

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 2006 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17 TH EDITION, DATED 2002 AND ITS LATEST REVISIONS.
2. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
3. DIMENSIONS, ANGLES, BEARING, AND ELEVATIONS SHOWN ON THE PLANS HAVE BEEN OBTAINED FROM FIELD SURVEY, FIELD INVESTIGATIONS AND REVIEW OF THE EXISTING BRIDGE PLANS. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS OF ALL EXISTING CONDITIONS AFFECTING THE WORK. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER, OR EXTENT OF EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER BEFORE ADVANCING THE WORK. WORKING DRAWINGS REQUIRED FOR VARIOUS ITEMS OF THE WORK SHALL INDICATE THE ACTUAL FIELD MEASUREMENTS BY THE CONTRACTOR PRIOR TO SUBMITTAL FOR THE RESIDENT ENGINEER'S REVIEW AND SHALL BE SO NOTED.
4. REMOVAL OF THE EXISTING BRIDGE SHALL BE UNDER ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE". THIS WORK SHALL INCLUDE REMOVAL AND DISPOSAL OF THE BRIDGE DECK, STEEL BEAMS, BRIDGE RAILINGS, BEARINGS, AND A PORTION OF EXISTING ABUTMENT NO. 2. THE EXISTING STEEL BEAMS SHALL BE DELIVERED TO THE TOWN OF STOWE FOR SALVAGE. ALL OTHER MATERIALS WILL BECOME THE PROPERTY OF THE CONTRACTOR FOR DISPOSAL.
5. THE CONTRACTOR SHALL TOPSOIL, SEED, FERTILIZE AND MULCH ALL DISTURBED AREAS, EXCEPT ROADWAY, SHOULDERS AND STONE FILL AREAS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTY OUTSIDE THE LIMITS OF CONSTRUCTION CAUSED BY THE CONTRACTOR, AT THE SOLE COST TO THE CONTRACTOR.
7. THE CONTRACTOR SHALL REVIEW AND UNDERSTAND ALL APPLICABLE ENVIRONMENTAL PERMITS AND ENSURE THAT ALL CONSTRUCTION CONDITIONS ARE MET.
8. ALLOWABLE LOAD FOR PILES FOR THE NEW ABUTMENT NO. 2 SHALL BE 130 KIPS. 2.25 TIMES THE ALLOWABLE LOAD FOR PILES IS 293 KIPS.
9. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH BY 1 INCH, EXCEPT AS OTHERWISE INDICATED.
10. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS.
11. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT. SEE PAGE 29 / TYPICAL HORIZONTAL CONSTRUCTION JOINT
12. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".
13. MINIMUM COVER FOR REINFORCING STEEL SHALL BE 3 INCHES UNLESS OTHERWISE NOTED ON THE PLANS.
14. REINFORCEMENT STEEL PLACEMENT TOLERANCE SHALL BE: SPACING = +/- 1 INCH, CLEARANCE = +/- 1/4 INCH.
15. REINFORCING STEEL SHALL CONFORM TO SECTION 507. REINFORCING STEEL IN CURBS AND DECK OVERLAY SHALL BE EPOXY COATED. ALL EPOXY REINFORCING STEEL TO BE CUT IN THE FIELD SHALL BE SAW CUT AND THE EXPOSED ENDS TREATED AS PER SUBSECTION 507.04.
16. AFTER THE SUPERSTRUCTURE HAS BEEN ERECTED, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF THE PRESTRESSED CONCRETE BOX BEAMS, AS DIRECTED BY THE RESIDENT ENGINEER FOR USE IN DETERMINING THE FINISHED GRADE.
17. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE BEAMS SHALL BE RELOCATED TO A LOCATION SPECIFIED BY THE TOWN. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY FOR CONTAINMENT DURING THE REMOVAL AND RELOCATION OF THE EXISTING BEAMS. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE TOWN AND ITS EMPLOYEES, AND THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS DURING THE REMOVAL AND RELOCATION OF THE BEAMS.
18. NO CONCRETE IN THE ABUTMENTS OR WINGWALLS SHALL BE PLACED ABOVE THE BRIDGE SEAT ELEVATIONS UNTIL THE PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN PROFILED AND THE FINISHED GRADE OF THE DECK HAS BEEN DETERMINED.
19. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH MAGNESIUM FLOAT FINISHED.
20. THE PRESTRESSED CONCRETE BOX BEAMS SHALL BE OVERLAYED WITH CONCRETE, HIGH PERFORMANCE CLASS AA. THE OVERLAY IS DESIGNED TO BE A MINIMUM OF 5 INCHES THICK AT ANY POINT. THE PRESTRESSED CONCRETE BOX BEAMS SHALL BE PROFILED IN PLACE AND THE FINAL GRADE ADJUSTED AS NECESSARY BY THE ENGINEER TO PROVIDE THE 5 INCH MINIMUM DEPTH AT THE FACE OF THE CURBS.
21. THE CONCRETE DECK OVERLAY SHALL BE PLACED IN ONE CONTINUOUS POUR, NOT TO EXCEED 8 HOURS. NO COLD JOINTS WILL BE ALLOWED. IF CIRCUMSTANCES PREVENT THIS FROM BEING ACCOMPLISHED, A CONSTRUCTION JOINT SHALL BE USED. A 96 HOUR DELAY BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF ANY OTHER DECK OVERLAY POUR SHALL ALSO BE OBSERVED.
22. THE BRIDGE CURBS SHALL BE ITEM 501.32, "CONCRETE, HIGH PERFORMANCE CLASS AA". ALL SUBSTRUCTURE CONCRETE SHALL BE ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B", UNLESS OTHERWISE NOTED ON THESE PLANS.

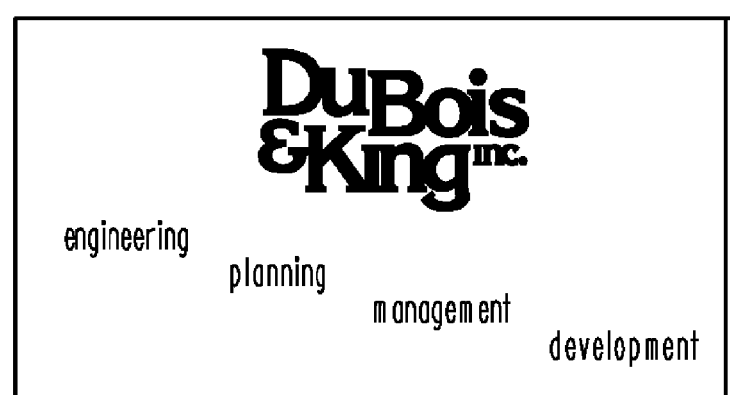
23. THE CONTRACTOR, AT THE EXPENSE OF THE CONTRACTOR SHALL REPAIR DAMAGE TO CONCRETE WALLS RESULTING FROM IMPROPER BACK FILLING.
24. NO BACKFILL SHALL BE PLACED AGAINST ANY STRUCTURAL ELEMENTS UNTIL THE RESIDENT ENGINEER HAS APPROVED THE STRUCTURAL ELEMENTS. THE HEIGHT OF BACKFILL BEHIND THE ABUTMENTS SHALL BE LIMITED TO THE BRIDGE SEAT ELEVATION UNTIL THE NEW PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN SET.
25. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED BRIDGE CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE PRESTRESSED CONCRETE BOX BEAMS BETWEEN THE DRIP NOTCHES. NO WATER REPELLENT, SILANE SHALL BE APPLIED TO THE PRESTRESSED BOX BEAMS PRIOR TO THE PLACEMENT OF THE OVERLAY AND CURB.
26. A THOROUGH INSPECTION BY THE RESIDENT ENGINEER WILL BE MADE OF ALL EXISTING SUBSTRUCTURE AREAS PRIOR TO CONSTRUCTION. AREAS OF CONCRETE FOUND TO BE SPALLED, DELAMINATED OR OTHERWISE UNSOUND WILL BE REPAIRED. THE CONTRACTOR SHALL SUPPLY ANY MATERIALS REQUIRED FOR THE INSPECTION. THE COST OF INSPECTION WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT. THE COST OF MATERIALS AND LABOR FOR REPAIRS SHALL BE PAID FOR UNDER ITEMS 580J3, 580J4, AND 580J5.
27. ASPHALTIC ASBESTOS BELIEVED TO BE PRESENT ON THE BRIDGE SEAT OF EACH EXISTING ABUTMENT SHALL BE REMOVED. PAYMENT WILL BE MADE UNDER ITEM 900.675, "SPECIAL PROVISION (REMOVAL AND DISPOSAL OF ASPHALTIC ASBESTOS)".

PRESTRESSED CONCRETE BOX BEAM NOTES:

1. THE FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR REVIEW. COMPOSITE ACTION BETWEEN THE OVERLAY AND THE PRESTRESSED CONCRETE BOX BEAMS WILL BE ALLOWED.
2. ALL EXPOSED CORNERS OF THE PRESTRESSED CONCRETE BOX BEAMS SHALL BE CHAMFERED 3/4 INCH.
3. THE TOPS OF THE PRESTRESSED CONCRETE BOX BEAMS SHALL RECEIVE A RAKED FINISH OF 0.25 INCH AMPLITUDE.
4. PRESTRESSED CONCRETE BOX BEAMS SHALL BE HANDLED USING LIFTING LOOPS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60 DEGREES. PRESTRESSED CONCRETE BOX BEAMS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 6 FEET OF THE ENDS OF THE BEAMS.
5. THE PRESTRESSED CONCRETE BOX BEAMS WILL BE DESIGNED TO MATCH THE OVERALL GEOMETRY AS SHOWN IN THESE PLANS. THE ENDS OF THE STRANDS SHALL BE RECESSED AND GROUTED.
6. VOID DRAINS ARE REQUIRED AT EACH END OF EACH PRESTRESSED CONCRETE BOX BEAM. THE VOID DRAINS SHALL BE 3/4 INCH DIAMETER AND NON-FERROUS, AND SHALL BE CLEANED AFTER ERECTION.
7. MATERIAL SPECIFICATIONS AND CONCRETE MIX DESIGN SHALL BE IN ACCORDANCE WITH SUBSECTION 510.02.
8. THE PRESTRESSED CONCRETE BOX BEAMS SHALL BE FABRICATED AT A PCI CERTIFIED AND VTRANS APPROVED PLANT.
9. THE VOIDS MUST BE VENTED DURING THE CURING PERIOD. CURING PROCEDURES SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR REVIEW.
10. THE CONCRETE DESIGN MIX SHALL HAVE A 28-DAY STRENGTH (f'c) 6,000 PSI. THE MINIMUM CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 4,800 PSI. REINFORCING STEEL SHALL BE GRADE 60, AASHTO M31M/M31 AND SHALL BE EPOXY COATED STEEL. CONCRETE SHALL CONTAIN AN APPROVED CORROSION INHIBITOR ADMIXTURE AT A DOSAGE RATE OF 4 GALLONS PER CUBIC YARD.
11. THE PRESTRESSED CONCRETE BOX BEAMS SHALL BE FABRICATED TO CONTAIN PRESTRESSING STRANDS. PRESTRESSING STRANDS SHALL CONFORM TO AASHTO M203M/M203, SUPPLEMENT I, AND SHALL AS A MINIMUM CONSIST OF 270 ksi, 0.60 INCH DIA., 7 WIRE LOW RELAXATION STEEL STRANDS CONFORMING TO SUBSECTION 713.06, PULLED TO 75% OF THEIR YIELD. THE CONFIGURATION OF THE STRAND, DIAMETER AND OTHER APPROPRIATE DESIGN INFORMATION SHALL BE DETERMINED BY THE FABRICATOR'S ENGINEER.
12. THE TRANSVERSE TENDONS SHALL BE MIN. 1/2 INCH DIAMETER AND THE PLATE SHALL CONFORM TO AASHTO M270M/M270 GRADE 50. THE PLATE AND CHUCKS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M232M/M232. ALL WORK COVERED IN THIS NOTE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 510.21 "PRESTRESSED CONCRETE BOX BEAMS (33' X 36'")".
13. THE JOINTS BETWEEN THE PRESTRESSED CONCRETE BOX BEAMS SHALL BE FILLED WITH MORTAR, TYPE IV IN ACCORDANCE WITH SUBSECTION 510.13(b). MATERIALS, LABOR AND EQUIPMENT FOR ALL GROUTING AND FOR THE COLD POURED JOINT FILLER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 510.24, "GROUTING SHEAR KEYS".
14. ALL COSTS ASSOCIATED WITH FABRICATION, HANDLING AND DELIVERY TO THE PROJECT SITE AND ERECTION OF EACH BOX BEAM SHALL BE PAID FOR UNDER ITEM 510.21, "PRESTRESSED CONCRETE BOX BEAMS (33' X 36'")".
15. ALL COMPONENTS OF EACH BOX BEAM, INCLUDING (BUT NOT LIMITED TO) THE TRANSVERSE TENDONS, GALVANIZED CHUCKS AND PLATE, ALL ANCHOR BOLTS AND THE HOT POURED JOINT SEALER AND ANY OTHER HARDWARE OR FIELD CONNECTION REQUIREMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 510.21, "PRESTRESSED CONCRETE BOX BEAMS (33' X 36'")".
16. THE ELASTOMERIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.03 AND SHALL BE PAID FOR UNDER ITEM 531.11, "BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD".
17. THE TRANSVERSE STRANDS SHALL BE INSTALLED PRIOR TO THE PLACEMENT OF THE MORTAR AND CASTING OF THE CONCRETE DECK OVERLAY.
18. THE FABRICATOR MAY SUBMIT A DESIGN TO THE ENGINEER FOR REVIEW WHICH IS DIFFERENT THAN THE INFORMATION SHOWN IN THESE PLANS TO MEET THE FABRICATOR'S SPECIFIC PLANT OPERATIONS, PROVIDED THAT THE ALTERNATE DESIGN MEETS ALL APPLICABLE DESIGN AND MATERIAL REQUIREMENTS AND DOES NOT AFFECT THE GEOMETRY OF THE REMAINING COMPONENTS OF THE PROJECT.
19. THE COST FOR PERFORMING ALL DESIGN WORK WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED INCIDENTAL TO ITEM NO. 510.21, "PRESTRESSED CONCRETE BOX BEAMS (33' X 36'")".
20. THE PRESTRESSED CONCRETE BOX BEAMS SHALL BE DESIGNED FOR AASHTO HS-25-44 LIVE LOADS. THE PRESTRESSED CONCRETE BOX BEAMS SHALL ALSO BE DESIGNED FOR APPROPRIATE DEAD LOADS.

SUGGESTED SEQUENCE OF INSTALLATION FOR PRESTRESSED CONCRETE BOX BEAMS:

- (A) LAYOUT WORKING LINES
 - LAY OUT WORKING LINES FOR THE BRIDGE'S ENTIRE WIDTH ON THE BEAM SEAT. MEASURE ALL WORKING LINES FROM A COMMON WORKING POINT.
 - THE WORKING LINES ARE TO BE BASED ON THE NOMINAL BEAM WIDTHS.
- (B) VERIFY BEAM SEAT ELEVATIONS
 - TAKE ELEVATIONS AT BEAM SEATS. IF SEATS ARE HIGH, GRIND TO CORRECT ELEVATIONS. IF SEATS ARE LOW, ADD SHIMS. THE COSTS TO GRIND AND/OR ADD SHIMS WILL BE CONSIDERED INCIDENTAL TO ITEM NO. 510.21, "PRESTRESSED CONCRETE BOX BEAMS". INSTALL BEARINGS, DRILL AND INSTALL ANCHOR BOLTS.
- (C) ERECT BEAMS
 - BEAMS SHALL BE PLACED TO FIT WITHIN WORKING LINES. AS WORK PROGRESSES, INSTALL HARDWOOD WEDGES BETWEEN ADJACENT BEAMS TO MAINTAIN PROPER JOINT OPENING (A MINIMUM OF ONE WEDGE AT EACH LATERAL TIE).
- (D) INSTALL OAKUM OR EQUIVALENT JOINT FILLER (BACKER ROD)
 - FILLER SHALL BE PLACE BELOW THE KEY'S BOTTOM AS SHOWN ON THE PLANS. THE FILLER SHALL BE PLACED AFTER THE BEAMS HAVE BEEN SET.
- (E) GROUT DOWEL ENDS AT THE FIXED ENDS AT BRIDGE SEATS AND PLACE COLD POURED JOINT SEALER AT EXPANSION END.
- (F) INSTALL TRANSVERSE TIES
 - A SEAMLESS POLYPROPYLENE SHEATH SHALL COVER TIES (WITH CORROSION INHIBITOR GREASE BETWEEN SHEATH AND STRAND). FEED TIES THROUGH DUCTS. VERIFY THAT HARDWOOD WEDGES ARE IN PLACE AS REQUIRED TO PREVENT SLIPPAGE OF BEAMS. USING CALIBRATED JACK, POST TENSION TIES TO APPROXIMATELY 5,000 LBS. TO REMOVE SAG IN THE TIE AND TO SEAT THE CHUCK.
- (G) GROUT SHEAR KEYS
 - CLEAN JOINT WITH AN OIL FREE AIR-BLAST IMMEDIATELY BEFORE GROUT PLACEMENT. THEN VERIFY THAT THE BACKER ROD IS STILL IN PLACE. ADDITIONAL JOINT PREPARATION AND GROUT PLACEMENT SHALL BE PER MANUFACTURER'S RECOMMENDATIONS. CAREFULLY ROD JOINTS TO ELIMINATE ANY POSSIBILITY OF VOIDS.
- (H) POST-TENSION TRANSVERSE TIES
 - GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 1,500 PSI, BASED ON THE MANUFACTURER'S RECOMMENDATIONS, PRIOR TO STRESSING. USING A CALIBRATED JACK OPERATED BY QUALIFIED PERSONNEL, POST TENSION TIES TO 30,000 LBS.
- (I) FINISH WORK
 - REMOVE WEDGES, AND PATCH DECK AND FASCIA BEAMS AT TRANSVERSE TIES. PLACE AN OVERLAY.



STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	STOWE	Bridge No.	3
Highway No.	T.H. 1	Log Sta.	
		Surv. Sta.	
MOSCOW ROAD OVER MILLER BROOK			
GENERAL NOTES			
Designed By	R.H. BARNES	Drawn By	S.J. BIJOLLE
Checked By	Date	Bridge Design Supervisor	
	E.P. DETRICK 5/09	J.W. TUCKER	Date 5/09
PROJECT	STOWE	PROJECT NO.	BHO 1446 (30)
I.G.C. Info.	... \DGN\z99J244gn.dgn		
D & K DWG NO.		Sheet	21 of 37