



EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT IS LOCATED ON TH 41 IN THE TOWN OF CABOT, APPROXIMATELY 0.105 KM EAST OF THE JUNCTION OF RT 215 AND TH 41. THIS PROJECT INVOLVES THE REMOVAL AND REPLACEMENT OF BRIDGE 37, THE ABUTMENTS AND MINIMAL APPROACH WORK ON TH 41. THE NEW BRIDGE WILL BE A TWO LANE CONCRETE SLAB SPANNING 12 METERS. THE NEW BRIDGE WILL BE ON THE SAME HORIZONTAL ALIGNMENT AS THE OLD BRIDGE. THE VERTICAL ALIGNMENT VARIES ONLY SLIGHTLY FROM EXISTING. A TEMPORARY BRIDGE WILL BE CONSTRUCTED DOWNSTREAM OF THE EXISTING BRIDGE TO MAINTAIN TRAFFIC DURING CONSTRUCTION. AFTER THE TEMPORARY BRIDGE IS REMOVED THE AREA IS TO BE RETURNED TO ITS ORIGINAL CONDITION THROUGH GRADING, SEEDING, AND MULCHING. OVERHEAD UTILITIES WILL BE RELOCATED BEFORE THE BRIDGE CONSTRUCTION BEGINS. THE LIMITS OF CONSTRUCTION DO NOT APPROACH ANY BUILDINGS OR STRUCTURES BUT THERE IS AN OLD MILL AND A DAM LOCATED ABOUT 91 METERS UPSTREAM FROM THE BRIDGE.

NOTE: AREA OF DISTURBANCE SHALL INCLUDE LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, INCLUDING ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS.

TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 0.33 ACRES. (0.13 HA)

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

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

THE PROPERTY SURROUNDING THE PROJECT SITE CONSISTS OF WELL ESTABLISHED VEGETATION WITH MODERATE TO SLIGHTLY SLOPING TERRAIN. A SMALL WETLAND WITH BRUSH, SHRUBS, AND A WELL DEFINED DRAINAGE WAY IS LOCATED ON THE NORTH-EAST SIDE OF THE BRIDGE. DUE TO THE NATURE OF THE SURROUNDING TERRAIN, RUNOFF WATER ENTERING THE PROJECT WILL BE PRIMARILY LIMITED TO THAT WHICH IS CONVEYED ALONG THE ROADWAY DITCH THAT FOLLOWS TH 41.

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

THE WINOOSKI RIVER, A SMALL STONE DAM, AND AN AREA OF WETLANDS ARE ALL LOCATED IN THE PROJECT AREA. THIS SECTION OF THE RIVER IS CLASSIFIED AS ROLLING, RURAL, AND RISES RAPIDLY. IT HAS A FORESTED BASIN AND A STREAMBED COVERED WITH COBBLES AND BOULDERS. THE CONTRIBUTING DRAINAGE AREA AT THE BRIDGE CROSSING IS 59 SQ. KM. THE CLOSEST DISTURBED SOILS TO THE RECEIVING WATERS ARE AT A DISTANCE OF 0 METERS.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE AREA IS GENTLY ROLLING HILLS WITH BRUSH AND A FEW TREES. TH 41 CROSSES PERPENDICULARLY OVER THE WINOOSKI RIVER. DEVELOPMENT ALONG TH 41 CONSISTS OF A FEW RESIDENCIES ALONG WITH THE OLD MILL AND DAM SITE. THERE IS ALSO AN OVERHEAD UTILITY LINE RUNNING ALONG THE SIDE OF TH 41 THAT WILL BE RELOCATED. THERE ARE TWO UNDERGROUND SEWER LINES LOCATED IN THE PROJECT SITE. ONE IS A 4" FORCE MAIN AND THE OTHER IS AN 8" RETURN LINE FROM A WASTEWATER TREATMENT PLANT FURTHER UP TH 41. THESE LINES WILL BE AVOIDED DURING CONSTRUCTION.

1.2.4 VEGETATION

THE VEGETATION IN THE PROJECT AREA IS MOSTLY BRUSH WITH A FEW TREES AND SOME FARM LAND IN THE OUTER REACHES. IMPACT TO VEGETATION WILL BE LIMITED BY THAT WHICH IS AFFECTED BY THE CONSTRUCTION OF THE NEW AND TEMPORARY BRIDGES AND THEIR ABUTMENTS. A FEW TREES AND SOME BRUSH WILL BE REMOVED DURING THE CONSTRUCTION OF THE PROJECT. AFTER THE PROJECT IS COMPLETED THE SLOPES WILL BE STABILIZED WITH STONE FILL, TYPE III AND VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.5 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WASHINGTON, VERMONT. THERE ARE TWO TYPES OF SOILS FOUND ON THE PROJECT SITE. SALMON-ADAMANT SOIL IS FOUND ON THE WEST SIDE OF THE BRIDGE, HYDROLOGIC GROUP B, 8-15% SLOPES, AND A K-VALUE OF 0.49. THIS SOIL IS CONSIDERED TO BE HIGHLY ERODIBLE. ADAMS LOAMY FINE SAND IS FOUND ON THE EAST SIDE OF THE BRIDGE, HYDROLOGIC GROUP A, 8-15% SLOPES, AND A K-VALUE OF 0.17. THIS SOIL IS CONSIDERED TO BE MODERATELY ERODIBLE DUE TO THE SLOPE.

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.

1.2.6 SENSITIVE RESOURCE AREAS

NO 'THREATENED OR ENDANGERED' SPECIES HAVE BEEN IDENTIFIED WITHIN THE PROJECT LIMITS AND THERE WILL BE NO ADVERSE EFFECT TO HISTORIC OR ARCHEOLOGICAL FEATURES. HOWEVER, THE WINOOSKI RIVER, A SMALL PARCEL OF WETLANDS, THE OLD MILL AND THE DAM SITE ARE ALL IN THE GENERAL AREA OF CONSTRUCTION. IN ADDITION, THE PROJECT SITE IS ENCLOSED ON THREE SIDES BY ARCHEOLOGICALLY SENSITIVE AREAS. BARRIER FENCE WILL BE USED TO DELINEATE THE PROJECT AREA TO MINIMIZE IMPACT TO SENSITIVE AREAS.

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 (2006) BASED ON THE PROJECT IMPACT AREA. 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 VAHR VIA FILING OF THE APPROPRIATE NOTICE OF INTENT UNDER THE CONSTRUCTION GENERAL PERMIT PROCESS.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ENGINEER.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. THEREFORE, STABILIZE ALL DISTURBED AREAS PROMPTLY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED. 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.

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

1.4.1 MARK SITE BOUNDARIES PROJECT DEMARCATION FENCE AND BARRIER FENCE

1.4.2 LIMIT DISTURBANCE AREA PHASING PLAN

1.4.3 VEHICLE TRACKING PAD VEHICLE TRACKING PAD

1.4.4 INSTALL SILT FENCE SILT FENCE

1.4.5 DIVERT UPLAND RUNOFF SWALE (STORM WATER FROM STREET COLLECTIONS DRAINAGE SYSTEM)

1.4.6 SLOW DOWN CHANNELIZED RUNOFF CHECK DAM

1.4.7 CONSTRUCT PERMANENT CONTROLS TYPE III STONE FOR SLOPE LINING AND CHANNEL PROTECTION SEED AND MULCH

1.4.8 STABILIZE EXPOSED SOILS SEED AND MULCH EROSION MATTING

1.4.9 WINTER STABILIZATION VARIOUS MEASURES SPECIFIC TO WINTER (SEE LOW RISK HANDBOOK)

1.4.10 STABILIZE SOIL AT FINAL GRADE SEED AND MULCH EROSION MATTING

1.4.11 DE-WATERING ACTIVITIES SEDIMENT BASINS FOR PIER WORK

1.4.12 INSPECT YOUR SITE INSPECT SITE BASED ON PERMIT AUTHORIZATION REQUIREMENTS

TEMPORARY EROSION PREVENTION MEASURES TO BE UTILIZED INCLUDE:

PROJECT DEMARCATION FENCING, DENOTED -PDF- ON THE PLANS, AND BARRIER FENCE TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION.

TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL ALSO BE UTILIZED ON A REGULAR BASIS. ANY SLOPES TO BE EXPOSED FOR SEVERAL DAYS PRIOR TO FINAL GRADING SHALL BE TRACKED AND MULCHED. SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF FORECASTED RAIN.

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE OR DURING INTERMITTENT PHASES OF CONSTRUCTION.

SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK. INSTALLATION SHALL BE PERFORMED PER INCLUDED DETAIL SHEET.

MEASURES SUCH AS SILT FENCE SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT BUILD-UP SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT REACHES ONE-HALF THE HEIGHT OF THE CONTROL MEASURE. SEDIMENT SHALL BE DISPOSED AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

PERMANENT EROSION CONTROL

SEVERAL PERMANENT EROSION CONTROL MEASURES WILL BE UTILIZED

STREAM BANKS WILL BE ARMORED WITH STONE FILL TYPE III AS SPECIFIED BY VTRANS ON THE PROJECT PLANS. THE STONE FILL WILL STABILIZE THE EXISTING BANK IN ORDER TO PROTECT FROM EROSION DURING STORM AND HIGH WATER EVENTS.

ALL DISTURBED AREAS WILL BE SEEDED AND MULCHED. AREAS WITH SLOPES STEEPER THAN 1:3 SHALL UTILIZE BIODEGRADABLE EROSION CONTROL MATTING.

STREAM BANK VEGETATION WILL BE INTRODUCED IN THE GRUBBING MATERIAL THAT IS TO BE PLACED OVER THE STREAM BANK STONE FILL.

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