

## EPSC PLAN NARRATIVE

### 1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL OF BRIDGE 6, ITS ABUTMENTS, PIERS, AND FOUNDATIONS, AND THE REPLACEMENT OF A RETAINING WALL SOUTHEAST OF THE EXISTING BRIDGE. BRIDGE 6 WILL BE REPLACED WITH A BURIED GALVANIZED STEEL STRUCTURAL PLATE ARCH STRUCTURE WITH A 26.75 FOOT RISE AND 47.92 FOOT MAXIMUM SPAN OVER THE LAMOILLE VALLEY RAIL TRAIL ALONG THE SAME ALIGNMENT AS THE EXISTING BRIDGE. THE HEADWALLS AND WINGWALLS WILL CONSIST OF U-BACK MECHANICALLY STABILIZED EARTH RETAINING WALLS. THE RETAINING WALL WILL BE REMOVED AND REPLACED WITH A 113.41 FOOT WALL ADJACENT TO THE DRIVE AT STA 65+25 RT. BRIDGE 6 IS LOCATED IN THE TOWN OF ST. JOHNSBURY, ON VT ROUTE 2B, APPROXIMATELY 0.35 MILES WEST OF THE INTERSECTION OF US ROUTE 2 AND VT ROUTE 2B. ROADWAY TYPICAL SECTION WILL BE TWO 11 FOOT LANES AND TWO 3 FOOT SHOULDERS.

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 0.79 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON UTILIZING THE ACCELERATED BRIDGE CONSTRUCTION PROGRAM.

### 1.2 SITE INVENTORY

#### 1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS HILLY WITH MOSTLY WOODED AREAS WITH OCCASIONAL MAINTAINED LAWN AREAS. VT ROUTE 2B AND MULTIPLE DRIVEWAYS ARE WITHIN THE PROJECT SITE. THERE ARE TWO RESIDENCES ON THE NORTH, AND THREE RESIDENCES ON THE SOUTH WITHIN THE PROJECT LIMITS. THE LAMOILLE VALLEY RAIL TRAIL CROSSES UNDER VT ROUTE 2B. THE RAIL TRAIL IS PRIMARILY GRASS WITH WOODED AREAS ALONG THE EAST AND WEST SIDES.

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

THE ONLY OPEN WATER SOURCE NEAR THE PROJECT SITE IS A SMALL, UNNAMED POND APPROXIMATELY 200 FEET NORTH OF BRIDGE 6 ON THE WEST SIDE OF THE RAIL TRAIL. A MUNICIPAL WATER LINE IS LOCATED ON THE NORTH SIDE OF VT 2B WITHIN THE PROJECT LIMITS. AN UNNAMED TRIBUTARY TO THE SLEEPER'S RIVER IS LOCATED APPROXIMATELY 550 FEET SOUTH OF BRIDGE 6. THERE ARE TWO DROP INLETS ON SITE DRAINING FROM THE ROADWAY TO THE RAIL TRAIL.

#### 1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD TREES, UNDERGROWTH AND MAINTAINED LAWN AREAS. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING BRIDGE, RETAINING WALL, AND SLOPE GRADING. DISTURBED VEGETATION THAT DOES NOT RECEIVE STONE FILL 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 CALEDONIA, VERMONT. SOILS ON THE PROJECT SITE ARE SALMON-ADAMANT COMPLEX, 15% TO 25% SLOPES, VERY ROCKY, AND SALMON-ADAMANT COMPLEX, 25% TO 50% SLOPES, VERY ROCKY, "K FACTOR" = 0.64. THE SOIL IS 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. THE PROJECT IS LOCATED WITHIN A HISTORIC DISTRICT. BRIDGE 6 IS CONSIDERED HISTORIC.  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: NORTHERN LONG-EARED BAT AND LITTLE BROWN BAT. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND RESTRICTIONS RELATED TO IMPACTS TO HABITAT.  
WATER RESOURCE: NO  
WETLANDS: NO

THERE ARE 4(f) PROPERTIES LOCATED NEAR THE PROJECT SITE.

### 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.

#### 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 CONTRACTOR'S PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES ARE ANTICIPATED. THE EXISTING ROADWAY WILL BE CLOSED TO ALL TRAFFIC AND WILL BE UTILIZED TO ACCESS THE BRIDGE. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED FOR ANY EQUIPMENT THAT ACCESSES AND UTILIZES THE RAIL TRAIL DURING CONSTRUCTION. THE CONTRACTOR SHALL ENSURE THAT ANY EQUIPMENT THAT UTILIZES THE RAIL TRAIL DURING CONSTRUCTION IS CLEAR OF SEDIMENT PRIOR TO ENTERING THE PAVED ROADWAY.

#### 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 AND STONE AND BLOCK DROP INLET PROTECTION MEASURES WILL BE INSTALLED 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 TO BE NEEDED AS DESIGNED.

#### 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.

TEMPORARY STONE CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN, AT A MINIMUM.

#### 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 STORMWATER TREATMENT DEVICES ARE NOT ANTICIPATED TO BE NEEDED AS DESIGNED.

#### 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.

IT IS ANTICIPATED THAT REMOVAL OF TREES WILL OCCUR DURING WINTER MONTHS. SEE SPECIAL PROVISIONS FOR ADDITIONAL RESTRICTIONS. PAYMENT FOR REMOVING INDIVIDUAL TREES WILL BE PAID FOR UNDER CONTRACT ITEM 201.10.

#### 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.

TEMPORARY EROSION MATTING AND STONE FILL SHALL BE USED TO STABILIZE ROADWAY SLOPES AS SHOWN ON THE PLANS.

#### 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 DISCHARGE FROM DEWATERING ACTIVITIES IS ANTICIPATED. THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR. ALL COSTS FOR TREATMENT OF DISCHARGE SHALL BE PAID FOR UNDER CONTRACT ITEM 653.45.

#### 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.

#### 1.5.3 UPDATES

PROJECT NAME: ST. JOHNSBURY  
PROJECT NUMBER: BF 7000(20)

FILE NAME: 86e048/cos/z86e048erode+.dgn PLOT DATE: 10/26/2016  
PROJECT LEADER: J.BYATT DRAWN BY: W.GORDON  
DESIGNED BY: M.HALEY CHECKED BY: P.SHEDD  
EPSC NARRATIVE SHEET 62 OF 70

