

04/08/09

SSD: 02/09/09, 03/04/09, 3/10/09

Page 1 of 7

SUPPLEMENTAL SPECIFICATION**AMENDMENT TO SECTION 600 – INCIDENTAL CONSTRUCTION****AMENDMENT TO SECTION 645– EROSION CONTROL****Storm Water Pollution Prevention Revisions and the
Addition of Item 645.48 - Erosion Control Mix****Amend** 1.3 to read:

1.3 Storm Water Pollution Prevention Plan (SWPPP). This work shall consist of a temporary erosion and sediment control and storm water management plan, hereinafter called the **Storm Water Pollution Prevention Plan or “SWPPP”**. The work includes all necessary preparations for submissions and revisions of the SWPPP to obtain approval by the Department. This work shall also include monitoring the approved **SWPPP** during all phases of construction.

1.3.1 The Department will furnish the following data to the Contractor:

- Specific reproducible plan sheets and cross-sections of the project, as requested,
- Drainage calculations and plans (drainage area size and characteristics; runoff volume; type, size, and slope of pipes; invert elevations; and outlet velocities), as available,
- Geotechnical Report including soil boring logs, soil types, and test pit data, as available,
- Permits and certifications obtained for the project, and
- A list of environmental commitments.
- A copy of the NHDOT’s Notice of Intent application.
- A copy of the NHDOT’s Acknowledgement letter from EPA
- Documentation of permit eligibility related to federally listed threatened and endangered species NHDES Wetlands Permit “Plan of Record”.

1.3.2 Recommended guides for the preparation of the SWPPP are the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP), **June 30th, 2008 (73 FR 40338)**. The AASHTO Highway Drainage Guideline, Volume III, *Guidelines for Erosion and Sediment Control in Highway Construction*, available from the American Association of State Highway and Transportation Officials, Inc., 444 North Capitol St. N.W., Suite 249, Washington, D.C. 20001; the *New Hampshire Stormwater Management Manual, Volume 3, Construction Phase Erosion and Sediment Controls* available from the New Hampshire Department of Environmental Services (NHDES) Public Information and Permitting Office, PO Box 95, 6 Hazen Drive, Concord, NH 03302-0095, Telephone (603) 271-2975 and the Rockingham County Conservation District in Exeter, NH, Telephone (603) 772-4385; the NHDOT Guidelines for Temporary Erosion and Sediment Control and Stormwater Management (May 2002).

1.3.3 The **SWPPP** shall be consistent with the provisions of 107.01.

Amend 3.1 to read:

3.1.1 Prior to the start of any land disturbance activities, the Contractor shall submit four sets of the Storm Water Pollution Prevention Plan (SWPPP) described in 3.2 for approval in accordance with 105.02 for clearing, grubbing, grading, drainage and bridge structures, especially in or adjacent to existing waters, water courses and wetlands. The Department's review time will be proportional to the complexity of the **SWPPP** and will be within 15 working days. No work requiring erosion/ sediment control shall commence until the **SWPPP** has been approved. Names of designated personnel to perform field monitoring shall be included in the submittal. The **SWPPP** may be submitted in phases or for specific construction areas **addressing the maximum open area allowed in section 3.1.4**. Only work within areas covered by an approved **SWPPP** will be allowed to be performed.

Amend 3.1.2 to read:

3.1.2 Permanent and temporary erosion control features shall be incorporated into the project at the earliest practicable time, as specified on the plans, as stated in 107.01, and as outlined in the approved **SWPPP**. Temporary erosion and sediment control measures shall be used to correct conditions that develop during construction to temporarily control erosion not associated with permanent control features.

Amend 3.1.4 through 3.1.13 to read:

3.1.4 The **maximum** amount of **allowed** disturbed earth material exposed shall not exceed a total of **5 acres** for all operations within the right-of-way at any one time. The Contractor **may be permitted to** exceed the maximum open area allowed, with approval from the Department, **provided the Contractor's SWPPP shows adequate provisions to control erosion and sediment, provided the additional area of disturbance is necessary to meet the Contractors Critical Path Method schedule (CPM), and the contractor can demonstrate there are adequate resources available (equipment & manpower) to respond to multiple events simultaneously**. In addition, the SWPPP shall show stabilization procedures for any areas that are inactive for more than fourteen days. The **SWPPP** shall identify when exposed material will be protected from erosion and when temporary and permanent erosion control measures will be installed.

3.1.5 For the construction period between November 30th through May 1st the area of exposed, unstablized soil shall be limited to one acre. The allowable area of exposed soil may be increased provided a winter construction plan shows adequate provisions to control erosion and sediment, provided the additional area of disturbance is necessary to meet the Contractors Critical Path Method schedule (CPM), and the contractor can demonstrate there are adequate resources available (equipment & manpower) to respond to multiple events simultaneously and is reviewed and approved by the Department.

3.1.6 The Engineer will limit the area of **clearing**, grubbing, excavation, borrow and embankment operations commensurate with the Contractor's capability and progress **and in no case shall exceed a total of 5 acres without prior approval**, in keeping the finish grading, mulching, seeding, erosion and sediment control measures concurrent with operations in accordance with the accepted **SWPPP**.

3.1.7 Earth excavation and embankment slopes shall be permanently or temporarily treated for stabilization before the time the slant height of exposed slopes reaches 30 ft. (9 m), unless otherwise

approved. Where construction activities are completed within the growing season, all exposed soil areas shall be permanently stabilized within 14 calendar days. Where construction activities are temporarily suspended or completed outside of the growing season, all exposed soil areas shall be treated for stabilization within 14 calendar days.

3.1.8 An area shall be considered “stabilized” when it is in a condition in which the soils on the site will not erode under the conditions of a 10-year storm.

3.1.9 As work progresses, patch seeding and mulching shall be done as required on areas previously treated to maintain or establish protective cover.

3.1.10 Drainage pipes and ditches shall be constructed in a sequence from outlet to inlet in order to stabilize outlet areas and ditches before water is directed to the new installation or any portion thereof unless conditions unique to the location warrant an alternative method. If this unique condition exists, the alternative method will require written approval.

3.1.11 Channel and ditch work, including erosion protection shall be completed before diverting the drainage to these areas.

3.1.12 In the event of conflict between these requirements and erosion and sediment control laws, rules or regulations of other Federal, State or local agencies, the more restrictive laws, rules or regulations shall apply.

3.1.13 In case of failure on the part of the Contractor to provide and maintain effective temporary erosion and sediment control, as determined by the Engineer, the Department reserves the right to employ outside assistance or to use its own forces to provide the necessary corrective measures.

Amend 3.2 to read:

3.2 Storm Water Pollution Prevention Plan. (SWPPP)

3.2.1 This Item addresses the preparation and implementation of a **SWPPP** required by the National Pollutant Discharge Elimination System (NPDES) and applicable Construction General Permit (CGP). The **SWPPP** shall be prepared, stamped and signed by a Licensed Professional Engineer registered in the State of New Hampshire, **and a Certified Professional Erosion and Sediment Control Specialist (CPESC)**, qualified to prepare erosion and sediment control plans, hereinafter called the “Preparer”. Collaboration with other professionals such as soil scientists, geologists and environmentalists may be required as appropriate.

3.2.1.1 Qualifications for the **SWPPP** Preparer include a minimum of 5 years experience or knowledge of highway and bridge construction operations, with knowledge of methods of construction, demonstrated knowledge of erosion and sediment control, and stormwater management measures. The preparer shall have previously submitted accepted plans to the New Hampshire Department of Environmental Services (NHDES) under RSA 485-A:17 Terrain Alteration, or have prepared accepted plans under the National Pollutant Discharge Elimination System permit program.

3.2.1.2 **The Preparer may monitor the SWPPP or designate a representative to monitor the SWPPP. If the Preparer chooses to utilize a representative, the qualifications for this SWPPP**

Monitor shall include a minimum of 2 years experience or knowledge of highway and bridge construction **and be certified as a Certified Erosion Sediment and Storm Water Inspector (CESSWI)** with knowledge of methods of construction, demonstrated field knowledge of erosion control measures; their design, effectiveness, and maintenance requirements.

3.2.1.3 The Contractor shall submit the name and qualifications of the person or firm proposed to prepare the **SWPPP** to the Engineer for approval prior to preparing the **SWPPP**. Submittal of the name and qualifications will be accepted after the opening of bids.

3.2.2 The Construction General Permit (CGP) also requires the preparation and implementation of a **SWPPP** in accordance with the afore-mentioned statutes and regulations. The **SWPPP** will include the CGP conditions and detailed descriptions of controls of erosion and sedimentation to be implemented during construction. It is the responsibility of the Contractor to prepare the **SWPPP** to meet the requirements of the most recently issued CGP. The Contractor shall submit the **SWPPP** to the Engineer for approval prior to any soil disturbance activities. It is the responsibility of the Contractor to be familiar with the CGP conditions and the conditions of any state Wetlands permit, Water Quality Certification, Corps of Engineers Section 404 Permit and other state and federal environmental permits applicable to this project and to include in the **SWPPP** the means and methods necessary to comply with applicable conditions of said permits.

It is the responsibility of the Contractor to complete the **SWPPP** in accordance with the EPA Construction General Permit, provide all information required, and obtain any and all certifications as required by the Construction General Permit. Any amendments to the **SWPPP** required by site conditions, schedule changes, revised work, construction methodologies, and the like are the responsibility of the Contractor. Amendments will require the approval of the Engineer prior to implementation.

The Contractor is responsible for preparation of the **SWPPP**, all **SWPPP** certifications, inspections, reports and any and all corrective actions necessary to comply with the provisions of the CGP.

3.2.2.1 A schedule of construction phasing, **including maximum open area allowed**, and a schedule for monitoring and maintaining the **SWPPP** shall also be included. BMP's for seasonal (i.e. cold weather/frozen ground, **from November 30th through May 1st**) applications shall be identified. The construction phasing shall address the various erosion and sediment control and storm water management measures to be implemented at each phase of construction. Phases shall be as shown on the Traffic Control Plan, Prosecution of Work, or as required by the Contractor's approved **construction sequence plan**.

3.2.2.2 Turbidity limitations in receiving waters noted in 107.01 shall be addressed in the **SWPPP**.

3.2.2.3 Department plan drawings will show the construction site(s) conditions prior to and after construction by including property lines, right-of-way lines, easements, existing and new structures, drainage, flood plains, wetlands, limits of clearing and grading, proposed final drainage, detours, permanent erosion and sediment control measures, and other critical items. The Contractor's plan drawings shall show temporary drainage and erosion and sediment control measures for the construction site(s) on the contract plans provided by the Department. Additionally the Contractor shall provide plans showing all of the above items for proposed areas related to the construction site(s) not shown on the

Department's contract plans, including but not limited to, access and haul roads, equipment and material storage sites, material pits, material processing sites, and disposal areas, except municipally authorized landfill areas and commercial sites. Waste materials are quite often materials unsuitable for embankment construction and generally very susceptible to erosion; therefore, the Contractor shall pay close attention to controlling erosion of these materials.

3.2.2.4 Additional design typicals illustrating practices for erosion and sediment control not shown on the Department plans shall be included in the **SWPPP**. Calculations shall be included to verify all erosion and sediment control and stormwater management practices such as, but not limited to, sediment retention and detention basins, energy dissipaters, diversions, waterways, and control of runoff.

3.2.3 The Preparer or the Preparer's designated representative shall assist the Contractor in implementing the **SWPPP**, monitor the site for compliance with the **SWPPP** and recommend modifications to the **SWPPP** for changing operations or inadequate erosion and sediment control and stormwater management measures and shall **attend weekly (or as required by the Engineer) meetings**. The Preparer shall make modifications to the **SWPPP** as necessary and resubmit for review and approval in accordance with 3.1.1. Review time of modifications will be within 10 working days of submittal.

3.2.3.1 Monitoring SWPPP and Erosion and Sediment Control shall include on-site reviews, weekly and within 24 hours after any storm event greater than 0.5 in. (13 mm) of rain per 24 hour period **and producing meeting minutes of the weekly meetings for distribution as required**. A monitoring report prepared by the **SWPPP** Monitor stating the inspection date, name, title, qualifications and signature of person performing the inspection, weather information for the period since the last inspection, weather information at the time of inspection, locations and description of any discharges, a summary of construction activities undertaken during the reporting period, general site conditions, erosion control maintenance and corrective actions taken, the anticipated schedule of construction activities for the next reporting period, any SWPPP amendments, and representative photographs.

A copy the monitoring report and weekly meeting minutes shall be provided to the Engineer and maintained on file with the SWPPP at the project site.

3.2.3.2 The Engineer may order modifications to the **SWPPP** for changing operations or for inadequate erosion and sediment control and stormwater management measures. Changes and/or modifications shall be noted by the **SWPPP** Preparer on the approved **SWPPP** located at the project site.

3.2.3.3 The Preparer of the **SWPPP** shall be available for on-site consultations with the Engineer within 24 hours of request.

3.2.4 Project work may be suspended, wholly or in part, with no extension of time or additional compensation for failure to implement and maintain the approved **SWPPP**, including modifications, in accordance with 105.01.

Amend 3.9 through 3.10 to read:

3.9 Erosion Control Mix

3.9.1 Erosion control mix shall be placed to provide for temporary control of erosion or sedimentation including, slope stabilization, check dams and berms, inlet control or where ordered.

3.9.2 The mix shall have an organic portion between 25% and 65%, dry weight basis, and be fibrous and elongated such as from shredded bark, stump grindings, composted bark, or equivalent manufactured products. The mix shall not contain silts, clays, or fine sands.

3.9.3 The mix shall have a pH between 5.0 and 8.0 and a particle size by weight of 100% passing a 3-inch screen, 90% to 100% passing a 1-inch screen, 70% to 100% passing a 0.75-inch screen, and 30% to 75% passing a 0.25-inch screen.

3.10 Maintenance.

3.10.1 Erosion control features shall be maintained by the Contractor throughout the life of the project.

Add 4.8:

4.8 Erosion Control Mix will be measured per CY (cubic meter) in accordance with 109.01.

Amend 5.6 to read:

5.6 The accepted Storm Water Pollution Prevention Plan (SWPPP) will be paid for at the contract lump sum price. Initial payment will be up to 25 percent of the amount bid upon approval of the SWPPP for the entire project. Subsequent payments will be made periodically based on the anticipated construction period **and proposed construction sequence.**

Amend 5.6.2 to read:

5.6.2 The accepted quantities of Monitoring SWPPP and Erosion and Sediment Controls will be paid for at the contract unit price per hour.

Amend 5.6.3 to read:

5.6.3 Erosion and Sediment Control and Stormwater Management items necessary to implement and maintain the **Storm Water Pollution Prevention Plan (SWPPP)** for the construction site(s) will be paid for under the appropriate Items of 645 or as provided under Section 699.5.

Amend 5.7 through 5.10 to read:

5.7 The accepted quantity of erosion stone will be paid for at the contract unit price per ton (ton) delivered to the project, **complete in place**, including any required excavation and stone removal, as ordered.

5.8 The accepted quantity of erosion control mix will be paid for at the contract unit price per CY (cubic meter) delivered to the project , **complete in place, including any required stump grinding, excavation, as ordered.**

5.9 The Contractor shall maintain areas with permanent control, with no extra compensation, until the completion of the contract.

5.9.1 Repair and maintenance of damaged or failed slopes, until project acceptance as stated in section

5.9.2 The Department reserves the right to employ outside assistance or to use its own forces to provide the necessary corrective measures and deduct the cost from money due the Contractor and/or withhold progress payments.

5.10 Erosion control measures including dust control required for stockpiles of materials subject to wind or water erosion shall be at the expense of the Contractor.

Add to Pay items and units:

645.48	Erosion Control Mix	CY (Cubic Meter)
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