

BAYER-BECKER
 6900 Tylersville Road, Suite A
 Mason, Ohio 45040
 (513) 336-6600

STORM SEWER CALCULATIONS

Project Name: Wynstead Section Three

FORMULAE USED
 $Q_r = AC * I$ (required)
 $V_p = (1.486 / n) * R^{2/3} * S^{1/2}$
 $Q_p = A_p * V_p$
 $R = (\text{Pipe Dia.} / 4)$

Designed By: GJK
 Reviewed By:
 Date: 5/9/2016
 Revised date:
 Sheet:
 Job # 04M027.003

LOCATION		TOPOGRAPHY					TIME				"Q" Required (c.f.s.)	DESIGN				"Q" Provided (c.f.s.)	TIME				REMARKS
From	To	Area Number	Acres	"C" Value	"AC" for Area	"AC" Accumulate	Time To Inlet "T" (minutes)	Time In Pipe "Tp" (minutes)	Time of Concentration "Tc" (minutes)	Intensity "I" 25 Year Storm Event		Pipe Size (inches)	"n" Value	Slope in %	Velocity (ft. / sec)		Length of Pipe (feet)	Time In Pipe "Tp" (minutes)	Inlet Invert Elev.	Outlet Invert Elev.	
40	41	40	0.74	0.60	0.44	0.44	10.0		10.0	5.75	2.55	12	0.012	2.00	6.95	5.46	40.00	0.1	775.47	774.67	Future Development
41	43	41	0.65	0.60	0.39	0.83	10.0	0.1	10.1	5.74	4.78	15	0.012	1.50	6.98	8.57	262.00	0.6	774.42	770.49	Future Development
42	43	42	1.16	0.60	0.70	0.70	10.0		10.0	5.75	4.00	12	0.012	2.00	6.95	5.46	49.00	0.1	771.72	770.74	Future Development
43	45	43	0.50	0.60	0.30	1.83	10.0	0.1	10.1	5.73	10.49	18	0.012	1.60	8.15	14.39	160.00	0.3	770.24	767.68	Future Development
44	45	44	0.82	0.60	0.49	0.49	10.0		10.0	5.75	2.83	12	0.012	1.50	6.02	4.73	36.00	0.1	768.72	768.18	Future Development
45	48	45	0.30	0.60	0.18	2.50	10.0	0.1	10.1	5.74	14.35	18	0.012	2.20	9.55	16.88	205.00	0.4	767.68	763.17	Future Development
46	47	46	0.94	0.60	0.56	0.56	10.0		10.0	5.75	3.24	12	0.012	2.00	6.95	5.46	28.00	0.1	765.04	764.48	
47	48	47	0.40	0.60	0.24	4.19	11.5		11.5	5.54	23.24	24	0.012	1.10	8.18	25.70	74.00	0.2	763.48	762.67	From Existing Section Two
48	53	48	0.40	0.60	0.24	6.94	11.5	0.2	11.7	5.52	38.30	24	0.012	3.00	13.51	42.45	284.00	0.4	762.67	754.15	
49	50	49	1.23	0.60	0.74	0.74	10.0		10.0	5.75	4.24	12	0.012	2.00	6.95	5.46	28.00	0.1	762.25	761.69	Future Development
50	52	50	0.45	0.60	0.27	1.01	10.0	0.1	10.1	5.74	5.79	15	0.012	1.75	7.54	9.26	208.00	0.5	761.44	757.80	Future Development
51	52	51	1.30	0.60	0.78	0.78	10.0		10.0	5.75	4.49	12	0.012	2.00	6.95	5.46	28.00	0.1	758.61	758.05	
52	53	52	0.43	0.60	0.26	1.04	10.1	0.5	10.5	5.68	5.89	15	0.012	1.00	5.70	7.00	75.00	0.2	757.80	757.05	
53	56	53	0.55	0.60	0.33	8.30	11.7	0.4	12.0	5.48	45.47	30	0.012	1.30	10.32	50.66	277.00	0.4	753.65	750.05	
54	55	54	0.61	0.60	0.37	0.37	10.0		10.0	5.75	2.10	12	0.012	2.00	6.95	5.46	28.00	0.1	753.06	752.50	
55	56	55	1.88	0.60	1.13	1.49	10.0	0.1	10.1	5.74	8.58	18	0.012	1.25	7.20	12.72	76.00	0.2	752.00	751.05	
56	60	56	0.59	0.60	0.35	10.15	12.0	0.4	12.4	5.42	55.01	36	0.012	0.70	8.55	60.45	313.00	0.6	749.55	747.35	
57	58	57	0.17	0.60	0.10	0.10	10.0		10.0	5.75	0.59	12	0.012	1.50	6.02	4.73	28.00	0.1	750.20	749.78	
58	60	58	0.63	0.60	0.38	0.48	10.0	0.1	10.1	5.74	2.75	15	0.012	0.50	4.03	4.95	80.00	0.3	749.53	749.13	
59	60	59	0.62	0.60	0.37	0.37	10.0		10.0	5.75	2.14	12	0.012	1.00	4.91	3.86	129.00	0.4	749.74	748.45	
60	62	60	0.57	0.60	0.34	11.35	12.4	0.6	13.1	5.34	60.61	36	0.012	0.90	9.70	68.55	313.00	0.5	747.35	744.54	
61	62	61	0.46	0.60	0.28	0.28	10.0		10.0	5.75	1.59	12	0.012	2.00	6.95	5.46	137.00	0.3	748.98	746.24	
62	63	62	0.73	0.60	0.44	12.06	13.1	0.5	13.6	5.28	63.62	36	0.012	1.00	10.22	72.26	36.00	0.1	744.54	744.18	
63	64	63	0.64	0.60	0.38	12.44	13.6	0.1	13.7	5.27	65.56	36	0.012	1.00	10.22	72.26	124.00	0.2	744.18	742.94	
64	65	MH	0.00	0.60	0.00	12.44	13.7	0.2	13.9	5.24	65.26	42	0.012	0.50	8.01	77.07	32.00	0.1	742.44	742.28	N Pool = 742.00