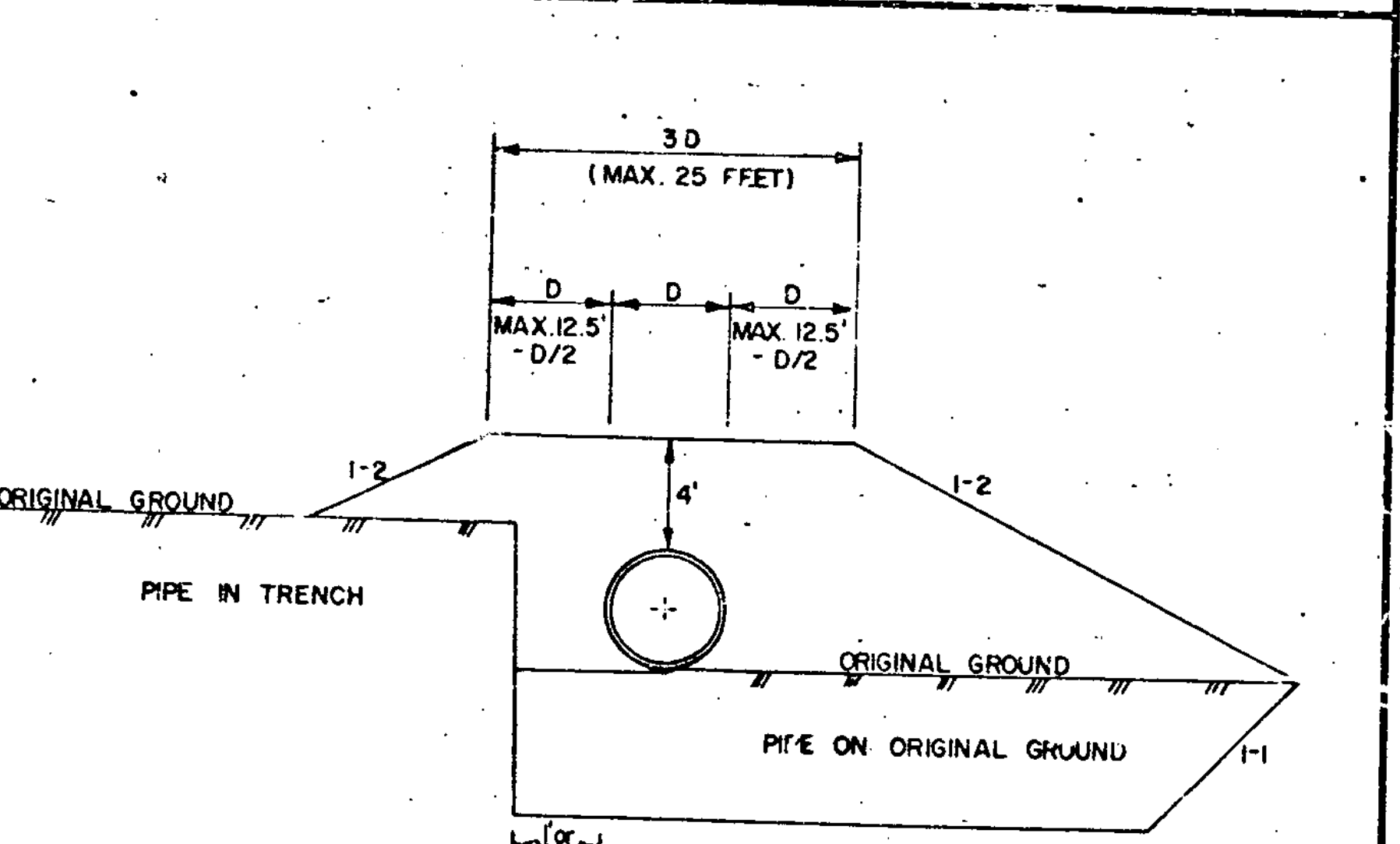
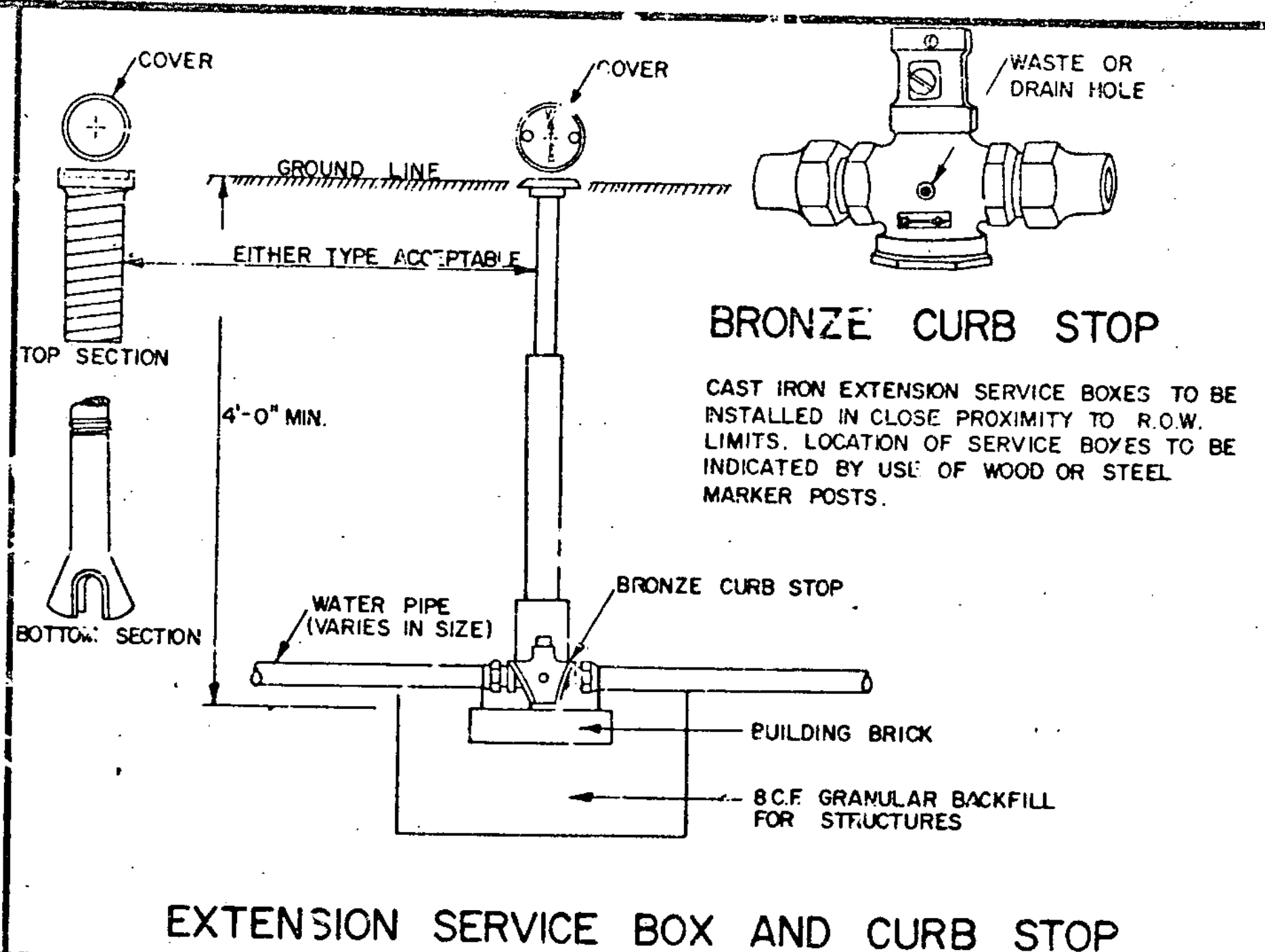


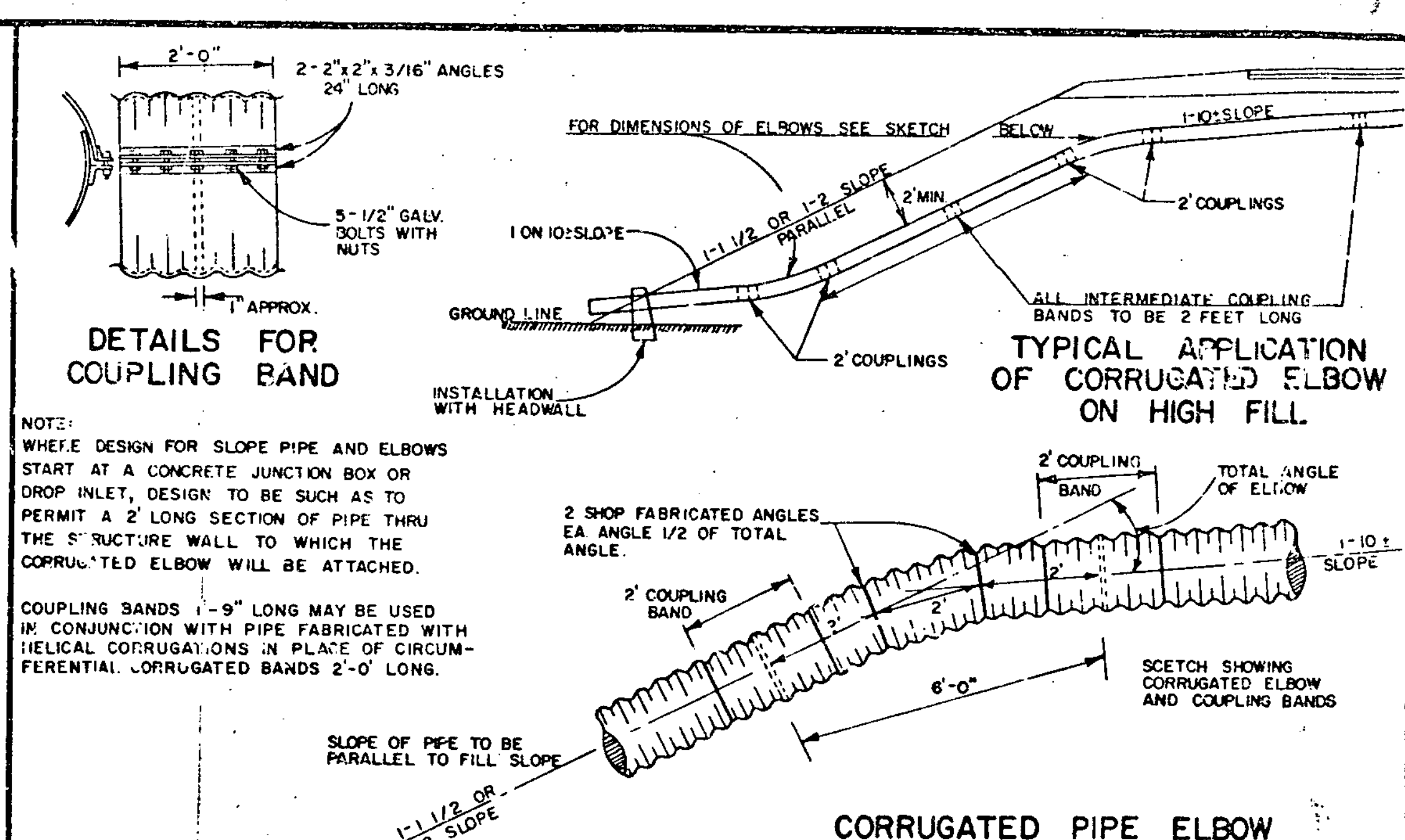
TYPICAL WATERFALL FOR CULVERTS UP TO AND INCLUDING 48" DIAMETER



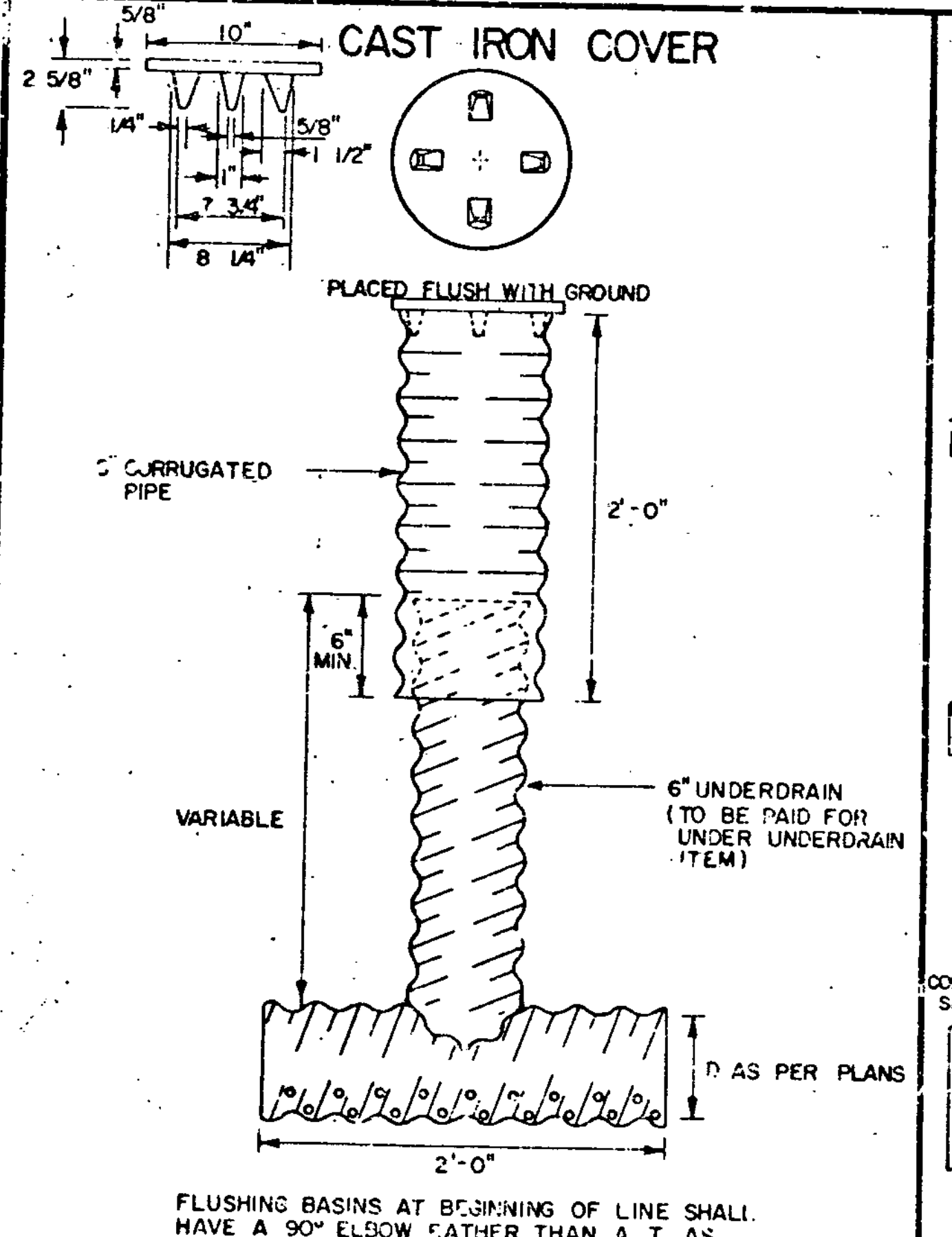
GRANULAR MATERIAL AT CULVERT LOCATIONS



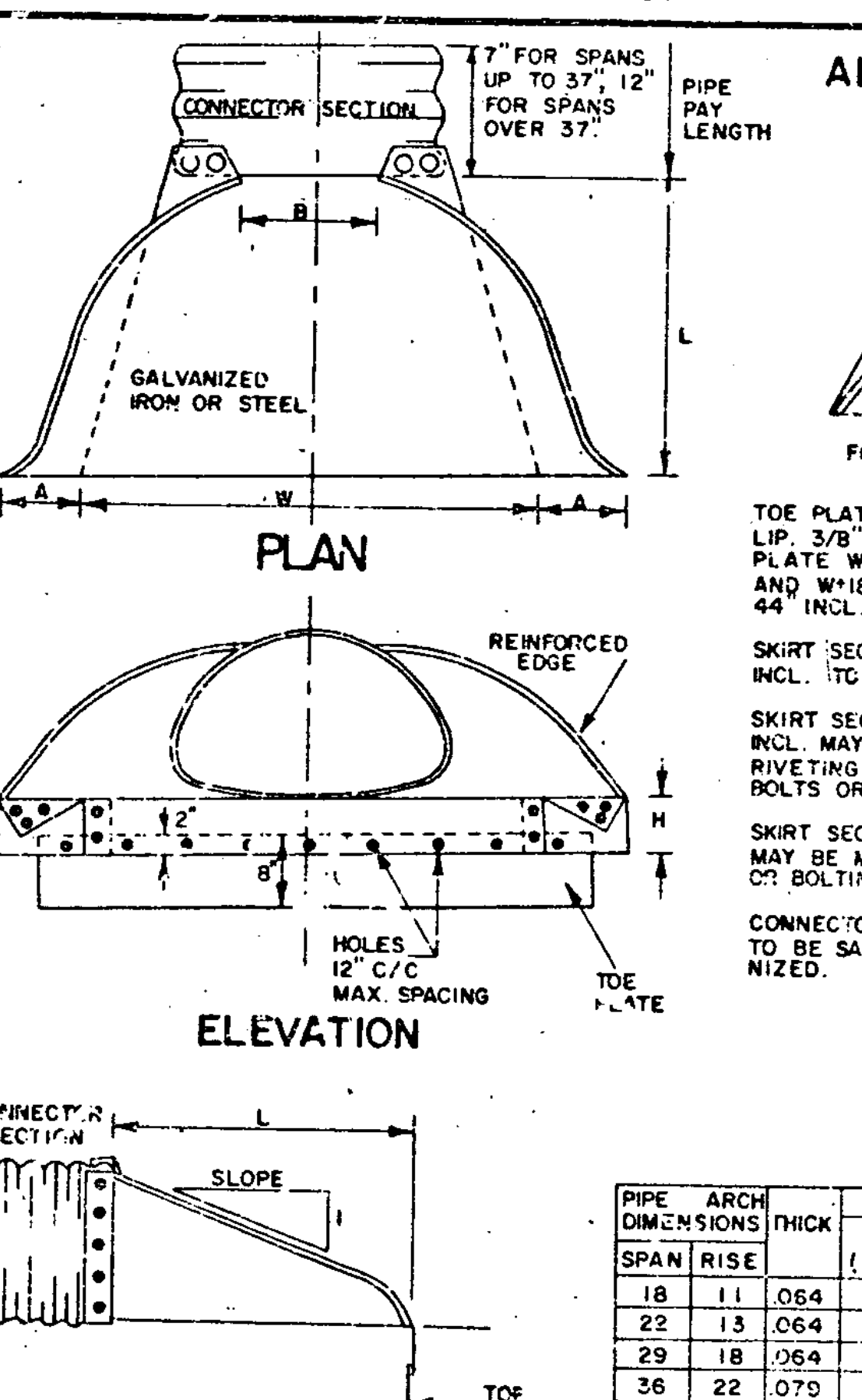
EXTENSION SERVICE BOX AND CURB STOP



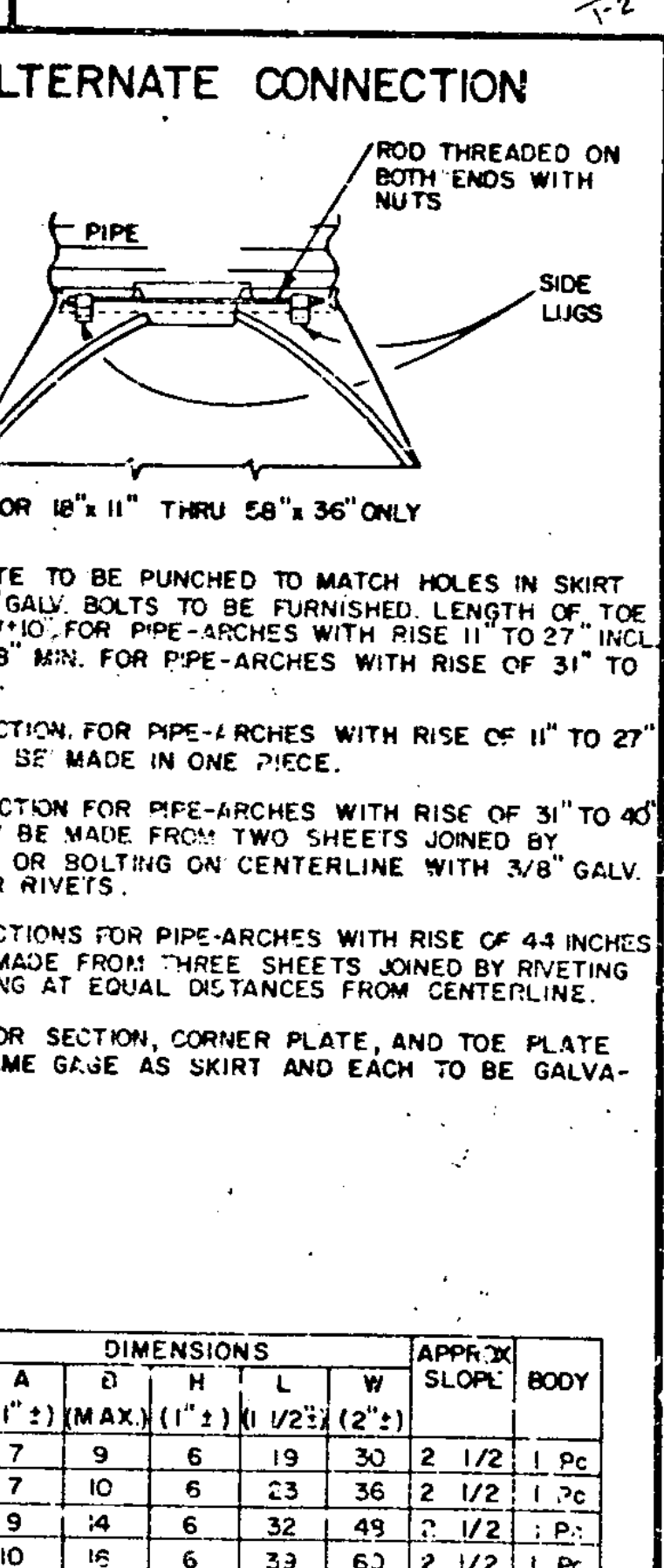
CORRUGATED PIPE ELBOW



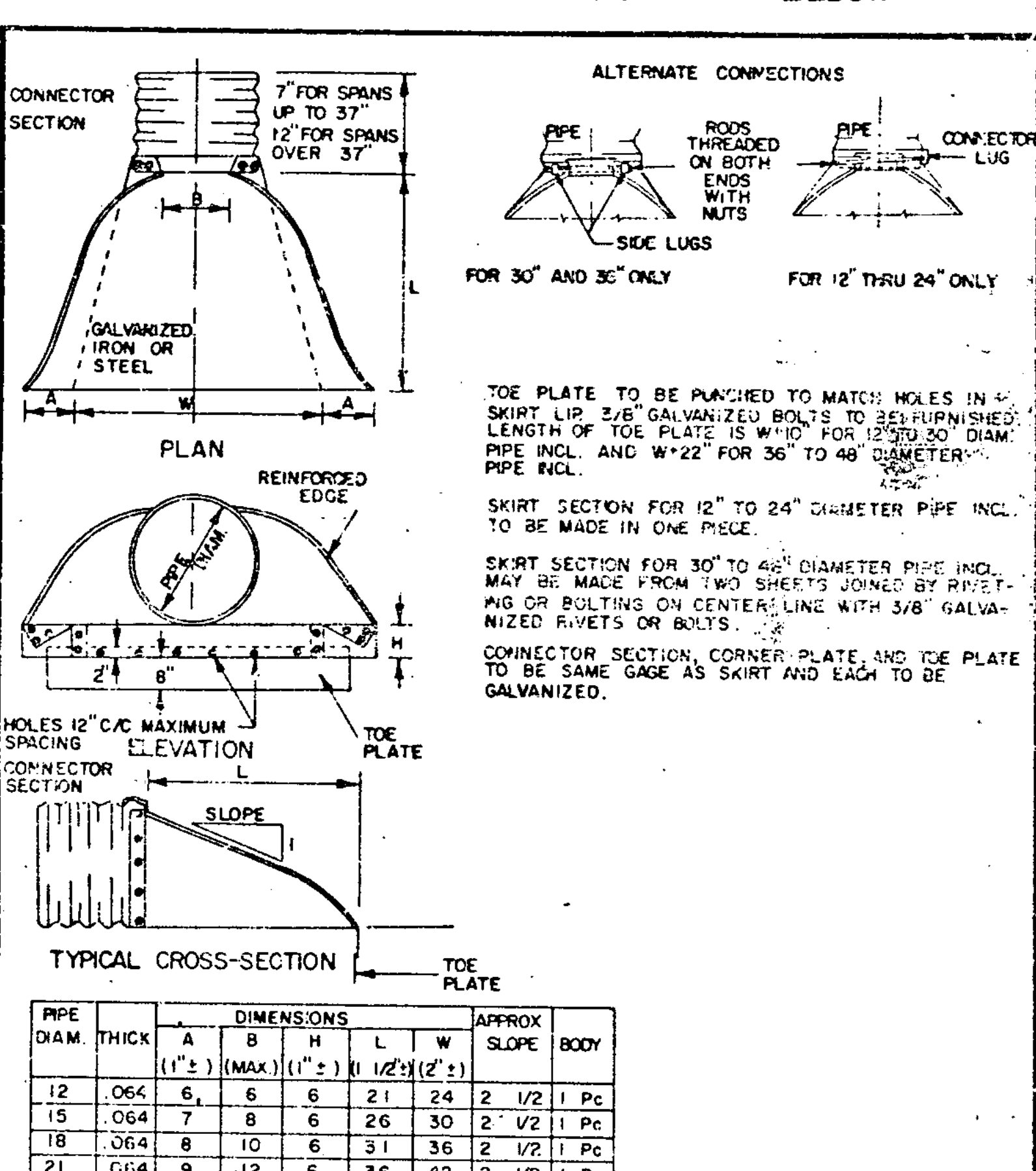
UNDERDRAIN FLUSHING BASIN



METAL END SECTION FOR C.G.M.P. ARCH



ALTERNATE CONNECTION



METAL END SECTION FOR C.G.M.P. (ROUND)

PIPE ARCH DIMENSIONS	THICK	DIMENSIONS				APPROX SLOPE	BODY
SPAN RISE		A	B	H	L	W	
(1'±)	(1'±)	(1'±)	(1'±)	(1'±)	(1'±)	(2'±)	
18 11 .064	7	9	6	19	30	2 1/2	1 Pc
22 13 .064	7	10	6	23	36	2 1/2	1 Pc
29 18 .064	9	14	6	32	49	2 1/2	1 Pc
36 22 .075	10	16	6	39	63	2 1/2	1 Pc
43 27 .079	12	18	8	46	75	2 1/2	1 Pc
50 31 .109	13	21	9	53	85	2 1/2	2 Pc
58 36 .109	18	26	12	63	102	2 1/2	2 Pc
65 40 .109	18	30	12	70	102	2 1/2	2 Pc
72 44 .109	18	33	12	77	114	2 1/4	3 Pc

PIPE DIAM.	THICK	DIMENSIONS				APPROX SLOPE	BODY
		A	B	H	L	W	
		(1'±)	(1'±)	(1'±)	(1'±)	(2'±)	
12	.064	6	6	6	21	24	2 1/2 1 Pc
15	.064	7	8	6	26	30	2 1/2 1 Pc
18	.064	8	10	6	31	36	2 1/2 1 Pc
21	.064	9	12	6	36	42	2 1/2 1 Pc
24	.064	10	13	6	41	48	2 1/2 1 Pc
30	.079	12	16	8	51	60	2 1/2 1 Pc
36	.079	14	19	9	60	72	2 1/2 2 Pc
42	.109	16	22	11	69	84	2 1/2 2 Pc
48	.109	18	27	12	78	90	2 1/4 2 Pc

REVISIONS AND CORRECTIONS
 JULY 17, 1972 HELICAL CORRUGATED COUPLING BAND NOT ADDED
 JULY 24, 1975 GRANULAR MATERIAL AT CULVERT LOCATIONS CORRECTED.

APPROVED: *R.H. Arnold*
 CHIEF ENGINEER
E.H. Stebbins
 ASST. CHIEF ENGINEER
G.M. Lane
 HIGHWAY ENGINEER

DATE: Dec 6, 1971

TYPICAL WATERFALL FOR CULVERTS UP TO AND INCLUDING 48" DIAMETER
 EXTENSION SERVICE BOX AND CURB STOP
 CORRUGATED PIPE ELBOW
 GRANULAR BORROW AT CULVERT LOCATIONS
 UNDERDRAIN FLUSHING BASIN
 METAL END SECTION FOR CORRUGATED GALVANIZED METAL PIPE
 METAL END SECTION FOR CORRUGATED GALVANIZED METAL PIPE ARCH

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