

3-6-17



LOCATION		AREA		RUNOFF	RAIN	INCREMENTAL FLOW		TOTAL FLOW	PIPE DATA												
FROM	TO	SUB TOTAL (Acre)	TOTAL (Acre)	COEFF. C	INT. I (in/hr)	Q=CIA (C.F.S. REQ'D)	Q=CIA (C.F.S. REQ'D)	Q=CIA (C.F.S. REQ'D)	N	LENGTH (ft)	S %	SIZE (in)	VEL. (fps)	Q AVAIL. (cfs)	Friction Loss (Hf) (ft)	Tailwater Elev. (ft)	HI INV. (ft)	LOW INV. (ft)	Inlet WS Elev. (ft)	RIM ELEV. (ft)	
CI No. 10	CI No. 9	3.17	3.17	0.90	7.23	20.63	20.63	20.63	RCP	0.013	80	0.88%	30	4.2	38.47	0.1755	20.35	21.60	20.90	21.08	28.40
CI No. 9	CI No. 8	0.09	3.26	0.90	7.23	0.59	0.59	21.21	RCP	0.013	50	0.80%	30	4.3	36.79	0.1160	20.35	20.90	20.50	20.62	27.50
CI No. 8	SDMH No. 1	0.18	3.44	0.90	7.23	1.17	1.17	22.38	RCP	0.013	60	0.83%	30	4.6	37.54	0.1550	20.35	20.50	20.00	20.15	27.50
Building	CI No. 4	0.41	0.41	0.90	7.23	2.67	2.67	2.67	RCP	0.013	100	1.00%	15	2.2	6.48	0.1174	20.35	26.00	25.00	25.12	32.90
CI No. 2.1	CI No. 2	0.10	0.10	0.90	7.23	0.65	0.65	0.65	RCP	0.013	50	2.60%	15	0.5	10.44	0.0035	20.35	28.00	26.70	26.70	31.50
CI No. 6	CI No. 5	0.18	0.18	0.90	7.23	1.17	1.17	1.17	RCP	0.013	60	1.67%	15	1.0	8.36	0.0136	20.35	25.00	24.00	24.01	29.50
CI No. 1.1	CI No. 1	0.10	0.10	0.90	7.23	0.65	0.65	0.65	RCP	0.013	45	1.11%	15	0.5	6.83	0.0031	20.35	28.00	27.50	27.50	31.50
CI No. 1	CI No. 2	0.05	0.15	0.90	7.23	0.31	0.31	0.96	RCP	0.013	80	1.00%	15	0.8	6.48	0.0122	20.35	27.50	26.70	26.71	31.00
CI No. 2	CI No. 3	0.08	0.33	0.90	7.23	0.52	0.52	2.13	RCP	0.013	70	1.00%	15	1.7	6.48	0.0526	20.35	26.70	26.00	26.05	31.00
CI No. 3	CI No. 4	0.15	0.48	0.90	7.23	0.98	0.98	3.11	RCP	0.013	60	1.67%	15	2.5	8.36	0.0958	20.35	26.00	25.00	25.10	30.50
CI No. 4	CI No. 5	0.12	1.01	0.90	7.23	0.78	0.78	6.56	RCP	0.013	115	0.87%	18	3.7	9.82	0.3280	20.35	25.00	24.00	24.33	30.50
CI No. 5	CI No. 7	0.18	1.37	0.90	7.23	1.17	1.17	8.90	RCP	0.013	60	0.83%	24	2.8	20.71	0.0748	20.35	24.00	23.50	23.57	29.50
CI No. 7	SDMH No. 1	0.24	1.61	0.90	7.23	1.56	1.56	10.46	RCP	0.013	35	10.00%	24	3.3	71.73	0.0603	20.35	23.50	20.00	20.06	29.50
SDMH No. 1	Ex. DI	0.00	5.05	0.90	7.23	0.00	0.00	32.85	RCP	0.013	5	5.40%	30	6.7	95.57	0.0278	20.35	20.00	19.73	19.76	29.30

Notes: Assume tailwater condition is 25% of pipe capacity.

LOCATION		AREA		RUNOFF	RAIN	INCREMENTAL FLOW		TOTAL FLOW	PIPE DATA												
FROM	TO	SUB TOTAL (Acre)	TOTAL (Acre)	COEFF. C	INT. I (in/hr)	Q=CIA (C.F.S. REQ'D)	Q=CIA (C.F.S. REQ'D)	Q=CIA (C.F.S. REQ'D)	N	LENGTH (ft)	S %	SIZE (in)	VEL. (fps)	Q AVAIL. (cfs)	Friction Loss (Hf) (ft)	Tailwater Elev. (ft)	HI INV. (ft)	LOW INV. (ft)	Inlet WS Elev. (ft)	RIM ELEV. (ft)	
CI No. 10	CI No. 9	3.17	3.17	0.90	8.87	25.31	25.31	25.31	RCP	0.013	80	0.88%	30	5.2	38.47	0.2641	20.98	21.60	20.90	21.16	28.40
CI No. 9	CI No. 8	0.09	3.26	0.90	8.87	0.72	0.72	26.02	RCP	0.013	50	0.80%	30	5.3	36.79	0.1746	20.98	20.90	20.50	20.67	27.50
CI No. 8	SDMH No. 1	0.18	3.44	0.90	8.87	1.44	1.44	27.46	RCP	0.013	60	0.83%	30	5.6	37.54	0.2333	20.98	20.50	20.00	20.23	27.50
Building	CI No. 4	0.41	0.41	0.90	8.87	3.27	3.27	3.27	RCP	0.013	100	1.00%	15	2.7	6.48	0.1767	20.98	26.00	25.00	25.18	32.90
CI No. 2.1	CI No. 2	0.10	0.10	0.90	8.87	0.80	0.80	0.80	RCP	0.013	50	2.60%	15	0.7	10.44	0.0053	20.98	28.00	26.70	26.71	31.50
CI No. 6	CI No. 5	0.18	0.18	0.90	8.87	1.44	1.44	1.44	RCP	0.013	60	1.67%	15	1.2	8.36	0.0204	20.98	25.00	24.00	24.02	29.50
CI No. 1.1	CI No. 1	0.10	0.10	0.90	8.87	0.80	0.80	0.80	RCP	0.013	45	1.11%	15	0.7	6.83	0.0047	20.98	28.00	27.50	27.50	31.50
CI No. 1	CI No. 2	0.05	0.15	0.90	8.87	0.38	0.38	1.18	RCP	0.013	80	1.00%	15	1.0	6.48	0.0184	20.98	27.50	26.70	26.72	31.00
CI No. 2	CI No. 3	0.08	0.33	0.90	8.87	0.64	0.64	2.62	RCP	0.013	70	1.00%	15	2.1	6.48	0.0792	20.98	26.70	26.00	26.08	31.00
CI No. 3	CI No. 4	0.15	0.48	0.90	8.87	1.20	1.20	3.82	RCP	0.013	60	1.67%	15	3.1	8.36	0.1441	20.98	26.00	25.00	25.14	30.50
CI No. 4	CI No. 5	0.12	1.01	0.90	8.87	0.96	0.96	8.05	RCP	0.013	115	0.87%	18	4.6	9.82	0.4937	20.98	25.00	24.00	24.49	30.50
CI No. 5	CI No. 7	0.18	1.37	0.90	8.87	1.44	1.44	10.92	RCP	0.013	60	0.83%	24	3.5	20.71	0.1126	20.98	24.00	23.50	23.61	29.50

SWP 2017020 Final SW Calcs  
5/19/2017  
Jal

Mayfaire IV  
10 Yr and 50 Yr Storm Pipe Calculations

LOCATION		AREA		RUNOFF	RAIN	INCREMENTAL FLOW	TOTAL FLOW	PIPE DATA											
FROM	TO	SUB TOTAL (Acre)	TOTAL (Acre)	COEFF. C	INT. I (in/hr)	Q=CIA (C.F.S. REQ'D)	Q=CIA (C.F.S. REQ'D)	N	LENGTH (ft)	S %	SIZE (in)	VEL. (fps)	Q AVAIL. (cfs)	Friction Loss (Hf) (ft)	Tailwater Elev. (ft)	HI INV.	LOW INV.	Inlet WS Elev. (ft)	RIM ELEV. (ft)
CI No. 7	SDMH No. 1	0.24	1.61	0.90	8.87	1.92	12.84	0.013	35	10.00%	24	4.1	71.73	0.0907	20.98	23.50	20.00	20.09	29.50
SDMH No. 1	Ex. DI	0.00	5.05	0.90	8.87	0.00	40.30	0.013	5	5.40%	30	8.2	95.57	0.0419	20.98	20.00	19.73	19.77	29.30

Notes: Assume tailwater condition is 50% of pipe capacity.

10-year

LOCATION		AREA		RUNOFF	RAIN	INCREMENTAL FLOW	TOTAL FLOW	PIPE DATA											
FROM	TO	SUB TOTAL (Acre)	TOTAL (Acre)	COEFF. C	INT. I (in/hr)	Q=CIA (C.F.S. REQ'D)	Q=CIA (C.F.S. REQ'D)	N	LENGTH (ft)	S %	SIZE (in)	VEL (fps)	Q AVAIL. (cfs)	Friction Loss (Hf) (ft)	Tailwater Elev. (ft)	HI INV.	LOW INV.	Inlet WS Elev. (ft)	RIM ELEV. (ft)
SDCO	SDCO	0.12	0.12	0.90	7.23	0.78	0.78	0.013	128	0.78%	8	2.2	1.07	0.2984	22.10	28.50	27.50	27.80	31.50
SDCO	CI No. 10A	0.00	0.12	0.90	7.23	0.00	0.78	0.013	56	2.68%	15	0.6	10.60	0.0056	22.10	27.50	26.00	26.01	31.20
CI No. 10A	Ex. CI No. 10	0.03	0.15	0.90	7.23	0.20	0.98	0.013	60	2.00%	15	0.8	9.16	0.0094	22.10	22.80	21.60	21.61	29.80
CI No. 1B	CI No. 1A	0.16	0.37	0.90	7.23	1.04	1.25	0.013	59	0.85%	15	1.0	5.96	0.0152	22.10	23.50	23.00	23.02	27.00
CI No. 1A	CI No. 1	0.22	0.59	0.90	7.23	1.43	2.68	0.013	56	0.89%	15	2.2	6.12	0.0665	22.10	23.00	22.50	22.57	27.00
CI No. 1C	CI No. 1A	0.21	0.21	0.90	7.23	1.37	1.37	0.013	34	1.47%	15	1.1	7.85	0.0105	22.10	23.50	23.00	23.01	27.60
SDCO	SDCO	0.17	0.17	0.90	7.23	1.11	1.11	0.013	170	0.59%	10	2.0	1.68	0.2606	22.10	28.50	27.50	27.76	33.00
SDCO	SDCO	0.00	0.17	0.90	7.23	0.00	1.11	0.013	85	0.59%	10	2.0	1.68	0.1303	22.10	27.50	27.00	27.13	33.00
SDCO	CI No. 5A	0.00	0.17	0.90	7.23	0.00	1.11	0.013	95	0.53%	15	0.9	4.70	0.0192	22.10	27.00	26.50	26.52	33.00
CI No. 5A	CI No. 5	0.17	0.34	0.90	7.23	1.11	2.21	0.013	125	0.80%	15	1.8	5.79	0.1009	22.10	26.50	25.50	25.60	30.50
SDCO	SDCO	0.06	0.06	0.90	7.23	0.39	0.39	0.013	55	1.82%	8	1.1	1.63	0.0321	22.10	28.00	27.00	27.03	33.00
SDCO	SDCO	0.11	0.11	0.90	7.23	0.72	0.72	0.013	115	0.87%	8	2.1	1.13	0.2253	22.10	28.00	27.00	27.23	33.00
SDCO	CI No. 4A	0.00	0.17	0.90	7.23	0.00	0.72	0.013	75	2.00%	15	0.6	9.16	0.0063	22.10	27.00	25.50	25.51	33.00
CI No. 4A	CI No. 4	0.21	0.38	0.90	7.23	1.37	2.08	0.013	125	0.80%	15	1.7	5.79	0.0894	22.10	25.50	24.50	24.59	30.50
SDCO	SDCO	0.12	0.12	0.90	7.23	0.78	0.78	0.013	128	0.78%	8	2.2	1.07	0.2984	22.10	28.50	27.50	27.80	31.50
SDCO	CI No. 2	0.00	0.12	0.90	7.23	0.00	0.78	0.013	56	2.68%	15	0.6	10.60	0.0056	22.10	27.50	26.00	26.01	31.20
CI No. 6	CI No. 5	0.17	0.17	0.90	7.23	1.11	1.11	0.013	56	0.89%	15	0.9	6.12	0.0113	22.10	26.00	25.50	25.51	29.00
CI No. 5	CI No. 4	0.14	0.65	0.90	7.23	0.91	4.23	0.013	56	1.79%	15	3.4	8.66	0.1663	22.10	25.50	24.50	24.67	29.00
CI No. 4	CI No. 3	0.29	1.32	0.90	7.23	1.89	8.20	0.013	56	1.79%	18	4.6	14.07	0.2496	22.10	24.50	23.50	23.75	29.00
CI No. 3	CI No. 2	0.24	1.68	0.90	7.23	1.56	9.76	0.013	55	0.91%	24	3.1	21.63	0.0824	22.10	23.50	23.00	23.08	27.80
CI No. 2	CI No. 1	0.02	1.82	0.90	7.23	0.13	10.67	0.013	54	0.93%	24	3.4	21.83	0.0968	22.10	23.00	22.50	22.60	30.30
CI No. 1	Ex. CI No. 10	0.02	2.55	0.90	7.23	0.13	13.48	0.013	122	0.74%	24	4.3	19.48	0.3490	22.10	22.50	21.60	21.95	29.50
Ex. CI No. 10	Ex. CI No. 9	0.54	3.10	0.90	7.23	3.51	16.87	0.013	75	0.93%	30	3.4	39.73	0.1100	22.10	21.60	20.90	21.01	28.40

Notes: Assume tailwater condition is 25% of pipe capacity.

Mayfaire V and VI  
10 Yr and 50 Yr Storm Pipe Calculations

LOCATION		AREA		RUNOFF	RAIN	INCREMENTAL FLOW	TOTAL FLOW	PIPE DATA													
FROM	TO	SUB TOTAL (Acre)	TOTAL (Acre)	COEFF. C	INT. I (in/hr)	Q=CIA (C.F.S. REQ'D)	Q=CIA (C.F.S. REQ'D)	TYPE	N	LENGTH (ft)	S %	SIZE (in)	VEL. (fps)	Q AVAIL. (cfs)	Friction Loss (Hf) (ft)	Tailwater Elev. (ft)	HI INV.	LOW INV.	Inlet WS Elev. (ft)	RIM ELEV. (ft)	
<b>50-year</b>																					
SDCO	SDCO	0.12	0.12	0.90	8.87	0.96	0.96	PVC	0.013	128	0.78%	8	2.7	1.07	0.4491	22.10	28.50	27.50	27.95	31.50	
SDCO	CI No. 10A	0.00	0.12	0.90	8.87	0.00	0.96	RCP	0.013	56	2.68%	15	0.8	10.60	0.0085	22.10	27.50	26.00	26.01	31.20	
CI No. 10A	Ex. CI No. 10	0.03	0.15	0.90	8.87	0.24	1.20	RCP	0.013	60	2.00%	15	1.0	9.16	0.0142	22.10	22.80	21.60	21.61	29.80	
CI No. 1B	CI No. 1A	0.16	0.37	0.90	8.87	1.28	1.49	RCP	0.013	59	0.85%	15	1.2	5.96	0.0215	22.10	23.50	23.00	23.02	27.00	
CI No. 1A	CI No. 1	0.22	0.59	0.90	8.87	1.76	3.24	RCP	0.013	56	0.89%	15	2.6	6.12	0.0972	22.10	23.00	22.50	22.60	27.00	
CI No. 1C	CI No. 1A	0.21	0.21	0.90	8.87	1.68	1.68	RCP	0.013	34	1.47%	15	1.4	7.85	0.0158	22.10	23.50	23.00	23.02	27.60	
SDCO	SDCO	0.17	0.17	0.90	8.87	1.36	1.36	PVC	0.013	170	0.59%	10	2.5	1.68	0.3922	22.10	28.50	27.50	27.89	33.00	
SDCO	SDCO	0.00	0.17	0.90	8.87	0.00	1.36	PVC	0.013	85	0.59%	10	2.5	1.68	0.1961	22.10	27.50	27.00	27.20	33.00	
SDCO	CI No. 5A	0.00	0.17	0.90	8.87	0.00	1.36	RCP	0.013	95	0.53%	15	1.1	4.70	0.0289	22.10	27.00	26.50	26.53	33.00	
CI No. 5A	CI No. 5	0.17	0.34	0.90	8.87	1.36	2.71	RCP	0.013	125	0.80%	15	2.2	5.79	0.1519	22.10	26.50	25.50	25.65	30.50	
SDCO	SDCO	0.06	0.06	0.90	8.87	0.48	0.48	PVC	0.013	55	1.82%	8	1.4	1.63	0.0482	22.10	28.00	27.00	27.05	33.00	
SDCO	SDCO	0.11	0.11	0.90	8.87	0.88	0.88	PVC	0.013	115	0.87%	8	2.5	1.13	0.3390	22.10	28.00	27.00	27.34	33.00	
SDCO	CI No. 4A	0.00	0.17	0.90	8.87	0.00	0.88	RCP	0.013	75	2.00%	15	0.7	9.16	0.0095	22.10	27.00	25.50	25.51	33.00	
CI No. 4A	CI No. 4	0.21	0.38	0.90	8.87	1.68	2.55	RCP	0.013	125	0.80%	15	2.1	5.79	0.1346	22.10	25.50	24.50	24.63	30.50	
SDCO	SDCO	0.12	0.12	0.90	8.87	0.96	0.96	PVC	0.013	128	0.78%	8	2.7	1.07	0.4491	22.10	28.50	27.50	27.95	31.50	
SDCO	CI No. 2	0.00	0.12	0.90	8.87	0.00	0.96	RCP	0.013	56	2.68%	15	0.8	10.60	0.0085	22.10	27.50	26.00	26.01	31.20	
CI No. 6	CI No. 5	0.17	0.17	0.90	8.87	1.36	1.36	RCP	0.013	56	0.89%	15	1.1	6.12	0.0170	22.10	26.00	25.50	25.52	29.00	
CI No. 5	CI No. 4	0.14	0.65	0.90	8.87	1.12	5.19	RCP	0.013	56	1.79%	15	4.2	8.66	0.2488	22.10	25.50	24.50	24.75	29.00	
CI No. 4	CI No. 3	0.29	1.32	0.90	8.87	2.32	10.06	RCP	0.013	56	1.79%	18	5.7	14.07	0.3756	22.1	24.50	23.50	23.88	29.00	
CI No. 3	CI No. 2	0.24	1.68	0.90	8.87	1.92	11.97	RCP	0.013	55	0.91%	24	3.8	21.63	0.1241	22.10	23.50	23.00	23.12	27.80	
CI No. 2	CI No. 1	0.02	1.82	0.90	8.87	0.16	13.09	RCP	0.013	54	0.93%	24	4.2	21.83	0.1456	22.10	23.00	22.50	22.65	30.30	
CI No. 1	Ex. CI No. 10	0.02	2.55	0.90	8.87	0.16	16.50	RCP	0.013	122	0.74%	24	5.3	19.48	0.5223	22.10	22.50	21.60	22.12	29.50	
Ex. CI No. 10	Ex. CI No. 9	0.54	3.10	0.90	8.87	4.31	20.65	RCP	0.013	75	0.93%	30	4.2	39.73	0.1648	22.10	21.60	20.90	21.06	28.40	

Notes: Assume tailwater condition is 50% of pipe capacity.