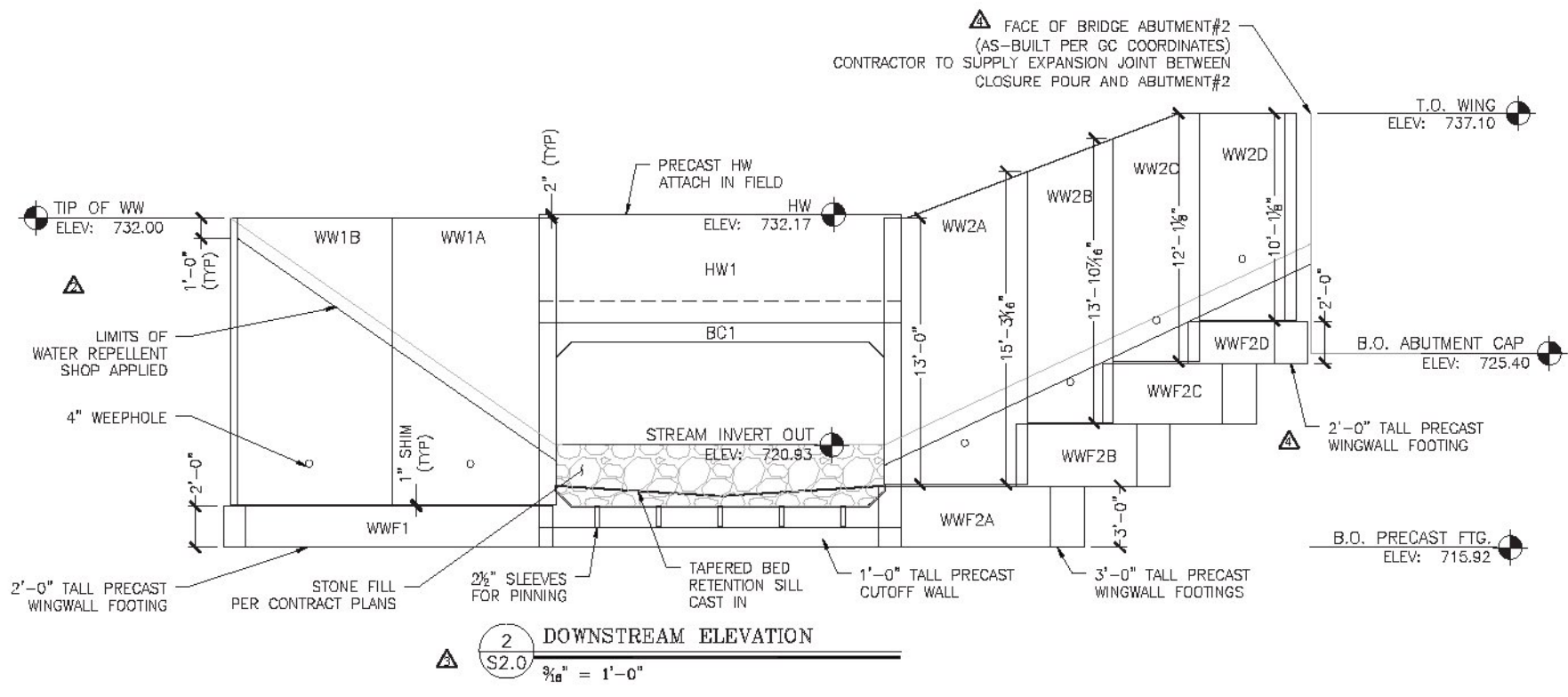
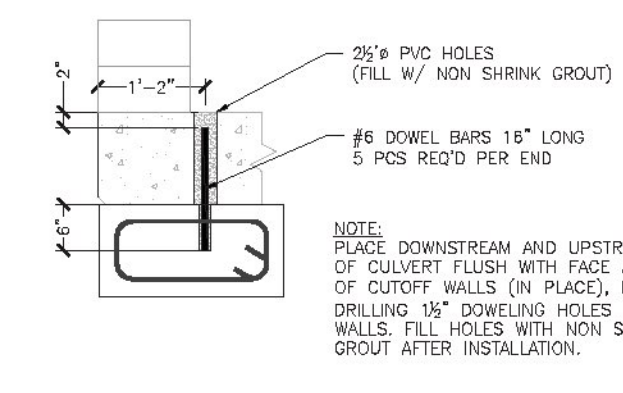


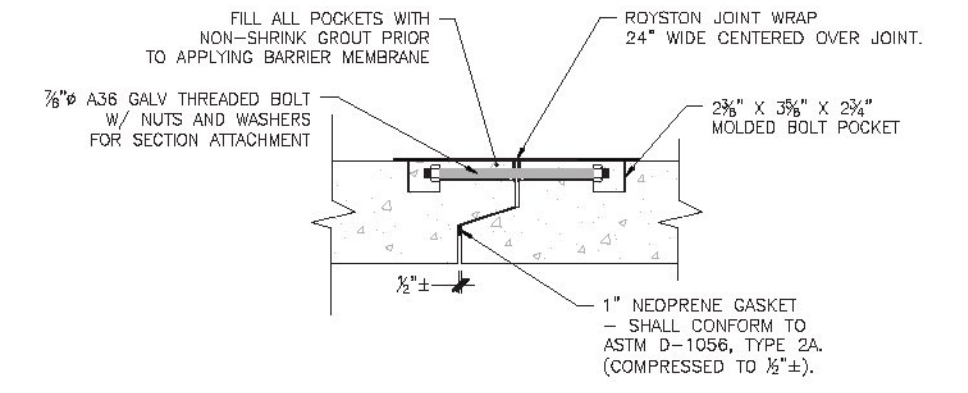
1 UPSTREAM ELEVATION
S2.0 3/4" = 1'-0"



2 DOWNSTREAM ELEVATION
S2.0 3/4" = 1'-0"



3 CUTOFF WALL CONNECTION
S2.0 3/4" = 1'



4 BOX CULVERT JOINT CONNECTION DETAIL
S2.0 1" = 1'-0"

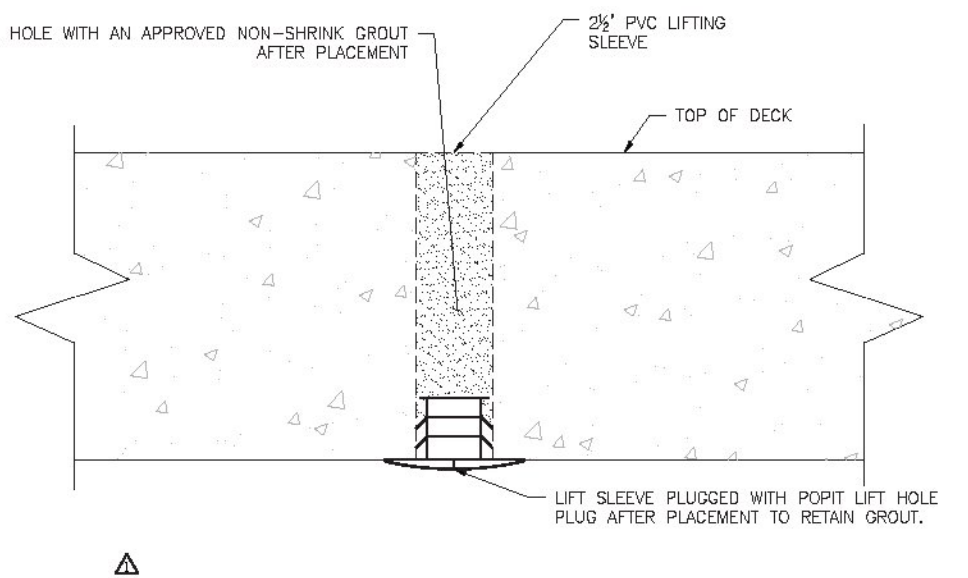
- GENERAL NOTES:
- DO NOT SCALE FROM THE DRAWINGS. IF A REQUIRED DIMENSION IS NOT PROVIDED, CONSULT THE ENGINEER.
 - IF ANY OF THE WORK TO BE DONE AS SHOWN ON THE DRAWINGS DOES NOT CORRESPOND WITH THE EXISTING FIELD CONDITIONS, CONTACT THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.
 - FIELD-VERIFY ALL ELEVATIONS PRIOR TO THE START OF CONSTRUCTION. IF THERE ARE ANY DISCREPANCIES, CONSULT THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.
 - MAINTAIN MINIMUM 8% DEDUCTE SLOPE ANGLE WHEN FINISHING PRECAST COMPONENTS.
 - PRECAST COMPONENTS SHALL ACHIEVE MINIMUM DESIGN COMPRESSIVE STRENGTH PRIOR TO SHIPPING, UNLESS OTHERWISE APPROVED BY THE ENGINEER. STRIPPING STRENGTH SHALL BE 3,000PSI.
 - ALL HORIZONTAL SURFACE Voids SHALL BE FILLED WITH AN APPROVED NON-SHRINK GROUT. VERTICAL SURFACE Voids SHALL BE FILLED WITH FOAM SEALANT.
 - SHOP DRAWINGS WERE DEVELOPED USING THE FOLLOWING RESOURCES FOR THE CONTRACT: PROPOSED IMPROVEMENT BRIDGE PROJECT, TOWN OF JAMUNGA, COUNTY OF WINDHAM, DATED 12/5/2012, PREPARED BY STATE OF VERMONT AGENCY OF TRANSPORTATION.
 - 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 QUOTED INFORMATION.

- BOX CULVERT NOTES
- BOX CULVERT SECTIONS ARE DESIGNED IN ACCORDANCE WITH:
 - ASHUTO "LRFD BRIDGE DESIGN SPECIFICATIONS", 2012.
 - VTRANS 2011 "STANDARD SPECIFICATIONS FOR CONSTRUCTION".
 - THE FOLLOWING CRITERIA WAS USED FOR DESIGN:
 - LIVE LOAD: HL-93
 - EMPIR COVER: 3-2.5 FEET
 - BACKFILL SOIL UNIT WEIGHT: 140 PCF
 - NORMAL BEARING RESISTANCE PER EQUAL CLASSIFICATION 5/23/13 FOR EFFECTIVE FOOTING WIDTH OF 6FT: 6.2 KSF (SERVICE LIMIT STATE, RESISTANCE FACTOR = 1.0)
 - 14.0 KSF (STRENGTH LIMIT STATE, RESISTANCE FACTOR = 0.45)
 - MIN LATERAL EARTH PRESSURE: 30 PSF
 - MAX LATERAL EARTH PRESSURE: 70 PSF
 - CONCRETE SHALL BE SELF-CONSOLIDATING CONFORMING TO ASTM C800 WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. MIX DESIGN TO BE MICHE #1833CA. AGGREGATE SHALL CONFORM TO ASTM C-33 WITH A MAXIMUM DIAMETER OF 3/4". CEMENT SHALL CONFORM TO ASTM C150.
 - REINFORCING IN BOX CULVERT 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".
 - UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, 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 204.02(A). ALL TOPSOIL, LOOSE FILL, AND DELETERIOUS MATERIALS SHALL BE REMOVED BEFORE PLACING MATERIAL.
 - UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, 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 SHALL BE COATED WITH VTRANS APPROVED WATER REPELLENT PER CONTRACT DOCUMENTS (SHOP APPLIED).
 - 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.
 - ROYSTON JOINT W/MP WITH ADHESIVE PROVIDED BY MICHE CORP., INSTALLED BY OTHERS. BARRIER MEMBRANE PER CONTRACT DOCUMENTS.

- WING WALL FOOTING NOTES:
- CONCRETE SHALL BE SELF-CONSOLIDATING CONFORMING TO ASTM C800 WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. MIX DESIGN TO BE MICHE #1833CA. 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".
 - UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, 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 204.02(A). ALL TOPSOIL, LOOSE FILL, AND DELETERIOUS MATERIALS SHALL BE REMOVED BEFORE PLACING BACKFILL.
 - UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, BACKFILL MATERIAL SHALL CONFORM TO VTRANS SECTION 704.08 GRANULAR BACKFILL FOR STRUCTURES. PLACEMENT SHALL CONFORM TO VTRANS SECTION 204.08.
- WING WALL PANEL AND ANCHOR NOTES:
- SECTIONS ARE DESIGNED IN ACCORDANCE WITH:
 - ASHUTO "LRFD BRIDGE DESIGN SPECIFICATIONS", 2012.
 - VTRANS 2011 "STANDARD SPECIFICATIONS FOR CONSTRUCTION".
 - THE FOLLOWING PROPERTIES WERE USED IN THE DESIGN:

SOIL WEIGHT [PCF]	FRICTION ANGLE [DEG]
RETAINED SOIL	34
FOUNDATION SOIL	30
 - CONCRETE SHALL BE SELF-CONSOLIDATING CONFORMING TO ASTM C800 WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. MIX DESIGN TO BE MICHE #1833CA WITH 0% CORROSION INHIBITOR. AGGREGATE SHALL CONFORM TO ASTM C-33 WITH A MAXIMUM DIAMETER OF 3/4". CEMENT SHALL CONFORM TO ASTM C150.
 - REINFORCING IN WINGWALLS SHALL BE EPOXY COATED REINFORCING CONFORMING TO VTRANS SECTION 507. CHAIRS, SPACERS, AND TIES IN AREAS OF EPOXY COATED REINFORCING SHALL BE PLASTIC OR EPOXY COATED. ALL BARS SHALL BE BENT COLD.
 - ALL EXPOSED EDGES EXCEPT WHERE NOTED SHALL BE CHAMFERED 3/4".
 - UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, BACKFILL MATERIAL SHALL CONFORM TO VTRANS SECTION 704.08 GRANULAR BACKFILL FOR STRUCTURES. PLACEMENT SHALL CONFORM TO VTRANS SECTION 204.08. SEE DETAIL 1/510 FOR SELECT BACKFILL BEHIND WINGS FOR DRAINAGE.
 - EXPOSED SURFACES SHALL BE COATED WITH VTRANS APPROVED WATER REPELLENT PER CONTRACT DOCUMENTS (SHOP APPLIED).
- HEADWALL NOTES:
- PRECAST REINFORCED HEADWALLS ARE DESIGNED IN ACCORDANCE WITH ASHTO "LRFD BRIDGE DESIGN SPECIFICATIONS", 2012.
 - THE FOLLOWING SOIL PROPERTIES WERE USED IN THE DESIGN:

SOIL WEIGHT [PCF]	FRICTION ANGLE [DEG]
RETAINED SOIL	34
FOUNDATION	40
 - HEADWALL CONCRETE SHALL BE SELF-CONSOLIDATING CONFORMING TO ASTM C800 WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. MIX DESIGN TO BE MICHE #1833CA WITH 0% CORROSION INHIBITOR. AGGREGATE SHALL CONFORM TO ASTM C-33 WITH A MAXIMUM DIAMETER OF 3/4". CEMENT SHALL CONFORM TO ASTM C150.
 - REINFORCING IN HEADWALLS SHALL BE EPOXY COATED REINFORCING CONFORMING TO VTRANS SECTION 507. CHAIRS, SPACERS, AND TIES IN AREAS OF EPOXY COATED REINFORCING SHALL BE PLASTIC OR EPOXY COATED. ALL BARS SHALL BE BENT COLD.
 - ALL EXPOSED EDGES EXCEPT WHERE NOTED SHALL BE CHAMFERED 3/4".
 - UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, BACKFILL MATERIAL SHALL CONFORM TO VTRANS SECTION 704.08 GRANULAR BACKFILL FOR STRUCTURES. PLACEMENT SHALL CONFORM TO VTRANS SECTION 204.08.
 - EXPOSED SURFACES SHALL BE COATED WITH VTRANS APPROVED WATER REPELLENT PER CONTRACT DOCUMENTS (SHOP APPLIED).



5 PLUG DETAIL FOR PVC LIFTING SLEEVES
S1.0 0" = 1'-0"

Vermont Agency of Transportation
RECEIVED
CK'D BY JWW/JG OK'D BY JS
March 3, 2014
RESUBMIT NO Approved
BY KH DATE 3-10-2014

DESIGNED BY	DATE	BY
CHECKED BY	DATE	BY
APPROVED BY	DATE	BY
PROJECT NO.	16"x8" Box Culvert - Elevations & Connection Details	
PROJECT LOCATION	Fire Drive off VT Rte. 30 VAOT #ER-BRF 015-1(23) Jamaica, VT	
CLIENT	MICHE CORPORATION, INC. 173 BOSTON INDUSTRIAL DRIVE, PO BOX 870 WESTMINSTER, VT 05158 PHONE: 802-252-2218 FAX: 802-252-2218	
SCALE	AS SHOWN	
DATE	9/4/2013	
INITIALS	FJL	
PROJECT NO.	16"x8" Box Culvert - Elevations & Connection Details	
PROJECT LOCATION	Fire Drive off VT Rte. 30 VAOT #ER-BRF 015-1(23) Jamaica, VT	
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SCALE	AS SHOWN	
DATE	9/4/2013	
INITIALS	FJL	

MICHE CORPORATION
APPROVED FOR
CONSTRUCTION
DATE: 9/4/2013
INITIALS: FJL