

Appendix B – Hydraulic Calculations

- WSPG Models
 - Symphony CD Mainline 1
 - Symphony CD Mainline 2

T1 SYMPHONY PARK BLOCKS C&D

T2 ONSITE STORM DRAIN - WEST SIDE

T3 KHA JOB# 192005001 BY: MS (Start HGL = TOP OF PIPE)

SO	1000.000	2026.484	18					2027.984					
R	1048.208	2026.720	18	.013					.000	.000	0		
R	1052.208	2026.749	18	.013					.000	90.000	0		
R	1230.895	2028.465	18	.013					.000	.000	0		
R	1234.895	2028.509	18	.013					.000	-90.000	0		
R	1299.917	2029.328	18	.013					.000	.000	0		
JX	1300.587	2029.337	18	12	.013	2.500		2029.608	90.0		.000		
R	1329.913	2029.706	18	.013					.000	.000	0		
JX	1333.913	2029.761	18	18	.013	2.000		2027.990	-90.0		.000		
R	1395.673	2030.663	18	.013					.000	.000	0		
R	1412.676	2030.911	18	.013					.000	.000	0		
R	1428.927	2031.104	18	.013					.000	.000	0		
R	1446.942	2031.389	18	.013					.000	.000	0		
R	1464.861	2031.670	18	.013					.000	.000	0		
R	1467.924	2031.780	18	.013					.000	.000	0		
SH	1467.924	2031.780	18										
CD	12	4	0	.000	1.000	.000	.000	.000	.000	.000	.00		
CD	18	4	0	.000	1.500	.000	.000	.000	.000	.000	.00		
CD	27	3	0	.000	7.000	20.000	.000	.000	.000	.000	.00		
CD	30	4	0	.000	2.500	.000	.000	.000	.000	.000	.00		
CD	36	4	0	.000	3.000	.000	.000	.000	.000	.000	.00		
CD	42	4	0	.000	3.500	.000	.000	.000	.000	.000	.00		
CD	48	4	0	.000	4.000	.000	.000	.000	.000	.000	.00		
CD	54	4	0	.000	4.500	.000	.000	.000	.000	.000	.00		
CD	60	4	0	.000	5.000	.000	.000	.000	.000	.000	.00		
CD	66	4	0	.000	5.500	.000	.000	.000	.000	.000	.00		
CD	72	4	0	.000	6.000	.000	.000	.000	.000	.000	.00		
Q				2.000	.0								

SYMPHONY PARK BLOCKS C&D
 ONSITE STORM DRAIN - WEST SIDE
 KHA JOB# 192005001 BY:MS (Start HGL = TOP OF PIPE)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd. El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. -FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1000.000	2026.484	1.500	2027.984	6.50	3.68	.21	2028.19	.00	.99	.00	1.500	.000	.00	0 .0
.000	.0049					.0038	.00	1.50	.00	1.10	.013	.00	.00	PIPE
1000.000	2026.484	1.500	2027.984	6.50	3.68	.21	2028.19	.00	.99	.00	1.500	.000	.00	0 .0
48.208	.0049					.0035	.17	1.50	.00	1.10	.013	.00	.00	PIPE
1048.208	2026.720	1.425	2028.145	6.50	3.75	.22	2028.36	.00	.99	.65	1.500	.000	.00	0 .0
4.000	.0073					.0033	.01	1.43	.41	.95	.013	.00	.00	PIPE
1052.208	2026.749	1.406	2028.156	6.50	3.78	.22	2028.38	.00	.99	.73	1.500	.000	.00	0 .0
11.294	.0096					.0034	.04	1.41	.43	.86	.013	.00	.00	PIPE
1063.502	2026.858	1.314	2028.172	6.50	3.96	.24	2028.42	.00	.99	.99	1.500	.000	.00	0 .0
7.952	.0096					.0036	.03	1.31	.54	.86	.013	.00	.00	PIPE
1071.454	2026.934	1.242	2028.176	6.50	4.15	.27	2028.44	.00	.99	1.13	1.500	.000	.00	0 .0
6.227	.0096					.0039	.02	1.24	.62	.86	.013	.00	.00	PIPE
1077.682	2026.994	1.180	2028.174	6.50	4.36	.29	2028.47	.00	.99	1.23	1.500	.000	.00	0 .0
4.876	.0096					.0044	.02	1.18	.70	.86	.013	.00	.00	PIPE
1082.557	2027.041	1.125	2028.166	6.50	4.57	.32	2028.49	.00	.99	1.30	1.500	.000	.00	0 .0
.398	.0096					.0049	.00	1.13	.77	.86	.013	.00	.00	PIPE
1082.956	2027.044	1.075	2028.120	6.50	4.80	.36	2028.48	.00	.99	1.35	1.500	.000	.00	0 .0

SYMPHONY PARK BLOCKS C&D
 ONSITE STORM DRAIN - WEST SIDE
 KHA JOB# 192005001 BY:MS (Start HGL = TOP OF PIPE)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd. El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. -FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1082.956	2027.044	.865	2027.909	6.50	6.16	.59	2028.50	.00	.99	1.48	1.500	.000	.00	0 .0
90.409	.0096					.0096	.87	.86	1.29	.86	.013	.00	.00	PIPE
1173.365	2027.913	.865	2028.777	6.50	6.16	.59	2029.37	.00	.99	1.48	1.500	.000	.00	0 .0
39.374	.0096					.0102	.40	.86	1.29	.86	.013	.00	.00	PIPE
1212.739	2028.291	.834	2029.125	6.50	6.43	.64	2029.77	.00	.99	1.49	1.500	.000	.00	0 .0
18.156	.0096					.0115	.21	.83	1.38	.86	.013	.00	.00	PIPE
1230.895	2028.465	.803	2029.268	6.50	6.75	.71	2029.97	.00	.99	1.50	1.500	.000	.00	0 .0
4.000	.0110					.0123	.05	.80	1.48	.83	.013	.00	.00	PIPE
1234.895	2028.509	.799	2029.308	6.50	6.79	.72	2030.02	.00	.99	1.50	1.500	.000	.00	0 .0
24.376	.0126					.0122	.30	.80	1.50	.80	.013	.00	.00	PIPE
1259.271	2028.816	.807	2029.623	6.50	6.70	.70	2030.32	.00	.99	1.50	1.500	.000	.00	0 .0
24.480	.0126					.0113	.28	.81	1.47	.80	.013	.00	.00	PIPE
1283.751	2029.124	.838	2029.963	6.50	6.39	.63	2030.60	.00	.99	1.49	1.500	.000	.00	0 .0
8.957	.0126					.0100	.09	.84	1.36	.80	.013	.00	.00	PIPE
1292.708	2029.237	.872	2030.109	6.50	6.10	.58	2030.69	.00	.99	1.48	1.500	.000	.00	0 .0

Symphony_CD_Mai n1_UP2. OUT

4.595	.0126							.0088	.04	.87	1.27	.80	.013	.00	.00	PIPE
1297.303	2029.295	.907	2030.202	6.50	5.81	.52	2030.73	.00	.99	1.47	1.500	.000	.00	.00	0	.0
2.015	.0126							.0078	.02	.91	1.17	.80	.013	.00	.00	PIPE

▲ FILE: Symphony_CD_Mai n1_UP2. WSW W S P G W - CIVIL DESIGN Version 14.11 PAGE 3
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SYMPHONY PARK BLOCKS C&D
 ONSITE STORM DRAIN - WEST SIDE
 KHA JOB# 192005001 BY:MS (Start HGL = TOP OF PIPE)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd. El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. -FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1299.318	2029.320	.945	2030.266	6.50	5.54	.48	2030.74	.00	.99	1.45	1.500	.000	.00	0 .0
.599	.0126					.0069	.00	.95	1.09	.80	.013	.00	.00	PIPE
1299.917	2029.328	.986	2030.314	6.50	5.28	.43	2030.75	.00	.99	1.42	1.500	.000	.00	0 .0
JUNCT STR	.0135					.0040	.00	.99	1.00		.013	.00	.00	PIPE
1300.587	2029.337	1.503	2030.840	4.00	2.26	.08	2030.92	.00	.77	.00	1.500	.000	.00	0 .0
.234	.0126					.0014	.00	1.50	.00	.60	.013	.00	.00	PIPE
1300.821	2029.340	1.500	2030.840	4.00	2.26	.08	2030.92	.00	.77	.00	1.500	.000	.00	0 .0
11.649	.0126					.0013	.02	1.50	.00	.60	.013	.00	.00	PIPE
1312.470	2029.487	1.360	2030.847	4.00	2.37	.09	2030.93	.00	.77	.87	1.500	.000	.00	0 .0
6.321	.0126					.0013	.01	1.36	.30	.60	.013	.00	.00	PIPE
1318.791	2029.566	1.280	2030.846	4.00	2.49	.10	2030.94	.00	.77	1.06	1.500	.000	.00	0 .0
5.140	.0126					.0014	.01	1.28	.36	.60	.013	.00	.00	PIPE
1323.931	2029.631	1.213	2030.844	4.00	2.61	.11	2030.95	.00	.77	1.18	1.500	.000	.00	0 .0
4.302	.0126					.0016	.01	1.21	.40	.60	.013	.00	.00	PIPE
1328.233	2029.685	1.155	2030.840	4.00	2.74	.12	2030.96	.00	.77	1.26	1.500	.000	.00	0 .0
1.680	.0126					.0017	.00	1.16	.45	.60	.013	.00	.00	PIPE
1329.913	2029.706	1.132	2030.838	4.00	2.80	.12	2030.96	.00	.77	1.29	1.500	.000	.00	0 .0
JUNCT STR	.0137					.0010	.00	1.13	.47		.013	.00	.00	PIPE

▲ FILE: Symphony_CD_Mai n1_UP2. WSW W S P G W - CIVIL DESIGN Version 14.11 PAGE 4
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SYMPHONY PARK BLOCKS C&D
 ONSITE STORM DRAIN - WEST SIDE
 KHA JOB# 192005001 BY:MS (Start HGL = TOP OF PIPE)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd. El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. -FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1333.913	2029.761	1.259	2031.020	2.00	1.26	.02	2031.05	.00	.53	1.10	1.500	.000	.00	0 .0
4.333	.0146					.0004	.00	1.26	.19	.40	.013	.00	.00	PIPE
1338.245	2029.824	1.195	2031.019	2.00	1.32	.03	2031.05	.00	.53	1.21	1.500	.000	.00	0 .0
3.751	.0146					.0004	.00	1.20	.21	.40	.013	.00	.00	PIPE
1341.997	2029.879	1.139	2031.018	2.00	1.39	.03	2031.05	.00	.53	1.28	1.500	.000	.00	0 .0
3.462	.0146					.0004	.00	1.14	.23	.40	.013	.00	.00	PIPE
1345.458	2029.930	1.087	2031.017	2.00	1.46	.03	2031.05	.00	.53	1.34	1.500	.000	.00	0 .0
3.028	.0146					.0005	.00	1.09	.25	.40	.013	.00	.00	PIPE
1348.486	2029.974	1.041	2031.015	2.00	1.53	.04	2031.05	.00	.53	1.38	1.500	.000	.00	0 .0
2.875	.0146					.0006	.00	1.04	.28	.40	.013	.00	.00	PIPE
1351.361	2030.016	.997	2031.013	2.00	1.60	.04	2031.05	.00	.53	1.42	1.500	.000	.00	0 .0
2.649	.0146					.0006	.00	1.00	.30	.40	.013	.00	.00	PIPE
1354.010	2030.054	.956	2031.010	2.00	1.68	.04	2031.05	.00	.53	1.44	1.500	.000	.00	0 .0

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Symphony_CD_Main1_UP2.OUT

2.419	.0146							.0007	.00	.96	.33	.40	.013	.00	.00	PIPE
1356.429	2030.090	.918	2031.008	2.00	1.76	.05	2031.06	.00	.53	1.46	1.500	.000	.00	0	.0	
2.259	.0146							.0008	.00	.92	.35	.40	.013	.00	.00	PIPE
1358.688	2030.123	.882	2031.005	2.00	1.85	.05	2031.06	.00	.53	1.48	1.500	.000	.00	0	.0	
2.095	.0146							.0009	.00	.88	.38	.40	.013	.00	.00	PIPE

FILE: Symphony_CD_Main1_UP2.WSW W S P G W - CIVILDESIGN Version 14.11 PAGE 5

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 WATER SURFACE PROFILE LISTING Date: 12-12-2023 Time: 10:15:51
 SYMPHONY PARK BLOCKS C&D
 ONSITE STORM DRAIN - WEST SIDE
 KHA JOB# 192005001 BY:MS (Start HGL = TOP OF PIPE)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd. El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. -FT	Base Wt or I.D.	ZL	No Wth Prs/Plp	
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch	
1360.783	2030.153	.848	2031.001	2.00	1.94	.06	2031.06	.00	.53	1.49	1.500	.000	.00	0 .0	
1.927	.0146					.0010	.00	.85	.41	.40	.013	.00	.00	PIPE	
1362.710	2030.182	.816	2030.998	2.00	2.03	.06	2031.06	.00	.53	1.49	1.500	.000	.00	0 .0	
1.754	.0146					.0012	.00	.82	.44	.40	.013	.00	.00	PIPE	
1364.464	2030.207	.786	2030.993	2.00	2.13	.07	2031.06	.00	.53	1.50	1.500	.000	.00	0 .0	
1.727	.0146					.0013	.00	.79	.48	.40	.013	.00	.00	PIPE	
1366.191	2030.232	.756	2030.989	2.00	2.24	.08	2031.07	.00	.53	1.50	1.500	.000	.00	0 .0	
1.467	.0146					.0015	.00	.76	.51	.40	.013	.00	.00	PIPE	
1367.658	2030.254	.729	2030.983	2.00	2.35	.09	2031.07	.00	.53	1.50	1.500	.000	.00	0 .0	
1.430	.0146					.0017	.00	.73	.55	.40	.013	.00	.00	PIPE	
1369.089	2030.275	.702	2030.977	2.00	2.46	.09	2031.07	.00	.53	1.50	1.500	.000	.00	0 .0	
.513	.0146					.0019	.00	.70	.59	.40	.013	.00	.00	PIPE	
1369.601	2030.282	.677	2030.959	2.00	2.58	.10	2031.06	.00	.53	1.49	1.500	.000	.00	0 .0	
HYDRAULIC JUMP															
1369.601	2030.282	.403	2030.685	2.00	5.24	.43	2031.11	.00	.53	1.33	1.500	.000	.00	0 .0	
26.072	.0146					.0144	.38	.40	1.72	.40	.013	.00	.00	PIPE	
1395.673	2030.663	.405	2031.068	2.00	5.19	.42	2031.49	.00	.53	1.33	1.500	.000	.00	0 .0	
17.003	.0146					.0136	.23	.41	1.70	.40	.013	.00	.00	PIPE	

FILE: Symphony_CD_Main1_UP2.WSW W S P G W - CIVILDESIGN Version 14.11 PAGE 6

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 WATER SURFACE PROFILE LISTING Date: 12-12-2023 Time: 10:15:51
 SYMPHONY PARK BLOCKS C&D
 ONSITE STORM DRAIN - WEST SIDE
 KHA JOB# 192005001 BY:MS (Start HGL = TOP OF PIPE)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd. El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. -FT	Base Wt or I.D.	ZL	No Wth Prs/Plp
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1412.676	2030.911	.415	2031.326	2.00	5.03	.39	2031.72	.00	.53	1.34	1.500	.000	.00	0 .0
6.379	.0119					.0133	.08	.41	1.63	.42	.013	.00	.00	PIPE
1419.055	2030.987	.409	2031.396	2.00	5.12	.41	2031.80	.00	.53	1.34	1.500	.000	.00	0 .0
9.872	.0119					.0146	.14	.41	1.67	.42	.013	.00	.00	PIPE
1428.927	2031.104	.396	2031.500	2.00	5.37	.45	2031.95	.00	.53	1.32	1.500	.000	.00	0 .0
18.015	.0158					.0154	.28	.40	1.78	.39	.013	.00	.00	PIPE
1446.942	2031.389	.399	2031.788	2.00	5.31	.44	2032.23	.00	.53	1.33	1.500	.000	.00	0 .0
1.744	.0157					.0151	.03	.40	1.76	.40	.013	.00	.00	PIPE
1448.686	2031.416	.399	2031.815	2.00	5.30	.44	2032.25	.00	.53	1.33	1.500	.000	.00	0 .0
16.175	.0157					.0141	.23	.40	1.75	.40	.013	.00	.00	PIPE

Symphony_CD_Mai n1_UP2. OUT

1464.861	2031.670	.413	2032.083	2.00	5.05	.40	2032.48	.00	.53	1.34	1.500	.000	.00	0	.0
.329	.0359					.0129	.00	.41	1.64	.32	.013	.00	.00	PIPE	
1465.190	2031.682	.417	2032.099	2.00	4.97	.38	2032.48	.00	.53	1.34	1.500	.000	.00	0	.0
.825	.0359					.0118	.01	.42	1.60	.32	.013	.00	.00	PIPE	
1466.015	2031.712	.432	2032.144	2.00	4.74	.35	2032.49	.00	.53	1.36	1.500	.000	.00	0	.0
.654	.0359					.0103	.01	.43	1.50	.32	.013	.00	.00	PIPE	
1466.669	2031.735	.447	2032.182	2.00	4.52	.32	2032.50	.00	.53	1.37	1.500	.000	.00	0	.0
.478	.0359					.0091	.00	.45	1.40	.32	.013	.00	.00	PIPE	

▲ FILE: Symphony_CD_Mai n1_UP2.WSW W S P G W - CIVILDESIGN Version 14.11
 Program Package Serial Number: 7370 PAGE 7

WATER SURFACE PROFILE LISTING
 SYMPHONY PARK BLOCKS C&D
 ONSITE STORM DRAIN - WEST SIDE
 KHA JOB# 192005001 BY:MS (Start HGL = TOP OF PIPE)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd. El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. -FT	Base Wt or I.D.	ZL	No Wth Prs/Pl p
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1467.147	2031.752	.463	2032.215	2.00	4.31	.29	2032.50	.00	.53	1.39	1.500	.000	.00	0 .0
.365	.0359					.0079	.00	.46	1.31	.32	.013	.00	.00	PIPE
1467.512	2031.765	.479	2032.244	2.00	4.11	.26	2032.51	.00	.53	1.40	1.500	.000	.00	0 .0
.236	.0359					.0069	.00	.48	1.23	.32	.013	.00	.00	PIPE
1467.748	2031.774	.496	2032.270	2.00	3.92	.24	2032.51	.00	.53	1.41	1.500	.000	.00	0 .0
.156	.0359					.0061	.00	.50	1.15	.32	.013	.00	.00	PIPE
1467.905	2031.779	.513	2032.292	2.00	3.74	.22	2032.51	.00	.53	1.42	1.500	.000	.00	0 .0
.019	.0359					.0053	.00	.51	1.07	.32	.013	.00	.00	PIPE
1467.924	2031.780	.533	2032.313	2.00	3.55	.20	2032.51	.00	.53	1.44	1.500	.000	.00	0 .0

T1 SYMPHONY PARK BLOCKS C&D

T2 ONSITE STORM DRAIN MAIN 2 - EAST SIDE

T3 KHA JOB# 192005001 BY:MS (Start HGL = 2029.43)

SO 1000.0002027.337 18

2029.430

R 1058.5002029.154 18

.013

.000 .000 0

SH 1058.5002029.154 18

CD 12 4 0 .000 1.000 .000 .000 .000 .00

CD 18 4 0 .000 1.500 .000 .000 .000 .00

CD 27 3 0 .000 7.000 20.000 .000 .000 .00

CD 30 4 0 .000 2.500 .000 .000 .000 .00

CD 36 4 0 .000 3.000 .000 .000 .000 .00

CD 42 4 0 .000 3.500 .000 .000 .000 .00

CD 48 4 0 .000 4.000 .000 .000 .000 .00

CD 54 4 0 .000 4.500 .000 .000 .000 .00

CD 60 4 0 .000 5.000 .000 .000 .000 .00

CD 66 4 0 .000 5.500 .000 .000 .000 .00

CD 72 4 0 .000 6.000 .000 .000 .000 .00

Q 4.500 .0

SYMPHONY PARK BLOCKS C&D
 ONSITE STORM DRAIN MAIN 2 - EAST SIDE
 KHA JOB# 192005001 BY: MS (Start HGL = 2029.43)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd. El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. -FT	Base Wt or I.D.	ZL	No Wth Prs/Pi p	
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch	
1000.000	2027.337	2.093	2029.430	4.50	2.55	.10	2029.53	.00	.81	.00	1.500	.000	.00	0 .0	
20.292	.0311					.0018	.04	2.09	.00	.50	.013	.00	.00	PIPE	
1020.292	2027.967	1.500	2029.467	4.50	2.55	.10	2029.57	.00	.81	.00	1.500	.000	.00	0 .0	
4.360	.0311					.0017	.01	1.50	.00	.50	.013	.00	.00	PIPE	
1024.652	2028.103	1.361	2029.464	4.50	2.67	.11	2029.57	.00	.81	.87	1.500	.000	.00	0 .0	
2.372	.0311					.0017	.00	1.36	.34	.50	.013	.00	.00	PIPE	
1027.024	2028.176	1.280	2029.456	4.50	2.80	.12	2029.58	.00	.81	1.06	1.500	.000	.00	0 .0	
1.860	.0311					.0018	.00	1.28	.40	.50	.013	.00	.00	PIPE	
1028.883	2028.234	1.214	2029.448	4.50	2.94	.13	2029.58	.00	.81	1.18	1.500	.000	.00	0 .0	
.503	.0311					.0020	.00	1.21	.45	.50	.013	.00	.00	PIPE	
1029.386	2028.250	1.155	2029.405	4.50	3.08	.15	2029.55	.00	.81	1.26	1.500	.000	.00	0 .0	
HYDRAULIC JUMP															
1029.386	2028.250	.526	2028.775	4.50	8.15	1.03	2029.81	.00	.81	1.43	1.500	.000	.00	0 .0	
5.120	.0311					.0248	.13	.53	2.31	.50	.013	.00	.00	PIPE	
1034.506	2028.409	.544	2028.953	4.50	7.77	.94	2029.89	.00	.81	1.44	1.500	.000	.00	0 .0	
7.050	.0311					.0217	.15	.54	2.16	.50	.013	.00	.00	PIPE	
1041.557	2028.628	.564	2029.192	4.50	7.41	.85	2030.04	.00	.81	1.45	1.500	.000	.00	0 .0	
4.767	.0311					.0191	.09	.56	2.02	.50	.013	.00	.00	PIPE	

SYMPHONY PARK BLOCKS C&D
 ONSITE STORM DRAIN MAIN 2 - EAST SIDE
 KHA JOB# 192005001 BY: MS (Start HGL = 2029.43)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd. El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. -FT	Base Wt or I.D.	ZL	No Wth Prs/Pi p
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1046.324	2028.776	.584	2029.360	4.50	7.06	.77	2030.13	.00	.81	1.46	1.500	.000	.00	0 .0
3.436	.0311					.0167	.06	.58	1.89	.50	.013	.00	.00	PIPE
1049.759	2028.882	.605	2029.488	4.50	6.74	.70	2030.19	.00	.81	1.47	1.500	.000	.00	0 .0
2.561	.0311					.0147	.04	.61	1.76	.50	.013	.00	.00	PIPE
1052.320	2028.962	.628	2029.590	4.50	6.42	.64	2030.23	.00	.81	1.48	1.500	.000	.00	0 .0
1.939	.0311					.0129	.02	.63	1.64	.50	.013	.00	.00	PIPE
1054.259	2029.022	.651	2029.673	4.50	6.12	.58	2030.25	.00	.81	1.49	1.500	.000	.00	0 .0
1.461	.0311					.0113	.02	.65	1.53	.50	.013	.00	.00	PIPE
1055.719	2029.068	.675	2029.742	4.50	5.84	.53	2030.27	.00	.81	1.49	1.500	.000	.00	0 .0
1.086	.0311					.0100	.01	.67	1.43	.50	.013	.00	.00	PIPE
1056.805	2029.101	.700	2029.801	4.50	5.57	.48	2030.28	.00	.81	1.50	1.500	.000	.00	0 .0
.782	.0311					.0088	.01	.70	1.33	.50	.013	.00	.00	PIPE
1057.587	2029.126	.726	2029.852	4.50	5.31	.44	2030.29	.00	.81	1.50	1.500	.000	.00	0 .0
.521	.0311					.0077	.00	.73	1.24	.50	.013	.00	.00	PIPE
1058.108	2029.142	.754	2029.896	4.50	5.06	.40	2030.29	.00	.81	1.50	1.500	.000	.00	0 .0

Symphony_CD_Main2_UP2.OUT

.295	.0311							.0068	.00	.75	1.16	.50	.013	.00	.00	PIPE
1058.403	2029.151	.783	2029.934	4.50	4.83	.36	2030.30	.00	.81	1.50	1.500	.000	.00	.00	0	.0
.097	.0311					.0060	.00	.78	1.08	.50	.013	.00	.00	.00	PIPE	

FILE: Symphony_CD_Main2_UP2.WSW W S P G W - CIVIL DESIGN Version 14.08 PAGE 3
 Program Package Serial Number: 7152 WATER SURFACE PROFILE LISTING Date: 12-14-2023 Time: 9:22:20

SYMPHONY PARK BLOCKS C&D
 ONSITE STORM DRAIN MAIN 2 - EAST SIDE
 KHA JOB# 192005001 BY: MS (Start HGL = 2029.43)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd. El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. -FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1058.500	2029.154	.814	2029.968	4.50	4.59	.33	2030.30	.00	.81	1.49	1.500	.000	.00	0 .0