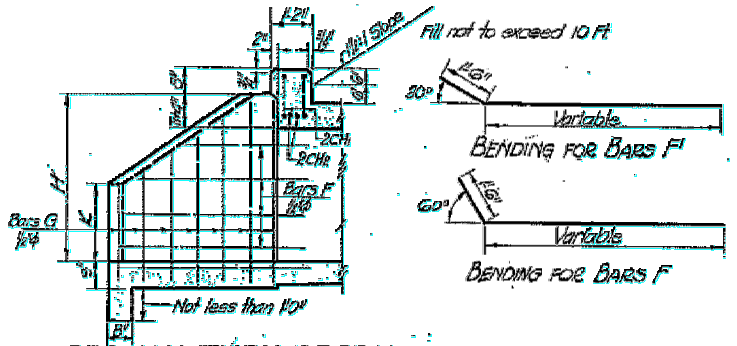
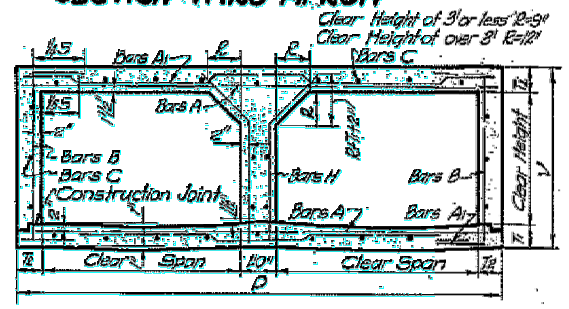
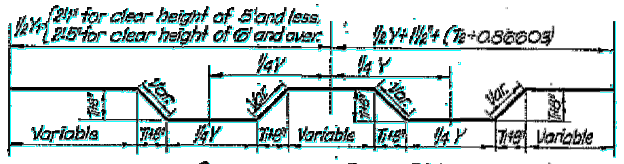


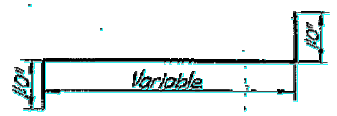
Section Thru Apron



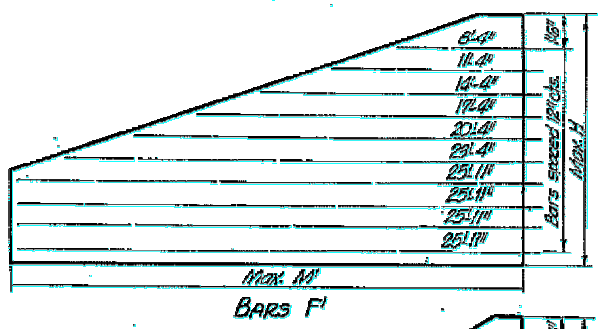
Cross Section of Barrel

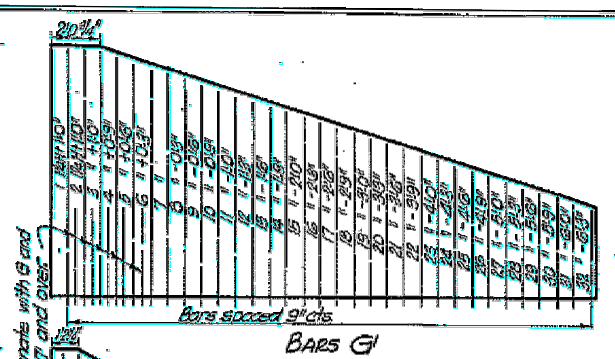


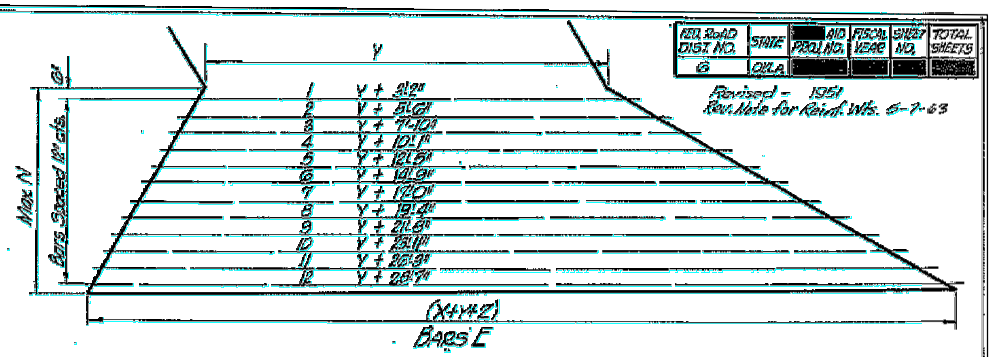
Bending for Bars CH1

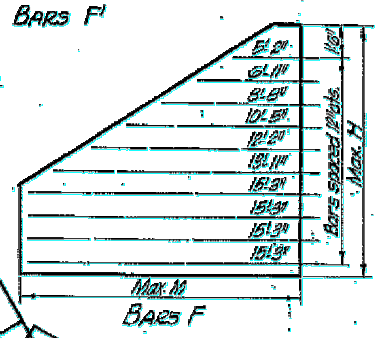


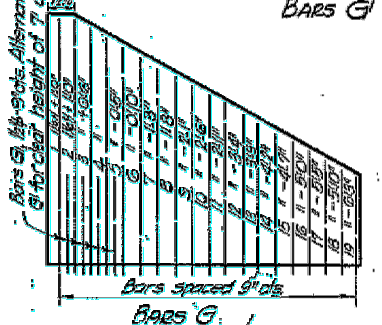
Bending for Bars A2

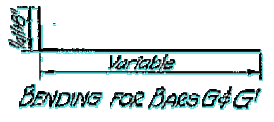


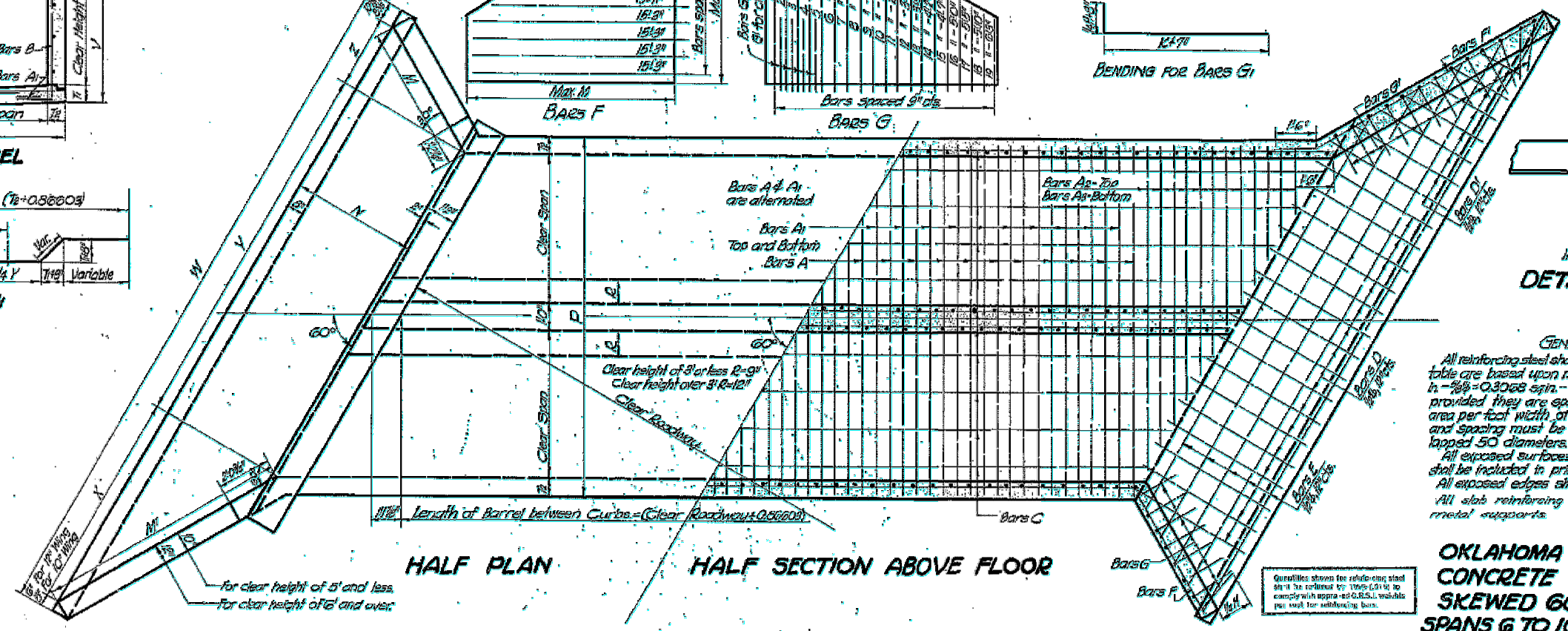










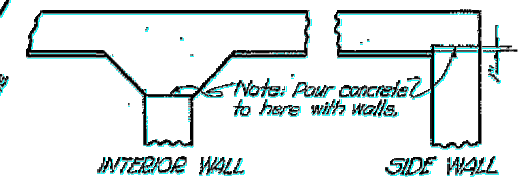


HALF PLAN

HALF SECTION ABOVE FLOOR

Design Data

Dead Load	1000 Lbs.
Live Load	None
Impact	None



Detail of Const. Joint

General Notes

All reinforcing steel shall be deformed round bars. The design and table are based upon net areas of bars as follows: #6 = 0.1963 sq. in. - #5 = 0.3068 sq. in. - #4 = 0.442 sq. in. Other sizes may be used provided they are spaced so as to give as much net sectional area per foot width of slab. Plans showing such changed sizes and spacing must be approved. Bars when lapped shall be lapped 50 diameters.

All exposed surfaces to have a carborundum finish and this shall be included in price bid per cu. yd. for concrete.

All exposed edges shall have ¾" chamfer.

All slab reinforcing steel shall be supported on approved metal supports.

Oklahoma State Standard Concrete Box Culverts Skewed 60° Right Forward Spans 6 to 10 Ft. - For Fills 3 to 10 Ft.

Fed. Road Dist. No.	State	Job No.	Fiscal Year	Sheet No.	Total Sheets
6	OKLA.				

Revised - 1957
Revision Note for Reinf. Wts. 6-7-63

Design No.	Waterway Clear Span	Waterway Clear Height	Waterway Area of Opening	Dimensions T	Te	V	P	Barrel of Culvert — Reinforcing Steel — Bars A & A1 — A Size and Spacing	A Length	A1 Length	A1 Bending A	B	C	D	E	Bars A2 & A3 — Size and Spacing	No.	A2 Length	A3 Length	Bars B 1/2 Skews	Bars C 1/2 Skews	Bars H 1/2 Skews	Quantities — Steel per Lin. Ft.	Loss	Concrete per Lin. Ft. Culvs.
1	6'	2'-0"	2'-0"	9"	6"	3'-6"	1'-4"	5/8"-12"	1'-8"	1'-4"	1'-1"	7"	3'-1"	2'-7"	5"	5/8"-6"	26	1'-4"	1'-0"	6'-2"	2'-6"	3'-8"	9.404	0.947	
2	6'	3'-0"	3'-0"	9"	6"	4'-6"	1'-4"	5/8"-12"	1'-8"	1'-4"	1'-1"	7"	3'-1"	2'-7"	5"	5/8"-6"	26	1'-4"	1'-0"	6'-2"	2'-6"	3'-8"	10.270	1.075	
3	6'	4'-0"	4'-0"	9"	6"	5'-6"	1'-4"	5/8"-12"	1'-8"	1'-4"	1'-1"	7"	3'-1"	2'-7"	5"	5/8"-6"	26	1'-4"	1'-0"	6'-2"	2'-6"	3'-8"	10.656	1.173	
4	6'	5'-0"	6'-0"	9"	10"	6'-6"	1'-8"	5/8"-12"	1'-8"	1'-4"	1'-1"	8½"	3'-7"	2'-7½"	5"	5/8"-6"	26	1'-4"	1'-0"	6'-2"	2'-6"	3'-8"	13.41	1.346	
5	6'	6'-0"	7'-0"	9"	10"	7'-6"	1'-8"	5/8"-12"	1'-8"	1'-4"	1'-1"	8½"	3'-7"	2'-7½"	5"	6	26	1'-4"	1'-0"	6'-2"	2'-6"	3'-8"	15.19	1.535	
6	8'	3'-0"	4'-0"	12"	6"	5'-0"	1'-8"	3/4"-12"	1'-10"	1'-5"	1'-2"	8½"	3'-7"	2'-7½"	5"	5/8"-6"	32	1'-5"	1'-0"	6'-2"	2'-6"	3'-8"	15.19	1.636	
7	8'	4'-0"	5'-4"	12"	6"	6'-0"	1'-8"	3/4"-12"	1'-10"	1'-5"	1'-2"	9½"	4'-0"	2'-10½"	5"	5/8"-6"	32	1'-5"	1'-0"	6'-2"	2'-6"	3'-8"	15.709	1.741	
8	8'	5'-0"	6'-8"	12"	10"	7'-0"	1'-8"	3/4"-12"	1'-10"	1'-5"	1'-2"	9½"	4'-0"	2'-10½"	5"	5/8"-6"	32	1'-5"	1'-0"	6'-2"	2'-6"	3'-8"	15.91	1.913	
9	8'	6'-0"	8'-0"	12"	10"	8'-0"	1'-8"	3/4"-12"	1'-10"	1'-5"	1'-2"	9½"	4'-0"	2'-10½"	5"	5/8"-6"	32	1'-5"	1'-0"	6'-2"	2'-6"	3'-8"	16.58	2.012	
10	8'	7'-0"	9'-4"	12"	10"	9'-0"	1'-8"	3/4"-12"	1'-10"	1'-5"	1'-2"	9½"	4'-0"	2'-10½"	5"	5/8"-6"	32	1'-5"	1'-0"	6'-2"	2'-6"	3'-8"	17.69	2.111	
11	8'	8'-0"	10'-8"	12"	10"	10'-0"	1'-8"	3/4"-12"	1'-10"	1'-5"	1'-2"	9½"	4'-0"	2'-10½"	5"	5/8"-6"	32	1'-5"	1'-0"	6'-2"	2'-6"	3'-8"	18.16	2.272	
12	10'	6'-0"	12'-0"	14½"	10"	8'-5"	2'-2"	3/4"-10"	2'-2"	1'-8"	1'-5"	10½"	5'-3"	3'-3½"	10½"	5/8"-5"	52	1'-8"	1'-3"	6'-2"	3'-1"	4'-5"	19.27	2.353	
13	10'	7'-0"	14'-0"	14½"	10"	9'-5"	2'-2"	3/4"-10"	2'-2"	1'-8"	1'-5"	10½"	5'-3"	3'-3½"	10½"	5/8"-5"	52	1'-8"	1'-3"	6'-2"	3'-1"	4'-5"	19.91	2.457	
14	10'	8'-0"	16'-0"	14½"	11"	10'-5"	2'-2"	3/4"-10"	2'-2"	1'-8"	1'-5"	10½"	5'-3"	3'-3½"	10½"	5/8"-5"	52	1'-8"	1'-3"	6'-2"	3'-1"	4'-5"	20.58	2.561	
15	10'	9'-0"	18'-0"	14½"	12"	11'-5"	2'-2"	3/4"-10"	2'-2"	1'-8"	1'-5"	10½"	5'-3"	3'-3½"	10½"	5/8"-5"	52	1'-8"	1'-3"	6'-2"	3'-1"	4'-5"	21.24	2.665	
16	10'	10'-0"	20'-0"	14½"	12"	12'-5"	2'-2"	3/4"-10"	2'-2"	1'-8"	1'-5"	10½"	5'-3"	3'-3½"	10½"	5/8"-5"	52	1'-8"	1'-3"	6'-2"	3'-1"	4'-5"	21.91	2.769	

Design No.	Two Wings and One Apron — Dimensions H	K	M	M'	N	W	X	Y	Z	Bars D No.	Bars D Length	Bars D' No.	Bars D' Length	Bars E No.	Bars E Length	Bars F No.	Bars F Length	Bars F1 No.	Bars F1 Length	Bars G No.	Bars G Length	Bars G1 No.	Bars G1 Length	Bars G' No.	Bars G' Length	Quantities — Steel Lbs.	Concrete Cu. Yds.	Two Curbs — Reinf. bars same size as A bars — 4CH. Length	4CH. Length	Quants. — Steel Lbs.	Concrete Cu. Yds.	Concrete in one Cu. Yd. of Roadway at Depth of	Total Quantities (1) Roadway — Reinf. Steel Lbs.	Concrete Curbs	Design No.
1	3'-11"	1'-11"	3'-2½"	5'-6"	2'-9"	2'-2½"	4'-9½"	1'-0"	1'-7"	2	3'-2"	2	1'-6½"	3		2	4'-8"	2	7'-6"	4		7						181	2.29	20'-11"	16'-0"	153	1.46	.550	4829	5090	1
2	3'-11"	2'-11"	3'-2½"	5'-6"	2'-9"	2'-2½"	4'-9½"	1'-0"	1'-7"	2	3'-2"	2	1'-6½"	3		2	4'-8"	2	7'-6"	4		7						206	2.60	20'-11"	16'-0"	153	1.46	.550	4829	5090	1
3	3'-11"	3'-11"	3'-2½"	5'-6"	2'-9"	2'-2½"	4'-9½"	1'-0"	1'-7"	2	3'-2"	2	1'-6½"	3		2	4'-8"	2	7'-6"	4		7						206	2.60	20'-11"	16'-0"	153	1.46	.550	4829	5090	1
4	3'-11"	4'-11"	3'-2½"	5'-6"	2'-9"	2'-2½"	4'-9½"	1'-0"	1'-7"	2	3'-2"	2	1'-6½"	3		2	4'-8"	2	7'-6"	4		7						206	2.60	20'-11"	16'-0"	153	1.46	.550	4829	5090	1
5	3'-11"	5'-11"	3'-2½"	5'-6"	2'-9"	2'-2½"	4'-9½"	1'-0"	1'-7"	2	3'-2"	2	1'-6½"	3		2	4'-8"	2	7'-6"	4		7						206	2.60	20'-11"	16'-0"	153	1.46	.550	4829	5090	1
6	4'-11"	5'-11"	4'-2½"	6'-6"	3'-3"	2'-8½"	5'-7½"	1'-0"	1'-7"	2	3'-8"	2	1'-6½"	3		2	5'-2"	2	8'-0"	4		7						233	5.15	20'-11"	16'-0"	155	1.48	.665	5695	6161	3
7	4'-11"	6'-11"	4'-2½"	6'-6"	3'-3"	2'-8½"	5'-7½"	1'-0"	1'-7"	2	3'-8"	2	1'-6½"	3		2	5'-2"	2	8'-0"	4		7						391	6.93	20'-11"	16'-0"	156	1.50	.763	6252	7304	4
8	4'-11"	7'-11"	4'-2½"	6'-6"	3'-3"	2'-8½"	5'-7½"	1'-0"	1'-7"	2	3'-8"	2	1'-6½"	3		2	5'-2"	2	8'-0"	4		7						509	9.77	20'-11"	16'-0"	159	1.52	.825	6780	8941	5
9	5'-11"	7'-11"	5'-2½"	7'-6"	3'-9"	3'-2½"	6'-5½"	1'-0"	1'-7"	2	4'-2"	2	1'-6½"	3		2	6'-0"	1	8'-6"	2	9'-5"	6						287	4.19	25'-4"	20'-10"	281	1.65	.785	7600	9738	6
10	5'-11"	9'-11"	5'-2½"	7'-6"	3'-9"	3'-2½"	6'-5½"	1'-0"	1'-7"	2	4'-2"	2	1'-6½"	3		2	6'-0"	1	8'-6"	2	9'-5"	6						331	5.98	25'-4"	20'-10"	281	1.65	.800	8294	9572	7
11	5'-11"	11'-11"	5'-2½"	7'-6"	3'-9"	3'-2½"	6'-5½"	1'-0"	1'-7"	2	4'-2"	2	1'-6½"	3		2	6'-0"	1	8'-6"	2	9'-5"	6						436	7.89	25'-4"	21'-7"	293	1.67	.867	8894	10774	8
12	6'-11"	11'-11"	6'-2½"	8'-6"	4'-3"	3'-8½"	7'-3½"	1'-0"	1'-7"	2	4'-8"	2	1'-6½"	3		3	Var.	3	10'-0"	3	Var.	8	10'-6"					562	10.92	25'-10"	21'-4"	237	1.69	.935	9314	11656	9
13	6'-11"	13'-11"	6'-2½"	8'-6"	4'-3"	3'-8½"	7'-3½"	1'-0"	1'-7"	2	4'-8"	2	1'-6½"	3		3	Var.	3	11'-4"	4	Var.	8	13'-10"					611	14.67	25'-10"	21'-4"	237	1.69	1.005	10250	12354	10
14	6'-11"	15'-11"	6'-2½"	8'-6"	4'-3"	3'-8½"	7'-3½"	1'-0"	1'-7"	2	4'-8"	2	1'-6½"	3		3	Var.	3	12'-8"	5	Var.	8	16'-2"					1053	16.48	26'-0"	21'-5"	293	1.90	1.070	10995	14194	11
15	7'-11"	15'-11"	7'-2½"	9'-6"	4'-9"	4'-2½"	8'-1½"	1'-0"	1'-7"	2	5'-2"	2	1'-6½"	3		3	Var.	4	11'-4"	4	Var.	8	16'-2"					629	12.07	30'-10"	26'-10"	346	2.28	1.052	10663	15134	12
16	7'-11"	17'-11"	7'-2½"	9'-6"	4'-9"	4'-2½"	8'-1½"	1'-0"	1'-7"	2	5'-2"	2	1'-6½"	3		4	Var.	4	12'-8"	5	Var.	8	18'-6"					956	14.69	30'-10"	26'-10"	346	2.28	1.117	15015	16164	13
17	8'-11"	17'-11"	8'-2½"	10'-6"	5'-3"	4'-8½"	9'-0½"	1'-0"	1'-7"	2	5'-8"	2	1'-6½"	3		4	Var.	4	12'-8"	5	Var.	8	18'-6"					1148	17.98	31'-0"	26'-11"	347	2.29	1.184	14224	17648	14
18	8'-11"	19'-11"	8'-2½"	10'-6"	5'-3"	4'-8½"	9'-0½"	1'-0"	1'-7"	2	5'-8"	2	1'-6½"	3		5	Var.	5	14'-0"	6	Var.	9	20'-10"					1654	21.26	31'-11"	26'-12"	348	2.30	1.250	14988	19052	15
19	8'-11"	21'-11"	8'-2½"	10'-6"	5'-3"	4'-8½"	9'-0½"	1'-0"	1'-7"	2	5'-8"	2	1'-6½"	3		6	Var.	5	15'-4"	6	Var.	9	20'-10"					1574	24.79	31'-11"	26'-12"	348	2.30	1.314	15727	20269	16

Barrel of Culvert — Quantities: Steel per Lin. Ft. / Loss / Concrete per Lin. Ft. Culvs.
Two Wings and One Apron — Quantities: Steel Lbs. / Concrete Cu. Yds.
Two Curbs — Quantities: Steel Lbs. / Concrete Cu. Yds.
Total Quantities (1) Roadway: Reinf. Steel Lbs. / Concrete Curbs

Right Forward

41 BC-6AS2