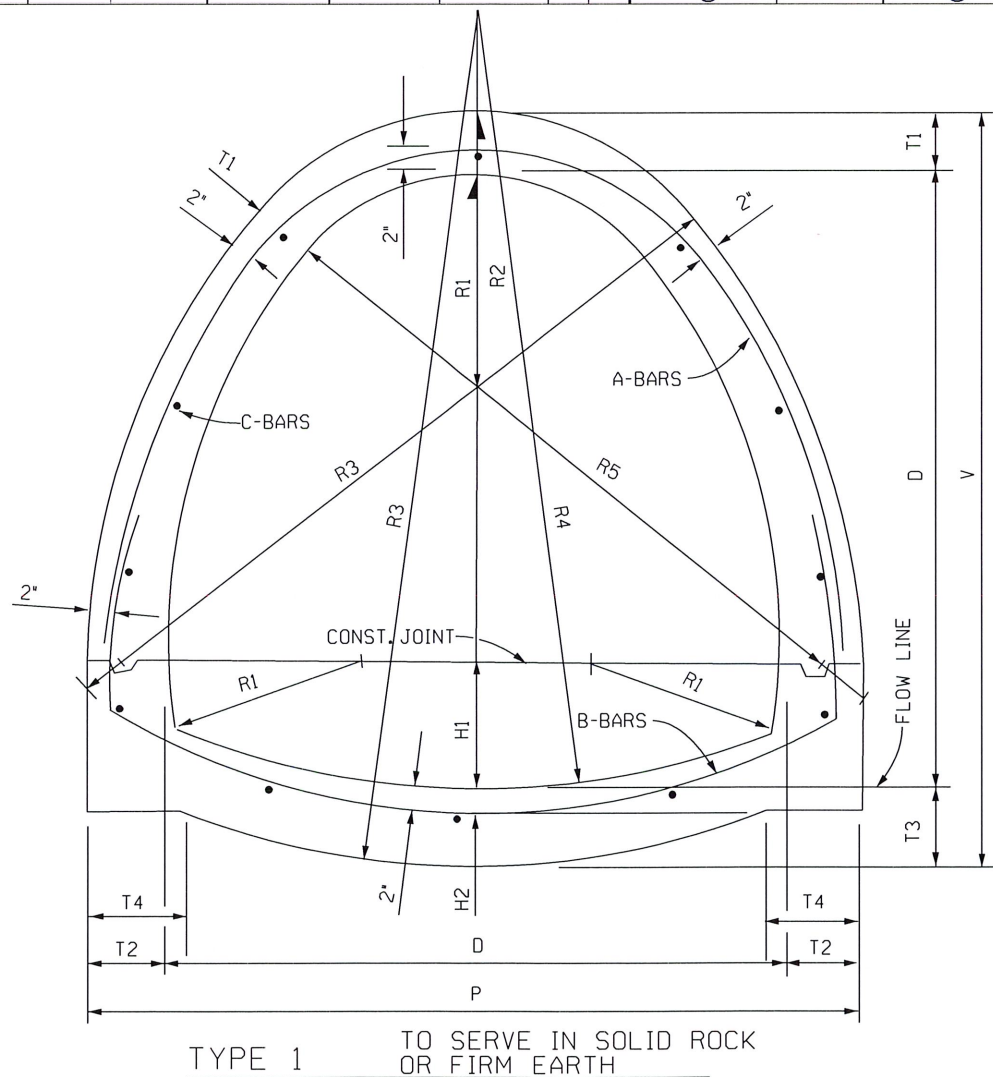


DEPTH OF BACKFILL NOT TO EXCEED 10'

SIZE	T1	T2	T3	H2	P	V	R1	R2	R3	R4	R5	H1	T4	S1	S2	REINFORCING STEEL				QUANTITIES (PER L.F.)							
																A-BARS		B-BARS		C-BARS		CONCRETE		EXCAVATION BELOW FLOWLINE	STEEL	AREA OF WATERWAY	SIZE
																SIZE & SPACING	LENGTH	SIZE & SPACING	LENGTH	NUMBER & SIZE	LENGTH	ENTIRE SECTION	BELOW CONST. JT.				
36"	5"	6"	6"	-4"	4'-0"	3'-11"	1'-0"	1'-5"	4'-0"	4'-6"	3'-1 1/2"	0'-7 1/2"	0'-9"			1/2" @ 18"	6'-9"	1/2" @ 18"	8'-0"	10 - 1/2"	1'-0"	0.204	0.091	0.059	13.49	7.05	36"
42"	5"	6"	6"	-3"	4'-6"	4'-5"	1'-2"	1'-7"	4'-6"	5'-0"	3'-7 3/4"	0'-8 3/4"	0'-8"			1/2" @ 18"	7'-6"	1/2" @ 18"	9'-0"	10 - 1/2"	1'-0"	0.232	0.101	0.061	14.28	9.59	42"
48"	5"	7"	7"	-3 1/2"	5'-2"	5'-0"	1'-4"	1'-9"	5'-2"	5'-9"	4'-2"	0'-10"	0'-9"			1/2" @ 16"	8'-6"	1/2" @ 16"	9'-6"	10 - 1/2"	1'-0"	0.285	0.134	0.080	16.03	12.53	48"
54"	5'-1/2"	7 1/2"	7 1/2"	-3 1/2"	5'-9"	5'-7"	1'-6"	1'-11 1/2"	5'-9"	6'-4 1/2"	4'-8 1/4"	0'-11 1/4"	0'-10 1/2"			1/2" @ 15"	9'-6"	1/2" @ 15"	10'-6"	10 - 1/2"	1'-0"	0.350	0.161	0.093	17.68	15.85	54"
60"	6"	7 1/2"	7 1/2"	-2 1/2"	6'-3"	6'-1 1/2"	1'-8"	2'-2"	6'-3"	6'-10 1/2"	5'-2 1/2"	1'-0 1/2"	0'-9"			1/2" @ 12"	10'-6"	1/2" @ 12"	11'-0"	10 - 1/2"	1'-0"	0.392	0.174	0.094	21.42	19.58	60"
66"	6 1/2"	8 1/2"	8"	-2 1/2"	6'-11"	6'-8 1/2"	1'-10"	2'-4 1/2"	6'-11"	7'-7"	5'-8 3/4"	1'-1 3/4"	0'-10"			1/2" @ 12"	11'-6"	1/2" @ 12"	12'-0"	10 - 1/2"	1'-0"	0.471	0.209	0.112	22.78	23.69	66"
72"	6 1/2"	9 1/2"	8"	-2"	7'-7"	7'-2 1/2"	2'-0"	2'-6 1/2"	7'-7"	8'-3"	6'-3"	1'-3"	1'-0"			1/2" @ 11"	12'-6"	1/2" @ 12"	13'-0"	10 - 1/2"	1'-0"	0.533	0.234	0.116	24.92	28.20	72"
76"	7"	10"	8"	-2"	8'-2"	7'-9"	2'-2"	2'-9"	8'-2"	8'-10"	6'-9 1/4"	1'-4 1/4"	1'-2"			5/8" @ 10"	14'-0"	1/2" @ 12"	13'-0"	12 - 1/2"	1'-0"	0.598	0.256	0.123	28.42	33.10	76"
84"	7 1/2"	11"	8"	-1 1/2"	8'-10"	8'-3 1/2"	2'-4"	2'-11 1/2"	8'-10"	9'-6"	7'-3 1/2"	1'-5 1/2"	1'-3"			1/2" @ 10"	15'-0"	1/2" @ 12"	14'-0"	12 - 1/2"	1'-0"	0.683	0.287	0.124	29.92	38.40	84"
90"	8"	11 1/2"	8"	0"	9'-5"	8'-10"	2'-6"	3'-2"	9'-5"	10'-1"	7'-9 3/4"	1'-6 3/4"	1'-1"			1/2" @ 10"	16'-0"	1/2" @ 12"	14'-6"	12 - 1/2"	1'-0"	0.749	0.300	0.203	31.07	44.05	90"
96"	8"	12"	8"	0"	10'-0"	9'-4"	2'-8"	3'-4"	10'-0"	10'-8"	8'-4"	1'-8"	1'-3 1/2"			5/8" @ 14"	17'-0"	5/8" @ 14"	16'-0"	12 - 1/2"	1'-0"	0.808	0.324	0.119	38.14	50.10	96"
102"	8"	13"	8"	0"	10'-8"	9'-10"	2'-10"	3'-6"	10'-8"	11'-4"	8'-10 1/4"	1'-9 1/4"	1'-6"			5/8" @ 13"	18'-0"	5/8" @ 13"	16'-6"	12 - 1/2"	1'-0"	0.895	0.359	0.123	41.90	56.60	102"
108"	8 1/2"	13 1/2"	8"	+1"	11'-3"	10'-4 1/2"	3'-0"	3'-8 1/2"	11'-3"	11'-11"	9'-4 1/2"	1'-10 1/2"	1'-6"			5/8" @ 12"	19'-0"	5/8" @ 12"	17'-6"	12 - 1/2"	1'-0"	0.970	0.378	0.128	46.85	63.40	108"
114"	9"	14"	8"	+2"	11'-10"	10'-11"	3'-2"	3'-11"	11'-10"	12'-6"	9'-10 3/4"	1-11 3/4"	1'-5"			5/8" @ 12"	20'-0"	5/8" @ 12"	18'-0"	12 - 1/2"	1'-0"	1.064	0.397	0.132	48.44	70.70	114"
120"	9"	14 1/2"	8"	+2"	12'-5"	11'-5"	3'-4"	4'-1"	12'-5"	13'-1"	10'-5"	2'-1"	1'-7"			5/8" @ 11"	21'-0"	5/8" @ 12"	19'-0"	12 - 1/2"	1'-0"	1.120	0.422	0.132	52.58	78.30	120"
126"	9 1/2"	14 1/2"	8"	+3"	12'-11"	11'-1 1/2"	3'-6"	4'-3 1/2"	12'-11"	13'-7"	10'-11 1/4"	2'-2 1/4"	1'-7"			5/8" @ 11"	22'-6"	5/8" @ 12"	19'-0"	12 - 1/2"	1'-0"	1.209	0.444	0.136	54.31	86.30	126"
132"	9 1/2"	15"	8"	+3"	13'-6"	12'-5 1/2"	3'-8"	4'-5 1/2"	13'-6"	14'-2"	11'-5 1/2"	2'-3 1/2"	1'-9"			5/8" @ 11"	23'-6"	5/8" @ 12"	20'-0"	12 - 1/2"	1'-0"	1.281	0.473	0.142	56.53	94.75	132"
138"	10"	15 1/2"	8"	+3"	14'-1"	13'-0"	3'-10"	4'-8"	14'-1"	14'-9"	11-11 3/4"	2'-4 3/4"	1'-11"			5/8" @ 10"	24'-6"	5/8" @ 12"	21'-0"	12 - 1/2"	1'-0"	1.392	0.505	0.141	61.58	103.50	138"
144"	10"	16"	8"	+3"	14'-8"	13'-6"	4'-0"	4'-10"	14'-8"	15'-4"	12'-6"	2'-6"	2'-1"			5/8" @ 10"	26'-0"	5/8" @ 12"	21'-0"	12 - 1/2"	1'-0"	1.468	0.537	0.148	64.02	112.75	144"



NOTE:  
ASSUMED LIVE LOAD = A 20 TON TRUCK

*[Signature]*  
CITY ENGINEER

*[Signature]*  
DESIGN MANAGER

CITY OF TULSA, OKLAHOMA  
ENGINEERING SERVICES DEPARTMENT

TYPE 1 SEMI-ELLIPTICAL STORM SEWER  
DEPTH OF BACKFILL NOT TO EXCEED 10'  
(FOR REHAB AND REFERENCE ONLY)

DATE: MARCH 2022

STD. 781B

REVISION	BY	DATE