

1.1 PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF REPLACEMENT OF THE EXISTING SUPERSTRUCTURE WITH A NEW STEEL BEAM, CAST-IN-PLACE CONCRETE DECK SUPERSTRUCTURE AND CURTAIN WALL TO BE PLACED ON REHABILITATED ABUTMENTS. ADDITIONAL WORK INCLUDES THE INSTALLATION AND REMOVAL OF A TWO-WAY TEMPORARY BRIDGE, INSTALLATION OF NEW SIDEWALK, AND ASSOCIATED APPROACH WORK. THE APPROACH WORK WILL INCLUDE REMOVAL AND REPLACEMENT OF THE EXISTING GUARDRAIL AND RECONSTRUCTION OF THE APPROACH ROADWAY AND SIDE SLOPES ON ITS EXISTING ALIGNMENT.

THE PROJECT IS LOCATED ON VERMONT ROUTE 15, AND BEGINS AT APPROXIMATELY 840 METERS NORTH OF THE JUNCTION WITH VERMONT ROUTE 14 IN THE VILLAGE OF HARDWICK. THE PROJECT SPANS THE COOPER BROOK AND ENDS AT 44.5 m AFTER ITS BEGINNING. THIS PORTION OF VERMONT ROUTE 15 IS A PAVED CLASS I TOWN HIGHWAY IN THE TOWN OF HARDWICK. PRIOR TO CONSTRUCTION, A TEMPORARY DETOUR AND BRIDGE WILL BE INSTALLED UPSTREAM OF THE EXISTING BRIDGE AND WILL BE USED TO MAINTAIN VEHICULAR TRAFFIC DURING CONSTRUCTION. THE TEMPORARY DETOUR WILL BE A TOTAL LENGTH OF APPROXIMATELY 110 METERS AND WILL BE REMOVED UPON COMPLETION OF CONSTRUCTION. THIS PROJECT IS EXPECTED TO LAST ONE CONSTRUCTION SEASON.

THE MATERIAL TO BE EXCAVATED FROM THE SITE WILL INCLUDE EXISTING BITUMINOUS CONCRETE SURFACE AND SUBBASE WITHIN THE EXISTING ROADWAY AS WELL AS EXCAVATION FOR THE PLACEMENT OF THE TEMPORARY ABUTMENTS USED TO SUPPORT THE TEMPORARY BRIDGE. STOCKPILING OF ANY EXCAVATED MATERIAL TO BE REUSED IS EXPECTED TO TAKE PLACE WITHIN THE PROJECT LIMITS. LIKEWISE, STOCKPILING OF ANY NEW MATERIAL TO BE USED IS EXPECTED TO TAKE PLACE WITHIN THE PROJECT LIMITS. THE LIMIT OF CONSTRUCTION AND ASSOCIATED MAXIMUM SOIL DISTURBANCE AREA FOR THE ROADWAY AND BRIDGE CONSTRUCTION IS APPROXIMATELY 0.37 ACRES. ADDITIONALLY THERE WILL BE APPROXIMATELY 0.25 ACRES OF DISTURBED SOIL ASSOCIATED WITH THE CONSTRUCTION, USE AND REMOVAL OF THE TEMPORARY DETOUR. THE TOTAL FOOTPRINT AREA OF DISTURBED SOILS IS CALCULATED TO BE 0.62 ACRES.

THE EXISTING ENVIRONMENTAL RESOURCE ELEMENTS IN THE VICINITY OF THE PROJECT ARE COOPER BROOK AND THE LAMOILLE RIVER. THE BANKS OF COOPER BROOK WITHIN THE PROJECT LIMITS ARE NATURAL SOIL AND ROCK SLOPES EXTENDING FROM THE EXISTING GRADES OR ABUTMENTS TO THE ELEVATION OF THE WATER WITHIN THE BROOK. DISTURBED AREAS ON THE BROOK BANK WILL INCLUDE THE CONSTRUCTION OF THE NEW CURTAIN WALL ON BOTH ABUTMENTS, AND DURING THE CONSTRUCTION OF THE TEMPORARY BRIDGE. ALL PROPOSED CONSTRUCTION IS TO TAKE PLACE IN THE DRY.

1.2 SITE INVENTORY

1.2.1 OFFSITE DRAINAGE CHARACTERISTICS

THIS PROJECT SITE IS LOCATED IN AN RURAL, HIGHLY TRAVELED AREA IN THE TOWN OF HARDWICK. THE AREA SURROUNDING THE PROJECT IS MODERATELY SLOPED WITH ESTABLISHED VEGETATION, INCLUDING GRASSY LAWNS, TREE LINES, AND PAVED AND GRAVEL PARKING LOTS. MUCH OF THE RUNOFF FROM THE SURROUNDING TERRAIN DRAINS DIRECTLY INTO THE COOPER BROOK AND LAMOILLE RIVER.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER

THE PROJECT SPANS COOPER BROOK WITH MAJOR CONSTRUCTION TAKING PLACE ON BOTH SIDES OF THE BROOK. THE PRIMARY OBJECTIVE FOR THIS EROSION PROTECTION AND SEDIMENT CONTROL PLAN WILL BE TO PREVENT THE MOBILIZATION AND TRANSPORT OF SEDIMENT INTO THE COOPER BROOK. ALL WORK SHALL TAKE PLACE ABOVE THE ORDINARY HIGH WATER MARK FOR COOPER BROOK. COOPER BROOK FLOWS INTO THE LAMOILLE RIVER.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT AREA CONSISTS OF MODERATE SLOPES AND ROLLING HILLS. SEVERAL PERMANENT RESIDENCES, BUSINESSES AND THE TOWN OF HARDWICK'S FIRE DEPARTMENT ARE LOCATED WITHIN THE PROJECT LIMITS AND NEAR THE BRIDGE. OVERHEAD AND UNDERGROUND UTILITIES ARE LOCATED ALONG ROUTE 15, INCLUDING WATER, SEWER, ELECTRIC AND TELEPHONE.

1.2.4 VEGETATION

THE PROJECT AREA CONSISTS OF GRASSY LAWNS WITH SCATTERED SMALL AND LARGE TREES. IMPACTS TO VEGETATED AREAS WILL BE LIMITED TO THE SIDE SLOPES OF THE ROAD AND THE AREA OF THE TEMPORARY DETOUR. SEVERAL SMALL TREES WILL BE REMOVED AS PART OF THE CLEARING FOR THE DETOUR LIMITS. FOLLOWING THE COMPLETION OF CONSTRUCTION, THE TEMPORARY DETOUR AND ASSOCIATED FILL WILL BE REMOVED AND THE GRASSY VEGETATION WILL BE REESTABLISHED USING STANDARD SEED AND MULCH PRACTICES.

1.2.5 SOILS

THE SOILS IN THIS AREA ARE URBAN LAND - ADAMS - NICHOLVILLE COMPLEX. THE URBAN LAND IS MOSTLY COVERED BY STREETS, PARKING LOTS, BUILDINGS AND OTHER STRUCTURES OF URBAN AREAS. THE ADAMS SERIES CONSISTS OF VERY DEEP, SOMEWHAT EXCESSIVELY DRAINED SOILS. THESE SOILS FORMED IN SANDY GLACIOFLUVIAL DEPOSITS ON OUTWASH PLAINS AND OUTWASH TERRACES. PERMEABILITY IS RAPID IN THE SOLUM AND VERY RAPID IN THE SUBSTRATUM. THE NICHOLVILLE SERIES CONSISTS VERY DEEP, MODERATELY WELL DRAINED SOILS. THESE SOILS FORMED IN SILTY GLACIOLACUSTRINE DEPOSITS ON LAKE TERRACES. PERMEABILITY IS MODERATE THROUGHOUT THE SOIL.

1.2.6 SENSITIVE RESOURCE AREAS

THE ONLY KNOWN SENSITIVE AREAS THAT NEED TO BE PROTECTED ARE THE COOPER BROOK AND LAMOILLE RIVER. NO THREATENED AND ENDANGERED SPECIES, PRIME AGRICULTURAL SOILS, HISTORICAL OR ARCHEOLOGICAL SITES, OR OTHER CRITICAL HABITATS EXIST WITHIN THE PROJECT AREA.

1.3 RISK EVALUATION

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 THEN THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH VANR VIA FILING OF THE APPROPRIATE NOTICE OF INTENT UNDER THE CONSTRUCTION GENERAL PERMIT PROCESS.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

TO MINIMIZE THE POTENTIAL FOR STORM WATER RUNOFF TO TRANSPORT SEDIMENT INTO THE RIVER, SEVERAL KEY EROSION CONTROL DEVICES AND GENERAL PRACTICES WILL BE USED. DETAILS OF THE DEVICES AND THE LOCATION OF THEIR PLACEMENT CAN BE FOUND IN THE EROSION CONTROL PLANS AND DETAILS. ALL EROSION CONTROL MEASURES SHALL BE PLACED IN ACCORDANCE WITH THE EROSION CONTROL DETAILS IN THESE PLANS.

1.4.1 MARK SITE BOUNDARIES

MARKING THE SITE BOUNDARIES WILL HELP TO LIMIT THE AREA OF SOIL DISTURBANCE. THE SITE BOUNDARY SHALL BE MARKED WITH PROJECT DEMARCATION FENCE.

1.4.2 LIMIT DISTURBANCE AREA

LIMITING THE DISTURBANCE AREA WILL HELP TO REDUCE THE POTENTIAL FOR SEDIMENT TRANSPORT FROM THE SITE. THE AREA OF DISTURBANCE SHALL BE LIMITED BY PHASING THE CONSTRUCTION WHEN APPROPRIATE, BY ESTABLISHING VEGETATION IN AREAS IMMEDIATELY FOLLOWING GRADING AND BY MULCHING STOCKPILED EARTHEN MATERIALS. THE EXISTING MAINLINE WILL BE CLOSED DURING CONSTRUCTION; THEREFORE IT CAN BE USED AS A STAGING AND STOCKPILE AREA. THESE AREAS WILL BE COMPLETELY WITHIN THE PROJECT LIMITS AND WILL UTILIZE THE TEMPORARY EROSION CONTROL MEASURES CALLED FOR.

1.4.3 STABILIZE CONSTRUCTION EXIT

A STABILIZED CONSTRUCTION EXIT WILL HELP TO REMOVE EARTHEN MATERIALS FROM CONSTRUCTION EQUIPMENT EXITING THE SITE. A VEHICLE TRACKING PAD SHALL BE CONSTRUCTED AT THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

1.4.4 INSTALL SILT FENCE

SILT FENCE WILL REDUCE THE AMOUNT OF SEDIMENT TRANSFERRED FROM THE SITE THROUGH STORMWATER RUNOFF. SILT FENCE SHALL BE LOCATED ALONG THE TOP OF THE GRANITE WALLS ALONG THE RIVER OR 5 FEET TO 10 FEET DOWN GRADIENT FROM THE TOES OF SLOPE. THE SILT FENCE SHALL BE PLACED PARALLEL TO, OR ALONG, THE CONTOUR, SO THE STORM WATER WILL RUN PERPENDICULAR TO THE SILT FENCE. THE ENDS SHALL BE "J" HOOKED UP GRADIENT TO CREATE A PONDING EFFECT FOR WATER TRYING TO RUN ALONG THE FENCE AND AROUND THE ENDS.

1.4.5 DIVERT UPLAND RUNOFF

DIVERSION OF UPLAND RUNOFF WILL REDUCE THE AMOUNT OF STORM WATER ENTERING THE SITE AND WILL HELP TO REDUCE THE POTENTIAL FOR STORMWATER TO TRANSPORT SEDIMENT FROM THE SITE. UPLAND RUNOFF SHALL BE DIVERTED USING SILT FENCE WHERE APPROPRIATE.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

SLOWING DOWN CHANNELIZED RUNOFF WILL HELP TO ALLOW SEDIMENT TO FALL OUT OF STORMWATER THEREFORE REDUCING THE AMOUNT OF SEDIMENT TRANSPORTED FROM THE SITE.

1.4.7 CONSTRUCT PERMANENT CONTROLS

NOT APPLICABLE

1.4.8 STABILIZE EXPOSED SOILS

STABILIZING THE EXPOSED SOILS WILL HELP TO REDUCE THE POTENTIAL FOR STORMWATER TRANSPORTING SEDIMENT FROM THE SITE. ALL TEMPORARY STOCKPILES SHALL BE MULCHED AND SEEDED AND SHALL HAVE SILT FENCE INSTALLED AT THE TOE OF SLOPE.

1.4.9 WINTER STABILIZATION

SPECIALIZED WINTER EPSC PROCEDURES SHALL BE FOLLOWED DURING WINTER CONSTRUCTION AND DURING ANY WINTER SHUT DOWN.

1.4.10 STABILIZE SOIL AT FINAL GRADE

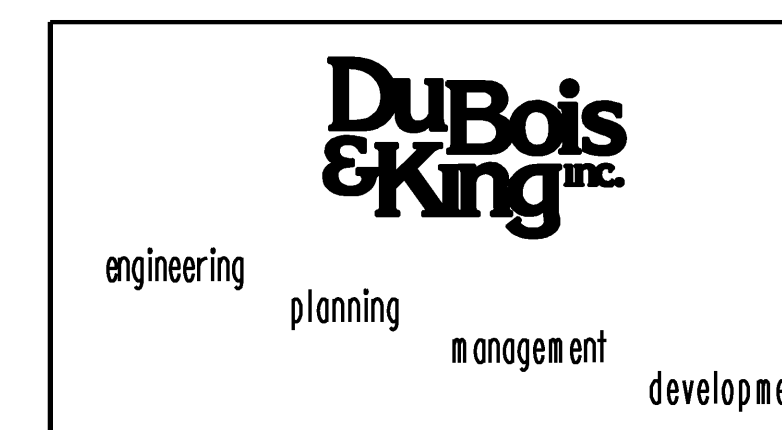
STABILIZING SOIL AT FINAL GRADE WILL HELP TO REDUCE THE AREA OF DISTURBANCE AND WILL THEREFORE REDUCE THE POTENTIAL FOR SEDIMENT TRANSPORT FROM THE SITE. FOLLOWING FINAL GRADING ALL DISTURBED AREAS OUTSIDE OF THE ROADWAY, SIDEWALK AND PARKING AREAS SHALL RECEIVE TOPSOIL, SEED AND MULCH TO REESTABLISH GRASS AND VEGETATION. TOPSOILING, SEEDING AND MULCHING SHALL BE IN ACCORDANCE WITH THE SEEDING FORMULA FOR URBAN AREAS AND ASSOCIATED NOTES AS SHOWN ON THE QUANTITY SHEET.

1.4.11 DEWATERING ACTIVITIES

NOT APPLICABLE

1.4.12 INSPECT SITE

THE EROSION CONTROL MEASURES SHALL BE PERIODICALLY INSPECTED AND MAINTAINED ON A REGULAR BASIS. INSPECTION OF THE EROSION CONTROL MEASURES SHALL TAKE PLACE BEFORE AND AFTER MAJOR STORM EVENTS TO INSURE THEY ARE IN GOOD CONDITION AND TO REMOVE EXCESSIVE BUILDUP OF SILT AND DEBRIS AFTER THE STORM EVENTS. A REPORT ON THE EFFECTIVENESS OF THE EROSION CONTROL MEASURES SHALL BE PRESENTED TO THE RESIDENT ENGINEER AND ONSITE COORDINATOR UPON THE COMPLETION OF EACH INSPECTION. MODIFICATIONS OR IMPROVEMENTS TO THE EROSION CONTROL PLAN SHOULD BE COORDINATED WITH THE RESIDENT ENGINEER AND ONSITE COORDINATOR.



STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	HARDWICK	Bridge No.	67
Highway No.	VT 15	Log Sta.	
		Surv. Sta.	
VT 15 OVER COOPER BROOK			
EPSC NARRATIVE			
Designed By	S.J. BIJOLLE	Drawn By	S.J. BIJOLLE
Checked By	Date	Bridge Design Supervisor	
E. P. DETRICK	11/08	J.W. TUCKER	Date 11/08
PROJECT	HARDWICK	PROJECT NO.	BHF 030-2 (18) S
I.G.C. Info. DGN#SPEC#			
Bridge Sheet No.	Sheet 13 of 38		