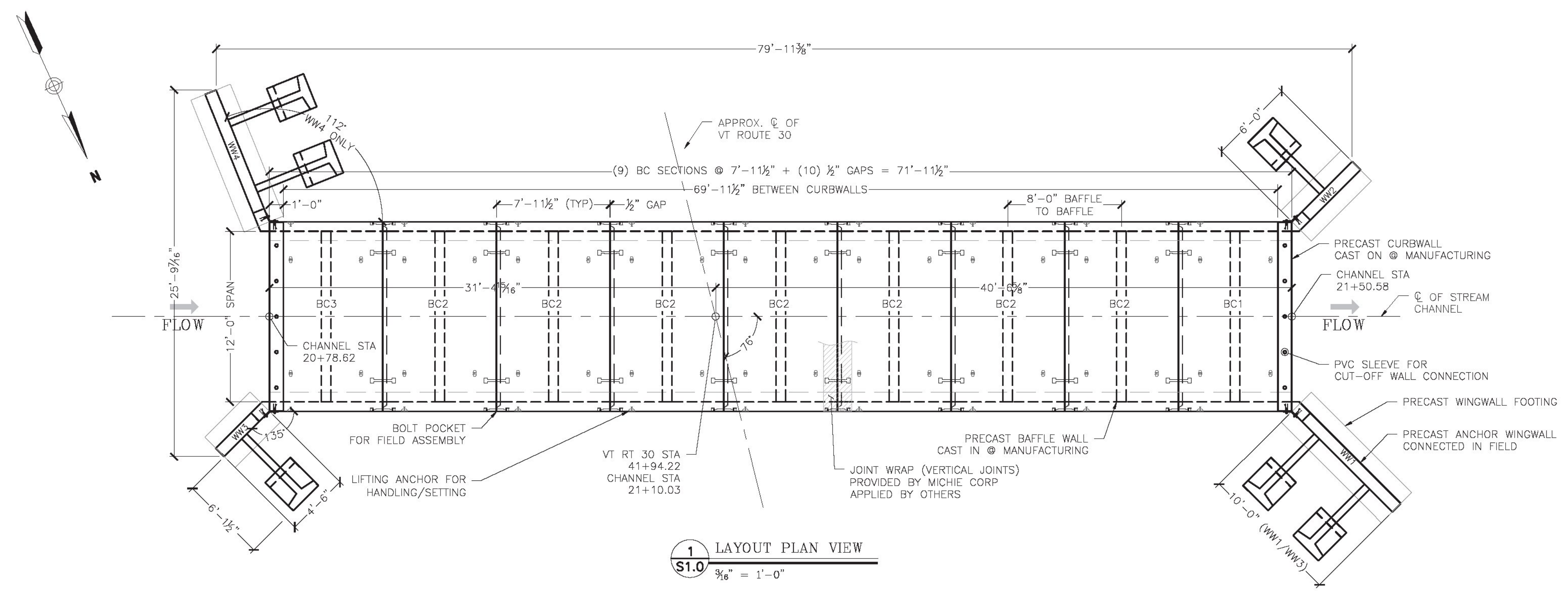
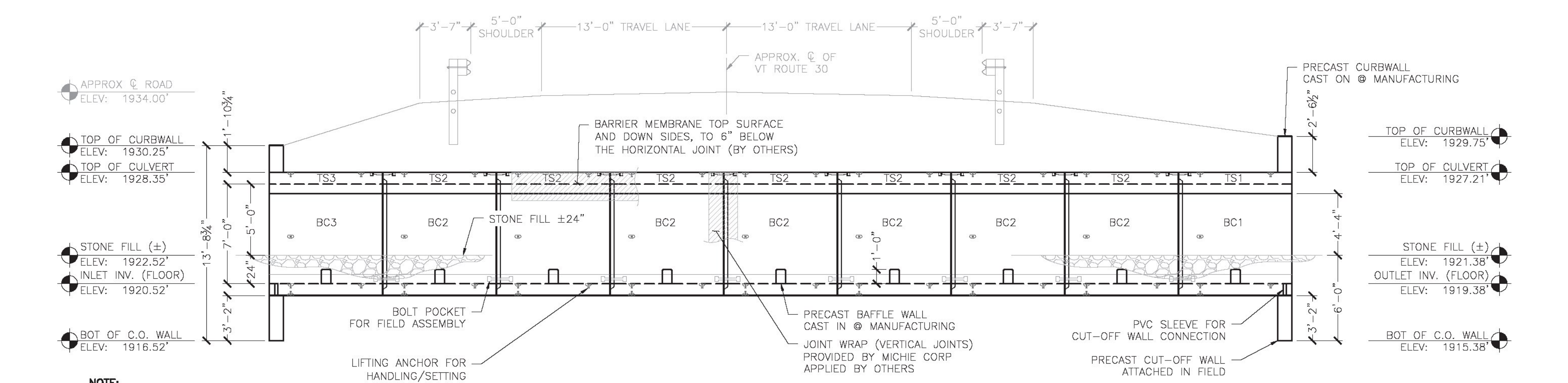


Date: 2015.09.01.13

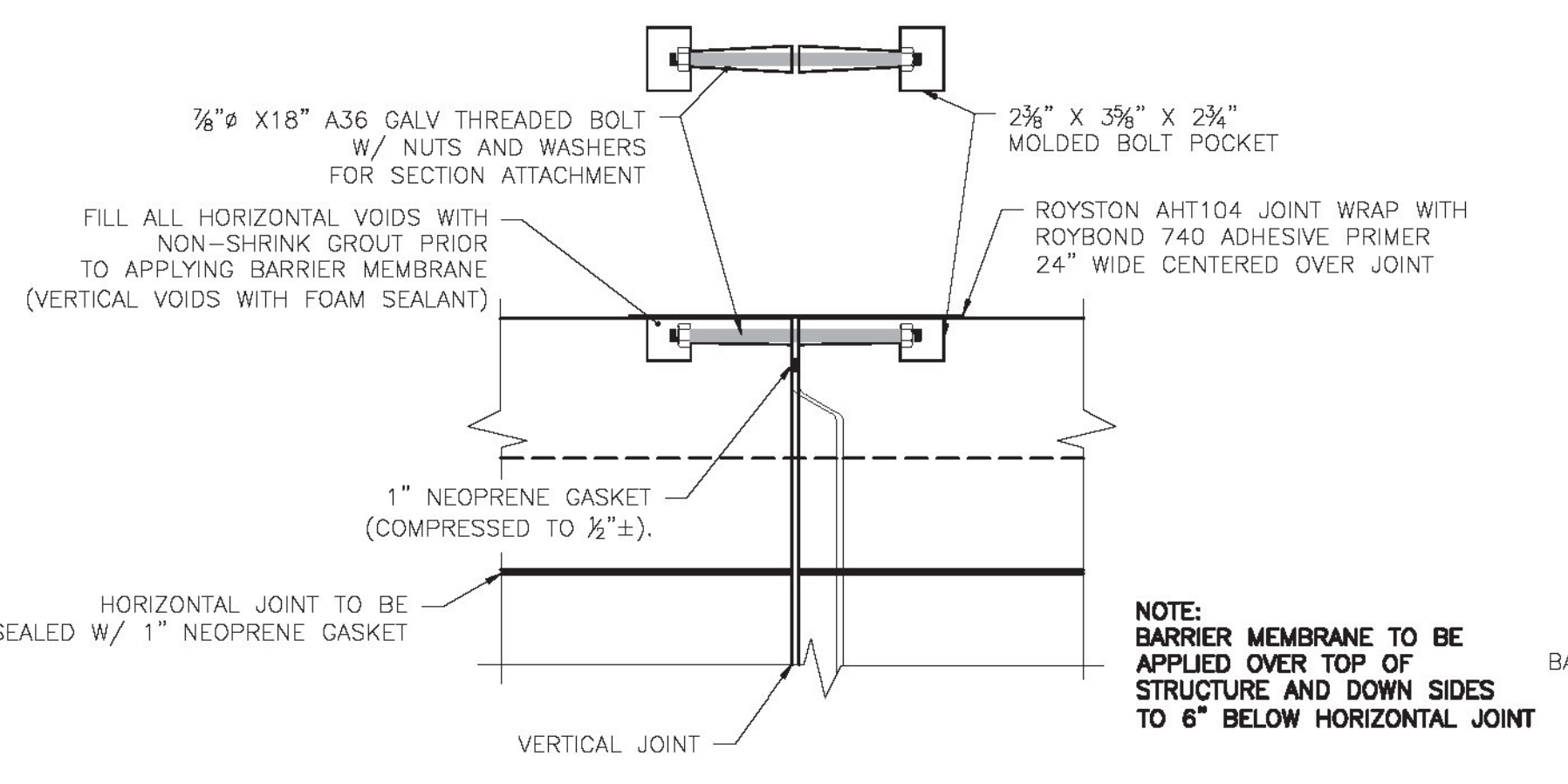


1 LAYOUT PLAN VIEW
S1.0 3/8" = 1'-0"

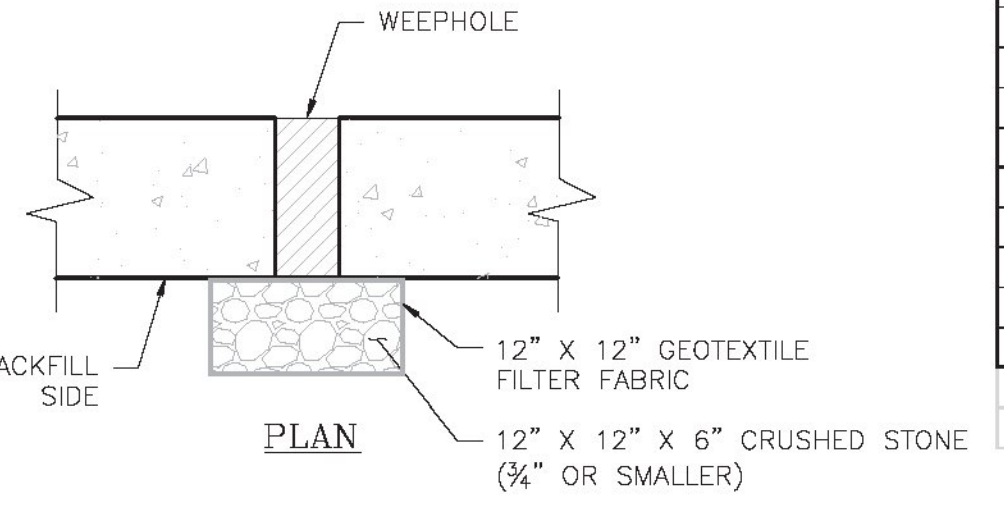


2 PROFILE PLAN VIEW
S1.0 3/8" = 1'-0"

NOTE:
WINGWALLS NOT SHOWN IN THIS VIEW FOR CLARITY



3 BOX CULVERT JOINT CONNECTION DETAIL
S1.0 1" = 1'-0"



4 WEEPHOLE BACKFILL DETAIL
S1.0 1" = 1'-0"

BILL OF MATERIALS			
QTY	DESCRIPTION	IN STOCK	ORDERED FROM
ITEMS CAST-IN			
108	RL-24 4TON X 3.5" PLATE ANCHORS		
16	1-8NC 6X6 DOUBLE W/W ANCHORS		
22	5-TON UTILITY ANCHORS		
10	2.5" DIA X 12" PVC SLEEVES		
16LF	4" DIA PVC SLEEVES (WEEP)		
ITEMS FOR PRESHIPPING/PREP.			
330LF	1" CLOSED CELL NEOPRENE (25LF/ROLL)		
2 GAL	RED ADHESIVE (PRESS-SEAL 1-326)		
ITEMS TO SHIP TO THE JOB			
20	4"X4"X25" PLASTIC SHIMS		
240LF	ROYSTON 24" JOINT WRAP (50LF/ROLL)		
4 GAL	ROYSTON 740 ADHESIVE PRIMER (1 GAL/ROLL)		
48	7/8" X 18" GALV. THREADED ROD W/ 2 NUTS 4 WASHERS		
6	135 DEG (1/2" X 10" X 14") GALV. W/W PLATES W/ HARDWARE		
2	112 DEG (1/2" X 10" X 14") GALV. W/W PLATES W/ HARDWARE		
10	#6 X 14" DOWEL BARS		

GENERAL NOTES:

- THE PLANS ARE INTENDED TO BE DRAWN TO SCALE. HOWEVER, IF A CRITICAL DIMENSION IS NOT PROVIDED, MICHE CORPORATION SHOULD BE CONTACTED FOR VERIFICATION.
- IF ANY OF THE WORK TO BE DONE AS SHOWN ON THE DRAWINGS DOES NOT CORRESPOND WITH THE EXISTING FIELD CONDITIONS, CONTACT THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.
- FIELD-VERIFY ALL ELEVATIONS PRIOR TO THE START OF CONSTRUCTION. IF THERE ARE ANY DISCREPANCIES, CONSULT THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.
- MAINTAIN MINIMUM 60 DEGREE SLING ANGLE WHEN HANDLING PRECAST COMPONENTS.
- PRECAST COMPONENTS SHALL REACH A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI PRIOR TO STRIPPING, AND THE MINIMUM DESIGN COMPRESSIVE STRENGTH PRIOR TO SHIPPING, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- ALL JOINTS AND VOIDS SHALL BE FILLED WITH NON-SHRINK GROUT. VERTICAL SURFACE VOIDS MAY BE FILLED WITH FOAM SEALANT.
- SHOP DRAWINGS WERE DEVELOPED USING THE FOLLOWING RESOURCES FOR THE CONTRACT:
 - "PROPOSED IMPROVEMENT BRIDGE PROJECT, TOWN OF WINHALL, VT ROUTE 30, BRIDGE NUMBERS 47 AND 52", PAGES 1-60 OF 60, PREPARED BY STANTEC CONSULTING SERVICES, INC. OF SOUTH BURLINGTON, VT. DATED 9/25/2014 WITH NO REVISION DATE.
- IF THERE IS ADDITIONAL INFORMATION PERTINENT TO THE FABRICATION AND INSTALLATION OF THESE UNITS THAT IS NOT CONTAINED WITHIN THE RESOURCES LISTED ABOVE IT SHALL BE BROUGHT TO THE ATTENTION OF MICHE CORPORATION. FAILURE TO MAKE SUCH ADDITIONAL INFORMATION AVAILABLE SHALL RELIEVE MICHE CORPORATION OF ALL LIABILITIES ARISING FROM ERRORS OR OMISSIONS RELATED TO THE OMITTED INFORMATION.

BOX CULVERT NOTES:

- BOX CULVERT SECTIONS ARE DESIGNED IN ACCORDANCE WITH:
 - AASHTO "LRFD BRIDGE DESIGN SPECIFICATIONS", 6TH EDITION.
 - VTRANS 2011 "STANDARD SPECIFICATIONS FOR CONSTRUCTION".
- THE FOLLOWING CRITERIA WAS USED FOR DESIGN:
 - LIVE LOAD: HL-93
 - EARTH COVER: 5-7 FEET
 - BACKFILL SOIL UNIT WEIGHT: 140 PCF
 - BACKFILL SOIL FRICTION ANGLE: 34 DEGREES
 - CONCRETE STRENGTH: 5,000 PSI
 - STEEL YIELD STRENGTH: 60,000 PSI
- CONCRETE SHALL BE SELF-CONSOLIDATING CONFORMING TO ASTM C260 WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. AGGREGATE SHALL CONFORM TO ASTM C-33 WITH A MAXIMUM DIAMETER OF 3/4". CEMENT SHALL CONFORM TO ASTM C150.
- REINFORCING SHALL BE GRADE 60 DEFORMED BLACK BARS CONFORMING TO ASTM A-615. ALL BARS SHALL BE BENT COLD.
- ALL EXPOSED EDGES EXCEPT WHERE NOTED SHALL BE CHAMFERED 3/4".
- SUBGRADE PREPARATION SHALL CONFORM TO VTRANS 204.07 BEDDING FOR STRUCTURES. FOOTINGS SHALL BE PLACED AT ELEVATIONS SHOWN ON A MINIMUM OF 1'-0" OF CRUSHED STONE CONFORMING TO VTRANS 704.05(A). ALL TOPSOIL, LOOSE FILL, AND DELETERIOUS MATERIALS SHALL BE REMOVED BEFORE PLACING MATERIAL.
- BACKFILL MATERIAL SHALL CONFORM TO VTRANS SECTION 704.08 GRANULAR BACKFILL FOR STRUCTURES. BACKFILL SHALL EXTEND FOR A MINIMUM DISTANCE OF 3'-0" BEYOND THE HORIZONTAL LIMITS OF THE STRUCTURE. PLACEMENT SHALL CONFORM TO VTRANS SECTION 204.08.
- EXPOSED SURFACES SHOULD BE COATED WITH VTRANS APPROVED WATER REPELLENT (SUPPLIED BY OTHERS).
- EACH SECTION SHALL BE PROVIDED WITH BOLT POCKETS FOR ATTACHMENT TO ADJACENT SECTIONS. 7/8" DIA. GALV. THREADED ROD, WASHERS AND NUTS SHALL BE PROVIDED FOR ASSEMBLY IN THE FIELD. CLOSED-CELL NEOPRENE JOINT SEALANT SHALL BE USED IN ALL JOINTS UNLESS NOTED OTHERWISE.
- 2FT WIDE ROYSTON JOINT WRAP WITH ADHESIVE PROVIDED BY MICHE CORP. INSTALLED BY OTHERS, CENTER ON JOINT AFTER GROUTING. BARRIER MEMBRANE PROVIDED AND INSTALLED BY OTHERS OVER TOP OF STRUCTURE AND DOWN THE SIDES TO 6" BELOW THE HORIZONTAL JOINT. CURB WALL NOTES:

WING WALL NOTES:

- SECTIONS ARE DESIGNED IN ACCORDANCE WITH:
 - AASHTO "LRFD BRIDGE DESIGN SPECIFICATIONS", 6TH EDITION
 - VTRANS 2011 "STANDARD SPECIFICATIONS FOR CONSTRUCTION".
- THE FOLLOWING SOIL PROPERTIES WERE USED IN THE DESIGN:

SOIL WEIGHT [PCF]	FRICTION ANGLE [DEG]
RETAINED SOIL 140	34
FOUNDATION SOIL 140	40

 - LIVE LOAD SURCHARGE = 2FT EQUIVALENT HEIGHT OF SOIL
 - BACKSLOPE ANGLE: 2:1
 - FACTORED BEARING RESISTANCE = 6000PSF (SERVICE), 15400PSF (STRENGTH)
- CONCRETE SHALL BE SELF-CONSOLIDATING CONFORMING TO ASTM C260 WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. AGGREGATE SHALL CONFORM TO ASTM C-33 WITH A MAXIMUM DIAMETER OF 3/4". CEMENT SHALL CONFORM TO ASTM C150.
- UNLESS NOTED OTHERWISE, REINFORCING SHALL BE GRADE 60 DEFORMED BLACK BARS CONFORMING TO ASTM A-615. WHERE REQUIRED, EPOXY COATED REINFORCING SHALL CONFORM TO ASTM A-775. ALL BARS SHALL BE BENT COLD.
- ALL EXPOSED EDGES EXCEPT WHERE NOTED SHALL BE CHAMFERED 3/4".
- BACKFILL MATERIAL SHALL CONFORM TO VTRANS SECTION 704.08 GRANULAR BACKFILL FOR STRUCTURES. PLACEMENT SHALL CONFORM TO VTRANS SECTION 204.08.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE COATED WITH A VTRANS APPROVED WATER REPELLANT (BY OTHERS).
- SUBGRADE PREPARATION SHALL CONFORM TO VTRANS 204.07 BEDDING FOR STRUCTURES. FOOTINGS SHALL BE PLACED AT ELEVATIONS SHOWN ON A MINIMUM OF 1'-0" OF CRUSHED STONE CONFORMING TO VTRANS 704.05(A). ALL TOPSOIL, LOOSE FILL, AND DELETERIOUS MATERIALS SHALL BE REMOVED BEFORE PLACING BACKFILL. SUBGRADE PREPARATION FOR THE CUT-OFF WALLS PER DETAIL ON SHEET 41 OF THE CONTRACT PLANS.

PRECAST CONCRETE FOOTING NOTES:

- FOOTING CONCRETE SHALL BE SELF-CONSOLIDATING CONFORMING TO ASTM C260 WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. AGGREGATE SHALL CONFORM TO ASTM C-33 WITH A MAXIMUM DIAMETER OF 3/4". CEMENT SHALL CONFORM TO ASTM C150.
- UNLESS NOTED OTHERWISE, REINFORCING SHALL BE GRADE 60 DEFORMED BLACK BARS CONFORMING TO ASTM A-615. ALL BARS SHALL BE BENT COLD.
- ALL EXPOSED EDGES EXCEPT WHERE NOTED SHALL BE CHAMFERED 3/4".
- SUBGRADE PREPARATION FOR THE WINGWALL FOOTINGS SHALL CONFORM TO VTRANS 204.07 BEDDING FOR STRUCTURES. FOOTINGS SHALL BE PLACED AT ELEVATIONS SHOWN ON A MINIMUM OF 1'-0" OF CRUSHED STONE CONFORMING TO VTRANS 704.05(A). ALL TOPSOIL, LOOSE FILL, AND DELETERIOUS MATERIALS SHALL BE REMOVED BEFORE PLACING BACKFILL. SUBGRADE PREPARATION FOR THE CUT-OFF WALLS PER DETAIL ON SHEET 41 OF THE CONTRACT PLANS.

LIST OF SHEETS:

- S1.0 LAYOUT/PROFILE VIEW & DETAILS
- S2.0 FOOTING LAYOUT/DETAILS AND END ELEVATIONS
- S3.0 BOX CULVERT DETAILS
- S4.0 WINGWALL DETAILS
- S5.0 ANCHOR DETAILS

PROJECT NO. 5778
DATE: 2/24/2015

DESIGNED BY: PDL/CFP
DRAWN BY: CFP

CHECKED BY: PDL

PREPARED FOR:
Renaud Brothers, Inc.
283 Fort Bridgeman Rd #2
Vernon, VT 05354

Bridge #52 - VT Route 30 - VAOT STP Culv(31)
Winhall, VT

12'x7' Open Top Box Culvert - Layout and Profile Views

Scale: AS SHOWN

Checked by: PDL

DWG NO.
S1.0