

Job Name: 26-2254 - Wilder Box Culvert  
Job Location: Wilder, KY  
Contractor: Eaton Asphalt

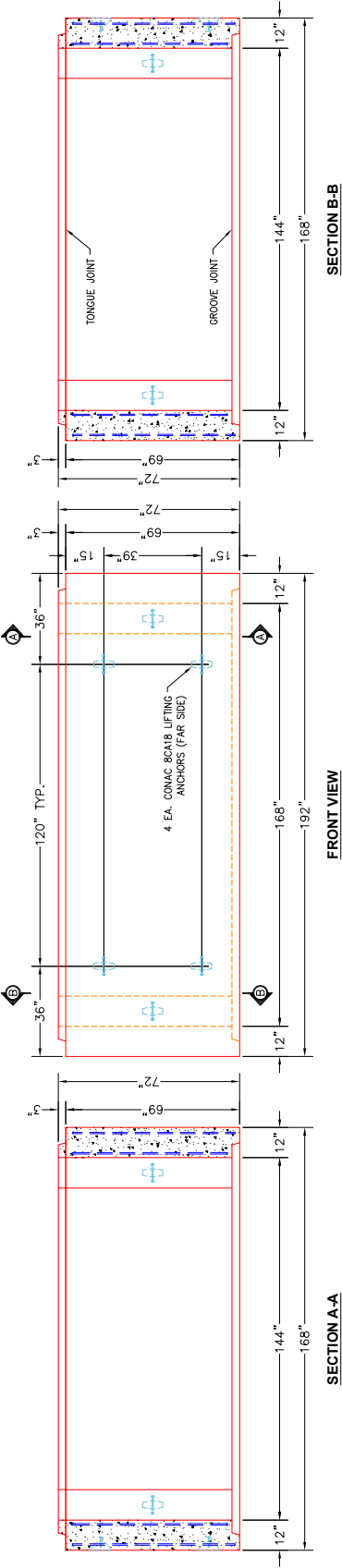
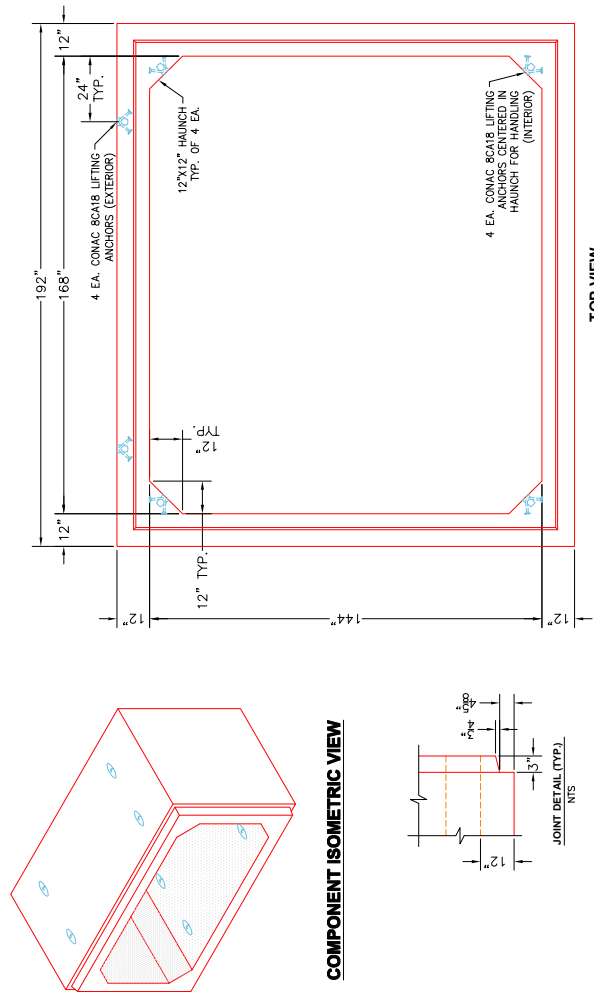
Plant: 100  
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Tech: Jared - A  
PC: E. Bradley



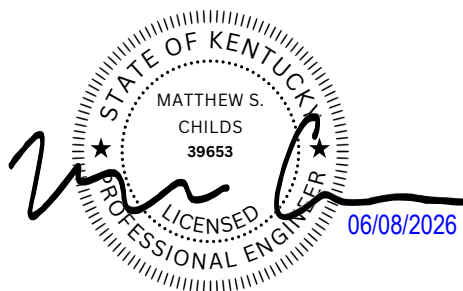
Structure ID: Box Culvert  
P4 BC168144-12W12T12F-12H BOX CULVERT (12W/12F/12T) T/G

- NOTES:
- 1. BOX CULVERT IS DESIGNED PER ATTACHED PE STAMPED DRAWINGS & CALCULATIONS.
  - 2. LOAD REQUIREMENTS PER KY-HL93 (KY TABLE 1)
  - 3. COVER DEPTH = 15' - 0"
  - 4. CONCRETE: 5,000 PSI AT 28 DAYS.
  - 5. REINFORCING: AS SHOWN BY MATT CHILDS ENGINEERING.
  - 6. BOX CULVERT TO BE SEALED WITH CS-102 ROLL BUTYL MASTIC & CS-212 12" WRAP. (SUPPLIED BY ICAST).
  - 7. WEIGHT: 48,363 LBS.



|                                  |                                    |                                         |                                        |                                                    |
|----------------------------------|------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------------------|
| Coating (Int):<br>Coating (Ext): | Seam Up: Tongue<br>Seam Dn: Groove | Wall Thickness: 12"<br>Floor Height: 0" | Height (Int): 69"<br>Height (Ext): 69" | Weight (Net): 48363 lb<br>Volume (Net): 12.35cu.yd |
|----------------------------------|------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------------------|

Project: Mooch Road  
Product: 14' x 12' Box Culvert  
Job: 26-2254  
Design No.:  
Location: Wilder, KY  
Reference #:



# MATT CHILDS ENGINEERING, PLLC

Project : City of Wilder  
Task : 14x12 15' Fill  
Job No. :

Client: ICast  
File: 20260605-ICast-CityofWilder-14x12(15'Fill).etcx

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Spec.: LRFD 9th ed.  
Type of Culvert: Precast

## Physical Dimensions

|                        |           |
|------------------------|-----------|
| Clear Span:            | 14'-0"    |
| Clear Height:          | 12'-0"    |
| Top Slab:              | 1'-0"     |
| Bottom Slab:           | 1'-0"     |
| Ext. Wall:             | 1'-0"     |
| Fill Depth:            | 15.00 ft  |
| Length:                | 4'-0"     |
| Skew Angle:            | 0.00 deg  |
| Bottom Slab Support:   | Full Slab |
| Top Haunch, Width:     | 1'-0"     |
| Top Haunch, Height:    | 1'-0"     |
| Bottom Haunch, Width:  | 1'-0"     |
| Bottom Haunch, Height: | 1'-0"     |

## Material Properties

|                              |           |
|------------------------------|-----------|
| Concrete                     |           |
| Strength, f <sub>c</sub> :   | 5.000 ksi |
| Density:                     | 0.150 kcf |
| Elasticity, E <sub>c</sub> : | 3834 ksi  |
| Type:                        | Normal wt |
| Steel                        |           |
| Yield, f <sub>y</sub> :      | 65 ksi    |
| Allow Stress:                | 39 ksi    |
| Elasticity, E <sub>s</sub> : | 29000 ksi |
| Soil                         |           |
| Density:                     | 0.120 kcf |
| Exposure Factor              |           |
| Class 2 Exposure             |           |
| Reinforcement Covers         |           |
| Ext. Cover Top Slab:         | 1"        |
| Ext. Cover Bottom Slab       | 1"        |
| Ext. Cover Walls             | 1"        |
| Int. Cover Walls             | 1"        |
| Int. Cover Top Slab          | 1"        |
| Int. Cover Bottom Slab       | 1"        |

## Controlling Ratings

Inventory Rating: 5.85  
Operating Rating: 7.59

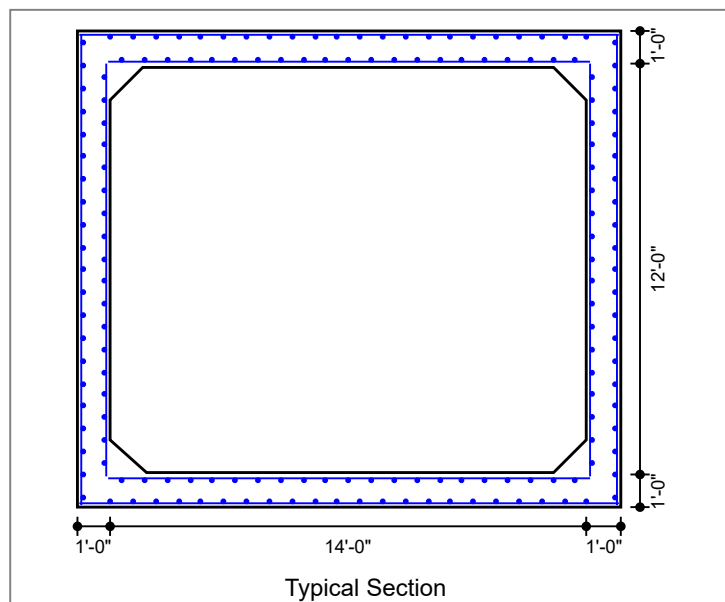
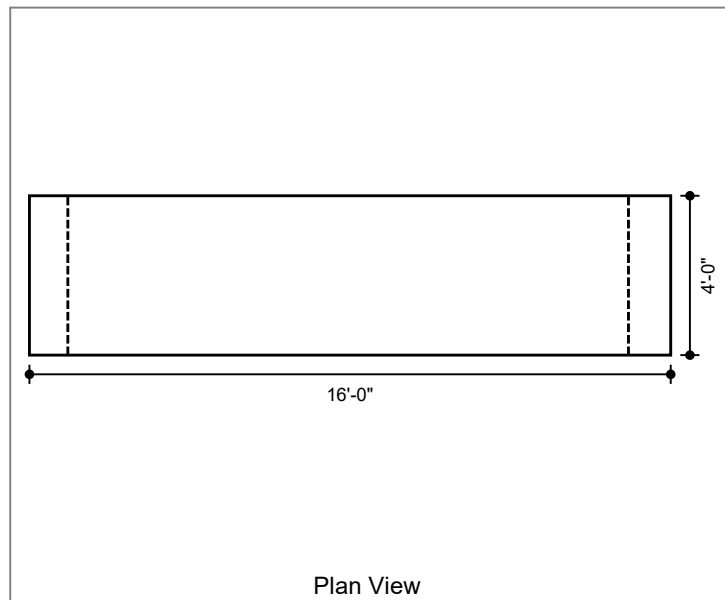
## Loads

|                         |                  |
|-------------------------|------------------|
| Live Load               |                  |
| Vehicle Names:          | HL-93            |
| Traffic Direction:      | Parallel         |
| Eq. Height of Soil:     | 2.00 ft (Calc'd) |
| Dead Load               |                  |
| Future Wearing Surface: | 0.000 klf        |
| Additional Dead Load:   | 0.000 klf        |
| Concentrated Loads:     | none             |

## Lateral Soil Loads

|                       |           |
|-----------------------|-----------|
| Eq. Fluid Press. Max: | 60.00 pcf |
| Eq. Fluid Press. Min: | 30.00 pcf |

|                          |                           |
|--------------------------|---------------------------|
| Interior Water Pressure: | yes, head pressure = 0 ft |
| Exterior Water Pressure: | no                        |



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Project : City of Wilder

Task : 14x12 15' Fill

Job No. :

Client: ICast

File: 20260605-ICast-CityofWilder-14x12(15'Fill).etcx

## Concrete Summary

Volume of Concrete: 2.148 cy/ft Total Volume of Concrete: 8.593 cy

## Reinforcing Steel Bar Schedule (lb)

| Location           | Mark       | Sheets Included | As Provided |
|--------------------|------------|-----------------|-------------|
| Top Slab(Int)      | A100 (AS2) | Top             | 1.200       |
| Bot Slab(Int)      | A200 (AS3) | Bot             | 1.290       |
| Top Slab(Ext)      | A300 (AS7) | Top             | 0.300       |
| Bot Slab(Ext)      | A400 (AS8) | Bot             | 0.300       |
| Corner(Top)        | A1 (AS1)   | Top             | 0.780       |
| Corner(Bot)        | A2 (AS1)   | Bot             | 0.780       |
| Wall(Int)          | B1 (AS4)   | L&R             | 0.300       |
| Wall(Ext)          | B2 (AS1)   | L&R             | 0.780       |
| Longit. Top (Int)  | C100 (AS5) | Top             | 0.150       |
| Longit. Bot (Int)  | C200       | Bot             | 0.150       |
| Longit. Top (Ext)  | C1 (AS6)   | Top             | 0.150       |
| Longit. Bot (Ext)  | C1 (AS6)   | Bot             | 0.150       |
| Longit. Wall (Ext) | C1 (AS6)   | L&R             | 0.150       |
| Longit. Wall (Int) | C1 (AS6)   | L&R             | 0.150       |