

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE I-89 NORTHBOUND EXIT 15 OFF-RAMP. THE PROJECT INCLUDES THE WIDENING OF THE OFF-RAMP, NEW ROADSIDE DITCHES, INSTALLATION OF NEW TRAFFIC SIGNALS AND ASSOCIATED CURB WORK, SIDEWALK RECONSTRUCTION AND RESURFACING OF VT ROUTE 15. THE LENGTH OF THE PROJECT IS APPROXIMATELY 600 FEET AND ALSO INCLUDES MINOR GEOMETRIC IMPROVEMENTS TO ROLAND COURT.

THE TOTAL PROJECT AREA AS SHOWN ON THE ATTACHED EPSC PLAN IS 84,162 S.F. (1.93 ACRES) AND THE AREA OF EARTH DISTURBANCE UNDER THIS PROJECT IS 56,831 S.F. (1.30 ACRES). DISTURBED AREAS INCLUDE AREAS OF FULL DEPTH ROADWAY RECONSTRUCTION, EMBANKMENTS AND CUT SLOPES REQUIRED TO ACCOMMODATE GRADE CHANGES AND ROADSIDE DITCHES.

NOTE: AREA OF DISTURBANCE ALSO 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. IT DOES NOT INCLUDE POTENTIAL OFF-SITE WASTE, BORROW AND STAGING AREAS.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

WHEN ORIGINALLY CONSTRUCTED, THE EXISTING EXIT RAMP WAS CUT INTO AN EXISTING HILL FORMING 2H:1V CUT SLOPES TO THE EAST. THE RAMP IS ALSO BORDERED TO THE WEST BY THE EMBANKMENT OF I-89. THE OFF-RAMP PROFILE ASCENDS FROM THE I-89 GRADE TO THE ROUTE 15 GRADE AT AN APPROXIMATE 2% GRADE UNTIL IT FLATTENS OUT AS IT APPROACHES ROUTE 15. I-89 ASCENDS MORE RAPIDLY THAN THE OFF-RAMP AS IT APPROACHES ROUTE 15 AND PASSES OVER ROUTE 15.

ROADSIDE DITCHES PARALLEL THE OFF-RAMP FOR NEARLY THE ENTIRE LENGTH AND CARRY RUNOFF FROM THE OFF-RAMP, THE HILLSIDE TO THE EAST AND PORTIONS OF I-89 TO THE WEST. THE LONGITUDINAL DITCH SLOPES ARE RELATIVELY FLAT AND GENERALLY PARALLEL THE RAMP PROFILE. THE DITCHES APPEAR TO BE STABLE AND WELL VEGETATED.

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

THERE ARE NO WATER RESOURCE AREAS WHICH LIE WITHIN THE PROJECT AREA. HOWEVER, THE WINOOSKI RIVER IS LOCATED APPROXIMATELY 0.2 MILES TO THE SOUTH OF THE PROJECT. MOST RUNOFF FROM THE SITE IS COLLECTED IN THE ROADSIDE DITCHES. THE WESTERLY DITCH DISCHARGES TO AN EXISTING DROP INLET WHICH DISCHARGES TO AN 18" DRAIN PIPE UNDER I-89 WHERE IT ULTIMATELY DISCHARGES TO AN UNNAMED TRIBUTARY TO THE WINOOSKI RIVER. BASED ON RECORD PLANS FROM THE CONSTRUCTION OF I-89, IT APPEARS THAT THE EASTERLY DITCH DISCHARGES TO AN 18" CULVERT WHICH DISCHARGES TO AN OPEN CHANNEL LOCATED WITHIN THE RAILROAD PROPERTY.

THE TOTAL DRAINAGE AREA DRAINING TO THE WESTERLY DITCH IS APPROXIMATELY 1 ACRE AND CONSISTS OF PORTIONS OF I-89 PAVEMENT AND EMBANKMENTS AND PORTIONS OF THE OFF-RAMP. THE TOTAL DRAINAGE AREA DRAINING TO THE EASTERLY DITCH WITHIN THE PROJECT AREA IS APPROXIMATELY 1.9 ACRES AND IS PREDOMINANTLY GRASSED EMBANKMENTS AND RESIDENTIAL AREAS.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS PRIMARILY OF GRASSES AND A MIX OF SMALL TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY THE RECONSTRUCTION OF THE EXISTING OFF-RAMP AND ROADSIDE DITCHES. UPON PROJECT COMPLETION, THE ROADSIDE DITCHES WILL BE ARMORED WITH PERMANENT EROSION MATTING WHILE THE EMBANKMENTS STEEPER THAN 3H:1V WILL BE ARMORED WITH TEMPORARY EROSION MATTING. TO LIMIT PROJECT IMPACTS AND AVOID POTENTIAL R.O.W. ACQUISITION, SOME CUT SLOPES ARE PROPOSED TO BE 1.5H:1V, IN THESE AREAS THE SLOPES WILL BE ARMORED WITH STONE FILL, TYPE II 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 VERMONT CENTER FOR GEOGRAPHIC INFORMATION WEBSITE. SOILS DATA WAS DOWNLOADED FOR THE PROJECT AREA AND OVERLAID ONTO THE DESIGN. THE PREDOMINANT SOILS ON THE PROJECT SITE IS ADAMS AND WINDSOR LOAMY SANDS, 0 TO 5 PERCENT SLOPES AND A SMALL PORTION OF THE SITE LIES WITHIN THE ADAMS AND WINDSOR LOAMY SANDS, 5 TO 12 PERCENT SLOPES. THE "K FACTOR" FOR BOTH SOILS IS REPORTED TO BE EQUAL TO 0.17. THE SOIL IS CONSIDERED ERODIBLE OR POTENTIALLY ERODIBLE DUE TO SIGNIFICANT SLOPES.

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. LIES IN SOUTHEAST CORNER EAST OF FENCE LINE AND OUTSIDE OF PROJECT AREA.
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: WINOOSKI RIVER NOT DIRECTLY IMPACTED BY PROJECT.
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT FALLS UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORM WATER 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 CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. 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. THE LENGTH OF TIME THAT SOIL IS EXPOSED SHALL BE KEPT TO A MINIMUM AT ALL TIMES AND IN NO CASE EXCEED 21 DAYS WITHOUT TEMPORARY OR PERMANENT STABILIZATION. ONCE EACH CONSTRUCTION PHASE IS COMPLETED, THE SOILS SHALL BE STABILIZED TO THE SATISFACTION OF THE ENGINEER BEFORE PROCEEDING TO THE NEXT PHASE. REFER TO THE TRAFFIC MANAGEMENT PLANS FOR SUGGESTED CONSTRUCTION PHASING.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CGP.

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 CONTRACTORS PROGRESS SCHEDULE.

ITEM 653.35 VEHICLE TRACKING PADS SHALL BE INSTALLED AS PROPOSED ON THE TRAFFIC MANAGEMENT PLANS, ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES OR AS DIRECTED BY THE ENGINEER.

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. HOWEVER, THIS IS NOT ANTICIPATED TO BE NEEDED UNDER THIS PROJECT.

INLET PROTECTION DEVICES SHALL BE EMPLOYED WHERE SHOWN ON THE PLANS AND MAINTAINED REGULARLY.

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.

OFFSITE RUNOFF IS ANTICIPATED TO BE MINIMAL UNDER THIS PROJECT, THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY, HOWEVER AN APPROVED DIVERSION METHOD SHALL BE EMPLOYED WHEN DIRECTED BY THE ENGINEER.

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, AT A MINIMUM.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORM WATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS. PERMANENT EROSION MATTING SHALL BE INSTALLED IN ALL DITCHES AS SHOWN ON THE PLANS. STONE LINED DITCHES SHALL BE CONSTRUCTED WHERE SHOWN ON THE PLANS.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE 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. WHERE SLOPES ARE PROPOSED AT 1.5H:1V, STONE FILL, TYPE II SHALL BE USED AS SHOWN ON THE PLANS.

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 IN ACCORDANCE WITH THE PLANS AND THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION AFTER REACHING FINAL GRADES.

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.

DEWATERING IS NOT ANTICIPATED ON THIS PROJECT. IF DEWATERING IS REQUIRED TO FACILITATE THE INSTALLATION OF THE DRAINAGE THEN THE CONTRACTOR SHALL DEVELOP SPECIFIC MEANS FOR TREATMENT OF DISCHARGE FOR APPROVAL BY THE ENGINEER PRIOR TO STARTING OF THAT WORK WHICH REQUIRES DEWATERING.

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

THE CONTRACT DOCUMENTS INCLUDE A SUGGESTED CONSTRUCTION PHASING AND TRAFFIC MANAGEMENT PLAN. THIS SUGGESTED PHASING SHALL INCORPORATE THE PROPOSED EPSC MEASURES. IF THE CONTRACTOR WISHES TO PROPOSE AN ALTERNATE PHASING THEN 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: WINOOSKI
PROJECT NUMBER: NH 089-3(65)

FILE NAME: z94a198ecnar.dgn
PROJECT LEADER: KEN UPMAL
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EROSION CONTROL NARRATIVE

PLOT DATE: 2/22/2010
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