

## EPSC PLAN NARRATIVE

### 1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL AND REPLACEMENT OF AN EXISTING 148 FOOT BRIDGE WITH A NEW 130 LONG SINGLE SPAN BRIDGE. THE EXISTING BRIDGE DECK IS 36± FEET WIDE. THE EXISTING DECK IS REINFORCED CONCRETE ON STEEL BEAMS. THERE IS A CONCRETE SIDEWALK ON THE BRIDGE WITH AN ENCLOSED WOODED STRUCTURE. THE BRIDGE RESTS ON TWO ABUTMENTS AND ONE PIER. THE EXISTING ABUTMENTS AND PIER WILL BE REMOVED. THE PIER WILL BE REMOVED TO THE STREAMBED ELEVATION. THE NEW BRIDGE WILL BE A CONCRETE DECK ON NEW STEEL GIRDERS WITH NEW INTEGRAL ABUTMENTS WITH PILES ON LEDGE. THE NEW BRIDGE WILL BE THE SAME WIDTH AS THE EXISTING BRIDGE AND WILL INCLUDE THE COMPLETE REPLACEMENT IN KIND OF THE COVERED PEDESTRIAN WALKWAY.

THIS PROJECT IS LOCATED IN STOWE VERMONT, ON VT ROUTE 108, 0.066 MILES WEST OF THE VT 100 AND VT 108 INTERSECTION. THE BRIDGE SPANS OVER THE "LITTLE RIVER".

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 0.35 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON, WITH THE BRIDGE BEING CLOSED TO TRAFFIC FOR NO MORE THAN SIX WEEKS.

### 1.2 SITE INVENTORY

#### 1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS MOSTLY WELL ESTABLISHED FOREST WITH SMALL OPEN AREAS IN A MOUNTAINOUS TERRAIN. THERE ARE THREE PAVED DRIVES IN THE PROJECT LIMITS OR ADJACENT TO THE PROJECT LIMITS. THERE ARE COMMERCIAL BUSINESSES ON THREE SIDES OF THE PROJECT AND ONE DRIVE OR PULL ON THE SOUTH END OF THE BRIDGE TO THE NORTH EAST.

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

THE CHANNEL IS MEANDERING UPSTREAM WITH A WIDE FLOODPLAIN. THE DOWNSTREAM CHANNEL IS STRAIGHT, STEEPER AND HAS A NARROW FLOODPLAIN WITH STEEP BANKS. THERE ARE SOME BUILDINGS NEAR THE BRIDGE AND CHANNEL. THERE HAVE BEEN PROBLEMS WITH THE STONE FILL IN FRONT OF THE ABUTMENTS FAILING, AND SOME SCOUR AT THE PIER. THE SURVEY SHOWS THERE IS SOME EXPOSED LEDGE UPSTREAM AND DOWNSTREAM. THE PROJECT IS 6 MILES UPSTREAM FROM THE WATERBURY RESERVOIR. THE PROJECT IS 500 FEET DOWN STREAM FROM THE WEST BRANCH OF THE LITTLE RIVER OUTLET, INTO THE LITTLE RIVER.

#### 1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THE CONSTRUCTION OF A NEW DRAINAGE DITCH NEAR WINGWALL #4 AND NEAR WINGWALL #2 FOR ITS INSTALLATION. IMPACTED VEGETATION WILL BE RESEEDED AFTER THE PROJECT IS COMPLETED.

#### 1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF LAMOILLE, VERMONT. SOILS ON THE PROJECT SITE ARE:

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|---|--|--|
| <b>ADAMS LOAMY FINE SAND</b><br>(NOT HIGHLY ERODIBLE)<br>K-FACTOR = .24, 2%-8% SLOPES<br>HYDROLOGICAL SOIL GROUP: A | <b>BERKSHIRE FINE SANDY LOAM</b><br>(HIGHLY ERODIBLE) (DUE TO SLOPES<br>K-FACTOR = .24, 15%-25% SLOPES<br>HYDROLOGICAL SOIL GROUP: B | <b>RUMNEY FINE SANDY LOAM</b><br>(NOT HIGHLY ERODIBLE)<br>K-FACTOR = .17, 0%-3% SLOPES<br>HYDROLOGICAL SOIL GROUP: C |
|---|--|--|

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  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: NO  
WATER RESOURCE: LITTLE RIVER  
WETLANDS: NO

### 1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR LOW RISK PROJECTS. ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. 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 THAT CONSTRUCTION EQUIPMENT CAN ACCESS, SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC).

##### 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 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. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, WOVEN WIRE REINFORCED SILT FENCE SHALL BE USED INSTEAD OF SILT FENCE WITHIN 100 FEET UPSLOPE OF RECEIVING WATERS.

INLET PROTECTION DEVICES SHALL BE INSTALLED IN THE LOCATIONS SHOWN IN THE PLANS.

##### 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.

THE PROJECT AREA IS RELATIVELY FLAT. THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

##### 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.

NO SIGNIFICANT CHANNELIZED RUNOFF IS ANTICIPATED. CHECK STRUCTURE MEASURES WILL NOT BE REQUIRED.

##### 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 PROPOSED 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.

THE PROJECT AREA IS RELATIVELY FLAT, WITH LIMITED EXPOSED SOILS. NO STABILIZATION MEASURES ARE SPECIFICALLY SHOWN FOR THE PROPOSED PROJECT CONSTRUCTION.

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

##### 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.

DE-WATERING MAY BE REQUIRED TO INSTALL THE ABUTMENT FOOTINGS DEPENDING ON SEASONAL CHANGES TO THE RIVER'S WATER LEVEL.

##### 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: STOWE  
PROJECT NUMBER: BRF 0235 (II)

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| FILE NAME: s87e052eroDe+alls.dgn | PLOT DATE: 28-JUL-2014  |
| PROJECT LEADER: C. CARLSON       | DRAWN BY: M. LONGSTREET |
| DESIGNED BY: D. PETERSON         | CHECKED BY: J. LACROIX  |
| EPSC NARRATIVE                   | SHEET 57 OF 64          |