

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL AND REPLACEMENT OF BRIDGE NO. 8 OVER THE HUNTINGTON RIVER IN HUNTINGTON, VT. BRIDGE NO. 8 IS LOCATED ON MAIN ROAD (TH 1) APPROXIMATELY 3.9 MILES NORTH OF THE INTERSECTION OF MAIN ROAD AND VT ROUTE 17 AND CONSISTS OF A ROLLED STEEL BEAM SUPERSTRUCTURE ON CONCRETE ABUTMENTS. THE EXISTING BRIDGE NO. 8 WILL BE REMOVED ALONG WITH PARTIAL REMOVAL OF THE EXISTING ABUTMENTS AND REPLACED WITH A NEW STEEL PLATE GIRDER BRIDGE SPANNING 94 FT OVER THE HUNTINGTON RIVER ON NEW ABUTMENTS AND ON A NEW ALIGNMENT.

THE BRIDGE REPLACEMENT INCLUDES THE REMOVAL OF THE EXISTING ROLLED STEEL BEAM SUPERSTRUCTURE, PARTIAL REMOVAL OF THE SPILL THROUGH ABUTMENT 1 DOWN TO GRADE, REMOVAL OF ABUTMENT 2 DOWN TO THE TOP OF FOOTING, AND CONSTRUCTION OF A 94'-0" SINGLE SPAN BRIDGE. THE NEW BRIDGE WILL CONSIST OF STEEL PLATE GIRDERS, A CAST-IN-PLACE CONCRETE OVERLAY TO CREATE A BRIDGE WIDTH OF 27'-4", AND NEW PRECAST CONCRETE ABUTMENTS. ABUTMENT 1 WILL BE AN INTEGRAL ABUTMENT ON H-PILES AND ABUTMENT 2 WILL BE A FIXED ABUTMENT ON LEDGE. CONSTRUCTION WILL ALSO INCLUDE THE ASSOCIATED APPROACH WORK, INSTALLATION OF BRIDGE APPROACH SLABS, REALIGNMENT OF ROADWAY, AND NEW GUARDRAIL.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.65 ACRES.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS A TRANSITION FROM STEEPER FORESTED AREA ON THE EAST SIDE TO A GENERALLY FLAT AREA TO THE WEST WITH BOTH OPEN AGRICULTURAL FIELDS AND WOODED AREAS. THE PROJECT IS LOCATED IN A LARGELY UNDEVELOPED RURAL AREA WITH A FEW HOUSES OUTSIDE THE PROJECT AREA WITH FIELD AND FOREST BUFFERS. TOWN HIGHWAY 1 AND AN ACCESS DRIVE ARE WITHIN THE PROJECT SITE.

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

THE HUNTINGTON RIVER IS THE ONLY WATER SOURCE ON THE PROJECT SITE, ALTHOUGH AN INTERMITTENT STREAM IS LOCATED JUST TO THE EAST OF THE PROJECT. AT THE PROJECT LOCATION THE HUNTINGTON RIVER IS CHARACTERIZED AS AN INCISED CHANNEL HAVING A SANDY GRAVEL STREAMBED WITH SOME BOULDERS AND STONE FILL AROUND THE EXISTING ABUTMENTS. THE TRIBUTARY AREA AT THE BRIDGE CROSSING IS 18.4 SQUARE MILES. THERE IS A CLASS II FORESTED WETLAND LOCATED TO THE NORTHEAST WHICH THE PROJECT LIMITS EXTEND INTO.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD AND SOFTWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING BRIDGE. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF CHITTENDEN, VERMONT. SOILS ON THE SOUTHEAST OF THE PROJECT SITE ARE CABOT SILT LOAM, 3% TO 25% SLOPES, "K FACTOR" = 0.49. TO THE SOUTHWEST SOIL CONSISTS OF STETSON GRAVELLY FINE SANDY LOAM, 5% TO 12% SLOPES, "K FACTOR" = 0.15. ON THE WEST SIDE AND NORTHEAST BANK OF THE HUNTINGTON RIVER SOILS CONSIST OF HADLEY VERY FINE SANDY LOAM FREQUENTLY FLOODED, 0% TO 3% SLOPES "K-FACTOR" = 0.32. THE NORTHEAST PORTION OF THE SITE CONSIST OF PERU EXTREMELY STONY LOAM, 20% TO 60% SLOPES, "K FACTOR" = 0.28. THE SOIL IN THE IMMEDIATE VICINITY OF THE BRIDGE ARE CONSIDERED HIGHLY ERODIBLE DUE TO SIGNIFICANT SLOPES.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:
0.0-0.23 = LOW EROSION POTENTIAL
0.24-0.36 = MODERATE EROSION POTENTIAL
0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: YES. ARCHEOLOGICAL AREAS HAVE BEEN IDENTIFIED TO THE NORTHEAST AND NORTHWEST OF THE SITE. DUE TO THEIR VICINITY TO THE PROJECT AREAS TO THE NORTHEAST WILL BE PROTECTED BY BARRIER FENCE TO ENSURE CONSTRUCTION ACTIVITIES DO NOT IMPACT THESE AREAS.
PRIME AGRICULTURAL LAND: YES. THE BRIDGE REPLACEMENT WILL NOT LIKELY REDUCE THE AGRICULTURAL POTENTIAL OF THE LAND.
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: HUNTINGTON RIVER
WETLANDS: YES. A CLASS II WETLAND FEATURE WAS LOCATED ON THE OUTSIDE OF THE PROJECT AREA EAST OF THE BRIDGE.

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. 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, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BECAUSE OF THE ARCHEOLOGIC AREAS TO THE NORTHEAST, BARRIER FENCE SHALL BE USED ADJACENT TO THOSE AREAS.

1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

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.

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

FILTER CURTAIN WILL BE INSTALLED WHERE WORK MUST TAKE PLACE WITHIN THE LIMITS OF THE HUNTINGTON RIVER AS PROPOSED ON THE EPSC PLAN.

1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

DIVERSION MEASURES ARE NOT ANTICIPATED FOR THIS PROJECT.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSION POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

CHECK STRUCTURES ARE NOT ANTICIPATED FOR THIS PROJECT.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

PERMANENT EROSION CONTROL STRUCTURES ARE NOT ANTICIPATED FOR THIS PROJECT.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

TREATMENT OF DEWATERING IS NOT ANTICIPATED.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BF 0211(32)

FILE NAME: z13j080epsc_narrative.dgn
PROJECT LEADER: S.E. BURBANK
DESIGNED BY: J.D. KEENER
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PLOT DATE: 8/15/2016
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