

GENERAL

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2006 STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE 2006 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AND THEIR LATEST REVISIONS.
- DURING THIS PROJECT, THE CONTRACTOR WILL BE ALLOWED TO CLOSE THE BRIDGE TO THROUGH TRAFFIC FOR FOUR (4) WEEKS ONLY. TRAFFIC WILL BE DETOURED AS DETAILED ON TRAFFIC DETOUR SHEETS 15-24.

SEE SPECIAL PROVISIONS FOR INCENTIVE/DISINCENTIVE PAY ITEM IN EFFECT DURING THIS CLOSURE PERIOD.

- EXISTING DIMENSIONS:** THESE PLANS WERE PREPARED BASED ON INFORMATION OBTAINED FROM REFERENCE PLAN SHEETS. DIMENSIONS AND ANGLES OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ENSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN WORKING DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER. NO EXTRA PAYMENT WILL BE MADE FOR OBTAINING THE NECESSARY MEASUREMENTS.
- ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
- THE PIPE THAT IS LOCATED AT STA. 241+42.25 LT TO STA. 280+96.5 MAY BE IN CONFLICT WITH THE NEW RETAINING WALL THAT IS BEING BUILT BETWEEN THESE SAME STATIONS. THE CONTRACTOR SHALL USE EXTREME CARE WHILE EXCAVATING FOR THE NEW WALL. IF THERE IS A CONFLICT THE RESIDENT ENGINEER SHALL CONTACT THE STRUCTURES PROJECT MANAGER AND A NEW PIPE RELOCATION WILL BE DESIGNED AND CONSTRUCTED. ANY ADDITIONAL COST INCURRED WILL BE PAID FOR AS ITEM 204.30, "TRENCH EXCAVATION" AND THE RESPECTIVE PIPE ITEM.

EARTHWORK AND RELATED ITEMS

- ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE: CONCRETE DECK, SIDEWALKS, T-BEAMS, AND BRIDGE RAILING REMOVED TO BRIDGE SEAT ELEVATIONS
 - PAYMENT FOR REMOVAL OF EXISTING BITUMINOUS PAVEMENT ON THE BRIDGE SHALL BE MADE UNDER THE ITEM 529.10, "REMOVAL OF BRIDGE PAVEMENT". THE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY AT AN OFFSITE LOCATION.
- THE CONTRACTOR MAY SUBSTITUTE SUBBASE MATERIAL FOR THE SAND BORROW SHOWN ON THE PLANS. THE SUBBASE MATERIAL SHALL BE THE TYPE SPECIFIED IN THE CONTRACT AND SHALL BE PLACED TO MEET THE SUBBASE SPECIFICATIONS. IF SUBBASE IS PLACED IN LIEU OF SAND BORROW, A GEOTEXTILE MEETING THE REQUIREMENTS OF ITEM 649.11 "GEOTEXTILE FOR ROAD BED SEPARATOR" SHALL BE PLACED BETWEEN THE SUBGRADE AND THE SUBBASE MATERIAL. ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING THE GEOTEXTILE SHALL BE INCIDENTAL TO ITEM 203.31 "SAND BORROW".

CONCRETE

- SIDEWALK CONCRETE ON THE BRIDGE SHALL BE HIGH PERFORMANCE CLASS, A LOW CEMENT CONCRETE AND SHALL BE PAID FOR UNDER ITEM 900.608, SPECIAL PROVISION "HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT."
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH X 1 INCH.
- WATER REPELLENT, SILANE (ITEM 514.10) SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE PRESTRESS UNITS BETWEEN DRIP NOTCHES. SEE SUPPLEMENTAL SPECIFICATION 514.
- JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.
- ALL SUPERSTRUCTURE REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 507.17, "EPOXY COATED REINFORCING STEEL." CUTTING AND REPAIRING DAMAGED AREAS OF COATED REINFORCING STEEL SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 507.04.
- MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS INDICATED IN THE PLANS.

TRAFFIC CONTROL

- THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING, INSTALLING AND MAINTAINING ALL ON AND OFF PROJECT DETOUR SIGNS. SEE TRAFFIC CONTROL SHEETS: 15-24. PAYMENT FOR THIS WORK WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 641.10, "TRAFFIC CONTROL"
- ANY REMOVAL, COVERING AND/OR RESETTING OF EXISTING TRAFFIC SIGNS, AS DEEMED NECESSARY BY THE RESIDENT ENGINEER, WILL BE INCIDENTAL TO THE ITEM 641.10, "TRAFFIC CONTROL."

- FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. IF THE CONTRACTOR MUST RESTRICT ACCESS, THEY MUST NOTIFY THE PROPERTY OWNERS AND THE TOWN IN ADVANCE. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL."
- TWO PORTABLE CHANGEABLE MESSAGE SIGNS ARE INCLUDED IN THE CONTRACT AND ARE TO BE LOCATED AND DISPLAY MESSAGES AS DIRECTED BY THE ENGINEER.
- PRIOR TO AND AFTER THE MAXIMUM FOUR (4) WEEK BRIDGE CLOSURE, THE CONTRACTOR MUST MAINTAIN TWO WAY TRAFFIC WHEN THE CONTRACTOR IS NOT WORKING. DURING THE CONTRACTOR'S WORKING HOURS, THEY MAY REDUCE TRAFFIC TO ONE-LANE WITH THE USE OF FLAGGERS, DRUMS, BARRICADES, CONCRETE BARRIER AND/OR OTHER TRAFFIC CONTROL DEVICES. THIS WORK WILL BE PAID FOR UNDER THE "TRAFFIC CONTROL" ITEM EXCEPT THAT FLAGGERS HOURS WILL BE PAID FOR AS ITEM 630.15, "FLAGGERS".

PRESTRESSED CONCRETE

- ITEM 510.22 "PRESTRESSED CONCRETE VOIDED SLABS" PRESTRESSED PRECAST MEMBERS SHALL:
 - CONFORM TO SECTION 510 "PRESTRESSED CONCRETE."
 - BE 4 FOOT WIDE VOIDED SLABS (DEPTH VARIES).
 - USE CONCRETE WITH $f_c = 6000$ PSI AND $f_t = 4000$ PSI.
 - BE DESIGNED FOR AN AASHTO HL 93 LIVE LOAD.
 - CONTAIN CONTINUOUS VOIDS EXCEPT AS SHOWN IN THE PLAN DETAIL.
 - HAVE VOID DRAINS AT THE ENDS OF EACH VOID. THE VOID DRAINS SHALL BE $\frac{3}{4}$ " DIAMETER, NON-FERROUS, AND CLEANED AFTER ERECTION.
 - CONTAIN PRESTRESSING STRANDS WHICH ARE 0.6 IN. DIAMETER, 270 KSI, LOW-RELAXATION STRANDS PULLED TO 75% OF THEIR YIELD.
 - HAVE THE ENDS OF THE STRANDS RECESSED AND GROUTED ACCORDING TO STANDARD PRACTICE.
 - INCLUDE COLD POURED JOINT FILLER, AND TRANSVERSE TENDONS.
 - ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED $\frac{3}{4}$ " X $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.
- THE FABRICATOR MAY, WITH THE APPROVAL OF THE STRUCTURES ENGINEER, ALTER THE DESIGN AS DETAILED TO MEET THE PLANT'S PRESTRESSING OPERATION AND MATERIAL REQUIREMENTS. AN ALTERNATE STRAND CONFIGURATION MAY BE SUBMITTED FOR APPROVAL, PROVIDED THE DESIGN IS STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT, AND THAT THE DESIGN MEETS ALL OF THE APPLICABLE DESIGN CRITERIA, LOADINGS AND CODES.
- THE CONTRACTOR SHALL NOTIFY THE VTTRANS MATERIALS & RESEARCH STRUCTURAL CONCRETE ENGINEER TWO WEEKS BEFORE THE PRESTRESS FABRICATOR CONSTRUCTS THE UNITS.
- ITEM 510.22 "PRESTRESSED CONCRETE VOIDED SLABS" TRANSVERSE TENDONS:
 - THE $\frac{1}{2}$ " DIAMETER TRANSVERSE TENDONS SHALL BE POLYSTRAND OR EQUIVALENT.
 - COVER TENDONS WITH A SEAMLESS POLYPROPYLENE SHEATH WITH CORROSION INHIBITOR GREASE BETWEEN SHEATH AND TENDON.
 - THE $\frac{3}{4}$ " TENDON PLATES SHALL CONFORM TO AASHTO M270M/M270 GR50.
 - GALVANIZE PLATES AND CHUCKS AFTER FABRICATION ACCORDING TO AASHTO M232M/M232.
 - INSTALL TRANSVERSE TENDONS BEFORE PLACING MORTAR AND CASTING THE CONCRETE SIDEWALK.
- ITEM 510.24 "GROUTING SHEAR KEYS": FILL THE JOINTS BETWEEN THE VOIDED SLABS WITH MORTAR, TYPE IV, AS DESCRIBED IN SUBSECTION 510.13.
-

SERVICE LOADS	18"	18"-19"	19"-20"	20"-21"	21"
MEMBER MOMENT	84 k-ft.	88 k-ft.	94 k-ft.	101 k-ft.	95 k-ft.
SUPERIMPOSED DEAD LOAD MOMENT	28 k-ft.	28 k-ft.	28 k-ft.	28 k-ft.	28 k-ft.
LIVE LOAD & IMPACT MOMENT	193 k-ft.	193 k-ft.	192 k-ft.	191 k-ft.	196 k-ft.
DEAD LOAD REACTION	14 kips	14 kips	15 kips	16 kips	15 kips
LIVE LOAD REACTION	0 kips	14 kips	14 kips	14 kips	14 kips
TOTAL REACTION	14 kips	28 kips	29 kips	30 kips	29 kips
FINAL CAMBER	7/16 in.	7/16 in.	7/16 in.	7/16 in.	7/16 in.

23. CONSTRUCTION SEQUENCE FOR PRESTRESSED VOIDED SLABS

- LAY OUT WORKING LINES:**
 - LAY OUT WORKING LINES FOR THE ENTIRE BRIDGE WIDTH ON THE BEAM SEAT.
 - MEASURE ALL WORKING LINES FROM A COMMON WORKING POINT.
 - BASE THE WORKING LINES ON THE NOMINAL BEAM WIDTHS.
- VERIFY BEAM SEAT ELEVATIONS:**
 - MEASURE ELEVATIONS AT BEAM SEATS.
 - IF SEATS ARE HIGH, GRIND TO CORRECT ELEVATIONS.
 - IF SEATS ARE LOW, SHIM TO CORRECT ELEVATIONS.
 - INSTALL BEARINGS.
- ERECT BEAMS:**
 - PLACE BEAMS TO FIT WITHIN THE WORKING LINES.
 - AS WORK PROGRESSES, INSTALL HARDWOOD WEDGES BETWEEN ADJACENT BEAMS TO MAINTAIN PROPER JOINT OPENING (A MINIMUM OF ONE WEDGE AT EACH TRANSVERSE TENDON).
 - DRILL ANCHOR BOLT HOLES.
 - PLACE ANCHOR BOLTS.
 - GROUT ANCHOR BOLTS IN ABUTMENT.
- INSTALL BACKER ROD:**
 - PLACE FILLER BELOW THE KEYWAY BOTTOM, AS SHOWN ON THE PLANS.
- INSTALL TRANSVERSE TENDONS:**
 - FEED TENDONS THROUGH DUCTS.
 - VERIFY THAT HARDWOOD WEDGES ARE IN PLACE AS REQUIRED TO PREVENT SLIPPAGE OF BEAMS.
 - POST-TENSION TENDONS USING A CALIBRATED JACK TO APPROXIMATELY 3.0 KIPS TO REMOVE SAG IN THE TENDON AND TO SEAT THE CHUCK.
- GROUT SHEAR KEYS:**
 - CLEAN JOINTS WITH AN OIL FREE AIR-BLAST IMMEDIATELY BEFORE GROUT PLACEMENT. VERIFY THAT THE BACKER ROD IS STILL IN PLACE.
 - FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR ADDITIONAL JOINT PREPARATION AND GROUT PLACEMENT.
 - CAREFULLY ROD JOINTS TO ELIMINATE ANY POSSIBILITY OF VOIDS.
- POST-TENSION TRANSVERSE TENDONS:**
 - GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 1.5 KSI, BASED ON THE MANUFACTURER'S RECOMMENDATIONS, PRIOR TO STRESSING.
 - PROVIDE APPROPRIATE CUBE MOLDS AS DESCRIBED IN AASHTO T106M/T106 FOR 3 SETS OF 3 DAY CUBES, 3 SETS OF 28 DAY CUBES AND AT A MINIMUM OF 3 MORE CUBES TO TEST FOR THE 1.4 KSI MINIMUM COMPRESSIVE STRENGTH.

MISCELLANEOUS

- THE CONTRACTOR SHALL REMOVE THE CHAIN LINK FENCE ON WINGWALL 3. THE CONTRACTOR SHALL INSTALL A NEW CHAIN LINK FENCE AT A LOCATION TO BE DETERMINED BY THE RESIDENT ENGINEER BETWEEN EXISTING WINGWALL 3 AND THE NEW RETAINING WALL. THIS WORK WILL BE PAID FOR UNDER ITEM 620.12, "CHAIN LINK FENCE, 6 FEET". THE CHAIN LINK FENCE SHALL BE BLACK VINYL COATED.
- THE EXISTING FENCE LOCATED BETWEEN APPROXIMATELY STATIONS 280+25 RT AND 280+63 RT SHALL BE REMOVED AND STOCKPILED. WHEN WORK IS COMPLETED IN THE VICINITY OF THE FENCE, THE CONTRACTOR SHALL REINSTALL THE FENCE IN A LOCATION DETERMINED BY THE RESIDENT ENGINEER. THIS WORK SHALL BE PAID FOR UNDER ITEM 620.50, "REMOVING AND RESETTING FENCE."
- THE EXISTING SIGNS, POSTS, CHAIN LINK FENCING, GUARD RAIL AND "CONCRETE BLOCKS AT WINGWALL 4" SHALL REMAIN THE PROPERTY OF DISTRICT 8. THE AFOREMENTIONED ITEMS SHALL BE STOCKPILED FOR THE DISTRICT 8 FORCES TO REMOVE. PLEASE CONTACT THE DISTRICT 8 GENERAL FOREMAN AT (802) 524-5926 TO MAKE ARRANGEMENTS FOR THE REMOVAL OF THE ITEMS.
- EMULSIFIED ASPHALT SHALL BE APPLIED AT A RATE OF 0.02 GAL/SY OR AS DIRECTED BY THE ENGINEER ON ALL EXISTING PAVEMENT SURFACES, ON COLD PLANED SURFACES AND BETWEEN ALL COURSES OF PAVEMENT.
- ALL WORK TO PLACE THE CONCRETE IN THE FRONT OF THE ABUTMENTS IN THE DRY SHALL BE INCIDENTAL TO THE ITEM 501.34, "HIGH PERFORMANCE CONCRETE, and CLASS B". (THE CONCRETE SHALL NOT BE DEPOSITED DIRECTLY INTO THE WATER.)

GENERAL NOTES

PROJECT NAME:	FAIRFAX
PROJECT NUMBER:	BHF 023-I(5)
FILE NAME:	s86e064gen.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	C. CARLSON
GENERAL NOTES	
PLOT DATE:	27-JUL-2009
DRAWN BY:	C. CARLSON
CHECKED BY:	D. PETERSON
SHEET	3 OF 61