

EROSION PREVENTION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

The project is located on Interstate 89 over Vermont Route 12 in Berlin Vermont. The project involves the rehabilitation of Bridges 40N and 40S with minor approach work. The horizontal and vertical alignments are the same as what currently exists. Crossovers will be constructed to maintain traffic while each bridge is being rehabilitated.

It is anticipated that this project will last three construction seasons. The anticipated scheduling is as follows:

- Year One** – Develop staging area and field offices, installation of construction signs, construction of northbound crossover, and rehabilitation of Bridge 40N. The rehabilitation Includes removal of the bridge deck and construction of a new concrete deck with concrete railing. Reopen the northbound lane and seed and mulch disturbed areas
- Year Two** – Construction of southbound crossover and Rehabilitation of Bridge 40S. The rehabilitation Includes removal of the bridge deck and construction of a new concrete deck with concrete railing. Construct new U-turn as shown on the plans. Reopen the southbound lanes and seed and mulch disturbed areas.
- Year Three** – Paint girders on both bridges. No crossovers will be necessary during this activity. Traffic will be shifted as required to allow Work to be completed. Remove all construction signs and clean site. Seed and mulch all disturbed areas requiring revegetation.

Note: Area of disturbance shall include limits of earth disturbance within the project area including any waste, staging, and borrow areas within or directly adjacent to the project limits.

The area of disturbance is approximately 4.31 acres.

SITE INVENTORY AND ANALYSIS

OFF SITE DRAINAGE CHARACTERISTICS

The area surrounding the project is rural. There are no homes located in the immediate vicinity of this project as it on the interstate. However, there are condominiums along Vermont Route 12 fairly close to the interstate overpass. The vegetation along the interstate is mostly grass with a scattering of native trees. There is a well established grass swale in the median of the interstate that feeds several drop inlets and culvert pipes. These pipes outlet on the exterior boundary of the north and southbound lanes. The proposed staging area for the project is east of the northbound lane and is located at the bottom of the interstate side slope. This area will be accessed from Vermont Route 12 just east of the I-89 overpass. The area is primarily flat and consists of grass and some pine trees. This staging area is within the state right of way and may require some tree removal.

DRAINAGE, WATERWAYS, BODIES OF WATER:

There are no bodies of water within or near the project area. The Dog river is the closest body of water and is approximately 4000 feet from the project area.

TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:

The topography of the project site is rolling hills and mostly grasslands. The approach to the bridges is steep at nearly 5 percent and curves significantly to the left. There is a Grange and a Gravel Pit located west the bridge overpass on route 12 towards Berlin. Vermont Route 12 is below the bridge will remain virtually unaffected by this project. However, there are aerial utilities along Vermont Route 12 that will need to be avoided.

VEGETATION:

The interstate median has ledge outcrop which changes to grass at approximately mile marker 52. The median remains grass throughout the remainder of the project. The exterior edge of both north and southbound lanes are steep slopes (1 on 2) vegetated with grass and shrubs. However, there is ledge outcrop located on the right hand side of the northbound lane just beyond the exit 8 interchange. The staging area has grass and scrub pine as vegetation.

SOILS:

According to a soil survey completed by the United States Department of Agricultural Soil Conservation there are three types of soil at this location. In the area of the approach from the south, including the staging area, the soil is classified as Buxton Silt Loam which has a K value of 0.32. In the vicinity of the bridges the soil is classified as Colton Gravelly Loamy Sand which has a K value of 0.49. The soil north of the bridges is classified as Tunbridge Lyman Complex which has a K value of 0.24.

Generally, K-values indicate the following: 0.00 – 0.23 = low erodibility; 0.24 – 0.36 = moderate erodibility; 0.37 and higher = higher erodibility

SENSITIVE RESOURCE AREAS:

No 'Threatened & Endangered Species', wetlands, historical sites, or prime agricultural land have been identified within the project limits.

PROXIMITY TO NATURAL OR MAN-MADE FEATURES:

Disturbance of soils near natural or man-made waterways consists of the work necessary to replace portions of four bridge abutments and applicable roadway approaches as well as the removal of the existing u-turn. Temporary crossovers will also be constructed and removed.

RISK EVALUATION:

This project has been determined to be low risk under construction general permit 3-9020(2006). And as such the low risk project handbook must be complied with and be on site at all times. The risk evaluation score for this project is 0. See appendix A (attachment to CGP-3-9020). Overall scores of less than 1 qualify the project as low risk. Any modifications to the project shall result in a re-evaluation of the risk and the contractor shall be responsible for re-filing should the risk change.

EROSION PREVENTION & SEDIMENT CONTROL

Refer to the low risk site handbook and appropriate detail sheets for each practice required on the project to include but not limited to:

Mark site boundaries with "Project Demarcation Fencing" denoted -PDF- on the plans, will be used to delineate the limits the contractor can access with construction equipment. This measure limits the area that can be disturbed and exposed to erosion.

Limit Disturbance Area by phasing earth disturbing activities through out the duration of the project.

Vehicle Tracking Pads to the project site, staging areas, as well as to waste and borrow areas shall be established. The minimum size of a vehicle tracking pad is 12'X50' (3700X15,000). All surface water flowing to or diverted toward a vehicle tracking pad shall be piped under the stone. Pipes shall be appropriately sized for the contributing area, however, no pipe smaller than 6" (150) diameter shall be used. See EPSC Detail Sheet for materials and construction method to be utilized when constructing a vehicle tracking pad.

Install silt fence per the Erosion Control Detail Sheet. Silt fence shall be installed prior to any upslope earthwork.

Divert upland runoff using temporary swales as required.

Reduce flow velocities in temporary or permanent swales and ditches using stone check dams. Check dams will be installed per Erosion Control Detail Sheet. The check dams may be removed once the stone lining of the ditch is complete and the surrounding area stabilized.

Permanent Erosion Control measures include: Seeding and mulching exposed slopes. Use of erosion matting where required.

Stabilize exposed soils (temporary and final grade) by Seeding, mulching, and biodegradable erosion control matting or an equivalent product will be utilized on all slopes greater than 1:3 that are not lined with stone fill. Geo-textile fabric is also required under all stone fill. These slopes shall be stabilized within 48 hours of reaching final grade or during intermittent phases of construction activity. Seeding and mulching shall also be applied immediately to all lawns disturbed beyond the work area delineated on these plans. Tracking of all exposed slopes, combined with temporary mulching, will also be utilized on a regular basis. Any slopes to be exposed for 48 hours prior to final grading shall be tracked and mulched. The forecast of rainfall events shall also trigger protection of exposed slopes. If rainfall is predicted the Contractor must stabilize the site accordingly prior to the forecasted event.

Winter Stabilization as required per Low Risk Handbook.

Temporary sediment settling basins will not be used on this project as there are no cofferdams requiring dewatering

Site Inspection shall be based on Permit authorization requirements.

GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

The Erosion Control Plans are meant as a guideline for preventing erosion and controlling sediment transportation. The work outlined in this narrative consists of applying measures throughout the life of the project to control erosion and minimize the sediment into receiving waters. The measures include stabilization and structural practices, storm water controls and other pollution prevention controls. This document serves as a guide for the Contractor to make an Erosion Prevention and Sediment Control Plan which shall be submitted to the Construction Environmental Engineer for approval.

Coordinate the installation, use, and removal of erosion and sediment control measures with construction activities to ensure economical, effective and continuous erosion and sediment control. Employ temporary stabilization practices in incremental stages as construction proceeds. The contractor will use additional erosion control measures as necessitated by the sequence of construction and as directed by the engineer. See section 105.23 of the Vermont AOT Standard Specifications for Construction, dated 2006.

Install all erosion and sediment control measures as shown in the Erosion Control Plan or as directed by the engineer. Do not modify the type, size or location of any control or practice without approval of the engineer. All changes shall be approved by the Construction Environmental Engineer and also be noted on the plans, in the weekly inspection report, and reported to the appropriate authority in a timely manner.

Inspect all control measures weekly and after each rainfall event. Repair measures shall be taken as needed.

Preventing initial soil erosion is much more effective than treating eroded sediment. Therefore, stabilize all disturbed areas promptly after construction activity has temporarily or permanently ceased. Also, attempt to time all grading to minimize soil exposure. Temporary vegetation shall be established as noted in the plans and approved by the Construction Environmental Engineer. Perimeter control measures shall be installed following clearing, but prior to the start of any grubbing or grading activity, install other temporary controls in incremental stages as construction proceeds. These perimeter controls shall be maintained until the site is permanently stabilized to the satisfaction of the Engineer and on-site coordinator.

Maintaining vegetated buffers along stream banks, wetlands or other sensitive areas is a crucial erosion and sediment control measure that should be established wherever possible.

Control only sediment-laden runoff generated by the project site. Collect and route clean offsite runoff around or through the project site using diversion berms, diversion channels, culverts and/or temporary pipes.

Do not allow construction equipment to operate on the down slope side of perimeter control measures.

PROJECT: BERLIN	PROJECT NO. : IM 089-1 (20)
DESIGN FILE NAME: 99a270\structures\99a270excel.dgn IPARM FILE NAME: s99a270ecnar.i	PLOT DATE: 05-DEC-2007
DESIGNED BY: K. M. HIGGINS	DRAWN BY: M. FESSEL
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: K. M. HIGGINS
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