

GENERAL

- 1. ALL MATERIALS, DESIGN, 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, 7TH EDITION WITH INTERIMS THROUGH 2016.
- 2. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68°F, UNLESS OTHERWISE NOTED.
- 3. THE CONTRACTOR SHALL LOCATE UNDERGROUND SEWER AND WATER LINES AHEAD OF THE BRIDGE CLOSURE PERIOD. PAYMENT WILL BE MADE UNDER ITEM 204.22, "TRENCH EXCAVATION OF EARTH, EXPLORATORY." REFER TO PROJECT SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- 4. PLAN DIMENSIONS, LAYOUT, AND DETAILS RELATIVE TO THE EXISTING STRUCTURE ARE APPROXIMATE, BASED ON LIMITED FIELD SURVEY AND ORIGINAL DESIGN PLANS, AND SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION, ORDERING MATERIALS, OR FABRICATION DRAWING PREPARATION. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK.

EARTHWORK, REMOVAL, AND RELATED ITEMS

- 5. ABANDONED UNDERGROUND TELEPHONE CONDUITS AND CORRESPONDING MARKER POSTS WITHIN PROJECT LIMITS THAT ARE UNCOVERED OR DISTURBED AS A RESULT OF PROJECT-REQUIRED CONSTRUCTION ACTIVITIES SHALL BE REMOVED AND DISPOSED. PAYMENT WILL BE CONSIDERED INCIDENTAL TO RELATED EXCAVATION ITEMS.
- 6. NO ONSITE DISPOSAL OF WASTE MATERIALS SHALL BE ALLOWED.
- 7. THE EXISTING SUPERSTRUCTURE SHALL BE REMOVED IN ITS ENTIRETY. THE EXISTING ABUTMENTS SHALL BE PARTIALLY REMOVED TO LIMITS SHOWN ON THE "TYPICAL SECTIONS AND DETAILS 2" SHEET. STEEL ROAD PLATE ATTACHED TO THE TOP OF BRIDGE DECK SHALL BE SALVAGED AND RETAINED BY THE AGENCY – SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS, CONTACT INFORMATION, AND DELIVERY LOCATION. PAYMENT FOR REMOVAL WILL BE MADE UNDER ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE."
- 8. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH 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. THE "STONE FILL, TYPE III" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE SUPERSTRUCTURE IS SET.

LIGHTING

- 10. LIGHTING SYSTEM INSTALLATION SHALL CONFORM TO SECTIONS 678 AND 679. ALL MATERIAL SHALL CONFORM TO SECTION 753. ALL CONDUCTORS SHALL BE COPPER.
- 11. THE CONTRACTOR SHALL COORDINATE WITH THE TOWN OF CHelsea AND THE UTILITY COMPANY REGARDING FINAL LOCATIONS OF THE JUNCTION BOXES AND POWER DROP STANCHION. THE ELEVATION OF THE BOTTOM OF THE METER SOCKET SHALL BE A MINIMUM OF 12 INCHES ABOVE THE PROPOSED Q100 FLOOD ELEVATION.
- 12. THE CONTRACTOR SHALL FURNISH AND INSTALL A SINGLE PHOTOCELL LIGHTING CONTROL AT THE LOCATION OF THE POWER DROP STANCHION.
- 13. THE CONTRACTOR SHALL PROVIDE CONDUIT EXPANSION COUPLERS AT THE INTERFACE OF THE CURTAINWALLS AND ABUTMENT BACKFILL.

TRAFFIC CONTROL

- 14. THE CONTRACTOR MAY OPEN THE BRIDGE TO TWO WAY TRAFFIC PRIOR TO CASTING THE SIDEWALK AND WESTERLY BRIDGE RAILING. THE EASTERLY BRIDGE RAILING SHALL BE CAST DURING THE BRIDGE CLOSURE AND REACH A COMPRESSIVE STRENGTH OF 3000 PSI PRIOR TO ALLOWING TRAFFIC ADJACENT TO THE RAILING. THE EASTERLY BRIDGE RAILING SHALL CONTINUE TO BE CURED AFTER OPENING TO TRAFFIC FOR THE REQUIRED DURATION IN ACCORDANCE WITH SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED METAL HAND RAILING/CONCRETE PARAPET COMBINATION). TRAFFIC SHALL BE MAINTAINED WITH TEMPORARY TRAFFIC BARRIER ADJACENT TO SOUTHBOUND TRAFFIC AND THE PERMANENT BRIDGE RAILING ADJACENT TO NORTHBOUND TRAFFIC. MINIMUM TRAVEL WIDTHS SHALL BE 11 FT EACH. SEE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL BRIDGE CLOSURE PERIOD WORK REQUIREMENTS.

- 15. IF THE CONTRACTOR ELECTS TO OPEN THE BRIDGE TO TRAFFIC PRIOR TO CONSTRUCTION COMPLETION OF BOTH BRIDGE RAILINGS, THE DECISION TO DO SO SHALL BE MADE AHEAD OF THE BRIDGE CLOSURE PERIOD AND A TEMPORARY TRAFFIC CONTROL PLAN SHALL BE SUBMITTED FOR ACCEPTANCE IN ACCORDANCE WITH SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

- 16. TO LIMIT THE POTENTIAL FOR AGGREGATE SEGREGATION DURING INITIAL SET OF THE CONCRETE BRIDGE SIDEWALK AND WESTERLY BRIDGE RAILING, THE USE OF TWO-WAY, TWO LANE TRAFFIC ACROSS THE BRIDGE WILL NOT BE ALLOWED FOR A PERIOD OF SIX HOURS AFTER EACH CONCRETE FINISHING OPERATION HAS COMPLETED. ONE WAY ALTERNATING TRAFFIC SHALL BE USED DURING THIS PERIOD AND LOCATED ADJACENT TO THE EASTERLY RAILING.

CONCRETE

- 17. CONCRETE FOR THE BRIDGE RAILING AND PORTIONS OF SIDEWALK LOCATED ON THE SUPERSTRUCTURE AND APPROACH SLABS SHALL BE CAST ONSITE AFTER LONGITUDINAL CLOSURE POURS HAVE BEEN CAST AND CURED. FORMWORK AND REINFORCING STEEL MAY BE ASSEMBLED OFFSITE ON THE PREFABRICATED MEMBERS PRIOR TO ERECTION/INSTALLATION.

- 18. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL CONCRETE SURFACES EXPOSED IN THE FINAL CONDITION, WITH THE EXCEPTION OF THE UNDERSIDE OF THE BRIDGE DECK BETWEEN DRIP NOTCHES.

- 19. ALL ACUTE CORNERS OF INDIVIDUAL DECK, CURTAINWALL, AND APPROACH SLABS ELEMENTS SHALL BE CHAMFERED 6 INCHES BY 6 INCHES UNLESS NOTED OTHERWISE.

- 20. ALL REINFORCING STEEL SHALL MEET THE REQUIREMENTS FOR LEVEL I, EPOXY COATED CORROSION RESISTANCE IN ACCORDANCE WITH SECTION 507, UNLESS OTHERWISE NOTED.

- 21. MINIMUM CLEAR COVER SHALL BE AS FOLLOWS:
 - ALONG TOP SURFACE OF SUPERSTRUCTURE: 2 ½ INCH**
 - ALONG BOTTOM SURFACE OF SUPERSTRUCTURE: 1 ½ INCH
 - ALONG BACK FACES OF WALLS AGAINST EARTH: 2 INCH
 - ELSEWHERE UNLESS OTHERWISE INDICATED: 3 INCH

**VALUE PROVIDED IS IN THE FINAL CONDITION. 3 INCHES OF COVER SHALL BE PROVIDED DURING INITIAL DECK CASTING, PRIOR TO DIAMOND GRINDING.

- 22. TEST BARS SHALL BE PROVIDED IN ACCORDANCE WITH THE "VERMONT AGENCY OF TRANSPORTATION MATERIAL SAMPLING MANUAL" AVAILABLE ON THE AGENCY WEBSITE.

- 23. ALL COSTS ASSOCIATED WITH DETAILING, FURNISHING, AND FIELD-INSTALLING REINFORCING BARS WITHIN PBU CLOSURE POURS, APPROACH SLAB CLOSURE POURS, AND ABUTMENT CONNECTION BLOCKOUTS, INCLUDING ANY NECESSARY DRILLING AND GROUTING, WILL BE PAID UNDER ITEM 507.11, "REINFORCING STEEL, LEVEL I."

- 24. CONCRETE FOR PRECAST ABUTMENT CONNECTION BLOCKOUTS AND APPROACH SLAB AND PBU LONGITUDINAL CLOSURE POURS SHALL MEET THE REQUIREMENTS OF AND BE PAID UNDER ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)."

- 25. CONCRETE FOR SIDEWALK CONSTRUCTION ON THE BRIDGE AND APPROACH SLABS SHALL MEET THE REQUIREMENTS OF SECTION 501 FOR CONCRETE, HIGH PERFORMANCE CLASS A.

PRECAST ABUTMENTS

- 26. CONCRETE COMPRESSIVE STRENGTH: f'c = 5,000 PSI.

PREFABRICATED BRIDGE UNITS (PBU'S)

- 27. IN ORDER TO REDUCE POTENTIAL DIFFERENTIAL CAMBER IN THE RIDING SURFACE, THE PRECAST DECK OF ALL PBU'S SHALL BE CAST SIMULTANEOUSLY. PBU'S SHALL BE ARRANGED HORIZONTALLY AND VERTICALLY ADJACENT TO EACH OTHER IN AN ARRANGEMENT THAT MIMICS FINAL, IN-PLACE GEOMETRY PRIOR TO DETERMINING BLOCKING DIMENSIONS, SETTING DECK FORMS, AND CASTING THE DECK.

- 28. THE DECK SHALL BE CAST TO AN INITIAL THICKNESS OF 9 INCHES. AFTER THE LONGITUDINAL CLOSURE POURS, SIDEWALK, AND BRIDGE RAILINGS HAVE BEEN CAST AND CURED, THE ENTIRE BRIDGE DECK SURFACE SHALL BE DIAMOND GROUND A NOMINAL 0.5 INCH FOR A RESULTING DECK THICKNESS OF 8.5 INCHES. PAYMENT WILL BE MADE UNDER ITEM 900.670, "SPECIAL PROVISION (CONCRETE BRIDGE DECK SURFACE PREPARATION)."

- 29. DIMENSIONS AND ELEVATIONS PROVIDED ON THE PLANS ARE BASED ON THE FINAL DECK THICKNESS OF 8.5 INCHES. THE CONTRACTOR SHALL ACCOUNT FOR THE INITIAL 9 INCH DECK THICKNESS IN ALL FABRICATION DRAWINGS, SUBMITTALS, AND WORK EFFORTS.

- 30. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED AT THE DECK CASTING SITE, AND BEFORE ANY FORMWORK OR OTHER LOADS ARE ADDED TO THE GIRDERS, ELEVATIONS ALONG THE TOP OF THE GIRDER FLANGES SHALL BE TAKEN AS DIRECTED BY THE ENGINEER FOR USE IN DETERMINING DECK FORMWORK ELEVATIONS.

- 31. THE CONTRACTOR SHALL CONSIDER AND INCORPORATE, AS NECESSARY, THE USE OF TEMPORARY BLOCKING DURING ALL STAGES OF CONSTRUCTION TO AVOID OVERTURNING OF THE TUB GIRDERS CAUSED BY ECCENTRIC LOADING. SEE THE "SUPERSTRUCTURE PLAN" SHEET FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

- 32. METHOD OF FORMING THE DECK CLOSURE POUR SHALL BE DETERMINED BY THE CONTRACTOR. THE FORMS SHALL BE REMOVABLE AND ABLE TO ACCOMMODATE DIFFERENTIAL CAMBER AND SETTING TOLERANCES. FORM SUPPORTS SHALL NOT PENETRATE THROUGH THE TOP OF THE POUR UNLESS APPROVED BY THE ENGINEER.

- 33. CONCRETE RETARDING ADMIXTURE SHALL BE APPLIED TO FORMWORK FOR SLAB EDGES THAT WILL COME IN CONTACT WITH HIGH PERFORMANCE CONCRETE, RAPID SET TO PROVIDE A NOMINAL 1/8" ROUGHENED SURFACE WITH EXPOSED AGGREGATE. ALTERNATE METHODS OF ACHIEVING AN EQUIVALENT ROUGHENED SURFACE MAY BE PROPOSED. ALL SUCH SURFACES SHALL BE POWER WASHED WITH WATER PRIOR TO INSTALLATION. PAYMENT FOR ACHIEVING THE SURFACE FINISH WILL BE CONSIDERED INCIDENTAL TO ITEM 900.640, "SPECIAL PROVISION (PREFABRICATED BRIDGE UNIT SUPERSTRUCTURE) (BRIDGE 11) (FPQ)."

- 34. DECK PORTIONS OF THE PBU'S SHALL BE CAST PRIOR TO CASTING THE CURTAIN WALLS.

- 35. THE USE OF STAY IN PLACE CORRUGATED METAL FORMS (SIPCMF) WILL BE ALLOWED FOR USE BETWEEN TOP FLANGES OF THE SAME STEEL TUB GIRDER. SUBSECTION 501.09(k)(4) SHALL NOT APPLY. SPACE WITHIN THE VALLEYS OF THE SIPCMF SHALL BE FILLED WITH CLOSED CELL FOAM.

- 36. UNLESS NOTED OTHERWISE, ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO M 270 GRADE 50.

- 37. STEEL PLATES MARKED "(CVN)" SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01.

- 38. UNLESS OTHERWISE NOTED, ALL BOLTS SHALL BE 7/8" DIA ASTM A325 TYPE 1 AND MEET THE REQUIREMENTS OF SUBSECTION 714.05. HOLE DIAMETERS SHALL BE 15/16".

- 39. STEEL GIRDERS SHALL CONFORM TO THE GENERAL GEOMETRY AND DETAILS PROVIDED HEREIN; ALTERNATE GIRDER TYPES, INCLUDING STEEL I-GIRDERS, WILL NOT BE ALLOWED. ANY MODIFICATIONS TO THE STEEL TUB GIRDERS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT AND SUBMITTED TO THE ENGINEER FOR APPROVAL.

- 40. INTERIOR AND EXTERIOR SURFACES OF GIRDERS, INCLUDING BEARING STIFFENERS, INTERNAL CROSS FRAMES, AND LATERAL BRACING, SHALL BE PAINTED WITH A SYSTEM 1 – OZ/E/U PAINT IN ACCORDANCE WITH ITEM 900.645, "SPECIAL PROVISION (QC/QA CLEANING AND PAINTING STRUCTURAL COMPONENTS)."

- 41. DUE TO STABILITY CONCERNS AT THE EXISTING ABUTMENTS DURING ERECTION OF THE SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT THE ERECTION PLAN A MINIMUM OF 30 WORKING DAYS PRIOR TO THE BRIDGE CLOSURE PERIOD. UNDER NO CIRCUMSTANCES SHALL A BRIDGE CLOSURE PERIOD BEGIN PRIOR TO HAVING AN ACCEPTED ERECTION PLAN.

PRECAST APPROACH SLABS

- 42. CONCRETE COMPRESSIVE STRENGTH: f'c = 5,000 PSI.

- 43. CONCRETE RETARDING ADMIXTURE SHALL BE APPLIED TO FORMWORK FOR SLAB EDGES TO COME IN CONTACT WITH HIGH PERFORMANCE CONCRETE, RAPID SET TO PROVIDE A NOMINAL 1/8" ROUGHENED SURFACE WITH EXPOSED AGGREGATE. ALTERNATE METHODS OF ACHIEVING AN EQUIVALENT ROUGHENED SURFACE MAY BE PROPOSED. ALL SUCH SURFACES SHALL BE POWER WASHED WITH WATER PRIOR TO INSTALLATION. PAYMENT FOR ACHIEVING THE SURFACE FINISH WILL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE PRECAST APPROACH SLAB ITEM.

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