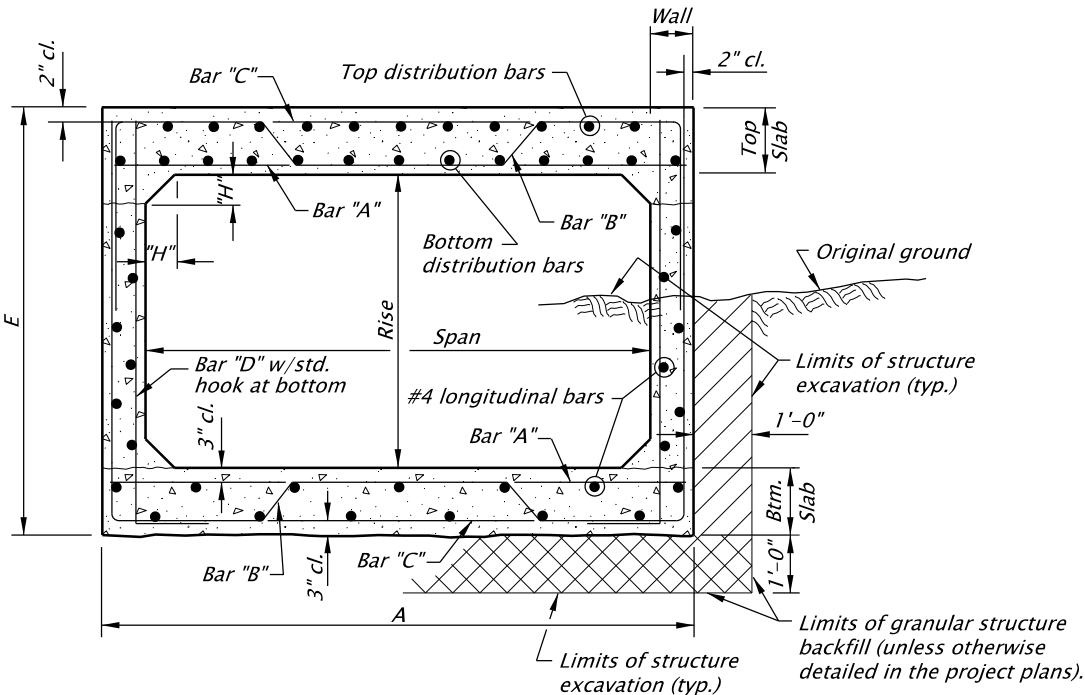


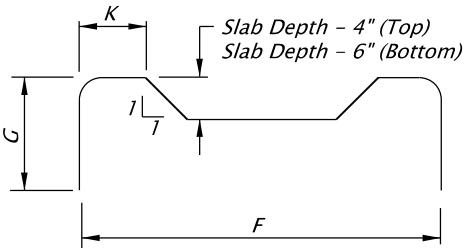
19-JAN-2024

BR820.dgn

SIZE		FILL	QUANTITY PER L.F.		DIMENSIONS						"A" BARS			"B" BARS								"C" BARS						B and C BARS	"D" BARS			#4 DIST. BARS		#4 LONG WALLS	#4 LONG BOTTOM SLAB	DESIGN FACTORED NET BRNG. PRESS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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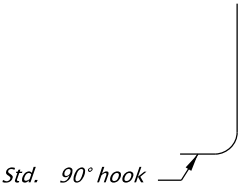
TYPICAL SECTION
NONE



BAR "B"



BAR "C"



BAR "D"

GENERAL NOTES:

- Box Culverts are designed in accordance with AASHTO LRFD Bridge Design Specifications – 6th edition, the ODOT Bridge Design and Drafting Manual (BDDM), and the ODOT Geotechnical Design Manual (GDM, 2013).
- Box culverts are designed for the following loads:
 - Live Load: HL-93 live load
 - Live Load Surcharge: 2 ft live load surcharge
 - Earth Load:
 - 125 pcf moist unit weight vertical earth load
 - 135 pcf saturated unit weight vertical earth load
 - Lateral earth pressure including compaction induced lateral earth pressure using Peck and Mesri method per the GDM: assumes backfill peak soil friction angle of 34 degrees, compacted backfill unit weight of 125 pcf, and backfill compacted with hand-operated vibratory roller (combined operational weight plus dynamic or centrifugal force not greater than 5,000 lbs), operated within a distance of 0.2ft from the culvert wall.
 - Water: 62.4 pcf; culvert modeled completely full and completely empty
 - Future Wearing Surface allowance: 25 psf
- Design is applicable for soils with a subgrade modulus between 50 lb/in³ and 1000 lb/in³.
- Provide reinforcing steel according to ASTM Specification A706, or AASHTO M31 (ASTM A615) Grade 60. Use the following splice lengths unless shown otherwise:

Reinforcing Splice Lengths (Class B) Grade 60 $f_c=3.3$ ksi							
Bar Size	#3	#4	#5	#6	#7	#8	#9
Uncoated	1'-0"	1'-4"	1'-8"	2'-0"	2'-9"	3'-7"	4'-6"

- See Project Plans for additional corrosion protection measures, if required.
- Place bars 2" clear of the nearest face of concrete unless shown otherwise.
- Splice bar "B" (top) with bar "B" (bottom) and bar "C" (top) with bar "C" (bottom). Bars "A" and "C" alternate with bar "B".
- Provide Class 3300 – 1 1/2 or 3/4 concrete for all cast-in-place box culvert concrete.
- Do not place and compact backfill until top slab concrete has reached design strength.
- See Standard Drawing BR800 for wingwall and apron details when required.
- For box culvert with fill heights in more than one range, use the box culvert for the highest height except for box culverts with fill heights in the 0'-2' and 2'-10' range, use the box culvert for the 0'-2' fill.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS CAST-IN-PLACE CONCRETE BOX CULVERTS GENERAL DETAILS 6 x 4 and 6 x 6 2024			
DATE	REVISION	DESCRIPTION	
01-2021	Label dlmension H		
01-2024	Changed span size from ; to 6		
CALC. BOOK NO.	6402, 6406, 6407	SDR DATE	19-JAN-2024
			BR820