

Job Name: 24-1643B - KYTC McCracken Co. Call 200 (ID 241301)
Job Location: Paducah, KY
Contractor: Jim Smith Contracting Co, LLC

Plant: 100

5/28/2026 7:51:18 AM

Tech: J. Horsley

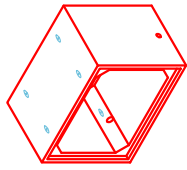
PC: C. Goff



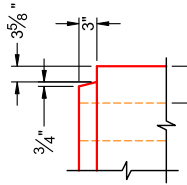
Structure ID: St. 43+62 (PC 11)

P1 BC096072-08WLF-9HC

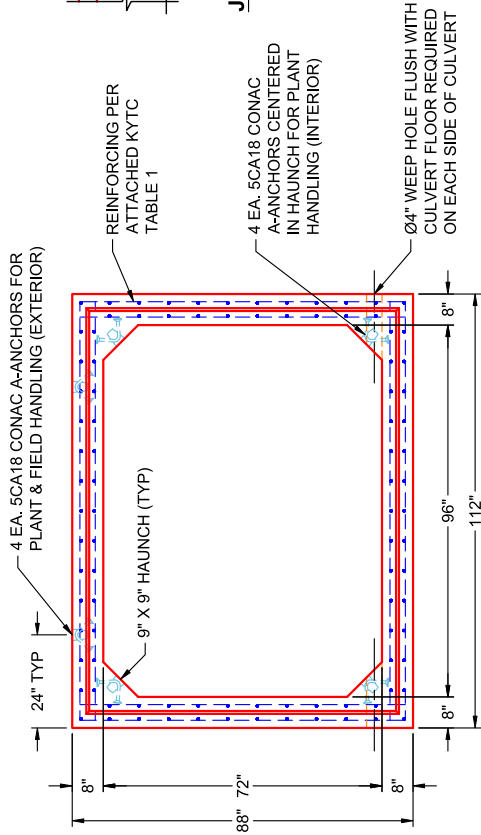
BOX CULVERT (08W/08F/08T) G/T



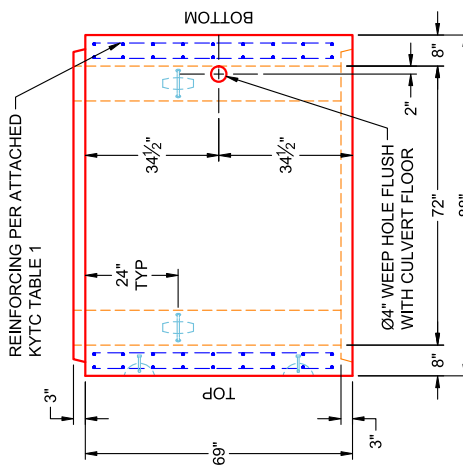
COMPONENT
ISOMETRIC
VIEW



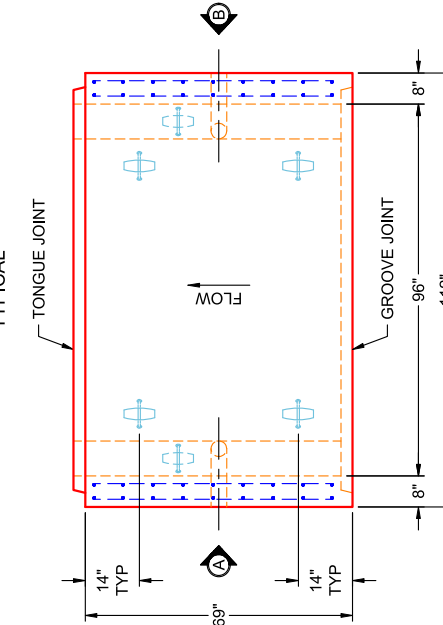
JOINT DETAIL
(TYP)
NTS



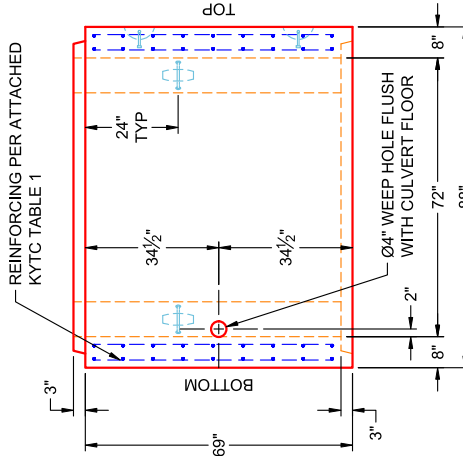
END VIEW
TYPICAL



VIEW B
PC 11
(UPRIGHT IN MOLD)



PLAN VIEW
PC 11
(UPRIGHT IN MOLD)



VIEW A
PC 11
(UPRIGHT IN MOLD)

- GENERAL NOTES:**
- PER SECTION 605 OF KYTC STANDARD SPECS FOR ROAD & BRIDGE CONSTRUCTION
- KYTC STAMP REQUIRED
- WEEP HOLES REQUIRED
 - LOAD REQUIREMENTS: KY-HL93 (KY TABLE 1)
 - REINFORCEMENT PER ATTACHED KYTC TABLE 1
 - COVER DEPTH: 10"
 - CONCRETE: 5,000 PSI AT 28 DAYS
 - JOINT SEALANT: 1" BUTYL MASTIC (CS-102)
EXTERIOR JOINT WRAP: 12" WIDE (CS-212)
 - WEIGHT: 8' X 6' RCBC = 3,138 LBS / LF
(5'-9" LONG SECTION = 18,044 LBS)

PRODUCTION WORK ORDER		PRODUCT I.D.: BC096072-08WLF-9H	DESCRIPTION: 96" X 72" X 69" BOX CULVERT (8" WALLS & 9" HAUNCH)
	QUALITY CONTROL CHECKLIST		CUSTOMER: JIM SMITH CONTRACTING
	☐ ALL DIMENSIONS CORRECT.		PROJECT: KYTC MCCracken CO. CALL 200 (ID 241301)
	☐ LIFTERS INSTALLED INSIDE.		STRUCTURE: ST. 43+62 (PC 11)
	☐ RECESS WITH HAUNCHES CORRECT.		ORDER NO: 24-1643B
	☐ REINFORCING CORRECT.		PE: J.H. ROSS
☐ SURFACE QUALITY ACCEPTABLE.		TOP SECTION JOINT: TONGUE	DRAWING: K. CARDWELL
☐ LIFTERS INSTALLED OUTSIDE.		BASE SECTION JOINT: GROOVE	SCALE: NTS
☐ PRODUCT SQUARE.		QC CHECK INITIALS:	PG. 1 OF 1

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- * <L1> is Splice Length
- * (AS7) is Top Slab Outside
- * (AS8) is Bottom Slab Outside
- * See Box Culvert Design Summary Sheet for transverse and distribution reinforcement, as required.
- * For sidewall thicknesses of 6 in. and above, extend AS2 and AS3 a min. of 4 in. beyond the inside face of the sidewall. For thicknesses less than 6 in., extend AS2 and AS3 at least to within 1-1/2 in. of the outside face of the sidewall.

Notes:

- 1) Other reinforcement schemes that provide the required reinforcement areas at all locations identified in the program output are acceptable.
- 2) Longitudinal reinforcement is not shown for clarity, see AASHTO M259 for longitudinal reinforcement and for additional requirements.

KY Table 1

Precast Culvert KYHL-93 Design Table

Design Earth Cover, ft		As1	As2	As3	As4	As7	As8	As5	As6
8x6x8	0<2	0.267	0.536	0.382	0.192	0.192	0.192	0.192	0.192
	2<3	0.266	0.458	0.382	0.192	0.192	0.192	0.192	0.192
	3-5	0.237	0.392	0.359	0.192	0.192	0.192		
	10	0.244	0.365	0.38	0.192	0.192	0.192		
	15	0.321	0.489	0.505	0.192	0.192	0.192		
	20	0.408	0.627	0.644	0.192	0.192	0.192		
	25	0.502	0.774	0.791	0.192	0.192	0.192		
	30	0.602	0.928	0.946	0.192	0.192	0.192		
	35	0.708	1.089	1.108	0.192	0.192	0.192		

Design Earth Cover, ft		As1	As2	As3	As4	As7	As8	As5	As6
8x7x8	0<2	0.245	0.557	0.403	0.192	0.192	0.192	0.197	0.192
	2<3	0.243	0.479	0.403	0.192	0.192	0.192	0.192	0.192
	3-5	0.215	0.409	0.378	0.192	0.192	0.192		
	10	0.225	0.378	0.396	0.192	0.192	0.192		
	15	0.295	0.507	0.526	0.192	0.192	0.192		
	20	0.374	0.651	0.671	0.192	0.192	0.192		
	25	0.459	0.804	0.825	0.192	0.192	0.192		
	30	0.549	0.965	0.987	0.192	0.192	0.192		
	35	0.644	1.134	1.157	0.192	0.192	0.192		

Design Earth Cover, ft		As1	As2	As3	As4	As7	As8	As5	As6
8x8x8	0<2	0.226	0.575	0.42	0.192	0.192	0.192	0.203	0.192
	2<3	0.224	0.494	0.42	0.192	0.192	0.192	0.192	0.192
	3-5	0.201	0.423	0.393	0.192	0.192	0.192		
	10	0.211	0.386	0.407	0.192	0.192	0.192		
	15	0.276	0.518	0.54	0.192	0.192	0.192		
	20	0.349	0.665	0.688	0.192	0.192	0.192		
	25	0.427	0.822	0.846	0.192	0.192	0.192		
	30	0.51	0.988	1.013	0.192	0.192	0.192		

Default Configuration Image

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Design Code: 2450110-LL110

Strength Reduction Factors: Flexure: 1, Shear: 0.9

Axial Thrust Load Factor: User Specified

Crack Width (CHEDC Only): 0.25 mm

Reinforcement Diameter: 1

Sidewall Outside	(AS1)	(0.05)	Sidewall Thickness	+	0	in.
Top Inside	(AS2)	(0.05)	Top Slab Thickness	+	0	in.
Bottom Inside	(AS3)	(0.05)	Bottom Slab Thickness	+	0	in.
Sidewall Inside	(AS4)	(0.05)	Sidewall Thickness	+	0	in.
Top Outside	(AS7)	(0.05)	Top Slab Thickness	+	0	in.
Bottom Outside	(AS8)	(0.05)	Bottom Slab Thickness	+	0	in.

Maximum Spacing: 4 in.

Soil Load Data: Soil Unit Weight: 120 pcf, Minimum Lateral Pressure Coefficient: 0.25, Maximum Lateral Pressure Coefficient: 0.5

Vertical Arching Factor: Embankment/Compacted

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Jeremiah Littlejohn Documents 3052483

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SPAN < / ft: {Span/12} + 1 in., {Span/12} + 1 in., {Span/12} + 1 in., {Span/12} + 1 in.

SPAN > / ft: {Span/12} + 0 in., {Span/12} + 0 in., {Span/12} + 0 in., {Span/12} + 0 in.

MINIMUM DEPTH OF FILL < 2 ft: 2 in., 1 in., 1 in., 1 in., 1 in., 1 in.

MINIMUM DEPTH OF FILL >= 2 ft: 1 in., 1 in., 1 in., 1 in., 1 in., 1 in.

Reinforcement Type: Welded Wire

Restore Default Settings

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Material Properties

Main Reinforcement Yield Strength: 65000 psi

Design Concrete Strength: 5000 psi

Concrete Unit Weight: 150 pcf

Stirrup Reinforcement Developable Yield Stress: 60000 psi

Total Service Stress Limit: 100 %

Boxcar - Default (page 3) - Intermodal

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Live Load Data: HS-Series: 25 tons, Interstate/Tandem: 25 kips, Cooper Series: 80 kips, CHEDC Truck: 140 kips, Tandem/Tandem: 140 kips, Other: 15 kips, None: 15 kips

Magnitude (N): 25 tons, 25 kips, 80 kips, 140 kips, 140 kips, 15 kips

Direction of Traffic: Parallel, To Span

Impact Factor Options: Design Code: 1

Impact Factor (User Def): 1

Lane Load: 0 lb/ft

Live Load Distribution Factor (LLDF): Design Code: 1.15

Fluid Loads: Depth of Fluid: 1 * Hise, Fluid Unit Weight: 62.5 pcf

Surcharge Loads: Uniform Vertical: 0 lb/ft, Lateral - Top of Culvert (LLTC): 90 lb/ft, Lateral - Bottom of Culvert (LLBC): 90 lb/ft

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Interstate/Tandem Truck Wheel Layout

Diagram showing truck wheel layout with dimensions: 14 ft, 5 ft, 0.67 ft, 0.5 ft, 0.5 ft, 4 ft, A=Axle Load