EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT IS LOCATED ON TH 11 (RAILROAD SQUARE) IN NEWPORT, VT. THE PROJECT INVOLVES THE CONSTRUCTION OF A REPLACEMENT BRIDGE OVER THE SOUTH BAY OF LAKE MEMPHREMAGOG. THE BRIDGE WILL BE CONSTRUCTED ALONG THE SAME ALIGNMENT. THE BRIDGE WILL BE CLOSED TO TRAFFIC DURING CONSTRUCTION AND TRAFFIC WILL BE DETOURED. THE EXISTING BRIDGE WILL BE COMPLETELY REMOVED INCLUDING EXISTING PIERS, ABUTMENTS, AND SUPERSTRUCTURE.

NOTE: AREA OF DISTURBANCE 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.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.60 ACRES.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY
THE AREA AROUND THIS PROJECT CONSISTS OF AN URBAN SETTING WITH BUILDINGS AND PARKING LOTS ADJACENT TO THE WEST END OF THE PROJECT. THE EAST END CONSISTS OF GRASS SLOPES WITH TREE AND UNDERGROWTH BUFFER AT THE SHORELINE.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES
LAKE MEMPHREMAGOG IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THERE ARE TWO DROP INLETS ON SITE DRAINING FROM THE ROADWAY TO THE LAKE.

1.2.3 VEGETATION
THE VEGETATION IN THE PROJECT AREA CONSISTS OF GRASS SLOPES WITH HARDWOOD TREES AND UNDERGROWTH ALONG THE SHORELINE. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING BRIDGE AND ROADWAY. UPON PROJECT COMPLETION, THE SHORELINE WILL BE ARMORED WITH STONE FILL TYPE IV 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 U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF ORLEANS, VERMONT. SOILS ON THE PROJECT SITE ARE NICHOLVILLE VERY FINE SANDY LOAM WITH 15% TO 25% SLOPES, "K FACTOR" = 0.49; AND URBAN LAND-ADAMS-NICHOLVILLE COMPLEX WITH 0% TO 8% SLOPES. THE SOIL IS CONSIDERED HIGHLY ERODIBLE.

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, ARCHEOLOGICAL NEAR APPROACH
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: LAKE MEMPHREMAGOG
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. 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, 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 SPECIFC 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.

DUE TO THE PROXIMITY TO LAKE MEMPHREMAGOG, BARRIER FENCE (BF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES.

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.

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.

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 CONTRACTOR'S PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

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.

INLET PROTECTION DEVICES WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

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 CONSTRUCITON SITE.

THE PROJECT AREA IS RELATIVELY FLAT. THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF
NONE OF THE MEASURES TO SLOW DOWN CHANNELIZED RUNOFF WILL BE USED ON THIS PROJECT.

1.4.7 CONSTRUCT PERMANENT CONTROLS
STONE FILL WILL BE USED TO CREATE A STABLE SLOPE AND WILL BE COVERED WITH GRUBBING MATERIAL AND SEED AND MULCH TO PREVENT EROSION.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION
ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION (IF APPLICABLE).

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.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION
ALL EARTH DISTURBANCES ASSOCIATED WITH THIS PROJECT SHALL BE STABILIZED PRIOR TO THE WINTER SEASON (OCTOBER 15 THROUGH APRIL 15). SHOULD THE PROJECT CAUSE EARTH DISTURBANCE DURING THE WINTER SEASON, THE CONTRACTOR SHALL PREPARE A WINTER-SPECIFIC EPSC PLAN FOR APPROVAL BY THE CONSTRUCTION ENVIRONMENTAL ENGINEER. REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

1.4.10 STABILIZE SOIL AT FINAL GRADE
EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

ITEM 651.15 "SEED", ITEM 651.25 "HAY MULCH", ITEM 651.18 "FERTILIZER" AND ITEM 651.20 "AGRICULTURAL LIMESTONE" 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.

TREATMENT OF DEWATERING COFFERDAM IS ANTICIPATED. A LOCATION FOR TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS.

TURBIDITY AND pH WILL BE MONITORED DURING CONSTRUCTION.

IF THE TURBIDITY OF THE WATER WITHIN THE ENCLOSED WORK AREA EXCEEDS THAT OF THE SURROUNDING WATER, THE TURBID WATER WILL BE COLLECTED AND PUMPED TO A CONTAINMENT AREA TO ALLOW THE FINES TO SETTLE.

IF THE pH OF THE WATER DISPLACED BY TREMIE CONCRETE OR WITHIN A CONTAINED WORK AREA IS NOT WITHIN THE RANGE OF pH 6.5 TO pH 8.5, THE WATER WILL BE COLLECTED AND PUMPED TO A CONTAINMENT AREA FOR TREATMENT TO ADJUST THE pH. ONCE IT IS WITHIN THE SPECIFIC RANGE LISTED ABOVE, THE WATER MAY BE DISCHARGED IN TO THE LAKE.

STONE WILL BE FREE OF SILT, CLAY, AND ORGANIC MATERIAL.

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

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.

1.5.3 UPDATES

PROJECT NAME:	NEWPORT CITY
PROJECT NUMBER:	BRO 1449(25)

FILE NAME: 96j314/str/96j314ero.dgn	PLOT DATE: 22-NOV-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
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