

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, WITH ITS LATEST REVISIONS AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION WITH INTERIMS THROUGH 2012.
2. THE EXISTING BRIDGE IS CLOSED TO ALL TRAFFIC DUE TO INADEQUATE LOAD CAPACITY AND OTHER DEFICIENCIES. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE AND ITS OFFICERS AND EMPLOYEES HARMLESS REGARDING THE CONTRACTOR'S USE OF THE EXISTING BRIDGE FOR TRANSPORTING VEHICLES, MATERIALS, OR PEOPLE ACROSS THE LAKE.
3. THE EXISTING TIMBER BRIDGE RAILINGS (POSTS AND RAILS) SHALL BE CAREFULLY REMOVED WITHOUT DAMAGE AND DELIVERED TO THE BROOKFIELD TOWN GARAGE AT 866 VT ROUTE 65. THE REMAINING COMPONENTS OF THE EXISTING BRIDGE, INCLUDING BUT NOT LIMITED TO THE FLOATING SPAN, APPROACH RAMPS, ABUTMENTS, TIE-BACK ANCHORS, AND GRANITE BLOCKS EXTENDING FROM THE ABUTMENTS, SHALL BE REMOVED IN ITS ENTIRETY AND BECOME THE PROPERTY OF THE CONTRACTOR. PAYMENT SHALL BE MADE UNDER ITEM 529.15, "REMOVAL OF STRUCTURE".
4. NO BURNING OF REMOVED MATERIALS AT THE PROJECT SITE WILL BE ALLOWED. THE EXISTING BRIDGE LUMBER MAY CONTAIN HAZARDOUS WOOD PRESERVATIVES. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE AND ITS OFFICERS AND EMPLOYEES HARMLESS REGARDING THE CONTRACTOR'S HANDLING OF THESE MATERIALS AND SUBSEQUENT USE, RE-USE, OR DISPOSAL OF THESE MATERIALS.
5. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AT 50°F AND AT LAKE ELEVATION 1274.7 FT, UNLESS NOTED OTHERWISE.
6. THE CONTRACTOR IS NOTIFIED THAT AN EXISTING DRY HYDRANT IS LOCATED WITHIN THE PROJECT LIMITS. SEE THE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
7. NO PROVISIONS HAVE BEEN MADE FOR THE CONTRACTOR TO PERFORM WORK OR SET UP STAGING OUTSIDE THE EXISTING RIGHT-OF-WAY. SHOULD THE CONTRACTOR REQUIRE ANY ADDITIONAL RIGHT-OF-WAY, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL EASEMENTS AND BEAR THE COSTS OF SUCH EASEMENTS WITHOUT FURTHER COMPENSATION.

TRAFFIC MAINTENANCE DURING CONSTRUCTION

8. BRIDGE NO. 2 SHALL REMAIN CLOSED TO ALL TRAFFIC FOR THE DURATION OF CONSTRUCTION. THE CONTRACTOR SHALL DEVELOP, SUBMIT TO THE ENGINEER FOR APPROVAL, AND IMPLEMENT A ROAD CLOSURE AND TRAFFIC CONTROL PLAN IN ACCORDANCE WITH SECTION 641. EXISTING CLOSURE SIGNAGE AND BARRICADES MAY REMAIN IN PLACE AND BE USED BY THE CONTRACTOR FOR THE DURATION OF THE PROJECT. EXISTING SIGNS AND BARRICADES SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED TO THE MAINTENANCE GARAGE IN WILLIAMSTOWN WHEN NO LONGER NEEDED. THE COST OF REMOVING AND DELIVERING EXISTING BARRIERS AND SIGNS SHALL BE INCLUDED IN ITEM 641.10, "TRAFFIC CONTROL."
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING THE JOB SITE FROM VEHICULAR, BOAT, AND PEDESTRIAN TRAFFIC WHILE SIMULTANEOUSLY MAINTAINING ACCESS TO ALL ADJACENT DRIVES AND THE TOWN OWNED/OPERATED DRY HYDRANT ON THE SOUTHEAST CORNER OF THE BRIDGE. ALL COSTS ASSOCIATED WITH CREATING A TRAFFIC CONTROL PLAN AND FURNISHING, MAINTAINING, AND REMOVING TRAFFIC CONTROL SIGNS AND DEVICES NEEDED FOR SUCCESSFUL IMPLEMENTATION OF THIS PLAN WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 641.10, "TRAFFIC CONTROL."
10. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS AND MARKINGS" BOOK.

EARTHWORK AND RELATED ITEMS

11. ITEM "STONE FILL, TYPE I" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE SUPERSTRUCTURE RAMPS ARE SET.
12. TEMPORARY CONSTRUCTION FILLS USED FOR ANY PURPOSE WITHIN THE LAKE SHALL CONSIST OF CLEAN STONE FILL ONLY. NO TEMPORARY FILLING IN THE LAKE SHALL OCCUR WITHOUT THE APPROVAL OF THE LAKES AND PONDS ENGINEER.

CONCRETE

13. ALL SUBSTRUCTURE CONCRETE ABOVE THE SUB-FOOTING SHALL BE HIGH PERFORMANCE, CLASS B.
14. SUBFOOTING CONCRETE SHALL BE CLASS C.
15. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES.

16. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".
17. ALL REINFORCING STEEL SHALL BE LEVEL I, EPOXY COATED IN ACCORDANCE WITH SECTION 507 OF THE GENERAL SPECIAL PROVISIONS. MINIMUM CLEAR COVER SHALL BE 3.0 INCHES, UNLESS NOTED OTHERWISE.
18. ALL HORIZONTAL CONSTRUCTION JOINTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STRUCTURES DETAIL SHEET SD-502.00.

PILE FOUNDATIONS

19. THE PILES SHALL BE HP 12 X 74.
20. PILE SHOES ARE REQUIRED AND SHALL CONFORM TO SUBSECTION 505.04(F) OF THE STANDARD SPECIFICATIONS.
21. THE PILES SHALL BE DRIVEN TO A NOMINAL RESISTANCE OF 135 KIPS AS DETERMINED BY THE RESULTS OF DYNAMIC TESTING, AS INTERPRETED BY THE ENGINEER.
22. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED TO EXTEND 50 FEET BELOW THE BOTTOM OF THE FOOTING. THE ACTUAL LENGTHS MAY VARY.
23. TO ENSURE THAT THE NOMINAL RESISTANCE HAS BEEN ATTAINED AND TO PREVENT THE OVERSTRESSING OF THE PILES DURING DRIVING OPERATIONS, DYNAMIC TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 505.04(d)-2 OF THE STANDARD SPECIFICATIONS. A PILE TEST SHALL BE CONDUCTED ON THE FIRST PLUMB PILE AND FIRST BATTERED PILE DRIVEN AT ABUTMENT NO. 1 (TWO TOTAL TESTS). MORE TESTS MAY BE REQUIRED BY THE ENGINEER.

FOOTINGS ON BEDROCK

24. FOOTINGS AND/OR SUBFOOTINGS FOR SUBSTRUCTURES FOUNDED ON BEDROCK SHALL BE PLACED ON CLEAN COMPETENT ROCK. ALL LOOSE ROCK AND DEBRIS SHALL BE REMOVED.
25. ONCE THE ELEVATION OF COMPETENT BEDROCK HAS BEEN DETERMINED, THE CONTRACTOR SHALL PROVIDE A BEDROCK PROFILE TO THE ENGINEER FOR PREPARATION OF AS-BUILT DRAWINGS. FOOTING ELEVATIONS SHALL NOT BE ADJUSTED WITHOUT APPROVAL OF THE ENGINEER.
26. THE LIMITS OF THE SUBFOOTING SHALL BE 2 FT OUTSIDE OF THE HORIZONTAL LIMITS OF THE FOOTING. THE TOP SURFACE OF THE SUBFOOTING SHALL BE INTENTIONALLY ROUGHENED TO 0.25 IN AMPLITUDE.
27. ANY CONCRETE REQUIRED FOR SUBFOOTINGS SHALL BE PAID FOR WITH ITEM 541.30, "CONCRETE, CLASS C." AN ESTIMATED QUANTITY OF ITEM 541.30 HAS BEEN INCLUDED IN THE CONTRACT.
28. ANY BEDROCK THAT NEEDS TO BE REMOVED SHALL BE PAID FOR UNDER ITEM 208.35, "COFFERDAM EXCAVATION, ROCK." OVER-BREAKAGE BEYOND THE AVERAGE MAXIMUM ALLOWANCE SPECIFIED IN SUBSECTIONS 204.09 (B) (1) AND 208.11 (C) WILL BE AT THE CONTRACTOR'S EXPENSE.
29. DOWELS SHALL BE DRILLED AND GROUTED INTO BEDROCK WHEN THE SLOPE IS AT OR GREATER THAN 10 DEGREES FROM HORIZONTAL. THE DOWELS SHALL HAVE A 2 FT MINIMUM EMBEDMENT INTO THE BEDROCK AND SHALL EXTEND INTO THE SUBFOOTING A MINIMUM OF 1.5 FT.

BEARING NOTES

30. ALL STEEL PLATES, BARS, SHAPES, AND HARDWARE SHALL BE STAINLESS STEEL CONFORMING TO THE REQUIREMENTS OF "SPECIAL PROVISION (BEARING DEVICE ASSEMBLY, FLOATING BRIDGE)".
31. BOLTS USED TO CONNECT BEARINGS TO THE STAINLESS STEEL SHELF SHALL BE TIGHTENED TO A TORQUE OF 190 FT*lbs. THREADS OF BOLTS SHALL BE EXCLUDED FROM THE THICKNESS OF CONNECTED MATERIAL.

FIBER REINFORCED POLYMER (FRP) NOTES

32. FRP PONTOON DETAILS DEPICTED THROUGHOUT THIS PLAN SET ARE CONCEPTUAL. THE FABRICATOR SHALL PROVIDE DESIGNS FOR THE FRP COMPONENTS IN ACCORDANCE WITH THESE PLANS AND THE SPECIAL PROVISIONS. THE FABRICATOR MAY ALTER THE DETAILS NOTED IN THESE PLANS TO ACCOMMODATE THEIR SPECIFIC OPERATION. CHANGES TO FRP PONTOON DETAILS NOTED IN THIS PLAN SET MAY REQUIRE CHANGES TO TIMBER DECK CONNECTIONS, FIELD SPLICE CONNECTIONS, AND RAMP BEARING CONNECTIONS, AMONG OTHER ASPECTS. DESIGN AND DETAILING OF SUCH CHANGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL, AND SHALL BE SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT, WHERE APPROPRIATE.
33. ALL INSIDE CORNERS/EDGES SHALL BE CHAMFERED OR FILLETED 1/2 INCH. ALL EXTERIOR EDGES SHALL BE CHAMFERED OR FILLETED 1/4 INCH.
34. HEAVY CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE SHALL BE PROHIBITED FROM DIRECT CONTACT WITH THE TOP SURFACE OF THE FRP RAFTS. ONLY FOOT TRAFFIC AND TOOLS NECESSARY FOR INSTALLATION OF THE FRP PONTOONS WILL BE ALLOWED TO BEAR DIRECTLY ON THE RAFTS. THE PROPOSED TIMBER DECK SHALL BE INSTALLED PRIOR TO ALLOWING CONSTRUCTION EQUIPMENT ON THE FRP RAFTS.

FASTENERS FOR FIBER REINFORCED POLYMER

35. THREADS OF BOLTS SHALL BE EXCLUDED FROM THE THICKNESS OF THE CONNECTED MATERIAL.
36. HOLES IN THE FRP MEMBERS FOR FIELD SPLICE AND STAINLESS STEEL SHELF INSTALLATION SHALL BE LOCATED IN ACCORDANCE WITH THESE PLANS AND THROUGH USE OF THE STEEL PLATES AS A TEMPLATE.
37. BOLTS USED IN THE INSTALLATION OF STEEL FIELD SPLICES SHALL BE TIGHTENED TO A TORQUE OF 300 FT*lbs AND FASTENED WITH TWO WASHERS AND A DOUBLE NUT. BOLTS USED IN THE INSTALLATION OF STAINLESS STEEL SHELVES SHALL BE TIGHTENED TO A TORQUE OF 190 FT*lbs AND FASTENED WITH TWO WASHERS AND A DOUBLE NUT.
38. HOLES IN THE FRP MEMBERS FOR NAIL LAMINATED TIMBER DECK PANEL ATTACHMENT SHALL BE FIELD DRILLED USING THE DECK PANELS AS A TEMPLATE. COSTS ASSOCIATED WITH DRILLING AND INSTALLING HARDWARE NEEDED FOR ATTACHING THE DECK PANELS TO THE FRP PONTOONS SHALL BE INCLUDED IN ITEM 900.670, "SPECIAL PROVISION (NAIL LAMINATED TIMBER DECK PANEL)." HOLE DRILLING FOR DECK PANEL INSTALLATION SHALL BEGIN AT THE MIDDLE OF EACH RAFT AND PROGRESS OUTWARD TOWARD THE RAFT ENDS.
39. BOLTS USED IN THE ATTACHMENT OF NAIL LAMINATED TIMBER DECK PANELS SHALL BE TIGHTENED TO A TORQUE OF 15 FT*lbs AND FASTENED WITH TWO WASHERS AND A DOUBLE NUT.

FASTENERS FOR TIMBER

40. ALL FASTENERS AND ASSOCIATED HARDWARE IN CONTACT WITH TYPE V PRESERVATIVE (ALKALINE COPPER QUATERNARY) SHALL BE STAINLESS STEEL. STAINLESS STEEL BOLTS AND SCREWS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F593, ALLOY GROUP 1, 2, OR 3, CONDITION CW, WITH A MINIMUM YIELD STRENGTH OF 43 KSI.
41. ALL OTHER FASTENERS AND ASSOCIATED HARDWARE FOR TIMBER CONSTRUCTION SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SUBSECTIONS 709.01(h) AND 709.03(d), UNLESS NOTED OTHERWISE.
42. WITH THE EXCEPTION OF CARRIAGE BOLT HEADS AND UNLESS NOTED OTHERWISE, WASHERS SHALL BE PROVIDED UNDER ALL BOLT HEADS AND NUTS.
43. ANY UNUSED HOLES IN THE FINAL, AS BUILT CONDITION SHALL BE FILLED WITH A TIGHT FITTING FULL WIDTH WOODEN PEG.
44. AFTER BOLT INSTALLATION, ALL RESULTING CAVITIES OF PRE-BORED, COUNTERSUNK, VERTICALLY INSTALLED BOLTS SHALL BE FILLED WITH HOT Poured JOINT SEALER. THE COST FOR THIS WORK SHALL BE PAID UNDER RELATED CONTRACT ITEMS.
45. THREADED RODS SHALL BE ASTM A615, GRADE 75. ASSOCIATED NUTS SHALL BE IN ACCORDANCE WITH ASTM A108 AND WASHERS SHALL BE IN ACCORDANCE WITH ASTM F436. BEARING PLATE ASSEMBLIES SHALL MEET THE REQUIREMENTS OF AASHTO M270, GRADE 36. ALL COMPONENTS OF THE THREADED ROD AND CROSS BRACE ASSEMBLY SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M 111 OR AASHTO M 232, AS APPLICABLE.

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