

HYDRAULIC COMPUTATIONS FOR PARK PLACE WEST - PHASE III																																		
Upstream Station	Downstream Station	Distance	Drainage Area		Rainfall Intensity						Design Flow			Design Conduit			Friction Loss			Hydraulic Grade Line			Velocity			Minor Loss			Ground/HGL Elev		Comments			
			Area Designation	Area	Total Drainage Area "A"	Runoff Coefficient "C"	Incommensurate "CA"	Total "CA"	Inlet Time	Travel Time in Conduit	Time of Concentration	Partial Intensity "I"	Total Discharge "Q"	Bypass Discharge	Conduit Design Discharge	No. of Conduits	Design (Box Culvert)	Rise	Friction Slope	Friction Loss	Downstream HGL Elevation	Upstream HGL Elevation	Design Point HGL Elevation	Downstream Velocity (V ₂)	Upstream Velocity (V ₁)	Downstream Velocity Head (V ₂ ² /2g)	Upstream Velocity Head (V ₁ ² /2g)	Minor Loss Coefficient k	Minor Loss (V ₂ ² /2g)	Total Minor Loss		"Ccap" Discharge Capacity	Upstream Ground Elev.	Elevation Difference Top of Curb/Top of Inlet-HGL Elev.
PUBLIC STORM LINE E																																		
5+15.63	4+99.70	15.9	E5	0.85	0.85	0.50	0.43	0.43	10	0.11	10.00	9.80	4.17	-	4.17	1	-	18	0.0016	0.025	556.63	556.81	556.81	2.36	0.00	0.09	0.00	1.25	0.00	0.11	12.87	560.18	3.37	Inlet
4+90.70	4+62.14	37.6	Wye/Bend	-	0.85	-	-	0.43	10	0.27	10.11	9.78	4.16	-	4.16	1	-	18	0.0016	0.059	556.19	556.63	556.63	2.35	0.09	0.09	0.09	0.37	0.03	0.03	12.87	560.00	3.37	45° Wye/Bend
4+62.14	3+95.51	66.6	E4	0.27	1.12	0.50	0.14	0.56	10	0.36	10.36	9.74	5.45	-	5.45	1	-	18	0.0027	0.180	556.30	556.30	556.30	2.35	0.15	0.09	0.50	0.04	0.07	12.87	559.40	3.21	45° Wye	
3+95.51	2+90.00	105.5	Wye/Bend	-	1.12	-	-	0.56	10	0.57	10.74	9.68	5.42	-	5.42	1	-	18	0.0027	0.281	554.35	555.54	555.54	3.07	0.09	0.15	0.15	0.37	0.05	0.05	12.87	559.00	3.46	45° Wye/Bend
PUBLIC STORM LAT E5																																		
0+19.09	0+00.00	19.1	E4	0.27	0.27	0.50	0.14	0.14	10	0.42	10.00	9.80	1.3	-	1.32	1	-	18	0.0002	0.003	556.02	556.10	556.10	0.75	0.00	0.01	0.00	1.25	0.00	0.01	6.56	559.64	3.54	Inlet
PUBLIC STORM LINE H																																		
1+90.00	1+68.10	21.9	H2	0.92	0.92	0.50	0.46	0.46	10	0.14	10.00	9.80	4.51	-	4.51	1	-	18	0.0018	0.040	547.86	549.22	549.22	2.55	0.00	0.10	0.00	1.25	0.00	0.13	26.39	551.80	2.58	Inlet
1+68.10	0+37.00	131.1	H4	0.33	1.25	0.50	0.17	0.63	10	0.63	10.14	9.78	6.11	-	6.11	1	-	18	0.0034	0.444	542.96	547.89	547.86	3.46	0.19	0.10	0.50	0.05	0.09	26.39	551.70	3.84	45° Wye	
0+37.00	0+00.00	37.0	Bend	-	1.25	-	-	0.63	10	0.18	10.77	9.68	6.05	-	6.05	1	-	18	0.0033	0.123	542.77	542.89	542.96	3.42	0.36	0.18	0.19	0.37	0.07	0.07	6.64	544.20	1.24	60° Bend
PUBLIC STORM LAT H1																																		
0+16.50	0+00.00	16.5	H4	0.33	0.33	0.50	0.17	0.17	10	0.06	10.00	9.80	1.6	-	1.62	1	-	8	0.0086	0.142	547.86	549.75	549.75	4.63	0.00	0.33	0.00	1.25	0.00	0.42	5.57	551.00	1.25	Inlet
PUBLIC STORM LINE L																																		
5+89.32	5+70.22	19.1	L7	1.30	1.30	0.50	0.65	0.65	10	0.09	10.00	9.80	6.37	-	6.37	1	-	18	0.0037	0.070	552.98	553.18	553.18	3.60	0.00	0.20	0.00	1.25	0.00	0.25	10.50	556.33	3.15	Inlet
5+70.22	5+38.82	31.4	Bend	-	1.30	-	-	0.65	10	0.15	10.09	9.79	6.36	-	6.36	1	-	18	0.0037	0.115	552.64	552.98	552.98	3.60	0.20	0.20	0.37	0.07	0.07	10.50	556.20	3.22	45° Bend	
5+38.82	4+94.37	44.5	L6	0.36	1.66	0.50	0.18	0.83	10	0.16	10.23	9.76	8.10	-	8.10	1	-	18	0.0059	0.264	552.34	552.78	552.64	4.58	0.30	0.30	0.50	0.10	0.16	10.50	556.00	3.36	45° Wye	
4+94.37	4+47.74	46.6	Manhole	-	1.66	-	-	0.83	10	0.17	10.40	9.74	8.08	-	8.08	1	-	18	0.0059	0.276	551.87	552.34	552.34	4.57	0.48	0.32	1.00	0.33	0.32	10.50	555.35	3.01	Manhole	
4+47.74	2+92.27	155.5	Bend	-	1.66	-	-	0.83	10	0.60	10.57	9.71	8.06	-	8.06	1	-	18	0.0059	0.974	550.22	551.87	551.87	4.56	0.32	0.32	0.37	0.12	0.12	10.50	555.00	3.13	45° Bend	
2+92.27	2+37.81	144.5	Bend	-	1.66	-	-	0.83	10	0.16	11.17	9.61	7.96	-	7.96	1	-	18	0.0058	0.256	549.77	550.22	550.22	4.51	0.32	0.32	0.25	0.08	0.08	10.50	553.53	3.31	30° Bend	
2+37.81	1+68.92	38.9	Bend	-	1.66	-	-	0.83	10	0.14	11.33	9.59	7.96	-	7.96	1	-	18	0.0057	0.223	549.39	549.77	549.77	4.50	0.32	0.32	0.32	0.25	0.08	10.50	553.15	3.38	30° Bend	
1+68.92	1+76.50	22.4	L2, L3, L5	3.30	4.96	0.50	1.65	2.48	10	0.05	11.48	9.56	23.71	-	23.71	1	-	24	0.0110	0.246	547.79	548.68	548.39	7.55	0.40	0.88	1.00	0.32	0.88	45.19	552.65	3.27	Manhole	
1+76.50	0+62.92	113.6	L4	0.63	5.59	0.50	0.32	2.80	10	0.22	11.53	9.56	26.72	-	26.72	1	-	24	0.0140	1.585	545.80	547.87	547.79	8.51	1.12	0.88	0.50	0.44	0.56	45.19	553.20	5.41	45° Wye	
0+62.92	0+48.24	14.7	Bend	-	5.59	-	-	2.80	10	0.03	11.75	9.52	26.61	-	26.61	1	-	24	0.0138	0.203	545.19	545.39	545.80	8.47	0.85	1.11	1.12	0.37	0.42	0.41	45.19	547.65	1.85	45° Bend
0+48.24	0+45.24	3.0	Pipe Size Change	-	5.59	-	-	2.80	10	0.01	11.78	9.52	26.61	-	26.61	1	-	27	0.0074	0.022	545.02	545.04	545.19	6.69	0.70	1.11	0.21	0.23	0.15	27.70	547.00	1.81	Pipe Size Change	
0+45.24	0+00.00	45.2	L1	1.02	6.61	0.50	0.51	3.31	10	0.10	11.79	9.51	31.43	-	31.43	1	-	27	0.0103	0.466	544.07	544.54	545.02	7.90	0.69	0.97	0.70	0.50	0.35	0.49	27.70	546.87	1.85	45° Wye
PUBLIC STORM LAT L1																																		
1+47.03	0+00.00	147.0	L1	1.02	1.02	0.50	0.51	0.51	10	0.87	10.00	9.80	5.0	-	5.00	1	-	18	0.0023	0.333	545.02	545.34	545.50	2.83	0.00	0.12	0.00	1.25	0.00	0.16	7.57	545.50	0.00	Inlet
PUBLIC STORM LAT L2																																		
0+12.66	0+00.00	12.7	L6	1.33	1.33	0.50	0.67	0.67	10	0.06	10.00	9.80	6.5	-	6.52	1	-	18	0.0038	0.049	547.79	549.31	549.31	3.69	0.00	0.21	0.00	1.25	0.00	0.26	40.63	552.90	3.59	Inlet
PUBLIC STORM LAT L3																																		
3+78.09	3+59.00	19.1	L2	1.33	1.33	0.50	0.67	0.67	10	0.09	10.00	9.80	6.52	-	6.52	1	-	18	0.0038	0.073	554.69	554.99	554.99	3.69	0.00	0.21	0.00	1.25	0.00	0.26	13.08	558.24	3.25	Inlet
3+59.00	2+94.00	65.0	Bend	-	1.33	-	-	0.67	10	0.29	10.09	9.79	6.51	-	6.51	1	-	18	0.0038	0.250	553.69	554.69	554.69	3.68	0.21	0.21	0.37	0.08	0.08	13.08	558.10	3.41	45° Wye/Bend	
2+94.00	0+08.50	285.5	L3	0.37	1.70	0.50	0.19	0.85	10	1.02	10.38	9.74	8.28	-	8.28	1	-	18	0.0062	1.773	550.40	553.81	553.69	4.68	0.34	0.21	1.37	0.29	0.47	13.08	557.30	3.61	45° Wye	
0+08.50	0+05.50	3.0	Pipe Size Change	-	1.70	-	-	0.85	10	0.02	11.40	9.58	8.14	-	8.14	1	-	24	0.0013	0.004	550.35	550.35	550.40	2.59	0.10	0.34	0.14	0.15	0.05	28.16	552.75	2.35	Pipe Size Change	
0+05.50	0+00.00	5.5	L5	1.60	3.30	0.50	0.80	1.65	10	0.02	11.40	9.58	15.81	-	15.81	1	-	24	0.0049	0.027	549.39	549.42	550.35	5.03	0.39	0.10	2.37	0.25	0.93	28.16	552.75	2.40	45° Wye	
PUBLIC STORM LAT L3-1																																		
0+20.83	0+00.00	20.8	L5	1.60	1.60	0.50	0.80	0.80	10	0.08	10.00	9.80	7.8	-	7.84	1	-	18	0.0056	0.116	550.35	550.46	550.85	4.44	0.00	0.31	0.00	1.25	0.00	0.38	18.79	552.90	2.05	Inlet
PUBLIC STORM LAT L3-2																																		
0+19.09	0+00.00	19.1	L3	0.37	0.37	0.50	0.19	0.19	10	0.31	10.00	9.80	1.8	-	1.81	1	-	18	0.0003	0.006	553.69	553.82	553.82	1.03	0.00	0.02	0.00	1.25	0.00	0.02	17.98	557.50	3.68	Inlet
PUBLIC STORM LAT L4																																		
0+19.09	0+00.00	19.1	L6	0.36	0.36	0.50	0.18	0.18	10	0.32	10.00	9.80	1.8	-	1.78	1	-	18	0.0003	0.005	552.64	552.65	552.66	1.00	0.00	0.02	0.00	1.25	0.00	0.02	12.81	556.07	3.41	Inlet
PUBLIC STORM LINE M																																		
9+95.58	4+90.43	505.2	M7 & M8	6.18	6.18	0.90	5.56	5.56	10			54.51	-	54.51	1	-	36	0.0029	1.475	561.20	566.93	563.27	5.66	0.00	0.50	0.00	1.25	0.00	0.50	73.37	569.00	6.32	Inlet	
4+90.43	4+72.16	18.3	Manhole	-	6.18	-	-	5.56	10			54.51	-	56.16	1	-	36	0.0067	0.121	560.16	560.68	563.17	7.71	5.66	0.92	0.50	1.00	0.50	0.43	103.54	564.31	3.63	Manhole	