EROSION PREVENTION AND SEDIMENT CONTROL PLAN NARRATIVE

PROJECT DESCRIPTION

THIS PROJECT IS LOCATED IN THE TOWN OF BARRE, BEGINNING 625 FEET SOUTH OF THE INTERSECTION OF VT 63 AND VT 14, AND EXTENDS WESTERLY, THEN NORTHERLY FOR A TOTAL LENGTH OF 750 FEET . THE PURPOSE OF THE PROJECT IS TO CONSTRUCT A NEW FRONTAGE ROAD.

THIS PROJECT INCLUDES THE CONSTRUCTION OF THE NEW FRONTAGE ROAD, WITH NEW DRAINAGE, SUBBASE, PAVEMENT, SIGNING, AND OTHER ROADWAY RELATED ITEMS. MINOR WORK ON VT 14 IS ALSO ANTICIPATED.

THE TOTAL DISTURBED AREA; EXCLUDING WASTE, BORROW AND STAGING AREAS, IS 1.15 ACRES.

SITE INVENTORY AND ANALYSIS

OFF SITE DRAINAGE CHARACTERISTICS

THE AREA EAST OF VT 14 CONSIST OF RESIDENTIAL LAWNS THAT DRAIN TOWARDS VT 14. STORMWATER RUNOFF DRAINS TO A PAVED ROADSIDE DITCH RUNNING ALONGSIDE OF VT 14, WHERE THE RUNOFF IS COLLECTED AND TRANSFERRED UNDER VT 14 BY CULVERT. ALL RUNOFF FLOWS WEST INTO THE STEVEN'S BRANCH OF THE WINOOSKI RIVER. THE AREAS EAST AND WEST OF THE IMMEDIATE LOCATION ARE FORESTED. THE SURROUNDING AREA IS CLASSIFIED AS HILLY BUT THE PROJECT AREA IS FAIRLY FLAT.

DRAINAGE, WATERWAYS, BODIES OF WATER

THERE ARE NO BODIES OF WATER WITHIN THE PROJECT AREA. ALL STORM RUNOFF EITHER INFILTRATES OR DRAINS TO THE STEVEN'S BRANCH OF THE WINOOSKI RIVER. THE STEVEN'S BRANCH OF THE WINOOSKI RIVER IS LOCATED APPROXIMATELY 150 FEET WEST OF THE MAJORITY OF THE PROJECT. HOWEVER, THE INSTALLATION OF THE NEW 24 INCH DRAINAGE CULVERT WILL INVOLVE EXCAVATION AT THE TOP OF THE BANK NEAR THE RIVER.

THERE ARE SEVERAL DROP INLETS IN THE PROJECT AREA THAT CARRY RUNOFF FROM THE ROAD TO THE RIVER, BUT THERE ARE NO KNOWN WETLANDS, STREAMS OR PONDS WITHIN THE PROJECT SITE.

TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TERRAIN OF THE PROJECT AREA IS FLAT. VT 14, VT 63, AND SEVERAL DRIVES WITHIN THE PROJECT AREA; ARE PAVED. A GAS STATION AND CONVENIENCE STORE IS LOCATED ON THE NORTH SIDE OF THE PROJECT AND THEY CONTAIN PAVED AND GRAVEL PARKING AREAS. AN AUTO PARTS STORE IS LOCATED ON THE EASTERLY SIDE OF THE PROJECT AREA AND ALSO HAS A PAVED AND GRAVEL PARKING AREA THE AUTO DEALER ON THE SOUTH SIDE OF THE PROJECT AREA HAS A GRASSED DISPLAY AREA ADJACENT TO THE PROPOSED FRONTAGE ROAD.

THE UTILITIES WITHIN THE PROJECT CONSIST OF OVERHEAD LINES OWNED BY GREEN MOUNTAIN POWER CORPORATION AND VERIZON, WHICH WILL NOT BE DISTURBED. THE UNDERGROUND SEWER AND WATERLINES WITHIN THE PROJECT ARE OWNED BY THE TOWN OF BARRE AND WILL NOT BE DISTURBED (OTHER THAN RE-ADJUSTING THE TOP OF A SEWER MANHOLE).

VEGETATION

THE VEGETATION ON THE PROJECT SITE IS PRIMARILY LIMITED TO RESIDENTIAL LAWNS AND COMMERCIAL PROPERTY.

THE CONSTRUCTION OF THE FRONTAGE ROAD WILL NECESSITATE THE REMOVAL OF SOME GRASS, AND SEVERAL TREES. VARIOUS GRASSES WILL BE PLANTED WITHIN THIS REGION.

SOILS

THE SOIL IN THE PROJECT AREA CONSIST MAINLY OF ADAMS LOAMY FINE SAND; 3 TO 8 % SLOPE; WITH AN EROSION K FACTOR OF 0.17

SENSITIVE RESOURCE AREAS

NO THREATENED & ENDANGERED SPECIES, PRIME AGRICULTURAL LAND, WETLANDS, OR CRITICAL HABITATS HAVE BEEN IDENTIFIED WITHIN THE PROJECT AREA. THE ONLY SENSITIVE AREA IS THE STEVEN'S BRANCH OF THE WINOOSKI RIVER AND IT IS LOCATED APPROXIMATELY 150 FEET WEST OF THE PROJECT.

TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL

PROJECT DEMARCATION FENCE

INSTALL PDF ALONG THE PERIMETERS OF AREAS OF DISTURBED SOILS. THIS FENCING PROVIDES A PHYSICAL REMINDER OF THE LIMIT OF ALLOWABLE SOIL AND VEGETATION DISTURBANCE.

INLET PROTECTION

SAND BAGS FILLED WITH CLEAN, SMALL DIAMETER STONE, OR AN EQUIVALENT BARRIER, WILL BE UTILIZED AROUND THE DROP INLET TO CREATE A TEMPORARY PONDING AREA FOR PARTICLES TO SETTLE OUT AS WATER DRAINS THROUGH THE BARRIER. INLET PROTECTION SHALL BE INSTALLED AS SOON AS THERE IS THE POSSIBILITY OF WATER FLOWING TO THE STRUCTURE. THE HEIGHT OF THE BARRIER SHALL BE LIMITED SUCH THAT THE PONDING AREA DOES NOT PRESENT A HAZARD TO THE TRAVELING PUBLIC. ALTERNATIVE INLET CONTROL MEASURES SHALL BE APPROVED BY THE ENGINEER AND ON-SITE COORDINATOR PRIOR TO IMPLEMENTATION.

SILT FENCE

A SILT FENCE IS A TEMPORARY SEDIMENT BARRIER INSTALLED AT THE TOE OF A SLOPE, OR ADJACENT WATERWAY. THE PURPOSE OF THE SILT FENCE IS TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM UNPROTECTED AREAS OF LIMITED EXTENT, AND TO REDUCE WATER VELOCITY ON THE CONSTRUCTION SITE. A SILT FENCE IS CONSTRUCTED OF SYNTHETIC SEDIMENTATION CONTROL FABRIC FASTENED TO A SUPPORT STRUCTURE SUCH AS A LIGHTWEIGHT STOCK FENCE. THE FENCE IS BUILT PARALLEL TO CONTOURS. THE LOWER EDGE OF THE FILTER FABRIC MUST BE BURIED APPROXIMATELY 6 INCHES BELOW GROUND SURFACE TO PREVENT UNDERFLOW, AND THE ENDS OF THE FENCE SHOULD BE CURVED UPHILL TO PREVENT FLOW AROUND THE ENDS.

EROSION MATTING

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING, OR AN EQUIVALENT PRODUCT, WILL BE UTILIZED ON ALL SLOPES STEEPER THAN 3:1 THAT ARE NOT LINED WITH STONE FILL. THE PURPOSE OF EROSION MATTING IS TO HELP BIND SOIL PARTICLES TOGETHER SO THAT THEY CAN BETTER RESIST THE SHEAR STRESSES BUILT UP BY WATER FLOWING DOWN THE SLOPE. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE OR DURING INTERMITTENT PHASES OF CONSTRUCTION ACTIVITY.

SEEDING AND MULCHING

HAY MULCH SHOULD BE APPLIED TO EXPOSED SOIL AT THE END OF EACH WORK DAY. THIS WILL REQUIRE CAREFUL PLANNING OF THE PHASING OF EARTH MOVING. SEED AND HAY MULCH SHOULD BE APPLIED AS SOON AS NO MORE SOIL DISTURBANCE IS EXPECTED TO OCCUR, OF IF THE AREA IS TO BE WITHOUT CONSTRUCTION ACTIVITY FOR A PERIOD OF 14 DAYS. SEED AND HAY MULCH SHOULD BE APPLIED TO TOPSOIL STOCKPILES AS WELL AS TO AREAS OF DISTURBED SOIL. ALL EXPOSED AREAS SHALL BE APPROPRIATELY STABILIZED PRIOR TO A SIGNIFICANT RAIN EVENT.

SURFACE ROUGHENING

IF SURFACES OF SLOPES ARE LEFT ROUGH, THIS CAN HELP TO REDUCE WATER VELOCITY AND INCREASE INFILTRATION RATES. ROUGH SLOPES HOLD WATER, SEED, AND MULCH BETTER THAN SMOOTH SLOPES. SLOPE SURFACES CAN BE ROUGHENED BY RUNNING WHEELED CONSTRUCTION EQUIPMENT ACROSS THE SLOPE OR DRIVING TRACKED EQUIPMENT UP AND DOWN THE SLOPE. THE GROOVES CREATED BY THE CONSTRUCTION EQUIPMENT SHOULD RUN ACROSS THE SLOPE HORIZONTALLY AND NOT UP AND DOWN THE SLOPE. SLOPES CAN ALSO BE SCARIFIED TO PRODUCE THE DESIRED SURFACE ROUGHNESS. SURFACE ROUGHENING SHOULD OCCUR AFTER HAY MULCH HAS BEEN APPLIED.

STABILIZED CONSTRUCTION ENTRANCE

A STABILIZED PAD OF CRUSHED STONE LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, SIDEWALK OR PARKING AREA. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY.

FINAL EROSION CONTROL MEASURES

SEED AND MULCH

SEEDING AND MULCHING IS ONE OF THE MOST EFFECTIVE MEANS OF CONTROLLING EROSION. THEREFORE, ALL EXPOSED SURFACES OUTSIDE OF THE ROADWAY LIMITS, WHICH ARE NOT SPECIFIED TO BE COVERED BY STONES OR SOME OTHER SUITABLE COVER, WILL BE SEEDED AND MULCHED.

DRAINAGE INLETS AND PIPES

DRAINAGE INLETS AND UNDERGROUND PIPES WILL BE INSTALLED AT SPECIFIED INTERVALS TO HELP CONVEY THE SURFACE WATER RUNOFF FROM THE ROADWAY SURFACE AND SURROUNDING LIMITED PERMEABILITY GROUND SURFACE TO THE STEVEN'S BRANCH OF THE WINOOSKI RIVER. THESE STRUCTURES HELP PREVENT UNDERMINED ROADWAY SURFACES AND LIMIT EROSION FROM UNCHANNELED FLOW. DRAINAGE INLETS WILL BE INSTALLED AT: 93+53 LT, 93+78 LT, 93+78 RT, 94+40 LT, 94+65 RT, AND 97+64 LT. STONE OUTFLOW PADS WILL BE CONSTRUCTED AT 93+97 LT AND 98+24 LT. THESE PADS WILL HELP PREVENT THE CONCENTRATED FLOW LEAVING THE DRAINAGE PIPE FROM ERODING THE SOIL IN THE IMMEDIATE VICINITY OF THE END OF THE PIPE.

GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

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 TO CONTROL EROSION AND MINIMIZE THE SEDIMENTATION OF RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

COORDINATE THE INSTALLATION, USE, AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES WITH CONSTRUCTION ACTIVITIES TO ENSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS EROSION AND SEDIMENT CONTROL. EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS. THE CONTRACTOR WILL USE ADDITIONAL EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE ENGINEER. SEE SECTION 105.23 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001.

INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN IN THE EROSION CONTROL PLAN OR AS DIRECTED BY THE ENGINEER. DO NOT MODIFY THE TYPE, SIZE OR LOCATION OF ANY CONTROL OR PRACTICE WITHOUT APPROVAL OF THE ENGINEER. ANY CHANGES SHALL BE NOTED ON THE PLANS, IN THE WEEKLY INSPECTION REPORT, AND REPORTED TO THE APPROPRIATE AUTHORITY IN A TIMELY MANNER. INSPECT ALL CONTROL MEASURES WEEKLY AND AFTER EACH RAINFALL EVENT. REPAIR OR REPLACE ANY DAMAGED MEASURES.

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. TEMPORARY VEGETATION SHALL BE ESTABLISHED IF THE AREA IS TO BE WITHOUT CONSTRUCTION ACTIVITY FOR A PERIOD OF 14 DAYS. PERIMETER CONTROL MEASURES SHALL BE INSTALLED FOLLOWING CLEARING, BUT PRIOR TO THE START OF ANY GRUBBING OR GRADING ACTIVITY, INSTALL OTHER TEMPORARY CONTROLS IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS.

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.

CONTROL ONLY SEDIMENT-LADEN RUNOFF GENERATED BY THE PROJECT SITE. COLLECT AND ROUTE CLEAN OFFSITE RUNOFF AROUND OR THROUGH THE PROJECT SITE USING DIVERSION BERMS, DIVERSION CHANNELS, CULVERTS AND/OR TEMPORARY PIPES.

DO NOT ALLOW CONSTRUCTION EQUIPMENT TO OPERATE ON THE DOWN SLOPE SIDE OF PERIMETER CONTROL MEASURES.

EROSION CONTROL NARRATIVE

PROJECT NAME:	BARRE TOWN
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