

EROSION AND SEDIMENT CONTROL NOTES

The primary emphasis of the erosion/sedimentation control plan to be implemented for this project is to provide a careful construction sequence. Rapid revegetation of denuded areas to minimize the period of soil exposure. Rapid stabilization of drainage paths to avoid fill and gully erosion. The use of onsite measures to capture sediment (hay bales/silt fence, etc.). The provisions for long term erosion/sediment and pollutant treatment by the incorporation of permanent Best Management Practices.

Description and Location of Limits of All Proposed Earth Movements

The construction of the development will require the following on-site improvements. Earthwork activity including cuts and fills to bring the parking, drive aisle and walkway areas to subgrade. Construction of parking lots, drive aisles, walkways and installation of underground utilities and storm drains for the building.

Erosion/Sedimentation Control Devices

The following erosion and sediment control devices will be implemented by the Contractor as part of the site development. These devices shall be installed as indicated on the plans or as described within this report. For further reference, see the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices.

Siltation fence shall be installed downstream of any disturbed areas to trap runoff borne sediments until the site is revegetated. The silt fence shall be installed per the detail provided in the plan set and inspected immediately after each rainfall event. Repairs shall be made or sedimentation below the fence line. Proper placement of stakes and fabric into the ground edges, or impounding of large volumes of water behind the fence, the barrier shall be replaced with a stone check dam.

Hay mulch, including hydroseeding is intended to provide cover for denuded or seeded areas until revegetation has occurred. Hay mulch shall be placed on slopes of less than 10 percent shall be covered with a fabric netting and anchored with staples according to the manufacturer's recommendations. Slopes steeper than 3:1 which are to be revegetated shall receive straw blankets by American Excelsior or equal. Mulch application rates are provided in seeding plans. Hay mulch shall be available on site at all times in order to provide immediate temporary stabilization when necessary.

A concrete detention pond will be constructed to provide sedimentation control for stormwater runoff from the building areas during and after construction. Riprap slopes, ditch lining, stone check dams, silt fences and culvert outlet aprons are intended to reduce runoff velocities and protect denuded soil. Installation details are provided in the erosion control detail sheets.

A construction entrance will be constructed at all access points onto the site to prevent tracking adjacent road ways.

Pre-erectable silt traps or a premanufactured SiltSack™ will be installed at catch basin inlets to prevent sediment from entering the storm drain system. Installation details are provided in the plan set on the erosion control detail sheets.

Loom and seed is intended to serve as the primary permanent revegetative measures for all denuded areas not provided with other erosion control measures such as SiltSack™.

Areas as shown on the landscape plan will receive sod. Application rates are provided at the end of this section for temporary and permanent seeding in non-wetland areas.

Temporary Erosion/Sedimentation Control Measures

The following are planned as temporary erosion/sedimentation control measures during construction:

A crushed stone stabilized construction entrance(s) shall be placed at the site access onto Central and Herman Avenues.

Siltation fence shall be installed along the downgradient side of the parking areas and of all fill areas. The siltation fence will remain in place and properly maintained until the site is acceptably revegetated.

Temporary stockpiles of stumps, grubblings, or common excavation will be protected as follows:

Temporary stockpiles shall not be located within 100 feet of the wetlands and shall be located away from drainage swales.

Stockpiles shall be stabilized within 7 days by either temporarily seeding the stockpile with a hydroseed method containing an emulsified mulch tackifier or by covering the stockpile with mulch.

All denuded areas that are within 100 feet of a wetland which have been rough graded and are not located within the building pad or parking and driveway subbase area, shall receive mulch or erosion control mesh fabric within 7 days of initial disturbance of soil. In other areas, the time period may be extended to 14 days.

For work which is conducted between November 1 and April 15 of any calendar year, all denuded areas will be covered with hay mulch, applied at twice the normal application rate and anchored with a fabric netting. The hay mulch for applying mulch shall be limited to 7 days for all areas or immediately in advance of a predicted rainfall event.

Central Avenue shall be swept to control mud and dust as necessary.

During grubbing operations stone check dams or hay bale barriers will be installed at any evident concentrated flow discharge points.

Silt fencing with a maximum stake spacing of 6 feet should be used, unless the fence is supported by wire fence reinforcement of minimum 14 gauge or with a maximum stake spacing of 6 inches, in which case stakes may be spaced a maximum of 10 feet. The bottom of the fence should be properly anchored a minimum of 6" per the plan detail and backfilled. Any silt fence identified by the owner or reviewing agencies as not being properly installed during construction shall be immediately repaired in accordance with the installation details.

Storm drain catch basin inlet protection shall be provided through the use of stone sediment barriers or a premanufactured SiltSack™ as distributed by A. H. Harris. Stone sediment barrier installation details are provided in the plan set. The barriers shall be inspected after each rainfall and repairs made as necessary. Sediment shall be removed and the barrier restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the barrier. The barrier shall be removed when the tributary drainage area has been stabilized.

Sedimentation Basin

The proposed storm drain system will serve as a temporary sediment basin during construction. The storm drain system shall be installed early in the construction process to permit runoff to enter the basin.

The volume of sediment exiting the basin(s) will be minimized by the use of temporary sediment traps at the inlets to the storm drain system and the installation of a sediment sump at the storm drain outlet into each basin. After paving, the sediment traps and sump shall be removed, accumulated within the basin shall be removed, and the temporary riser shall be removed.

Permanent Erosion Control Measures

The following erosion/sedimentation control measures have been designed as part of the Erosion/Sedimentation Control Plan:

All storm drain pipes that outlet to any areas other than the public storm drain system shall have riprap aprons and plunge pools at their outlet to protect the outlet and receiving channel of the culverts from scour and deterioration. Installation details are provided in the plan set. The aprons and plunge pools shall be installed and stabilized prior to directing runoff to the tributary pipe or culvert.

All areas disturbed during construction, but not subject to other restoration (paving, riprap, etc.) shall be loamed, limed, fertilized, mulched, and seeded. Fabric netting, anchored with stakes, shall be placed over the 100' in areas where the finish grade slope is greater than 10 percent. All areas within 100' of a wetland shall receive protection within 7 days. Native topsoil shall be stockpiled temporarily stabilized with seed and mulch and reused for final restoration when it is of sufficient quality.

Catch basins will be provided with sediment sumps.

Timing and Sequence of Erosion/Sedimentation Control Measures

The following construction sequence shall be required to insure the effectiveness of the erosion and sedimentation control measures are optimized. The sequence applies to all phases of construction.

Note: For all grading activities, the contractor shall exercise extreme caution not to overexpose the site by limiting the disturbed area. Install crushed stone stabilized construction entrance at Central and Herman Avenues. Install perimeter siltation fence as indicated on the plans. Clear and grub areas as necessary for the detention pond.

Excess material shall be stockpiled and stabilized for use as fill for later grading.

Perform earthwork to bring areas to subgrade.

Begin installation of drainage apparatus and piping.

Foundation preparation area shall be excavated for installation of the building footings.

Commence additional earthwork in fill areas of the parking area.

Complete earthwork and grading to subgrade as necessary for parking areas.

Complete installation of storm drainage apparatus.

Structures within the parking area shall be temporarily set to subgrade and shall be reset upon placement of gravel and asphalt.

Commence installation of sanitary sewer and other utilities.

Commence installation of underground power, gas, and other utilities.

Complete installation of underground utilities to within 5' of building.

Install dumpster pad and light pole foundations. Note: light pole fixtures mounting elevations may not exceed 20'.

Complete all remaining earthwork operations including fine grading of slopes.

Install subbase and base gravels within parking fields and walkways.

Install course paving for parking area.

Loom, lime, fertilizer, seed and mulch disturbed areas, parking areas and complete all landscaping.

Install surface course paving for parking areas. Stripe per plans.

Remove accumulated sediment from ahead of any sediment barriers as necessary.

Once the site is stabilized and a 75% catch of vegetation has been obtained, remove all temporary erosion control measures.

Touch up loam and seed.

Non-denuded areas not subject to final paving, riprap, or gravel, shall be revegetated.

Due to the nature of the project, completion of the facility within a summer construction season may occur.

On April 15 of the calendar year, the Contractor shall submit a schedule which will satisfy the following criteria:

Limit the amount of exposed area to those areas in which work is expected to be undertaken during the preceding 15 days.

During the construction process, all disturbed areas shall be covered with mulch within 7 days of final grading.

Once final grade has been established, the contractor may choose to dormant seed the disturbed areas prior to placement of mulch and placement of fabric netting anchored with stakes.

If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5#/1000 s.t.

All areas seeded during the winter months will be inspected in the spring for adequate catch. All areas sufficiently vegetated (less than 75 percent catch) shall be revegetated by replacing loam, seed and mulch.

If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

Seeding of denuded non-stabilized construction shall be limited to the minimum area practicable. Areas to be seeded shall be denuded until the subbase gravel is installed in parking areas, the base shall be scalped in building areas, or the areas of future loam and seed have been loamed, seeded and mulched. The seeding rate shall be twice the rate specified in the seeding plan. [For example, 115#/1000 sq. ft. shall be 230#/500 sq. ft.] Within the exposed work area, temporary sedimentation sumps shall be installed at the interface between parking areas and graded slopes. This shall be accomplished by creating an area 18" below adjacent temporary grades. The sedimentation area shall have a bottom width of 3' and 3:1 side slopes. Culverts to allow access shall be installed by the Contractor. All sedimentation sumps, barriers shall be provided at sufficient intervals to permit runoff to be contained to a minimum depth of 12" before overflowing.

The schedule shall be subject to the approval of the Owner.

The Contractor must install any added measures which may be necessary to control erosion/sedimentation from the site dependent upon the actual site and weather conditions.

The Contractor shall note that no area within 100 feet of a wetland shall remain denuded for a period of over 7 days before it is temporarily stabilized. Temporary stabilization shall be the installation of hay mulch. All other areas shall be stabilized within 14 days. For construction between November 1 and April 15 of any calendar year, all areas shall be temporarily stabilized within 7 days or prior to a forecasted rainfall event.

PERMANENT SEEDING PLAN NON-WETLAND AREAS

Project: Central Avenue

Site Location: Peaks Island, Portland, Maine

1. Area to be seeded: 1± acre, OR M Sq. Ft. Permanent Seeding Temporary Seeding

2. Instructions on preparation of soil: Prepare a good seed bed for planting method used.

3. Apply lime as follows: #/acres, OR 138#/M Sq. Ft.

4. Fertilize with N-P-K/acc. OR

18.4 pounds of 10 - 20 - 20 N-P-K/M Sq. Ft.

5. Method of applying lime and fertilizer: Spread and work into the soil before seeding.

6. Seeding with the following mixture:

45% Creeping Red Fescue

10% Perennial Ryegrass

When using small grain as nurse crop seed it at one-half the normal seeding rate.

7. Mulching instructions: Apply at the rate of tons per acre. OR

115 pounds per M. Sq. Ft.

Amount Unit # Tons, Etc.

9. TOTAL FERTILIZER 18.38 #/1000 sq. ft.

10. TOTAL SEED 1.03 #/1000 sq. ft.

11. TOTAL MULCH 115 #/1000 sq. ft.

12. TOTAL other materials, seeds, etc.

13. REMARKS

Spring seeding is recommended, however, late summer (prior to September 1) seeding can be made. Permanent seeding should be made prior to August 5 or as a dormant seeding after the first killing frost and before the first snowfall. If mulch cannot be used within these seeding dates, temporary seeding and mulch should be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

Fertilizer requirements shall be subject to actual test results of the topsoil used for the project. The Contractor shall be responsible for providing topsoil test results for pH and recommended fertilizer application rates to the owner.

TEMPORARY SEEDING PLAN NON-WETLAND AREAS

Project: Central Avenue

Site Location: Peaks Island, Portland, Maine

Permanent Seeding X Temporary Seeding

1. Area to be seeded: 1± acre, OR M Sq. Ft.

2. Instructions on preparation of soil: Prepare a good seed bed for planting method used.

3. Apply lime as follows: #/acres, OR 138#/M Sq. Ft.

4. Fertilize with N-P-K/acc. OR

18.4 pounds of 10 - 20 - 20 N-P-K/M Sq. Ft.

5. Method of applying lime and fertilizer: Spread and work into the soil before seeding.

6. Seeded with the following mixture:

50% Perennial Ryegrass

50% Winter Rye

When using small grain as nurse crop seed it at one-half the normal seeding rate.

7. Mulching instructions: Apply at the rate of tons per acre. OR

230 pounds per M. Sq. Ft.

Amount Unit # Tons, Etc.

8. TOTAL FERTILIZER 18.38 #/1000 sq. ft.

9. TOTAL SEED 1.03 #/1000 sq. ft.

10. TOTAL MULCH 115 #/1000 sq. ft.

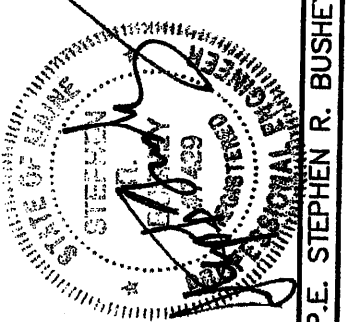
11. TOTAL SEED 1.75 #/1000 sq. ft.

12. TOTAL other materials, seeds, etc.

13. REMARKS

Recommended seeding dates after August 15. For areas with slopes >10%, waterways, areas within 100 feet of wetlands, and fall and winter erosion control areas, mulch netting shall be used per manufacturer's specifications.

Fertilizer requirements shall be subject to actual test results of the topsoil used for the project. The Contractor shall be responsible for providing topsoil test results for pH and recommended fertilizer application rates to the owner.



PROJECT	PEAKS ISLAND HOUSING FACILITY & HEALTH CENTER PORTLAND, MAINE	
SHEET TITLE	EROSION CONTROL NOTES	
CLIENT	VOLUNTEERS OF AMERICA	
DESIGNED BY	JCM	SCALE: AS NOTED
DRAWN BY	CAW	DATE: NOV. 2002
CHECKED BY	SRB	JOB NO. 2301
FILE NAME	2301-DET-EROS	
SHEET	C-10	

REV	DATE	DESCRIPTION
1	07.24.03	ISSUED FOR CONSTRUCTION
2	07.24.03	REVISED BUILDING LAYOUT - ISSUED FOR OWNERS REVIEW
3	07.24.03	REVISED BUILDING LAYOUT - ISSUED FOR OWNERS REVIEW
4	07.24.03	REVISED FOR PORTLAND PLANNING AUTHORITY
5	07.24.03	RELEASED FOR CONSTRUCTION