

# Proposed Bridge Improvement Project

## Wilmington STP 013-1(14)

### Concrete:

#### Mix Designation: P60TER

1. Specified Mix Design - 5000 PSI
2. Proposed Mix Design - 6000 PSI
3. Striping Strength - 3000 PSI
4. Handling Strength - 3000 PSI
5. Shipping Strength - 5000 PSI
6. Install Strength - 5000 PSI
7. Traffic Loading - 5000 PSI

#### Fabrication Tolerances:

1. Width  $\pm 1/4"$
2. Height  $\pm 1/4"$
3. Length  $\pm 1/2"$
4. Rebar Cover 2" Min. (Unless Noted Otherwise)
5. Rebar Spacing  $\pm 1"$
6. Rebar Clearance  $\pm 1/4"$
7. Insert Placement  $\pm 1/4"$

#### Design Notes:

1. Design is in accordance w/ ASTM C1577, PCI MNL135, VAOT540 & AASHTO 2012 LRFD bridge design specs fifth edition
2. Any conflict between tolerances listed above shall result in the usage of the stricter tolerance
3. Design live load = HL-93
4. Materials and manufacturing shall conform to ASTM C1433

### Installation:

1. Sub Base for Box Culvert / Cut Off Walls to be Compacted and Level
2. Precast Cut Off Walls to be installed
3. All Elevations are to be Checked and Verified they Match Those of Plan Set
4. Begin Sequence of Installing All Box Culvert Sections
5. Clean Granular Backfill for structures used for Backfill of Footers & of Box Culvert so water can reach weep holes if applicable
6. Fill all Lifting Holes, Bolt Pockets and Box Culvert grooves and seams w/ non-shrink grout. Applied by Site Contractor.
7. ASTM C1675-11 Box culvert installation guidelines shall be followed.

### Reinforcing:

#### General Notes:

1. Reinforcing Steel -
  - a. Precast box sections, headwalls, wing walls, & cut off walls shall be level II dual coated bar ASTM A615
2. Materials and manufacturing shall conform to ASTM C1433

#### Tolerances:

1. Spacing  $\pm 1"$
2. Clearance  $\pm 1/4"$

#### Lap Lengths:

1. Per AASHTO 5.11.2.1.1 & 5.11.5.3.1  
Lap length for level II (dual coated):  
#4 Bar = 25"  
#6 Bar = 46"

### Joint Treatment:

#### Vertical Seams:

Per VTrans approved product list 780.02  
Overhead & vertical concrete repair mortar  
Applied by site contractor

#### Horizontal Seams / Grout:

Per VTrans approved product list 707.03  
Mortar, type IV  
Applied by site contractor

### Waterproofing:

1. By others if applicable
2. VTrans approved silane shall be shop applied to all exposed surfaces.

### Miscellaneous:

1. All exposed hardware to be galvanized.
2. All exposed edges of concrete shall be chamfered

### Legend:

- (A) 2"Ø PVC Sleeve
- (B) 4"Ø PVC Sleeve
- (C) Mechanical Bolt Pocket (A.L. Patterson w/ 1"Ø Coil Rod)
- (D) Oxford A750-7 Lifting Device
- (E) 1"Ø x 12" CX-9 Coil Loop Insert
- (F) 3/4"Ø FI-4234P Flared Loop Ferrule Insert
- (G) 1 1/2" x 3 1/2" Continuous Keyway
- (H) Solid Lines Indicate 3/4" Chamfer
- (I) 5/8" FI 64 Ferrule Insert

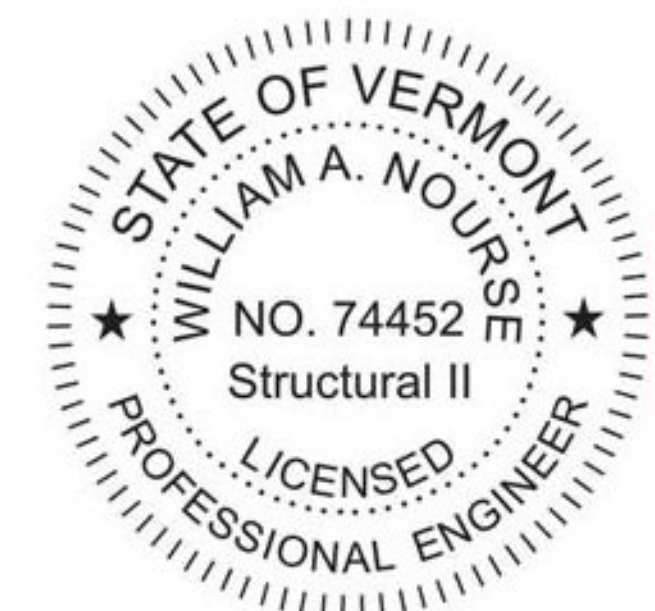
Vermont Agency of Transportation  
**RECEIVED**

CK'D BY JW      OK'D BY JS

June 24, 2014

RESUBMIT NO      Approved

BY KH      DATE 6-25-2014



CONTRACTORS VISPE:

**A** - Revised per VTrans approved as noted comments from May 9, 2014 review. Also revised lifting insert locations for stripping in shop.

PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #14213)  
SUPERVISOR: M. WHEELER  
DETAILER: I. ADAMS  
CHECKER: T. Dudley  
ENGINEER:

PROJECT NAME: Wilmington  
PROJECT #: STP 013-1(14)  
LOCATION: Wilmington, VT

M&M Excavating  
PO Box 585  
Chester, VT 05143  
Ph: (802) 875-3319

06/23/2014

FABRICATOR:  
193 INDUSTRIAL AVE.  
WILLISTON, VT 05495  
Ph: (802) 658-0201



TEXT

1\_OF\_7