EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF A BRIDGE OVER LOCUST CREEK. A NEW DOUBLE LANE, SINGLE SPAN BRIDGE WILL BE CONSTRUCTED ON THE EXISTING ALIGNMENT WHILE TRAFFIC IS MAINTAINED ON A TEMPORARY BRIDGE DURING CONSTRUCTION. FOLLOWING COMPLETION OF THE NEW BRIDGE, THE TEMPORARY BRIDGE WILL BE REMOVED. THE BRIDGE IS LOCATED ON VT ROUTE 12 IN THE TOWN OF BETHEL. TOTAL ROADWAY APPROACH WORK, INCLUDING BOTH APPROACHES, IS 940 FEET.

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.

TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 1.98 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

THE PROPERTY SURROUNDING THE PROJECT SITE CONSISTS OF WELL ESTABLISHED VEGETATION, MODERATELY SLOPING, MIXED SOFTWOOD AND HARDWOOD FOREST. THERE ARE A FEW HOUSES WITH GRASS AND TREE BUFFERS. DUE TO THE NATURE OF THE SURROUNDING TERRAIN, RUNOFF WATER ENTERING THE PROJECT SITE WILL BE PRIMARILY LIMITED TO THAT WHICH IS CONVEYED VIA GRASS SURFACES, A ROADWAY DITCH, AND THAT WHICH FOLLOWS VT ROUTE 12 ALONG THE 1.4% GRADE AT THE BEGINING OF THE PROJECT LIMITS. THE CURRENT ROADWAY DITCHES ARE NOT WELL DEFINED AND ARE NOT LINED WITH STONE.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

LOCUST CREEK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS HILLY TO MOUNTAINOUS, MOSTLY FORESTED WITH A STREAM BED CONSISTING OF GRAVEL, COBBLES AND A FEW BOULDERS. THE TRIBUTARY AREA AT THE BRIDGE CROSSING IS 24.8 SQ. MI. DISTURBANCE OF SOILS NEAR NATURAL OR MAN-MADE WATERWAYS CONSISTS OF THAT WHICH IS NECESSARY TO CONSTRUCT TWO NEW CONCRETE BRIDGE ABUTMENTS AND APPLICABLE ROADWAY APPROACHES AS WELL AS THE REMOVAL OF THE EXISTING CROSSING. STABILIZATION OF DISTURBANCES TO STREAM BANKS WILL BE ACCOMPLISHED WITH STONE FILL, TYPE III.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT SITE IS HILLY TO MOUNTAINOUS WITH VT ROUTE 12 FOLLOWING PARALLEL TO LOCUST CREEK WHICH IS CONTAINED BY STEEP RIVER BANKS ALONG EACH SIDE. DEVELOPMENT ALONG VT ROUTE 12 CONSISTS OF PERMANENT RESIDENCES. OVERHEAD UTILITY SERVICE FOLLOWS ALONG VT ROUTE 12 WITH THE NEED FOR RELOCATION OF THE UTILITY POLES POSSIBLE.

1.2.4 VEGETATION

A MIX OF HARDWOOD AND SOFTWOOD TREES OF ALL SIZES EXIST ALONG VT ROUTE 12. THE TWO RESIDENCES NEAR THE BRIDGE SITE HAVE SMALL AREAS OF LAWN AND LANDSCAPE PLANTINGS. NO FIELDS OR OTHER AGRICULTURAL CROPS EXIST NEAR THE PROJECT. IMPACTS TO VEGETATION WILL BE LIMITED TO THAT WHICH ARE AFFECTED BY THE CONSTRUCTION OF THE NEW BRIDGE ALONG THE EXISTING ALIGNMENT AND A TEMPORARY BRIDGE LOCATED DOWNSTREAM OF THE EXISTING STRUCTURE. PRIOR TO CONSTRUCTION OF THE NEW BRIDGE, THE EXISTING BRIDGE AND ROADWAY APPROACHES WILL BE REMOVED, THE SLOPES STABILIZED WITH STONE FILL AND VEGETATION REESTABLISHED WITH STANDARD SEED & MULCH PRACTICES.

1.2.5 SOILS

THE SOIL CONSERVATION SERVICE HAS MAPPED THE SOILS THROUGHOUT WINDSOR COUNTY. THE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS AGAWAM FINE SANDY LOAM. THIS SOIL TYPE IS DESCRIBED AS DEEP, WELL DRAINED, LEVEL TO STEEP SOILS ON STREAM TERRACES HAVING MODERATE AVAILABLE WATER CAPACITY, NATURAL FERTILITY IS LOW, PERMEABILITY IS MODERATELY RAPID AND THE SHRINK-SWELL POTENTIAL IS LOW. STEEP AREAS ARE IN WOODLAND OR ARE IDLE.

THE LISTED SOIL ERODIBILITY COEFFICIENT (K-VALUE) FOR THIS SOIL TYPE IS 0.28. GENERALLY, K-VALUES INDICATE THE FOLLOWING: 0.0 - 0.23 = LOW ERODIBILITY; 0.24 - 0.36 = MODERATE ERODIBILITY; 0.37 AND HIGHER = HIGH ERODIBILITY.

1.2.6 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: YES
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: LOCUST CREEK
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT HAS BEEN DETERMINED TO BE LOW RISK BASED ON THE FOLLOWING CONCLUSIONS. BASIC RISK EVALUATION RESULTED IN A MORE DETAILED ANALYSIS TO DETERMINE RISK AND RESULTED IN THE FOLLOWING REQUIREMENTS:

1. THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL MUST BE ON SITE AND COMPLIED WITH AT ALL TIMES

2. ALL AREAS MUST HAVE TEMPORARY OR FINAL STABILIZATION WITHIN 7 DAYS OF THE INITIAL DISTURBANCE AND STABILIZED THEREAFTER ON A DAILY BASIS. THE FOLLOWING EXCEPTIONS APPLY:

   A. STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN 24 HOURS AND NO PRECIPITATION IS FORECASTED FOR THE NEXT 24 HOURS.

   B. STABILIZATION IS NOT REQUIRED IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION WITH A DEPTH OF 2 FEET OR GREATER.

3. INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT RESULTING IN DISCHARGE OF STORMWATER FROM THE CONSTRUCTION SITE.

4. IF THERE IS A DISCHARGE OF VISIBLY DISCOLORED STORMWATER FROM THE CONSTRUCTION SITE OR FROM THE CONSTRUCTION SITE TO WATERS OF THE STATE, THE PERMITEE SHALL TAKE IMMEDIATE CORRECTIVE ACTION.

5. IF, AFTER COMPLETING CORRECTIVE ACTION, THERE CONTINUES TO BE A DISCHARGE OF SEDIMENT FROM THE CONSTRUCTION SITE TO WATERS OF THE STATE, THE PERMITEE SHALL NOTIFY DEC BY SUBMITTING A REPORT WITHIN 72 HRS OF THE DISCHARGE.

ANY MODIFICATIONS TO THE PROJECT SHALL RESULT IN A RE-EVALUATION OF THE RISK AND THAT THE CONTRACTOR IS RESPONSIBLE FOR RE-FILING SHOULD THE RISK CHANGE.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLLUTION PREVENTION CONTROLS.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. 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.

MEASURES SUCH AS SILT FENCE SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT BUILD-UP SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT REACHES ONE-HALF THE HEIGHT OF THE CONTROL MEASURE. SEDIMENT SHALL BE DISPOSED AT AN APPPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

(REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR EACH PRACTICE REQUIRED ON THE PROJECT TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING.)

1.4.1 MARK SITE BOUNDARIES
PROJECT DEMARCATION FENCING, DENOTED -PDF- ON THE PLANS, IS 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.

1.4.2 LIMIT DISTURBANCE AREA
EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ENGINEER.

1.4.3 STABILIZE CONSTRUCTION EXIT
STABILIZED CONSTRUCTION ENTRANCE SHALL BE UTILIZED AS NECESSARY.

1.4.4 INSTALL SILT FENCE
SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS SHOWN ON THE PLANS OR AS NECESSARY.

1.4.5 DIVERT UPLAND RUNOFF
SWALE (STORM WATER FROM STREET COLLECTIONS DRAINAGE SYSTEM)

1.4.6 SLOW DOWN CHANNELIZED RUNOFF
CHECK DAMS SHALL BE UTILIZED AS NECESSARY.

1.4.7 CONSTRUCT PERMANENT CONTROLS
STONE FILL, TYPE III FOR SLOPE LINING AND CHANNEL PROTECTION
SEED AND MULCH

STREAM BANK VEGETATION WILL BE INTRODUCED IN THE GRUBBING MATERIAL THAT IS TO BE PLACED OVER THE STREAM BANK STONE FILL.

1.4.8 STABILIZE EXPOSED SOILS
SEED AND MULCH
EROSION MATTING

TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL BE UTILIZED ON A REGULAR BASIS. SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF FORECASTED RAIN. ANY SLOPES TO BE EXPOSED FOR SEVERAL DAYS PRIOR TO FINAL GRADING SHALL BE TRACKED AND MULCHED. SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING INTERMITTENT PHASES OF CONSTRUCTION.

1.4.9 WINTER STABILIZATION
VARIOUS MEASURES SPECIFIC TO WINTER (SEE LOW RISK HANDBOOK)

1.4.10 STABILIZE SOIL AT FINAL GRADE
SEED AND MULCH
EROSION MATTTING

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE OR DURING INTERMITTENT PHASES OF CONSTRUCTION.

1.4.11 DE-WATERING ACTIVITIES
THE CONTRACTOR SHALL PROVIDE DETAILS FOR SEDIMENT DEWATERING METHODS WITH COFFERDAM DESIGN. SEE "EPSC CONSTRUCTION SHEET 2" FOR POTENTIAL DEWATERING LOCATION.

1.4.12 INSPECT YOUR SITE
INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

EPSC NARRITIVE

PROJECT NAME: BETHEL

PROJECT NUMBER: BHF 024I(30)S

FILE NAME: 95c002\str\s95c002ecn.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U.STANLEY

PLOT DATE: 03-DEC-2009
DRAWN BY: G.ROKES
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ROW SHEET 8 OF 18