

1. NARRATIVE

1.1. PROJECT DESCRIPTION

1.2. This project "Randolph BHO 1444 (50)" will construct the temporary bridge to be used during the repair of Bridge 38 on Town Highway 64 over the South Branch of the White River in the Town of Randolph. This site is located approximately 0.1 miles west of the intersection of TH 64 & VT 14. The temporary bridge will be a one lane, single span, wood deck on steel girders. The temporary bridge will be located just south of the existing structure and will require temporary realignment of the existing road. The project will maintain traffic on an alternate route during construction. The total length of project work, including both approaches, drives and existing roadway is approximately 214 ft. The estimated disturbed area (excluding waste, borrow and staging areas) is approx 0.12 ac.* The estimated disturbed area for waste, borrow, and staging areas is approximately 0.15 acres*. This project should last one construction season.

1.3. SITE INVENTORY & ANALYSIS

1.3.1. Off Site Drainage Characteristics (Up And Down Gradient). The land in the project area is low lying flood plain. It consists of growth of brush, softwood and hardwood trees. The soil is primarily "level, deep, moderately well drained soils on flood plains of major streams and their tributaries. These soils formed in very fine sandy loam and silt loam alluvium." Road surfaces are gravel and there are some surrounding residential properties.

1.3.2. Drainage, Waterways, Bodies of Water. The bridges cross the South Branch of the White River. The river is meandering, and alluvial. The river at the new bridge is 2 ft wide at the bottom and 25 ft wide at the top and 5 ft deep from top to bottom. The watershed area is 46.9 sq. miles.

1.3.3. Topography, Existing Roads, Buildings, Utilities. The project site is on TH 64, which is a Class III gravel town highway through a low-lying valley. There is a resident to the northeast of the project, but is not within the vicinity of the work. Existing utility poles start on the right of the existing highway and run east.

1.3.4. The vegetation on the east approach is lightly forested with a mix of hardwoods and softwoods and the west approach is comprised of assorted brush, a couple of small to medium sized hardwood trees, and some field grass. Several small hardwoods and areas of brush will be removed within the existing right-of-way to accommodate the temporary detour bridge. Seed & Mulch will stabilize slopes flatter than 66%.

1.3.5. The Soil Conservation Service "Soil Survey of Orange County" identifies two soil types in the project site.

1.3.5.1.1. Wo Winooski very fine sandy loam. This soil is the primary soil covering most of the bridge area. The soil profile is typically: 8 in. of very fine sandy loam; 8-17 in. dark grayish brown and olive very fine sandy loam; 17-60 in. is very dark grayish brown very fine sandy loam with mottles. It's erosion hazard rating is slight. The slope suggests low erodibility.

1.3.5.1.2. HdE Hartland silt loam, 25 to 50 % slope. This soil is in the area east of the old bridge. The soil profile is typically: 6 in. dark grayish brown silt loam over; 13 in. silt loam subsoil; over 19-60 in. dark grayish brown and olive silt and olive brown, yellowish brown, and olive very fine sandy loam. It's erosion hazard rating is severe. The slope suggests high erodibility.

1.3.6. Sensitive Resource Areas near the project include a Riparian Buffer extending 50' from the water's edge, an archaeological area to the south of the temporary bridge, and an historic area which is the covered bridge itself.

1.3.7. The Proximity to Natural or Man-Made Water Features in this area are as follows: The project is directly above the South Branch of the White River with existing ditches running along the highway and draining to the river. A well is located upstream north of the project approximately 60' away from construction.

1.4. TEMPORARY EROSION PREVENTION & SEDIMENT CONTROL (SEE EROSION CONTROL DETAILS)

1.4.1. Temporary Measures to Prevent Erosion & Control Sediment Transport include:

1.4.1.1.1. "Project Demarcation Fencing" delineates the construction area for construction equipment. This measure limits the area that can be disturbed and exposed to erosion.

1.4.1.1.2. "Seeding & Mulching" stabilizes slopes ranging from 0% to 66%. Add biodegradable "Erosion Control Matting" (or equivalent) to slopes ranging from 33% to 66%. Use seeding for long term exposed slopes. Grass takes 2 weeks to establish itself. Stabilize slopes within 48 hours or sooner considering rain.

1.4.1.1.3. "Stone Check Dams" placed in ditches 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.

1.4.1.1.4. "Steel Sheet piling" is placed along ROW to contain roadway approaches.

1.4.1.1.5. "Silt Fence" placed level on slopes control sheet flow sediment transport. Place level silt fence 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 100'. Place silt fence before beginning upslope earthwork. Silt fence shall not be placed across contours.

1.4.1.1.6. Hay Bales are unacceptable alternatives to silt fences, sand bags, or check dams.

1.5. FINAL EROSION CONTROL MEASURES

1.5.1. Place "Surface Course" on the roadway to prevent erosion. Compact aggregate appropriately to prevent erosion of the aggregate.

1.5.2. "Seeding & Mulching" will establish vegetation on side slopes less than 66% that prevents erosion and control sediment transport. Add biodegradable "Erosion Control Matting" (or equivalent) to slopes ranging from 33% to 66%.

1.5.3. Roadway Ditches beside the road control concentrated flows and prevent erosion. Including Erosion Matting in roadway ditches prevents erosion and controls sediment transport. See ESFC Sheet #4 for details.

2. GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

2.1. The Erosion Control Plans are guidelines for preventing erosion and controlling sediment transport throughout the life of the project. The purpose of the plan is to minimize soil loss and the pollution and sedimentation of receiving waters.

2.2. 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. Use additional erosion control measures as necessary during the sequence of construction and as directed by the Engineer. See sub-section 105.23 of the Vermont AOT Standard Specifications for Construction, dated 2001.

2.3. Maintain existing vegetated buffers along stream banks, wetlands or other sensitive areas wherever possible.

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

2.5. Install 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. Note any changes on the plans, in the weekly inspection report, and report them to the appropriate authority in a timely manner. Inspect all control measures weekly and after each rainfall event. Repair measures promptly once damage is discovered.

2.6. 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. Establish temporary vegetation if the disturbed area is to be without construction activity for a period of 14 days. Install perimeter control measures following clearing and before the start of any grubbing or grading activity. Install other temporary controls in incremental stages as construction proceeds.

2.7. Operate construction equipment only within perimeter control measures.

*The anticipated areas of disturbance for the covered bridge rehabilitation project and this project are 0.21 acres for the covered bridge rehabilitation and 0.12 acres for the temporary bridge, for a total of 0.33 acres. The estimated area of waste, borrow, and staging is less than 0.67 acres, for an overall project total of less than 1.00 acre. Should conditions change and result in 1 or more acres of earth disturbance, then the contractor will be responsible for additional permitting with the Agency of Natural Resources.

PROJECT NAME: RANDOLPH	
PROJECT NUMBER: BHO 1444 (50)	
FILE NAME: s061094erodan	PLOT DATE: 3/29/06
PROJECT LEADER: J. WEAVER	DRAWN BY: J. TREI
DESIGNED BY: J. TREI	CHECKED BY: J. WEAVER
ESFC SHEET: NARRATIVE	SHEET 7 OF 18