

1.1 PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF REPLACEMENT OF THE EXISTING SUPERSTRUCTURE WITH A NEW CURVED STEEL GIRDER AND CONCRETE DECK SUPERSTRUCTURE TO BE PLACED ON ONE NEW ABUTMENT, ONE REHABILITATED ABUTMENT AND A REHABILITATED PIER. ADDITIONAL WORK INCLUDES THE REALIGNMENT OF THE ROADWAY, ASSOCIATED APPROACH WORK, NEW SIDEWALKS, CULVERTS, DRAINAGE DIPS AND THE REMOVAL AND REPLACEMENT OF THE EXISTING GUARDRAIL AND RECONSTRUCTION OF THE SIDESLOPES ALONG THE IMPACTED ROADWAY.

THE PROJECT IS LOCATED ON PEARL STREET (T.H. NO. 1), APPROXIMATELY 300 FEET EAST OF THE JUNCTION WITH VERMONT ROUTE 15 AND SPANS THE GIHON RIVER. PEARL STREET IS A PAVED CLASS 2 TOWN HIGHWAY IN THE TOWN OF JOHNSON. PRIOR TO CONSTRUCTION, A TEMPORARY DETOUR AND BRIDGE WILL BE INSTALLED DOWNSTREAM OF THE EXISTING BRIDGE AND WILL BE USED TO MAINTAIN VEHICULAR AND PEDESTRIAN TRAFFIC DURING CONSTRUCTION. THE TEMPORARY DETOUR WILL BE A TOTAL LENGTH OF APPROXIMATELY 500 FEET AND WILL BE REMOVED UPON COMPLETION OF CONSTRUCTION. THIS PROJECT IS EXPECTED TO LAST TWO CONSTRUCTION SEASONS.

THE MATERIAL TO BE EXCAVATED FROM THE SITE WILL INCLUDE EXISTING BITUMINOUS CONCRETE SURFACE AND SUBBASE WITHIN THE EXISTING ROADWAY AS WELL AS EXCAVATION FOR THE PLACEMENT OF THE NEW ABUTMENT AND ASSOCIATED STONE FILL AROUND THE ABUTMENTS. ADDITIONAL EXCAVATION WILL BE NEEDED FOR THE TEMPORARY ABUTMENTS USED TO SUPPORT THE TEMPORARY BRIDGE. STOCKPILING OF ANY EXCAVATED MATERIAL TO BE REUSED MAY TAKE PLACE WITHIN THE PROJECT LIMITS. LIKEWISE, STOCKPILING OF ANY NEW MATERIAL TO BE USED IS EXPECTED TO TAKE PLACE WITHIN THE PROJECT LIMITS. THE LIMIT OF CONSTRUCTION AND ASSOCIATED MAXIMUM SOIL DISTURBANCE AREA FOR THE ROADWAY AND BRIDGE CONSTRUCTION IS APPROXIMATELY 0.50 ACRES. ADDITIONALLY THERE WILL BE APPROXIMATELY 0.25 ACRES OF DISTURBED SOIL ASSOCIATED WITH THE CONSTRUCTION, USE AND REMOVAL OF THE TEMPORARY DETOUR. THE TOTAL FOOTPRINT AREA OF DISTURBED SOILS IS CALCULATED TO BE 0.75 ACRES.

THERE ARE TWO EXISTING ENVIRONMENTAL RESOURCE ELEMENTS IN THE VICINITY OF THE PROJECT, THE GIHON RIVER AND A STONE WALL AT ROUGHLY 4+10 LT. THE STONE WALL SHALL REMAIN UNDISTURBED THROUGHOUT CONSTRUCTION. THERE ARE NO OTHER KNOWN SENSITIVE ENVIRONMENTAL AREAS IN CLOSE PROXIMITY TO THIS PROJECT. THERE ARE NO CRITICAL HABITATS, OTHER THAN THE GIHON RIVER, WHICH NEED SPECIAL ATTENTION AND PROTECTION DURING OR AFTER CONSTRUCTION. THE BANKS OF THIS RIVER WITHIN THE PROJECT LIMITS ARE NATURAL SOIL AND ROCK SLOPES EXTENDING FROM THE EXISTING GRADES OR ABUTMENTS TO THE ELEVATION OF THE WATER WITHIN THE RIVER. DISTURBED AREAS ON THE RIVER BANK WILL INCLUDE THE CONSTRUCTION OF THE NEW ABUTMENT AND PLACING STONE FILL AROUND THE SIDES OF THE ABUTMENTS AND DURING THE CONSTRUCTION OF THE TEMPORARY BRIDGE. ALL PROPOSED CONSTRUCTION IS TO TAKE PLACE IN THE DRY.

1.2 SITE INVENTORY

1.2.1 OFFSITE DRAINAGE CHARACTERISTICS

THIS PROJECT SITE IS LOCATED IN AN URBAN, HIGHLY TRAVELED AREA OF THE VILLAGE OF JOHNSON. THE AREA SURROUNDING THE PROJECT IS MODERATELY SLOPED WITH ESTABLISHED VEGETATION, INCLUDING GRASSY LAWNS, TREE LINES, AND PAVED AND GRAVEL PARKING LOTS. MUCH OF THE RUNOFF FROM THE SURROUNDING TERRAIN DRAINS INTO CATCH BASINS LOCATED THROUGHOUT THE PROJECT, OR DIRECTLY INTO THE GIHON RIVER. THE CATCH BASINS ARE SITUATED ALONG THE ROADWAYS OR IN THE PARKING LOTS TYPICALLY AT LOW POINTS OR CURB CUTS. THE CATCH BASINS DRAIN DIRECTLY INTO THE GIHON RIVER.

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

THE GIHON RIVER IS THE ONLY WATERWAY WITHIN THE PROJECT LIMITS. THERE ARE NO OTHER WETLANDS WITHIN THE PROJECT LIMITS, OR SURROUNDING AREA.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT AREA CONSISTS OF MODERATE SLOPES AND ROLLING HILLS. SEVERAL PERMANENT RESIDENTS AND BUSINESSES ARE LOCATED WITHIN THE PROJECT LIMITS AND NEAR THE BRIDGE. OVERHEAD AND UNDERGROUND UTILITIES ARE LOCATED ALONG PEARL STREET WITH THE NECESSARY RELOCATIONS BEING PERFORMED AS PART OF THIS PROJECT.

1.2.4 VEGETATION

THE PROJECT AREA CONSISTS OF GRASSY LAWNS WITH SCATTERED SMALL TREES. IMPACTS TO VEGETATED AREAS WILL BE LIMITED TO THE SIDE SLOPES OF THE ROAD, LOCATION OF NEW SIDEWALK AREAS ADJACENT TO THE BRIDGE AND THE AREA OF THE TEMPORARY DETOUR. SEVERAL SMALL TREES WILL BE REMOVED AS PART OF THE CLEARING FOR THE DETOUR LIMITS. FOLLOWING THE COMPLETION OF CONSTRUCTION, THE TEMPORARY DETOUR AND ASSOCIATED FILL WILL BE REMOVED AND THE VEGETATION WILL BE REESTABLISHED USING STANDARD SEED AND MULCH PRACTICES.

1.2.5 SOILS

THE SOIL CONSERVATION SERVICE HAS MAPPED THE SOILS THROUGHOUT LAMOILE COUNTY. THE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS ADAMS LOAMY FINE SAND 2 TO 8 PERCENT SLOPES, WITH A PARENT GROUP BEING DESCRIBED AS OUTWASH. THIS SITE IS LISTED AS NOT HIGHLY ERODIBLE.

SUBSURFACE INVESTIGATIONS WERE PERFORMED FOR THE PROJECT. ONE BORING AND SIX PROBES WERE PERFORMED. THESE INVESTIGATIONS FOUND SAND, SILT AND GRAVEL AND LEDGE WAS ENCOUNTERED IN EACH.

1.2.6 SENSITIVE RESOURCE AREAS

THE GIHON RIVER AND THE ARCHEOLOGICALLY SENSITIVE STONE WALL BETWEEN STA. 4+00 LT AND 4+18 LT ARE THE ONLY TWO RESOURCE AREAS OF SPECIFIC CONCERN THAT HAVE BEEN IDENTIFIED WITHIN THE PROJECT AREA. THE PROJECT SPANS THE GIHON RIVER WITH MAJOR CONSTRUCTION TAKING PLACE ON BOTH SIDES OF THE RIVER. THE PRIMARY OBJECTIVE FOR THIS EROSION PREVENTION AND SEDIMENT CONTROL PLAN WILL BE TO PREVENT THE MOBILIZATION AND TRANSPORT OF SEDIMENT INTO THE GIHON RIVER. ALL WORK TO BE COMPLETED IN THE RIVER SHALL BE PERFORMED IN THE DRY.

CONTRACTORS SHALL USE ALL MEANS NECESSARY TO AVOID DISTURBANCE OF THE STONE WALL CONSIDERED TO BE ARCHEOLOGICALLY SENSITIVE.

1.3 RISK EVALUATION

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, THEN THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH VANR VIA FILING OF THE APPROPRIATE NOTICE OF INTENT UNDER THE CONSTRUCTION GENERAL PERMIT PROCESS.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

TO MINIMIZE THE POTENTIAL FOR STORM WATER RUNOFF TO TRANSPORT SEDIMENT INTO THE RIVER SEVERAL KEY EROSION CONTROL DEVICES AND GENERAL PRACTICES WILL BE USED. DETAILS OF THE DEVICES AND THE LOCATION OF THEIR PLACEMENT CAN BE FOUND IN THE EROSION CONTROL PLANS AND DETAILS. ALL EROSION CONTROL MEASURES SHALL BE PLACED IN ACCORDANCE WITH THE EROSION CONTROL DETAILS IN THESE PLANS.

1.4.1 MARK SITE BOUNDARIES

PROJECT DEMARCATION FENCE SHALL BE INSTALLED 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

THE EXISTING MAINLINE WILL BE CLOSED DURING CONSTRUCTION; THEREFORE IT CAN BE USED AS A STAGING AND STOCKPILE AREA. THESE AREAS WILL BE COMPLETELY WITHIN THE PROJECT LIMITS AND WILL UTILIZE THE AFOREMENTIONED TEMPORARY EROSION CONTROL MEASURES. NO ADDITIONAL TEMPORARY EROSION CONTROL MEASURES WILL BE NEEDED.

1.4.3 STABILIZE CONSTRUCTION EXIT

A VEHICLE TRACKING PAD SHALL BE CONSTRUCTED AT ALL ACCESS POINTS BETWEEN CONSTRUCTION ACTIVITIES, INCLUDING STOCKPILE AREAS, AND PUBLIC OR PRIVATE ROADS. VEHICLE TRACKING PADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STABILIZED CONSTRUCTION ENTRANCE DETAILS CONTAINED IN THESE DRAWINGS.

1.4.4 INSTALL SILT FENCE

THE SILT FENCE WILL BE LOCATED 5 FEET TO 10 FEET DOWN GRADIENT FROM THE TOE OF SLOPE. THE SILT FENCE SHALL BE PLACED PARALLEL TO, OR ALONG, THE CONTOUR, SO THE STORM WATER WILL RUN PERPENDICULAR TO THE SILT FENCE. THE ENDS SHALL BE "J" HOOKED UP GRADIENT TO CREATE A PONDING EFFECT FOR WATER TRYING TO RUN ALONG THE FENCE AND AROUND THE ENDS.

1.4.5 DIVERT UPLAND RUNOFF

EACH DROP INLET OR CATCH BASIN SHALL RECEIVE TEMPORARY ROCK BARRIER PROTECTION IN PAVED AREAS AND TEMPORARY SILT FENCE PROTECTION IN UNPAVED AREAS. THESE TEMPORARY MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IN THESE PLANS.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

DUE TO THE NATURE OF THE SITE, CHANNELIZED RUNOFF IS NOT EXPECTED TO OCCUR. IF CHANNELIZED FLOW DEVELOPS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND SHALL AGREE ON A METHOD THAT SHALL BE USED TO SLOW CHANNELIZED RUNOFF.

1.4.7 CONSTRUCT PERMANENT CONTROLS

STONE FILL, TYPE I SHALL BE PLACED ALONG THE TOP OF WINGWALL NO. 3 TO PREVENT EROSION OF THE STEEP SLOPE. STONE FILL TYPE II SHALL BE PLACED ALONG THE FACE OF THE NEW ABUTMENT NO. 2 TO PROTECT THE FOOTING FROM SCOUR.

1.4.8 STABILIZE EXPOSED SOILS

TEMPORARY SOIL STABILIZATION METHODS MAY INCLUDE SEED, MULCH, SOIL BINDER, OR OTHER METHODS AS APPROVED BY THE ENGINEER. TEMPORARY SOIL STABILIZATION METHODS SHALL BE APPLIED TO EXPOSED EARTH WITHIN 48 HOURS OF EARTH DISTURBANCE AND SHALL HAVE ESTABLISHED VEGETATION WITHIN 21 DAYS.

1.4.9 WINTER STABILIZATION

IF VEGETATION IS NOT ESTABLISHED BY OCTOBER 15TH, TEMPORARY STABILIZATION SHALL BE APPLIED FOR THE PURPOSE OF WINTER STABILIZATION. SEED AND MULCH SHALL BE USED FOR ESTABLISHING A TEMPORARY COVER ON DISTURBED SOILS. TEMPORARY STABILIZATION MEASURES SHALL BE IN ACCORDANCE WITH SECTION 653.

1.4.10 STABILIZE SOIL AT FINAL GRADE

ALL DISTURBED AREA OUTSIDE OF THE ROADWAY, SIDEWALK AND PARKING LOT SHALL RECEIVE TOPSOIL, SEED AND MULCH TO REESTABLISH GRASS AND VEGETATION. TOPSOILING, SEEDING AND MULCHING SHALL BE IN ACCORDANCE WITH THE SEEDING FORMULA FOR URBAN AREAS AND ASSOCIATED NOTES AS SHOWN ON SHEET 2 OF THESE PLANS.

1.4.11 DEWATERING ACTIVITIES

NO DEWATERING ACTIVITIES ARE EXPECTED TO BE NEEDED AT THIS SITE. IF IT IS DETERMINED BY THE CONTRACTOR AND ENGINEER THAT DEWATERING OF THE COFFERDAMS IS NEEDED, AN APPROPRIATE DEWATERING PLAN SHALL BE SUBMITTED TO THE ENGINEER AND APPROVED PRIOR TO IMPLEMENTATION.

1.4.12 INSPECT YOUR SITE

THE EROSION CONTROL MEASURES SHALL BE PERIODICALLY INSPECTED AND MAINTAINED ON A REGULAR BASIS. INSPECTION OF THE EROSION CONTROL MEASURES SHALL TAKE PLACE BEFORE AND AFTER MAJOR STORM EVENTS TO INSURE THEY ARE IN GOOD CONDITION AND TO REMOVE EXCESSIVE BUILDUP OF SILT AND DEBRIS AFTER THE STORM EVENTS. A REPORT ON THE EFFECTIVENESS OF THE EROSION CONTROL MEASURES SHALL BE PRESENTED TO THE RESIDENT ENGINEER AND ONSITE COORDINATOR UPON THE COMPLETION OF EACH INSPECTION. MODIFICATIONS OR IMPROVEMENTS TO THE EROSION CONTROL PLAN SHOULD BE COORDINATED WITH THE RESIDENT ENGINEER AND ONSITE COORDINATOR.

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

TH NO. 1 OVER THE GIHON RIVER

EPCS NARRATIVE

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	
J. W. TUCKER	2/09	J. W. TUCKER	Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372epscnar.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	19 of 68