Maintenance and Inspection Requirements

A. Construction Phase

Throughout project construction, the responsibility for installation, maintenance and repair of erosion controls and SMP's will rest with the site contractor as the owner's representative. Oversight of the preparedness of erosion controls and SMP's will be conducted by the owner's qualified professional through regular inspections in accordance with NYSDEC SPDES GP-0-15-002 General Permit requirements. On a daily basis, the project superintendent shall check for damaged silt fence, soil tracked onto the roadways/driveways, and the general condition of all temporary erosion control measures. Street sweeping should be conducted as required. Monitor catch basin sumps for sediment accumulation and clean out when one half full.

Construction debris, such as sheet metal and wood scrap, paper and insulation products, styrofoam cups and paper wrappers can become windblown litter over and off the site if neglected. Such litter is easily controlled and prevented when the project superintendent sets the tone for vigilant litter control at the outset of the project. Suitable and ample refuse containers will be provided on the site and emptied when full. Any scattered debris will be picked up and placed in containers on a daily basis. Heavy equipment will be refueled by daily deliveries to the site. Gasoline and oil for small engine equipment will be stored in construction equipment storage sheds. Refueling will take place at least 100 feet away from any existing drainage features to preclude any possible escape of spilled fuel to stormwater. In the event of any major spill, its capture and the removal of contaminated soil will be conducted under NYSDEC regulations for spill remediation.

As work progresses, the superintendent must ensure that the new work area is first protected with perimeter erosion controls. As important as the need to identify areas requiring protection, is the need to determine disturbed areas that can be stabilized with temporary vegetation. Site management responsibilities will include identification of sections in a work phase where active site work will not occur over the next 7 days. If disturbed earth is present, the superintendent will direct the spreading of rye grass seed and mulch for a temporary protective cover.

B. Post Construction

Following completion of construction, stabilization of the site and establishment of suitable vegetative cover, and the responsibility for maintenance of the (3) three infiltration systems will remain with the Owner. These items will require the following maintenance tasks:

Inspection - Following construction, each catch basin, diversion swale, stormwater outfall, diversion MH's and CDS units will require regular inspections on at least a semi-annual basis and following major storm events ½" rainfall or more to check for:

A. Evidence of clogging of outlet piping
B. Accumulation of sediment at the inlet and outlet at all drainage structures
C. Drain down times exceeding 48 hours with the infiltration systems.
D. Sources of erosion within the contributing drainage areas which should be stabilized.

Debris and Litter Control - Removal of debris and litter should be undertaken on a semi annual basis. Particular attention should be given to removal of debris and branches around the outlet structures.

Erosion Control - Eroding soil in contributory areas noted during inspections should be stabilized immediately with topsoil replacement, seeding and mulching. Any riprap dislodged at pipe outlets and in swales should be repositioned.

Catch Basin Cleanout - Catch basins are provided with sumps 18" inches below the pipe inverts for sediment trapping purposes. Catch basin sumps should be cleaned annually using a vacuum cleaning service.

Hydrodynamic Separators (CDS) - Pretreatment Units:
(Refer to manufacturer's maintenance schedule in Appendix M for more specific maintenance requirements)

- Inspect after heavy rainfall greater than ½" in 24 hours for the first year to determine an appropriate maintenance schedule. Subsequent inspections are reduced to quarterly.
- When the sediment volume reaches within 24"-30" of the water surface, the system should be maintained.
- Maintenance is to be performed using a vacuum truck and removing the accumulated sediment pile and debris.

PRACTICE: EROSION CONTROLS

Maintenance Item	Frequency of Inspection					
	Short Term				Long Term	
	Following Major Rainfall	Daily	Weekly	Monthly	Yearly	Following Major Rainfall
Silt Fence (not knocked down or bulging)	X	X				
Construction Entrance (silt accumulation)	X	X				
Soil Stockpile	X			X		
Seeding/Mulching	X			X		
Site Stabilization	X		X			
Catch Basin Inlet Protection	X		X			
Use of Construction Staging Areas	X	X				
General Site Appearance	X	X				
Debris/Litter Control	X	X				
Need to Clean Road Surface	X	X				
Stormwater Discharge Quality	X	X			X	X

PRACTICE: ROCK OUTLET PROTECTION

Maintenance Item	Frequency of Inspection						
	Short Term				Long Term		
	Following Major Rainfall	Daily	Weekly	Monthly	Monthly	Yearly	Following Major Rainfall
Debris Cleanout	X					X	X
Vegetation	X		X			X	X
Sediment Deposition	X		X			X	X
Dislodged Stone	X			X	X		X

PRACTICE: CDS PRETREATMENT UNITS

Maintenance Item	Frequency of Inspection							
	Short Term				Long Term			
	Following Major Rainfall	Daily	Weekly	Monthly	Monthly	Quarterly*	Yearly	Following Major Rainfall
Inflow Pipes & Rims Clear	X			X		X	X	X
Sediment Accumulation in Sumps	X			X		X	X	X
Accumulation of larger trash	X			X		X	X	X
Outlets Unobstructed	X			X		X	X	X

*During first year only.

PRACTICE: INFILTRATION SYSTEMS

Maintenance Item	Frequency of Inspection						
	Short Term				Long Term		
	Following Major Rainfall	Daily	Weekly	Monthly	Monthly	Yearly	Following Major Rainfall
Inflow Pipes Clear	X					X	X
Outlet Structure	X					X	X
Diversion Manhole / Outlets	X		X	X	X	X	X
No Evidence of Downstream Erosion	X						X
Dewaters Between Storms	X						X
Upland Area Clear of Debris	X						X
Forebay Silt Accumulation > 6"	X					X	X

PRACTICE: CATCH BASINS, DRAIN MANHOLES & DIVERSION STRUCTURES

Maintenance Item	Frequency of Inspection						
	Short Term				Long Term		
	Following Major Rainfall	Daily	Weekly	Monthly	Monthly	Bi-monthly*	Yearly	Following Major Rainfall
Inflow Pipes & Rims Clear	X			X		X	X	X
Sediment Accumulation in Sumps	X			X			X	X
Accumulation of larger trash	X			X	X		X	X
Outlets Unobstructed	X			X		X	C	X

* For catch basins located in grassy areas only.

UNAUTHORIZED ALTERATIONS AND ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209 (2) OF THE NEW YORK STATE EDUCATION LAW.

COPYRIGHT © 2018 BIBBO ASSOCIATES, LLP ALL RIGHTS RESERVED. UNAUTHORIZED DUPLICATION IS A VIOLATION OF APPLICABLE LAWS

CRITICAL AREA SEEDING SPECIFICATION

This practice applies to all disturbed areas void of vegetation except where specific seeding/planting recommendations exist.

SEEDING
Site preparation-scarify soil surface for seedbed preparation if compacted. Remove debris and obstacles such as rocks and stumps.

Seed Mixtures

1) Temporary Seedings

a. Ryegrass (annual or perennial) @ 30lbs. per acre(0.7 lbs/ 100sq.ft.).

b. Certified "aroostook" winter rye (ceral rye) @ 100 lbs. per acre(2.5lbs./1000 sq.ft.).

Use winter rye if seeding in October/November.

2) Permanent Seedings

a. Rough or occasionally mowed areas:

	lbs./acre	lbs./1000sq.ft
Empire birdsfoot trefoil(1) OR	8	0.20
Common white clover(1)	8	0.20
PLUS		
Tall fescue	20	0.45
PLUS		
Redtop OR	2	0.05
Ryegrass (perennial)	5	0.10

(1) add innoculant immediately prior to seeding.

Time of seeding

The optimum time for permanent seedings with legumes (birdsfoot trefoil or clover) is early spring.

Permanent seedings may be any time of the year if properly mulched and adequate moisture is provided. Mid summer is not a good time to seed, but these seedings if construction is complete, will facilitate covering the land. Portions may fail and may need reseeding the following year.

Temporary seedings should be made within 24 hours of construction or disturbance. If not, the soil must be scarified prior to seeding.

Method of seeding

Broadcasting. drilling with cultipack type seeder or hydroseeding are acceptable. Good soil to seed contact is the key to successful seedings.

Mulching and Mulch Anchoring

See specifications below.
Irrigation

Watering may be essential to establish a new seeding. Weather conditions and the Intended use of the area will dictate when to water. Irrigation is a specialized practice and care needs to be taken not to exceed the application rate/infiltration rate of a given soil.

Each application must be uniformly applied and 1 to 2 inches of water should be applied per application set up.

Mulching

The mulching specifications provided hereon apply to any disturbed areas or exposed slopes 20' vertical or greater that are exposed outside of the spring and fall grass growing season.

Mulch Material: Air-dried hay or straw; free of undesirable seeds and coarse materials.

Application Rate: 90-100 lbs per 1000 s.f, or 2 tons per acre.

Recommended Surface Coverage: Approximately 90%

Mulch Anchoring Material: Biodegradable Mulch netting: light-weight paper, jute wood fiber, or plastic netting

Method of Anchoring Application: Staple mulch netting to soil surface in accordance with netting manufacturers recommendations.

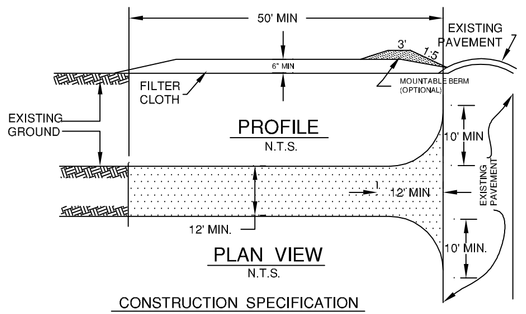
EROSION & SEDIMENT CONTROL NOTES

A. General Notes

1. Prior to commencement of any clearing, grading, or excavation in connection with any proposed construction activity, where greater than 5,000 s.f.of area will be disturbed, the Owner of Record shall receive an MS4 SWPPP Acceptance from the Town of Southeast and file a Notice of Intent (NOI) with the New York State Department of Environmental Conservation (NYS DEC). To obtain coverage under the spdes general permit for stormwater discharges from construction activity (GP-0-15-002). When all construction has been completed and the site has reached final stabilization, the Owner shall have the Town Stormwater management officer sign the Notice of Termination (NOT) for submission to the NYS DEC.
2. A copy of all Contractor's Certifications, required pursuant to GP-0-15-002 for all land disturbances, development or redevelopment located within the Town of Southeast, shall also be filed with the Southeast Planning Department.
3. All construction activities involving the removal or deposition of soil are to be provided with appropriate protective measures to minimize erosion and contain sediment deposition within the site. Minimum soil erosion and sediment control measures shall be implemented as shown on the plans approved by the Town of Southeast. All erosion and sediment control measures employed during construction shall comply with the NYS DEC's "New York Standards and Specifications for Erosion and Sediment Control," latest edition.
4. Prior to beginning any construction or land disturbance activities the Owner shall provide in writing a list of all contractors and subcontractors responsible for installing, constructing, repairing, inspecting and maintaining the erosion and sediment control practices and post-construction stormwater management practices included in the SWPPP. Each contractor or subcontractor responsible for implementation of the SWPPP shall sign a certification statement, as stated in the General Permit for Stormwater Discharges from Construction Activity" (Permit No. GP-0-15-002 Part III.A.5.6). A copy of each certification statement will be provided to the Town of Southeast.
5. The Owner, contractor and subcontractor (together hereafter the O.F.R.)will be responsible for the implementation and maintenance of sediment and erosion control measures on the site prior to and during construction.
6. All erosion control measures are to be maintained in proper functioning order and are to be repaired or replaced as necessary, or as required by the Town Planner, Building Inspector, Town ECI, or Town Engineer.
7. Sedimentation and erosion control measures shall be inspected and maintained on a daily basis by the O.F.R. to ensure that channels, temporary and permanent ditches and pipes are clear of debris, that embankments and berms have not been breached and that all straw bales and silt fences are intact. Any failure of sediment and erosion control measures shall be immediately repaired by the Contractor and inspected for approval by the O.F.R. and/or Site Engineer.
8. The O.F.R. shall inspect downstream conditions for evidence of sedimentation on a weekly basis and after rainstorms of 0.5 inches or greater.
9. Responsibility for the erosion and sediment control plan rests with the landowner of record. This responsibility includes installation and maintenance of all control measures, informing all parties involved in site construction of the plan's objectives and requirements, notifying the Town of Patterson of any transfer of its 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.
10. Site inspections shall be conducted by a qualified inspector (retained by the Owner) as defined within the NYS DEC General Permit at twice every seven (7) calendar days, or as otherwise noted by the Town of Southeast requirements.
11. Wherever feasible, natural vegetation should be retained and protected. Only the smallest practical area of land should be exposed at any one time during development, and the exposure shall be kept to the shortest practical period of time. Disturbance shall be limited to the areas required to perform construction.
12. Phasing shall be required on all sites disturbing greater than five (5) acres, with the size of each phase to be established by the Planning Board or Town Planner.
13. Stabilized construction entrances, silt fences and other erosion and sediment controls shall be installed as shown on plans approved by the Town of Southeast prior to beginning any clearing and grubbing or earthwork.
14. The exposure of an area by site preparation shall be kept to the shortest practical period of time. Erosion and sediment control requirements shall include surface stabilization measures applied as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven (7) days after the construction activity in that portion of the site has temporarily or permanently ceased. From November 1 through March 31 any disturbed area must be stabilized using a heavy mulch layer, a rolled erosion control product or another method that does not require seed germination to control erosion. Any graded areas not subject to further disturbance or construction traffic shall be immediately brought to final grade and receive permanent vegetation cover in combination with a suitable mulch.
15. The permanent final vegetation and structures shall be installed as soon as practical and as may be directed by the Town Planner, Town ECI, or Town Engineer.
16. All topsoil to be stripped from the area being developed shall be stockpiled not less than two hundred (200) feet from any body of surface water and shall be immediately seeded with a rye grass mixture having a quick germination time.
17. Grass seed mix may be applied by either mechanical or hydroseeding methods. All seeding and turf establishment shall be performed in accordance with the current edition of the NYS DOT's "Standard Specifications- Construction and Materials," Section 610-3.02, Method No. 1. If seeding is performed between May 15th and August 15th irrigation may be required to ensure proper lawn establishment, and shall be performed if so directed by the project engineer or the Town's representatives.
18. All cut slopes and embankment fills are to be immediately laid back and stabilized using appropriate techniques which meet the design standards found in the "New York Standards and Specifications for Erosion and Sediment Control," latest edition. At a minimum, slopes and embankments shall be stabilized as follows:
    a. Grade to finished slopes.
    b. Scarified.
    c. Topsoiled with not less than four (4) inches of suitable topsoil material.
    d. Seeded with a grass type and rate appropriate for the specific soil type and slope as identified in the SWPPP
    e. Mulched with not less than one (1) inch and not more than three (3) inches of straw (two tons per acre) and anchored in a suitable manner.
    f. All graded slopes greater than a 2h:1v shall use a rolled erosion control product or other means necessary to provide permanent stabilization, and shall be approved by the Town of Patterson prior to installation.
19. On all embankment fill slopes, topsoil shall be stripped at least five (5) feet wider than required for the embankment toe of slope. A protective berm of topsoil shall be left in this area, running parallel to the contours for the purpose of restricting drainage runoff. The topsoil berm shall be seeded as required for stockpiles.
20. Paved roadways shall be kept clean at all times.
21. The site shall at all times be graded and maintained such that all stormwater runoff is diverted to soil erosion and sediment control facilities.
22. All storm drainage outlets shall be stabilized, as required, before the discharge points become operational.
23. Stormwater from disturbed areas must be passed through sediment control devices before discharge beyond disturbed areas or discharged into other drainage systems.
24. Dust shall be controlled by sprinkling or other approved methods as necessary, or as directed by the O.F.R.
25. Cut and fills shall not endanger adjoining property, nor divert water onto the property of others.
26. All fills shall be compacted to provide stability of material and to prevent settlement.
27. Erosion control measures shall remain in place until all soil disturbing activities have been completed and all disturbed areas are suitably stabilized. A disturbed area shall be deemed to be "suitably stabilized" upon establishment of a uniform perennial vegetative cover (having a density of at least 80%) on all unpaved areas or areas not covered by permanent structures. Areas which are paved or covered by a permanent structures shall also be considered to be "suitably stabilized."
28. Construction equipment shall not unnecessarily cross live streams except by means of bridges and culverts or other approved methods.
29. As warranted by field conditions, special additional sedimentation and erosion control measures, as specified by the site Engineer, the Building Inspector, the Town Planner the Town ECI and/or the Town Engineer shall be installed by the Contractor at no cost to the Town.
30. No topsoil shall be removed from the site unless otherwise specifically stated on the plans.

UNAUTHORIZED ALTERATIONS AND ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209 (2) OF THE NEW YORK STATE EDUCATION LAW.

COPYRIGHT © 2018 BIBBO ASSOCIATES, LLP ALL RIGHTS RESERVED. UNAUTHORIZED DUPLICATION IS A VIOLATION OF APPLICABLE LAWS



CONSTRUCTION SPECIFICATION

1 STONE SIZE- USE 2" STONE, OR RECYCLED CONCRETE EQUIVALENT.

2 LENGTH-NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGHT WOULD APPLY.)

3 THICKNESS- NOT LESS THAN SIX (6) INCHES.

4 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.

5 FILTER CLOTH- WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.

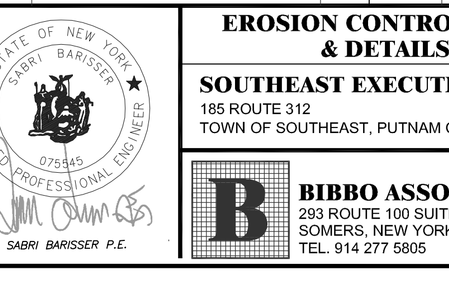
6 SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRACES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.

7 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, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

8 WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE & WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

9 PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE DETAIL



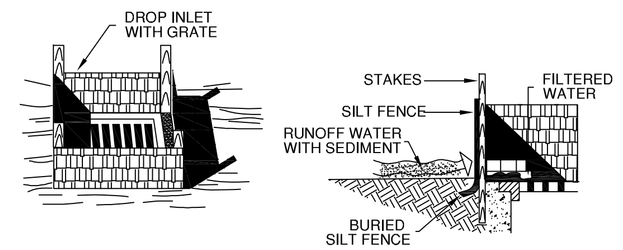
TYPICAL SILT FENCE INSTALLATION

N.T.S.

* USE "KONTROL FENCE " AS MANUFACTURED BY NKOLON (OR APPROVED EQUAL)

CATCH BASIN INLET PROTECTION

N.T.S.



SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLCABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPES NO GREATER THAN 5 % WHERE SHEET OR OVERLAND FLOWS (NOT EXCEEDING 0.5 c.f.s.) ARE TYPICAL. WHERE SLOPES OF FLOWS ARE GREATER OR WHERE CONCENTRATED FLOWS ARE ANTICIPATED, USE HORIZONTAL BRACES ACROSS STAKES AND SURROUND SILT FENCE WITH CRUSHED STONE.

SILT FENCE DROP INLET SEDIMENT FILTER

N.T.S.

REVISIONS

DATE:	DESCRIPTION	BY/CK	DATE:	DESCRIPTION	BY/CK
9/04/18	REVISED PER TOWN COMMENTS	DK/JB			
8/31/18	REVISED PER NYCDEP COMMENTS	DK/MG			
5/11/18	REVISED FOR NYCDEP SUBMISSION	DK/MG			

STATE OF NEW YORK · SABRI BARISSER · 075445 · LICENSED PROFESSIONAL ENGINEER

SABRI BARISSER P.E.

EROSION CONTROL NOTES & DETAILS

SOUTHEAST EXECUTIVE PARK
185 ROUTE 312
TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

BIBBO ASSOCIATES, LLP
293 ROUTE 100 SUITE 203
SOMERS, NEW YORK 10589
TEL. 914 277 5805

DATE:	03-05-18
SCALE:	AS SHOWN
FILE:	
DSGN / CHK:	JB / SB
DRN. BY:	DK
SHT NO.	8 OF 10
DWG NO.	**D-3**