

EROSION CONTROL NARRATIVE



PROJECT DESCRIPTION

THE PURPOSE OF THE OVERALL MORRISTOWN PROPOSED VT 100 PROJECT IS TO RELIEVE CONGESTION AND IMPROVE SAFETY AND TRAFFIC FLOW IN AND AROUND MORRISVILLE. THIS PROJECT IS BEING CONSTRUCTED AS A CONTROLLED ACCESS HIGHWAY FOR TRUCKS AND THROUGH TRAFFIC AROUND THE VILLAGE.

THE OVERALL PROJECT BEGINS AT A POINT 6.918 KM (4.30 MILES) NORTH OF THE STOWE-MORRISTOWN TOWN LINE (APPROXIMATELY 0.10 MILES SOUTH OF MORRISTOWN CORNERS ROAD), AND EXTENDS NORTH 3.191 KM (1.98 MILES) TO TERMINATE ACROSS FROM THE SUNSET MOTEL AND STONE GRILL ON VERMONT ROUTE 15. SEE THE TITLE SHEET FOR LOCUS MAP.

THIS CONTRACT WILL CONSTRUCT A BRIDGE OVER THE LAMOILLE RIVER ALONG WITH APPROACH WORK FROM THE EXISTING BISHOP MARSHALL DRIVE TO BRIDGE STREET.

TOTAL DISTURBED AREA (EXCLUDING WASTE AND BORROW AREAS): 33,500 SM (3.35 HA) (8.28 ACRES)

THIS PROJECT FALLS UNDER THE JURISDICTION OF AN INDIVIDUAL CONSTRUCTION DISCHARGE PERMIT #3444-INDC. THE MAXIMUM AREA OF EARTH DISTURBANCE AT ANY ONE TIME UNDER THIS PERMIT IS 2.02 HA (5 AC).

ALL ON-SITE AND OFF-SITE WASTE AND BORROW AREAS AND HAUL ROADS TO BE USED BY THE CONTRACTOR NOT SHOWN ON THE PLANS NEED PRIOR WRITTEN CLEARANCE BY VTRANS ENVIRONMENTAL SECTION PRIOR TO THE BEGINNING OF CONSTRUCTION, PER SECTION 105 OF THE STANDARD SPECIFICATIONS.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST THREE CONSTRUCTION SEASONS.

SITE DRAINAGE AND TOPOGRAPHY:

THE EXISTING SITE CURRENTLY DRAINS TO VARIOUS TRIBUTARIES OF RYDER BROOK AND THE LAMOILLE RIVER. THE SITE IS MADE UP OF GENTLY ROLLING HILLS WITH SOME STEEP AREAS NEAR THE LAMOILLE RIVER. THE PROJECT CAN BE BROKEN DOWN INTO THREE MAIN WATERSHEDS. THE FIRST WATERSHED IS A WATERCOURSE BY THE BISHOP MARSHALL CATHOLIC SCHOOL. THIS WATERCOURSE FLOWS TO THE RYDER BROOK. THE SECOND WATERSHED DRAINS TO THE LAMOILLE RIVER WHERE THE PROPOSED SLANT LEG BRIDGE WILL BE LOCATED. IN THIS AREA, THERE ARE SOME ADJACENT WETLANDS THAT ALSO DRAIN TO THE RIVER. THE LAST WATERSHED IS A WETLAND/POND LOCATED NEAR THE INTERSECTION OF BRIDGE STREET AND THE EXISTING SEWER PLANT ROAD. THE WETLAND/POND OUTLETS TO THE LAMOILLE RIVER AS WELL. SEE THE CROSS SECTIONS FOR ADDITIONAL INFORMATION ON EXISTING AND PROPOSED GRADES AND ELEVATIONS.

VEGETATION:

THE EXISTING VEGETATION ON THE PROJECT SITE VARIES ALONG THE PROPOSED ROADWAY. STARTING AT THE SOUTHERN END OF THE PROJECT, THE FIRST 500 METERS OF ROADWAY UNDER THIS PROJECT WILL BE BUILT IN AN EXISTING FIELD CONSISTING OF SHORT GRASS. NORTH OF THIS FIELD IS A STEEP SLOPE DOWN TO THE LAMOILLE RIVER THAT IS FORESTED. ON THE OTHER SIDE OF THE RIVER, THERE IS 150 METERS OF FOREST FOLLOWED BY A MARSH AREA TO THE NORTH. BETWEEN THIS MARSH AND BRIDGE STREET IS 80 METERS OF WOODS.

SOILS:

THE PROJECT AREA CONSISTS OF DIFFERENT TYPES OF SOIL. A TABLE OF ALL OF THE SOILS TYPES AS CLASSIFIED BY THE U.S. SOIL CONSERVATION SERVICE IS SHOWN. ALSO, CONTAINED IN THIS TABLE ARE THE SOIL ERODIBILITY COEFFICIENTS AS GIVEN IN TABLE 11 IN THE VERMONT HANDBOOK FOR SOIL EROSION AND SEDIMENT CONTROL ON CONSTRUCTION SITES.

AS SEEN IN THE TABLE, THE SOILS ALONG THE PROJECT AS A WHOLE CAN BE CLASSIFIED AS HAVING LOW ERODIBILITY.

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

SOIL MAP ABBREVIATION	SOIL NAME	K-VALUE	EROSION POTENTIAL	PERCENT OF PROJECT AREA
A _D	ADAMS	0.17	LOW	55%
C _O	COLTON	0.17	LOW	25%
L _Y	LYMAN	0.28	MODERATE	15%
C _R	CROGHAN	0.17	LOW	5%

AS SEEN IN THE TABLE ABOVE, THE SOILS ALONG THE PROJECT AS A WHOLE CAN BE CLASSIFIED AS HAVING LOW ERODIBILITY.

TOTAL RATING NUMBER (TRN):

THE TOTAL RATING NUMBER (TRN) IS A GAUGE FOR DETERMINING THE ERODIBILITY OF THE PROJECT SITE. THERE ARE FOUR MAIN COMPONENTS TO THE TRN. THEY ARE SITE AREA, SITE SLOPE, DURATION OF TIME OF SOIL DISTURBANCE, AND PROXIMITY TO CRITICAL FEATURES. ALTHOUGH THE SITE AREA, SLOPE, AND DURATION OF CONSTRUCTION SUGGEST THAT THIS SITE HAS A LOW ERODIBILITY POTENTIAL, DUE TO THE CLOSE PROXIMITY OF THIS PROJECT TO CRITICAL NATURAL AND MAN-MADE FEATURES, EROSION AND SEDIMENT CONTROL HAS BEEN DESIGNED ASSUMING MEDIUM EROSION POTENTIAL. MORE SUBSTANTIAL EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN SPECIFIED TO PROTECT THE AFFECTED CRITICAL FEATURES.

PROXIMITY TO CRITICAL FEATURES:

THIS PROJECT WILL DIRECTLY IMPACT THREE DIFFERENT WETLANDS THAT ARE ADJACENT TO VARIOUS WATERCOURSES. ALSO, THE PROJECT CROSSES THE LAMOILLE RIVER. AT THESE AREAS OF WETLAND IMPACT AND AT THE WATERCOURSE CROSSING, IT WILL NOT BE POSSIBLE TO AVOID IMPACTS TO THE 50 FOOT VEGETATION BUFFER TO THESE CRITICAL NATURAL FEATURES.

THIS PROJECT IS UNDER JURISDICTION OF AGENCY OF NATURAL RESOURCES CONDITIONAL USE PERMIT #1992-211 AND CORP OF ENGINEERS PERMIT #NAE-1999-568-MI.

SOIL EROSION AND SEDIMENT CONTROL PLAN

PROPOSED GRADING:

A MAJORITY OF THE PROJECT IS IN CUT SECTION MAKING THE COLLECTION OF CONSTRUCTION RUNOFF IN THE FUTURE ROADSIDE DITCHES A REASONABLE ALTERNATIVE (SEE LAYOUT PLANS AND CROSS SECTIONS FOR IMPACT LINES AND PROPOSED GRADE INFORMATION, RESPECTIVELY). DURING CONSTRUCTION OF THE ROADWAY, PERIMETER DITCHES SHALL BE IN PLACE AT ALL TIMES TO ENCAPSULATE THE PROJECT AND TO COLLECT SEDIMENT LADEN STORMWATER. THE DITCHES WILL DIRECT RUNOFF TO A TREATMENT PRACTICE SUCH AS A TEMPORARY SEDIMENTATION BASIN. FOR THIS PROJECT, THE PROPOSED DETENTION BASIN SHOULD BE USED AS SEDIMENT BASIN. THE BASIN AT STATION 8+280, LEFT HAS ENOUGH STORAGE TO TREAT UP TO 3.5 ACRES OF CONTRIBUTING AREA DURING CONSTRUCTION. SINCE NO MORE THAN FIVE ACRES WILL BE DISTURBED AT ONE TIME, THIS BASIN SHOULD BE SUFFICIENT DURING THE CONSTRUCTION PHASE. HOWEVER, IF THE CONTRACTOR REQUIRES ADDITIONAL SEDIMENT BASINS, THE CONTRACTOR MAY SUBMIT THE LOCATION, SIZE, AND CALCULATIONS TO THE ENGINEER FOR APPROVAL. AS THE CONSTRUCTION PROGRESSES, THE PERMANENT ROADSIDE DRAINAGE DITCHES CAN BE USED AS THE PERIMETER DITCHES. WHENEVER POSSIBLE, STORMWATER SHOULD BE DIRECTED TO A SEDIMENT BASIN BY USING DIVERSION AND COLLECTION. THE PROJECT AS A WHOLE WILL HAVE EXCESS MATERIAL AMOUNTING TO 27,714 CUBIC METERS. THE CONTRACTOR SHALL SUBMIT THE LOCATION OF THIS WASTE AREA TO THE RESIDENT ENGINEER FOR APPROVAL.

LIMITS OF DISTURBANCE:

THE LIMIT OF DISTURBANCE FOR THIS PROJECT WILL TYPICALLY BE 3.0 M (10 FEET) BEYOND THE SLOPE LIMITS SHOWN UNLESS OTHERWISE SHOWN ON THE CONTRACT PLANS. THIS SHALL BE MARKED IN THE FIELD USING PROJECT DEMARCATION FENCING.

ALSO, THE PROJECT IS ADJACENT TO SOME MAN-MADE CRITICAL FEATURES, SUCH AS HOMES, BUSINESSES, AND SOME UTILITIES.

TIMETABLE FOR CONSTRUCTION:

SINCE THE PROJECT AREA IS GREATER THAN FIVE ACRES, CONSTRUCTION WILL NEED TO BE PHASED SUCH THAT NO MORE THAN FIVE ACRES OF SOIL IS UNSTABILIZED AT ANYTIME. BELOW IS AN ASSUMED CONSTRUCTION PHASING SEQUENCE FOR THE PROJECT. IT WAS ASSUMED THAT THE CONSTRUCTION SEASON IS FROM MAY 1 TO OCTOBER 15 TO COINCIDE WITH THE PLANTING SEASON. ALSO, ANY WORK PERFORMED IN A STREAM CHANNEL WILL NEED TO BE COMPLETED BETWEEN THE DATES OF JUNE 1 TO OCTOBER 1. IF THE CONTRACTOR IS TO PERFORM EARTHWORK OPERATIONS BEFORE MAY 1 OR AFTER OCTOBER 15, THE CONTRACTOR SHALL SUBMIT A WINTER EROSION AND SEDIMENT CONTROL PLAN PRIOR TO AUGUST 15 TO THE RESIDENT ENGINEER FOR APPROVAL (SUCH THAT VTRANS CAN REVIEW AND SUBMIT THE PLAN TO VANR PRIOR TO SEPTEMBER 15). TO ESTIMATE THE LENGTH OF EACH PHASE, A RATE OF 1500 CUBIC METERS PER DAY WAS USED FOR EARTHWORK. THIS TIME WAS THEN INCREASED BY 20 PERCENT TO ACCOUNT FOR OTHER CONSTRUCTION ACTIVITIES SUCH AS DRAINAGE AND GRUBBING. A SLOWER RATE WAS USED TO ESTIMATE ROCK EXCAVATION. THE ASSUMED PHASING DIAGRAM AND SCHEDULE FOR PROPOSED PHASING IS INCLUDED IN THE PERMIT SECTION OF THE PROSECUTION OF WORK. PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING WILL BE HELD BETWEEN THE CONTRACTOR AND ALL APPLICABLE RESOURCE AGENCIES. IF THE CONTRACTOR WISHES TO CHANGE THE PROPOSED SCHEDULE, THE CONTRACTOR MUST SUBMIT THE CHANGES TO THE ENGINEER FOR APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING. THESE CHANGES COULD INCLUDE PROPOSED WORK DURING THE WINTER MONTHS.

PHASE 1

CONSTRUCT PROPOSED VT 100 SUBGRADE AND DRAINAGE FROM STA 8+081 TO STA 8+361
 CONSTRUCT TEMPORARY BRIDGE/CAUSEWAY AND STAGING AREA STA 8+000 TO STA 8+102

PHASE 2

CONSTRUCT PROPOSED VT 100 SUBGRADE AND DRAINAGE FROM STA 7+542 TO STA 7+915
 CONSTRUCT PROPOSED LAMOILLE RIVER BRIDGE STA 7+915 TO STA 8+081



PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME:	z10b194ecnl.dgn
PROJECT LEADER:	DMB
DESIGNED BY:	BRC
EROSION CONTROL NARRATIVE - 1	
PLOT DATE:	29-MAR-2012
DRAWN BY:	MAL
CHECKED BY:	DMB
SHEET	38 OF 123