

1. EROSION PREVENTION & SEDIMENT CONTROL NARRATIVE

1.1. PROJECT DESCRIPTION

- 1.1.1. This project "Rutland Town BR 019-3(48)" will replace Bridge 103 on US 7 over the East Creek River in Rutland Town on existing alignment. The new bridge will be a two lane, single span, steel girder bridge. The project will maintain traffic on a temporary bridge upstream and east of the existing bridge during construction.
- 1.1.2. The total length of roadway work, including both approaches, drives and existing roadway is approximately 335 m.
- 1.1.3. The total disturbed area (excluding waste, borrow and staging areas) is approx 0.7681 hectares (1.90 ac.). The temporary bridge will disturb approx. 0.1114 hectares (0.275 ac.).
- 1.1.4. This project should last one construction season. This Erosion Prevention and Sediment Control Plan is intended for use during the construction season. A separate winter plan shall be submitted for approval if work is to occur from Oct 15th to April 15th, or if vegetation has not been sufficiently established after the completion of construction and by Oct 15th.

1.2. SITE INVENTORY & ANALYSIS

- 1.2.1. Off Site Drainage Characteristics (Up And Down Gradient). The land in the project area is mountainous and forested.
- 1.2.2. Drainage, Waterways, Bodies of Water. The bridge crosses the East Creek. The creek is incised, sinuous to meandering with eroded banks. The streambed is gravel, cobbles and boulders. The watershed area is 129.5 sq km.
- 1.2.3. Topography, Existing Roads, Buildings, Utilities.
 - 1.2.3.1. Topography. The project site is mountainous and forested.
 - 1.2.3.2. Existing Roads. US 7 is a Rural Principal Arterial Highway.
 - 1.2.3.3. Buildings. A historic building is located to the northeast of the project area.
 - 1.2.3.4. Utilities. Power and Utility poles run along the west side of VT 7 the entire length of the project. Power and Utility line cross the project area immediately to the south of the bridge and continue along the drive at 2+263.0 right.
- 1.2.4. Vegetation. The vegetation consists of fields on the north side, and woods south of the East Creek. Construction will replace some brush and trees. Stone Fill capped with grubbing material will stabilize slopes steeper than 66%. Seed & Mulch will stabilize slopes flatter than 66%.
- 1.2.5. Soils. The Soil Conservation Service "Soil Survey of Rutland County" identifies four soil types in the project site.
 - 1.2.5.1. 28 Udifluvents & Fluvaquents, 0% slope. This soil is in the floodplain. Udifluvents are well drained to excessively drained, and frequently flooded. Fluvaquents are poorly drained to somewhat poorly drained. Its erodibility rating is low. Both soils are similar in use and management.
 - 1.2.5.2. 39B Galway-Nellis-Farmington complex, 3 to 8% slopes. This soil is 40% moderately deep, well drained Galway soil; 40% very deep, well drained Nellis soil; 10% shallow well drained and somewhat excessively drained Farmington soils; and 10% other soils. The soil profile for Galways soil is typically: 0 to 8" very dark grayish brown silt loam; 8 to 20" dark yellowish brown fine sandy loam; 20 to 24" dark yellowish brown gravelly fine sandy loam; bedrock: 24 inches dolostone. The soil profile for Nellis soil is typically: 0 to 8" very dark grayish brown silt loam; 8 to 21" brown gravelly fine sandy loam; 21 to 60" dark grayish brown gravelly fine sandy loam. The soil profile for Farmington soil is typically: 0 to 8" very dark grayish brown silt loam; 8 to 12" dark yellowish brown silt loam; bedrock: 12 inches dolostone. Its erodibility rating is moderate (kw = 0.32). This soil has high agricultural potential.
 - 1.2.5.3. 59A Deerfield loamy sand, 0 to 4% slopes. This soil is deep, moderately well drained, and nearly level and gently sloping. The soil profile is typically: 0 to 11" dark brown loamy sand; 11 to 19" yellowish brown sand; 19 to 24" mottled, light olive brown sand; 24 to 32" mottled, yellowish brown sand; 32 to 44" mottled olive brown sand; 44 to 60" mottled olive gray sand. Its erodibility rating is low (kw = 0.17).
 - 1.2.5.4. 96 Udipsamments, 0% slope. This soil is nearly level, excessively drained to somewhat poorly drained in previously disturbed areas such as gravel pits and foundry fills. Its erodibility rating is low.
- 1.2.6. Sensitive Resource Areas
 - 1.2.6.1. The East Creek runs through the project area. The project impacts it at the existing bridge and eastern detour. A Stream Alteration Permit (#HD-1-0359) dated 11/06/03 has been issued for this project.
 - 1.2.6.2. Class III Wetlands are in the riparian corridor upstream, to the east, and downstream, to the west, of the project impacts. The temporary detour impacts the 50' wetland buffer.
 - 1.2.6.3. Archaeologically Sensitive Areas are present within the project area to the west of US 7, and to the northeast of the End Project. BARRIER FENCE protects this area.
- 1.2.7. Non-Sensitive Resources
 - 1.2.7.1. No Threatened & Endangered Species are present within the project area.
 - 1.2.7.2. A Historic House is located to the northeast of the project area.
- 1.2.8. Proximity to Natural or Man-Made Water Features: East Creek at the bridge.

1.3. RISK EVALUATION

- 1.3.1. The project area is greater than 1 acre. Therefore the project falls under the jurisdiction of Construction General Permit 3-9020 (2006).
- 1.3.2. The project qualifies as a Low Risk project in the Detailed Risk Evaluation of Appendix A of Construction General Permit 3-9020 (2006). The project has storm water discharges from the construction site to receiving waters that do not first pass through a 50 ft vegetated buffer area.
 - 1.3.2.1. To qualify as a Low Risk, the project must "have a maximum of 7 consecutive days of disturbed earth exposure in any location before temporary or final stabilization is implemented."
- 1.4. EROSION PREVENTION & SEDIMENT CONTROL
 - 1.4.1. Mark Site Boundaries
 - 1.4.1.1. PROJECT DEMARCATION FENCING will delineate the construction area for construction equipment. This measure limits the area that can be disturbed and exposed to erosion.
 - 1.4.2. Limit Disturbance Area
 - 1.4.2.1. PROJECT DEMARCATION FENCING and BARRIER FENCE will delineate the construction area for construction equipment. These measures limit the area that can be disturbed and exposed to erosion. Use BARRIER FENCE within 30 m upslope of receiving waters and to protect sensitive areas.
 - 1.4.3. Stabilize Construction Entrance
 - 1.4.3.1. VEHICLE TRACKING PAD will control tracking of sediment transport on to public roads. The entrance is a stabilized pad of crushed stone located wherever construction vehicles leave construction areas. The sites include: the project site; staging areas; and waste and borrow areas. The minimum area is 3700 x 15 000 (12' x 50'). Pipe all surface water flowing to or diverted towards a construction entrance under the stone. Size pipes for their watersheds. The minimum pipe diameter is 150 mm.
 - 1.4.4. Install Site Fence
 - 1.4.4.1. SILT FENCE and SPECIAL PROVISION (GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED) placed level on slopes will control sheet flow sediment transport. Place silt fences level and 1500 to 3000 mm (5'-10') from the toe of slopes. Turn the ends of silt fence slightly uphill to stop concentrated water from flowing around the ends. The maximum slope length between separate runs of silt fence is 30 000 (100'). Place silt fence before beginning upslope earthwork. Use SPECIAL PROVISION (GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED) for silt fence within 30 m upslope of receiving waters.
 - 1.4.5. Divert Upland Runoff
 - 1.4.6. Slow Down Channelized Runoff
 - 1.4.6.1. TEMPORARY STONE CHECK DAM, TYPE I placed in ditches will reduce flow velocities and prevent erosion. Place dams in ditches so that the elevation of the top of a check dam is level with the toe of the next upslope check dam. The check dams may be removed once the stone lining of the ditches is complete and the surrounding area stabilized.
 - 1.4.6.2. TURBIDITY CURTAINS will control concentrated flow sediment transport around abutments and piers.
 - 1.4.7. Construct Permanent Controls
 - 1.4.7.1. Roadway Typical Section
 - 1.4.7.1.1. SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 64-28) on the road surface will prevent erosion.
 - 1.4.7.1.2. AGGREGATE SURFACE COURSE on the shoulder will allow runoff to infiltrate and prevent erosion.
 - 1.4.7.2. Channel Typical Section
 - 1.4.7.2.1. STONE FILL, TYPE I at the ends of the wing walls will prevent erosion and control sediment transport.
 - 1.4.7.2.2. STONE FILL, TYPE III around the abutments on slopes greater than 66% will prevent erosion and control sediment transport.
 - 1.4.7.2.3. GEOTEXTILE UNDER STONE FILL will prevent erosion and control sediment transport.

- 1.4.8. Stabilize Exposed Soils
 - 1.4.8.1. TRACKING & MULCHING will temporarily stabilize slopes. Use tracking for short term (two weeks) exposed slopes. Drive heavy equipment up and down slopes to leave level tracks (small check dams) that will catch water flow. Stabilize slopes within 48 hours or sooner considering rain.
 - 1.4.8.2. SEEDING & MULCHING will establish vegetation on side slopes less than 66% that will prevent erosion and control sediment transport. Add TEMPORARY EROSION MATTING (with 100% natural fibers) to slopes ranging from 33% to 66%.
 - 1.4.8.2.1. ML 2+385 to 2+430 right
 - 1.4.8.2.2. ML 2+440 to 2+460 right
 - 1.4.8.2.3. ML 2+430 to 2+450 left
 - 1.4.8.3. "Stone Check Dams" placed in ditches will reduce flow velocities and prevent erosion. Place dams in ditches so that the elevation of the top of a check dam is level with the toe of the next upslope check dam. The check dams may be removed once the stone lining of the ditches is complete and the surrounding area stabilized.
 - 1.4.8.3.1. ML 2+320 to 2+345 right
 - 1.4.9. Winter Stabilization
 - 1.4.10. Stabilize Soil at Final Grade
 - 1.4.10.1. SEEDING & MULCHING will stabilize slopes ranging from 0% to 66%. Add TEMPORARY EROSION MATTING (with 100% natural fibers) to slopes ranging from 33% to 66%. Use seeding for long term exposed slopes. Allow Grass 2 weeks to establish itself. Stabilize slopes within 48 hours or sooner considering rain.
 - 1.4.10.2. STONE FILL, TYPE I in roadway ditches will prevent erosion and control sediment transport.
 - 1.4.10.3. CULVERTS will convey concentrated flow under roads and prevent erosion.
 - 1.4.10.4. STONE FILL, TYPE I at culvert outlets will dissipate water velocities and prevent erosion and control sediment transport.
 - 1.4.11. Dewatering Activities
 - 1.4.12. Inspect your Site
 - 1.4.12.1. Inspect your site at least once every 7 calendar days and within 24 hours of the end of a storm event resulting in the discharge of stormwater from the construction site.
 - 1.4.12.2. Check measures (e.g. stone check dams, silt fence, and sand bags) regularly for accumulation of sediment. Remove sediment build-up when the level of sediment reaches one-half the height of the control measure. Dispose of sediments in an approved area where they will not be subject to erosion.
 - 1.4.12.3. If there is a discharge of visibly discolored stormwater from the construction site or from the construction site to waters of the state, the Permittee shall take immediate corrective action.
 - 1.4.12.4. If there is a discharge of visibly discolored stormwater from the construction site to waters of the state, the On-Site Plan Coordinator shall, within 72 hours of first discovering the discharge, submit a written report about the discharge and the resulting corrective action to the Vermont Agency Of Natural Resources, Department Of Environmental Conservation (DEC).

EPSC
NOTES

PROJECT NAME:	RUTLAND TOWN	
PROJECT NUMBER:	BRF 019-3(48)	
FILE NAME:	sbt72e01	PLOT DATE:
PROJECT LEADER:	R. WHITCOMB	DRAWN BY:
DESIGNED BY:	W. LAMMER	CHECKED BY:
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