

BRIDGE INSTALLATION NOTES

GENERAL NOTES:

1. ALL STATIONING, ELEVATIONS AND DIMENSIONS OF THE EXISTING STRUCTURE (VERMONT BRIDGE NO. 11N CARRYING I-89 NORTHBOUND OVER THE WHITE RIVER, VT 14 AND NECR) ARE TAKEN FROM THE EXISTING PLANS.
2. TWO (2) 4" SCH 40 STEEL CARRIER PIPES WILL BE MOUNTED ON NEW HANGERS BETWEEN GIRDERS 2 AND 3.
3. THE FIBER OPTIC CABLES WILL RUN INSIDE CARRIER PIPES IN AN EXCAVATED TRENCH FROM THE HANDHOLES IN THE MEDIAN OF I-89 ADJACENT TO BOTH ENDS OF THE BRIDGE AS SHOWN ON THE PLANS.
4. THE CONTRACTOR SHALL INSTALL THE INNER DUCTS AND CABLES ACROSS THE BRIDGE THROUGH THE CARRIER PIPES. SEE FIBER OPTIC PLANS FOR ADDITIONAL INFORMATION.

MATERIAL NOTES:

1. CARRIER PIPE SHALL BE 4" DIA. SCH. 40 STEEL PIPE IN ACCORDANCE WITH ASTM A53 GRADE B, AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.
2. EXPANSION JOINT SLEEVES SHALL BE STRUCTURAL TUBE 5 X 5 X  $\frac{3}{8}$  ASTM A500 GRADE B, AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.
3. HANGER ASSEMBLY ANGLES AND TAPERED WASHER PLATES SHALL BE ASTM A36 STEEL, AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.
4. ADJUSTABLE DOUBLE ROLLER GUIDES AT EACH HANGER ASSEMBLY SHALL BE COOPER B-LINE FIGURE B3122A-4 WITH NON-METALIC ROLLERS, HOT-DIP GALVANIZED SOCKETS, STAINLESS STEEL RODS ( $\frac{3}{8}$ " BY 30" LONG) AND STAINLESS STEEL HARDWARE, OR EQUAL.
5. THE CARRIER PIPES SHALL BE SUPPORTED ADJACENT TO ABUTMENT 2 AND ABUTMENT 4 AS SHOWN ON THE PLANS. SUPPORTS SHALL BE COOPER B-LINE PIPE SUPPORT FIGURE B3090-4 PIPE SUPPORT WITH U-BOLT AND COOPER B-LINE FIGURE B 3088-2 $\frac{1}{2}$ " BASE STAND (6" HEIGHT), OR EQUAL. SUPPORT MATERIAL SHALL BE GALVANIZED OR ELECTROPLATED. ASTM A 36 STEEL WT4X24 BRACKETS AND CONNECTION ANGLES WILL BE INSTALLED TO ATTACH THE PIPE SUPPORT TO THE OUTSIDE VERTICAL FACE OF ABUTMENTS 2 AND 4, AS SHOWN ON THE PLANS. BRACKETS AND CONNECTION ANGLES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153. WT BRACKETS SHALL BE ATTACHED TO THE ABUTMENTS USING  $\frac{3}{8}$ " X 5" STAINLESS STEEL RAWL POWER-BOLTS OR EQUAL.
6. 4" CARRIER PIPE SHALL BE INSTALLED AS LAID OUT ON THE CONTRACT PLANS. MINIMUM BEND RADIUS IS 42". PIPE ENDS AND COUPLINGS SHALL BE THREADED.
7. ALL BOLTS, NUTS AND WASHERS USED TO ATTACH THE HANGER ANGLES TO BRIDGE 11N SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 164 (ASTM A 325) TYPE 1, GALVANIZED.

INSTALLATION NOTES:

1. HOLES FOR THE HANGER ASSEMBLIES SHALL BE DRILLED IN EXISTING STIFFENERS AT GIRDERS 2 AND 3 AT THE LOCATIONS SHOWN. FLAME CUTTING OF THE EXISTING BRIDGE STRUCTURE IS NOT ALLOWED. HANGER ASSEMBLY SHALL BE LEVEL AT INSTALLATION.
2. DUE TO BRIDGE SKEW, THE EXISTING WEB STIFFENERS AT GIRDERS 2 AND 3 ARE LOCATED SUCH THAT THEY ARE NOT PERPENDICULAR TO EACH OTHER. HANGER ASSEMBLIES WILL BE LOCATED AT FOUR DIFFERENT STIFFENERS SPACING ACROSS THE BRIDGE (STIFFENERS AT GIRDER 3 ARE EITHER 6", 12", 24" OR 30" SOUTH OF THE CORRESPONDING STIFFENER AT GIRDER 2). AS A RESULT, THERE ARE FOUR DIFFERENT LENGTHS OF THE HANGER ASSEMBLY ANGLES AND FOUR DIFFERENT TAPERS IN HANGER ASSEMBLY WASHER PLATES. THE DIFFERENT ASSEMBLIES ARE DESIGNATED TYPE A THROUGH TYPE D. SEE THE PLANS FOR THE NUMBER AND LOCATION OF EACH HANGER TYPE.
3. IT IS ANTICIPATED THAT ACCESS TO THE BAY BETWEEN GIRDERS 2 AND 3 WILL BE FROM ABOVE USING A SNOOPER TRUCK OR SIMILAR. IT IS ANTICIPATED THAT DRILLING HOLES IN THE EXISTING STIFFENERS AND INSTALLATION OF THE HANGER ASSEMBLIES AND CARRIER PIPES WILL BE FROM PLANKING INSTALLED BETWEEN THE BOTTOM FLANGES OF GIRDERS 2 AND 3.
4. WELDING TO THE EXISTING STRUCTURE IS NOT PERMITTED. ANY DAMAGE TO THE EXISTING BRIDGE PAINTING SYSTEM SHALL BE REPAIRED AT CONTRACTOR EXPENSE TO THE SATISFACTION OF THE VERMONT AGENCY OR TRANSPORTATION.
5. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PREVENT MATERIAL AND DEBRIS FROM FALLING INTO THE WHITE RIVER DURING CONSTRUCTION.
6. INSTALLATION OF THE HANGERS AND CARRIER PIPES WILL REQUIRE WORKING OVER VT 14 AND NECR WHILE THEY REMAIN OPEN TO NORMAL TRAFFIC. WORK OVER AND ADJACENT TO VT 14 WILL BE IN ACCORDANCE WITH AN APPROVED TRAFFIC MAINTENANCE PLAN SUBMITTED BY THE CONTRACTOR. WORK OVER OR WITHIN THE FENCED NECR CORRIDOR SHALL BE IN ACCORDANCE WITH ITEM 900.650 (MAINTENANCE OF RAILROAD TRAFFIC) (N.A.B. 1.).

PAYMENT NOTES:

1. REMOVAL AND REINSTALLATION OF EXISTING GUARDRAIL (APPROXIMATELY 25 LINEAR FEET EACH AT ABUTMENT 2 AND ABUTMENT 4) IS REQUIRED FOR THE INSTALLATION OF THE CONDUITS INTO THE CARRIER PIPE. THIS WORK IS TO BE PAID IN ACCORDANCE WITH ITEM 621.75, REMOVE AND RESET GUARDRAIL.
2. REMOVAL AND REINSTALLATION OF CHAINLINK SECURITY FENCE (APPROXIMATELY 25 LINEAR FEET AT ABUTMENT 4) IS REQUIRED FOR THE INSTALLATION OF THE CARRIER PIPE. THIS WORK IS TO BE PAID IN ACCORDANCE WITH ITEM 620.50, REMOVING AND RESETTING FENCE.
3. FABRICATION AND INSTALLATION OF THE HANGER ASSEMBLY ANGLES AND TAPERED PLATES AT BRIDGE 11N WILL BE PAID IN ACCORDANCE WITH ITEM 506.75, STRUCTURAL STEEL.
4. FIELD DRILLING OF HOLES IN THE EXISTING WEB STIFFENERS OF GIRDERS 2 AND 3 WILL BE PERFORMED IN ACCORDANCE WITH ITEM 900.620, SPECIAL PROVISION (FIELD DRILLING HOLES IN STRUCTURAL STEEL). FIELD DRILLED HOLES SHALL BE SPRAY GALVANIZED ON ALL NEWLY EXPOSED STEEL; INCIDENTAL TO ITEM 900.620, SPECIAL PROVISION (FIELD DRILLING HOLES IN STRUCTURAL STEEL).
5. FABRICATION AND INSTALLATION OF THE WT4X24 CARRIER PIPE SUPPORT BRACKETS AND L4X4X $\frac{3}{8}$  ANGLES AT ABUTMENT 2 AND ABUTMENT 4 WILL BE IN ACCORDANCE WITH ITEM 506.75, STRUCTURAL STEEL.
6. FABRICATION AND INSTALLATION OF THE 4" DIA. SCHEDULE 40 CARRIER PIPES, THE PIPE SUPPORTS OUTSIDE ABUTMENT 2 AND ABUTMENT 4, AND THE DOUBLE ROLLER GUIDES AT EACH HANGER ASSEMBLY ON THE BRIDGE SHALL BE PAID IN ACCORDANCE WITH ITEM 625.10, SLEEVES FOR UTILITIES. EXCAVATION REQUIRED TO INSTALL CARRIER PIPES FROM BRIDGE TO THE HANDHOLES SHALL BE INCIDENTAL TO ITEM 625.10.
7. EXCAVATION, CONCRETE, INCIDENTALS AND OTHER ITEMS WITHIN THE LIMITS OF ITEM 625.10 NOT SPECIFICALLY QUANTIFIED ABOVE ARE CONSIDERED INCIDENTAL TO THE PROJECT AND WILL NOT BE PAID SEPARATELY UNDER ANOTHER ITEM.
8. EQUIPMENT, MATERIALS, PLATFORMS, ETC. REQUIRED TO ACCESS THE WORK FOR INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO THAT ITEM AND WILL NOT BE PAID FOR SEPARATELY UNDER ANOTHER ITEM.

PROJECT NAME: HARTFORD SHARON

PROJECT NUMBER: FITS503

FILE NAME: z06e142BNT.dgn

PROJECT LEADER: J. YOUNG

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BRIDGE 11N HANGER SYSTEM NOTES

PLOT DATE: 10/1/2010

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