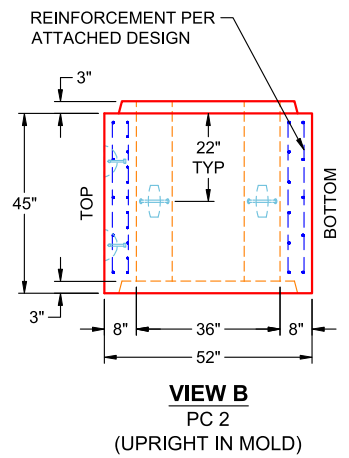
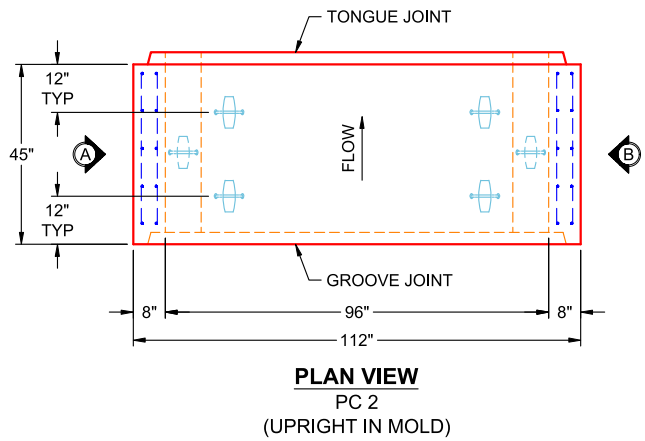
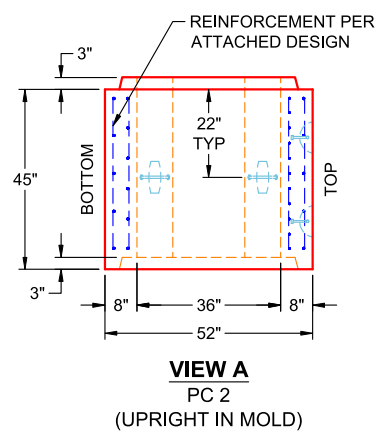
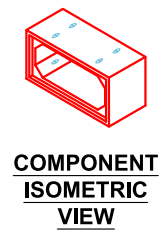
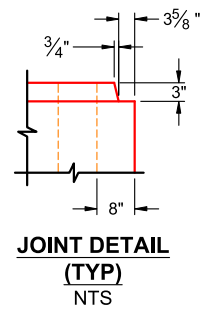
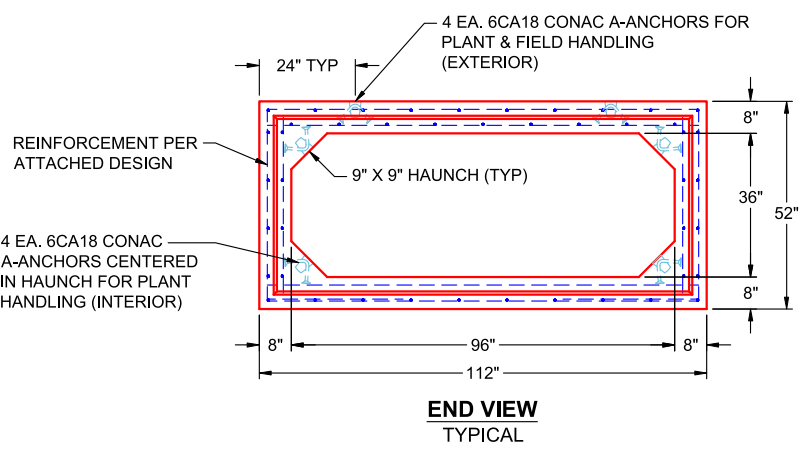



**Structure ID: BC 8 x 3 (PC 2)**  
**P1 BC096036-08WLF-9H**

**BOX CULVERT (08W/08F/08T) G/T**

- GENERAL NOTES:**
1. MANUFACTURED TO ASTM C-1577 & SECTION 714 OF INDOT STANDARD SPECIFICATIONS FOR REINFORCED CONCRETE BOX STRUCTURES
  2. LOAD REQUIREMENTS: HL93
  3. REINFORCEMENT PER ATTACHED DESIGN
  4. COVER DEPTH: 0'-5"
  5. CONCRETE: 5,000 PSI AT 28 DAYS
  6. JOINT SEALANT: 1" BUTYL MASTIC (CS-102)  
EXTERIOR JOINT WRAP: 12" WIDE (CS-212)
  7. WEIGHT: 8' X 3' RCBC = 2,548 LBS / LF  
(3'-9" LONG SECTION = 9,553 LBS)



PRODUCTION WORK ORDER		PRODUCT I.D.: BC096036-08WLF-9H	DESCRIPTION: 96" X 36" X 45" BOX CULVERT (8" WALLS & 9" HAUNCH)
	QUALITY CONTROL CHECKLIST	PRODUCT VIEW: RIGHT SIDE UP	CUSTOMER: BOWEN ENGINEERING CORPORATION
	<input type="checkbox"/> ALL DIMENSIONS CORRECT.	PLANT: BEAVER DAM, KY	PROJECT: ALCOA OUTFALL
	<input type="checkbox"/> LIFTERS INSTALLED INSIDE.	WEIGHT: 9,553 LBS	STRUCTURE: BC 8 X 3 (PC 2)
	<input type="checkbox"/> RECESS WITH HAUNCHES CORRECT.	TOP SECTION JOINT: TONGUE	ORDER NO: 25-2073
	<input type="checkbox"/> REINFORCING CORRECT.	BASE SECTION JOINT: GROOVE	PE: J.H. ROSS
	<input type="checkbox"/> SURFACE QUALITY ACCEPTABLE.	QC CHECK INITIALS:	DRAWING: K. CARDWELL
	<input type="checkbox"/> LIFTERS INSTALLED OUTSIDE.		DATE: 04/17/26
<input type="checkbox"/> PRODUCT SQUARE.		SCALE: NTS	
			PG. 1 OF 1

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# INFRASTRUCTURE PRECAST (ICAST)

Sht \_\_\_\_\_ of \_\_\_\_\_  
 By: J. Horsley  
 Ck: \_\_\_\_\_  
 4/17/2026 8:51:51 AM  
 File: 8x3 BC Four Sided (3.75ft sections) - 25-2073 Alcoa Outfall, etc

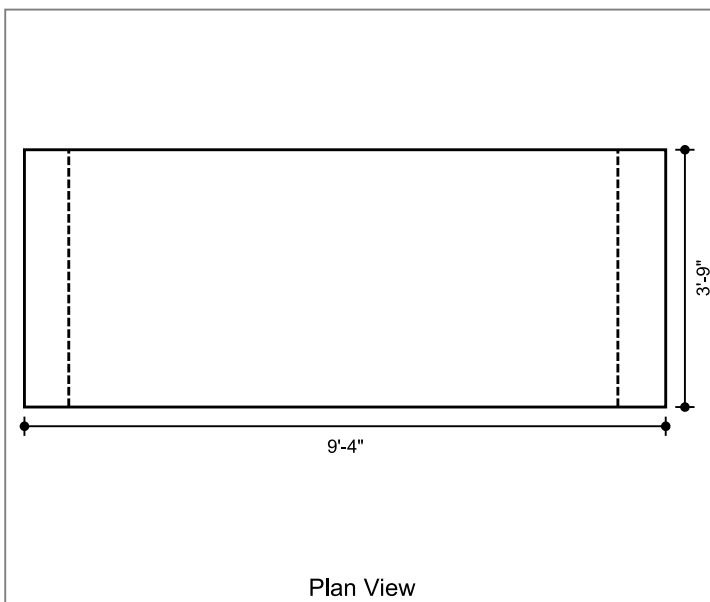
Project : Alcoa Outfall  
 Task :  
 Job No. : 25-2073

Client: Bowen Engineering  
 File: 8x3 BC Four Sided (3.75ft sections) - 25-2073 Alcoa Outfall, etc

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

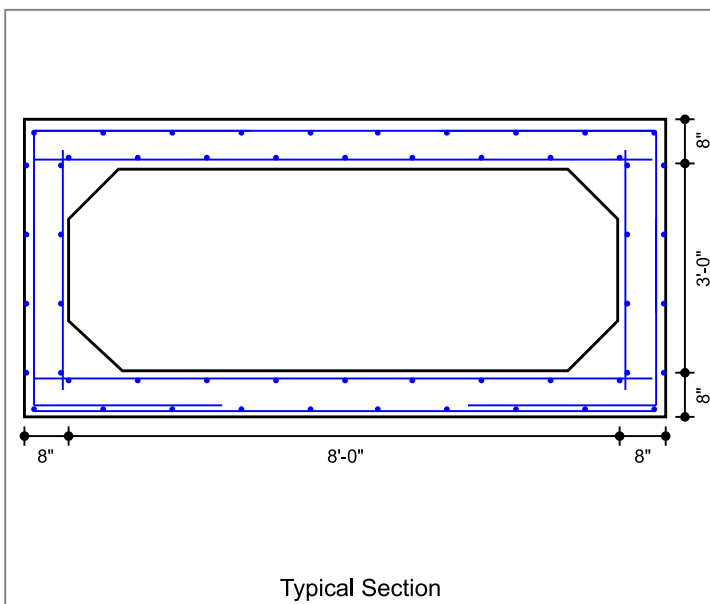
## Physical Dimensions

Clear Span: 8'-0"  
 Clear Height: 3'-0"  
 Top Slab: 8"  
 Bottom Slab: 8"  
 Ext. Wall: 8"  
 Fill Depth Range  
 Maximum: 5.00 ft  
 Minimum: 2.00 ft  
 Increment: 1.00 ft  
 Length: 3'-9"  
 Skew Angle: 0.00 deg  
 Bottom Slab Support: Full Slab  
 Top Haunch, Width: 9"  
 Top Haunch, Height: 9"  
 Bottom Haunch, Width: 9"  
 Bottom Haunch, Height: 9"



## 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>: 60 ksi  
 Allow Stress: 36 ksi  
 Elasticity, E<sub>s</sub>: 29000 ksi  
 Soil  
 Density: 0.120 kcf  
 Exposure Factor  
 Class 2 Exposure  
 Reinforcement Covers  
 Ext. Cover Top Slab: 2"  
 Ext. Cover Bottom Slab: 1"  
 Ext. Cover Walls: 1 1/2"  
 Int. Cover Walls: 1"  
 Int. Cover Top Slab: 1"  
 Int. Cover Bottom Slab: 1"



## Controlling Ratings

Inventory Rating: 1.14  
 Operating Rating: 1.48

## Loads

Live Load  
 Vehicle Names: HL-93  
 Traffic Direction: Parallel  
 Eq. Height of Soil: Calculated  
 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 : Alcoa Outfall  
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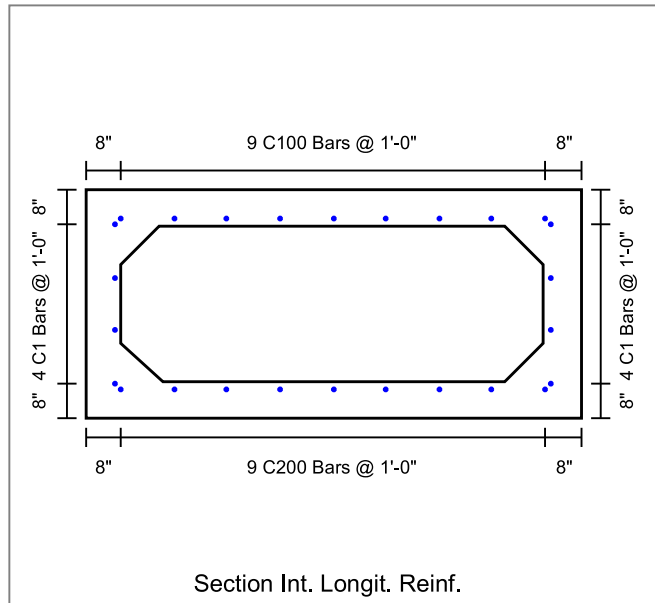
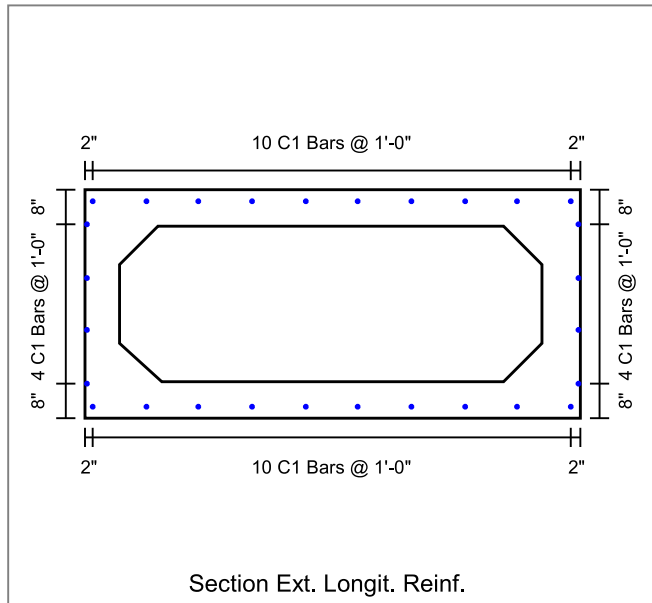
Client: Bowen Engineering  
 File: 8x3 BC Four Sided (3.75ft sections) - 25-2073 Alcoa Outfall etc

## Concrete Summary

Volume of Concrete: 0.651 cy/ft Total Volume of Concrete: 2.440 cy

## Reinforcing Steel Bar Schedule (lb)

Location	Mark	Qty	Size	Spacing	Type	Length	Hor.Leg	Ver.Leg	Tot.Weight
Top Slab(Int)	A100 (AS2)	12	3	4"	S	9'-0"	--	--	41.0
Bot Slab(Int)	A200 (AS3)	6	4	8"	S	9'-0"	--	--	36.0
Top Slab(Ext)	A300 (AS7)	4	4	1'-0"	S	9'-0"	--	--	24.0
Bot Slab(Ext)	A400 (AS8)	4	4	1'-0"	S	9'-0"	--	--	24.0
Corner(Top)	A1 (AS1)	16	4	6"	L	5'-10"	3'-2"	2'-8"	62.0
Corner(Bot)	A2 (AS1)	16	4	6"	L	5'-6"	2'-9"	2'-9"	59.0
Wall(Int)	B1 (AS4)	8	4	1'-0"	S	3'-6"	--	--	19.0
Longit. Top (Int)	C100 (AS5)	9	4	1'-0"	S	3'-8"	--	--	22.0
Longit. Bot (Int)	C200	9	4	1'-0"	S	3'-8"	--	--	22.0
Longit. Top (Ext)	C1 (AS6)	10	4	1'-0"	S	3'-8"	--	--	24.4
Longit. Bot (Ext)	C1 (AS6)	10	4	1'-0"	S	3'-8"	--	--	24.4
Longit. Wall (Ext)	C1 (AS6)	8	4	1'-0"	S	3'-8"	--	--	19.5
Longit. Wall (Int)	C1 (AS6)	8	4	1'-0"	S	3'-8"	--	--	19.5
									397



# INFRASTRUCTURE PRECAST (ICAST)

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Project : Alcoa Outfall

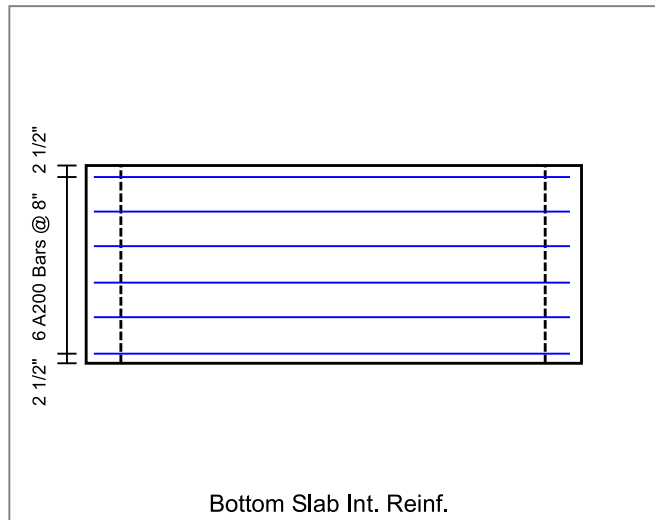
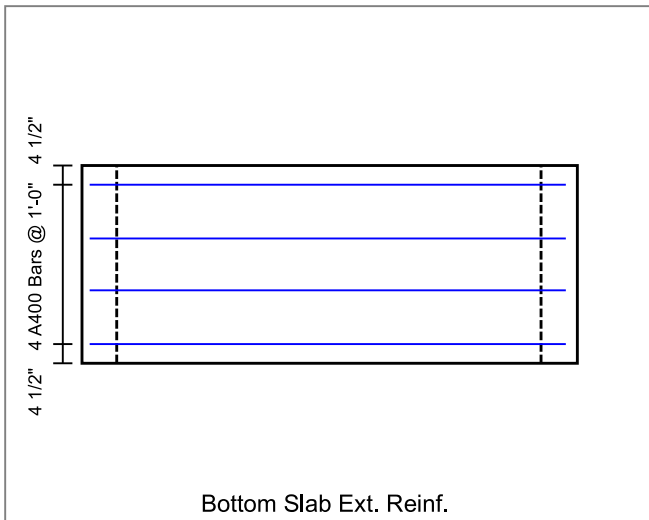
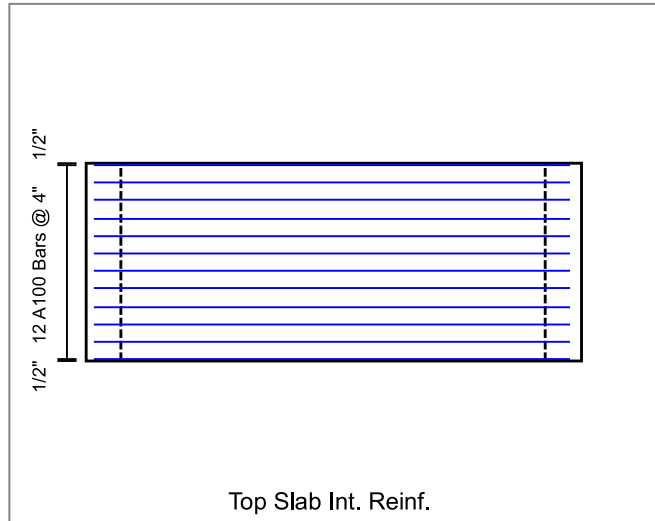
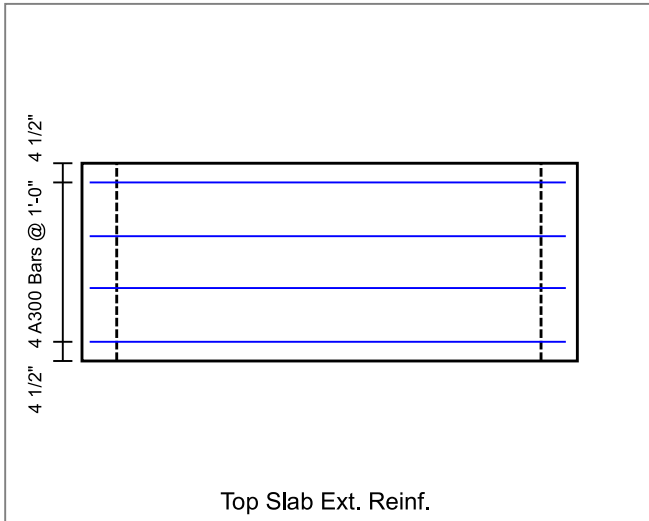
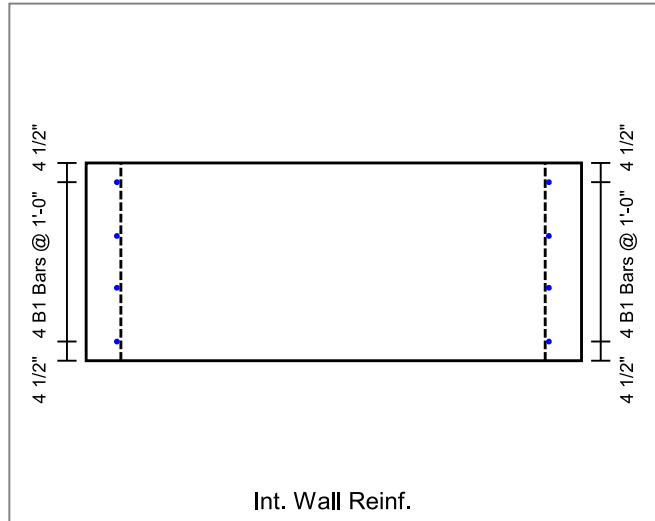
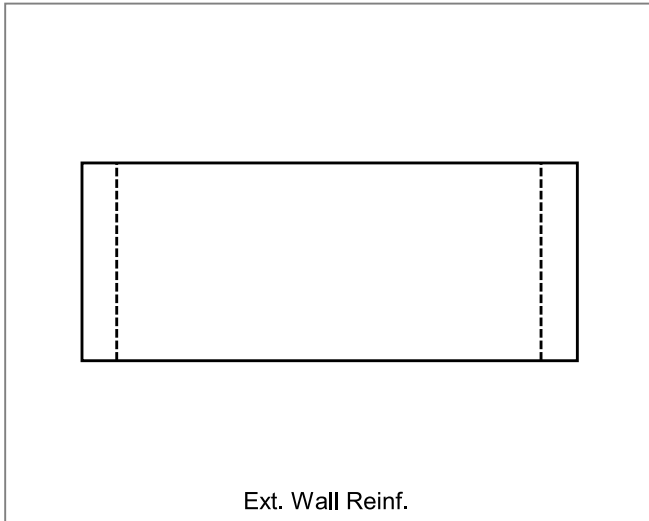
Task :

Client: Bowen Engineering

Job No. : 25-2073

File: 8x3 BC Four Sided (3.75ft sections) - 25-2073 Alcoa Outfall Section

Sheet 4



# INFRASTRUCTURE PRECAST (ICAST)

Sht \_\_\_\_\_ of \_\_\_\_\_

By: J. Horsley

Ck: \_\_\_\_\_

4/17/2026 8:51:51 AM

Project : Alcoa Outfall

Task :

Client: Bowen Engineering

Job No. : 25-2073

File: 8x3 BC Four Sided (3.75ft sections) - 25-2073 Alcoa Outfall etc

Sheet 4 of 4

