

**GENERAL NOTES:**

1. MARKINGS:
  - 16' x 8'
  - ASTM C1577
  - 14' COVER
  - DATE
  - CAMP PRECAST
  - LABEL "TOP"
  - PIECE NUMBER
  - JOB NUMBER
  - NPCA
2. ALL CULVERT SECTIONS TO BE SHIPPED LAYING DOWN, AND ROTATED IN THE FIELD (BY OTHERS), OR STANDING UPRIGHT IF SHIPPING CONDITIONS ALLOWS.
3. ALL PRODUCTS TO BE SHIPPED AND ERECTED UTILIZING CHAINS OR STRAPS ATTACHED TO EMBEDDED ANCHORS.
4. THE CONTRACTOR/ERECTOR IS RESPONSIBLE WITH PROVIDING THE PROPER EQUIPMENT, CABLES, AND PULLEYS TO SAFELY AND PROPERLY HANDLE THE PRECAST PRODUCTS.
5. ASSURE LIFTERS ENGAGE EQUALLY, MIN. 60° SLING ANGLE.
6. REINFORCEMENT = BAR PER ASTM A775 GRADE 60. (EPOXY) COATED CONFORMING TO ASTM A934 . REPAIR DAMAGED EPOXY COATING WITH EPOXY COATING ACCORDING TO ASTM D3963. USE EPOXY COATED STEEL WIRE TIES TO FASTEN EPOXY COATED REINFORCING, OR KODI-KLIPS
7. PROVIDE ADDITIONAL REINFORCING FOR INTERRUPTED WIRES EQUAL TO THE WIRES INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
8. STRUCTURE SUITABILITY TO SITE CONDITIONS INCLUDING HYDRAULIC CAPACITY, EFFECT OF SCOUR, FROST & SETTLEMENT, AND INSTALLATION PLAN IS THE RESPONSIBILITY OF OTHERS.
9. WATER REPELLENT, SILANE SHALL BE APPLIED AS SHOWN.
10. EACH SECTION SHALL BE DRAWN TOGETHER WITH DRAW CONNECTORS AS SHOWN IN DRAWINGS. FILL ALL RECESSES & LIFTING VOIDS WITH 5,000 PSI (28 DAY) NON SHRINK GROUT MEETING REQUIREMENTS OF ITEM 707.03 MORTAR, TYPE IV IN THE LATEST EDITION OF THE VTRANS APPROVED PRODUCT LIST.
11. DESIGN BASED ON PLANS FOR PROJECT # BF 0225(5) DATED DECEMBER 27, 2017
12. CHAMFER TOP AND SIDE EDGES OF HEADWALL AND WINGWALLS
13. ALL LIFTERS TO BE GALVANIZED

**CULVERT DESIGN NOTES**

1. DESIGN PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 7TH EDITION.
2. EARTH COVER = 14'.
3. BAR COVER = 2" U.N.O.
4. f'c @ 28 DAYS = 5,000 PSI
5. AIR ENTRAINED 7% ± 2%
6. REINFORCEMENT = ASTM A-775 GRADE 60, EPOXY COATED.

**WINGWALL AND HEADWALL NOTES**

1. DESIGN PER AASHTO LRFD 7th ED.
2. NO LIVE LOAD SURCHARGE
3. SOIL PARAMETERS:  $\beta=26.57'$  OR 21.8',  $\phi=32'$ ,  $\mu=0.50$ ,  $\gamma=125$  PCF.
4. 5,400 PSF BEARING RESISTANCE.
5. f'c @ 28 DAYS = 5.0 KSI.
6. REINFORCEMENT = BAR PER ASTM A615 GRADE 60. (EPOXY COATED)
7. BAR COVER = 2" MIN. U.N.O.

MANUFACTURED BY:



CAMP PRECAST  
CONCRETE PRODUCTS

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MILTON, VT 05468  
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PROJECT:

CULVERT REPLACEMENT  
16'-0" x 8'-0" BOX CULVERT  
PROJECT BF 0225(5) BRIDGE NO. 2  
WATERFORD, VERMONT

PREPARED BY:



860 HOOPER ROAD, ENDWELL, NY 13760  
PHONE(607)231-6600 FAX(607)231-6650

DRAWING SCHEDULE

SHEET NO.	DESCRIPTION	REVISIONS	
		REV. NO.	DATE
1	COVER	1	5/7/2018
2	PLAN AND ELEVATION		
3	END VIEWS		
4	BC-2 REINFORCING AND DETAILS	1	5/7/2018
5	BC-1 AND BC-3 DETAILS	1	5/7/2018
6	WINGWALL WW1 DETAILS	1	5/7/2018
7	WINGWALL WW2 DETAILS	1	5/7/2018
8	WINGWALL WW3 DETAILS	1	5/7/2018
9	WINGWALL WW4 DETAILS	1	5/7/2018
10	ANCHOR DETAILS		
11	CUTOFF WALL DETAILS	1	5/7/2018
12	TYPICAL DETAILS	1	5/7/2018
13	CUTOFF WALL LAYOUT PLAN		

**CURING, HANDLING, AND STORAGE PRACTICES AND PROCEDURES.**

1. THE CONCRETE UTILIZED WILL BE PRODUCED, INSPECTED, HANDLED, PLACED, FINISHED AND REPAIRED AS PER SECTIONS 540.05 THROUGH 540.07 OF THE VERMONT STANDARD SPECIFICATIONS FOR CONSTRUCTION. THE SPECIFIC MIX DESIGN WAS APPROVED ON 4-12-17 BY VTAOT STRUCTURAL CONCRETE ENGINEER, JAMES WILD.
2. AFTER REACHING A MINIMUM STRIPPING STRENGTH OF 3,500 PSI THE CULVERT SECTION MAY BE REMOVED FROM THE FORM. ALL STRUCTURAL PIECES SHALL BE CURED UNTIL ATTAINING DESIGN STRENGTH OF 5,000 PSI BY LEAVING THEM IN THE MOLD OR, THE FOLLOWING:
  - A. IMMEDIATELY AFTER THE STRIPPING PROCESS IS COMPLETE, THE CULVERT SECTION WILL BE PLACED ONTO A WOODEN AND STEEL STRUCTURE TO BEGIN THE CURING PERIOD.
  - B. CURING PROCEDURES SHALL FOLLOW SECTIONS 501.17 AND 540.08 OF THE VERMONT STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT AS FOLLOWS;
    - a. SECTION 501.17(b) WATER CURING SHALL BE MODIFIED TO INCLUDE CONTINUOUS MISTING AND OR FOGGING TO MAINTAIN AS NEAR AS POSSIBLE AND ATMOSPHERE OF 100% HUMIDITY
  - C. WHEN THE CULVERT SECTION ATTAINS DESIGN STRENGTH AS EVIDENCED BY TEST CYLINDER BREAKS CURED WITH THE PRECAST BOX SECTION, CURING PROCEDURES WILL END AND THE CONTAINMENT BUILDING WILL BE REMOVED.
  - D. AT THIS POINT, SECONDARY POURS (BAFFLES, HEADWALLS) CAN BE PERFORMED.
3. STRUCTURAL SECONDARY POURS SHALL BE CURED IN ACCORDANCE WITH VERMONT STANDARD SPECIFICATIONS FOR CONSTRUCTION SECTION 501.17(5).
4. AS PER SECTION 540.09 THE CULVERT SECTIONS "SHALL BE HANDLED, STORED, AND SHIPPED IN SUCH A MANNER AS TO MINIMIZE CHIPPING, CRACKS, FRACTURE, DISCOLORATION, AND EXCESSIVE BENDING STRESSES. UNITS DAMAGED BY HANDLING, STORAGE, OR SHIPPING SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. LOCATE DUNNAGE BELOW LIFTERS.
5. AS PER SECTION 540.09 "PRECAST CONCRETE WILL NOT BE CONSIDERED FOR SHIPMENT UNTIL IT HAS BEEN ACCEPTED." (BY VTAOT OR IT'S REPRESENTATIVE). THIS ACCEPTANCE SHALL INCLUDE VERIFICATION THAT PIECES ARE FREE FROM DEFECTS AND ALL SPECIFICATION REQUIREMENTS INCLUDING THE COMPRESSIVE STRENGTH AND TOLERANCE REQUIREMENTS HAVE BEEN ACHIEVED. IN ADDITION, PRECAST CONCRETE WILL NOT BE CONSIDERED FOR SHIPMENT FOR A MINIMUM 72 HOURS FOLLOWING THE COMPLETION OF CASTING.



5/8/18