

**EPSC PLAN NARRATIVE**

**1.1 PROJECT DESCRIPTION**

THIS PROJECT INVOLVES THE REHABILITATION AND WIDENING OF BRIDGE 24 (THE CHECKERHOUSE BRIDGE) ALONG WITH NEW BRIDGE ABUTMENTS LOCATED ALONG U.S. ROUTE 2 IN THE TOWN OF RICHMOND. U.S. ROUTE 2 WILL ALSO BE RECONSTRUCTED, JOHNNIE BROOK ROAD WILL BE RELOCATED AND A CULVERT WEST OF THE BRIDGE WILL BE REPLACED. IN ADDITION, AN ON-SITE TEMPORARY DETOUR UTILIZING A TEMPORARY BRIDGE STRUCTURE OF THE WINOOSKI WILL BE CONSTRUCTED ALONG THE SOUTHERN SIDE OF BRIDGE 24.

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 5.9 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST THREE CONSTRUCTION SEASONS.

**1.2 SITE INVENTORY**

**1.2.1 TOPOGRAPHY**

THE PROJECT AREA IS LOCATED ALONG THE LOWER REGIONS OF THE GREEN MOUNTAINS. THE TOPOGRAPHY OF THE AREA IS A VALLEY SITUATED ALONG THE WINOOSKI RIVER THAT IS MOSTLY FARM LAND WITH SOME AREAS OF RESIDENTIAL AND COMMERCIAL DEVELOPMENT ALONG U.S. ROUTE 2. THERE ARE ALSO SEVERAL SIDE ROADS (JOHNNIE BROOK ROAD, KENYON ROAD, AND CAT LANE) LOCATED WITHIN THE PROJECT SITE.

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

THE WINOOSKI RIVER RUNS THROUGH THE PROJECT SITE UNDER BRIDGE 24. THE RIVER IS CLASSIFIED AS SHALLOW WITH A CONFINED CHANNEL THROUGH THE SITE. THE STREAM BED CONSISTS OF ROCK OUTCROPS, GRAVEL AND COBBLES. THERE IS ALSO A SEASONAL INTERMITTENT STREAM CHANNEL LOCATED WITHIN THE PROJECT AREA THAT OUTFALLS INTO THE WINOOSKI, LOCATED WEST OF BRIDGE 24. ON-SITE DRAINAGE IS PRIMARILY CONVEYED BY OVERLAND FLOW INTO ROADSIDE DITCHES THAT EVENTUALLY OUTFALL INTO THE WINOOSKI RIVER OR THE UN-NAMED STREAM. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE STORMWATER RUNOFF FROM UPLAND AREAS.

**1.2.3 VEGETATION**

THE VEGETATION IN THE PROJECT AREA PRIMARILY CONSISTS OF FARMLAND WITH ISOLATED AREAS OF TREES, UNDERGROWTH AND AREAS OF ROCK OUTCROPS. THE IMPACT TO EXISTING VEGETATION WILL PRIMARILY BE FROM THE RELOCATION OF JOHNNIE BROOK ROAD AND THE CONSTRUCTION OF THE TEMPORARY DETOUR. ADDITIONAL IMPACTS ASSOCIATED WITH THE WIDENING OF BRIDGE 24 AND THE RECONSTRUCTION OF U.S. ROUTE 2 WILL BE MINIMAL. UPON PROJECT COMPLETION, DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES AND TREE AND SHRUB PLANTINGS WHERE APPLICABLE.

**1.2.4 SOILS**

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF CHITTENDEN, VERMONT. SEE TABLE BELOW FOR SOIL TYPES LOCATED WITHIN THE PROJECT AREA.

MAP UNIT	DESCRIPTION	SLOPES	K-VALUE
AqA	AGAWAM FINE SANDY LOAM	0-5%	0.37
Hf	HADLEY VERY FINE SANDY LOAM	0-3%	0.49
Le	LIMERICK SILT LOAM	0-3%	0.49

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 ARCHAEOLOGICAL AREAS: NO  
 PRIME AGRICULTURAL LAND: YES, THERE ARE AREAS OF PRIME AGRICULTURAL LAND LOCATED WITHIN THE PROJECT AREA THAT HAVE BEEN PREVIOUSLY DISTURBED. THESE AREAS HAVE BEEN CLEARED BY THE VERMONT AGENCY OF AGRICULTURE IN WHICH THEY HAVE NO OBJECTIONS TO THE PROJECT.  
 THREATENED AND ENDANGERED SPECIES: NO  
 WATER RESOURCE: WINOOSKI RIVER

WETLANDS: YES, THERE IS A CLASS II WETLAND LOCATED WITHIN THE PROJECT NORTH OF U.S. ROUTE 2 THAT WILL HAVE PERMANENT AND TEMPORARY IMPACTS. THERE IS ALSO A CLASS II WETLAND LOCATED IN THE AREA OF THE CULVERT REPLACEMENT THAT WILL HAVE TEMPORARY AND PERMANENT IMPACTS.

**1.3 RISK EVALUATION**

THIS PROJECT FALLS UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR MODERATE 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 PREVENTION AND SEDIMENT 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 VERMONT STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AND SEDIMENT CONTROL AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE INSPECTED REGULARLY AND MAINTAINED OR MODIFIED AS NECESSARY TO BEST SUIT THE CONDITIONS OF THE PROJECT AREA. 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.

VEGETATED BUFFERS WILL BE MAINTAINED ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS 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 EARTH DISTURBANCES.

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.

**1.4.5 DIVERT UPLAND RUNOFF**

DIVERSIONARY MEASURES SUCH AS DITCHES, SWALES, AND STONE DAMS OR BERMS 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.

STONE CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

<b>EROSION CONTROL NOTES</b>	PROJECT NAME: RICHMOND
	PROJECT NUMBER: STP-RS 0284(II)
	FILE NAME: z90c092_NARRATIVE_I5.dgn
	PLOT DATE: 3/16/2011
PROJECT LEADER: D.E.G.	DRAWN BY: C.A.K.
DESIGNED BY: B.T.H.	CHECKED BY: D.E.G.
DWG. NO.: ECN-1	SHEET 2 OF 27

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 DATE/TIME = 3/16/2011  
 USER = 3066