Pine Valley Storm Drainage
Inlet Calculations
May 2016

The attached reports were generated from AutoCAD Civil 3D – Hydraflow Storm Sewers. The following design parameters were used for calculations:

- All curb inlets are combination inlets using a standard frame, grate, and hood assembly.
- All curb inlets will have an open throat height of 6”.
- All curb inlets will have a local depression of 3” at the flow line.
- Grates at curb inlets will have a cross slope of 0.125 to provide a 3” depression at the flow line.
- Both curb inlets (Semmes and Donald Gore) and drop inlets (Honeycutt) will use a standard 2’ x 3’ grate with an open flow area of 400 square inches, based on data provided by Capitol Foundry of VA, Inc.
- Allowable spread on Semmes and Donald Gore is 12 feet, which is equal to 1/3 of the roadway width.
- The design storm is a 10 year event using a standard IDF curve for Wilmington, NC.

Inlet Report - Donald Gore

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	MH 100	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	CI 102	2.05	0.73	2.78	0.00	Comb	6.0	3.00	2.78	3.00	2.00	Sag	2.00	0.125	0.021	0.000	0.39	8.43	0.39	8.43	3.0	Off
3	CI 103	2.77	0.00	2.04	0.73	Comb	6.0	3.00	0.00	3.00	2.00	0.002	2.00	0.125	0.021	0.013	0.45	11.34	0.48	11.00	3.0	2
4	CI 107	1.87	0.00	1.52	0.36	Comb	6.0	3.00	0.00	3.00	2.00	0.002	2.00	0.125	0.021	0.013	0.40	9.34	0.44	8.86	3.0	11
5	CI 104	3.17	0.77	3.94	0.00	Comb	6.0	3.00	2.78	3.00	2.00	Sag	2.00	0.125	0.021	0.000	0.45	11.67	0.45	11.67	3.0	Off
6	CI 108	2.03	0.01	2.03	0.00	Comb	6.0	3.00	2.78	3.00	2.00	Sag	2.00	0.125	0.021	0.000	0.34	6.10	0.34	6.10	3.0	Off
7	CI 105	2.51	0.36	2.10	0.77	Comb	6.0	3.00	0.00	3.00	2.00	0.002	2.00	0.125	0.021	0.013	0.45	11.58	0.49	11.20	3.0	5
8	CI 109	0.56	0.00	0.55	0.01	Comb	6.0	3.00	0.00	3.00	2.00	0.002	2.00	0.125	0.021	0.013	0.29	3.77	0.31	2.67	3.0	6
9	CI 106	2.73	0.00	2.36	0.36	Comb	6.0	3.00	0.00	3.00	2.00	0.015	2.00	0.125	0.021	0.013	0.34	6.34	0.37	5.62	3.0	7
10	CI 110	1.11	0.00	1.11	0.00	Comb	6.0	3.00	0.00	3.00	2.00	0.015	2.00	0.125	0.021	0.013	0.26	2.34	0.27	1.86	3.0	8
11	CI 101	0.89	0.36	1.24	0.00	Comb	6.0	3.00	2.78	3.00	2.00	Sag	2.00	0.125	0.021	0.000	0.28	3.33	0.28	3.33	3.0	Off

Project File: Donald Gore.stm | Number of lines: 11 | Run Date: 5/25/2016

NOTES: Inlet N-Values = 0.013; Intensity = 88.24 / (Inlet time + 15.50) ^ 0.83; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

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Inlet Report - Semmes

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	MH 402	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	CI 208	0.25	0.00	0.25	0.00	Comb	6.0	3.00	0.00	3.00	2.00	0.008	2.00	0.125	0.021	0.013	0.17	1.33	0.18	1.21	3.0	6
3	CI 209	1.11	0.00	1.06	0.05	Comb	6.0	3.00	0.00	3.00	2.00	0.005	2.00	0.125	0.021	0.013	0.31	4.81	0.33	3.91	3.0	4
4	CI 210	3.04	0.05	3.09	0.00	Comb	6.0	3.00	2.78	3.00	2.00	Sag	2.00	0.125	0.021	0.000	0.40	9.38	0.40	9.38	3.0	Off
5	CI 219	3.13	0.03	3.16	0.00	Comb	6.0	3.00	2.78	3.00	2.00	Sag	2.00	0.125	0.021	0.000	0.41	9.52	0.41	9.52	3.0	Off
6	CI 207	0.76	0.00	0.76	0.00	Comb	6.0	3.00	0.00	3.00	2.00	0.008	2.00	0.125	0.021	0.013	0.25	2.00	0.27	1.82	3.0	7
7	CI 206	1.80	0.00	1.80	0.00	Comb	6.0	3.00	2.78	3.00	2.00	Sag	2.00	0.125	0.021	0.000	0.32	5.33	0.32	5.33	3.0	Off
8	CI 205	0.28	0.08	0.36	0.00	Comb	6.0	3.00	0.00	3.00	2.00	0.004	2.00	0.125	0.021	0.013	0.21	1.71	0.23	1.56	3.0	7
9	CI 204	1.14	0.00	1.06	0.08	Comb	6.0	3.00	0.00	3.00	2.00	0.004	2.00	0.125	0.021	0.013	0.32	5.39	0.35	4.58	3.0	8
10	CI 218	0.99	0.00	0.96	0.03	Comb	6.0	3.00	0.00	3.00	2.00	0.005	2.00	0.125	0.021	0.013	0.30	4.24	0.32	3.29	3.0	5
11	CI 214	1.17	0.00	1.08	0.08	Comb	6.0	3.00	0.00	3.00	2.00	0.004	2.00	0.125	0.021	0.013	0.32	5.48	0.35	4.67	3.0	12
12	CI 215	2.69	0.08	2.77	0.00	Comb	6.0	3.00	2.78	3.00	2.00	Sag	2.00	0.125	0.021	0.000	0.39	8.43	0.39	8.43	3.0	Off
13	CI 216	0.68	0.00	0.68	0.00	Comb	6.0	3.00	0.00	3.00	2.00	0.008	2.00	0.125	0.021	0.013	0.24	1.93	0.26	1.75	3.0	12

Project File: SEMMES.stm | Number of lines: 13 | Run Date: 5/25/2016

NOTES: Inlet N-Values = 0.013; Intensity = 88.24 / (Inlet time + 15.50) ^ 0.83; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

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Inlet Report - Semmes West of Burney

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	CI 200	0.89	0.06	0.95	0.00	Comb	6.0	3.00	2.78	3.00	2.00	Sag	2.00	0.125	0.021	0.000	0.25	2.10	0.25	2.10	3.0	Off
2	CI 201	1.09	0.00	1.03	0.06	Comb	6.0	3.00	0.00	3.00	2.00	0.004	2.00	0.125	0.021	0.013	0.32	5.20	0.34	4.34	3.0	1
3	CI 202	1.57	0.00	1.42	0.15	Comb	6.0	3.00	0.00	3.00	2.00	0.006	2.00	0.125	0.021	0.013	0.33	5.91	0.36	5.20	3.0	4
4	CI 203	2.48	0.15	2.64	0.00	Comb	6.0	3.00	2.78	3.00	2.00	Sag	2.00	0.125	0.021	0.000	0.38	8.00	0.38	8.00	3.0	Off
5	CI 212	2.28	0.20	2.48	0.00	Comb	6.0	3.00	2.78	3.00	2.00	Sag	2.00	0.125	0.021	0.000	0.37	7.52	0.37	7.52	3.0	Off
6	CI 211	1.72	0.00	1.52	0.20	Comb	6.0	3.00	0.00	3.00	2.00	0.006	2.00	0.125	0.021	0.013	0.34	6.34	0.37	5.62	3.0	5

Project File: SEMMES_W_OF_BURNEY.stm | Number of lines: 6 | Run Date: 5/25/2016

NOTES: Inlet N-Values = 0.013; Intensity = 88.24 / (Inlet time + 15.50) ^ 0.83; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

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Inlet Report - Honeycutt

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	DI 326	0.71	0.00	0.71	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.013	0.08	10.23	0.08	10.23	0.0	Off
2	MH 314	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	DI 340	1.98	0.00	1.98	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.16	18.29	0.16	18.29	0.0	Off
4	MH 313	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
5	MH 312	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
6	MH 311	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
7	MH 310	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
8	MH 309	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
9	MH 308	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
10	DI 335	0.56	0.00	0.56	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.07	9.01	0.07	9.01	0.0	Off
11	DI 322	0.51	0.00	0.51	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.07	8.57	0.07	8.57	0.0	Off
12	DI 336	0.53	0.00	0.53	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.07	8.79	0.07	8.79	0.0	Off
13	DI 323	0.58	0.00	0.58	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.07	9.22	0.07	9.22	0.0	Off
14	DI 337	0.73	0.00	0.73	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.08	10.42	0.08	10.42	0.0	Off
15	DI 324	0.43	0.00	0.43	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.06	7.90	0.06	7.90	0.0	Off
16	DI 338	0.38	0.00	0.38	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.05	7.43	0.05	7.43	0.0	Off
17	DI 339	0.71	0.00	0.71	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.08	10.23	0.08	10.23	0.0	Off
18	DI 325	1.29	0.00	1.29	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.12	14.27	0.12	14.27	0.0	Off
19	MH 315	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
20	MH 316	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
21	DI 328	0.43	0.00	0.43	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.06	7.90	0.06	7.90	0.0	Off
22	DI 341	0.99	0.00	0.99	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.10	12.26	0.10	12.26	0.0	Off
23	DI 329	0.33	0.00	0.33	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.05	6.93	0.05	6.93	0.0	Off

Project File: HONEYCUTT.stm | Number of lines: 27 | Run Date: 5/25/2016

NOTES: Inlet N-Values = 0.013; Intensity = 88.24 / (Inlet time + 15.50) ^ 0.83; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

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Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
24	DI 327	0.81	0.00	0.81	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.09	10.99	0.09	10.99	0.0	Off
25	MH 307	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
26	DI 321	1.34	0.00	1.34	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.13	14.59	0.13	14.59	0.0	Off
27	DI 334	0.94	0.00	0.94	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.020	0.020	0.000	0.10	11.91	0.10	11.91	0.0	Off

Project File: HONEYCUTT.stm | Number of lines: 27 | Run Date: 5/25/2016

NOTES: Inlet N-Values = 0.013; Intensity = 88.24 / (Inlet time + 15.50) ^ 0.83; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

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Inlet Report - Honeycutt West of Burney

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	MH 302	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	MH 303	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	MH 304	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
4	MH 305	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
5	MH 306	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
6	DI 333	0.28	0.00	0.28	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.021	0.021	0.000	0.04	6.20	0.04	6.20	0.0	Off
7	DI 320	0.28	0.00	0.28	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.021	0.021	0.000	0.04	6.20	0.04	6.20	0.0	Off
8	DI 319	0.71	0.00	0.71	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.021	0.021	0.000	0.08	9.84	0.08	9.84	0.0	Off
9	DI 332	1.24	0.00	1.24	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.021	0.021	0.000	0.12	13.38	0.12	13.38	0.0	Off
10	DI 318	0.76	0.00	0.76	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.021	0.021	0.000	0.09	10.20	0.09	10.20	0.0	Off
11	DI 331	0.91	0.00	0.91	0.00	DrGrt	0.0	0.00	2.78	3.00	2.00	Sag	2.00	0.021	0.021	0.000	0.10	11.27	0.10	11.27	0.0	Off
12	DI 317	0.73	0.00	0.73	0.00	DrGrt	0.0	0.00	2.78	2.00	2.00	Sag	2.00	0.021	0.021	0.000	0.10	11.31	0.10	11.31	0.0	Off
13	DI 330	0.28	0.00	0.28	0.00	DrGrt	0.0	0.00	2.78	2.00	2.00	Sag	2.00	0.021	0.021	0.000	0.05	6.88	0.05	6.88	0.0	Off

Project File: HONEYCUTT_W_OF_BURNEY.stm | Number of lines: 13 | Run Date: 5/25/2016

NOTES: Inlet N-Values = 0.013; Intensity = 88.24 / (Inlet time + 15.50) ^ 0.83; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

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