

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE CONSTRUCTION OF A TRAFFIC SIGNAL SYSTEM LOCATED AT THE INTERSECTIONS OF US 2 AND VT 14 IN THE TOWN OF EAST MONTPELIER. VT 14 WILL BE REALIGNED TO FORM A TEE INTERSECTION WITH US 2.

TOTAL DISTURBED AREA IS 16125 SQUARE METERS OR 3.98 ACRES. 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.

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)

INSIDE OF THE STATE RIGHT-OF-WAY AND THE PROPERTIES SURROUNDING THE PROJECT CONSIST OF ESTABLISHED VEGETATION OF GRASSES AND SOME WOODED AREAS. AGRICULTURAL FIELDS EXIST UP-SLOPE OF THE PROJECT LIMITS.

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

AREA DRAINAGE IS CONVEYED VIA GRASS SURFACES. DRAINAGE SWALES AND CULVERTS TO EITHER SODOM BROOK OR THE WINOOSKI RIVER. THE FOLLOWING DESCRIPTIONS ARE FOR THE EXISTING SITE PLAN:

SURFACE DRAINAGE FROM QUAKER ROAD IS CONVEYED VIA A DITCH TO CULVERT #1 UNDER US 2 AT STATION 4+690. THE WATER IS THEN DISPERSED OVER OPEN FIELDS FOR A DISTANCE OF 215 METERS (700 FEET) TO THE WINOOSKI RIVER.

THE LARGEST SYSTEM ON SITE CONSISTS OF CULVERTS #2, #3, #4 AND SWALE #1. WATER ENTERS THIS SYSTEM FROM A SPRING AND CULVERT LOCATED NORTHEAST OF WASHINGTON ELECTRIC CO-OP. DRAINAGE IS CONVEYED UNDER ROUTE 14 AND EMPTIES INTO SWALE. THIS SWALE IS OPEN FOR 105 METERS (345 FEET) AND FLOWS INTO CULVERT #4. THIS THEN ENTERS A CLOSED SYSTEM FOR 135 METERS (445 FEET) EMPTING INTO THE WINOOSKI RIVER.

DRAINAGE FLOWS FROM THE KELTON ROAD AREA VIA CULVERTS #5 AND #5A UNDER ROUTE 14 INTO A SHORT DITCH THEN INTO CULVERT #6 AND TRAVELS FOR 100 METERS (345 FEET). THIS CULVERT EMPTIES ONTO A GRASSY AREA AND FLOWS FOR 25 METERS (80 FEET) TO SODOM BROOK.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE GENERAL TOPOGRAPHY OF THE AREA DISPLAYS HILLSIDES TO THE NORTHWESTERN SIDES OF US 2 AND VT 14. ON THE SOUTHEASTERN SIDES OF US 2 AND VT 14 THE TERRAIN HAS A MORE GRADUAL SLOPE TOWARDS SODOM BROOK AND WINOOSKI RIVER.

ALL ROAD SURFACES IN THE PROJECT AREA ARE BITUMINOUS CONCRETE PAVEMENT, EXCEPT THE NORTHERN SECTION OF KELTON ROAD, WHICH IS GRAVEL.

THIS PROJECT IS LOCATED IN THE VILLAGE OF EAST MONTPELIER WHICH IS A MORE URBAN TYPE AREA. THERE ARE MANY SMALL BUSINESS BUILDINGS AND RESIDENTIAL HOMES ADJACENT TO THE ROADWAY. ALL ELECTRICAL UTILITIES ARE LOCATED ABOVE GROUND WITH A MAJOR DISTRIBUTION LINE (GREEN MOUNTAIN POWER) CROSSING THE PROJECT.

1.2.4 VEGETATION

VEGETATION ALONG ALL OF THE ROADWAYS CONSISTS OF RESIDENTIAL LAWNS, WITH A DISPERSION OF SHRUBS, HARDWOOD AND SOFT WOOD TREES. VEGETATION ALONG THE BANK OF SODOM BROOK CONSISTS OF FESCUE GRASSES, BIRDSFOOT TREFFOIL, ANNUAL RYEGRASS AND VARIOUS WEED SPECIES. A PORTION OF THIS BANK THAT EXTENDS ALONG THE NORTHERLY SIDE OF US 2 WILL BE DISTURBED DURING CONSTRUCTION, THE VAOT URBAN SEED MIXTURE. A VEGETATION ENHANCEMENT JUTE-MESH AND 6 INCHES OF TOPSOIL WILL BE USED ON THIS SLOPE FOR EROSION CONTROL AND FOR FUTURE LANDSCAPING PLANS.

1.2.5 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WASHINGTON, VERMONT. SOILS ON THE PROJECT SITE ARE AS FOLLOWS AND AS SHOWN ON THE PLANS:

CABOT SILT LOAM, 0 TO 3 PERCENT SLOPES, K= 0.32, -11,880 SQUARE METERS (2.9 ACRES)

SALMON VERY FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES, K= 0.49, -2,840 SQUARE METERS (0.7 ACRES)

DUMMERSTON FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES, K= 0.32, -391 SQUARE METERS (0.1 ACRES)

ADAMS LOAMY FINE SAND, 3 TO 8 PERCENT SLOPES, K= 0.17, -1,030 SQUARE METERS (0.3 ACRES)

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

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: 0.173 ACRES OF HISTORICAL LAND ACQUISITION
PRIME AGRICULTURAL LAND: NO (STATEWIDE)
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: SODOM BROOK OUTSIDE PROJECT LIMITS -55 METERS (180 FEET)
WETLANDS: CLASS II WETLAND, WITHIN BUFFER LIMITS NEAR SODOM BROOK

1.3 RISK EVALUATION

THIS PROJECT FALLS UNDER THE JURISDICTION OF THE CONSTRUCTION GENERAL PERMIT 3-9020 FOR LOW RISK TO WATER QUALITY. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN MORE IMPACTS INCREASING THE RISK TO WATER QUALITY 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 AN AMENDMENT TO THE AUTHORIZED CGP. THE LOW RISK HANDBOOK SHOULD BE ON SITE AND COMPLIED WITH AT ALL TIMES. THE PROJECT WAS DETERMINED TO BE LOW RISK BY SEVERAL FACTORS, PRIMARILY DUE TO THE 80' VEGETATED BUFFER BETWEEN THE STORMWATER DISCHARGE POINT AND SODOM POND BROOK. THE PROJECT ALSO HAS LESS THAN AN ACRE OF SOILS WITH HIGH EROSION POTENTIAL (K=0.36). PART OF THE MITIGATION EFFORT IS TO LIMIT THE PROJECT TO TWO ACRES OR LESS OF EARTH DISTURBANCE AT ANY ONE TIME.

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.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. 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.

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.

(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.)

1.4.1 MARK SITE BOUNDARIES

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

1.4.2 LIMIT DISTURBANCE AREA

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.

1.4.3 STABILIZE CONSTRUCTION EXIT

STABILIZED CONSTRUCTION ENTRANCE SHALL BE UTILIZED AS NECESSARY.

1.4.4 INSTALL SILT FENCE

SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS SHOWN ON THE PLANS OR AS NECESSARY.

1.4.5 DIVERT UPLAND RUNOFF

SWALE (STORM WATER FROM STREET COLLECTIONS DRAINAGE SYSTEM) AS NECESSARY

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK DAMS SHALL BE UTILIZED AS NECESSARY.

1.4.7 CONSTRUCT PERMANENT CONTROLS

SEED AND MULCH AS NECESSARY
DRAINAGE INLETS AND PIPING
STORMWATER ENERGY DISAPATOR WITH TYPE II STONE FILL (STA 4+968 LT - 4+976 LT)

1.4.8 STABILIZE EXPOSED SOILS

SEED AND MULCH AS NECESSARY
EROSION MATTING ON SLOPES STEEPER THAN 1:3
STONE FILL (TYPE II) FOR SLOPE LINING & CHANNEL PROTECTION

TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL BE UTILIZED ON A REGULAR BASIS. SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

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

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

1.4.11 DE-WATERING ACTIVITIES

AS NECESSARY

1.4.12 INSPECT YOUR SITE

INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

1.5 PROPOSED CONSTRUCTION PHASING SEQUENCE

- INSTALL GEOMATTING AND BEGIN CONSTRUCTION OF REALIGNED ROAD
- INSTALL STONE CHECK DAM PROTECTION
- EXCAVATE AND REPLACE/INSTALL NEW CROSS CULVERTS
- COMPLETE REALIGNED ROAD
- SEED SIDE SLOPES WITH TEMPORARY SEED MIX
- PLACE EROSION MATTING ON SLOPES GREATER THAN 1:3. HAY MULCH ALL OTHER DISTURBED AREAS
- COMPLETE EXCAVATION
- PLACE NEW BASE COURSE TO LINE AND GRADE
- REFORM/INSTALL DITCHES
- SHAPE AND GRADE SIDE SLOPES AS REQUIRED
- INSTALL EROSION MATTING WHERE/AS REQUIRED
- SEED AND MULCH SIDE SLOPES
- PLACE GEOTEXTILE AND STONE AS SHOWN
- INSTALL TEMPORARY PAVEMENT MARKINGS
- REMOVE INLET PROTECTION WORKS
- GRADE, SEED AND MULCH ALL REMAINING DISTURBED AREAS
- INSTALL PAVEMENT WEAR COURSE
- REMOVE INITIAL EROSION CONTROL MEASURES

- DENOTES WORK THAT CAN BE PERFORMED CONCURRENTLY

EPSC NARRATIVE

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STPG 028-3(35)S

FILE NAME: db028eros.dgn
PROJECT LEADER: JLS
DESIGNED BY: JFG

PLOT DATE: 01-JUL-2008
DRAWN BY: WF
CHECKED BY:
ROW SHEET 15 OF 37