

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, DATED 2006, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, DATED 2002, AND ITS LATEST REVISIONS.
2. GABION WALL LAYOUT AND WORKING POINTS WERE DEVELOPED BASED ON THE DIMENSIONS DETAILED IN THE PLANS. IF ACTUAL ELEMENT/SYSTEM LAYOUT DIMENSIONS VARY FROM THOSE SHOWN IN THE PLANS, THE CONTRACTOR SHALL ADJUST AFFECTED DIMENSIONS ACCORDINGLY, AND SUBMIT REVISED DIMENSIONS TO THE RESIDENT ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. ALL ASSOCIATED COSTS SHALL BE INCIDENTAL TO ITEM 540.10.
3. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SAFETY DURING CONSTRUCTION.
4. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 20 DEGREES CELSIUS, UNLESS NOTED OTHERWISE.
5. THE CONTRACTOR SHALL REVIEW AND UNDERSTAND ALL APPLICABLE ENVIRONMENTAL PERMITS AND ENSURE THAT ALL CONSTRUCTION CONDITIONS ARE MET.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTY CAUSED BY THE CONTRACTOR AT HIS EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER.
7. THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE. NO CLAIMS ARE MADE AS TO THE ACCURACY OR COMPLETENESS OF THE UTILITIES SHOWN. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING AND PROTECTING FROM DAMAGE ALL UTILITIES ON SITE DURING ALL STAGES OF CONSTRUCTION.
8. THE CONTRACTOR SHALL USE CAUTION WHEN WORKING AROUND OVERHEAD UTILITIES, AND COORDINATE TEMPORARY AND/OR PERMANENT UTILITY RELOCATION WITH THE UTILITY COMPANIES.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER FIT-UP OF THE PRECAST ELEMENTS WITH THE GABION WALL ELEMENTS PER THE MANUFACTURER'S RECOMMENDATIONS AND TO THE SATISFACTION OF THE RESIDENT ENGINEER.

TEMPORARY RELOCATION OF STREAM NOTES

1. ITEM 900.645, TEMPORARY RELOCATION OF STREAM, SHALL BE USED TO DIVERT THE POTASH BROOK FLOW AROUND THE CONSTRUCTION AREA OF THE NEW STRUCTURE. THE CONTRACTOR MAY USE A 3 FOOT MINIMUM DIAMETER PIPE FOR DIVERTING THE BROOK, OR MAY SUBMIT AN ALTERNATIVE METHOD FOR ALLOWING THE NEW STRUCTURE TO BE BUILT IN THE DRY. THE TEMPORARY RELOCATION OF THE STREAM HAS BEEN DETAILED TO BE INSTALLED ON THE SOUTHERLY SIDE OF THE EXISTING METAL CULVERT FOR ILLUSTRATIVE PURPOSES ONLY. ANY METHOD USED SHALL BE PAID AS ITEM 900.645.
2. ITEM 900.645, TEMPORARY RELOCATION OF STREAM, SHALL INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING WORK:
 - A. THE TEMPORARY PIPE AND HARDWARE.
 - B. FLOWABLE FILL TO PLUG THE TEMPORARY PIPE ONCE THE WATER IS DIVERTED INTO THE NEW PRECAST CULVERT.
 - C. ANY EXCAVATION NEEDED TO PLACE THE TEMPORARY PIPE AND CONSTRUCT THE TEMPORARY EARTH BERM AND DITCH THAT FALLS OUTSIDE THE PAY LIMITS OF STRUCTURE EXCAVATION.
 - D. ANY BACKFILL NEEDED TO PLACE THE TEMPORARY PIPE AND CONSTRUCT THE TEMPORARY DITCH SUCH THAT THE EXISTING STREAM ELEVATIONS WILL MAINTAIN THE FLOW OF WATER AT ALL TIMES.
 - E. MATERIAL AND LABOR TO PLACE THE BACKFILL WHICH FALLS OUTSIDE THE PAY LIMITS OF STRUCTURE EXCAVATION.
 - F. TEMPORARY STONE AND GEOTEXTILE FABRIC USED FOR THE CONSTRUCTION OF TEMPORARY DITCHES (IF REQUIRED).
 - G. INCIDENTALS USED WHILE DIVERTING THE WATER TO THE TEMPORARY PIPES AND DITCH. (SANDBAGS, ETC..)

PRECAST CONCRETE BOX CULVERT NOTES

1. THE LUMP SUM COST FOR ITEM 540.10 SHALL INCLUDE THE DESIGN, FABRICATION, DELIVERY, HANDLING, REPAIR AND CONSTRUCTION OF THE PRECAST BRIDGE ELEMENTS, INCLUDING THE BOX CULVERT, HEADWALLS, AND CUTOFF WALLS.
2. THE MANUFACTURER SHALL DESIGN THE PRECAST BRIDGE ELEMENTS, INCLUDING, BUT NOT LIMITED TO, THE BOX CULVERT, HEADWALLS, AND CUT-OFF WALLS. THE MANUFACTURER SHALL PROVIDE STAMPED DESIGN CALCULATIONS PREPARED BY A REGISTERED VERMONT PROFESSIONAL ENGINEER. THE MANUFACTURER SHALL CONSIDER STRENGTH, SERVICABILITY, STIFFNESS AND STABILITY OF THE PRECAST ELEMENTS FOR LOADS GENERATED DURING FABRICATION, TRANSPORTATION, ERECTION, CONSTRUCTION OPERATIONS, AND ULTIMATE TRAFFIC CONDITIONS. THE MANUFACTURER SHALL OBTAIN WRITTEN APPROVAL FROM THE VERMONT AGENCY OF TRANSPORTATION STRUCTURES DIVISION PRIOR TO FABRICATION. ALL COST SHALL BE INCLUDED IN ITEM 540.10.
3. THE PRECAST BRIDGE SYSTEM SHALL BE DESIGNED PER THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2007, AND SHALL CONSIDER THE FOLLOWING DESIGN CRITERIA:
 - A. DESIGN LOADING = HL-93
 - B. FACTORED SOIL BEARING RESISTANCE = 4400 PSF (STRENGTH I)
 - C. WEIGHT OF BACKFILL MATERIAL = 140 PCF
4. THE LENGTH OF EACH BOX CULVERT SEGMENT SHALL BE DETERMINED BY THE CONTRACTOR. THE BOX CULVERT SEGMENT LENGTHS SHALL BE COMPATIBLE WITH THE CONTRACTOR'S TRAFFIC CONTROL PLAN AND HIS/HER PHASING DETAILS.
5. JOINTS BETWEEN ABUTTING PRECAST UNITS SHALL BE WATERTIGHT. THE EXTERIOR (TOP AND SIDES) AND INTERIOR (SIDES AND BOTTOM) JOINTS SHALL BE FILLED WITH MORTAR, TYPE IV AFTER BEING SET IN THEIR FINAL POSITION. MORTAR SHALL BE WET CURED A MINIMUM OF 24 HOURS PRIOR TO APPLYING WATERPROOFING MEASURES. MORTAR SHALL BE INCIDENTAL TO ITEM 540.10.
6. BOX CULVERTS SHALL BEAR ON COMPACTED GRANULAR BACKFILL FOR STRUCTURES. ANY UNSUITABLE MATERIALS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATION FOR THE BOX CULVERT SHALL BE REMOVED AND REPLACED WITH GRANULAR BACKFILL FOR STRUCTURES AS DIRECTED BY THE RESIDENT ENGINEER.
7. THE CONTRACTOR SHALL FOLLOW THE MANUFACTURER'S RECOMMENDATIONS REGARDING BACKFILL AND COMPACTION LIMITS, PROPERTIES, AND PROCEDURES, INCLUDING RESTRICTIONS OF CONSTRUCTION MACHINERY AND OPERATIONS.
8. THE CONTRACTOR SHALL PROVIDE EQUIPMENT CAPABLE OF UNLOADING, LIFTING, AND PLACING PRECAST UNITS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND UNDER THE DIRECTION OF THE MANUFACTURER'S FIELD REPRESENTATIVE. COST SHALL BE INCLUDED IN ITEM 540.10.
9. PRIOR TO SHIPPING THE PRECAST ELEMENTS, THE CONTRACTOR SHALL SUPPLY CERTIFICATION STATING THAT THE BACKFILL SOIL MEETS THE REQUIREMENTS OF THE MANUFACTURER'S RECOMMENDATIONS AND PROJECT SPECIFICATIONS. NO BACKFILL SHALL BE PLACED AGAINST ANY STRUCTURAL ELEMENTS UNTIL THE RESIDENT ENGINEER HAS APPROVED THIS.
10. THE DRILLING OF HOLES IN THE PRECAST ELEMENTS SHALL NOT BE PERMITTED, UNLESS APPROVED IN WRITING BY THE VERMONT AGENCY OF TRANSPORTATION STRUCTURES DIVISION. ANY LIFTING HOLES SHALL BE FILLED WITH MORTAR, TYPE IV. COST FOR MORTAR SHALL BE INCIDENTAL TO ITEM 540.10.
11. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO PRECAST CONCRETE ELEMENTS AT HIS EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER.
12. A 2 FOOT WIDE STRIP OF SHEET MEMBRANE WATERPROOFING, PREFORMED SHEET (ITEM 519.21) SHALL BE SECURED TIGHTLY TO BOX CULVERT SECTIONS AT EACH OUTER SIDE JOINT. THE MEMBRANE SHALL BE CENTERED ON THE JOINT AND COVER THE FULL HEIGHT OF THE SIDE JOINTS. THE ENTIRE TOP SHALL THEN BE COVERED WITH MEMBRANE. THE SHEETS SHALL OVERLAP THE EDGES BY 1 FOOT ON EACH SIDE.
13. ALL REINFORCEMENT WITHIN THE PRECAST BRIDGE ELEMENTS SHALL BE EPOXY COATED AND HAVE 2-INCHES OF CLEAR COVER TO ALL CONCRETE SURFACES.

14. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED SURFACES OF THE HEADWALLS, AND EXPOSED INTERIOR SURFACES OF THE ENTIRE BOX CULVERT, INCLUDING THE BOTTOM SURFACE OF THE TOP SLAB, THE TOP SURFACE OF THE BOTTOM SLAB, AND THE VERTICAL WALLS. WATER REPELLENT SHALL MEET THE REQUIREMENTS OF ITEM 514.10, WATER REPELLENT, SILANE. COST SHALL BE INCIDENTAL TO ITEM 540.10. WATER REPELLENT SHALL BE APPLIED IN THE SHOP.

CULVERT PHASING NOTES

1. TRAFFIC SHALL BE CONTROLLED AND MAINTAINED AT ALL TIMES THROUGHOUT ALL PHASES OF THIS PROJECT IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.
2. THE CULVERT PHASING DETAILS DEPICTED ON SHEETS 52, 53 AND 54 ARE CONCEPTUAL AND SCHEMATIC ONLY. THE CONTRACTOR SHALL PREPARE A DETAILED TRAFFIC CONTROL PLAN THAT INCLUDES THEIR PLAN FOR PHASED CONSTRUCTION OF THE BOX CULVERT. THE CONTRACTOR SHALL SUBMIT HIS/HER TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL TO THE RESIDENT ENGINEER.

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	<i>S. BURLINGTON</i>	Bridge No.	<i>67-1</i>
Highway No.	<i>I-89</i>	Log Sta.	
		Surv. Sta.	
<i>I-89 OVER POTASH BROOK TRIBUTARY</i>			
GENERAL NOTES			
Designed By	<i>LKW</i>	Drawn By	<i>SFD</i>
Checked By	Date	Bridge Design Supervisor	Date
<i>RLJ</i>	<i>09/07</i>	<i>TTK</i>	<i>09/07</i>
PROJECT	PROJECT NO.		
<i>SOUTH BURLINGTON</i>	<i>AC IM CULV (9)</i>		
I.G.C. Info. <i>m:\656310 I-89 Culvert\BRIDGE\2Cadd\41Inal-pre\Imz05k286NT.s.dgn</i>			
Bridge Sheet No.	Sheet <i>51</i> of <i>63</i>		

