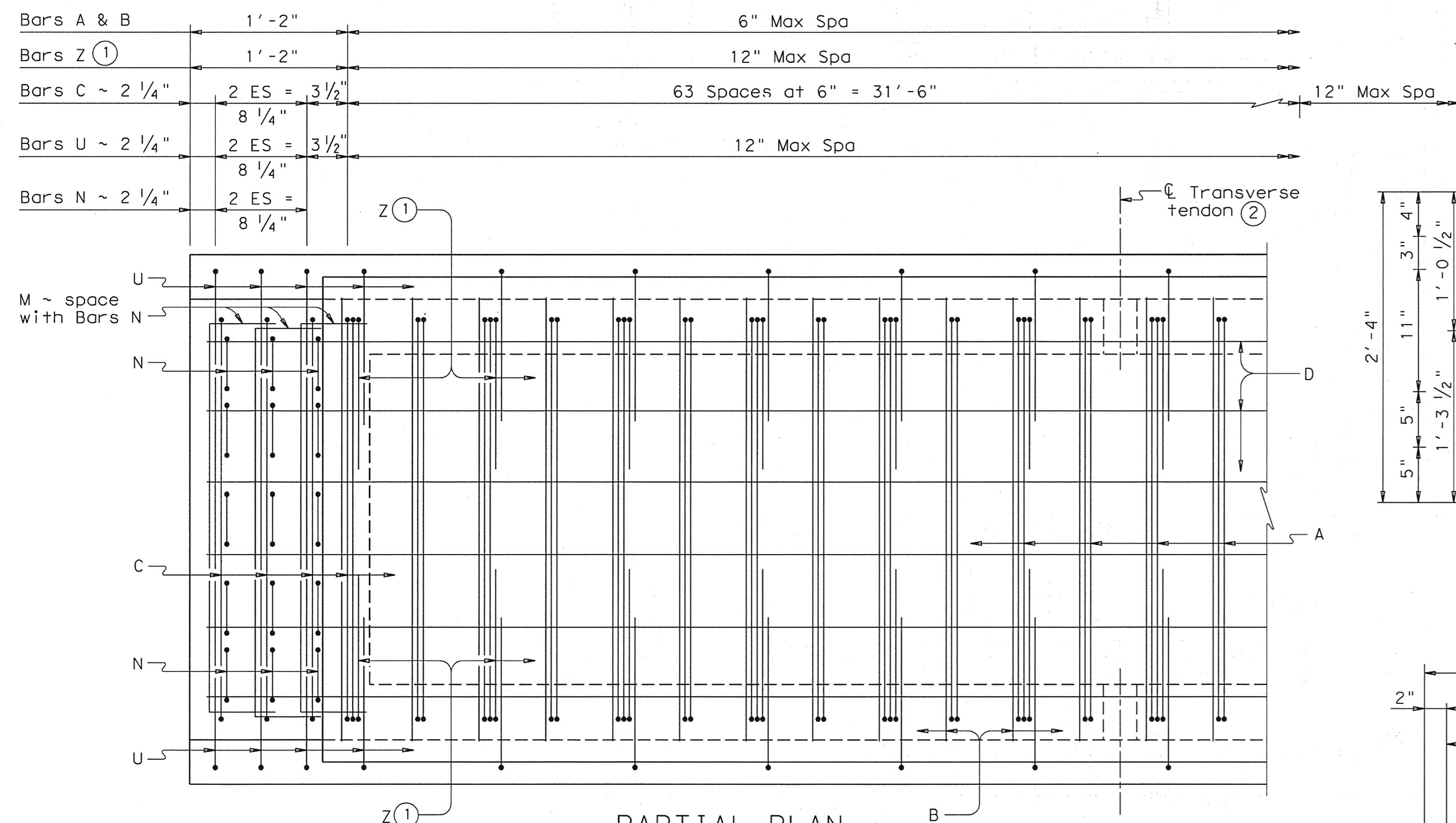
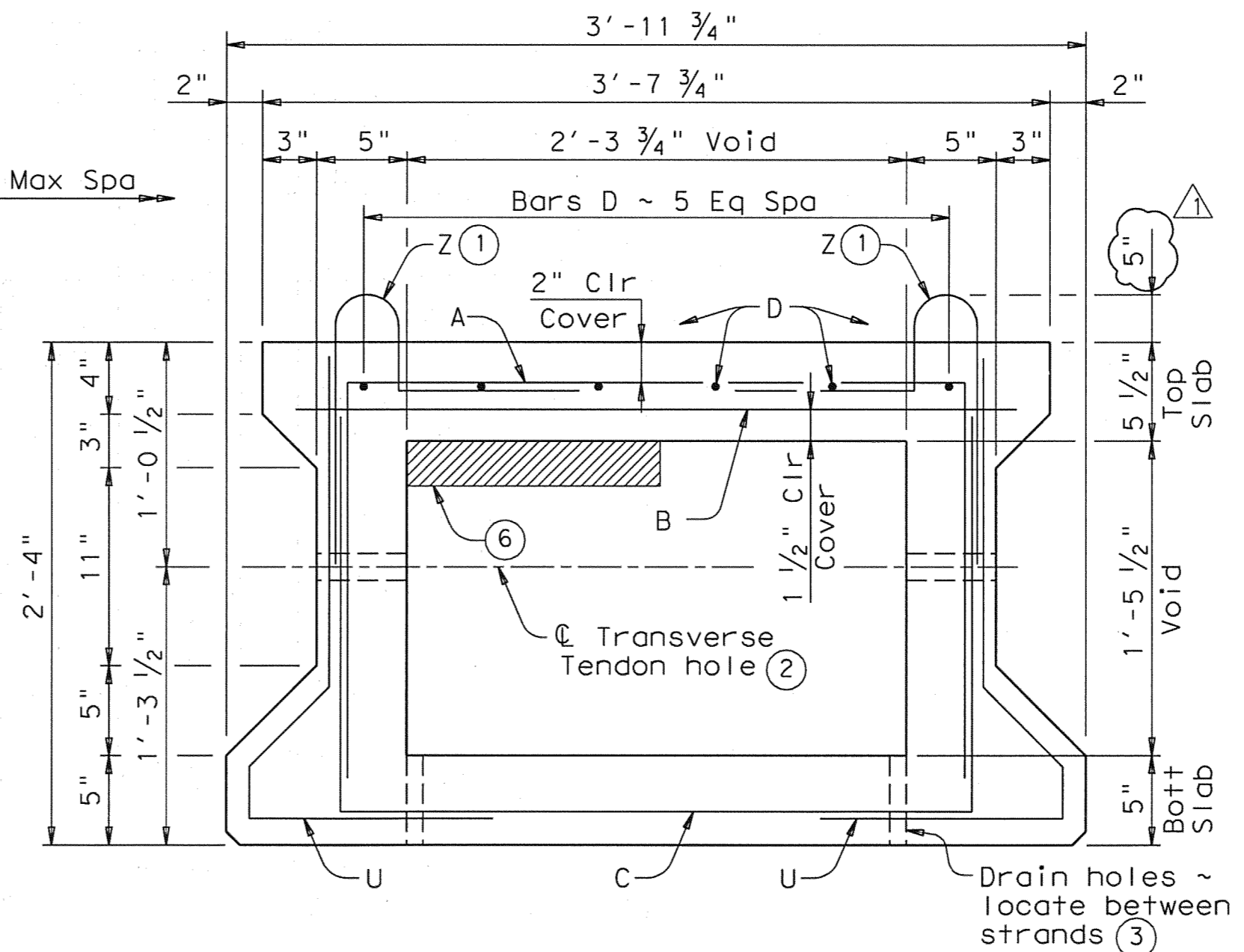


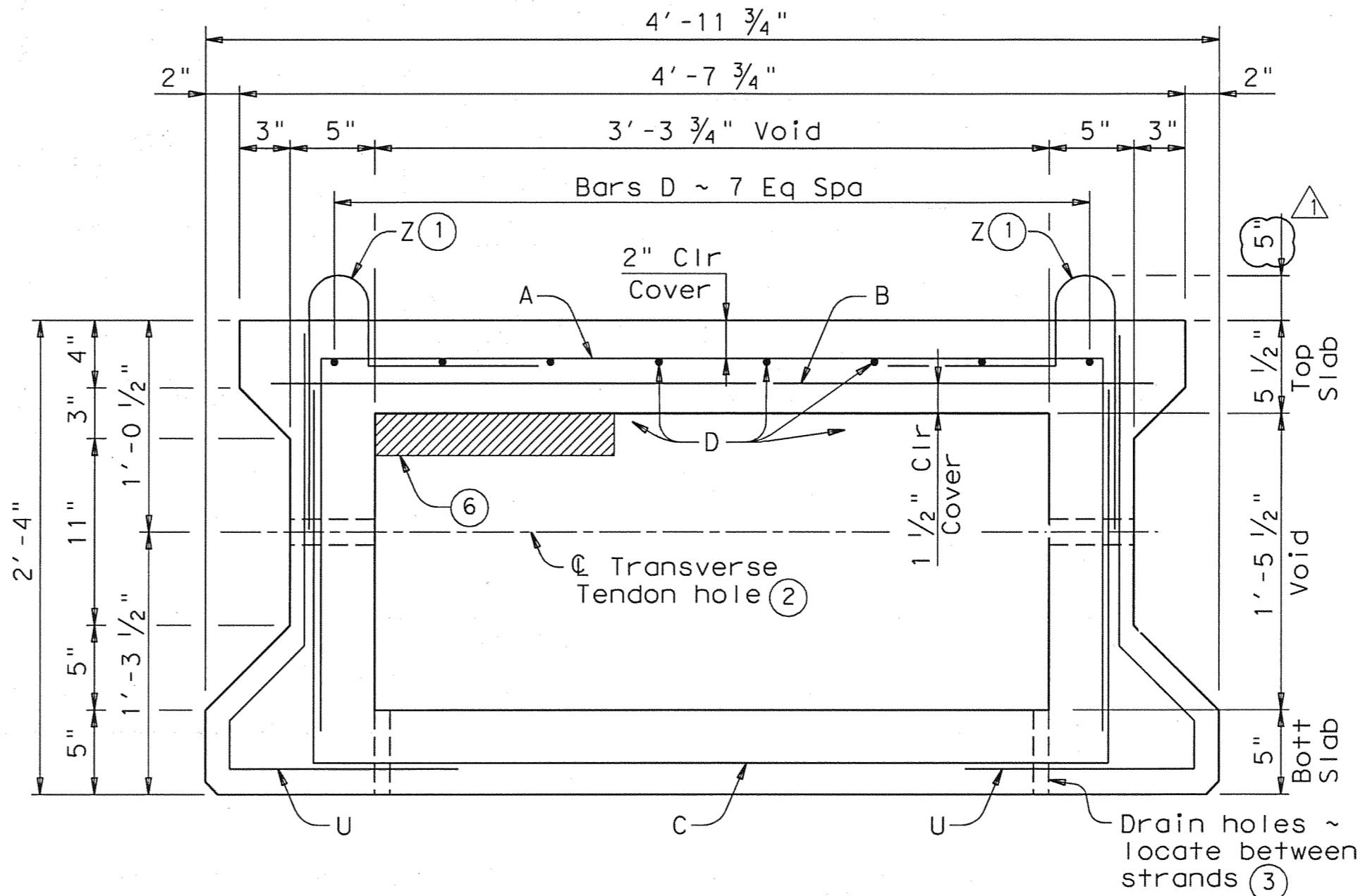
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PARTIAL PLAN
(Showing Type 4B28)



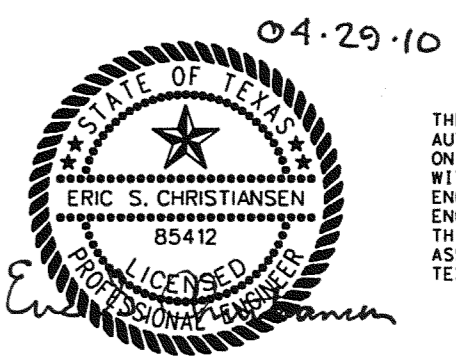
TYPICAL SECTION ~ TYPE 4B28



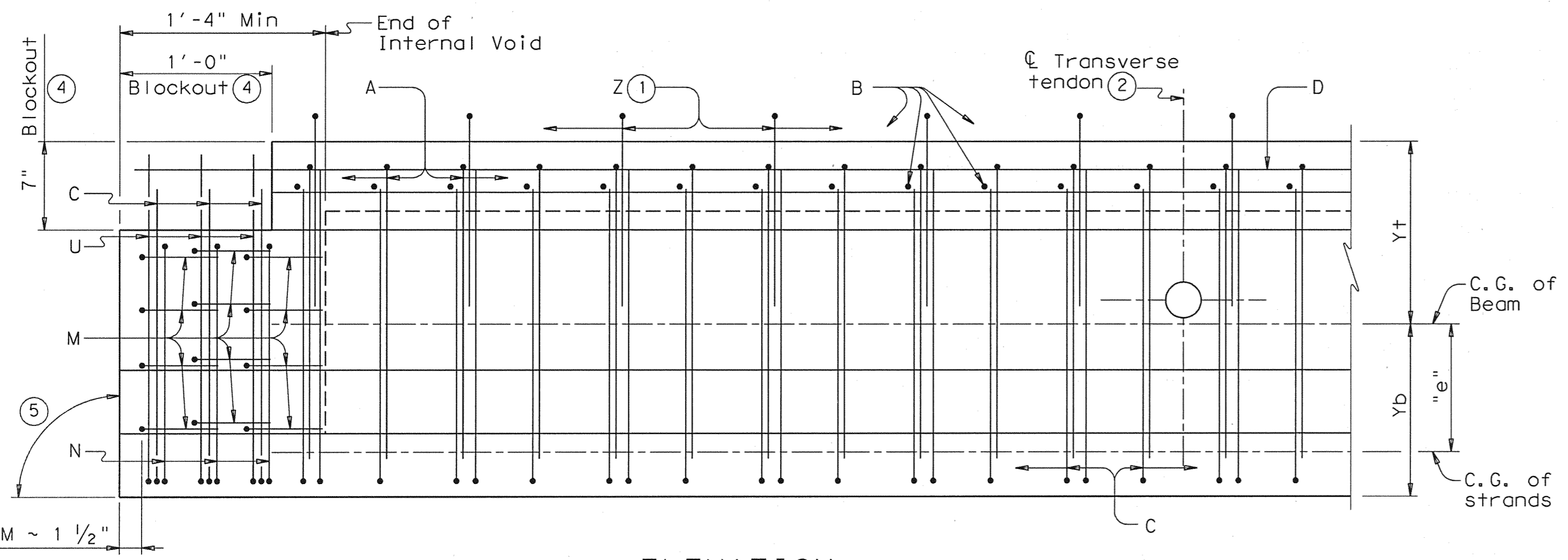
TYPICAL SECTION ~ TYPE 5B28

- Bars Z are required for beams topped with a cast-in-place concrete slab only.
- Post-tensioning tendons are required for beams not topped with a Min 5" cast-in-place concrete slab. See span details for number and spacing of transverse tendons. Cast interior diaphragms in exterior beams and beams that serve temporarily as exterior beams in staged constructed bridges. See "Blockout, Interior Diaphragm, and Drain Details". Form 3" Dia holes in interior beams. See standard BBPT for details.
- Place drain holes (1" Dia PVC Sch 40 Pipe) as shown in all beam void corners including each side of interior diaphragms. See "Blockout, Interior Diaphragm, and Drain Details".
- Blockouts required at ends of all beams. Extend beam reinforcement into blockouts.
- 90° at conventional Interior Bents. Ends of beams shall be vertical at Abutment backwall and Inverted Tee Bent Stems.
- Showing void modification required in exterior beams not topped with a Min 5" cast-in-place concrete slab. See standard BBRA0 for void modification dimensions.
- Based on 150 pcf weight density of concrete. Weight of end blocks and interior diaphragms is not included.

GENERAL NOTES:
 Designed according to AASHTO LRFD Specifications. Use Class H concrete. Use Class H (HPC) if required elsewhere in plans. All reinforcing steel must be Grade 60.
 Two-stage monolithic casting is required. The concrete in the first stage cast (bottom beam flange) must remain plastic until the second stage cast (webs and top beam flange) is placed. Vibrate as required to ensure consolidation between the two casts.
 1/4" clear cover to reinforcement is required unless noted otherwise.
 See standard BBRAS or BBRA0 for railing anchorage at bridge edges to be cast in beams.
 An equal area of welded wire reinforcement (WWR) meeting the requirements of ASTM A 497 may be substituted for Bars A, B, C, and D.
 These details are applicable for skewers up to 30 degrees only.
 Chamfer bottom beam corners 3/4" or round to a 3/4" radius.



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ELEVATION

BEAM PROPERTIES			
		Type 4B28	Type 5B28
Area	in ²	678.8	804.8
Y top	in	14.38	14.26
Y bott	in	13.62	13.74
I	in ⁴	68,745	85,370
Weight 7	lb/ft	707	838

Modifications ESC 04/29/10
 Revised Z bar

LEVELS DISPLAYED	
1	

HL93 LOADING SHEET 1 OF 3

Texas Department of Transportation
 Bridge Division
**PRESTRESSED CONCRETE
 BOX BEAM DETAILS
 (TYPE B28)**

BB-B28 (MOD)

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