

ON-SITE RUNOFF CALCULATIONS PHASE 7 OVERALL
FOR INFORMATION ONLY NOT FOR REVIEW

Drainage Area #	Area (Acres)	Runoff Coeff. "C"	Intensity (in./hr.) "I"	Time (conc.) (minutes) T _c	Discharge (c.f.s.) "Q"	Construction Phase	Comment
STORM LINE 9							
9A	1.70	0.5	9.80	10.0	8.33	6A	Drains to Existing Inlet in Bay Line Drive
9B	1.20	0.5	9.80	10.0	5.88	6A	Drains to Existing Inlet in Bay Line Drive
9C	1.69	0.5	9.80	10.0	8.28	6A	Drains to Existing Inlet in Bay Line Drive
9D	2.02	0.5	9.80	10.0	9.90	7A	Developed - Single Family
9E	1.34	0.5	9.80	10.0	6.57	7A	Developed - Single Family
TOTAL RUNOFF STORM LINE 9					38.96		
STORM LINE 10							
10A	0.96	0.5	9.80	10.0	4.70	7C	Developed - Single Family
10B	1.73	0.5	9.80	10.0	8.48	7B	Developed - Single Family
10C	0.55	0.5	9.80	10.0	2.70	7B	Developed - Single Family
TOTAL RUNOFF STORM LINE 10					15.88		
STORM LINE 11							
11A	0.44	0.5	9.80	10.0	2.16	7A	Developed - Single Family
STORM LINE 12							
12	0.67	0.5	9.80	10.0	3.28	7B	Developed - Single Family
STORM LINE 14							
14A	0.40	0.5	9.80	10.0	1.96	7C	Developed - Single Family
14B	0.63	0.5	9.80	10.0	3.09	7C	Developed - Single Family
14C	1.44	0.5	9.80	10.0	7.06	7C	Developed - Single Family
14D	0.34	0.5	9.80	10.0	1.67	7C	Developed - Single Family
14E	0.58	0.5	9.80	10.0	2.84	7C	Developed - Single Family
14F	0.96	0.5	9.80	10.0	4.70	7C	Developed - Single Family
TOTAL RUNOFF STORM LINE 14					21.32		
STORM LINE 15							
15A	1.13	0.5	9.80	10.0	5.54	7C	Developed - Single Family
15B	0.29	0.5	9.80	10.0	1.42	7C	Developed - Single Family
TOTAL RUNOFF STORM LINE 15					6.96		
STORM LINE 16							
16A	1.00	0.5	9.80	10.0	4.90	7D	Developed - Single Family
16B	0.37	0.5	9.80	10.0	1.81	7D	Developed - Single Family
16C	2.03	0.5	9.80	10.0	9.95	7D	Developed - Single Family
16D	2.02	0.5	9.80	10.0	9.90	7D	Developed - Single Family
16E	0.74	0.5	9.80	10.0	3.63	7D	Developed - Single Family
16F	1.22	0.5	9.80	10.0	5.98	7B	Developed - Single Family
16G	0.67	0.5	9.80	10.0	3.28	7B	Developed - Single Family
16H	0.90	0.5	9.80	10.0	4.41	7B	Developed - Single Family
16I	0.77	0.5	9.80	10.0	3.77	7B	Developed - Single Family
16J	1.49	0.5	9.80	10.0	7.30	7B	Developed - Single Family
16K	1.48	0.5	9.80	10.0	7.25	7B	Developed - Single Family
TOTAL RUNOFF STORM LINE 16					54.93		
STORM LINE 17							
17A	0.52	0.5	9.80	10.0	2.55	7D	Developed - Single Family
17B	0.54	0.5	9.80	10.0	2.65	7D	Developed - Single Family
TOTAL RUNOFF STORM LINE 17					5.19		
STORM LINE 18							
18A	0.51	0.5	9.80	10.0	2.50	7D	Developed - Single Family
18B	0.90	0.5	9.80	10.0	4.41	7D	Developed - Single Family
TOTAL RUNOFF STORM LINE 18					6.91		
STORM LINE 19							
19A	1.10	0.5	9.80	10.0	5.39	7B	Developed - Single Family
19B	1.45	0.5	9.80	10.0	7.11	7B	Developed - Single Family
TOTAL RUNOFF STORM LINE 19					12.50		

PHASE 7B INLETS

No.	INLET Location	AREA RUNOFF Q=CIA				Upstream Inlet Bypass and Crossover (c.f.s.)	To/From	Total Gutter Flow (c.f.s.)	Gutter Capacity (c.f.s.)	Gutter Slope (%)	Crown Type	SELECTED INLET				Drainage Area	A Adjusted		
		Drainage Area No.	Design Storm Freq. (yrs.)	Time of Conc. (min.)	Intensity I (in./hr.)							Runoff Coeff. "C"	Area (Ac.)	Q (c.f.s.)	Length "L" (Feet)			Type	Inlet Capacity (c.f.s.)
10B	11+12.65 WHITEWATER LANE	10B	100	10	9.80	0.5	1.73	8.48				8.5	11.40	0.79	6" PARABOLIC	10	SAG	10.0	0.0
10C	11+92.68 WHITEWATER LANE	10C	100	10	9.80	0.5	0.55	2.70				2.7	11.40	0.79	6" PARABOLIC	10	SAG	10.0	0.0
12	4+25.82 ALLEY 10	12	100	10	9.80	0.5	0.67	3.28				3.3	6.31	0.60	5" INVERT	10	ONGRADE	6.9	0.0
16F	8+92.48 CRESCENT COVE DRIVE	16F	100	10	9.80	0.5	1.22	5.98				6.0	10.02	0.61	6" PARABOLIC	10	ONGRADE	7.5	0.0
16G	0+45.00 ALLEY 11	16G	100	10	9.80	0.5	0.67	3.28				3.3	9.40	1.33	5" INVERT	10	ONGRADE	6.2	0.0
16H	5+85.06 CRESCENT COVE DRIVE	16H	100	10	9.80	0.5	0.9	4.41				4.4	10.02	0.61	6" PARABOLIC	10	ONGRADE	7.5	0.0
16I	0+47.98 ALLEY 12	16I	100	10	9.80	0.5	0.77	3.77				3.8	9.22	1.28	5" INVERT	10	ONGRADE	6.2	0.0
16J	1+41.82 PALASADES COURT	16J	100	10	9.80	0.5	1.49	7.30				7.3	14.05	1.2	6" PARABOLIC	15	ONGRADE	10.5	0.0
16K	1+41.82 PALASADES COURT	16K	100	10	9.80	0.5	1.48	7.25				7.3	14.05	1.2	6" PARABOLIC	15	ONGRADE	10.5	0.0
18A	0+49.71 RAPIDS COURT	18A	100	10	9.80	0.5	0.51	2.50				2.5	14.22	1.23	6" PARABOLIC	5	ONGRADE	2.6	0.0
18B	0+49.71 RAPIDS COURT	18B	100	10	9.80	0.5	0.93	4.56				4.6	14.22	1.23	6" PARABOLIC	10	ONGRADE	6.3	0.0
19A	0+52.00 MONTEGO COURT	19A	100	10	9.80	0.5	1.1	5.39				5.4	14.68	1.31	6" PARABOLIC	10	ONGRADE	6.2	0.0
19B	0+9.50 MONTEGO COURT	19B	100	10	9.80	0.5	1.45	7.11				7.1	14.68	1.31	6" PARABOLIC	15	ONGRADE	10.4	0.0

BENCHMARKS

- X-chiseled in CL of Alley East of Morningstar Drive within the third lot north of Midnight Pass. Elevation = 513.26
- PK Nail in CL of Caruth Lane & Alley intersection 150 feet +/- east of Morningstar Drive. Elevation = 491.68

NO.	REVISIONS DURING CONSTRUCTION	BY	DATE	NO.	SUBMITTALS	DATE

PIPE HYDRAULICS

UPSTREAM STATION	DOWNSTREAM STATION	Distance Between Collection Points	INCREMENTAL DRAINAGE AREA				Time at Upstream Station	Design Storm Frequency (yrs.)	Intensity "I" (inches/hr)	Storm Water Runoff "Q"	Slope of Hydraulic Gradient "S"	C=(1.486 R2/3A)/n	Hydraulic Radius "R"= A / P (ft)	Perimeter "P" (ft)	Area "A" (sf)	No. of Pipes or Boxes	Selected Storm Sewer Size	Velocity in Sewer Between Collection Points "V"	Head loss Coeff. KJ	Velocity Head Loss at Upstream Station V2 / 2g	Velocity Head Loss at Upstream Station KV2 / 2g	Velocity Head Loss (V2 / 2g - KV2 / 2g)	Velocity Head Loss (V2 / 4g - KV2 / 4g)	Total Velocity Headloss	Friction Loss = Sf x L	Upstream Hydraulic Grade	Downstream Hydraulic Grade	Flow Time in Sewer Distance / V x 60	Time of Downstream Station	Remarks
			Area No.	Drainage Area	Runoff Coeff. "C"	Accumulated "CA"																								
STM 9																														
1272.98	991	281.98	9E	1.45	0.5	0.73	10	100	9.80	7.11	0.0046	105.0434	0.3750	4.7124	1.767	1	18	4.03	1.25	0.25	0.32	0.25	0.252	1.29	514.08	512.79	1.17	11.17		
991	697.99	293.01	DB, 10C, 12, CH	5.43	0.5	3.44	10		9.80	33.71	0.0118	309.7030	0.5625	7.0686	3.976	1	27	8.50	0.6	1.12	0.67	0.81	0.807	3.47	511.98	508.51	0.57	10.57		
697.99	590	107.99	CONN. TO EX.	2.02	0.5	4.45	11.17		9.61	42.78	0.0109	410.1714	0.6250	7.8540	4.909	1	30	8.74	1.00	1.19	1.19	0.51	0.512	1.17	507.99	506.82	0.21	11.37		
STM 10																														
439.86	418.49	21.37	10C	0.55	0.5	0.28	10	100	9.80	2.70	0.0001	226.2240	0.5000	6.2832	3.142	1	24	0.86	1.25	0.01	0.01	0.01	0.011	0.00	515.11	515.11	0.41	10.41	524.55	
418.49	335.46	83.03	10B	1.73	0.5	1.14	10.41		9.73	11.10	0.0024	226.2240	0.5000	6.2832	3.142	1	24	3.54	0.5	0.19	0.10	0.18	0.180	0.20	514.93	514.73	0.39	10.80		
335.46	183.04	152.42	12 & 10A	1.11	0.5	1.70	10.80		9.67	16.39	0.0053	226.2240	0.5000	6.2832	3.142	1	24	5.23	0.6	0.43	0.26	0.33	0.328	0.80	514.40	513.60	0.49	11.29		
183.04	140.32	42.72	CHANNEL	2.04	0.5	2.72	11.29		9.59	26.05	0.0071	309.7030	0.5625	7.0686	3.976	1	27	6.57	1.0	0.67	0.67	0.41	0.415	0.30	513.19	512.89	0.11	11.40		
140.32	11.29	129.03		0.00	0.5	2.72	11.40		9.58	26.00	0.0070	309.7030	0.5625	7.0686	3.976	1	27	6.56	1.00	0.67	0.67	(0.00)	(0.002)	0.91	512.89	511.98	0.33	11.73		
STM 16																														
2259.74	2220.12	39.62	16K	1.48	0.5	0.74	10	100	9.80	7.25	0.0048	105.0434	0.3750	4.7124	1.767	1	18	4.11	1.25	0.26	0.33	0.26	0.263	0.19	527.27	527.08	0.16	10.16	TC=	
2220.12	2216.12	4		0.5	0.74	10.16			9.77	7.23	0.0010	226.2240	0.5000	6.2832	3.142	1	24	2.31	1.00	0.08	0.08	(0.25)	(0.246)	0.00	527.33	527.33	0.03	10.19		
2216.12	2093.59	122.53	16J	1.49	0.5	1.49	10.19		9.77	14.51	0.0041	226.2240	0.5000	6.2832	3.142	1	24	4.63	0.60	0.33	0.20	0.25	0.250	0.50	527.08	526.57	0.44	10.63		
2093.59	2085.59	8		0.5	1.49	10.63			9.70	14.40	0.0041	226.2240	0.5000	6.2832	3.142	1	24	4.60	0.60	0.33	0.20	0.13	0.128	0.03	526.44	526.41	0.03	10.66		
2085.59	2037.65	47.94		0.5	1.49	10.66			9.69	14.40	0.0040	226.2240	0.5000	6.2832	3.142	1	24	4.59	1.00	0.33	0.33	0.13	0.131	0.19	526.72	526.53	0.17	10.83		
2037.65	2033.65	4		0.5	1.49	10.83			9.67	14.36	0.0021	309.7030	0.5625	7.0686	3.976	1	27	3.62	0.60	0.20	0.12	(0.12)	(0.124)	0.01	526.54	526.53	0.02	10.85		
2033.65	2012.77	20.88	16I	0.77	0.5	1.87	10.85		9.66	18.07	0.0034	309.7030	0.5625	7.0686	3.976	1	27	4.56	0.60	0.32	0.19	0.20	0.200	0.07	526.					