 TORUS	· Owner PIPE SUPPORT FOUNDATION SCHEDULE				Document No.	STR-CAL-004
					Revision / Date	A · September 29, 2026
					Issue purpose	Issued for Review
STRUCTURAL · PIPE SUPPORT FOUNDATION SCHEDULE						
Rev.	Date	Revision description	Prepared	Reviewed	Approved	
A	2026-09-29	Issued for Review				

REFERENCE DOCUMENTS AND NOTES

- References: MEC-CAL-005, Pipe Supports (support locations, types and design loads); STR-CAL-002, Foundation Design (method and equipment foundations); STR-DWG-001, Foundation Location Plan; STR-DWG-006, Foundation Details; CIV-RPT-001, Civil Design Criteria and Site Report (soil and expansive clay).
- 1. The pipe supports and their loads are those of MEC-CAL-005 (225 supports). Loads are service-level design values: the vertical load is the larger of operating and hydrotest, and the horizontal load combines the guide, friction, wind and seismic components. The lateral and axial components are combined as a resultant, which is conservative.
 - 2. Each foundation type is designed for the largest vertical load and the largest overturning moment of any support of that type. The moment is the horizontal load times the pipe centerline height above finished grade.
 - 3. Pier length is set by swell uplift in the 8 ft active zone; 13 ft is the minimum for every type. Piers smaller than 24 in carry small-bore posts only.
 - 4. Where two shafts would be closer than 1 ft clear, or a shaft would fall within a mat, the support is carried instead on a combined cap (Table 1-4), on the mat, or on the adjacent equipment pier (Table 1-5). Grade-block supports (type SS-3) and the brackets on the V-101 shell (type ST-2) have no cast foundation.
 - 5. HOLD H-07: soil parameters. HOLD H-15: final support loads with vendor data.

INPUTS

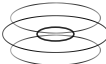
Table 1-1: Design Inputs

Symbol	Description	Value	Unit
c_u	Undrained shear strength, lean clay	2,000	psf
z_a	Active zone depth	8	ft
p_s	Swell pressure	3,000	psf
α_u	Uplift factor on the shaft in the active zone	0.15	-
α	Side resistance factor below the active zone	0.55	-
N_c	Base bearing factor	9	-
S_1	Allowable lateral bearing (IBC Table 1806.2, doubled for isolated posts)	200	psf/ft
f'_c	Concrete strength	4,000	psi
f_y	Reinforcement yield strength	60,000	psi
γ_c	Concrete unit weight	150	pcf

FOUNDATION TYPES

Table 1-2: Pipe Support Foundation Types

Type	MEC types	Count	V	H	h	M	D	L	Qall	U	FS U	Hu	FS lat	d IBC	Bars
			kip	kip	ft	kip-ft	in	ft	kip	kip		kip		ft	
			Note 1	Note 1	Note 2	Eq. 1		Note 3	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 6	Eq. 7	Eq. 8
PF-1	SR-1	49	4.41	1.64	3.9	4.7	24	13	29.2	22.6	1.80	79	47.9	6.5	6 #6
PF-2	SG-1	19	7.61	7.41	3.4	23.2	36	13	52.8	33.9	1.93	80	10.7	10.7	12 #6
PF-3	SL-1/SL-2	4	3.36	5.60	3.1	17.1	24	13	29.2	22.6	1.80	78	13.8	11.3	6 #6

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Type	MEC types	Count	V	H	h	M	D	L	Qall	U	FS U	Hu	FS lat	d IBC	Bars	
PF-4	SV-1	12	4.44	1.66	3.3	5.3	30	13	40.3	28.3	1.87	80	48.2	6.1	9 #6	
PF-6	ST-1	18	1.87	0.55	9.8	4.8	18	13	19.7	17.0	1.73	47	> 50	5.8	6 #5	
PF-7	SH-1	18	0.89	0.23	4.5	0.9	12	13	11.6	11.3	1.66	50	> 50	4.1	4 #5	
PF-8	SS-1/SS-2	99	0.90	0.54	11.1	1.3	12	13	11.6	11.3	1.66	57	> 50	5.3	4 #5	

Note 1: Row 1 gives units and row 2 the governing equation or note. Every type passes: FS U at least 1.5, FS lat at least 2.5, and d IBC not more than L.

STANCHIONS

Table 1-3: Support Stanchions (AISC 360-22)

Support	Section	Height, ft	P_u , kip	M_u , kip-ft	ϕP_n , kip	ϕM_n , kip-ft	H1-1 ratio
			Eq. 9	Eq. 9	Eq. 10	Eq. 11	Eq. 12
SR-1 / SG-1 post	W8x31	3.4	12.18	37.17	359.3	114.0	0.34
SL-1 / SL-2 line stop	W8x40	3.1	5.37	27.44	471.5	149.2	0.19
SV-1 valve stand	NPS 8 Sch 40	3.3	7.10	8.50	253.9	58.3	0.16
ST-1 tall post	W8x31	9.8	3.00	7.63	138.0	114.0	0.08
SH-1 T-post	NPS 6 Sch 40	4.5	1.43	1.51	154.8	31.0	0.05
SS-1 / SS-2 post	NPS 4 Sch 40	11.1	1.44	2.07	20.9	11.3	0.22

EQUATIONS

Eq. 1: $M = H h$

Eq. 2: $Q_{all} = 0.55\,c_u\pi D(L - z_a - D)/2.0 + 9\,c_u\,\pi D^2/4/3.0$ (FHWA GEC 10)

Eq. 3: $U = \alpha_u\,p_s\,\pi D\,z_a$ (Nelson and Miller)

Eq. 4: $FS_U = [\alpha\,c_u\,\pi D(L - z_a) + W_p]/U$

Eq. 5: $H_u(e + 1.5D + f/2) = 2.25\,D\,g^2c_u$, $f = H_u/(9c_uD)$, $L = 1.5D + f + g$ (Broms)

Eq. 6: $FS_{lat} = H_u/H$

Eq. 7: $d = 0.5A[1 + (1 + 4.36h/A)^{1/2}]$, $A = 2.34H/(S_1b)$ (IBC 2021 Section 1807.3.2.1)

Eq. 8: $A_s \geq \max(0.005A_g, (1.6U - 0.9W_p)/(0.9f_y))$, and $M_u = 1.67H(e + 1.5D + f/2) \leq \phi M_n$ by strain compatibility

Eq. 9: $P_u = 1.6V$, $M_u = 1.6M$

Eq. 10: $\phi P_n = 0.9F_{cr}A_g$, $F_{cr} = 0.658^{F_y/F_e}F_y$, $F_e = \pi^2E/(KL/r)^2$, $K = 2.1$ (AISC 360-22 E3)

Eq. 11: $\phi M_n = 0.9F_yZ$ (AISC 360-22 F2, F8)

Eq. 12: $P_u/\phi P_n + (8/9)M_u/\phi M_n \leq 1.0$ when $P_u/\phi P_n \geq 0.2$, otherwise $P_u/(2\phi P_n) + M_u/\phi M_n \leq 1.0$ (AISC 360-22 H1-1) ## COMBINED CAPS AND SUPPORTS WITHOUT A SHAFT

Table 1-4: Combined Caps

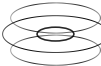
Mark	Supports	X, Y (ft)	Cap, ft	V, kip	H, kip	Cap pier	Status
CF-01	PS-005 / PS-008	53.6, 25.0	4.5 x 5.0 x 2.0	5.79	7.14	24 in x 13 ft pier, 6 #6	
CF-02	PS-006 / PS-079 / PS-097	51.6, 34.8	6.0 x 6.5 x 2.0	1.33	0.39	none (bears on select fill)	
CF-03	PS-009 / PS-216	63.5, 26.9	3.5 x 5.0 x 2.0	7.62	5.58	36 in x 13 ft pier, 12 #6	
CF-04	PS-010 / PS-154 / PS-218	68.7, 27.5	4.5 x 6.0 x 2.0	2.54	0.93	none (bears on select fill)	
CF-05	PS-015 / PS-016	71.5, 29.6	3.0 x 5.5 x 2.0	3.63	1.48	30 in x 13 ft pier, 9 #6	
CF-06	PS-017 / PS-155	70.0, 36.6	6.0 x 3.5 x 2.0	4.57	1.70	30 in x 13 ft pier, 9 #6	
CF-07	PS-018 / PS-019 / PS-020	73.6, 55.0	7.5 x 5.0 x 2.0	4.28	7.57	36 in x 13 ft pier, 12 #6	
CF-08	PS-023 / PS-024	78.5, 49.1	3.0 x 5.5 x 2.0	4.35	1.59	30 in x 13 ft pier, 9 #6	
CF-09	PS-025 / PS-168	78.2, 60.8	4.0 x 4.5 x 2.0	1.05	7.45	36 in x 13 ft pier, 12 #6	
CF-10	PS-029 / PS-030	65.0, 87.0	5.0 x 5.0 x 2.0	1.50	0.37	none (bears on select fill)	
CF-11	PS-033 / PS-034	105.0, 147.0	5.0 x 5.0 x 2.0	2.22	0.52	none (bears on select fill)	
CF-12	PS-036 / PS-181	140.2, 149.5	3.5 x 6.0 x 2.0	2.03	4.02	36 in x 13 ft pier, 12 #6	
CF-13	PS-038 / PS-039 / PS-040 / PS-041	168.0, 144.8	7.0 x 9.5 x 2.0	2.04	0.52	none (bears on select fill)	
CF-14	PS-043 / PS-044 / PS-045	150.0, 143.8	3.0 x 8.0 x 2.0	6.45	2.09	30 in x 13 ft pier, 9 #6	
CF-15	PS-049 / PS-050	141.0, 137.5	5.0 x 5.0 x 2.0	2.12	0.51	none (bears on select fill)	
CF-16	PS-064 / PS-213 / PS-219 / PS-220	183.6, 91.5	5.0 x 6.0 x 2.0	3.43	2.63	24 in x 13 ft pier, 6 #6	
CF-17	PS-065 / PS-195 / PS-208 / PS-209 / PS-214 / PS-221	188.7, 91.5	6.0 x 6.0 x 2.0	2.75	1.01	none (bears on select fill)	
CF-18	PS-067 / PS-222	209.4, 89.2	3.5 x 4.5 x 2.0	3.31	1.38	24 in x 13 ft pier, 6 #6	
CF-19	PS-068 / PS-069 / PS-225	215.7, 89.2	5.0 x 4.5 x 2.0	4.64	0.87	none (bears on select fill)	
CF-20	PS-081 / PS-098	42.9, 35.0	5.5 x 3.0 x 2.0	0.28	0.13	none (bears on select fill)	
CF-21	PS-099 / PS-100	30.0, 36.0	5.0 x 5.0 x 2.0	0.33	0.12	none (bears on select fill)	
CF-22	PS-101 / PS-113 / PS-161	28.2, 46.8	6.5 x 5.5 x 2.0	0.36	0.17	none (bears on select fill)	
CF-23	PS-102 / PS-114	27.8, 57.0	5.5 x 4.5 x 2.0	0.31	0.15	none (bears on select fill)	
CF-24	PS-106 / PS-107	91.8, 34.0	4.5 x 4.0 x 2.0	0.29	0.11	none (bears on select fill)	
CF-25	PS-117 / PS-118 / PS-119 / PS-120	27.8, 83.2	5.5 x 5.0 x 2.0	0.44	0.17	none (bears on select fill)	
CF-26	PS-132 / PS-189	162.8, 159.1	4.0 x 5.0 x 2.0	0.91	0.26	none (bears on select fill)	
CF-27	PS-133 / PS-187	146.6, 161.0	4.0 x 5.0 x 2.0	0.95	0.25	none (bears on select fill)	
CF-28	PS-140 / PS-152 / PS-153 / PS-159	51.5, 45.5	6.0 x 5.0 x 2.0	0.73	0.23	none (bears on select fill)	
CF-29	PS-223 / PS-224	212.1, 87.7	5.0 x 3.0 x 2.0	0.06	0.02	none (bears on select fill)	

Note 1: Caps bear on 2 ft of select fill with the top 6 in above grade and #5 bars at 12 in, top and bottom, each way.

Note 2: Where the cap alone would not resist sliding or overturning under guide and line-stop loads, it sits on a drilled pier at its center that carries all of V, H and the moment H x (h + 1 ft).

Table 1-5: Supports Bearing on Mats or Equipment Piers

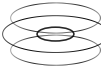
Support	Carried by	Connection
PS-042	FD-02	4 x 3/4 in adhesive anchors, 6 in embedment
PS-046	FD-02	4 x 3/4 in adhesive anchors, 6 in embedment
PS-085	FD-12	4 x 3/4 in adhesive anchors, 6 in embedment
PS-086	FD-12	4 x 3/4 in adhesive anchors, 6 in embedment

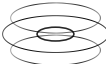
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Support	Carried by	Connection		
PS-087	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-088	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-089	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-090	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-091	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-092	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-093	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-094	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-095	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-105	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-121	FD-07	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-122	FD-07	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-123	FD-07	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-124	FD-07	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-126	FD-07	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-148	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-149	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-150	FD-01	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-165	FD-12	4 x 3/4 in adhesive anchors, 6 in embedment		
PS-028	FD-05-2S	12 x 12 x 1/2 in embed plate, 4 headed studs		
PS-075	FD-03B	12 x 12 x 1/2 in embed plate, 4 headed studs		
PS-111	FD-03A	12 x 12 x 1/2 in embed plate, 4 headed studs		

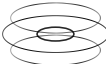
SUPPORT SCHEDULE

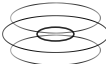
Table 1-6: Pipe Support Foundations by Support

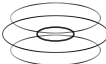
Support	Type	Line	X, ft	Y, ft	Foundation	TOC, ft
PS-001	SR-1	1001	29.5	8.0	24 in dia x 13 ft	1152.09
PS-002	SG-1	1001	38.5	8.0	36 in dia x 13 ft	1152.00
PS-003	SR-1	1001	49.5	8.0	24 in dia x 13 ft	1151.89
PS-004	SR-1	1001	53.0	11.5	24 in dia x 13 ft	1151.88
PS-005	SL-1	1001	53.0	24.0	on CF-01 4.5 x 5.0 x 2.0 ft cap	1151.94
PS-006	SR-1	1001	53.0	36.5	on CF-02 6.0 x 6.5 x 2.0 ft cap	1152.01
PS-007	SR-1	1001	49.5	40.0	24 in dia x 13 ft	1152.06
PS-008	SR-1	1001	54.2	26.0	on CF-01 4.5 x 5.0 x 2.0 ft cap	1151.94
PS-009	SG-1	1001	63.4	26.0	on CF-03 3.5 x 5.0 x 2.0 ft cap	1151.85
PS-010	SR-1	1002	69.2	26.0	on CF-04 4.5 x 6.0 x 2.0 ft cap	1151.80
PS-011	SV-1	1002	77.2	26.0	30 in dia x 13 ft	1151.71
PS-012	SR-1	1002	87.5	26.0	24 in dia x 13 ft	1151.61
PS-015	SR-1	1004	71.5	28.4	on CF-05 3.0 x 5.5 x 2.0 ft cap	1151.78

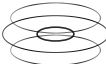
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Support	Type	Line	X, ft	Y, ft	Foundation	TOC, ft
PS-016	SV-1	1004	71.5	30.8	on CF-05 3.0 x 5.5 x 2.0 ft cap	1151.78
PS-017	SV-1	1004	71.5	36.4	on CF-06 6.0 x 3.5 x 2.0 ft cap	1151.83
PS-018	SG-1	1004	71.5	54.0	on CF-07 7.5 x 5.0 x 2.0 ft cap	1151.89
PS-019	SR-1	1004	73.5	56.0	on CF-07 7.5 x 5.0 x 2.0 ft cap	1151.89
PS-020	SR-1	1004	75.7	56.0	on CF-07 7.5 x 5.0 x 2.0 ft cap	1151.89
PS-023	SR-1	1003	78.5	48.0	on CF-08 3.0 x 5.5 x 2.0 ft cap	1151.81
PS-024	SV-1	1003	78.5	50.2	on CF-08 3.0 x 5.5 x 2.0 ft cap	1151.81
PS-025	SG-1	1003	78.5	60.0	on CF-09 4.0 x 4.5 x 2.0 ft cap	1151.87
PS-026	SR-1	1003	78.5	64.9	24 in dia x 13 ft	1151.89
PS-027	SR-1	1003	78.5	84.0	24 in dia x 13 ft	1151.98
PS-028	SR-1	1003	76.5	86.0	post on FD-05-2S (no separate pier)	1152.01
PS-029	SR-1	1003	66.0	86.0	on CF-10 5.0 x 5.0 x 2.0 ft cap	1152.13
PS-030	SR-1	1003	64.0	88.0	on CF-10 5.0 x 5.0 x 2.0 ft cap	1152.13
PS-031	SR-1	1020	104.0	106.5	24 in dia x 13 ft	1151.84
PS-032	SG-1	1020	104.0	126.2	36 in dia x 13 ft	1151.94
PS-033	SR-1	1020	104.0	146.0	on CF-11 5.0 x 5.0 x 2.0 ft cap	1152.03
PS-034	SR-1	1020	106.0	148.0	on CF-11 5.0 x 5.0 x 2.0 ft cap	1152.03
PS-035	SG-1	1020	123.2	148.0	36 in dia x 13 ft	1151.86
PS-036	SG-1	1020	140.3	148.0	on CF-12 3.5 x 6.0 x 2.0 ft cap	1151.70
PS-037	SV-1	1020	157.5	148.0	30 in dia x 13 ft	1151.51
PS-038	SR-1	1020	166.0	148.0	on CF-13 7.0 x 9.5 x 2.0 ft cap	1151.39
PS-039	SR-1	1020	168.0	146.0	on CF-13 7.0 x 9.5 x 2.0 ft cap	1151.39
PS-040	SR-1	1020	168.0	143.5	on CF-13 7.0 x 9.5 x 2.0 ft cap	1151.39
PS-041	SR-1	1020	170.0	141.5	on CF-13 7.0 x 9.5 x 2.0 ft cap	1151.39
PS-042	SR-1	1020	172.0	141.5	post on FD-02 (no separate pier)	1151.34
PS-043	SR-1	1021	150.0	146.3	on CF-14 3.0 x 8.0 x 2.0 ft cap	1151.57
PS-044	SV-1	1021	150.0	143.9	on CF-14 3.0 x 8.0 x 2.0 ft cap	1151.57
PS-045	SR-1	1021	150.0	141.3	on CF-14 3.0 x 8.0 x 2.0 ft cap	1151.57
PS-046	SR-1	1022	172.0	138.5	post on FD-02 (no separate pier)	1151.32
PS-047	SV-1	1022	164.5	138.5	30 in dia x 13 ft	1151.40
PS-048	SG-1	1022	153.2	138.5	36 in dia x 13 ft	1151.51
PS-049	SR-1	1022	142.0	138.5	on CF-15 5.0 x 5.0 x 2.0 ft cap	1151.63
PS-050	SR-1	1022	140.0	136.5	on CF-15 5.0 x 5.0 x 2.0 ft cap	1151.63
PS-051	SL-1	1022	140.0	119.7	24 in dia x 13 ft	1151.55
PS-052	SR-1	1022	140.0	102.9	24 in dia x 13 ft	1151.46
PS-053	SR-1	1022	140.0	87.3	24 in dia x 13 ft	1151.39
PS-054	SR-1	1031	145.6	94.0	24 in dia x 13 ft	1151.36
PS-055	SV-1	1031	150.0	94.0	30 in dia x 13 ft	1151.32
PS-056	SV-1	1031	156.8	94.0	30 in dia x 13 ft	1151.25
PS-057	SR-1	1032	145.6	86.0	24 in dia x 13 ft	1151.32

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PS-058	SV-1	1032	150.0	86.0	30 in dia x 13 ft	1151.28
PS-059	SV-1	1032	156.8	86.0	30 in dia x 13 ft	1151.21
PS-060	SR-1	1033	160.0	92.7	24 in dia x 13 ft	1151.21
PS-061	SR-1	1033	160.0	87.3	24 in dia x 13 ft	1151.19
PS-062	SR-1	1033	162.8	90.0	24 in dia x 13 ft	1151.17
PS-063	SG-1	1033	173.6	90.0	36 in dia x 13 ft	1151.06
PS-064	SL-1	1033	182.6	90.0	on CF-16 5.0 x 6.0 x 2.0 ft cap	1150.97
PS-065	SR-1	1040	188.4	90.0	on CF-17 6.0 x 6.0 x 2.0 ft cap	1150.92
PS-066	SV-1	1040	200.0	90.0	30 in dia x 13 ft	1150.80
PS-067	SR-1	1040	209.6	90.0	on CF-18 3.5 x 4.5 x 2.0 ft cap	1150.70
PS-068	SR-1	1041	215.4	90.0	on CF-19 5.0 x 4.5 x 2.0 ft cap	1150.64
PS-069	SR-1	1041	216.5	90.0	on CF-19 5.0 x 4.5 x 2.0 ft cap	1150.64
PS-070	SR-1	1041	220.0	93.5	24 in dia x 13 ft	1150.62
PS-071	SG-1	1041	220.0	107.2	36 in dia x 13 ft	1150.69
PS-072	SG-1	1041	220.0	122.5	36 in dia x 13 ft	1150.76
PS-073	SG-1	1041	220.0	137.7	36 in dia x 13 ft	1150.84
PS-074	SG-1	1041	220.0	149.5	36 in dia x 13 ft	1150.90
PS-075	ST-1	1101	39.0	38.0	post on FD-03B (no separate pier)	1152.15
PS-076	ST-1	1101	39.0	28.0	18 in dia x 13 ft	1152.10
PS-077	ST-1	1101	41.0	26.0	18 in dia x 13 ft	1152.07
PS-078	ST-1	1101	58.0	26.0	18 in dia x 13 ft	1151.90
PS-079	SS-1	1102	50.3	33.0	on CF-02 6.0 x 6.5 x 2.0 ft cap	1152.01
PS-080	SS-1	1102	46.0	33.0	12 in dia x 13 ft	1152.05
PS-081	SS-1	1102	44.0	35.0	on CF-20 5.5 x 3.0 x 2.0 ft cap	1152.10
PS-082	SS-1	1050	81.4	58.6	12 in dia x 13 ft	1151.83
PS-083	SS-1	1050	86.0	58.6	12 in dia x 13 ft	1151.78
PS-084	SS-1	1050	88.0	57.3	12 in dia x 13 ft	1151.76
PS-085	SS-1	1050	89.5	56.0	post on FD-12 (no separate pier)	1151.73
PS-086	SS-1	1051	100.4	55.0	post on FD-12 (no separate pier)	1151.62
PS-087	SS-1	1060	87.0	38.6	post on FD-01 (no separate pier)	1151.67
PS-088	SS-1	1060	87.0	36.1	post on FD-01 (no separate pier)	1151.66
PS-089	SS-1	1060	85.4	35.0	post on FD-01 (no separate pier)	1151.67
PS-090	SS-1	1060	78.5	35.0	post on FD-01 (no separate pier)	1151.74
PS-091	SS-1	1060	84.7	36.0	post on FD-01 (no separate pier)	1151.68
PS-092	SS-1	1060	82.7	36.7	post on FD-01 (no separate pier)	1151.71
PS-093	SS-1	1060	79.8	36.7	post on FD-01 (no separate pier)	1151.74
PS-094	SS-1	1060	77.8	36.0	post on FD-01 (no separate pier)	1151.75
PS-095	SR-1	1060D	73.5	35.0	post on FD-01 (no separate pier)	1151.79
PS-096	SG-1	1060D	63.2	35.0	36 in dia x 13 ft	1151.89
PS-097	SG-1	1060D	52.5	35.0	on CF-02 6.0 x 6.5 x 2.0 ft cap	1152.01

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PS-098	SG-1	1060D	41.8	35.0	on CF-20 5.5 x 3.0 x 2.0 ft cap	1152.10
PS-099	SR-1	1060D	31.0	35.0	on CF-21 5.0 x 5.0 x 2.0 ft cap	1152.23
PS-100	SR-1	1060D	29.0	37.0	on CF-21 5.0 x 5.0 x 2.0 ft cap	1152.23
PS-101	SG-1	1060D	29.0	47.2	on CF-22 6.5 x 5.5 x 2.0 ft cap	1152.30
PS-102	SG-1	1060D	29.0	57.5	on CF-23 5.5 x 4.5 x 2.0 ft cap	1152.36
PS-103	SG-1	1060D	29.0	67.8	36 in dia x 13 ft	1152.40
PS-104	SR-1	1060D	29.0	78.0	24 in dia x 13 ft	1152.45
PS-105	SS-1	1110	92.5	38.6	post on FD-01 (no separate pier)	1151.62
PS-106	SS-1	1110	92.5	34.4	on CF-24 4.5 x 4.0 x 2.0 ft cap	1151.60
PS-107	SS-1	1110	91.1	33.5	on CF-24 4.5 x 4.0 x 2.0 ft cap	1151.60
PS-108	SS-1	1110	83.4	33.5	12 in dia x 13 ft	1151.68
PS-109	SS-1	1110	76.3	33.5	12 in dia x 13 ft	1151.75
PS-110	SS-1	1110	74.3	34.1	12 in dia x 13 ft	1151.78
PS-111	SS-1	1061	26.5	41.0	post on FD-03A (no separate pier)	1152.29
PS-112	SS-1	1061	26.5	43.2	12 in dia x 13 ft	1152.30
PS-113	SS-1	1061	26.5	48.0	on CF-22 6.5 x 5.5 x 2.0 ft cap	1152.30
PS-114	SS-1	1061	26.5	56.4	on CF-23 5.5 x 4.5 x 2.0 ft cap	1152.36
PS-115	SS-1	1061	26.5	64.8	12 in dia x 13 ft	1152.41
PS-116	SS-1	1061	26.5	73.1	12 in dia x 13 ft	1152.45
PS-117	SS-1	1061	26.5	82.5	on CF-25 5.5 x 5.0 x 2.0 ft cap	1152.49
PS-118	SS-1	1061	27.6	83.5	on CF-25 5.5 x 5.0 x 2.0 ft cap	1152.49
PS-119	SR-1	1190	29.0	82.4	on CF-25 5.5 x 5.0 x 2.0 ft cap	1152.49
PS-120	SR-1	1190	29.0	84.0	on CF-25 5.5 x 5.0 x 2.0 ft cap	1152.49
PS-121	ST-1	1190	29.0	88.0	post on FD-07 (no separate pier)	1152.50
PS-122	ST-1	1190	29.0	95.0	post on FD-07 (no separate pier)	1152.53
PS-123	SS-1	1191	30.0	107.4	post on FD-07 (no separate pier)	1152.59
PS-124	SS-2	1191	30.0	112.0	post on FD-07 (no separate pier)	1152.61
PS-125	SS-2	1191	30.0	114.0	12 in dia x 13 ft	1152.62
PS-126	SS-1	1192	36.0	97.0	post on FD-07 (no separate pier)	1152.47
PS-129	SH-1	1070	214.0	160.0	12 in dia x 13 ft	1151.01
PS-130	SH-1	1070	197.1	160.0	12 in dia x 13 ft	1151.18
PS-131	SH-1	1070	180.1	160.0	12 in dia x 13 ft	1151.35
PS-132	SH-1	1070	163.2	160.0	on CF-26 4.0 x 5.0 x 2.0 ft cap	1151.52
PS-133	SH-1	1070	146.2	160.0	on CF-27 4.0 x 5.0 x 2.0 ft cap	1151.69
PS-134	SH-1	1070	129.3	160.0	12 in dia x 13 ft	1151.86
PS-135	SH-1	1070	112.3	160.0	12 in dia x 13 ft	1152.03
PS-136	SH-1	1070	95.4	160.0	12 in dia x 13 ft	1152.20
PS-137	SH-1	1070	78.4	160.0	12 in dia x 13 ft	1152.37
PS-138	SH-1	1070	61.5	160.0	12 in dia x 13 ft	1152.53
PS-139	SH-1	1070	44.5	160.0	12 in dia x 13 ft	1152.70

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Support	Type	Line	X, ft	Y, ft	Foundation	TOC, ft	
PS-140	SH-1	1070	50.0	46.0	on CF-28 6.0 x 5.0 x 2.0 ft cap	1152.06	
PS-141	SH-1	1070	50.0	61.9	12 in dia x 13 ft	1152.16	
PS-142	SH-1	1070	50.0	77.8	12 in dia x 13 ft	1152.24	
PS-143	SH-1	1070	50.0	93.8	12 in dia x 13 ft	1152.32	
PS-144	SH-1	1070	50.0	109.7	12 in dia x 13 ft	1152.40	
PS-145	SH-1	1070	50.0	125.6	12 in dia x 13 ft	1152.48	
PS-146	SH-1	1070	50.0	141.5	12 in dia x 13 ft	1152.56	
PS-147	SL-2	1070	50.0	157.4	24 in dia x 13 ft	1152.64	
PS-148	SS-2	1071	84.8	42.4	post on FD-01 (no separate pier)	1151.71	
PS-149	SS-2	1071	82.8	44.0	post on FD-01 (no separate pier)	1151.74	
PS-150	SS-2	1071	72.9	44.2	post on FD-01 (no separate pier)	1151.84	
PS-151	SS-2	1071	62.9	44.3	12 in dia x 13 ft	1151.94	
PS-152	SS-2	1071	53.0	44.5	on CF-28 6.0 x 5.0 x 2.0 ft cap	1152.06	
PS-153	SS-2	1071	50.5	44.5	on CF-28 6.0 x 5.0 x 2.0 ft cap	1152.06	
PS-154	ST-1	1072	68.6	29.0	on CF-04 4.5 x 6.0 x 2.0 ft cap	1151.80	
PS-155	ST-1	1072	68.6	36.8	on CF-06 6.0 x 3.5 x 2.0 ft cap	1151.83	
PS-156	ST-1	1072	68.6	44.5	18 in dia x 13 ft	1151.89	
PS-157	ST-1	1072	66.6	46.5	18 in dia x 13 ft	1151.92	
PS-158	ST-1	1072	59.4	46.5	18 in dia x 13 ft	1151.99	
PS-159	SR-1	1072	52.2	46.5	on CF-28 6.0 x 5.0 x 2.0 ft cap	1152.06	
PS-160	SS-2	1075	30.0	43.0	12 in dia x 13 ft	1152.26	
PS-161	SS-2	1075	30.0	45.5	on CF-22 6.5 x 5.5 x 2.0 ft cap	1152.30	
PS-162	SS-2	1075	32.0	47.5	12 in dia x 13 ft	1152.27	
PS-163	SS-2	1075	40.0	47.5	12 in dia x 13 ft	1152.19	
PS-164	SS-2	1075	48.0	47.5	12 in dia x 13 ft	1152.11	
PS-165	SS-2	1077	97.0	59.8	post on FD-12 (no separate pier)	1151.68	
PS-166	SS-2	1077	95.0	61.5	12 in dia x 13 ft	1151.71	
PS-167	SS-2	1077	86.4	61.5	12 in dia x 13 ft	1151.79	
PS-168	SS-2	1077	77.9	61.5	on CF-09 4.0 x 4.5 x 2.0 ft cap	1151.87	
PS-169	SS-2	1077	69.3	61.5	12 in dia x 13 ft	1151.96	
PS-170	SS-2	1077	60.8	61.5	12 in dia x 13 ft	1152.05	
PS-171	SS-1	1077	52.2	61.5	12 in dia x 13 ft	1152.14	
PS-172	SS-2	1120	80.0	107.5	12 in dia x 13 ft	1152.09	
PS-173	SS-2	1120	80.0	113.8	12 in dia x 13 ft	1152.12	
PS-174	SS-2	1120	80.0	120.1	12 in dia x 13 ft	1152.15	
PS-175	SS-2	1120	80.0	126.4	12 in dia x 13 ft	1152.18	
PS-176	SS-2	1120	80.0	132.6	12 in dia x 13 ft	1152.21	
PS-177	SS-2	1120	80.0	138.9	12 in dia x 13 ft	1152.24	
PS-178	SS-1	1120	80.0	145.2	12 in dia x 13 ft	1152.28	
PS-179	SS-1	1120	80.0	151.5	12 in dia x 13 ft	1152.31	

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Support	Type	Line	X, ft	Y, ft	Foundation	TOC, ft	
PS-180	SS-1	1120	80.0	157.8	12 in dia x 13 ft	1152.34	
PS-181	ST-1	1073	140.0	151.0	on CF-12 3.5 x 6.0 x 2.0 ft cap	1151.70	
PS-182	ST-1	1073	140.0	158.0	18 in dia x 13 ft	1151.74	
PS-183	ST-1	1073	140.0	165.0	18 in dia x 13 ft	1151.77	
PS-184	ST-1	1073	142.0	167.0	18 in dia x 13 ft	1151.76	
PS-185	ST-1	1073	145.0	167.0	18 in dia x 13 ft	1151.73	
PS-186	ST-1	1073	147.0	165.0	18 in dia x 13 ft	1151.70	
PS-187	ST-1	1073	147.0	162.0	on CF-27 4.0 x 5.0 x 2.0 ft cap	1151.69	
PS-188	SS-2	1076	162.5	151.5	12 in dia x 13 ft	1151.48	
PS-189	SS-2	1076	162.5	158.2	on CF-26 4.0 x 5.0 x 2.0 ft cap	1151.52	
PS-190	SS-2	1076	162.5	165.0	12 in dia x 13 ft	1151.55	
PS-191	SS-2	1076	164.5	167.0	12 in dia x 13 ft	1151.54	
PS-192	SS-2	1076	167.5	167.0	12 in dia x 13 ft	1151.51	
PS-193	SS-2	1076	169.5	165.0	12 in dia x 13 ft	1151.48	
PS-194	SS-2	1076	169.5	162.0	12 in dia x 13 ft	1151.46	
PS-195	SS-2	1074	190.0	91.5	on CF-17 6.0 x 6.0 x 2.0 ft cap	1150.92	
PS-196	SS-2	1074	192.0	93.0	12 in dia x 13 ft	1150.89	
PS-197	SS-2	1074	199.3	93.0	12 in dia x 13 ft	1150.82	
PS-198	SS-2	1074	206.7	93.0	12 in dia x 13 ft	1150.75	
PS-199	SS-2	1074	214.0	93.0	12 in dia x 13 ft	1150.67	
PS-200	SS-2	1074	216.0	95.0	12 in dia x 13 ft	1150.66	
PS-201	SS-2	1074	216.0	104.0	12 in dia x 13 ft	1150.71	
PS-202	SS-2	1074	216.0	112.9	12 in dia x 13 ft	1150.75	
PS-203	SS-2	1074	216.0	121.9	12 in dia x 13 ft	1150.80	
PS-204	SS-2	1074	216.0	130.8	12 in dia x 13 ft	1150.84	
PS-205	SS-2	1074	216.0	139.8	12 in dia x 13 ft	1150.89	
PS-206	SS-2	1074	216.0	148.7	12 in dia x 13 ft	1150.93	
PS-207	SS-2	1074	216.0	157.7	12 in dia x 13 ft	1150.98	
PS-208	SS-2	1160	188.0	91.0	on CF-17 6.0 x 6.0 x 2.0 ft cap	1150.92	
PS-209	SS-2	1160	188.9	92.0	on CF-17 6.0 x 6.0 x 2.0 ft cap	1150.92	
PS-210	SS-2	1161	167.5	91.5	12 in dia x 13 ft	1151.13	
PS-211	SS-2	1161	169.5	93.0	12 in dia x 13 ft	1151.12	
PS-212	SS-2	1161	176.3	93.0	12 in dia x 13 ft	1151.05	
PS-213	SS-2	1161	183.1	93.0	on CF-16 5.0 x 6.0 x 2.0 ft cap	1150.97	
PS-214	SS-2	1161	189.9	93.0	on CF-17 6.0 x 6.0 x 2.0 ft cap	1150.92	
PS-215	SS-2	1170	217.7	96.5	12 in dia x 13 ft	1150.66	
PS-216	SS-1	1103	63.5	27.7	on CF-03 3.5 x 5.0 x 2.0 ft cap	1151.85	
PS-217	SS-1	1103	65.5	28.5	12 in dia x 13 ft	1151.84	
PS-218	SS-1	1103	68.1	27.6	on CF-04 4.5 x 6.0 x 2.0 ft cap	1151.80	
PS-219	SS-1	1162	182.6	91.4	on CF-16 5.0 x 6.0 x 2.0 ft cap	1150.97	

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Support	Type	Line	X, ft	Y, ft	Foundation	TOC, ft	
PS-220	SS-1	1162	184.6	92.0	on CF-16 5.0 x 6.0 x 2.0 ft cap	1150.97	
PS-221	SS-1	1162	187.3	91.4	on CF-17 6.0 x 6.0 x 2.0 ft cap	1150.92	
PS-222	SS-1	1171	209.3	88.5	on CF-18 3.5 x 4.5 x 2.0 ft cap	1150.70	
PS-223	SS-1	1171	211.3	87.7	on CF-29 5.0 x 3.0 x 2.0 ft cap	1150.67	
PS-224	SS-1	1171	212.9	87.7	on CF-29 5.0 x 3.0 x 2.0 ft cap	1150.67	
PS-225	SS-1	1171	214.9	88.5	on CF-19 5.0 x 4.5 x 2.0 ft cap	1150.64	