

I. NARRATIVE

I.1 PROJECT DESCRIPTION

THE HES 010-1(38) VERMONT ROUTE 9 AND VERMONT ROUTE 100 INTERSECTION RECONSTRUCTION PROJECT IS LOCATED IN THE TOWN OF WILMINGTON, WINDHAM COUNTY, VERMONT. THE VERMONT ROUTE 100 PORTION OF THIS PROJECT BEGINS AT A POINT APPROXIMATELY 800 FT SOUTH OF THE INTERSECTION OF VERMONT ROUTE 100 WITH VERMONT ROUTE 9 AND EXTENDS NORTHERLY ALONG VERMONT ROUTE 100 TO ITS ENDING POINT WHERE IT INTERSECTS VERMONT ROUTE 9. THIS PROJECT ALSO BEGINS ON VERMONT ROUTE 9 AT A POINT APPROXIMATELY 800 FT WEST OF BR 34 AND EXTENDS EASTERLY FOR APPROXIMATELY 750 FT. WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES THE RECONSTRUCTION OF THE VERMONT ROUTE 9 AND VERMONT ROUTE 100 INTERSECTION WITHIN THE EXISTING RIGHT OF WAY INCLUDING GRADING, PAVEMENT, AND SUBBASE. IN ADDITION, THE PROJECT WILL INCORPORATE MISCELLANEOUS DRAINAGE IMPROVEMENTS, AND LANE AND SHOULDER WIDENINGS ALONG VERMONT ROUTE 100 AND VERMONT ROUTE 9 AND OTHER INCIDENTAL ITEMS. THE TOTAL EARTH DISTURBANCE THROUGHOUT THE DURATION OF THIS PROJECT SHALL BE 2.04 ACRES.

I.2 SITE INVENTORY AND ANALYSIS

I.2.1 OFF-SITE DRAINAGE CHARACTERISTICS (UP AND DOWN GRADIENT)

THE PROJECT AREA PRIMARILY LAYS WITHIN THE VICINITY OF A GRASSED AREA DOWN GRADIENT FROM AN UNNAMED MOUNTAIN WHICH INCLUDES DENSE AREAS OF TREES AND SHRUBS. THERE IS LIMITED COMMERCIAL DEVELOPMENT ON THE SOUTHEASTERN SIDE OF THE PROJECT WITH LARGE PAVED OR GRAVEL DRIVEWAYS. THE MAJORITY OF THE SURFACE RUNOFF ASSOCIATED WITH THIS WATERSHED IS CONVEYED BY OVERLAND FLOW THAT IS COLLECTED BY VARIOUS CULVERTS, DROP INLETS AND STREAMS PRIOR TO OUTLETING INTO THE BEAVER BROOK.

I.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

LOCATED WITHIN THE PROJECT AREA IS THE BEAVER BROOK WHICH FLOWS UNDER VERMONT ROUTE 9 APPROXIMATELY 50 FT EAST OF THE PROJECT LIMITS. IN ADDITION, THERE ARE TWO UNNAMED STREAMS, ONE THAT FLOWS UNDER THE EXISTING VERMONT ROUTE 100 ROADWAY SOUTH OF THE PROJECT LIMITS THROUGH A CULVERT PIPE THAT WILL REMAIN IN PLACE AND ONE THAT FLOWS PARALLEL TO VERMONT ROUTE 100 THAT OUTLETS INTO THE BEAVER BROOK. THE BEAVER BROOK EVENTUALLY OUTLETS INTO THE DEERFIELD RIVER WHICH IS A TRIBUTARY TO THE HARRIMAN RESERVIOR LOCATED ON THE WESTERN SIDE OF WILMINGTON. IN ADDITION, A SERIES OF CULVERTS AND DROP INLETS ARE LOCATED WITHIN THE PROJECT AREA THAT OUTLET TO EITHER THE BEAVER BROOK OR THE UNNAMED STREAM. IT IS ANTICIPATED THAT TEMPORARY EROSION PREVENTION & SEDIMENT CONTROLS WILL BE USED TO PROTECT THESE WATER COURSES FROM BECOMING TURBID DURING CONSTRUCTION.

I.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE EXISTING SITE TOPOGRAPHY CONSISTS OF A PRINCIPAL ARTERIAL ROADWAY, VERMONT ROUTE 9 THAT INTERSECTS WITH A MINOR ARTERIAL ROADWAY, VERMONT ROUTE 100. THERE ARE LIMITED COMMERCIAL STRUCTURES LOCATED ALONG THE EASTERN SIDE OF VERMONT ROUTE 100. ONE RESIDENTIAL STRUCTURE IS LOCATED NORTH OF THE INTERSECTION WITHIN THE PROJECT LIMITS. ABOVE-GROUND UTILITIES ARE PRESENT THROUGHOUT THE PROJECT AREA WITH ONE UTILITY POLE LOCATED ALONG VERMONT ROUTE 100 AT APPROXIMATELY STA. 130+21 ON THE NEW VERMONT ROUTE 100 ALIGNMENT THAT WILL HAVE TO BE RELOCATED. IN ADDITION, THERE ARE NUMEROUS CULVERTS AND DROP INLETS LOCATED WITHIN THE PROJECT AREA.

I.2.4 VEGETATION

THE VEGETATION LOCATED WITHIN THE PROJECT AREA PRIMARILY CONSISTS OF GRASSED AREAS INCLUDING SMALL AREAS OF TREES AND SHRUBS. IT IS ANTICIPATED THAT LIMITED TREES AND/OR SHRUBS WILL BE AFFECTED DURING CONSTRUCTION OF THIS PROJECT. APPROXIMATELY 19,000 FT² (0.44 ACRES) OF PREVIOUSLY IMPERVIOUS SURFACE WILL BE RETURNED TO GRASSED AREAS AS A RESULT OF THE PROPOSED INTERSECTION RECONFIGURATION.

I.2.5 SOILS

THE SOILS LOCATED WITHIN THE PROJECT LIMITS HAVE BEEN PRIMARILY CLASSIFIED AS "NOT HIGHLY ERODIBLE" WITH LIMITED AREAS OF SOILS THAT ARE "POTENTIALLY HIGHLY ERODIBLE" AND "HIGHLY ERODIBLE" BY THE UNITED STATES DEPARTMENT OF AGRICULTURE'S NATIONAL RESOURCES CONSERVATION SERVICE (NRCS). THE FOLLOWING IS A LIST OF SOIL TYPES THAT ARE LOCATED WITHIN THE PROJECT AREA.

MAP UNIT TYPE *	DESCRIPTION	SLOPES (%)	ERODIBILITY	ERODIBILITY FACTOR (K)
16B	ADAMS LOAMY FINE SAND	2-8	NOT HIGHLY ERODIBLE	0.17
17B	WORDEN LOAM	3-8	POTENTIALLY HIGHLY ERODIBLE	0.37
18C	WORDEN LOAM	8-15	HIGHLY ERODIBLE	0.37
23	ONDAWA FINE SANDY LOAM	0-3	NOT HIGHLY ERODIBLE	0.37

*MAP UNIT TYPE IS FROM NRCS SOIL SURVEY MAP FOR WINDHAM COUNTY, VERMONT. SEE SHEETS 102 THROUGH 104 FOR MAP UNIT BOUNDARY LINES.

I.2.6 SENSITIVE RESOURCE AREAS

NO KNOWN OCCURRENCES OF CRITICAL HABITATS, THREATENED AND ENDANGERED SPECIES, OR HISTORICAL OR ARCHEOLOGICAL SITES EXIST WITH THE LIMITS OF THE PROJECT AREA. HOWEVER, THE MAJORITY OF THE PROJECT AREA CONTAINS SOILS THAT ARE CLASSIFIED AS FARMLAND OF STATEWIDE IMPORTANCE BY THE NRCS. DUE TO THE EXISTING SITE TOPOGRAPHY, THE PROPOSED PROJECT WILL RESULT IN LESS IMPERVIOUS AREA ONCE COMPLETED. THERE ARE ALSO NO KNOWN WETLANDS OR IMPAIRED WATERWAYS LOCATED WITHIN THE PROJECT AREA.

I.3 RISK EVALUATION

THE PROPOSED INTERSECTION RECONFIGURATION PROJECT HAS BEEN CLASSIFIED AS A LOW RISK PROJECT PER THE RISK EVALUATION FORM FOUND APPENDIX A OF THE 3-9020 CONSTRUCTION GENERAL PERMIT. ALTHOUGH THE PROPOSED PROJECT IS LOCATED WITHIN CLOSE PROXIMITY OF NATURAL STREAMS WITH LITTLE TO NO BUFFER ZONES, THE PRIMARY FACTORS THAT CONTRIBUTED TO CLASSIFYING THIS SITE AS A LOW RISK PROJECT WERE DETERMINED UNDER THE DETAILED RISK MITIGATION FACTOR EVALUATION. THE PROPOSED PROJECT HAS A TOTAL DISTURBANCE OF LESS THAN TWO ACRES AND THE LIMIT OF EXPOSED SOILS IS LIMITED TO TWO DAYS THROUGHOUT THE DURATION OF THE CONTRACT. IF CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN MORE ACRES OF EARTH DISTURBANCE THAN CURRENTLY IS SHOWN IN THE PLANS, THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH VANR VIA RE-FILEING OF THE APPROPRIATE NOTICE OF INTENT UNDER THE CONSTRUCTION GENERAL PERMIT PROCESS.

I.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 AS REQUIRED BY THE VAOT'S STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006 AND THE AGENCY'S EROSION PREVENTION AND SEDIMENT CONTROL PROTOCOL DATED FEBRUARY 2007. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT TO MINIMIZE EROSION AND PREVENT THE SEDIMENTATION OF RIVERS, STREAMS AND/OR IMPOUNDMENTS SUCH AS LAKES AND RESERVOIRS. THE MEASURES PRIMARILY CONSIST OF STABILIZATION AND/OR STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER MISCELLANEOUS POLLUTION PREVENTION CONTROLS.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TRYING TO CONTROL ERODED SEDIMENT. MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS, OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION PREVENTION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE EMPLOYED WHEREVER POSSIBLE. THEREFORE, STABILIZE ALL DISTURBED AREAS AS SOON AS PRACTICAL BUT NO MORE THAN TWO DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.

THE CONTRACTOR SHALL COORDINATE THE INSTALLATION, USE, AND REMOVAL OF EROSION PREVENTION AND SEDIMENT CONTROL MEASURES WITH ROADWAY CONSTRUCTION ACTIVITIES TO ASSURE ECOLOGICAL, EFFECTIVE, AND CONTINUOUS EROSION PREVENTION AND SEDIMENT CONTROL. THE CONTRACTOR SHALL EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS.

THE CONTRACTOR SHALL INSTALL ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES AS SHOWN IN THE EPSC PLANS OR AS DIRECTED BY THE ON-SITE PLAN COORDINATOR. DO NOT MODIFY THE TYPE, SIZE, OR LOCATION OF ANY CONTROL OR PRACTICE WITHOUT APPROVAL FROM THE ON-SITE PLAN COORDINATOR.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

CONSTRUCTION OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER AS TO PREVENT ANY DAMAGE TO THE WATERS OF THE UNITED STATES FROM POLLUTION BY DEBRIS, SEDIMENT, OR OTHER FOREIGN MATERIAL, OR FROM MANIPULATION OF EQUIPMENT AND/OR MATERIALS IN OR NEAR THE WATERS OF THE UNITED STATES. THE CONTRACTOR SHALL NOT RETURN DIRECTLY TO THE WATERS OF THE UNITED STATES ANY WATER WHICH HAS BEEN USED FOR WASH PURPOSES OR OTHER SIMILAR OPERATIONS WHICH WOULD CAUSE THIS WATER TO BECOME POLLUTED WITH SAND, SILT, CEMENT, OIL OR OTHER IMPURITIES. IF THE CONTRACTOR USES WATER FROM THE WATERS OF THE UNITED STATES, THE CONTRACTOR SHALL CONSTRUCT AN INTAKE OR TEMPORARY DAM TO PROTECT AND MAINTAIN STREAM WATER QUALITY. DURING CONSTRUCTION, NO WET OR FRESH CONCRETE OR LEACHATE SHALL BE ALLOWED TO ESCAPE INTO THE WATERS OF THE UNITED STATES, NOR SHALL WASHING FROM CONCRETE TRUCKS, MIXERS OR OTHER DEVICES BE ALLOWED TO ENTER ANY WETLANDS OR WATERS OF THE UNITED STATES.

(REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR EACH PRACTICE REQUIRED ON THE PROJECT TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING.)

I.4.1 MARK SITE BOUNDARIES

PROJECT DEMARCATION FENCING WILL BE USED TO DELINEATE THE LIMITS IN WHICH THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT AND PERSONNEL. THIS MEASURE WILL LIMIT THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION. THE CONTRACTOR SHALL INSTALL THE PERIMETER CONTROLS PRIOR TO STARTING ANY WORK WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL NOT ALLOW ANY CONSTRUCTION EQUIPMENT TO OPERATE OR ACCESS ON THE DOWN SLOPE SIDE OF ANY PERIMETER CONTROL MEASURE. THE CONTRACTOR SHALL NOT ALLOW ANY CROSSING OF A FLOWING STREAM OR DISTURBANCE OF THE EXISTING STREAM BANKS BY CONSTRUCTION EQUIPMENT EXCEPT AS AUTHORIZED BY THE ON-SITE PLAN COORDINATOR.

I.4.2 LIMIT DISTURBANCE AREA

EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION ACTIVITIES PROCEED. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ON-SITE PLAN COORDINATOR. IN GENERAL, PRESERVE EXISTING VEGETATION, TREES AND SHRUBS WHEN POSSIBLE, AS DIRECTED BY THE ON-SITE PLAN COORDINATOR.

I.4.3 STABILIZE CONSTRUCTION EXIT

IT IS NOT ANTICIPATED THAT STABILIZED CONSTRUCTION ENTRANCES WILL BE REQUIRED TO CONSTRUCT THE PROPOSED PROJECT DUE TO ITS LIMITED SIZE AND LOCATION. HOWEVER, IF SITE CONDITIONS CHANGE THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES PER THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATIONS LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL AS DIRECTED BY THE ON-SITE PLAN COORDINATOR. THE CONTRACTOR SHALL NOT ALLOW CONSTRUCTION VEHICLES TO TRACK SEDIMENT OFFSITE OF THE PROJECT LIMITS. (PAYMENT FOR WORK WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT).

I.4.4 INSTALL SILT FENCE

SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS SHOWN ON THE PLANS AS NECESSARY OR AS DIRECTED BY THE ON-SITE PLAN COORDINATOR.

I.4.5 DIVERT UPLAND RUNOFF

CONTROL ONLY SEDIMENT LADEN RUNOFF GENERATED FROM THE PROJECT SITE. IT IS NOT ANTICIPATED THAT TEMPORARY DRAINAGE SWALES WILL BE NEEDED TO DIVERT UPLAND RUNOFF AWAY FROM THE PROJECT. HOWEVER, IF SITE CONDITIONS CHANGE THE CONTRACTOR SHALL CONSTRUCT TEMPORARY DIVERSION DIKES OR SWALES PER THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATIONS LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL AS DIRECTED BY THE ON-SITE PLAN COORDINATOR. (PAYMENT FOR WORK WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT).

EROSION CONTROL NARRATIVE SHEET 1	PROJECT NAME: <u>WILMINGTON</u> -----	
	PROJECT NUMBER: <u>HES_010-1(38)</u> -----	
	FILE NAME: <u>05c324epm.dgn</u> -----	PLOT DATE: <u>23-AUG-2007 09:43</u>
	PROJECT LEADER: <u>DEG</u> -----	DRAWN BY: <u>CAK</u> -----
DESIGNED BY: <u>DWE</u> -----	CHECKED BY: <u>DWE</u> -----	
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