

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, DATED 2002, AND ITS LATEST REVISIONS.
2. DIMENSIONS, ANGLES, BEARINGS, AND ELEVATIONS OF THE EXISTING CULVERTS SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND LIMITED FIELD INVESTIGATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS OF ALL EXISTING STRUCTURE COMPONENTS TO ASSURE CONSISTENCY WITH THE PROPOSED MODIFICATIONS. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER BEFORE ADVANCING THE WORK. WORKING DRAWINGS REQUIRED FOR VARIOUS ITEMS OF WORK SHALL INDICATE THE ACTUAL FIELD MEASUREMENTS AND SHALL BE SO NOTED.
3. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
4. IT IS EXPECTED THAT CULVERT LINING, HEADWALLS AND STONE FILL WILL BE THE EXTENT OF THE WORK AT EACH SITE. FOLLOWING PREPARATION OF THE EXISTING CULVERT FOR SLIPLINING, THE CONTRACTOR AND ENGINEER SHALL JOINTLY INSPECT THE INTERIOR OF THE EXISTING CULVERT. IF AN AREA OF CONCERN IS IDENTIFIED, SUCH AS VOIDS AROUND THE EXISTING CULVERT THE ENGINEER SHALL MAKE A DETERMINATION AS TO THE NEED FOR FURTHER EXPLORATION. IF FURTHER EXPLORATION IS NEEDED TEST BORINGS SHALL BE CONDUCTED IN THE AREA OF CONCERN. THIS WORK SHALL BE PAID FOR AS ITEM 900.640, "SPECIAL PROVISION (TEST BORINGS)". THE MAXIMUM DEPTH OF "SPECIAL PROVISION (TEST BORINGS)" IS EXPECTED TO BE FROM FINISHED GRADE OF THE INTERSTATE TO 10-FEET BELOW THE INVERT OF THE EXISTING CULVERT.

PIPE REHABILITATION NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ACCESS TO ALL CULVERT REHABILITATION SITES. ALL RESULTING DISTURBED EARTH SHALL BE STABILIZED AND RESTORED UPON COMPLETION OF CONSTRUCTION. PAYMENT SHALL BE MADE UNDER CONTRACT ITEM 900.645, "SPECIAL PROVISION (TEMPORARY ACCESS ROAD AND STAGING AREAS, CULVERT)".
2. AT EACH LOCATION SPECIFIED IN THESE PLANS, THE EXISTING CULVERT SHALL REMAIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARATION OF THE EXISTING PIPE TO THE SATISFACTION OF THE ENGINEER. IT IS ANTICIPATED THAT IT WILL BE NECESSARY FOR THE CONTRACTOR TO REMOVE SEDIMENT, LARGE STONES, AND/OR DEBRIS FROM INSIDE THE EXISTING CULVERT, AND TO FILL AND REPAIR LARGE HOLES IN THE EXISTING CULVERT, PRIOR TO INSTALLING THE NEW LINER. PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM 900.640, "SPECIAL PROVISION (ALUMINUM PIPE LINER) (60)".
3. THE CONTRACTOR SHALL FILL ANY VOIDS UNDER THE CULVERT FROM WITHIN THE CULVERT BEFORE INSTALLING THE LINER. PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM 541.31, "CONCRETE, CLASS D".
4. THE EXISTING CRADLE WALL AT EACH PIPE INLET SHALL BE RETAINED AND A NEW CONCRETE HEADWALL SHALL BE CONSTRUCTED UPSTREAM OF THE CRADLE WALL.
5. A NEW FULL BEVELED HEADWALL SHALL BE CONSTRUCTED AT THE INLET TO EACH CULVERT. THE NEW HEADWALL SHALL BE CONSTRUCTED IN THE DRY. CONTROL OF WATER SHALL BE PAID FOR UNDER ITEM 900.645, "SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)".

CONCRETE NOTES

1. CONCRETE PAYMENT AND CLASSIFICATION SHALL BE AS FOLLOWS:
HEADWALL: ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B"
SUBFOOTING: ITEM 541.30, "CONCRETE, CLASS C".
FILLING VOIDS UNDER CULVERT: ITEM 541.31, "CONCRETE, CLASS D"
2. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH BY 1 INCH, UNLESS OTHERWISE NOTED.
3. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
4. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT UNLESS OTHERWISE INDICATED. ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
5. IT IS EXPECTED THAT BEDROCK WILL BE ENCOUNTERED AT ALL FOUR WORK AREAS.
6. FOOTINGS OR SUBFOOTINGS FOR SUBSTRUCTURES FOUNDED ON BEDROCK SHALL BE PLACED ON CLEAN COMPETENT ROCK. ALL LOOSE ROCK AND DEBRIS SHALL BE REMOVED.
7. UPON COMPLETION OF THE EXCAVATION FOR SUBSTRUCTURES FOUNDED ON BEDROCK AND PRIOR TO PLACING FORMWORK, THE RESIDENT ENGINEER SHALL CONTACT THE VTRANS SOILS AND FOUNDATION ENGINEER TO INSPECT THE BEDROCK. THE STRUCTURES ENGINEER WILL ALSO BE NOTIFIED THAT THE BEDROCK IS READY FOR INSPECTION. THE SOILS AND FOUNDATION ENGINEER WILL DETERMINE IF THE BEDROCK IS COMPETENT TO OBTAIN THE NOMINAL BEARING RESISTANCE AS SHOWN ON THE PLANS. FIVE (5) WORKING DAYS FROM NOTIFICATION SHALL BE ALLOWED TO MAKE THE INSPECTION AND THE DETERMINATION FOR THE COMPETENCY OF THE BEDROCK.
8. IF COMPETENT BEDROCK IS WITHIN 1' -0" BELOW THE DESIGN BOTTOM OF FOOTING FOR THE EXTENT OF THE SUBSTRUCTURE AS SHOWN IN THE CONTRACT PLANS, THE FOOTING MAY BE PLACED INTEGRALLY TO THE TOP OF THE BEDROCK USING THE CONCRETE ITEM SPECIFIED FOR THE FOOTING AT THE CONTRACT UNIT PRICE.
9. WHERE COMPETENT BEDROCK IS BELOW THE DESIGN BOTTOM OF FOOTING BY MORE THAN 1' -0" FOR ANY PORTION OF THE SUBSTRUCTURE AND A SUBFOOTING IS NOT SHOWN IN THE CONTRACT PLANS, THE STRUCTURES ENGINEER SHALL BE CONTACTED TO DETERMINE WHETHER OR NOT THE FOOTING SHALL BE LOWERED OR IF THE CONSTRUCTION OF A SUBFOOTING IS REQUIRED. IF THE DESIGN BOTTOM OF FOOTING ELEVATION IS TO BE LOWERED THE CONTRACTOR SHALL PROVIDE A BEDROCK PROFILE TO THE STRUCTURES ENGINEER. THREE (3) WORKING DAYS FROM RECEIPT OF THE BEDROCK PROFILE SHALL BE ALLOWED TO MAKE THIS DETERMINATION. NO WORK SHALL BE DONE ON THE FOOTINGS UNTIL A REPLY IS RECEIVED.
10. THE LIMITS OF SUBFOOTINGS SHALL BE 1' -0" OUTSIDE OF THE HORIZONTAL LIMITS OF THE FOOTING. IF A SUBFOOTING IS REQUIRED IT SHALL BE PAID FOR UNDER ITEM 541.30, "CONCRETE, CLASS C". THE TOP SURFACE OF ALL SUBFOOTINGS SHALL BE INTENTIONALLY ROUGHENED TO 1/4" AMPLITUDE.
11. WHERE COMPETENT BEDROCK IS ABOVE THE DESIGN BOTTOM OF FOOTING ELEVATION, IT SHALL BE REMOVED WITH CONTRACT PAY ITEMS OR A BEDROCK PROFILE SHALL BE PROVIDED BY THE CONTRACTOR TO THE STRUCTURES ENGINEER TO DETERMINE WHETHER THE DESIGN BOTTOM OF FOOTING ELEVATION MAY BE RAISED. THREE (3) WORKING DAYS FROM RECEIPT OF THE BEDROCK PROFILE SHALL BE ALLOWED TO MAKE THE DETERMINATION. FOOTING ELEVATIONS SHALL NOT BE ADJUSTED WITHOUT APPROVAL OF THE STRUCTURES ENGINEER.
12. OVERBREAKAGE AND REPLACEMENT WITH THE FOOTING CONCRETE BEYOND THE AVERAGE MAXIMUM ALLOWANCE SPECIFIED IN SUBSECTIONS 204.09 (B) (1) AND 208.11 (C) WILL BE AT THE CONTRACTOR'S EXPENSE.

CONCRETE NOTES (CONT.)

13. DOWELS SHALL BE DRILLED AND GROUTED INTO BEDROCK WHEN SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER. THE DOWELS SHALL HAVE A 2' -0" MINIMUM EMBEDMENT IN THE BEDROCK AND SHALL EXTEND IN THE FOOTING OR SUBFOOTING A MINIMUM OF 1' -6", UNLESS NOTED OTHERWISE. PAYMENT SHALL BE MADE UNDER ITEM 507.16, "DRILLING AND GROUTING DOWELS".
14. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES. PAYMENT SHALL BE MADE AS ITEM 514.10, "WATER REPELLENT, SILANE".
15. THE NOMINAL BEARING CAPACITY HAS BEEN DETERMINED TO BE 4 KSF.

REINFORCING STEEL NOTES

1. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE" (CRSI).
2. ALL REINFORCING STEEL SHALL BE GRADE 60.
3. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
ALONG BACK FACES OF WALLS AGAINST EARTH: 2"
ELSEWHERE UNLESS OTHERWISE INDICATED: 3"
4. REINFORCEMENT STEEL PLACEMENT TOLERANCES SHALL BE:
SPACING = +/- 1-INCH
CLEARANCE = +/- 1/4-INCH

TRAFFIC CONTROL NOTES

1. ALL TRAFFIC CONTROL MEASURES FOR THIS PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH THE 2003 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE VTRANS STANDARD DRAWINGS.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT PLANS WITH AND GAIN APPROVAL FROM THE ENGINEER FOR ALL PROPOSED TRAFFIC CONTROL PROCEDURES AND MEASURES. PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM 641.10, "TRAFFIC CONTROL".
3. LARGE CONSTRUCTION VEHICLES MAY BE REQUIRED TO BACK DOWN THE TEMPORARY ACCESS ROAD AT EACH CULVERT LOCATION. THESE VEHICLES WILL LIKELY NOT HAVE ADEQUATE SPACE AT THE INTERSECTION OF THE ACCESS ROAD AND THE INTERSTATE TO PERFORM THE NECESSARY TURNING MOVEMENTS. AT THE OPTION OF THE CONTRACTOR, A TEMPORARY CLOSURE OF THE INTERSTATE TRAVEL LANE AND SHOULDER WILL BE ALLOWED FOR ACCESS TO THE PROJECT SITES. THIS WORK SHALL BE PAID FOR UNDER ITEM 641.10, "TRAFFIC CONTROL".
4. TEMPORARY LANE AND/OR SHOULDER CLOSURES SHALL BE ALLOWED DURING WORKING HOURS ONLY. THE INTERSTATE SHALL BE RESTORED TO FULL CAPACITY AT THE CLOSE OF DAILY CONSTRUCTION ACTIVITIES.
5. TEMPORARY BARRIER, IF USED, SHALL MEET THE REQUIREMENTS OF SECTION 621. BARRIER ENDS FACING ONCOMING TRAFFIC SHOULD BE TAPERED BEYOND THE CLEAR ZONE. IF NECESSARY, PAYMENT FOR INSTALLING, RESETTING, AND REMOVING ANY TEMPORARY TRAFFIC BARRIER SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".
6. ENERGY ABSORPTION ATTENUATORS, IF USED, SHALL MEET THE REQUIREMENTS OF SECTION 621. PAYMENT FOR INSTALLING AND REMOVING ANY ENERGY ABSORPTION ATTENUATORS SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".
7. SIGNS, BARRICADES, AND TRAFFIC CONTROL DEVICES SHALL BE CLEANED WEEKLY AND THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 641.10, "TRAFFIC CONTROL".

PROJECT NAME: HARTFORD-SHARON

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PROJECT LEADER: E. P. DETRICK

DESIGNED BY: A. P. GUYETTE

PROJECT NOTES

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