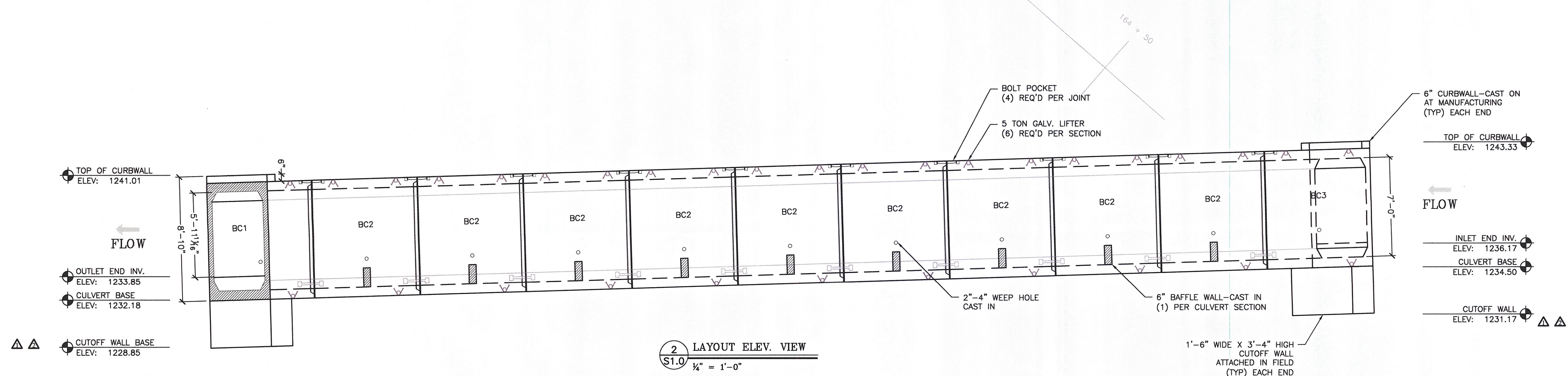
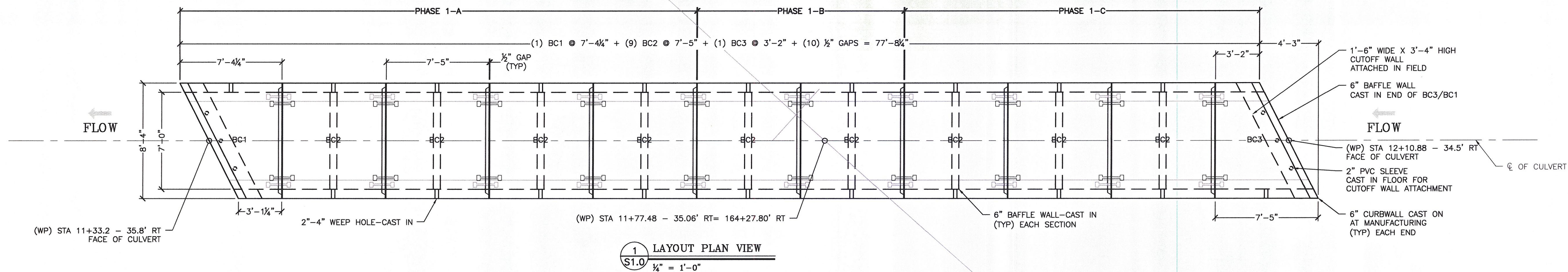
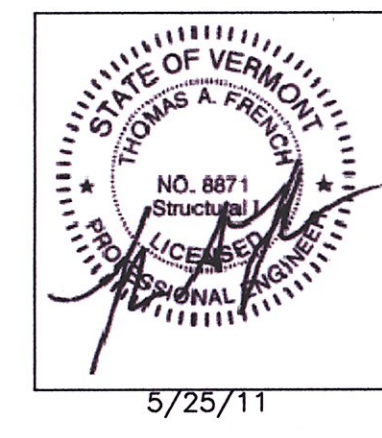


- LIST OF SHEETS:
- S1.0 - PLAN, ELEVATION & CONNECTION DETAILS
 - S2.0 - CULVERT SECTIONS & REINFORCING
 - S3.0 - CUTOFF WALL AND BAFFLE DETAILS

NO TRAFFIC INCLUDING CONSTRUCTION EQUIPMENT SHALL BE PLACED ON THE BOX CULVERT UNTIL THERE IS AT LEAST 2'-0" OF EARTH COVER.



- GENERAL NOTES:
- DO NOT SCALE FROM THE DRAWINGS. IF A REQUIRED DIMENSION IS NOT PROVIDED, CONSULT THE ENGINEER.
 - 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.
 - SHOP DRAWINGS WERE DEVELOPED USING THE FOLLOWING RESOURCES FOR THE CONTRACT: STATE OF VERMONT AGENCY OF TRANSPORTATION, CONTRACT PLANS FOR: CABOT - DANVILLE FEGC F 028-3(26) C/I U.S. ROUTE 2, SHEETS 48 TO 53 OF 250 DATED 13-OCT-2010, WITH REVISION DATE OF NONE. SHEETS 101 TO 106 OF 250 DATED 10/25/2010, WITH REVISION DATE OF NONE. SHEETS 108 TO 111 OF 250 DATED 10/25/2010, WITH REVISION DATE OF NONE.
 - 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.

- FABRICATION PLANT PRODUCTION SCHEDULE
- DAILY PRODUCTION WILL PROCEED AT THE RATE OF APPROXIMATELY ONE CULVERT SECTION EVERY DAY IN ONE LOT. UNIT WILL BE CAST IN A SIMILAR SEQUENCE AS IT IS TO BE TRANSPORTED AND FIELD ERRECTED AS ORDERED BY THE CONTRACTOR. A DETAILED PLANT PRODUCTION SCHEDULE WILL BE KEPT AT THE PRECASTER'S FABRICATING PLANT AND MADE AVAILABLE TO INSPECTORS AS REQUIRED.
- PRECAST DESIGN CRITERIA
- APPLICABLE CODES: VAOT STANDARD SPECIFICATION FOR CONSTRUCTION, 2006 AND LATEST REVISIONS; CONCRETE STEEL REINFORCING INSTITUTE; BRIDGE DESIGN SPECIFICATIONS, AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, 2002 WITH LATEST INTERIM REVISIONS.
 - DESIGN NOTES (TO BE VERIFIED BY E.O.R.):
-LIVE LOAD: AASHTO HS-25
-DESIGN EARTH FILL: 2' TO 14'-6"
-UNIT WEIGHT OF SOIL: 140 PCF
-33° SOIL FRICTION ANGLE (BACKFILL)
-38° SOIL FRICTION ANGLE (SOIL BELOW FOOTING).
-0.40 SLIDING COEFFICIENT.
 - CONCRETE DESIGN STRENGTH: BOX CULVERTS, HEADWALLS, AND CUTOFF WALLS
F_c = 5,000 PSI @ 28 DAYS
F_{ci} = 2,500 PSI (STRIPPING)
 - THESE PLANS ARE FOR SHOP PRODUCTION AND ARE NOT INTENDED TO REPLACE THE CONSTRUCTION REQUIREMENTS OF THE CONTRACT PLANS.

- PRECAST BOX CULVERT NOTES:
- REINFORCING SHALL MEET THE REQUIREMENTS OF ASTM A-615M GRADE 60 DEFORMED STEEL BARS FOR CONCRETE REINFORCING. ALL BARS SHALL BE BENT COLD. UNLESS OTHERWISE NOTED, REINFORCING SPLICE LENGTHS SHALL BE A MINIMUM OF:
BAR SIZE SPLICE LENGTH (IN.)
4 16
5 20
6 24
 - ALL EXPOSED EDGES EXCEPT WHERE NOTED SHALL BE FILLETED 1". ALL EXPOSED SURFACES OF THE BOX CULVERT AND HEADWALL SHALL BE TREATED WITH SILANE-SILOXANE BY OTHERS.
 - ALL BACKFILL WITHIN THE LIMITS FOR "GRANULAR BACKFILL FOR STRUCTURES" SHOWN IN THE CONTRACT PLANS SHALL COMPLY WITH VAOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 704.08, GRANULAR BACKFILL FOR STRUCTURES. BACKFILL SHALL BE PLACED IN ACCORDANCE WITH VAOT STANDARD SPECIFICATIONS SECTION 204.
 - EACH SECTION SHALL BE PROVIDED WITH BOLT POCKETS FOR ATTACHMENT TO ADJACENT SECTIONS. 7/8" DIA. GALVANIZED THREADED ROD, WASHERS AND NUTS SHALL BE PROVIDED FOR ASSEMBLY IN THE FIELD. 1" X 1" CLOSED CELL NEOPRENE JOINT SEALANT BY PRESS-SEAL GASKET CORPORATION SHALL BE PROVIDED FOR ALL JOINTS.
 - ROSTON AHT104 24" WIDE JOINT WRAP AND PRIMER ADHESIVE SHALL BE APPLIED BY OTHERS.
 - LIFTING ANCHORS SHALL BE CAST INTO EACH SECTION FOR HANDLING.
 - HAVESI PICK = 28,265# (BC3 W/BAFFLE & HEADWALL).

- PRODUCTION CONTROL PROCEDURES
- CYLINDER SAMPLING AND CURING:
A. A MINIMUM OF TWO (2) CYLINDERS PER LOT WILL BE MADE IN ACCORDANCE WITH ASTM C31. CYLINDERS WILL BE TESTED IN ACCORDANCE WITH ASTM C39.
B. AIR CONTENT (ASTM C231), SPREAD PER SCC GUIDELINES, AND TEMPERATURE TESTS WILL BE TAKEN INITIALLY FOR FIRST LOAD. NOT TO EXCEED TEN (10) CUBIC YARDS.
- NOTE: 1 AIR TEST 1ST LOAD
- CYLINDER BREAKS:
A. FOR EARLY STRENGTH VERIFICATION, CYLINDERS MAY BE BROKEN AT ANY TIME UP TO 28 DAYS AFTER CASTING. IF THE AVERAGE STRENGTH OF TWO (2) CYLINDERS MEETS OR EXCEEDS THE REQUIRED 28 DAY STRENGTH (WITH EACH CYLINDER HAVING A MINIMUM OF 95% OF THE REQUIRED 28 DAY STRENGTH), THE LOT SHALL BE ACCEPTED FOR STRENGTH.
 - QUALITY CONTROL TEST AND EQUIPMENT: CYLINDER TESTER: FORNEY 500 SERIES WITH DR-2 DIGITAL READOUT CALIBRATED ANNUALLY
AIR METER: PRESSURE METER BY FORNEY (CALIBRATED MONTHLY)
SLUMP CONE: STANDARD 8" BASE, 4" AT RIM, 12" IN HEIGHT MEASURED IN ACCORDANCE WITH SCC GUIDELINES
SCALES FOR UNIT WEIGHT: MEASURED IN ACCORDANCE WITH ASTM C143 100 LBS. CAPACITY CALIBRATED TO THE NEAREST 1/10TH POUND YEARLY
CYLINDER MOLDS: 4" DIAMETER X 8" PLASTIC
 - CONCRETE TESTING AND AIR METER CALIBRATION WILL BE DONE BY PLANT PERSONNEL (ACI GRADE I CERTIFIED) ALL TESTING PRODUCERS WILL BE OBSERVED BY NEW HAMPSHIRE INSPECTORS OR AUTHORIZED REPRESENTATIVES.

- MATERIALS
- ALL CONCRETE SHALL COMPLY WITH VAOT STANDARD SPECIFICATIONS 540.
 - REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60, UNCOATED. ALL BARS ARE TO BE BENT COLD.
 - SUPPORTS FOR REINFORCEMENT SHALL COMPLY WITH CRSI RECOMMENDATIONS.
 - CASTING DATE SHALL BE SHOWN ON EACH PIECEMARK.
- CURING
- THIS SECTION APPLIES TO ALL SECTIONS CAST IN EACH RESPECTIVE LOT. AS SOON AS PRACTICAL AFTER CASTING, THE PIECES WILL BE COVERED AND CURED. UNITS SHALL BE CURED UNTIL THEY REACH SUFFICIENT STRENGTH TO BE HANDLED WITHOUT DAMAGE.
- PIECE MARKS
- EACH PIECE WILL HAVE THE FOLLOWING STENCILED ONTO IT:
- PIECEMARK NUMBER
 - DATE OF CASTING
 - LOT NUMBER - IF APPLICABLE
 - VT PROJECT NO. (FEGC F 028-3(26) C/I
 - MICHE CORPORATION, INC.
 - CONTRACTORS NAME
- TOLERANCES: PER AASHTO M259

- CASTING, STORAGE, SHIPPING & ERRECTING
- BOX CULVERT SHALL BE FABRICATED AS FOLLOWS:
- EACH SECTION SHALL BE CAST UTILIZING A STANDARD CULVERT FORM.
 - EACH SECTION SHALL BE CAST WITH "BELL" END UP. AFTER STRIPPING STRENGTH HAS BEEN ACHIEVED, PRODUCT WILL BE MOVED AWAY FROM FORM (OR FORM WILL BE JACKED AWAY FROM PRODUCT) UTILIZING OVERHEAD CRANES OR FORKLIFTS CONNECTED TO EXTERIOR LIFTING ANCHORS.
 - HEADWALLS & BAFFLE WALLS SHALL BE FABRICATED AS A SECONDARY CONCRETE PLACEMENT. WEATHER DEPENDING, THESE CASTINGS MAY BE PERFORMED OUT OF DOORS.
 - ALL PRODUCTS SHALL BE MOVED AND ERRECTED UTILIZING CHAINS OR STRAPS ATTACHED TO PROVIDED UTILITY ANCHORS.
 - IT IS THE RESPONSIBILITY OF THE ERECTOR TO PROVIDE THE PROPER EQUIPMENT, CABLES AND PULLEYS TO SAFELY AND PROPERLY HANDLE THE PRECAST PRODUCTS. DETAILED HANDLING REQUIREMENTS SHALL BE COORDINATED BETWEEN THE PRECAST FABRICATOR AND ERRECTORS.
 - CUTOFF WALLS SHALL BE FABRICATED AS FOLLOWS:
-EACH SECTION SHALL BE CAST UPSIDE DOWN UTILIZING STANDARD PANEL FORMS OR A CUSTOM STEEL FORM.
-PRODUCTION RATES MAY VARY.
-PRODUCT MAY BE STORED AND/OR SHIPPED EITHER UPSIDE DOWN OR RIGHT SIDE UP.

APPROVED Approved as Noted
 Revise and Resubmit DISAPPROVED
 CHECKING IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. ANY ACTION SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE; FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES AND THE SATISFACTORY PERFORMANCE OF HIS WORK.
 GREEN INTERNATIONAL AFFILIATES, INC.
 CONSULTING ENGINEERS
 CHECKED BY: *[Signature]* DATE: 5/11
 SIGNED BY: *[Signature]* DATE: 5/11

BILL OF MATERIALS					
QTY	DESCRIPTION	IN STOCK	ORDERED FROM	DATE ORDERED	DATE DELIVERED
ITEMS CAST-IN					
74	GALV. A-ANCHOR (OXFORD A-750-7)				
ITEMS FOR PRESHIPPING/PREP.					
7 ROLLS	1" CLOSED CELL NEOPRENE (320 LF)				
2 GAL	RED ADHESIVE				
ITEMS TO SHIP TO THE JOB					
5 ROLLS	ROYSTON 24" JOINT WRAP				
40	7/8"X18" GALV. THREADED ROD				
160	1 1/2" X 1 1/2" X 18" GALV. WASHER				
80	7/8" GALV. NUT				
8	(BAGS) DAYTON SUPERIOR GROUT				
3	GREAT STUFF FOAM SEALANT				

US Route 2
Cabot-Danville, VT
FEGC F 028-3(26) C/I

7' x 7' Box Culvert - Layout Views

Scale: AS SHOWN
Checked by: TAF
Drawn by: CTP
Designed by: P/L

Project No. 1490
Date: 12/20/11

Prepared for:
Winterset Construction
PO Box 968
Lyndonville, VT 05851

DWG NO.
S1.0

REVISED PER COMMENTS	TAF	CTP	CTP	By
5/8/2011	5/8/2011	4/26/2011		
4/26/2011				