LAST Metric

GENERAL NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION 'STANDARD SPECIFICATIONS FOR CONSTRUCTION' (2006) AND ITS LATEST REVISIONS, AASHTO 'STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES' (2002) AND ITS LATEST REVISIONS, AND AASHTO 'GUIDE SPECIFICATIONS FOR HORIZONTALLY CURVED HIGHWAY BRIDGES' (2003) AND ITS LATEST REVISIONS.

2. DESIGN IS FOR MS-22.5 LOADING APPLIED IN ACCORDANCE WITH THE PROVISIONS OF AASHTO STANDARD SPECIFICATIONS.

3. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20^ C, UNLESS SHOWN OTHERWISE.

4. ANY REFERENCE TO 'LEFT' AND/OR 'RIGHT' ON THE PLANS OR IN THE NOTES REFERS TO THE DIRECTION OF STATIONING AND NOT THE DIRECTION OF TRAFFIC.

5. ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO DESIGNATION M270M/M270, GRADE 345W OR M270M/M270, GRADE 485W, EXCEPT AS NOTED IN THE PLANS.

6. THE FOLLOWING TABLE OF DESIGN STRENGTHS APPLIES TO THESE PLANS FOR DESIGN PURPOSES:

   CONCRETE:
   ITEM 501.33 - HIGH PERFORMANCE CLASS A - f'c = 30 MPa (DECK, EXPANSION JOINT BLOCKOUT, AND CURBS)
   ITEM 501.34 - HIGH PERFORMANCE CLASS B - f'c = 25 MPa (PIERS, ABUTMENTS, WINGWALLS, AND DRILLED SHAFTS)
   ITEM 900.608 - SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, MASS POUR) - f'c = 25 MPa (PIER PILE CAP)
   ITEM 900.608 - SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT) - f'c = 30 MPa (RAMP A DECK)

   STRUCTURAL STEEL:
   ITEM 506.56 CURVED PLATE GIRDER - AASHTO M270M/M270, GR345W - Fy = 345 MPa (GIRDERS)
   ITEM 900.635 - SPECIAL PROVISION (HIGH PERFORMANCE STEEL, GR485W) AASHTO M270M/M270, GR485W - Fy = 485 MPa (GIRDERS)
   ITEM 506.75 - AASHTO M270M/M270, GR345W - Fy = 345 MPa (STEEL CASING AND COVER PLATE - VT ROUTE 279 DRILLED SHAFTS)

   REINFORCING STEEL:
   ITEM 507.15 AND ITEM 507.17 EPOXY COATED - Fy = 420 MPa (GRADE 420)
   ITEM 900.635 - SPECIAL PROVISION (STAINLESS STEEL REINFORCING) - Fy = 420 MPa (GRADE 420)

7. ALL MAIN LOAD CARRYING MEMBERS INCLUDING WELDED PLATE GIRDERS AND CURVED GIRDER CROSS FRAME MEMBERS ARE SUBJECT TO THE CHARPY V-NOTCH TEST PER SECTION 714 OF THE SPECIFICATIONS.

8. ALL CONNECTIONS OF UNPAINTED MEMBERS SHALL BE MADE WITH 22 DIAMETER AASHTO M-164M, TYPE 3 BOLTS IN 24 DIAMETER HOLES, EXCEPT AS NOTED IN THE PLANS. ALL CONNECTIONS OF PAINTED OR GALVANIZED MEMBERS SHALL BE MADE WITH AASHTO M-164M TYPE I GALVANIZED BOLTS. GALVANIZED BOLTS THAT HAVE BEEN FULLY TIGHTENED SHALL NOT BE RE-USED.

9. WHERE CONNECTIONS ARE NOT DETAILED ON THE PLANS, THEY SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.

10. WHERE GALVANIZING HAS BEEN REMOVED BY ANY MEANS FROM BRIDGE COMPONENTS, INCLUDING DOWNSPOUTS AND ASSOCIATED HARDWARE, IT SHALL BE REPAIRED IN ACCORDANCE WITH SECTION 513 OF THE SPECIFICATIONS. COSTS FOR THIS WORK SHALL BE INCIDENTAL TO THE ITEM UNDER WHICH THE GALVANIZED COMPONENT IS PROVIDED.

11. ALL WELDING AND DIMENSIONAL TOLERANCES OF WELDED MEMBERS SHALL CONFORM TO THE LATEST ANSI/AASHTO/AWS BRIDGE WELDING CODE AND ITS LATEST REVISIONS.

12. ANY FORM BRACKET HOLES IN FASCIA GIRDER WEBS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD, AASHTO M164M, TYPE 3 BOLTS, EXCEPT IN AREAS OF PAINTED STEEL, WHERE TYPE I GALVANIZED BOLTS SHALL BE USED.

13. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE CONCRETE REINFORCING STEEL INSTITUTE.

14. REINFORCEMENT PLACING TOLERANCES SHALL BE:
    SPACING +/- 25
    CLEARANCE +/- 6

15. MINIMUM COVER FOR REINFORCING STEEL (EXCEPT IN THE DECK) SHALL BE 50 IN BACK FACES OF SUBSTRUCTURES AGAINST EARTH, 100 IN PIER COLUMNS AND CAP BEAMS, AND 80 ELSEWHERE, UNLESS OTHERWISE SHOWN.

16. EPOXY COATED REINFORCING STEEL SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS:
    - BRIDGE DECK SLAB
    - APPROACH SLABS
    - ABUTMENTS (WHERE SHOWN IN PLANS), BACKWALLS, AND CURBS

    STAINLESS REINFORCING STEEL SHALL BE PROVIDED FOR THE VT ROUTE 279 DRILLED SHAFTS.

17. MECHANICAL BAR CONNECTORS ARE USED IN THE SUBSTRUCTURES OF THIS PROJECT. THREE CONNECTORS FOR EACH BAR SIZE SHALL BE ASSEMBLED AND SUBMITTED FOR TESTING PER SECTION 713.02 OF THE 2006 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

18. FLAME CUTTING OF EPOXY COATED REINFORCING STEEL SHALL NOT BE PERMITTED. ALL CUT ENDS OF THE EPOXY COATED REINFORCEMENT SHALL BE FIELD COATED WITH A TWO PART EPOXY APPROVED BY THE REBAR EPOXY MANUFACTURER.

19. CONCRETE FOR DECK, EXPANSION JOINT BLOCKOUT AND CURBS SHALL BE HIGH PERFORMANCE CLASS A AND WILL BE PAID UNDER ITEM 501.33, 'CONCRETE, HIGH PERFORMANCE CLASS A (FPQ)'. ALL OTHER CONCRETE SHALL BE HIGH PERFORMANCE CLASS B AND WILL BE PAID FOR UNDER ITEM 501.34, 'CONCRETE, HIGH PERFORMANCE CLASS B' UNLESS OTHERWISE NOTED. ALL EXPOSED EDGES OF CONCRETE IN THE SUBSTRUCTURE AND THE SUPERSTRUCTURE SHALL BE CHAMFERED 25 x 25, UNLESS OTHERWISE SHOWN. THE USE OF SIPCMF IS ALLOWED FOR THIS PROJECT. THE COST OF SIPCMF WILL BE INCLUDED IN THE UNIT PRICE BID FOR PAY ITEM 501.33, 'CONCRETE, HIGH PERFORMANCE CLASS A (FPQ).'

20. THE CONTRACTOR SHALL PROVIDE FOR THE STABILITY OF STRUCTURAL STEEL DURING ALL PHASES OF ERECTION AND CONSTRUCTION AS SPECIFIED IN SECTION 506 OF 2006 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

21. FASCIA OVERHANG BRACKET DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR BUT THE MAXIMUM SPACING OF THESE BRACKETS SHALL NOT EXCEED 1200.

22. ABUTMENT AND WINGWALL CONCRETE ABOVE THE ADJACENT BRIDGE SEAT ELEVATIONS SHALL NOT BE PLACED UNTIL GIRDERS HAVE BEEN ERECTED, BEAM PROFILES HAVE BEEN TAKEN, AND FINAL FINISH GRADE OF DECK IS APPROVED BY THE ENGINEER.

23. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 4 PERCENT. ABUTMENT SEATS SHALL BE SLOPED FULL WIDTH TOWARD CENTER SPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH WITH FLOAT FINISH AS PER SUBSECTION 501.16.

24. IN ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS, SHEAR KEYS SHALL BE FORMED AS SHOWN IN THE TYPICAL BRIDGE DETAILS, BRIDGE SHEET BR305, AND THEY SHALL BE CONTINUOUS UP TO 75 FROM EACH END OF THE JOINT. THE UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT, ALL JOINTS AND SCORE MARKS SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

25. POLYURETHANE JOINT SEALER SHALL BE USED IN CURB CONSTRUCTION JOINTS OR AT FIXED END CURB JOINTS AS DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH THE CURB JOINT DETAILS SHOWN IN THE TYPICAL BRIDGE DETAILS, BRIDGE SHEET BR305.

26. THE COST OF INSTALLING PVC WATERSTOPS, AS SHOWN IN THE PLANS, SHALL BE INCIDENTAL TO ITEM 501.34, 'CONCRETE, HIGH PERFORMANCE CLASS B.' THE TYPE OF PVC WATERSTOP TO BE USED SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR APPROVAL.

27. ITEM 514.10, 'WATER REPELLENT, SILANE' SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON THE SUPERSTRUCTURE, EXCEPT THE BOTTOM OF THE DECK BETWEEN THE DRIP BEADS. IT SHALL ALSO BE APPLIED TO ALL EXPOSED SUBSTRUCTURES.

28. ALL MODULAR JOINT STRIP SEALS SHALL BE THOROUGHLY FLUSHED BY THE CONTRACTOR AFTER ALL PAVING IS COMPLETED. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCIDENTAL TO ITEM 490.30, 'SUPERPAVE BITUMINOUS CONCRETE PAVEMENT.' FOLLOWING PAVING, ANY BITUMINOUS CONCRETE PAVEMENT THAT IS LODGED IN THE EXPANSION JOINTS, OR THAT ENTERS SCUPPERS, HOPPERS OR DOWNSPOUTS, SHALL BE REMOVED BY THE CONTRACTOR AT NO COST TO THE STATE.

29. SNOW FENCE SHALL BE INSTALLED ON BRIDGE RAIL OVER ALL ROADWAYS AND FUTURE MULTI-USE TRAILS AS SHOWN ON BRIDGE SHEET BR313, AND PAID FOR UNDER ITEM 620.75, 'SNOW BARRIER - GALVANIZED.'

30. A PAD OF STONE FILL, TYPE II (MINIMUM SIZE 1.8 m x 1.8 m x 0.6 m THICK) SHALL BE CONSTRUCTED UNDER EACH SCUPPER DOWNSPOUT WHERE INADEQUATE PROTECTION AGAINST EROSION EXISTS IN THE OPINION OF THE ENGINEER. STONE FILL, TYPE II SHALL BE PLACED ON SLOPES ADJACENT TO WINGWALLS WHERE, IN THE JUDGEMENT OF THE ENGINEER, RUN-OFF MAY CAUSE POTENTIAL EROSION. STONE FILL SHALL BE PROVIDED UNDER ITEMS 613.11, AND 613.13 AS DIRECTED BY THE ENGINEER AT EACH LOCATION. COSTS FOR RE-GRADING SLOPES SHALL BE INCIDENTAL TO THE APPLICABLE STONE FILL ITEM.

31. ITEM 404.65, 'EMULSIFIED ASPHALT' HAS BEEN INCLUDED TO BE USED AS A TACK COAT BETWEEN LIFTS OF PAVEMENT AT AN APPLICATION RATE OF 0.70 L/m^2 OR AS DIRECTED BY THE ENGINEER.

32. PAYMENT FOR BACKFILL AROUND ABUTMENTS FOLLOWING PLACEMENT OF NEW CONCRETE SHALL BE MADE UNDER ITEM 204.30, 'GRANULAR BACKFILL FOR STRUCTURES.'

33. STONE FILL SHALL BE PLACED IN FRONT OF ABUTMENTS BEFORE SUPERSTRUCTURE STEEL IS PLACED.

34. LIMITS OF IN-STREAM CONSTRUCTION WILL BE AS SPECIFIED IN ALL APPLICABLE PERMITS.

ASPHALTIC PLUG JOINT NOTES:

1. INSTALLATION
   A. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
   B. EXCAVATE THE JOINT AS SHOWN ON THE PLANS WITH SAWS AND PNEUMATIC HAMMER OR A HAMMER AND CHISEL.
   C. BLAST CLEAN THE JOINT AREA OF DEBRIS AND ASPHALT. THOROUGHLY DRY THE JOINT AREA WITH HOT COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
   D. REPAIR SPALLED AND DEFECTIVE CONCRETE WITH AN APPROVED MATERIAL AS AGREED UPON BY THE ENGINEER.
   E. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 25 +/- OF BINDER ABOVE THE ROD.
   F. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
   G. PLACE 6 THICK BY 200 WIDE SECTION OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRESTAMPED HOLES INTO THE BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE APPROACH SLAB IS COVERED WITH A STONE BASE OR BITUMINOUS PAVEMENT AND VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.
   H. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.
   I. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
   J. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.
   K. PROTECT JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 51°C +/-.

2. WEATHER LIMITATIONS (APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL):
   A. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10°C AND RISING.
   B. THE ROAD SURFACE IS SUFFICIENTLY DRY.
   C. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BENNINGTON	Bridge No. BI5, BI5N, BI5S
Highway No. VT RTE 279	Log Sta. / Surv. Sta.
VT ROUTE 279 & RAMPS OVER ROARING BRANCH OF WALLOOMSAC RIVER	

GENERAL NOTES

Designed By J.J. MANUSE	Drawn By A.S. WOODS
Checked By B.J. CARLSON Date 04/08	Bridge Design Supervisor K.M. WOJTKOWSKI Date 04/08
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TVGA CAD Drawing No. GenNote.dgn	Date 02/02/2009
Bridge Sheet No. BR245	Sheet 232 of 367

TVGA CONSULTANTS