

Construction Period Erosion Control Plan

ERIC PONTIFF

Project Location:

Off Forest Street Map 49 Lot 62-6

Prepared for:

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The project shall implement a Construction Period Erosion Control Plan. The following provides descriptions and guidelines to ensure that the areas surrounding the project site will be protected from excessive sedimentation and runoff during construction.

1.1 Construction Period Pollution Prevention And Erosion Control Measures

1.1.1 Preconstruction Notifications and Meetings

Prior to the start of construction, the contractor shall call together a pre-construction meeting including the design engineer, contractor, and any pertinent persons that should be in attendance. These requirements shall be the responsibility of the Contractor to arrange, attend, and document. The purpose is to review the subdivision permit and its conditions. The developer/applicant is responsible for compliance with the prevention of all erosion and build-up of sediment within the area disturbed due to the construction of the parking lot and drainage system.

1.1.2 Sediment Barrier and Work Limit

Before installation of the sediment barriers, the location shall be staked in the field for review and approval by the owner or their design engineer. To facilitate sediment barrier installation, woody vegetation may be removed, and any required trench may be cut by machine, provided all other ground cover is left intact. No excavation, grading, filling, or removal of vegetative ground cover shall begin until sediment barriers have been installed as shown on the plans and have been inspected by the owner or their representative.

1.1.3 Silt Fence

The bottom of the fence shall be trenched into the ground a minimum of 6" and backfilled with compacted soil. Where trenching is not feasible, silt fence skirt shall be covered with compacted soil or crushed stone. The top of the fabric shall be stretched as tightly as is practical, with intermediate stakes added to correct excessive sags. Stakes shall be driven at least 12" into the ground. Splices between sections shall be made by rolling end stakes together one complete turn and driving into the ground together.

1.1.4 Straw Bales

Straw bales may be used as temporary and moveable control measures, temporary check dams, or as reinforcement for silt fence in areas of concentrated runoff or high fills. Bales shall be tightly butted and staked 12" into the ground. Where used without silt fence in front, the bales shall be trenched 4" into the ground, backfilled with compacted soil, and the spaces between bales shall be chinked with loose hay.

1.1.5 Filter Sock (Filtrexx or Equivalent)

In areas of expected sheet flow, filter sock may be placed directly on the ground without trenching or stakes. In areas of expected concentrated flow, mulch or crushed stone shall be placed along the up-slope face to control and filter underflow. Additional layers of Filter Sock may be required for adequate freeboard. The filter sock shall be staked at 10 feet on-center or in cases where they cannot be staked, utilize heavy concrete blocks to hold in place.

1.1.6 Temporary Sedimentation Traps

Temporary sediment traps may be excavations or bermed stormwater detention structures

(depending on grading) that will retain runoff for a sufficient period of time to allow suspended soil particles to settle out prior to discharge. These temporary traps will be located based on construction needs as determined by the contractor and outlet devices will be designed to control velocity and sediment. Points of discharge from sediment traps will be stabilized to minimize erosion. If the temporary trap is to be located within an area of future infiltration as part of the stormwater management system, the excavation for the temporary sedimentation basin shall be limited to one foot above final grade of the infiltration structure.

Particular attention is to be paid for the creation of a sediment trap adjacent to the wash out facility. The contractor is to pay strict attention at the levels of sediment within the sediment trap removing such material as necessary to allow for the necessary capacity for washing all trucks that exit the site.

1.1.7 Stocking Additional Materials

A stock of additional erosion control materials shall be available on the site for emergency repairs and temporary measures. Stock shall be replenished when decreased to 50% of the numbers below. Stock shall include:

Straw Bales - 10 (kept dry) with 20 oak stakes

Or

Silt Fence - 30 Linear feet.

Or

Filter Sock - 4 - 8 foot sections (kept dry)

Washed Stone - One (1) cubic yard, 3/4" to 2" diameter

1.1.8 Trench Protection

Open trenches shall be protected from accumulation of surface water or groundwater that could result in erosion of the trench and discharge of sediment. Where feasible, spoil shall be stockpiled on the up-slope side of the trench to prevent entrance of surface runoff. Backfill shall be crowned to allow for settlement and to avoid concentration of runoff on top of the trench.

1.1.9 Site Stabilization - Temporary

Where a portion of the site will not be subject to construction activity for over 14 days, measures shall be taken to provide temporary stabilization of that inactive portion of the site, within 14 days of the cessation of construction activity. Stabilization measures may include seeding for temporary cover, mulching, or other measures to protect exposed soil from erosion and prevent sediment movement.

1.1.10 Site Stabilization - Permanent

Within 14 days of completion of loaming and finish grading on any portion of the site, that area shall be seeded or planted for permanent cover (season permitting) in accordance with USDA NRCS guidelines or equivalent.

1.1.11 Parking Lot Sweeping

The entrance to the site and affected portions of the access drive or paved areas shall be swept as needed to control sediment runoff into storm drains or waterways and to control blowing dust.

1.1.12 Wash Out Facility

The entrance to the site has a truck wash out facility with a sediment trap that will receive dirty wash down from exiting trucks. This sediment trap should be monitored on a regular (weekly and after large storms) to remove excess silt that will lessen the capacity of the sediment trap. The sediment trap shall be repaired as necessary to restore its functioning capacity as necessary.

1.2 Short-Term Erosion Control Maintenance

The following provides short-term erosion control maintenance guidelines and requirements.

1. The contractor or subcontractor will be responsible for implementing each control shown on the sedimentation and erosion control plan.
2. All erosion and sediment control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control measures will be installed during construction in order to control erosion and/or off-site sedimentation if deemed necessary by on-site inspection.
3. Effective erosion control measures shall be initiated prior to the commencement of clearing, grading, excavation, or other operations that will disturb the natural protection.
4. All sediment and erosion control devices shall be inspected at least once every seven (7) calendar days and after any storm event greater than 0.5 inches of precipitation during any 24-hour period, and the inspection shall be documented in writing. Damaged or ineffective devices shall be repaired or replaced, as necessary.
5. The contractor shall take all reasonable precautions to avoid excess erosion of the site due to the construction of this project.
6. Silt shall be removed from behind barriers if greater than 6-inches deep or as needed. Sediment that is collected in structures shall be disposed of properly and covered if stored on-site.
7. Damaged or deteriorated items will be repaired immediately after identification.
8. All ditches shall be stabilized as soon as is practicable to minimize erosion.
9. The contractor shall maintain all erosion control devices in a good, working state of repair. Upon complete stabilization of any tributary areas, the erosion control devices shall be removed and disposed of to cause no off-site siltation.
10. Inspect and maintain construction entrance stone such that sediment does not track onto the street. Any sediment tracked onto the street shall be swept daily.
11. After catch basins have been constructed, the contractor shall protect the inlets by constructing inlet protection as shown on the plans.
12. Once the site has been paved, all catch basin inlets shall receive a silt sack type protection.
13. Erosion control measures shall remain in place until all disturbed earth has been substantially stabilized. After removal of structures, disturbed areas shall be regraded and

stabilized, as necessary.

14. Sediment from sediment traps or sedimentation ponds shall be removed when it reaches a depth of six inches.
15. On and off-site material storage areas, including construction and waste materials, shall be properly protected and managed.
16. Erosion and sediment controls shall be coordinated with the sequence of grading, development and construction operations; control measures shall be in effect prior to commencement of each increment/phase of the process and control measures from prior phases shall continue to be maintained until the site is stabilized.
17. Land disturbance activities exceeding two acres in size shall not be disturbed without a sequencing plan that requires stormwater controls to be installed and the soil stabilized, as disturbance beyond the two acres continues. Mass clearings and grading of the entire site should be avoided.
18. Soil and other materials shall not be stockpiled or redistributed, either temporarily or permanently, in locations or in such a manner as would cause suffocation of tree root systems.
19. Topsoil shall be stripped from disturbed areas, stockpiled in approved areas and stabilized with temporary vegetative cover if it is to be left for more than thirty (30) calendar days; perimeter sediment controls shall be installed around each area of stockpiled topsoil.
20. Soil stockpiles must be stabilized or covered at the end of each workday. Stockpile side slopes shall not be greater than 2:1. All stockpiles shall be surrounded by sediment controls.
21. Projects must comply with applicable Federal, State and local laws and regulations including waste disposal, sanitary sewer or septic system regulations, and air quality requirements, including dust and debris control.
22. A tracking pad shall be constructed at all entrance/exist points of the site to reduce the amount of soil carried onto roadways and off the site.
23. Dust shall be controlled at the site.
24. On the cut side of roads ditches shall be stabilized immediately with riprap or non-erodible liner or where appropriate sod.

Long-Term Operation and Maintenance Plan

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I. Long-Term Stormwater Maintenance Program:

This Long-Term Operation and Maintenance Plan (O&M) identifies inspection and maintenance requirements for the proposed stormwater management system. The O&M references guidelines set forth by the Stormwater Management Handbook developed by the Massachusetts Department of Environmental Protection.

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*The party listed shall be responsible for implementation and record keeping of the requirements listed in this operation and maintenance plan. Upon completion of construction, the responsible party shall be reinstated as the homeowner's association or any other group created as part of the residential subdivision governance. Each individual owner shall be responsible to contribute to the operation and maintenance of the stormwater management system or as decided and agreed upon in the homeowner's association/governing group documents.

2. Inspection and Maintenance Program:

Regular inspection and routine maintenance are necessary to ensure that the stormwater management system continues to control and treat runoff. The following lists the inspection schedule and maintenance procedures for the proposed stormwater Best Management Practices:

BMP	Inspection Schedule	Maintenance Schedule	Maintenance Procedures
Bituminous Concrete Driveway	Four times per year	Twice per year	• Parking Areas to be swept in March or April following snow melt and again in late November or early December to remove fallen leaves and debris
Deep-Sump Catch Basins	Four times per year	Four times per year	• Remove sediment once deposits reach one half the depth from the bottom sump to the lowest invert.
Stormwater Piping	Once per year	Once per year	• Inspect pipe entrances in catch basins and manholes and remove any blockages
Sedimentation Device	Four times per year	Four times per year	• Remove sediment once deposits reach one half the depth from the basin.
Subsurface Infiltration Basins	Twice per year	Twice per Year	• Verify that the inlet structure has no accumulation of sediment;

See the attached Long-Term Operation & Maintenance Inspection Checklist for record keeping purposes.

*See attached Device Operation and Maintenance Guide

3. Additional Long-Term Operation and Maintenance Items

The following is a list of additional operation and maintenance items to be implemented by the owner/governing group to maintain the features proposed in this project.

- A. Proper storage, use, and disposal of hazardous chemicals, including automobile fluids pesticides, paints, solvents, etc. shall be required. Information should be provided on chemicals of concern, proper use, and disposal options. Recycling programs for used motor oil, antifreeze, and other products should be developed, promoted and distributed to the homeowners.
- B. Vehicle Washing. This management measure involves educating the owner on the water quality impacts of the outdoor washing of vehicles and how to avoid allowing polluted runoff to enter the storm drain system. Outdoor vehicle washing has the potential to result in high loads of nutrients, metals, and hydrocarbons which is conveyed by the detergent-rich water into storm drains.
- C. Recycling, spill prevention and response plans, and proper material storage and disposal of

potentially hazardous materials shall be implemented. It will be the responsibility of each owner to contain and legally remove any materials that are spilled onsite. The use of dry floor cleaners and absorbent materials and limiting the use of water to clean driveways is encouraged. Care should be taken to avoid accidental disposal of hazardous materials.

- D. Provisions for storing trash and waste products shall be implemented. The waste materials shall be collected by the owner and all materials shall be properly disposed of.
- E. Requirements for routine inspections and maintenance of stormwater best management practices. Routine inspections shall be performed to ensure the correct functioning of stormwater best management practices. See the specific maintenance criteria for detail regarding inspections and maintenance frequency.
- F. Requirements for Storage and Use of Fertilizers, Herbicides, and Pesticides. Fertilizers, pesticides, herbicides, lawn care chemicals, or other leachable materials shall be used in accordance with the Lawn Care Regulations of the Massachusetts Pesticide Board, 33 CMR 10.03 (30,31), as amended, with manufacturer's label instructions and all other necessary precautions to minimize adverse impacts on surface and groundwater. The storage of any such materials shall be within structure designed to prevent the escape of contaminated runoff or leachate.
- G. Provisions for prevention of illicit discharges to the stormwater management system shall be implemented. Any illicit discharges to the stormwater management system shall be prohibited. It will be the owner's responsibility to ensure compliance with the legal disposal of all materials and containment/cleanup of any illicit discharges.
- H. Training for staff or personnel involved with implementation of the Long-Term Pollution Prevention Plan shall be required. The owner/governing group will be responsible for the implementation of the measures set forth in the Long-Term Pollution Prevention Plan. Documentation that personnel and owners involved with the implementation of the Long-Term Pollution Prevention Plan have been trained to conduct such tasks shall be documented.
- I. Training for staff or personnel involved with implementation of the Long-Term Pollution Prevention Plan shall be required on controlling spills and preventing pollutant discharges. It will be important that all employees meet with the Carver Fire Prevention Officer and be thoroughly knowledgeable of The Pollution Prevention Plan on file with the Fire Department. All employees must be experienced in the use of the Drainage System Containment and the Emergency Shutoff Valve that will be in place to prevent pollutant discharges to the groundwater.
- J. Staff will need to clear all snow and other obstruction from the emergency containment valve.

4. Winter and Snow Conditions

The following is a list of additional operation and maintenance items to be implemented by the owner during winter and snow conditions.

- A. Snowfall amounts may be stored on the grassed areas surrounding the paved areas, excluding any areas utilized for stormwater management practices. Based on a typical homeowners' association, all snow removal will be contracted to a qualified snow removal contractor who will be provided any other restrictions
- B. Winter road salt and/or sand use and storage restrictions shall be implemented based on the Homeowner Association restrictions issued for the project. Sodium chloride for ice control shall

be used at the minimum salt to sand ratio which is consistent with the Massachusetts Department of Environmental Protections guidelines. Sodium chloride, calcium chloride, chemically treated abrasives or other chemicals used for the removal of ice and snow on roads/drives shall not be stored on site.

C. Emergency Access must be cleared on any snow or other obstacles during the winter or at other times, as necessary.

5. Estimated Cost of Maintenance

The following budget was prepared as an estimate of inspection and maintenance costs for the stormwater management system. The budget is an estimate only as the costs may vary depending on the level of sediment accumulation and frequency of maintenance tasks required.

BMP Inspections	Number of Occurrences	Maintenance Cost	Number of Structures	Sum
Catch Basin	4/year	\$50	5	\$1000
CDS Water Quality Unit	2/year	\$100	1	\$200
Subsurface Infiltration Basin	2/year	\$100	1	\$200
Total Estimated Annual Cost of Inspections				\$1,400

BMP Maintenance	Number of Occurrences	Maintenance Cost	Number of Structures	Sum
Catch Basin Maintenance (estimate)	4/year	\$80	5	\$1,600
CDS WQ Units Maintenance	2/year	\$300	1	\$600
Subsurface Infiltration Basin Maintenance (estimate)	2/year	\$300	1	\$600
Total Estimated Annual Cost of Maintenance				\$2,800