PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION OF A BRIDGE OVER THE FREEMAN BROOK. THE PROJECT IS ON TOWN HIGHWAY 1, BROOK ROAD, WHICH IS A PAVED ROAD IN THE TOWN OF WARREN. THE EXISTING SUPERSTRUCTURE WILL BE REMOVED AND THE EXISTING ABUTMENTS WILL BE EXTENDED. A NEW SUPERSTRUCTURE WILL BE CONSTRUCTED ON THE MODIFIED ABUTMENTS. THE BRIDGE WILL BE CONSTRUCTED IN STAGES, AND ONE LANE OF TRAFFIC WILL BE MAINTAINED. TOTAL ROADWAY WORK, INCLUDING BOTH APPROACHES, IS APPROXIMATELY 450 FEET. NATURAL RESOURCES WITHIN THE PROJECT AREA HAVE BEEN CLEARLY IDENTIFIED AND SHOWN ON THE EXISTING CONDITIONS SITE PLAN SHEET.

IT IS ANTICIPATED THAT THIS PROJECT WILL BE COMPLETED IN ONE CONSTRUCTION SEASON WITH NO WORK BEING DONE OUTSIDE THE PLANTING SEASON.

TOTAL DISTURBED AREA (EXCLUDING OFF-SITE WASTE, BORROW, AND STAGING AREAS): 0.65 ACRES. SHOULD THIS CHANGE AND RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE, OR SHOULD THE PROJECT BECOME PART OF A COMMON PLAN OF DEVELOPMENT, THEN THE CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH THE AGENCY OF NATURAL RESOURCES.

SITE INVENTORY & ANALYSIS

OFF SITE DRAINAGE CHARACTERISTICS:

THE PROPERTY SURROUNDING THE PROJECT SITE CONSISTS OF RESIDENTIAL PROPERTY EXCEPT FOR A PORTION OF WOODS LOCATED TO THE SOUTHWEST. THE RESIDENTIAL AREAS ARE GENERALLY FLAT WHILE THE WOODED AREA SLOPES DOWN TO THE BROOK. THERE ARE SCATTERED SMALL TREES LOCATED ON THE RESIDENTIAL PROPERTIES. ADJACENT TO THE BROOK ARE MEDIUM SIZE TREES LOCATED ALONG THE BANKS OF THE BROOK.

DRAINAGE,WATERWAYS,BODIES OF WATER:

THE FREEMAN BROOK IS LOCATED IN THE PROJECT AREA. THE FREEMAN BROOK IS A RURAL MEANDERING WATERWAY THAT FLOWS IN AN OVERALL EAST TO WEST DIRECTION FROM ITS HEADWATERS AT THE WARREN-ROXBURY TOWN LINE TO ITS OUTLET AT THE MAD RIVER IN WARREN, APPROXIMATELY 0.3 MILES DOWNSTREAM FROM THE BRIDGE SITE. THE FREEMAN BROOK IS A SMALL, SINUOUS, RURAL STREAM WITH PERENNIAL, FLASHY FLOW. THE BED MATERIAL CONSISTS OF GRAVEL, COBBLES, BOULDERS AND LEDGE. THE VALLEY SETTING PROVIDES MODERATE RELIEF WITH LITTLE OR NO NATURAL LEVEES AND FLOOD PLAINS. THE STREAM IS PROBABLY INCISED AND HAS NON-ALLUVIAL CHANNEL BOUNDARIES. TREES GENERALLY COVER 50 TO 90 PERCENT OF THE BANK, AND THE STREAM IS NOT BRAIDED OR ANABRANCHED WITHIN IMMEDIATE REACHES. THE CONTRIBUTING DRAINAGE REACH AT THE BRIDGE CROSSING IS 6.3 SQUARE MILES. NO WETLANDS OCCUR WITHIN THE PROJECT LIMITS. HOWEVER, SMALL FRINGES OF WETLAND VEGETATION THAT OCCUR ALONG THE BROOK ARE BELOW THE OHW LINE AND THEREFORE ARE CONSIDERED PART OF THE WATER BODY. THERE ARE NO OTHER PRIMARY WATER BODIES OR WETLANDS WITHIN THE PROJECT AREA. ARCHAEOLOGICAL AND HISTORICAL AREAS ARE LOCATED WITHIN THE AREA AND ARE SHOWN ON THE EXISTING CONDITIONS SITE PLAN.

TOPOGRAPHY,EXISTING ROADS,BUILDINGS,UTILITIES:

THE TOPOGRAPHY OF THE RESIDENTIAL PROPERTIES IS GENERALLY FLAT WITH THE GROUND SLOPING STEEPLY ADJACENT TO THE BROOK. THE WOODED AREA SLOPES STEEPLY DOWN TO THE BROOK AS WELL. T.H. 1 IS A CLASS 2 TOWN HIGHWAY WITH A PAVED SURFACE. THERE ARE RESIDENTIAL HOMES LOCATED ADJACENT TO THE PROJECT AREA WHICH CAN BE SEEN ON THE EXISTING CONDITIONS PLAN. AN OVERHEAD UTILITY LINE EXISTS ALONG THE DOWNSTREAM SIDE OF THE BRIDGE. AN EXISTING SEWER LINE THAT RUNS UNDER THE CURRENT BRIDGE WILL BE RETAINED.

VEGETATION:

THE VEGETATION ALONG T.H. 1 IS A MIX OF GRASS AND SMALL TREES. THE MAJORITY OF VEGETATION ON THE RESIDENTIAL PROPERTIES IS GRASS WITH THE TREES BEING LOCATED CLOSE TO THE BROOK AND ALONG THE HILLSIDE LOCATED TO THE SOUTHWEST.

FOLLOWING CONSTRUCTION OF THE NEW BRIDGE, ANY DISTURBED CHANNEL SLOPES WILL BE STABILIZED WITH STONE FILL. ANY DISTURBED AREAS ADJACENT TO THE ROADWAY WILL BE REESTABLISHED USING STANDARD SEED AND MULCH PRACTICES. STEEP SLOPES SURROUNDING THE PROPOSED WINGWALLS WILL BE STABILIZED USING STONE FILL.

SOILS:

THE SOILS IN THE AREA CONSIST OF A STETSON LOAM. THIS TYPE OF SOIL IS CONSIDERED TO HAVE LOW ERODABILITY POTENTIAL.

SENSITIVE RESOURCE AREAS:

HISTORICAL AND ARCHEOLOGICAL AREAS ARE LOCATED ADJACENT TO THE PROJECT AREA. EACH OF THESE AREAS IS CLEARLY MARKED ON THE PLANS. TEMPORARY EROSION CONTROL MEASURES WILL BE USED TO ENSURE THAT CONSTRUCTION ACTIVITIES WILL NOT ADVERSELY AFFECT ANY SENSITIVE RESOURCE AREAS.

THERE HAVE BEEN NO THREATENED AND ENDANGERED SPECIES IDENTIFIED WITHIN THE PROJECT LIMITS.

PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES:

THE DISTURBANCE OF SOIL WILL BE NECESSARY TO CONSTRUCT THE NEW FOOTING EXTENSIONS AND WINGWALLS ADJACENT TO THE EXISTING ABUTMENT. THE DISTURBED AREAS WILL BE STABILIZED WITH STONE FILL ONCE THE CONSTRUCTION IS COMPLETE.

TEMPORARY EROSION PREVENTION & SEDIMENT CONTROL

TEMPORARY EROSION PREVENTION MEASURES TO BE UTILIZED INCLUDE:

PROJECT DEMARCATION FENCING (PDF), DENOTED -X-X-X ON THE PLANS, TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION. PDF MAY BE LOCATED IN CLOSE PROXIMITY TO THE LIMITS OF THE PROPOSED TOE OF SLOPES IN ORDER TO KEEP ALL WORK WITHIN THE EXISTING RIGHT-OF-WAY LIMITS.

MULCHING WILL BE UTILIZED ON A REGULAR BASIS. ANY SLOPES TO BE EXPOSED FOR SEVERAL DAYS PRIOR TO FINAL GRADING SHALL BE MULCHED. SLOPES SHALL BE STABILIZED WITHIN 48 HOURS PRIOR TO FORECASTED RAIN.

SEEDING AND MULCHING SHALL BE USED TO STABILIZE SLOPES FLATTER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE OR DURING INTERMITTENT PHASES OF CONSTRUCTION.

SILT FENCE WILL BE INSTALLED AT THE TOE OF FILL SLOPES TO PREVENT SEDIMENT TRANSPORT TO DOWN GRADIENT AREAS. EACH LINE OF SILT FENCE WILL BE PLACED ALONG THE CONTOUR WITH THE LOWER EDGE BURIED 6" TO PREVENT UNDERFLOW AND ENDS TURNED SLIGHTLY UP GRADE TO CREATE A PONDING EFFECT. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UPSLOPE EARTHWORK.

ROCK CHECK DAMS WILL BE INSTALLED IN DITCH LINES TO FORCE STORMWATER TO POND AND LIMIT SEDIMENT TRANSPORT. ROCK CHECK DAMS WILL BE PLACED AS SHOWN ON THE EROSION CONTROL PLAN AND PER THE DETAIL SHOWN IN THE PLANS.

AT LOCATIONS WHERE CONSTRUCTION VEHICLES WILL BE ENTERING OR LEAVING THE CONSTRUCTION SITE/STAGING AREAS, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED TO LIMIT THE AMOUNT OF SEDIMENT THAT IS TRANSPORTED OFF OF THE SITE BY CONSTRUCTION VEHICLES. STONE WILL BE USED TO REMOVE SEDIMENT FROM THE TIRES OF CONSTRUCTION VEHICLES. IF SEDIMENT IS STILL BEING TRACKED ONTO PUBLIC ROADS, THE LENGTH OF THE PAD SHALL BE EXTENDED OR VEHICLES SHALL BE RINSED WITH A HOSE PRIOR TO LEAVING THE SITE.

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

THE CONTRACTOR SHALL DELINEATE HIS/HER PROPOSED STAGING AREA AND SUBMIT TO THE RESIDENT ENGINEER FOR APPROVAL AT THE PRECONSTRUCTION CONFERENCE. ALL STAGING AREAS SHALL BE SURROUNDED BY SILT FENCE AND PDF.

PERMANENT EROSION CONTROL MEASURES

PERMANENT EROSION CONTROL MEASURES TO BE UTILIZED INCLUDE:

ALL DISTURBED SOIL WILL BE STABILIZED WITH SEED AND MULCH IN AREAS FLATTER THAN 1:3. AREAS STEEPER THAN 1:3 WILL BE STABILIZED WITH STONE FILL, TYPE III.

GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

THE EROSION CONTROL PLANS ARE MEANT TO BE 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 SHALL USE ADDITIONAL EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE ENGINEER OR ONSITE COORDINATOR. SEE SUBSECTION 105.23 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001.

IF ANY EARTHWORK IS TO BE PERFORMED OUTSIDE THE CONSTRUCTION SEASON DELINEATED IN THE SPECIFICATION, A WINTER EROSION AND SEDIMENT CONTROL PLAN DESCRIBING ALTERNATIVE STABILIZATION METHODS SHALL BE SUBMITTED TO THE RESIDENT ENGINEER PRIOR TO AUGUST 15 FOR APPROVAL.

THE CONTRACTOR SHALL STOCKPILE MATERIAL WITHIN THE STAGING AREA ONLY. STOCKPILES SHALL BE STABILIZED WITHIN 48 HOURS PRIOR TO FORECASTED RAIN.

FUELING AND MAINTENANCE OF CONSTRUCTION VEHICLES SHALL BE LIMITED TO THE STAGING AREAS AND SHALL BE DONE BY QUALIFIED PERSONNEL.

INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN IN THE EROSION CONTROL PLAN OR AS DIRECTED BY THE ENGINEER OR ONSITE COORDINATOR. DO NOT MODIFY THE TYPE, SIZE, OR LOCATION OF ANY CONTROL OR PRACTICE WITHOUT APPROVAL OF THE ENGINEER OR ONSITE COORDINATOR. 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 THAT PRODUCES RUNOFF FROM THE PROJECT SITE. REPAIR MEASURES PROMPTLY ONCE DAMAGE IS DISCOVERED.

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 PRIOR TO ANY CONSTRUCTION ACTIVITY. INSTALL OTHER TEMPORARY CONTROLS IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS.

MAINTAINING VEGETATED BUFFERS ALONG THE STREAM BANKS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE EMPLOYED WHENEVER POSSIBLE.

CONTROL ONLY SEDIMENT LADEN STORMWATER RUNOFF GENERATED BY THE PROJECT SITE. COLLECT AND ROUTE CLEAN STORMWATER AROUND THE PROJECT SITE WHENEVER POSSIBLE USING DIVERSION BERMS, CHANNELS, CULVERTS, OR TEMPORARY PIPES.

DO NOT ALLOW CONSTRUCTION EQUIPMENT TO OPERATE OUTSIDE OF PERIMETER CONTROL MEASURES.

PLOTTED 05-APR-2007

McFarland-Johnson, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WARREN	Bridge No. 7
Highway No. TH 1	Log Sta. / Surv. Sta.

BROOK ROAD OVER FREEMAN BROOK

EROSION CONTROL NARRATIVE

Designed By B. COLBURN	Drawn By B. COLBURN
Checked By R. JOY Date 02/07	Bridge Design Supervisor R. ROONEY Date 02/07
PROJECT WARREN	PROJECT NO. BHF 0188(7)
I.G.C. Info. mN549107-WarrenNBRIDGEVF1naNz1276er2.dgn	
Bridge Sheet No.	Sheet 7 of 36