

## 1. EROSION PREVENTION & SEDIMENT CONTROL PLAN NARRATIVE

### 1.1. PROJECT DESCRIPTION

1.1.1. Newfane BHF 0106(4)S will reconstruct Bridge 17 on Town Highway 2 over the Rock River in the Town of Newfane on existing alignment. It will improve the western approach by increasing the radius of the approaching curve and shifting the centerline about 6 ft south. The bridge will stay in its existing footprint. The existing bridge is a wooden Covered Bridge.

1.1.2. Traffic Maintenance. Traffic will be maintained on the existing bridge while the new bridge is constructed on a temporary work area on the southwest side of the bridge. Traffic will be maintained on a detour on TH 19, 47 & 26 while the existing bridge is replaced by the reconstructed bridge.

1.1.3. Length. The total length of roadway work, including roadway approaches, is approximately 500 ft.

1.1.4. Area. The total disturbed area (excluding waste, borrow and staging areas) is approx 0.24 acres.

1.1.5. Duration. This project should last one construction season.

### 1.2. SITE INVENTORY & ANALYSIS

1.2.1. Off Site Drainage Characteristics (Up And Down Gradient). The land in the project area is a village in a narrow valley of hilly forest. It consists of lawns, brush, and woods with softwood and hardwood trees. The soil is very deep and excessively drained formed in glacial-fluvial deposits.

1.2.2. Drainage, Waterways, Bodies of Water. The bridge crosses the Rock River. The River is in a deep dark narrow valley. The stream banks shift from hillside to terrace. The stream banks are vegetated with mature trees. The river is small, perennial and sinuous. The stream bed is gravel, cobbles, and boulders. The river at the new bridge is about 80 ft wide and on average 1 foot deep. The watershed area is 40.5 square miles.

1.2.3. Topography, Existing Roads, Buildings, Utilities.

1.2.3.1. Topography. The project site is a deep valley leading into a small village.

1.2.3.2. Existing Roads. TH 2 is a Class II paved town highway and major collector on the state highway system.

1.2.3.3. Buildings. Five homes are in the project survey. More homes are in the village of Williamsville east of the project.

1.2.3.4. Utilities. Aerial utility lines run along the main line shifting from right to left before the bridge heading east.

1.2.4. Vegetation. The vegetation is mature softwood and hardwoods hillside forest with brush and young tree undergrowth. 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 identifies two soil types in the project site.

1.2.5.1. 50B Colton, Loamy Fine Sand 2 to 8% slope. This soil is on the north side of the River. The Colton series consists of very deep, excessively drained soils formed in glacio-fluvial deposits. They are on terraces, kames, eskers, and outwash plains. Slope ranges from 0 to 70 percent. Permeability is rapid or very rapid in the solum and very rapid in the substratum. The soil profile is typically: 8 in surface layer of grayish brown, very friable, gravelly loamy sand; 14 in subsoil of reddish brown, very friable or loose, gravelly loamy sand; 50 in substratum of brown, loose, stratified, extremely gravelly sand. Its erodibility rating is low (kw = 0.17). The flat slope suggests low erodibility.

1.2.5.2. 50D Colton, Loamy Fine Sand 15 to 25% slope. This soil is on the south side of the River. The soil profile is the same as 50B. Its erodibility rating is low (kw = 0.17). The steep slope suggests high erodibility.

1.2.6. Sensitive Resource Areas.

1.2.6.1. The Rock River runs through the project area. The project impacts its 50 ft Riparian Zone at the bridge site.

1.2.6.2. Class III Wetlands are on the south side of the River and east side of the bridge.

1.2.6.3. Threatened & Endangered Species. None

1.2.6.4. Historic Features. The buildings in the project area are part of the Williamsville Historic District

1.2.6.5. Archaeologically Sensitive Areas. Nearly all level areas in the project are historic & prehistoric archaeologically sensitive areas.

1.2.7. Proximity to Natural or Man-Made Water Features.

1.2.7.1. The Rock River is at the bridge site.

1.2.7.2. Existing Inlet & Culvert from ML 11+25 to 12+25 left

1.2.7.3. Existing Inlet & Culvert at ML 13+90 right

1.2.7.4. No ditches.

### 1.3. Risk Evaluation

1.3.1. The area of disturbance is less than 1 acre. Therefore the project is not under the jurisdiction of General Permit 3-9020 (2006).

1.3.2. Should changes prior to or during construction result in one or more acres of earth disturbance or should the project become part of a larger plan of development then the selected Contractor will be responsible for additional permitting with VANR via filing of the appropriate Notice of Intent under the Construction General Permit process.

### 1.4. EROSION PREVENTION & SEDIMENT CONTROL

The purpose of the Plan and its overall measures is to effectively prevent sediment or sediment laden water from leaving the construction site.

Erosion Prevention is the first priority. The three basic erosion prevention strategies are minimizing disturbance, managing runoff, and stabilizing promptly.

After erosion begins, sediment control is the next priority. Sediment control practices fall generally into two categories, those that retain eroded sediment on the construction site, and those that convey sediment to sediment retaining features.

All Erosion Prevention and Sediment Control measures necessary at Waste, Borrow and Staging Areas shall be paid per Specification 105.29

Use the Vermont Agency of Natural Resources (VANR) "The Low Risk Site Handbook for Erosion Prevention and Sediment Control" for the following requirements.

#### 1.4.1. Mark Site Boundaries

1.4.1.1. PROJECT DEMARCATION FENCE will physically mark the site boundaries to identify the limits of construction. Fencing is not required in water, road, drive and walk ways.

#### 1.4.2. Limit Disturbance Area

1.4.2.1. PROJECT DEMARCATION FENCE will limit the area that can be disturbed and exposed to erosion during construction.

#### 1.4.3. Stabilize Construction Exit

1.4.3.1. A VEHICLE TRACKING PAD will control tracking of sediment transport on to public roads during construction wherever construction vehicles leave construction areas. The areas include: the project site; staging areas; and waste and borrow areas. 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 6".

#### 1.4.4. Install Site Fence

1.4.4.1. SILT FENCE placed level on slopes will control sheet flow sediment transport on bare soil. Place level silt fence 5 to 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 100'. Place silt fence before beginning upslope earthwork.

#### 1.4.5. Divert Upland Runoff

1.4.5.1. Not Applicable

#### 1.4.6. Slow Down Channelized Runoff

1.4.6.1. Not Applicable

#### 1.4.7. Construct Permanent Controls

1.4.7.1. BITUMINOUS CONCRETE PAVEMENT and AGGREGATE SURFACE COURSE on the road surface will prevent erosion.

1.4.7.2. STONE FILL, TYPE I at the ends of the wing walls 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 on the 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. SEED & HAY MULCH will stabilize slopes ranging from 0% 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.

1.4.8.3. Biodegradable TEMPORARY EROSION MATTING will stabilize slopes ranging from 33% to 66%.

#### 1.4.9. Winter Stabilization

1.4.9.1. The "Winter Construction" season occurs between October 15 and April 15, when erosion prevention and sediment control is significantly more difficult.

1.4.9.2. If Winter Construction is necessary, revise this plan according to the VANR Low Risk Site Handbook.

#### 1.4.10. Stabilize Soil at Final Grade

1.4.10.1. SEED & Mulch will establish vegetation on side slopes less than 66% that will prevent erosion and control sediment transport.

1.4.10.2. Biodegradable TEMPORARY EROSION MATTING will stabilize slopes ranging from 33% to 66%.

#### 1.4.11. Dewatering Activities

1.4.11.1. Not Applicable for this project, otherwise:

1.4.11.1.1. Utilize appropriate dewatering measures which filter sediment from collected water prior to discharging into waters of the state.

#### 1.4.12. Inspect your Site

1.4.12.1. Inspect all control measures weekly and after each rainfall event. Repair measures promptly once damage is discovered.

1.4.12.2. Note any changes on the plans, in the weekly inspection report, and report them to the appropriate authority in a timely manner.

1.4.12.3. Check temporary measures 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.

PROJECT NAME: NEWFANE  
PROJECT NUMBER: BHF 0106 (4)S

FILE NAME: s96j230ero.dgn  
PROJECT LEADER: R. WHITCOMB  
DESIGNED BY: T. LACKEY  
EPSC NARRATIVE

PLOT DATE: 29-APR-2009  
DRAWN BY: T. LACKEY  
CHECKED BY: R. WHITCOMB  
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