTION PERIOD. THE STRUCTURES SHALL BE ENCIRCLED COMPLETELY AT LOW POINTS. ON SLOPED AREAS THE SILT FENCE SHALL FORM A POCKET TO TRAP WATER IMMEDIATELY UPSTREAM FROM THE STRUCTURE. STABILIZATION OF GRASS AND PAVED AREAS SHALL BE COMPLETE BEFORE REMOVAL OF THE FENCE.

ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL."

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION IN ANY WATERSHED AREA UNLESS SPECIFIC PERMISSION IS OBTAINED FROM THE TOWN TO OTHERWISE PROCEED FOR SPECIFIC AREAS.

ALL CONTROL MEASURES SHALL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE STABILIZED WITH EITHER PAVEMENT, GRASS OR APPROVED GROUND COVER. CONTROL MEASURES SHALL BE CHECKED BY THE RESPONSIBLE INDIVIDUAL OR HIS DESIGNATED REPRESENTATIVE BEFORE AND AFTER ALL RAIN STORMS AND AFTER EACH WORKING DAY.

THE SITE CONTRACTOR IS ASSIGNED THE RESPONSIBILITY OF IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. HE SHALL APPOINT A SITE REPRESENTATIVE FOR DAILY INSPECTIONS, AND SHALL FURNISH THAT NAME TO THE TOWN. THE RESPONSIBILITY STILL SHALL REST WITH THE SITE CONTRACTOR FOR THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, NOTIFYING THE COMMISSION STAFF OF ANY TRANSFER OF THE DAILY ON-SITE RESPONSIBILITY.

ADDITIONAL CONTROL MEASURES SHALL BE IMMEDIATELY INSTALLED, AS REQUIRED BY THE INTENT OF THIS PLAN AND/OR IF REQUESTED BY THE TOWN. 300 FEET OF UNUSED SILT FENCE SHALL BE KEPT AVAILABLE ON THE SITE FOR THIS PURPOSE.

ALL DISTURBED AND STOCKPILED MATERIALS SHALL BE SEEDED AS SOON AS POSSIBLE. IN THE CASE OF WINTER CONSTRUCTION, MULCH SHALL BE PLACED AND EROSION CONTROL MEASURES PLACED TO PREVENT WASHOUTS OF THE STOCKPILED MATERIAL. THE SAME REQUIREMENTS MAY BE NEEDED FOR CONSTRUCTION DURING OTHER SEASONS AS DIRECTED BY THE TOWN AND THE ENGINEER.

IF IN THE OPINION OF THE TOWN, HAY BALES SHOULD BE USED INSTEAD OF SILT FENCE, SUCH SUBSTITUTION SHALL BE MADE AT THE LOCATIONS REQUESTED. FOR ANY AREAS WHERE SILT FENCE IS DIFFICULT TO MAINTAIN DUE TO WATER FLOW OR OTHER REASON, THE FENCE SHALL BE BACKED UP WITH HAY BALES STAKED INTO PLACE.

A SCHEDULE OF PLANNED ACTIVITIES INCLUDING EROSION AND SEDIMENT CONTROL MEASURE INSTALLATION SHALL BE SUBMITTED TO THE TOWN ALONG WITH ANY OTHER REPORTS REQUESTED BY THE COMMISSION. PLANNED ACTIVITIES SHALL INCLUDE PLANNED PERIODS WHEN SEEDING AND/OR PAVING WILL BE PLACED, WHEN UTILITY LINES WILL BE INSTALLED, WHEN BUILDING CONSTRUCTION WILL TAKE PLACE AND WHEN CUTTING AND FILLING WILL OCCUR. THE SCHEDULE SHALL ALSO INCLUDE DATA ON TRUCK MOVEMENT TO AND FROM THE SITE TO MOVE MATERIAL ONTO OR OFF OF THE SITE. TRUCK MOVEMENTS OFF OF THE SITE SHALL BE RESTRICTED AS DIRECTED BY THE TOWN FOR PEAK TRAFFIC TIMES AND FOR TIMES WHEN NOISE WOULD DISTURB THE PROPERTY NEIGHBORS.

SEEDING MIXTURES SHALL BE IN COMPLIANCE WITH CHAPTER 6 OF THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL". TEMPORARY SEEDING SHALL BE USED WHEN THE GROWING SEASON REMAINING IS LESS THAN 60 DAYS. PERMANENT SEEDING SHALL BE USED WHEN MORE THAN 60 DAYS REMAINS. FOR SEASONS WHEN SEEDING IS NOT POSSIBLE, SUCH AS THE WINTER OR THE DRY PART OF THE SUMMER, MULCH SHALL BE USED AT THE RATE OF TWO TONS PER ACRE. PERMANENT SEEDING SHALL REPLACE TEMPORARY SEEDING AS SOON AS THE SEASON PERMITS AND AS APPROVED BY THE TOWN ENGINEER. REFER TO SEEDING CHARTS ON THE DETAIL SHEETS.

HAY MULCH SHOULD BE APPLIED AT THE RATE OF TWO TONS PER ACRE (40 BALES PER ACRE) ON AREAS TO BE LEFT BARE FOR UP TO 30 DAYS. TEMPORARY SEEDING SHOULD BE USED ON THOSE AREAS FOR MORE THAN 30 DAYS.

SOIL STABILIZATION SHALL BE COMPLETED WITHIN FIVE (5) DAYS OF CLEARING OR INACTIVITY IN CONSTRUCTION.

E&S CONTROLS BE INSPECTED WEEKLY AND AFTER RAINFALL EVENTS OF GREATER THAN 0.1 INCH.

THE CONTRACTOR SHALL NOTIFY THE TOWN ENGINEER/ENVIRONMENTAL PLANNER/CONSERVATION OFFICER AT LEAST TWO WORKING DAYS BEFORE THE FOLLOWING:

1. START OF CONSTRUCTION
2. COMPLETION OF CLEARING LIMIT DEMARCATION
3. INSTALLATION OF E&S MEASURES
4. COMPLETION OF SITE CLEARING
5. COMPLETION OF ROUGH GRADING
6. COMPLETION OF FINAL GRADING
7. CLOSE OF CONSTRUCTION SEASON
8. COMPLETION OF FINAL LANDSCAPING
9. PRIOR TO THE REMOVAL OF CONSTRUCTION E&S CONTROL MEASURES

ALL WASTE MATERIALS (INCLUDING WASTEWATER) SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL LAW. LITTER SHALL BE PICKED UP AT THE END OF EACH WORK DAY. CONCRETE WASHOUT SHALL ON-SITE MUST MEET THE FOLLOWING CONDITIONS:

- CONCRETE TRUCK WASHOUT SHALL BE DONE IN DESIGNATED AREAS ONLY OUTSIDE OF THE INLAND WETLANDS (REFER TO AREA SHOWN ON PLANS).
- CONCRETE TRUCKS SHALL BE INFORMED OF THE DESIGNATED WASHOUT AREA TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.
- CONCRETE WASHOUT MATERIALS MUST BE CONTAINED WHERE WASTE CONCRETE CAN SOLIDIFY IN PLACE AND EXCESS WATER CAN SAFELY EVAPORATE.
- TEMPORARY WASHOUT AREAS SHOULD HAVE A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH TO CONTAIN ALL LIQUID AND WASTE CONCRETE MATERIALS FROM WASHOUT.
- WEEKLY INSPECTIONS OF THE WASHOUT AREA SHALL BE CONDUCTED TO ASSESS THE HOLDING CAPACITY AND FUNCTIONALITY OF THE AREA.

COVER OR WATER TEMPORARY SOIL STOCKPILES AND SITE TO PREVENT WIND EROSION AS NEEDED.

SITE CONTRACTOR SHALL PROVIDE WATER AND/OR CALCIUM CHLORIDE FOR DUST CONTROL DURING CONSTRUCTION.

CONSTRUCTION SEDIMENT TRAPS (ROUGH GRADED DEPRESSIONS) SHALL BE INSTALLED WHERE PRACTICAL DURING CONSTRUCTION IN AREAS THAT WILL NOT BE IN THE AREAS OF MACHINE TRAFFIC. THESE SHALL ALSO BE USED AT THE ENDS OF LONG SWALES PRIOR TO ANY WATER RUNNING OFF-SITE.

EROSION CONTROL INTENT

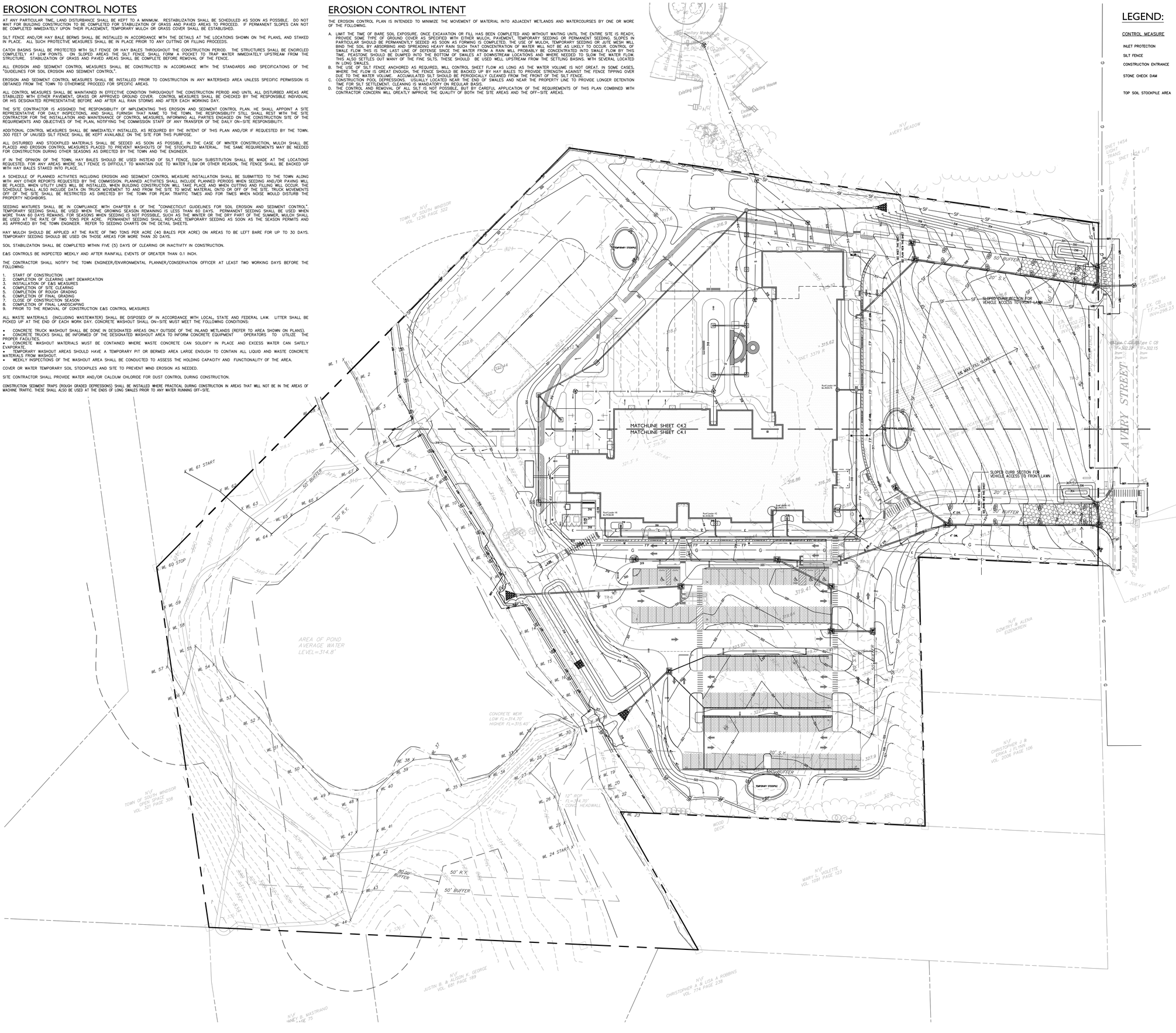
THE EROSION CONTROL PLAN IS INTENDED TO MINIMIZE THE MOVEMENT OF MATERIAL INTO ADJACENT WETLANDS AND WATERCOURSES BY ONE OR MORE OF THE FOLLOWING.

A. LIMIT THE TIME OF BARE SOIL EXPOSURE. ONCE EXCAVATION OR FILL HAS BEEN COMPLETED AND WITHOUT WAITING UNTIL THE ENTIRE SITE IS READY, PROVIDE SOME TYPE OF GROUND COVER AS SPECIFIED WITH EITHER MULCH, PAVEMENT, TEMPORARY SEEDING OR PERMANENT SEEDING. SLOPES IN PARTICULAR SHOULD BE PERMANENTLY SEEDED AS SOON AS FORMING IS COMPLETED. THE USE OF MULCH, TEMPORARY SEEDING OR JUTE MESH WILL BIND THE SOIL BY ABSORBING AND SPREADING HEAVY RAIN SUCH THAT CONCENTRATION OF WATER WILL NOT BE AS LIKELY TO OCCUR. CONTROL OF SWALE FLOW THIS IS THE LAST LINE OF DEFENSE SINCE THE WATER FROM A RAIN WILL PROBABLY BE CONCENTRATED INTO SWALE FLOW BY THIS TIME. PEASTONE SHOULD BE DUMPED INTO THE BOTTOM OF SWALES AT DOWNSTREAM LOCATIONS AND WHERE NEEDED TO SLOW THE WATER FLOW. THIS ALSO SETTLES OUT MANY OF THE FINE SILTS. THESE SHOULD BE USED WELL UPSTREAM FROM THE SETTLING BASINS. WITH SEVERAL LOCATED IN LONG SWALES.

B. THE USE OF SILT FENCE ANCHORED AS REQUIRED, WILL CONTROL SHEET FLOW AS LONG AS THE WATER VOLUME IS NOT GREAT. IN SOME CASES, WHERE THE FLOW IS GREAT ENOUGH, THE FENCE SHOULD BE BACKED UP BY HAY BALES TO PROVIDE STRENGTH AGAINST THE FENCE TIPPING OVER DUE TO THE WATER VOLUME. ACCUMULATED SILT SHOULD BE PERIODICALLY CLEANED FROM THE FRONT OF THE SILT FENCE.

C. CONSTRUCTION POOL DEPRESSIONS. USUALLY LOCATED NEAR THE END OF SWALES AND NEAR THE PROPERTY LINE TO PROVIDE LONGER DETENTION TIME FOR SILT SETTLEMENT. CLEANING IS MANDATORY ON REGULAR BASIS.

D. THE CONTROL AND REMOVAL OF ALL SILT IS NOT POSSIBLE, BUT BY CAREFUL APPLICATION OF THE REQUIREMENTS OF THIS PLAN COMBINED WITH CONTRACTOR CONCERN WILL GREATLY IMPROVE THE QUALITY OF BOTH THE SITE AREAS AND THE OFF-SITE AREAS.



REVISIONS
CONSTRUCTION DOCUMENTS

STATE PROJECT NO.
132-0089 N
Phase 2 of 5

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TITLE
OVERALL SEDIMENTATION & EROSION CONTROL PLAN

DATE 11/2/2018

DWG. NO.
C4.0

MPN Project Number: 20172226.00

Figure PS-3 Seed Mixtures for Permanent Seeding

No.	Seed Mixture (Variety)[4]	Lbs/Acre	Lbs/1,000 Sq. Ft.
1[5]	Kentucky Bluegrass	20	.45
	Creeping Red Fescue (Pennlawn, Wintergreen)	20	.45
	Perennial Ryegrass (Norlea, Manhatten)	5	.10
		Total 45	1.00
2[5]	Creeping Red Fescue (Pennlawn, Wintergreen)	20	.45
	Redtop (streeking, Common)	2	.05
	Tall Fescue (Kentucky 31) or	20	.45
	Smooth Bromegrass (Saratoga, Lincoln)	Total 42	.95
3[5]	Creeping Red Fescue (Pennlawn, Wintergreen)	20	.45
	Bird's-foot Trefoil (Empire, Viking) with inoculant[1]	8	.20
	Tall Fescue (Kentucky 31) or	20	.45
	Smooth Bromegrass (Saratoga, Lincoln)	Total 48	1.10
4[5]	Creeping Red Fescue (Pennlawn, Wintergreen) or Tall Fescue (Kentucky 31)	20	.45
	Redtop (Streeker, Common)	2	.05
	Bird's-foot Trefoil (Empire, Viking) with inoculant[1]	8	.20
		Total 30	.70
5[5]	White Clover	10	.25
	Perennial Rye Grass	2	.05
		Total 12	.30
6[5]	Creeping Red Fescue	10	.50
	Redtop (streeker, Common)	2	.05
	Perennial Rye Grass	20	.50
		Total 42	1.05
7[5]	Smooth Bromegrass (Saratoga, Lincoln)	15	.35
	Perennial Ryegrass (Norlea, Manhatten)	5	.10
	Bird's-foot Trefoil (Empire, Viking) with inoculant[1]	10	.25
		Total 30	.70
8[6]	Switchgrass (Blackwell, Shelter, Cave-in-rock)	10[1]	.25
	Weeping Lovegrass	3	.07
	Little Bluestem (Blaze, Aldous, Camper)	10[1]	.25
		Total 23	.57
9[5]	Creeping Red Fescue (Pennlawn, Wintergreen)	10	.25
	Crown Vetch (Chemung, Penngift) with inoculant[1]	15	.35
	(or Flatpea (Lathco) with inoculant[1])	(30)	(.75)
	Tall Fescue (Kentucky 31) or Smooth Bromegrass (Saratoga, Lincoln)	15	.35
	Redtop (streeker, Common)	2	.05
		Total 42 (or 57)	1.00 (or 1.40)
10[5]	Creeping Red Fescue (Pennlawn, Wintergreen)	20	.45
	Redtop (streeker, Common)	2	.5
	Crown Vetch (Chemung, Penngift) with inoculant	15	.35
	(or Flatpea (Lathco) with inoculant)	(30)	(.75)
		Total 37 (or 52)	.85 (or 1.25)
11[5]	Bird's-foot Trefoil (Empire, Viking) with inoculant[1]	8	.20
	Crown Vetch (Chemung, Penngift) with inoculant[1]	15	.35
	Creeping Red Fescue (Pennlawn, Wintergreen) or Tall Fescue (Kentucky 31)		
12[6]	Switchgrass (Blackwell, Shelter, Cave-in-rock)	101	.25
	Perennial Ryegrass (Norlea, Manhatten)	5	.10
	Crown Vetch (Chemung, Penngift) with inoculant [1]	15	.35
		Total 45	1.05
13–15	Not used		
16[5]	Tall Fescue (Kentucky 31)	20	.45
	Flatpea (Lathco) with inoculant [1]	30	.75
		Total 50	1.20
17 & 18	Not used		
19[5]	Chewing Fescue	35	.80
	Hard Fescue	30	.70
	Colonial Bentgrass	5	.10
	Bird's-foot Trefoil (Empire, Viking)	10	.20
	Perennial Ryegrass	20	.50
		Total 100	2.3
21[5]	Creeping Red Fescue (Pennlawn, Wintergreen)	Total 60	1.35
22[5]	Creeping Red Fescue (Pennlawn, Wintergreen)	40	.90
	Tall Fescue (Kentucky 31)	20	.45
		Total 60	1.35
23[5]	Creeping Red Fescue (Pennlawn, Wintergreen)	15	.35
	Flatpea (Lathco) with inoculant[1]	30	.75
		Total 45	3.60
24–28	Not Used		
29	Turf Type Tall Fescue (Bonanza, Mustang, Rebel II, Sparton, Jaguar) or Perennial Rye ("Future 2000" mix, Fiesta II, Blazer II, and Dasher II)	175 to 250	6 to 8

[1] Use proper inoculant for legume seeds, use four times recommended rate when hydroseeding.

[2] Use Pure Live Seed (PLS) = $\frac{\%\ \text{Germination} \times \%\ \text{Purity}}{100}$

EXAMPLE: Common Bermuda seed with 70% germination and 80% purity=

$\frac{70 \times 80}{100}$ or $\frac{56}{100}$ or 56%

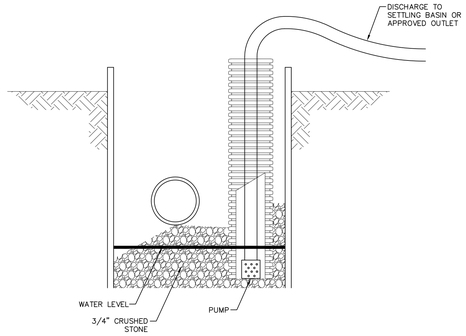
$\frac{10\ \text{lbs PLS/acre}}{56\%}$ = 17.9 lbs/acre of bagged seed

[3] DOT All purpose mix

[4] Wild flower mix containing New England Aster, Baby's Breath, Black Eye Susan, Catchfly, Dwarf Columbine, Purple Coneflower, Lance-leaved Coreopsis, Cornflower, Ox-eye Daisy, Dame's Rocket, Scarlet Flax, Foxglove, Gayfeather, Rocky Larkspur, Spanish Larkspur, Corn Poppy, Spurred Snapdragon, Wallflower and/or Yarrow may be added to any seed mix given. Most seed suppliers carry a wild flower mixture that is suitable for the Northeast and contains a variety of both annual and perennial flowers. Seeding rates for the specific mixtures should be followed.

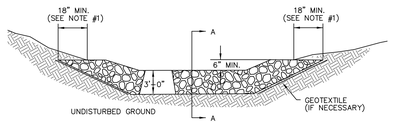
[5] Considered to be a cool season mix.

[6] Considered to be a warm season mix.



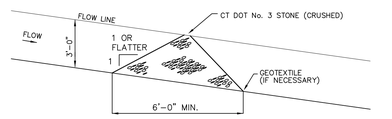
NOTES:
1. PLACE 15 INCH DIAMETER PERFORATED HDPE PIPE AND CRUSHED STONE BELOW TRENCH BOTTOM AHEAD OF WORK AREA. SET INTAKE OF PUMP INSIDE PIPE AND DEWATER TRENCH.
2. DISCHARGE MUDDY WATER TO OUTLET PROTECTION OF A DIRT BAG, TANK TRUCK, PUMP OUTLET BARREL, SETTLING BASIN OR OTHER APPROVED OUTLET. DO NOT DISCHARGE MUDDY WATER TO THE ROAD GUTTER, STORM DRAINAGE SYSTEM, WETLANDS OR STREAMS.
3. MAINTAIN INLET PER SECTION 5-13 DEWATERING OF THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

1 TRENCH DEWATERING - PUMP INTAKE PROTECTION
SCALE: NTS



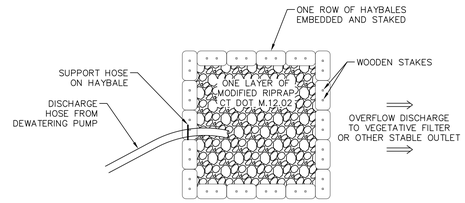
VIEW LOOKING UPSTREAM

NOTES:
1. KEY STONE INTO THE DITCH BANKS AND EXTEND INTO THE ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW FROM FLANKING THE CHECK DAM.
2. THE MINIMUM DESIGN CAPACITY SHALL CONVEY A 2 YEAR – 24 HOUR PEAK FLOW.
3. SPACE STONE CHECK DAMS 50' APART.

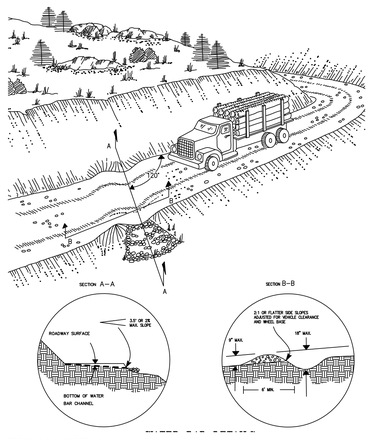


SECTION A–A

2 STONE CHECK DAM DETAIL
SCALE: NTS



3 TRENCH DEWATERING - SETTLING BASIN
SCALE: NTS



4 WATER BAR DETAIL
SCALE: NTS

1.0 POST CONSTRUCTION INSPECTION & MAINTENANCE

Post–construction, regularly scheduled inspections and maintenance will be necessary to ensure the permanent structural features such as the stormwater management basins, water quality units and the stormwater conveyance system components remain optimally functional and continue to reduce the risk of sediment loading of inland wetlands and surface water bodies.

When construction is complete, the Contractor will remain responsible for the site until the entire site has reached final stabilization. The site is considered stabilized when all soil disturbing activities have been completed and a full uniform, perennial vegetative cover has been established or equivalent stabilization measures such as the use of mulches or geotextiles have been employed on all unpaved areas and areas not covered by permanent structures. Weekly inspections should continue until the site has reached this point. Additionally, visual inspections should be performed after every rain event of 0.5 inches or more in 24–hours for the lifetime of the permanent stormwater control measures.

At the time of final stabilization, the Owner's Engineer shall perform a final inspection of the site and certify that the site has successfully undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls such as silt fence, not needed for long term use, have been removed. At this point, the Owner is responsible for the following:

1. Submit to the CTDEEP a Notice of Termination prepared by the Owners' Engineer.
2. Identify all the permanent stormwater management structures that have been constructed and provide the Land Owner with an Operations and Maintenance (O&M) manual that will be necessary in order for the structures to function properly after the site has been stabilized. Section 1.0 of this report satisfies the O&M requirements.
3. Transfer the Engineering Summary Report and Stormwater Pollution Prevention Control Plan (SWPPP) to the Land Owner.
4. Certify that the permanent structures have been constructed as described by this plan and the drawings.

The Land Owner shall overtake responsibility of inspecting and maintaining drainage and erosion control features over the lifetime of the structures. Maintenance personnel, employed by the Land Owner, must be aware of the SWPPP and should be trained to recognize signs that stabilization measures may not be performing optimally or are failing. The inspection of on–site stabilization measures will become part of routine preventative maintenance practiced by the Land Owner. Inspections should be performed after rain events of 0.5 inches or greater in a 24–hour period for the lifetime of the permanent stormwater control measures and at a minimum of twice per year (April 1st and Nov 1st). Inspections and maintenance should be performed as described below within this section.

1.1 Inspection

Overall Site Inspection

The overall site, embankments, vegetation and stormwater conveyance system components including water quality units, outlet pipes, 4' deep catch basin sumps, culverts and swales should be inspected after every major rain event of 0.5 inch or greater in a 24–hour period for the lifetime of the permanent stormwater control measures and twice per year (April 1st and Nov 1st). A rain gauge should be installed and permanently maintained at the site. The inspections should include but are not limited to:

1. Density and condition of vegetation and ground cover.
2. Erosion, differential settlement or cracking of embankment.
3. Bulging or sliding of toe of embankments.
4. Sedimentation of on–site or downstream water bodies.
5. Sedimentation of culverts or swales.
6. Sedimentation of lawn areas, paved areas, water quality unit outlets or catch basin sumps. Parking Area Surface Cleaning – All paved parking areas shall be swept annually between April 1st and July 1st.
7. Accumulation of pollutants, including oils or grease in water quality units and outlet structure sumps.
8. Damage or fatigue of storm sewer structures or associated components.
9. Accumulation of sediment and debris at paved catch basin grates. All basin rim areas and sumps shall be kept clear of sediment, trash, and debris. All catch basins shall be inspected annually between May 1st and September 15th and sumps shall be cleaned when the depth of accumulated material exceeds 1 foot.
10. Rip–Rap outlet protection areas should be inspected at least semi–annually and after substantial rainfall events. These areas shall be cleared of all sediment deposits and invasive plant species. Damage and deterioration of the areas shall be repaired immediately.

Stormwater Basin/ Water Quality Practice Inspection

Stormwater management basins and other water quality practices and all associated features such as spillways, inlets, outlets, forebays and rip rap filter berms should be inspected after every major rain event of 0.5 inch or greater in a 24–hour period for the lifetime of the permanent stormwater control measures and twice per year (April 1st and Nov 1st). Inspections should include but are not limited to:

1. Density and condition of vegetation and ground cover.
2. All features of the basin should be clear of brush and tree growth.
3. Erosion, differential settlement or cracking of basin embankments.
4. Bulging or sliding of toe of embankments.
5. Presence of animal burrows.
6. Evidence of clogging or sedimentation at inlets or outlets, including paved leak–offs.
7. Erosion or sedimentation of the extended flow path through the detention basin.
8. Spillways should be inspected for structural integrity.
9. Spillways should be clear of obstructions.
10. Inlet/outlet riprap should be inspected for scour and dislodged stones and obstructions should be removed. These areas should be inspected at least semi–annually and after substantial rainfall events. These areas shall be cleared of all sediment deposits and invasive plant species. Damage and deterioration of the areas shall be repaired immediately.
11. Accumulation of sediments at inlets, outlets, silt traps, and catch basin grates. All basin rim areas and sumps shall be kept clear of sediment, trash, and debris. All catch basins shall be inspected annually between May 1st and September 15th and sumps shall be cleaned when the depth of accumulated material exceeds 1 foot.

1.2 Maintenance

Overall Site Maintenance

Maintaining vegetative and structural measures for soil protection is necessary to keep the storm water system functioning properly. Maintenance should occur after every major rain event of 0.5 inch or greater in a 24–hour period for the lifetime of the permanent stormwater control measures and twice per year (April 1st and Nov 1st), and should include but is not limited to:

Seasonal Maintenance

1. Vegetated areas should be maintained to promote vigorous and dense growth. Lawn areas should be mowed at least three times a year but may require more frequent mowings depending on the growth rate.

2. Accumulation of litter and debris should be removed during each mowing or sweep operation. Parking Area Surface Cleaning – All paved parking areas shall be swept annually between April 1st and July 1st.

3. Structural components of the storm sewer system such as culverts, water quality units, underground detention system and outlet structures (including sumps) which require repair or replacement should be addressed immediately following identification. All basin rim areas and sumps shall be kept clear of sediment, trash, and debris. All catch basins shall be inspected annually between May 1st and September 15th and sumps shall be cleaned when the depth of accumulated material exceeds 1 foot. Outlet control structures shall be inspected annually between May 1st and September 15th. Debris and sediment within the structures shall be removed annually.

4. Swale and drainageway maintenance will include periodic mowing, occasional spot reseeding and weed control. Weeds and woody plants should be eradicated or cut back since they reduce the efficiency of the drainageway.

5. Rip rap outlet protection that show signs of scour should be repaired. Weed and brush growth at the inlets and outlets should controlled as needed. These areas should be inspected at least semi–annually and after substantial rainfall events. These areas shall be cleared of all sediment deposits and invasive plant species. Damage and deterioration of the areas shall be repaired immediately.

Winter Maintenance

1. Remove snow and ice from catch basin grates, basin inlet and outlet structures and away from culvert end sections.

2. Snow removed from paved areas should not be piled at inlets/outlets of the storm water management basin or on the catch basin grates.

3. Use of deicing materials should be limited to sand and environmentally friendly chemical products. Use of salt mixtures should be kept to a minimum.

4. Sand used for deicing should be clean, course material free of fines, silt, and clay.

5. Materials used for deicing should be removed during the early spring by sweeping and/or vacuuming. Parking Area Surface Cleaning – All paved parking areas shall be swept annually between April 1st and July 1st.

Stormwater Management/Water Quality Maintenance

1. Side slope, embankments, inlets and overflow spillways should be mowed at least three times a year but may require more frequent mowings depending on the growth rate.

2. Trees and shrubs should be removed at the inlets and outlets.

3. Accumulation of litter and debris should be removed during each mowing or sweep operation. Parking Area Surface Cleaning – All paved parking areas shall be swept annually between April 1st and July 1st.

4. Structural components of the basin which require repair or replacement should be addressed immediately following identification.

5. Optimum operation of the stormwater management basins is dependent on storage capacity, inflow and sediment load. Basins and forebays should be monitored periodically for sediment accumulation. Sediments should be removed when capacity has been reduced by 10%, inlets/outlets become clogged or restricted, or when 6 inches has accumulated. When sediment removal is required, original grades should be restored as shown on the Construction Plans. Outlet control structures shall be inspected annually between May 1st and September 15th. Debris and sediment within the structures shall be removed annually.

6. Optimum operation of the underground infiltration units is dependent on storage capacity, inflow and sediment load. The outlet structure should be monitored periodically for sediment and or debris accumulation. Sediments and debris should be removed from the outlet structure immediately upon inspection as the structure controls the rate of release from the system.

7. The water quality units should be maintained by manufacturer's specifications after construction is complete, when the site has reached a full uniform, perennial vegetative cover. The water quality units should also be maintained twice a year (April 1st and Nov 1st) per manufacturer's specifications; which typically involves measurements of sludge depth with a "sludge judge" followed by removal with a "vac–truck". These maintenance measures are to be performed at the Land Owners expense.

8. Spillways should be cleared of obstructions.

9. Inlet / outlet riprap damage due to scour and sedimentation should be repaired. These areas should be inspected at least semi–annually and after substantial rainfall events. These areas shall be cleared of all sediment deposits and invasive plant species. Damage and deterioration of the areas shall be repaired immediately.

REVISIONS
CONSTRUCTION DOCUMENTS

STATE PROJECT NO.
132-0089 N
Phase 2 of 5

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TITLE
SEDIMENTATION/ EROSION CONTROL DETAILS

DATE 11/2/2018

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