

## PROJECT NOTES

### GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 16TH EDITION DATED 1996, AND ITS LATEST REVISIONS.
2. DESIGN OF THE REHABILITATED STRUCTURE IS FOR H20-44 LIVE LOADING.
3. BRIDGE 12 WILL CONTINUE TO BE CLOSED TO ALL PEDESTRIANS AND VEHICULAR TRAFFIC DURING CONSTRUCTION. TRAFFIC SHALL BE MAINTAINED ON THE EXISTING TEMPORARY BRIDGE.
4. ALTHOUGH THIS PROJECT INVOLVES MAJOR REHABILITATION OF THE EXISTING COVERED BRIDGE, INCLUDING REPLACEMENT OF MANY MEMBERS, THE INTENT OF THE PROJECT IS TO MAINTAIN THE DIMENSIONAL GEOMETRY OF THE BRIDGE ALONG WITH MOST OF THE CONNECTION TYPES AND DETAILS. ALL EXISTING DIMENSIONS, SHOWN ON THE PLANS SHALL BE CHECKED IN THE FIELD PRIOR TO COMMENCING THE WORK. ACTUAL WORK WILL MATCH FIELD CONDITIONS.
5. ALL ON-PROJECT CONSTRUCTION SIGNS AND BARRICADES AS REQUIRED BY THE RESIDENT ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBSIDIARY TO THE ITEM 635.10 "MOBILIZATION". ALL OFF-PROJECT SIGNING SHALL BE THE RESPONSIBILITY OF THE TOWN.
6. THE EXISTING CONCRETE JERSEY BARRIERS BELONG TO THE TOWN OF BRANDON. THE CONTRACTOR CAN STOCK PILE THE BARRIERS ON PROJECT OR CALL BRANDON'S SUPERINTENDENT OF PUBLIC WORKS, BRUCE ROUNDS AT (802) 247-0224 AND HAVE THE TOWN REMOVE THE CONCRETE BARRIERS.
7. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES F OR AS NOTED OTHERWISE.

### EARTHWORK AND RELATED ITEMS

8. THE BID PRICE FOR THE ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE COMPENSATION FOR REMOVING THE EXISTING TEMPORARY BRIDGE AND SUBSTRUCTURE, IN ITS ENTIRETY, ONCE THE REHABILITATED COVERED BRIDGE IS OPEN TO TRAFFIC. THE EXISTING TEMPORARY BRIDGE STEEL SUPERSTRUCTURE IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE STRUCTURAL STEEL.
9. ITEM 529.20 "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE BUT NOT BE LIMITED TO:
  - REMOVAL OF PORTIONS OF THE EXISTING SUBSTRUCTURE NOT REMOVED UNDER ITEM 204.25 "STRUCTURE EXCAVATION".
  - DISMANTLING OF EXISTING SUPERSTRUCTURE AS REQUIRED.
  - REMOVAL OF END POSTS, SIDING, DECK, CURBS, FLOOR BEAMS, LOWER CROSS BRACING, LONGITUDINAL DISTRIBUTION BEAMS, LOWER AND UPPER BOTTOM CHORDS, BOLSTER BEAMS AND NAILERS.
  - SALVAGE AND REUSE OF THE RAFTERS, CROSS TIE BEAMS, UPPER CROSS BRACING, PORTAL FRAMEWORK, UPPER AND LOWER TOP CHORDS, KNEE BRACES AND LATTICES.
10. ITEM 665.15 "REMOVE EXISTING ROOFING" INCLUDES THE COST OF REMOVAL AND DISPOSAL OF THE EXISTING ASPHALT SHINGLES, RIDGE BEAM AND ROOFING NAILERS.
11. FULL ACCESS TO ALL DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THIS WORK WILL BE CONSIDERED TO BE SUBSIDIARY TO ITEM 635.10 "MOBILIZATION".
12. THE NEW WATERLINE ON THE REHABILITATED COVERED BRIDGE WILL BE HUNG FROM THE FLOOR BEAMS, NEAR THE INSIDE FACE OF THE UPSTREAM TRUSS BOTTOM CHORD. THE WATERLINE SHALL FIT BETWEEN THE UPPER AND LOWER LATERAL TIE RODS WITHOUT RESTING ON THE LOWER TIE ROD. THE WATERLINE AND ITS INSULATION WILL RUN THROUGH A PROTECTIVE 6 INCH DIAMETER, 20 FOOT LONG PVC PIPE SLEEVE. THE SLEEVE WILL START AT THE INSIDE FACE OF THE BACKWALL AND EXTEND PAST THE END OF THE APPROACH SLAB. THE PVC SLEEVE WILL NOT HAVE ANY BENDS OR ELBOWS IN ORDER TO HELP FACILITATE SLIDING THE INSULATED WATERLINE THROUGH IT. WATER SERVICE TO BE MAINTAINED DURING CONSTRUCTION. ALL WATERLINE WORK SHALL BE INSPECTED AND APPROVED BY THE ENGINEER AND RAY COUNTER OF THE BRANDON WATER DISTRICT. RAY COUNTER CAN BE REACHED AT (802)247-3311.

### STRUCTURAL AND NON-STRUCTURAL LUMBER AND TIMBER

13. THE CONTRACTOR SHALL SUBMIT JACKING AND SHORING PLANS TO THE STRUCTURES ENGINEER FOR REVIEW AND COMMENT. APPROVAL OF THE INFORMATION IS REQUIRED PRIOR TO COMMENCEMENT OF THE WORK.
14. THE DESIGN HAS BEEN BASED ON REPLACEMENT OF STRUCTURAL COMPONENTS WITH THE STRUCTURE SUPPORTED BY A TEMPORARY FALSEWORK SYSTEM IN ITS CURRENT LOCATION. STRUCTURE DETAILS AND SIZES HAVE NOT BEEN EXAMINED FOR LOADING CONDITIONS RELATED TO OTHER ERECTION SCHEMES.
15. FOR REHABILITATION OF THE BRIDGE IN ITS CURRENT LOCATION, THE INTENDED ERECTION SEQUENCE FOR THE FLOOR BEAMS ASSUMES INSTALLATION OF TRUSS LATTICES AND LOWER BOTTOM CHORDS AND TIE RODS BENEATH FLOOR BEAMS, FOLLOWED BY INSTALLATION OF FLOOR BEAMS AND BRACING, THEN UPPER BOTTOM CHORDS. ACCORDINGLY, NO NOTCHING OF THE BOTTOM OF THE FLOOR BEAMS IS REQUIRED.

16. IF THE CONTRACTOR CHOOSES TO REMOVE THE BRIDGE FROM ITS PRESENT LOCATION TO DO THE REHABILITATION WORK, ALL COSTS INVOLVED IN MOVING TO AND SHORING IN A NEW LOCATION AND REINSTALLING IN ITS FINAL LOCATION WILL BE INCLUDED IN ITEM 502.10, "SHORING SUPERSTRUCTURE". THE CONTRACTOR WILL BE LIABLE FOR ANY DAMAGE DONE TO THE STRUCTURE IN PERFORMING THIS WORK. COMPLETE PLANS FOR SUCH WORK MUST BE SUBMITTED TO THE STRUCTURES ENGINEER FOR REVIEW AND COMMENT. APPROVAL OF THE INFORMATION IS REQUIRED PRIOR TO COMMENCEMENT OF THE WORK.
17. THE FINAL CAMBER AFTER SHORING REMOVAL SHALL BE 3 INCHES. THE BRIDGE SHALL BE STRAIGHT ALONG A HORIZONTAL LINE BETWEEN THE ABUTMENTS AND NOT BE RACKED WHEN COMPLETED.
18. ALL STRUCTURAL MEMBERS AND CONNECTORS INDICATED TO BE RETAINED AND/OR REUSED, SHALL BE CHECKED IN THE FIELD FOR DAMAGE AND DECAY AND SHALL BE REMOVED AND REPLACED AS DEEMED NECESSARY BY THE RESIDENT ENGINEER. PAYMENT SHALL BE UNDER THE APPROPRIATE LUMBER AND TIMBER PAY ITEM.
19. ALL TIMBER DIMENSIONS ARE NOMINAL. ALL TIMBER IS TO BE FULL SAWN UNLESS OTHERWISE NOTED. (FULL SAWN TIMBER IS THE SAME SIZE AS THE STATED NOMINAL SIZE.)
20. FULL SAWN STRUCTURAL LUMBER AND TIMBER SHALL INCLUDE THE FOLLOWING MEMBERS:
  - A. STRUCTURAL UNTREATED, ITEM 522.20
    - NEW RIDGE BEAM (SPRUCE-PINE-FIR, NO.1 GRADE)
    - NEW ROOF NAILERS (SPRUCE-PINE-FIR, NO.1 GRADE)
    - REPLACEMENT AND ADDITIONAL RAFTERS, AS REQUIRED (SPRUCE-PINE-FIR, NO.1 GRADE)
    - REPLACEMENT CROSS TIE BEAMS, IF REQUIRED (SPRUCE-PINE-FIR, NO.1 GRADE)
    - REPLACEMENT UPPER LATERAL CROSS BRACING COMPONENTS, IF REQUIRED (SPRUCE-PINE-FIR, NO.1 GRADE)
    - NEW ROOF FASCIA AND SOFFIT BOARDS (SPRUCE-PINE-FIR, NO.1 GRADE)
    - REPLACEMENT UPPER TOP CHORDS, AS REQUIRED (SPRUCE-PINE-FIR, NO.1 GRADE)
    - REPLACEMENT LOWER TOP CHORDS, AS REQUIRED (SPRUCE-PINE-FIR, NO.1 GRADE)
    - REPLACEMENT TRUNNELS, AS REQUIRED (WHITE OAK OR WHITE ASH)
    - REPLACEMENT PORTAL FRAMING, AS REQUIRED (SPRUCE-PINE-FIR, NO.1 GRADE)
    - REPLACEMENT LATTICE MEMBERS, AS REQUIRED (SPRUCE-PINE-FIR, NO.1 GRADE)
    - REPLACEMENT KNEE BRACES, AS REQUIRED (SPRUCE-PINE-FIR, NO.1 GRADE)
    - NEW DOWELS FOR LOWER LATERAL CROSS BRACING (WHITE OAK OR WHITE ASH)
  - B. STRUCTURAL TREATED, ITEM 522.25. TREATMENT SHALL COMPLY WITH STANDARD SPECIFICATION 726.01 PRESERVATION TREATMENT TYPE II, TYPE III OR TYPE IV.
    - NEW UPPER BOTTOM CHORDS (SOUTHERN PINE, NO.1 GRADE)
    - NEW VERTICAL END POSTS (SOUTHERN PINE, NO.1 GRADE)
    - NEW LOWER LATERAL CROSS BRACING, CONNECTION BLOCKING (SOUTHERN PINE, NO.1 GRADE)
    - NEW BOLSTER BEAMS AND BLOCKING, BEARING BLOCKS, BEDDING TIMBERS (SOUTHERN PINE, NO.1 GRADE)
    - SHIMS, IF REQUIRED (WHITE OAK OR WHITE ASH)
21. FULL SAWN NON-STRUCTURAL LUMBER SHALL INCLUDE THE FOLLOWING MEMBERS:
  - A. NON-STRUCTURAL LUMBER UNTREATED, ITEM 522.30
    - NEW SHIPLAP SIDING (NO.1 GRADE WHITE PINE OR EASTERN SPRUCE)
    - NAILING STRIPS (SPRUCE-PINE-FIR, NO.2 GRADE)
    - NEW ROOF FASCIA AND SOFFIT BOARD NAILERS (SPRUCE-PINE-FIR, NO.2 GRADE)
    - NEW ROOF RETURNS AND CORNICES (SPRUCE-PINE-FIR, NO.1 GRADE)
  - B. NON-STRUCTURAL LUMBER TREATED, ITEM 522.35. TREATMENT SHALL COMPLY WITH STANDARD SPECIFICATION 726.01 PRESERVATION TREATMENT TYPE II, TYPE III OR TYPE IV.
    - CURBS AND BLOCKING (SOUTHERN PINE, NO.1 GRADE)
    - FLOOR BEAM BLOCKING (SOUTHERN PINE, NO.1 GRADE)
    - DECK EDGE BOARDS (SOUTHERN PINE, NO.1 GRADE)
22. STRUCTURAL GLUED LAMINATED TIMBER, ITEM 522.40
  - NEW DECK PANELS: SOUTHERN PINE, #16-V3 SP/SP (OR COMBINATION 47 SP)
  - NEW FLOOR BEAMS: SOUTHERN PINE, #26F-V3 SP/SP, 2600 PSI BENDING STRESS PRIOR TO TREATMENT.
  - NEW LOWER BOTTOM CHORD: SOUTHERN PINE, COMBINATION 48 SP, ARCHITECTURAL APPEARANCE GRADE.
  - A. ALL STRUCTURAL GLUED LAMINATED TIMBER SHALL BE TREATED PRIOR TO GLUING.
  - B. STRUCTURAL GLUED LAMINATED DECK PANELS SHALL COMPLY WITH STANDARD SPECIFICATION 726.01 PRESERVATION TREATMENT TYPE IV. STRUCTURAL GLUED LAMINATED FLOOR BEAMS AND LOWER BOTTOM CHORD SHALL COMPLY WITH STANDARD SPECIFICATION 726.01 PRESERVATION TREATMENT TYPE II, TYPE III OR TYPE IV.
23. THE DECK SHALL CONSIST OF 5 PANELS OF EQUAL WIDTHS. THE END JOINTS OVER THE FLOOR BEAMS WILL BE STAGGERED. THE ALUMINUM DECK BRACKETS SHALL CONFORM TO MANUFACTURERS SPECIFICATIONS. THE LAG SCREWS CONNECTING THE DECK TO THE FLOOR BEAMS SHALL BE RECESSED INTO THE DECK AND PLUGGED AND SEALED. COST AND MATERIALS FOR THIS WORK WILL BE SUBSIDIARY TO ITEM 522.40 STRUCTURAL GLUED TIMBER (DECK PANELS).
24. "UNTREATED LUMBER AND TIMBER" AND "TREATED LUMBER AND TIMBER" ARE FOR ESTIMATING PURPOSES ONLY. ACTUAL QUANTITIES MAY VARY DEPENDING ON CONDITION OF LUMBER SCHEDULED TO BE RETAINED.
25. ALL EXISTING WOOD TRUNNELS THAT ARE REMOVED IN THE REHABILITATION PROCESS, ARE TO BE REPLACED WITH NEW WOOD TRUNNELS. EXISTING TRUNNELS THAT HAVE DAMAGE OR DECAY WILL ALSO BE REPLACED WITH NEW WOOD TRUNNELS AS DEEMED NECESSARY BY THE RESIDENT ENGINEER.

26. ALL NEW WOOD TRUNNELS SHALL BE UNTREATED, DRIED (MAXIMUM MOISTURE CONTENT OF 19%), WHITE OAK OR WHITE ASH, AND SHALL BE DRIVEN IN A MANNER WHICH AVOIDS SPLITTING OF THE TRUNNELS OR THE PIECES CONNECTED BY THEM. TRUNNELS SHALL BE 1 7/8 INCHES IN DIAMETER. TRUNNELS MAY BE DIPPED IN BOILED LINSEED OIL PRIOR TO DRIVING. TRUNNEL MATERIAL AND INSTALLATION WILL BE PAID FOR UNDER ITEM 522.20.
27. TRUNNEL HOLES IN EXISTING MEMBERS THAT ARE TO BE RETAINED WHICH ARE OVERSIZED DUE TO WEAR OR WHICH WILL NOT ACHIEVE SATISFACTORY ALIGNMENT SHALL BE PLUGGED WITH A COMPATIBLE WOODEN FILLER AS APPROVED AND DEEMED NECESSARY BY THE RESIDENT ENGINEER, AND REDRILLED. THE COST OF THIS WORK WILL BE SUBSIDIARY TO ITEM 522.20.
28. THE INTERMEDIATE RAFTERS AND CROSS TIE BEAMS WILL BE ATTACHED TO THE UPPER TOP CHORD USING "SIMPSON STRONGTIE H2.5 HURRICANE TIES, GALVANIZED" OR EQUIVALENT CONNECTOR. "SIMPSON STRONGTIE H4 HURRICANE TIES, GALVANIZED" OR EQUIVALENT CONNECTOR, WILL BE USED TO CONNECT THE RAFTER TO THE CROSS TIE BEAM. NO.8 GALVANIZED SCREWS, 1 1/2 INCH LONG, WILL BE USED TO ATTACH A HURRICANE TIE ON EACH SIDE RAFTER OR TIE BEAM.
29. THE EXISTING COVERED BRIDGE TRUSSES ARE NOT PERFECTLY SYMMETRICAL AND THE FLOOR BEAM SPACING MAY VARY SLIGHTLY. TO HELP FACILITATE CONNECTING THE GLUED LAMINATED DECK PANELS TO THE FLOOR BEAMS, THE LEAD HOLES FOR THE LAG SCREWS WILL BE DRILLED IN THE FIELD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT THE END PANEL CONNECTION JOINTS WILL OCCUR AT THE CENTERLINE OF THE FLOOR BEAMS.
30. ALL SIDING, NAILERS, AND DECK EDGE BOARDS SHALL BE FASTENED WITH 2 1/2 INCH LONG NO. 8 GALVANIZED SCREWS, COST INCIDENTAL TO SIDING. SIDING SHALL EXTEND INSIDE THE COVERED BRIDGE 10 FEET FROM EACH END.
32. LEAD HOLES FOR THE LAG SCREWS WILL BE DOUBLE DRILLED. THE DIAMETER OF THE LEAD HOLE FOR THE THREADED PORTION OF THE LAG SCREW WILL BE 1/4 INCHES FOR THE 1/2 INCH DIAMETER LAG SCREW AND 3/16 INCHES FOR THE 3/4 INCH LAG SCREW. THE LEAD HOLE FOR THE UNTHREADED SHANK MUST BE THE SAME DIAMETER AND EXTEND TO THE SAME DEPTH AS THE UNTHREADED PORTION.

### STRUCTURAL STEEL AND BEARINGS

33. STRUCTURAL STEEL SHALL INCLUDE ALL TIE RODS BETWEEN TRUSSES AND CORRESPONDING, TURNBUCKLES, NUTS AND OEGE WAHSERS. TIE RODS SHALL MEET ASTM A 307. ALL OTHER HARDWARE SHALL BE PAID FOR SUBSIDIARY TO THE ITEM TO WHICH IT IS ATTACHED. ALL NEW BOLTS, LAG SCREWS, NUTS AND WASHERS SHALL BE ASTM A 307. ALL STRUCTURAL STEEL, HARDWARE AND STEEL IN THE BEARING DEVICE ASSEMBLIES SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO SPECIFICATION M 232.
34. ITEM 531.10 "BEARING DEVICE ASSEMBLY (MOD.1)" SHALL INCLUDE:
  - PLACEMENT OF BEARING BLOCKS UNDER THE FLOOR BEAMS.
  - PLANING OF BEARING BLOCKS IN ORDER TO MATCH GRADE.
  - MATERIAL COSTS AND PLACEMENT OF ANCHOR BOLTS, NUTS AND WASHERS.
35. ITEM 531.10 "BEARING DEVICE ASSEMBLY (MOD.2)" SHALL INCLUDE:
  - PLACEMENT OF BOLSTER BEAMS UNDER THE LOWER BOTTOM CHORD.
  - PLACEMENT OF BEDDING TIMBERS UNDER THE BOLSTER BEAMS.
  - PLANING OF BEDDING TIMBERS IN ORDER TO MATCH GRADE.
  - MATERIAL COSTS AND PLACEMENT OF ANGLE STEEL (ASTM A36/A36M) ANCHOR BOLTS, NUTS AND WASHERS.

### CONCRETE AND REINFORCING STEEL

36. NO TRAFFIC SHALL BE ALLOWED ON THE APPROACH SLABS UNTIL THE CURE PERIOD IS UP AND THE 28 DAY DESIGN STRENGTH IS ATTAINED AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS.
37. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. UPWARD KEYS SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
38. JOINTS IN THE CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
39. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" X 1".
40. ALL REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER THE ITEM 507.17. WHEN EPOXY COATED REINFORCING STEEL IS CUT THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REINFORCING STEEL WILL NOT BE PERMITTED.
41. THE MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE TWO INCHES ALONG WALL FACES AGAINST EARTH, AND THREE INCHES ELSEWHERE UNLESS DETAILED OTHERWISE.
42. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:
 

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| SPACING   | +/- 1"   |
| CLEARANCE | +/- 1/4" |

## PROJECT NOTES

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| PROJECT NAME: BRANDON                  |                        |
| PROJECT NUMBER: BHZ 1443 (22)          |                        |
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| PROJECT MANAGER: R. R. WHITCOMB        | DRAWN BY: G. ROY       |
| DESIGNED BY: T. SUMNER                 | CHECKED BY: T. SUMNER  |
|                                        | SHEET 20 OF 51         |