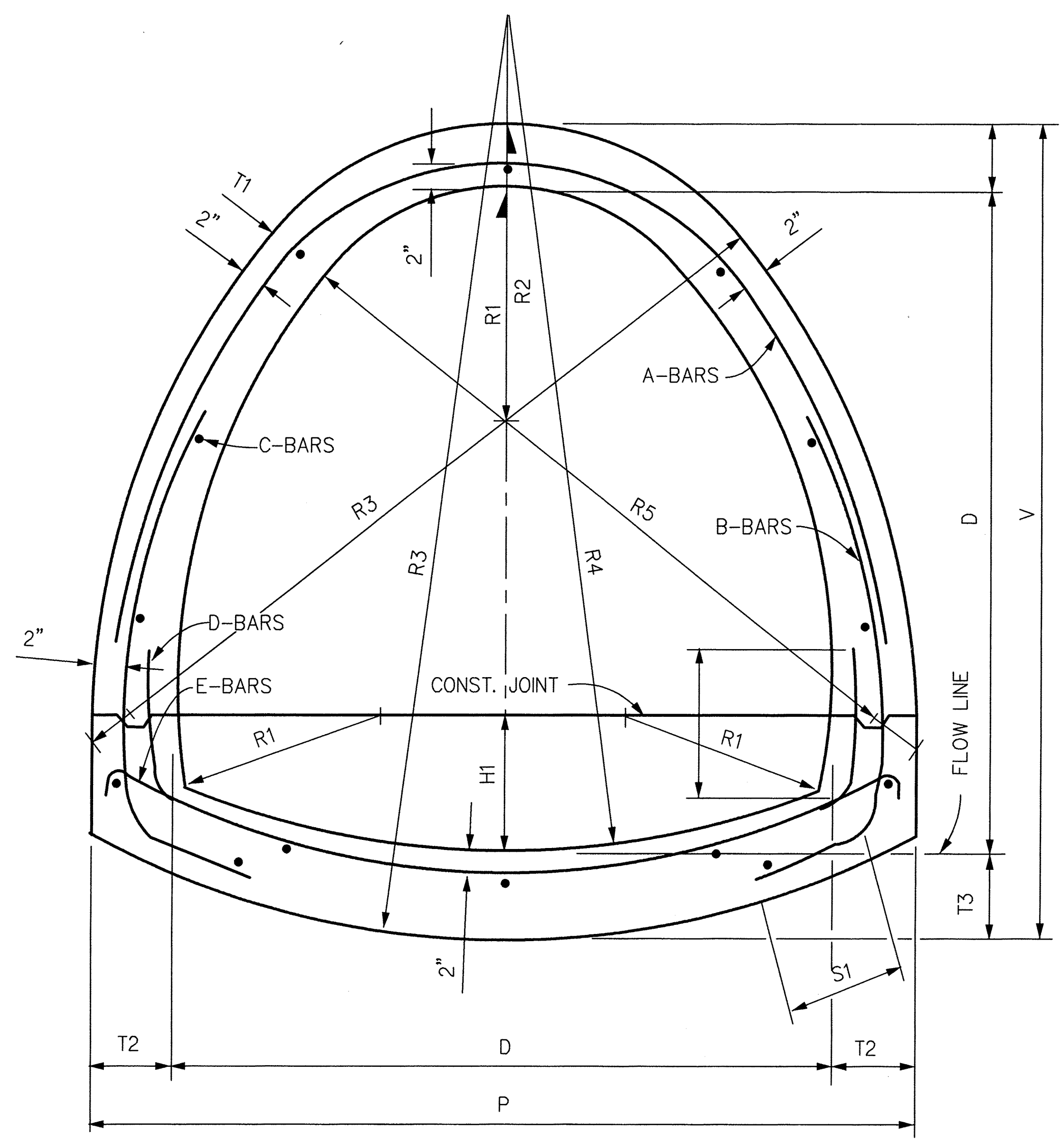


DEPTH OF BACKFILL NOT TO EXCEED 5'														REINFORCING STEEL										QUANTITIES (PER L.F.)						
SIZE	T1	T2	T3	H2	P	V	R1	R2	R3	R4	R5	H1	T4	S1	S2	A-BARS		B-BARS		C-BARS		D-BARS		E-BARS		CONCRETE		STEEL LBS	AREA OF WATERWAY SF	SIZE
																SIZE & SPACING	LENGTH	SIZE & SPACING	LENGTH	NUMBER & SIZE	LENGTH	SIZE & SPACING	LENGTH	SIZE & SPACING	LENGTH	ENTIRE SECTION C.Y.	BELOW CONST. JT. C.Y.			
36"	5"	6"	6"		4'-0"	3'-11"	1'-0"	1'-5"	4'-0"	4'-6"	3'-1 1/2"	0'-7 1/2"	1'-0"	0'-11"	1/2" @ 12"	6'-6"	1/2" @ 7 1/2"	3'-3"	12 - 1/2"	1'-0"	1/2" @ 15"	5'-0"	1/2" @ 15"	4'-6"	0.196	0.082	0.052	24.82	7.05	36"
42"	5"	6"	6"		4'-6"	4'-5"	1'-2"	1'-7"	4'-6"	5'-0"	3'-7 3/4"	0'-8 3/4"	1'-0"	1'-0"	5/8" @ 18"	7'-8"	5/8" @ 9"	3'-6"	12 - 1/2"	1'-0"	5/8" @ 18"	5'-8"	5/8" @ 18"	4'-8"	0.222	0.095	0.054	30.78	9.59	42"
48"	5"	6 1/2"	6 1/2"		5'-1"	4'-11 1/2"	1'-4"	1'-9"	5'-1"	5'-7 1/2"	4'-2"	0'-10"	1'-3"	1'-2"	5/8" @ 15"	8'-6"	5/8" @ 8 1/2"	4'-0"	12 - 1/2"	1'-0"	5/8" @ 17"	6'-6"	5/8" @ 17"	5'-6"	0.266	0.120	0.065	36.32	12.53	48"
54"	5 1/2"	7"	7"		5'-8"	5'-6 1/2"	1'-6"	1'-11 1/2"	5'-8"	6'-3"	4'-8 1/4"	0'-11 1/4"	1'-6"	1'-2"	5/8" @ 13"	9'-6"	5/8" @ 9"	5'-0"	12 - 1/2"	1'-0"	5/8" @ 18"	7'-0"	5/8" @ 18"	6'-0"	0.320	0.137	0.077	40.78	15.85	54"
60"	6"	8"	8"		6'-4"	6'-2"	1'-8"	2'-2"	6'-4"	7'-0"	5'-2 1/2"	1'-0 1/2"	1'-6"	1'-5"	5/8" @ 14"	11'-0"	5/8" @ 9"	5'-0"	12 - 1/2"	1'-0"	5/8" @ 18"	8'-0"	5/8" @ 18"	7'-0"	0.410	0.182	0.099	42.90	19.58	60"
66"	6"	8"	8"		6'-10"	6'-8"	1'-10"	2'-4"	6'-10"	7'-6"	5'-8 3/4"	1'-0 3/4"	1'-8"	1'-5"	5/8" @ 12"	11'-0"	5/8" @ 8 1/2"	5'-6"	12 - 1/2"	1'-0"	5/8" @ 17"	8'-6"	5/8" @ 17"	7'-3"	0.436	0.190	0.103	48.07	23.69	66"
72"	6 1/2"	8 1/2"	8 1/2"		7'-5"	7'-3"	2'-0"	2'-6 1/2"	7'-5"	8'-1 1/2"	6'-3"	1'-3"	1'-8"	1'-5"	5/8" @ 12"	12'-6"	5/8" @ 7 1/2"	5'-3"	12 - 1/2"	1'-0"	5/8" @ 15"	9'-0"	5/8" @ 15"	8'-0"	0.511	0.224	0.117	53.63	28.20	72"
76"	7"	9"	8"		8'-0"	7'-10"	2'-2"	2'-9"	8'-0"	8'-9"	6'-9 1/4"	1'-4 1/4"	1'-8"	1'-5 1/2"	5/8" @ 11"	13'-0"	5/8" @ 7"	6'-0"	14 - 1/2"	1'-0"	5/8" @ 14"	9'-6"	5/8" @ 14"	8'-6"	0.586	0.256	0.132	62.71	33.10	76"
84"	7	10 1/2"	10 1/2"		8'-9"	8'-5 1/2"	2'-4"	2'-11"	8'-9"	9'-7 1/2"	7'-3 1/2"	1'-5 1/2"	2'-0"	1'-11"	5/8" @ 10"	13'-6"	5/8" @ 7 1/2"	6'-6"	14 - 1/2"	1'-0"	5/8" @ 15"	11'-0"	5/8" @ 15"	9'-6"	0.706	0.322	0.175	66.12	38.40	84"
90"	7 1/2"	11"	11"		9'-4"	9'-0 1/2"	2'-6"	3'-1 1/2"	9'-4"	10'-3"	7'-9 3/4"	1'-6 3/4"	2'-0"	1'-8 1/2"	5/8" @ 10"	14'-0"	5/8" @ 7"	6'-6"	14 - 1/2"	1'-0"	5/8" @ 14"	11'-0"	5/8" @ 14"	9'-9"	0.794	0.370	0.194	69.81	44.05	90"
96"	8"	12"	12"		10'-0"	9'-8"	2'-8"	3'-4"	10'-0"	11'-0"	8'-4"	1'-8"	2'-4"	1'-11"	3/4" @ 14"	15'-6"	3/4" @ 10"	7'-6"	14 - 1/2"	1'-0"	3/4" @ 20"	12'-0"	3/4" @ 20"	10'-6"	0.909	0.425	0.228	77.60	50.10	96"
102"	8 1/2"	12 1/2"	12 1/2"		10'-7"	10'-3"	2'-10"	3'-6 1/2"	10'-7"	10'-7 1/2"	8'-10 1/4"	1'-9 1/4"	2'-6"	1'-9 1/2"	3/4" @ 12"	16'-0"	3/4" @ 9"	8'-0"	14 - 1/2"	1'-0"	3/4" @ 18"	12'-3"	3/4" @ 18"	11'-3"	1.017	0.470	0.250	90.08	56.60	102"
108"	9"	12 1/2"	12 1/2"		11'-1"	10'-9 1/2"	3'-0"	3'-9"	11'-1"	12'-1 1/2"	9'-4 1/2"	1'-10 1/2"	2'-6"	1'-11"	3/4" @ 14"	17'-0"	3/4" @ 9"	8'-0"	14 - 1/2"	1'-0"	3/4" @ 18"	13'-0"	3/4" @ 18"	12'-0"	1.094	0.495	0.256	89.43	63.40	108"
114"	9"	13 1/2"	13 1/2"		11'-9"	11'-4 1/2"	3'-2"	3'-11"	10'-9"	12'-10 1/2"	9'-10 3/4"	1'-11 3/4"	2'-8"	2'-2"	3/4" @ 12"	17'-0"	3/4" @ 8 1/2"	8'-9"	14 - 1/2"	1'-0"	3/4" @ 17"	14'-0"	3/4" @ 17"	12'-6"	1.219	0.563	0.296	101.36	70.70	114"
120"	10"	15"	15"		12'-6"	12'-1"	3'-4"	4'-2"	12'-6"	13'-9"	10'-5"	2'-1"	2'-10"	2'-2 1/2"	3/4" @ 12"	18'-0"	3/4" @ 8 1/2"	9'-3"	14 - 1/2"	1'-0"	3/4" @ 17"	14'-6"	3/4" @ 17"	13'-3"	1.431	0.664	0.357	106.36	78.30	120"
126"	10 1/2"	16"	16"		13'-2"	12'-8 1/2"	3'-6"	4'-4 1/2"	13'-2"	14'-6"	10'-11 1/4"	2'-2 1/4"	3'-0"	2'-2 1/2"	3/4" @ 12"	19'-0"	3/4" @ 8 1/2"	9'-6"	14 - 1/2"	1'-0"	3/4" @ 17"	15'-0"	3/4" @ 17"	14'-0"	1.601	0.753	0.404	110.28	86.30	126"
132"	11"	17"	17"		13'-10"	13'-4"	3'-8"	4'-7"	13'-10"	15'-3"	11'-5 1/4"	2'-3 1/2"	3'-2"	2'-2 1/2"	3/4" @ 12"	19'-6"	3/4" @ 8 1/2"	10'-0"	14 - 1/2"	1'-0"	3/4" @ 17"	15'-6"	3/4" @ 17"	14'-6"	1.773	0.843	0.453	114.26	94.75	132"
138"	11 1/2"	17 1/2"	17 1/2"		14'-5"	13'-11"	3'-10"	4'-9 1/2"	14'-5"	15'-10 1/2"	11'-11 3/4"	2'-4 3/4"	3'-4"	2'-4 1/2"	3/4" @ 12"	20'-6"	3/4" @ 8"	10'-6"	14 - 1/2"	1'-0"	3/4" @ 16"	16'-3"	3/4" @ 16"	15'-3"	1.910	0.893	0.493	124.48	103.50	138"
144"	12"	18"	18"		15'-0"	14'-6"	4'-0"	5'-0"	15'-0"	16'-6"	12'-6"	2'-6"	3'-6"	2'-5 1/2"	3/4" @ 12"	21'-0"	3/4" @ 8"	11'-0"	14 - 1/2"	1'-0"	3/4" @ 16"	17'-0"	3/4" @ 16"	15'-9"	2.077	0.959	0.514	128.95	112.75	144"



TYPE 2 TO SERVE IN QUICKSAND OR LOOSE EARTH

NOTE:
ASSUMED LIVE LOAD = A 20 TON TRUCK

REVISION	BY	DATE

[Signature]
CITY ENGINEER

[Signature]
DESIGN MANAGER

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

TYPE 2 SEMI-ELLIPTICAL STORM SEWER
DEPTH OF BACKFILL NOT TO EXCEED 5'
(FOR REHAB AND REFERENCE ONLY)

DATE: OCTOBER 2013

STD. 781C