

GENERAL NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 6th EDITION, AND ITS LATEST REVISIONS.
2. DESIGN VEHICLE: HL-93
3. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT THE CONTRACTOR'S OPERATIONS SHALL IN NO WAY WEAKEN OR DAMAGE PROPERTY OF THE UTILITY. ANY DAMAGE TO THE PROPERTY OF THE UTILITY AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR TO THE FULL SATISFACTION OF THE OWNER OF THE UTILITY. SEE THE UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
4. THE CONTRACTOR SHALL TAKE ALL NECESSARY ACTIONS FOR THE ADEQUATE CONTROL OF WATER TO ALLOW FOR THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS TO OCCUR IN THE DRY OR AS DIRECTED BY THE ENGINEER. REFER TO SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM) DETAIL ON TYPICAL SECTIONS AND DETAILS SHEET 3 FOR ADDITIONAL REQUIREMENTS.
5. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT SILTATION OR POLLUTION, ESPECIALLY THE DISCHARGE OF RAW CONCRETE INTO THE EXISTING STREAMS/RIVERS AS DIRECTED BY THE RESIDENT ENGINEER AND STANDARD SPECIFICATIONS SECTION 105.
6. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68°F.

REINFORCING STEEL:

7. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".
8. REINFORCING PLACEMENT TOLERANCES SHALL BE:
SPACING: +/- 1 INCH
CLEARANCE: +/- 1/4 INCH
9. MINIMUM COVER FOR REINFORCING STEEL SHALL BE 2 INCHES ALONG BACK FACES OF WALLS AGAINST EARTH, AND 3 INCHES ELSEWHERE UNLESS NOTED OTHERWISE.

10. REINFORCING STEEL IN PRECAST CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 507 AND SECTION 540 FOR LEVEL I REINFORCING, EPOXY COATED, AND WILL BE INCLUDED FOR PAYMENT UNDER CONTRACT ITEM 540.10. REINFORCING STEEL IN CAST-IN-PLACE CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL I REINFORCING, EPOXY COATED, AND WILL BE PAID FOR UNDER CONTRACT ITEM 507.11.

CONCRETE:

- SEE CHANGE ORDER #1: PRECAST WINGWALLS WERE USED
- *11. PRECAST CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 540 AND WILL BE PAID FOR UNDER CONTRACT ITEM 540.10. WINGWALLS, WINGWALL FOOTINGS AND HEADWALLS SHALL BE CAST-IN-PLACE CONCRETE. CAST-IN-PLACE CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 501 FOR CONCRETE, HIGH PERFORMANCE CLASS B AND WILL BE PAID FOR UNDER CONTRACT ITEM 501.34.

12. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" X 1".
13. WATER REPELLENT, SILANE SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 514 AND SHALL BE SHOP APPLIED TO ALL INTERIOR PERIMETER SURFACES OF THE PRECAST CONCRETE STRUCTURE. PAYMENT FOR WATER REPELLENT, SILANE APPLIED TO INTERIOR PERIMETER SURFACES OF THE PRECAST CONCRETE STRUCTURE WILL BE INCLUDED IN THE BID UNIT PRICE FOR ITEM 540.10 PRECAST CONCRETE STRUCTURE (10'-0" x 7'-0" x 63'-0" BOX). WATER REPELLENT, SILANE SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 514 AND SHALL BE FIELD APPLIED TO ALL EXPOSED SURFACES OF THE CAST-IN-PLACE HEADWALLS AND WINGWALLS. PAYMENT FOR WATER REPELLENT, SILANE APPLIED TO EXPOSED SURFACES OF THE CAST-IN-PLACE HEADWALLS AND WINGWALLS WILL BE PAID UNDER ITEM 514.10 WATER REPELLENT, SILANE.

14. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
15. THE KEY IN CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.

16. PAYMENT FOR PRECAST BAFFLES AND PRECAST CUTOFF WALLS AND ANY DRILLING AND GROUTING REQUIRED TO ATTACH THE PRECAST BAFFLES AND PRECAST CUTOFF WALLS WILL BE CONSIDERED INCIDENTAL TO ITEM 540.10 PRECAST CONCRETE STRUCTURE (10'-0" x 7'-0" x 63'-0" BOX).
17. WHERE LEDGE IS ABOVE THE MINIMUM BOTTOM OF FOOTING ELEVATION, THE LEDGE SHALL BE EXCAVATED DOWN TO 2'-6" MINIMUM BELOW THE TOP OF THE WINGWALL FOOTING ELEVATION. ALL OVER BREAKAGE BELOW THIS ELEVATION SHALL BE REPLACED WITH ITEM 501.34 CONCRETE, HIGH PERFORMANCE CLASS B. A MAXIMUM OF SIX INCHES AVERAGE DEPTH SHALL BE PAID FOR AS ITEM 501.34 CONCRETE, HIGH PERFORMANCE CLASS B. ANY ADDITIONAL CONCRETE OR EXCAVATION SHALL BE AT THE CONTRACTOR'S EXPENSE.
18. BORINGS INDICATED ON THE PLANS HAVE BEEN MADE FOR DESIGN PURPOSES ONLY.
19. THE COST OF GROUT SHALL BE CONSIDERED INCIDENTAL TO ITEM 507.11 REINFORCING STEEL, LEVEL I.

LAYOUT NOTES:

20. PROPOSED CULVERT SHALL BE LAID OUT BASED ON THE DIMENSIONS GIVEN ON THIS SHEET AND THE BRIDGE LAYOUT SHEET.
21. CHANNEL BASELINE SHALL BE ESTABLISHED AS INDICATED ON THE PLANS. OFFSETS TO THE CENTERLINE ARE MEASURED TO THE TOP OF THE SLAB AT EACH END.

PRECAST CONCRETE:

22. DESIGN CRITERIA (PRECAST BOX)
 - A. SOIL UNIT WEIGHT = (SEE GEOTECHNICAL REPORT)
 - B. DESIGN LIVE LOAD = HL-93
 - C. NOMINAL BEARING RESISTANCE = (SEE GEOTECHNICAL REPORT)
 - D. NOMINAL BEARING RESISTANCE (GRANULAR BACKFILL) = (SEE GEOTECHNICAL REPORT)
 - E. BEARING RESISTANCE FACTOR = 0.45
 - F. DESIGN FILL OVER BOX = 0-2 FEET
 - G. AT-REST EARTH PRESSURE (K_o) = (SEE GEOTECHNICAL REPORT)
 - H. CONCRETE COMPRESSIVE STRENGTH = SEE SUBSECTION 540.05 (e)
23. THE PRECAST CONCRETE STRUCTURE SHALL BE DESIGNED FOR HYDROSTATIC PRESSURE. NO WEEPHOLES IN THE BOX SECTIONS WILL BE ALLOWED.
24. THE PRECAST BOX SECTIONS ARE SHOWN FOR REFERENCE ONLY. THE ACTUAL DIMENSIONS WILL BE DEPENDENT ON THE FABRICATOR. THE MINIMUM INSIDE DIMENSIONS SHALL BE 7'-0" IN HEIGHT AND 10'-0" IN WIDTH. MINIMUM SLAB AND WALL THICKNESSES SHALL BE AS SHOWN IN THE PRECAST CONCRETE BOX CULVERT TYPICAL SECTION.
25. ALL LIFTING HOLES AND BOLT POCKETS SHALL BE FILLED WITH MORTAR TYPE IV AFTER BEING SET IN THEIR FINAL POSITION. THIS WORK WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 540.10. FILLING THE JOINTS BETWEEN BOX SEGMENTS WITH GROUTING NOT REQUIRED.
26. NO ADDITIONAL WORK (I.E. BACKFILLING OR MEMBRANE) IS ALLOWED UNTIL THE GROUT HAS REACHED A STRENGTH OF 2000 PSI OR 30% OF MAXIMUM.

27. A TWO (2) FOOT WIDE STRIP OF SHEET MEMBRANE WATERPROOFING SHALL BE PLACED OVER EACH JOINT. THE SHEET MEMBRANE WATERPROOFING SHALL BE CENTERED ON THE JOINT AND COVER THE FULL LENGTH OF THE SIDES AND TOP. THE SIDES SHALL BE COVERED PRIOR TO THE TOP. ANY OVERLAPPING OF THE MEMBRANE SHALL BE DONE IN A SHINGLE TYPE STYLE TO SHED WATER AND SHALL OVERLAP A MINIMUM OF ONE FOOT. A SECOND LAYER OF SHEET MEMBRANE WATERPROOFING SHALL THEN BE PLACED OVER THE ENTIRE TOP AND BOTH SIDES OF THE CULVERT. PAYMENT FOR SHEET MEMBRANE WATERPROOFING WILL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 540.10 PRECAST CONCRETE STRUCTURE (10'-0" x 7'-0" x 63'-0" BOX).

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