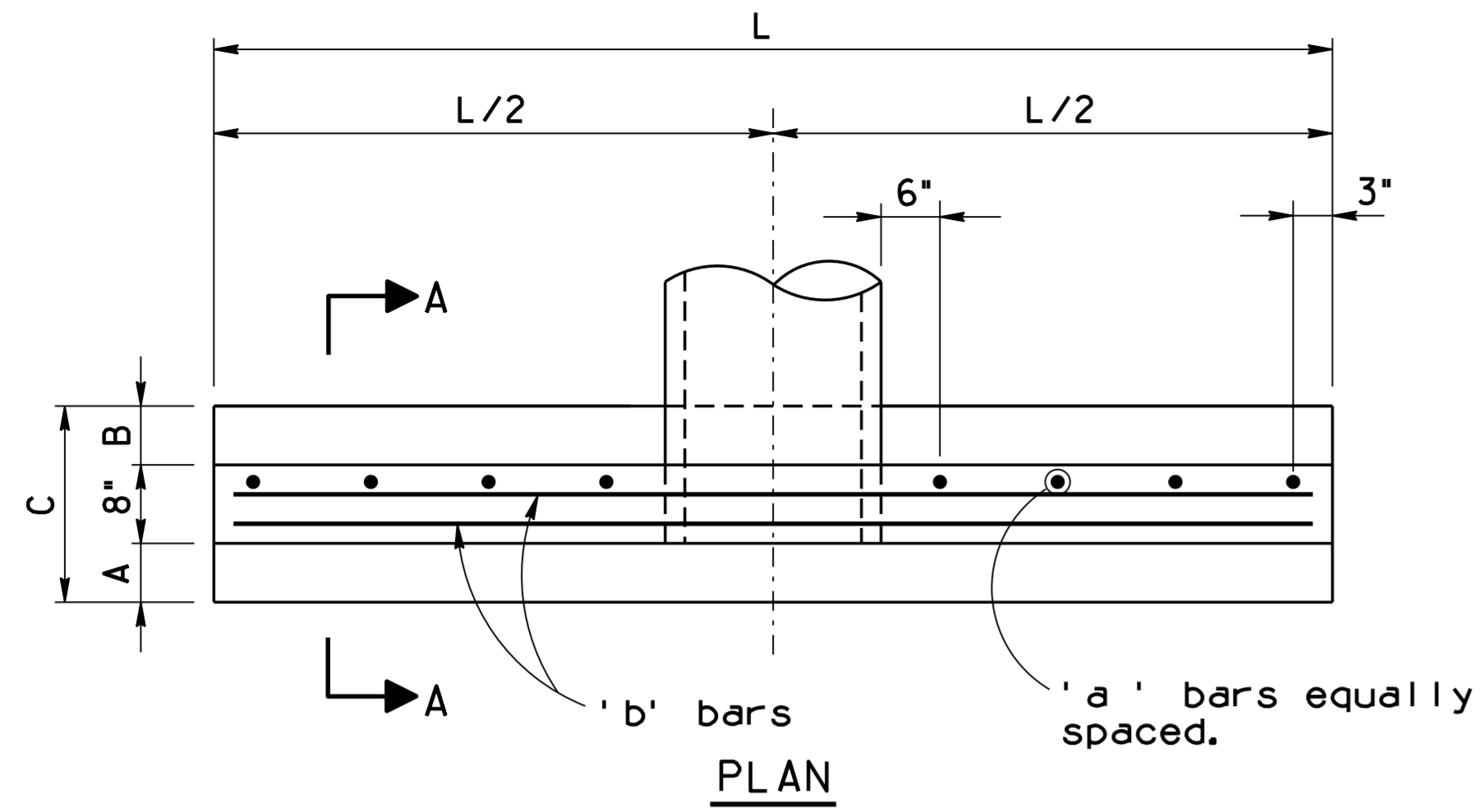
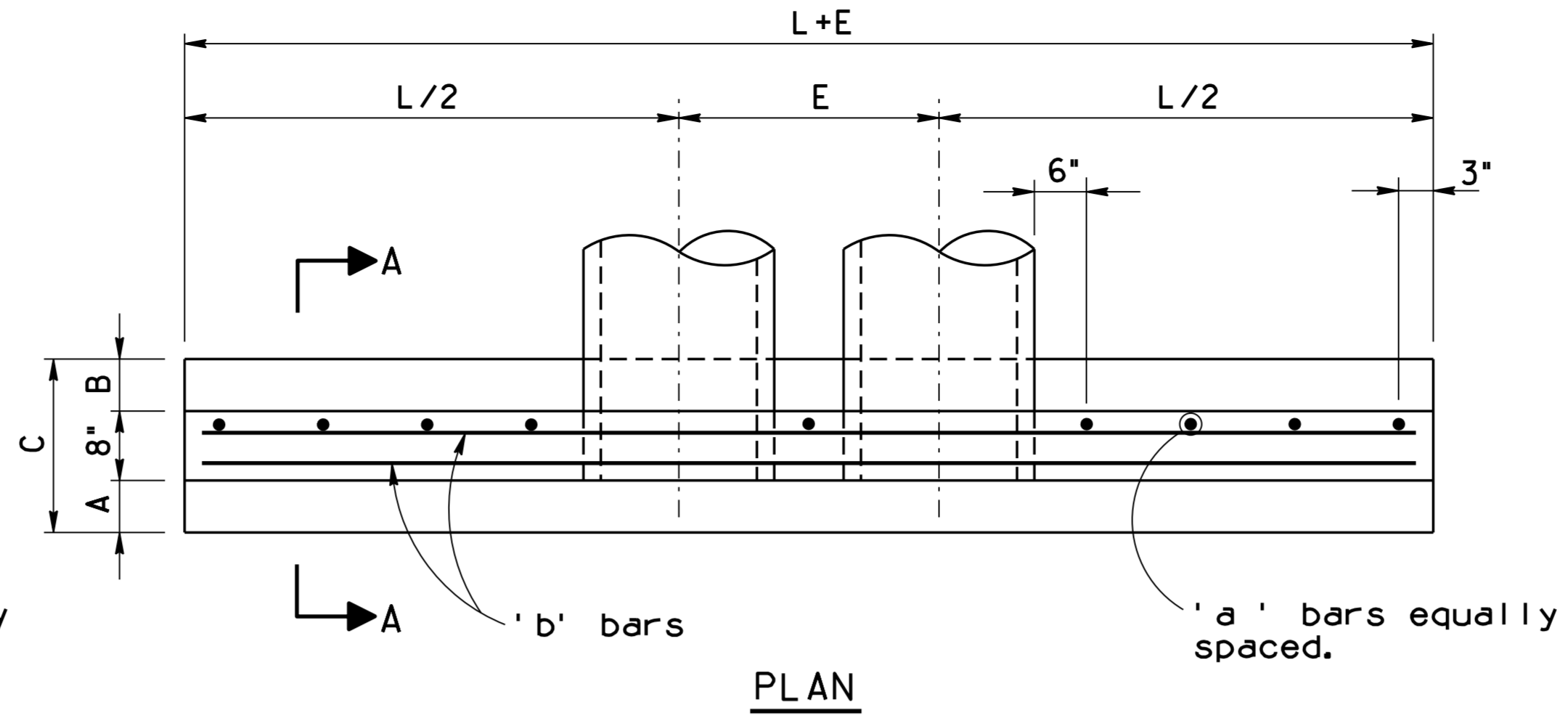


Note to Designer:
The information presented in this Standard Detail has been prepared in accordance with recognized engineering principles and is for general use. It should not be used for specific application without competent professional examination and verification of its suitability and applicability by a licensed professional engineer. Contents within the inner border line shall not be altered.

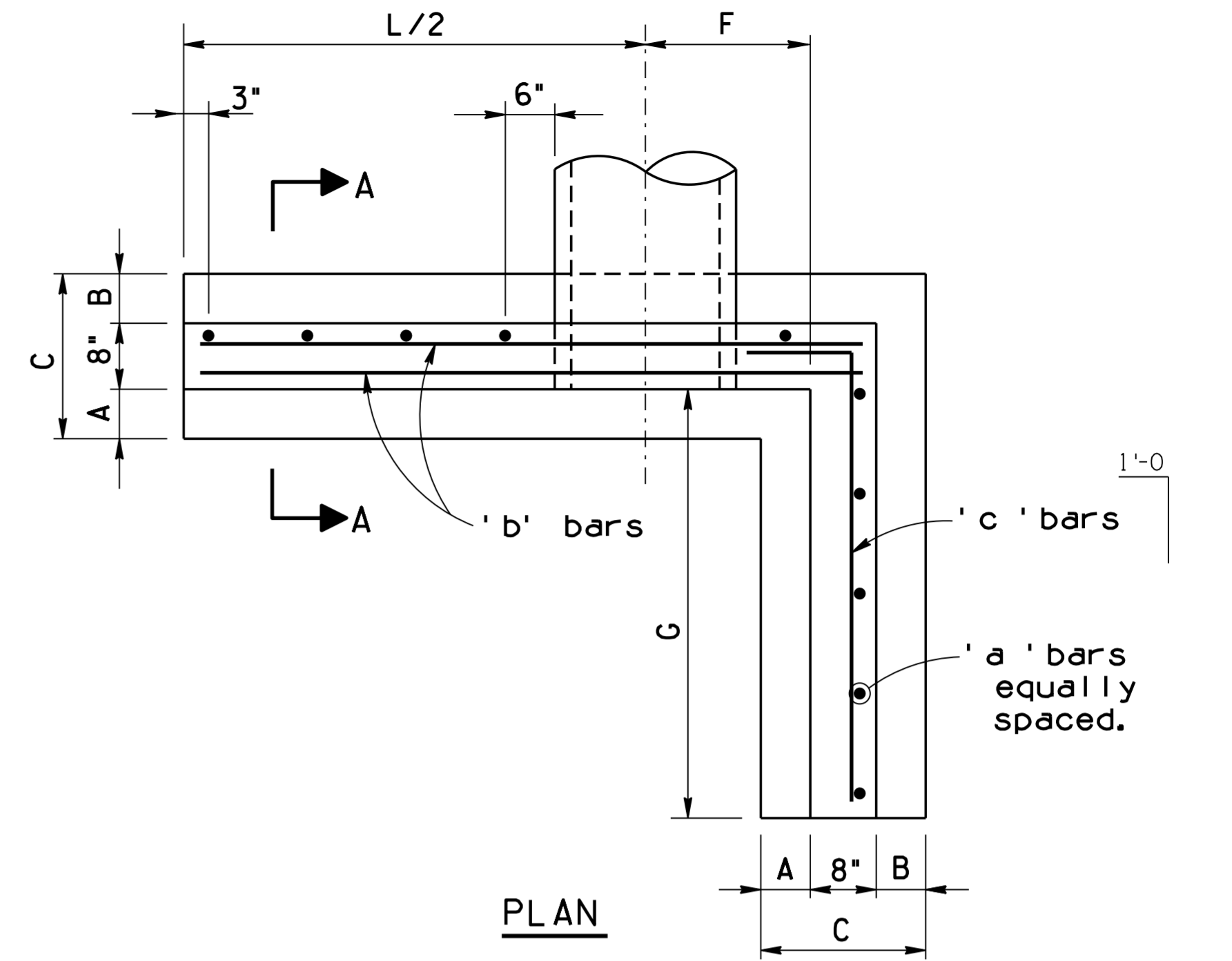
NO.	DESCRIPTION OF REVISIONS	DATE	BY
1	Original Issue		
2			
3			
4			



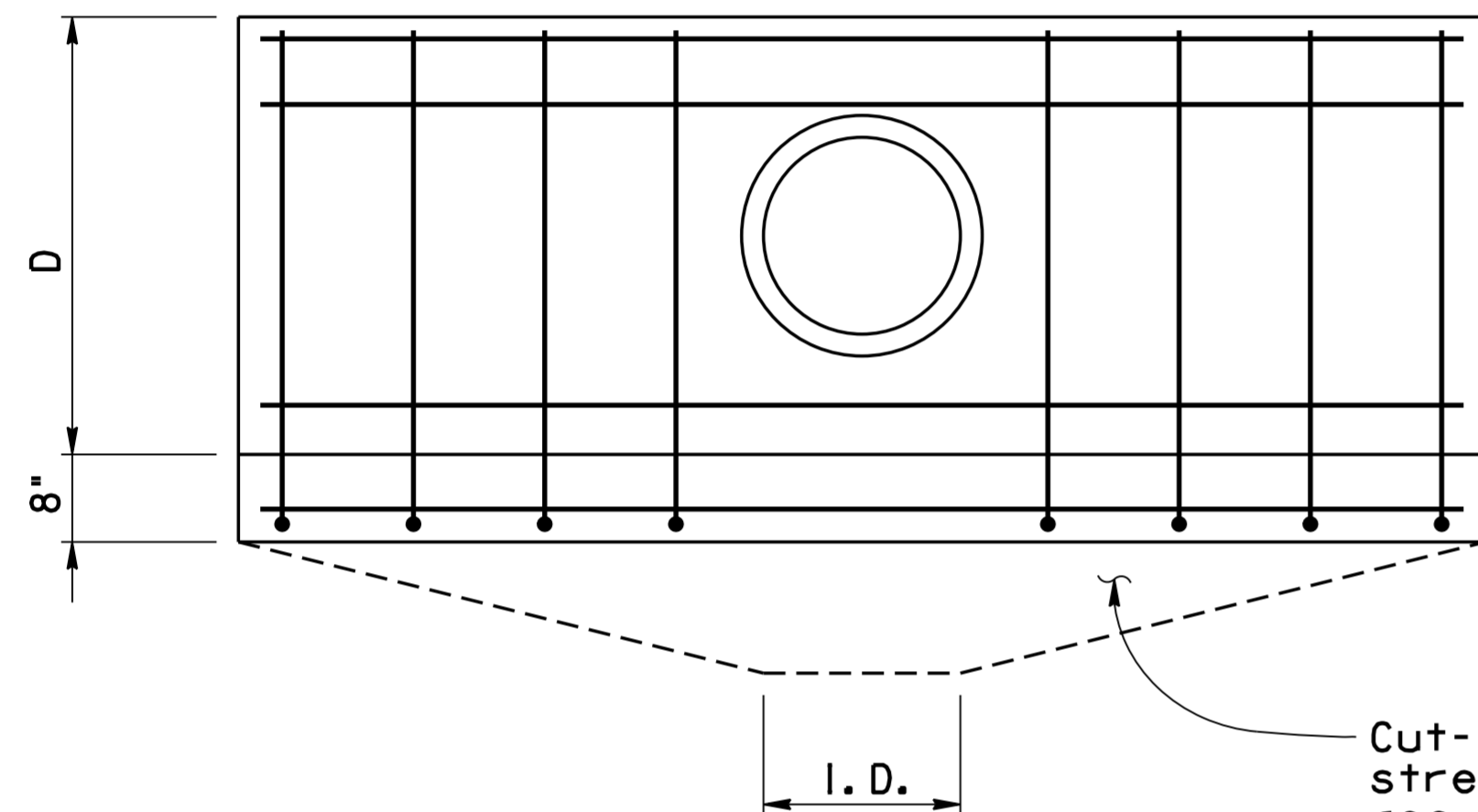
PLAN



PLAN

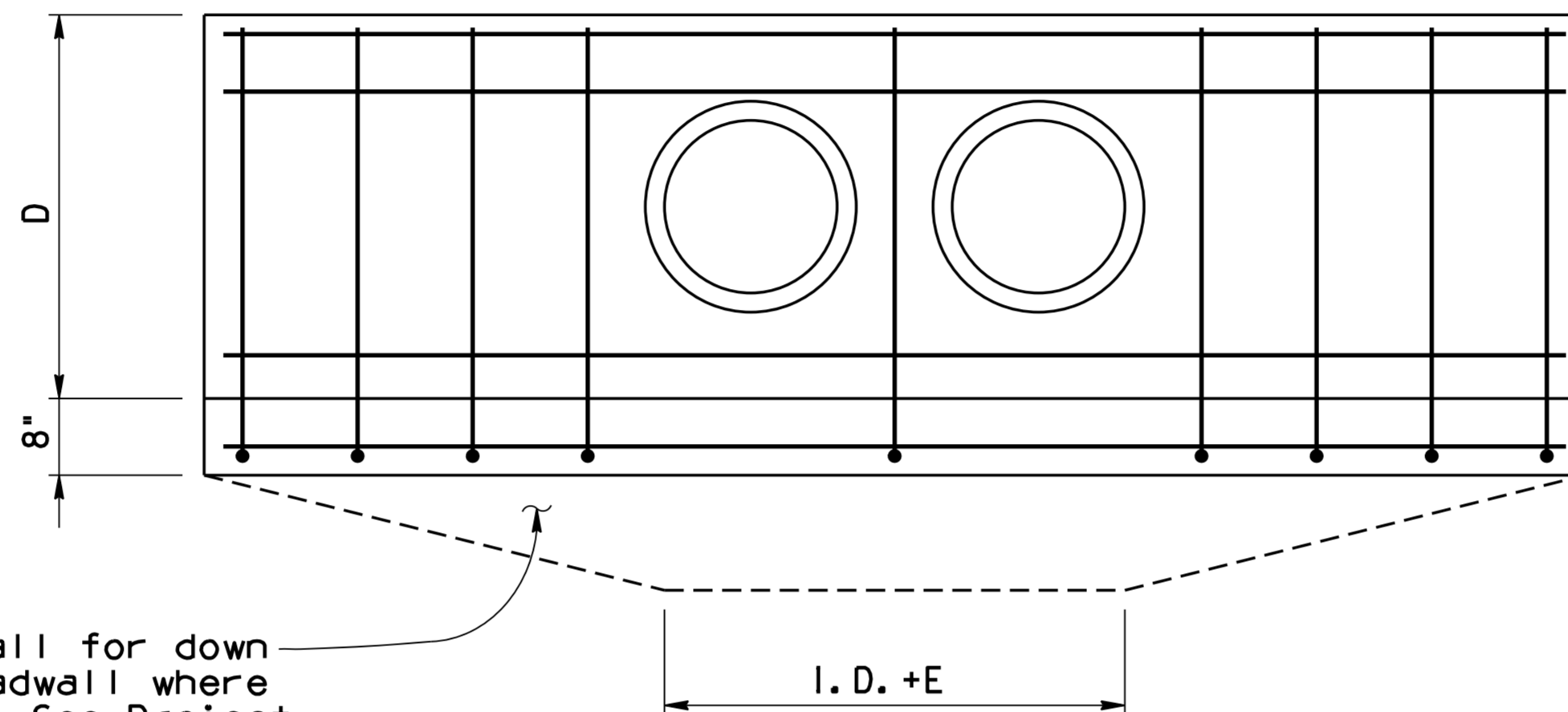


PLAN

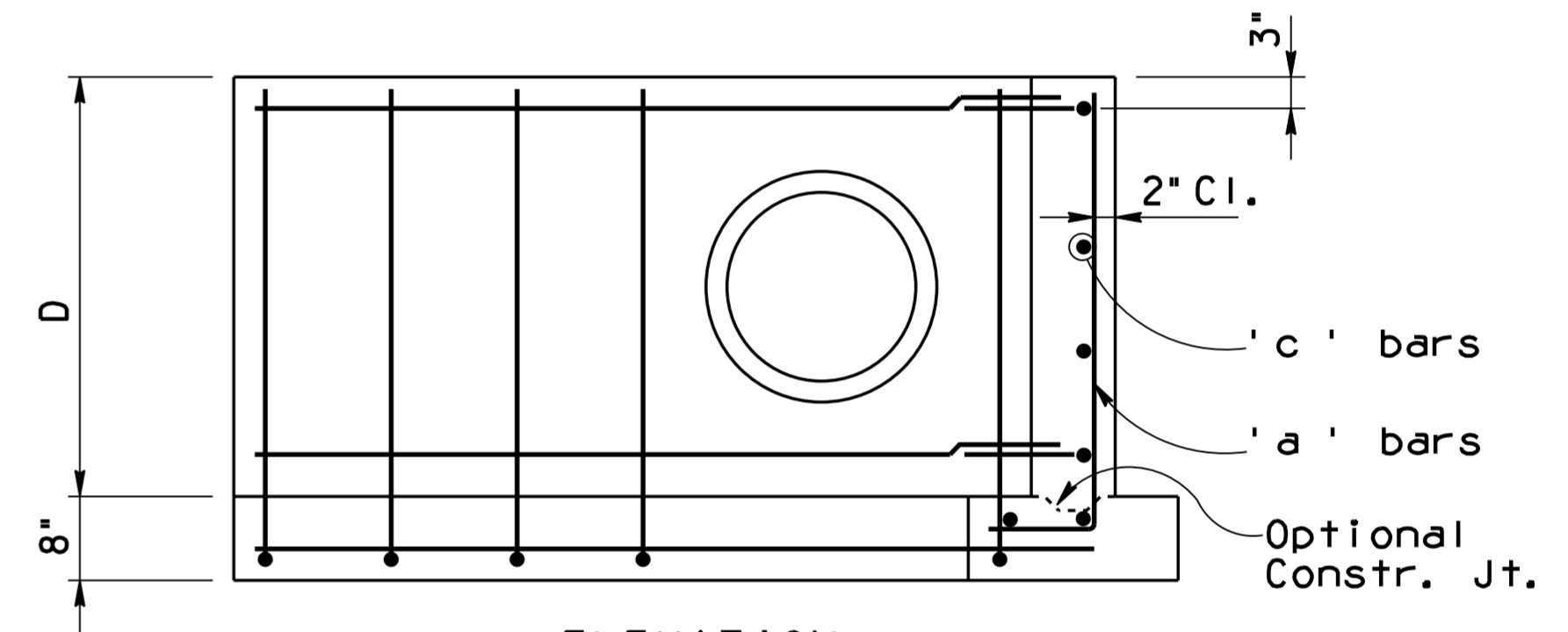


ELEVATION
SINGLE PIPE HEADWALL

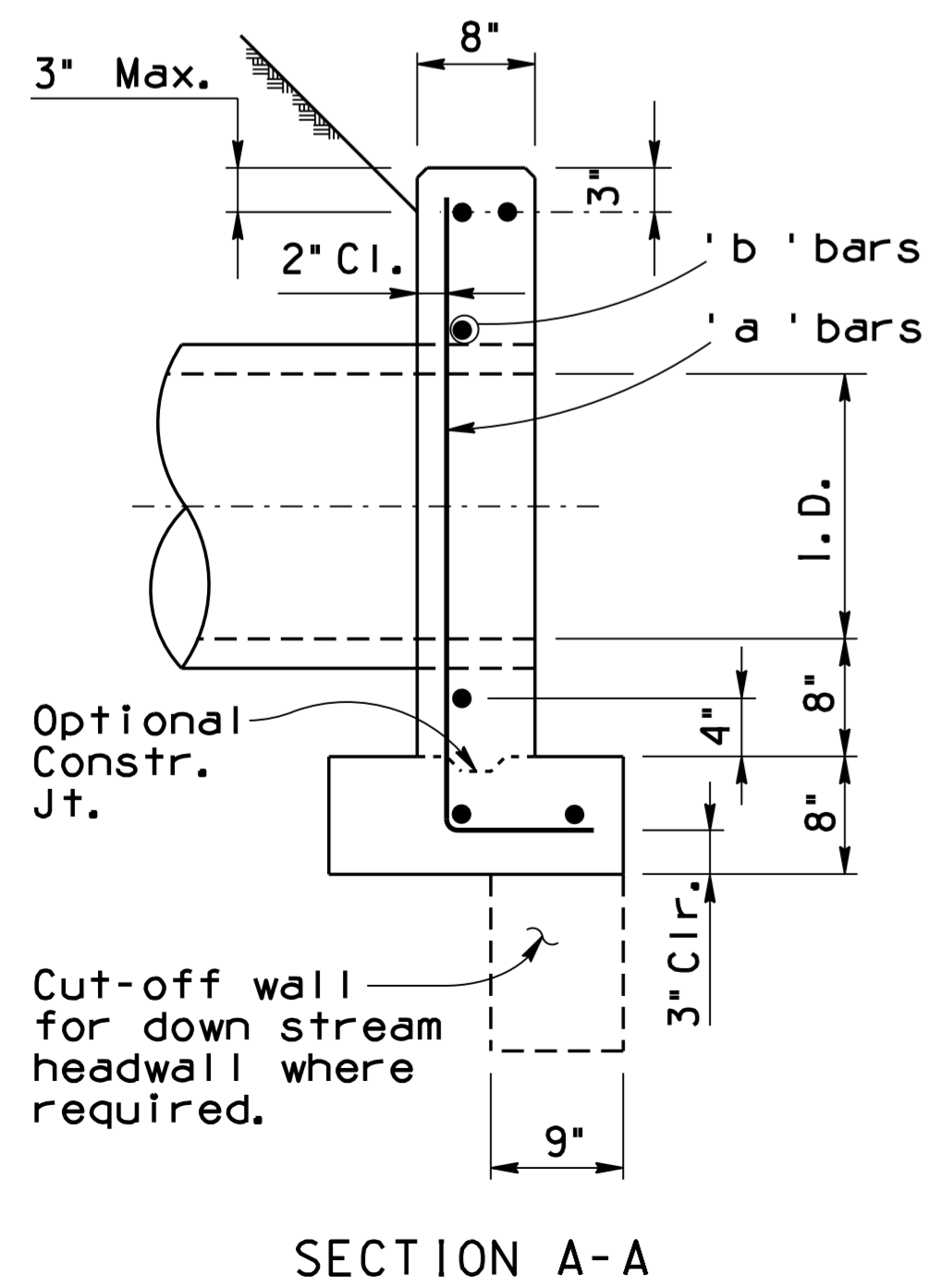
Cut-off wall for down stream headwall where required. See Project Plans for need and depth of cutoff wall.



ELEVATION
DOUBLE PIPE HEADWALL



ELEVATION
'L' HEADWALL



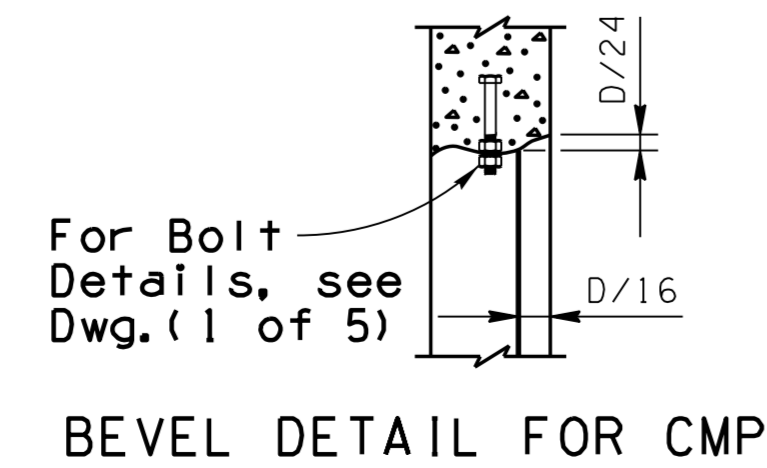
SECTION A-A

Dimensions										
I.D.	A	B	C	D	E	F	G	L	L+E	
18"	6"	10"	2'-0	3'-2	2'-6	1'-7	4'-6	9'-6	12'-0	
24"	8"	1'-0	2'-4	3'-8	3'-0	2'-1	5'-6	11'-6	14'-6	
30"	10"	1'-2	2'-8	4'-2	3'-9	2'-7	6'-6	13'-6	17'-3	
36"	1'-0	1'-4	3'-0	4'-8	4'-6	3'-1	7'-6	15'-6	20'-0	
42"	1'-2	1'-6	3'-4	5'-2	5'-3	3'-7	8'-6	17'-6	22'-9	

Reinforcing														
I.D.	'a' bars				'b' bars				'c' bars					
	Single Pipe Headwall		Double Pipe Headwall		'L' Headwall		Single Pipe Headwall		Double Pipe Headwall		'L' Headwall			
	No	Lgth	No	Lgth	No	Lgth	No	Lgth	No	Lgth	No	Lgth		
18"	8	4'-3	9	4'-3	10	4'-3	6	9'-0	6	11'-6	6	6'-6	5	5'-9
24"	10	5'-0	11	5'-0	12	5'-0	6	11'-0	6	14'-0	6	8'-0	6	6'-9
30"	12	5'-6	13	5'-6	14	5'-6	6	13'-0	6	16'-9	6	9'-6	6	7'-9
36"	12	6'-3	13	6'-3	16	6'-3	6	15'-0	6	19'-6	6	11'-0	7	8'-9
42"	14	7'-0	15	7'-0	18	7'-0	6	17'-0	6	22'-3	6	12'-6	7	9'-9

* Approximate Quantities								
I.D.	Single Pipe Hdwall		Double Pipe Hdwall		Add'l. Pipe Hdwall		'L' Hdwall	
	Conc. C.Y.	Reinf. Lbs.	Conc. C.Y.	Reinf. Lbs.	Conc. C.Y.	Reinf. Lbs.	Conc. C.Y.	Reinf. Lbs.
18"	1.2	60	1.4	73	.3	13	1.4	75
24"	1.6	78	2.0	90	.4	15	2.0	100
30"	2.1	97	2.6	116	.5	19	2.6	121
36"	2.7	111	3.4	133	.7	22	3.4	152
42"	3.4	135	3.7	160	.8	26	4.2	180

* Quantities do not include cut-off wall.



BEVEL DETAIL FOR CMP

'a' bars

NOTE:

Concrete pipe shown. Corrugated metal pipe similar.

All reinforcing bars are #4.

Dimension E equals pipe spacing.

High point of headwall shall not project more than 3" above slope.

For 3 or more pipes, add quantities shown for each additional pipe to Double Pipe Headwall quantity. Add one 'a' bar to double pipe headwall total and increase 'b' bar length by Dimension E for each additional pipe.

NOTE:

For General Notes, Dimensions, Quantities and additional Details, see SD 6.30 (1 & 3 to 5).

DESIGN APPROVED <i>Shafiq U. Hasan</i>	ARIZONA DEPARTMENT OF TRANSPORTATION INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION BRIDGE GROUP STRUCTURE DETAIL
APPROVED FOR DISTRIBUTION <i>Teon A. Nehme</i>	PIPE CULVERT HEADWALLS INLET and OUTLET 18" to 42" PIPES
ROUTE	PROJECT NO.
LOCATION	FA NO.
	DRAWING NO. SD 6.30 (2 of 5)
	SHEET NO. OF