

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL AND REPLACEMENT OF THE EXISTING STEEL SUPERSTRUCTURE AND CONCRETE ABUTMENTS, AND A STONE RETAINING WALL WITH RELATED APPROACH AND CHANNEL WORK. DURING CONSTRUCTION, THE BRIDGE WILL BE CLOSED AND TRAFFIC WILL BE DETOURED ON LOCAL ROADS. THIS PROJECT IS LOCATED ON HALE ROAD, A LOCAL ROAD LOCATED WEST OF HINESBURG ROAD OVER HINESBURG BROOK IN THE TOWN OF GUILFORD. THE EXISTING BRIDGE IS APPROXIMATELY 63 FEET LONG AND HAS A 10 FOOT WIDE DECK. THE EXISTING SUBSTRUCTURE CONSISTS OF CONCRETE STUB ABUTMENTS AND WINGWALLS AND A STONE RETAINING WALL.

THE BRIDGE REPLACEMENT INCLUDES THE REMOVAL OF THE EXISTING STRUCTURE IN ITS ENTIRETY AND THE CONSTRUCTION OF A NEW 58 FOOT SINGLE SPAN BRIDGE WITH PRECAST CONCRETE BOX BEAMS TO CREATE A NEW BRIDGE WIDTH OF 18 FEET. NEW CONCRETE ABUTMENTS AND WINGWALLS WILL BE CONSTRUCTED ALONG WITH ASSOCIATED APPROACH WORK 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 0.20 ACRES.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE ROAD IN THIS PROJECT AREA IS LOCATED IN AN AREA WITH STEEP BANKS TRANSITIONING INTO A FLAT RESIDENTIAL PARCEL, WITH A LOW POINT WHERE THE BRIDGE IS LOCATED. THERE IS LIMITED RESIDENTIAL DEVELOPMENT LOCATED IN THIS RURAL AREA. HAYES ROAD IS LOCATED NORTHWEST OF THE BRIDGE LOCATION.

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

THE SITE OF THE BRIDGE IS LOCATED IN THE LOWER CONNECTICUT WATERSHED BASIN AND WATERS IN THE AREA DRAIN INTO THE CONNECTICUT RIVER. HINESBURG BROOK IS ONE PERENNIAL STREAM DELINEATED IN THE PROJECT AREA THAT RUNS NORTH TO SOUTH AND PASSES UNDER HALE ROAD. HINESBURG BROOK IS CONSIDERED CLASS B WATER UNDER THE VERMONT WATER QUALITY STANDARDS. THERE IS A WETLAND LOCATED ON THE SOUTH SIDE OF HALE ROAD AND WEST OF HINESBURG BROOK THAT RECEIVES HYDROLOGY FROM UPGRADIENT SLOPES LOCATED TO THE WEST. THIS WETLAND IS CONSIDERED A CLASS II WETLAND, WITH WOODY VEGETATION PRESENT, AND IS LOCATED ADJACENT TO AN INTERMITTENT STREAM THAT DRAINS TO HINESBURG BROOK AND IS POSSIBLY GREATER THAN 0.5 ACRES. THE WETLAND IS OUTSIDE OF THE PROJECT LIMITS.

1.2.3 VEGETATION

SOUTH OF BRIDGE NO. 65, THE WESTERN BANK IS DENSELY FORESTED AND GENTLY SLOPING AND THE EASTERN BANK IS STEEP BEFORE TRANSITIONING INTO A FLAT RESIDENTIAL PARCEL. NORTH OF HALE ROAD, THE WESTERN BANK IS DENSELY VEGETATED AND FLAT BEFORE TRANSITIONING TO A STEEP SLOPE THAT EXTENDS UPWARD TO HALE ROAD. THE EASTERN BANK IS UNDEVELOPED AND STEEP. THE AREA'S VEGETATION GENERALLY CONSISTS OF HEMLOCK NORTHERN HARDWOOD FOREST. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE III AS SPECIFIED ON THE PLANS. 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 TOWN OF GUILFORD, VERMONT. SOILS ON THE PROJECT SITE ARE BERKSHIRE AND MONADNOCK, FINE SANDY LOAMS, VERY STONY, 8% TO 15% SLOPES, "K FACTOR" = 0.24. THE SOIL IS MODERATELY ERODIBLE.

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: HINESBURG BROOK
WETLANDS: THERE IS ONE WETLAND LOCATED ON THE SOUTH SIDE OF HALE ROAD AND WEST OF HINESBURG BROOK, THE WETLAND RECEIVES HYDROLOGY FROM UPGRADIENT SLOPES LOCATED TO THE WEST. IT IS CONSIDERED A CLASS II WETLAND AND DRAINS INTO HINESBURG BROOK.

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.

BARRIER FENCE (BF) SHALL BE USED TO PHYSICALLY MARK ARCHEOLOGICAL 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 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.

FILTER CURTAIN SHALL BE INSTALLED WHERE WORK MUST TAKE PLACE WITHIN THE LIMITS OF HINESBURG BROOK 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.

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 ACTIVITIES ARE NOT ANTICIPATED FOR THIS PROJECT.

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: GUILFORD
PROJECT NUMBER: BRO 1442(36)

FILE NAME: z10j064ero_Narrative.dgn
PROJECT LEADER: S.E. BURBANK
DESIGNED BY: E.A. FIALA
EPSC NARRATIVE

PLOT DATE: 10/2/2013
DRAWN BY: E.A. FIALA
CHECKED BY: S.E. BURBANK
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