

J.R. GRIMES CONSULTING ENGINEERS, INC. LABOURE' CENTRE

CALC. BY: J. WHISLER
DATE: 02/09/2004
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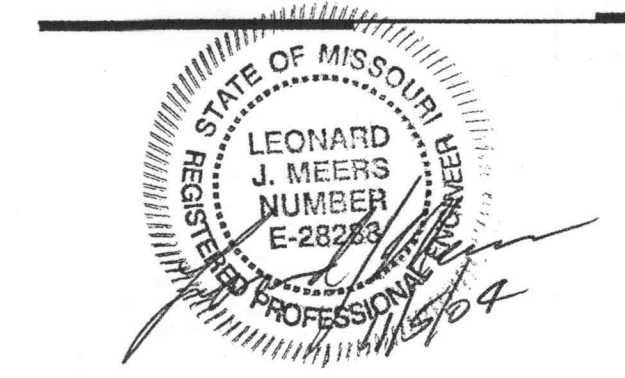
VER. 2.0

HYDRAULIC DATA 100 YEAR STORM PER DETENTION ROUTING REPORT

STRUCTURE	UPR	LOWER	FLOWLINE	LENGTH	GRADE	PIPE	"n"	Q	TOTAL	V	V _h	FRICT.	CURVE	TOTAL PIPE	STRUCTURE	LOSSES	HYD. ELEV	HYD	LOWEST	PIPE	DEPTH	FULL FLOW	GIVEN				
UPR	LOWER	UPR	LOWER	FT.	ft. / ft.	SIZE	FACTOR	c.f.s.	Q	f.p.s.	ft.	LOSS	LOSS	LOSSES	LOSS	LOSSES	UPPER	LOWER	ft. / ft.	OPENING	FREEBOARD	IN PIPE	f.p.s.	HYD ELEV			
CB 2-2	FES 2-1	530.68	530.38	30	0.0100	30	0.013	1.37	24.91	5.33	0.44	0.12	0.00	0.12	0.24	0.07	534.22	533.79	0.00407	537.61	3.39	41.02	0.61	1.39	5.07	533.79	
MH 2-3	CB 2-2	531.18	530.68	50	0.0100	24	0.013	0.00	23.54	8.58	1.14	0.71	0.00	0.71	0.00	0.17	535.10	534.22	0.0142	538.31	3.21	22.62	1.04	1.70	7.49		
CB 2-4	MH 2-3	534.33	531.18	105	0.0300	24	0.013	6.03	23.54	7.87	0.96	1.25	0.00	1.25	1.36	0.00	536.80	535.10	0.01194	544.61	7.81	39.18	0.60	1.11	7.49		
CB 2-5	CB 2-4	537.66	534.33	111	0.0300	18	0.013	5.06	17.51	11.35	2.00	4.04	0.00	4.04	0.62	0.16	541.63	536.80	0.03643	551.61	9.98	18.19	0.96	1.18	9.91		
1	MH 2-5	539.40	537.66	58	0.0300	18	0.013	3.12	12.45	7.61	0.90	0.95	0.00	0.95	0.31	0.30	543.19	541.63	0.01639	544.50	1.31	18.19	0.68	0.90	7.05		
2	1	541.19	539.60	106	0.0150	18	0.01	0.00	9.33	5.39	0.45	0.51	0.00	0.51	0.00	0.12	543.83	543.19	0.00486	549.00	5.17	16.72	0.56	0.78	5.28		
3	2	545.00	541.39	166	0.0217	18	0.01	9.33	9.33	5.17	0.42	0.74	0.00	0.74	0.00	0.00	545.71	543.83	0.00448	546.00	0.29	20.14	0.46	0.71	5.28		
HYDRAULIC DATA 15 YEAR STORM PER DETENTION ROUTING REPORT @ 12.20 HRS. WHEN HYDROGRAPHS COMBINES FOR MAXIMUM OUTFALL																											
5	4	547.95	547.00	39	0.0244	21	0.013	0.89	10.55	4.19	0.27	0.16	0.00	0.16	0.00	0.02	553.50	553.33	0.00404	559.90	6.40	24.73	0.43	0.79	4.39	553.33	
6	5	550.05	548.15	190	0.0100	21	0.013	1.02	9.66	4.22	0.28	0.78	0.00	0.78	0.33	0.00	554.61	553.50	0.0041	564.80	10.19	15.85	0.61	0.97	4.02		
7	6	551.92	550.25	167	0.0100	18	0.013	2.55	8.64	5.48	0.47	1.42	0.00	1.42	0.13	0.00	556.16	554.61	0.00849	564.75	8.59	10.50	0.82	1.02	4.89		
8	7	554.43	552.12	231	0.0100	18	0.013	2.76	6.09	3.55	0.20	0.82	0.00	0.82	0.00	0.00	556.98	556.16	0.00357	564.75	7.77	10.50	0.58	0.80	3.45		
9	8	557.50	554.63	287	0.0100	15	0.013	3.33	3.33	2.71	0.11	0.76	0.00	0.76	0.00	0.00	558.13	556.98	0.00286	563.50	5.38	6.46	0.52	0.63	2.71		
11	10	548.21	547.80	41	0.0100	30	0.013	0.00	22.94	4.77	0.35	0.13	0.00	0.13	0.26	0.24	553.96	553.33	0.00325	561.50	7.54	41.02	0.56	1.30	4.67	553.33	
12	11	549.41	548.41	100	0.0100	30	0.013	0.80	22.94	4.77	0.35	0.33	0.00	0.33	0.06	0.03	554.38	553.96	0.00325	564.50	10.12	41.02	0.56	1.30	4.67		
13	12	552.56	549.61	295	0.0100	30	0.013	6.58	21.40	4.40	0.30	0.82	0.00	0.82	0.27	0.00	555.46	554.38	0.00278	561.00	5.54	41.02	0.52	1.28	4.36		
14	13	554.02	552.76	126	0.0100	24	0.013	3.02	14.82	5.02	0.39	0.61	0.00	0.61	0.04	0.02	556.14	555.46	0.00487	561.00	4.86	22.62	0.66	1.16	4.72		
15	14	555.48	554.22	126	0.0100	21	0.013	3.15	7.18	2.88	0.13	0.24	0.00	0.24	0.18	0.06	556.53	556.14	0.00191	561.00	4.47	15.85	0.45	0.81	2.99		
16	15	556.66	555.68	98	0.0100	15	0.013	3.23	4.03	3.46	0.19	0.42	0.00	0.42	0.00	0.00	557.37	556.53	0.00433	561.75	4.38	6.46	0.62	0.71	3.28		
17	16	559.29	556.86	243	0.0100	12	0.013	0.80	0.80	0.81	0.01	0.08	0.00	0.08	0.00	0.00	559.61	557.37	0.00032	564.50	4.89	3.56	0.22	0.32	1.02		
18	12	557.00	556.05	19	0.0500	12	0.013	0.94	0.94	0.75	0.01	0.01	0.00	0.01	0.00	0.00	557.21	556.26	0.00028	565.00	7.79	7.97	0.12	0.21	1.20	554.38	
19	14	556.47	554.22	45	0.0500	12	0.013	4.62	4.62	6.06	0.57	0.80	0.00	0.80	0.00	0.00	557.00	556.14	0.01784	562.50	5.50	7.97	0.58	0.53	5.88	556.14	
20	15-FES2	546.49	542.48	186	0.0216	30	0.013	10.92	29.06	5.86	0.53	0.92	0.00	0.92	0.10	0.02	547.82	544.98	0.00492	549.50	1.68	60.23	0.48	1.21	5.92	544.98	
21	20	549.74	546.69	305	0.0100	18	0.013	2.61	4.81	2.63	0.11	0.60	0.00	0.60	0.00	0.00	550.43	547.82	0.00195	555.75	5.32	10.50	0.46	0.69	2.72		
22	21	557.78	549.94	196	0.0400	15	0.013	2.20	2.20	1.30	0.03	0.12	0.00	0.12	0.00	0.00	558.12	550.43	0.00061	563.75	5.63	12.92	0.17	0.34	1.79		
23A	20	547.43	546.69	74	0.0100	21	0.013	0.00	13.33	6.21	0.60	0.66	0.00	0.66	0.14	0.00	548.80	547.92	0.00888	556.25	7.45	15.85	0.84	1.23	5.54	547.82	
23	23A	550.59	549.43	188	0.0062	21	0.013	3.39	13.33	6.32	0.62	1.73	0.00	1.73	0.00	0.00	552.68	550.95	0.0092	557.25	4.57	12.45	1.07	1.52	5.54		
24	23	554.06	550.79	327	0.0100	18	0.013	9.94	9.94	6.41	0.64	3.81	0.00	3.81	0.00	0.00	556.49	552.68	0.01164	557.00	0.51	10.50	0.95	1.16	5.62		

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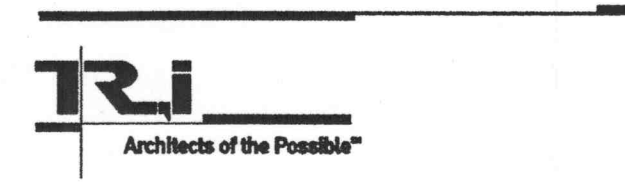
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DATE: 02/13/04

- REVISIONS
- PER CITY, DUCKETT CREK
 - & MODOT COMMENTS 04/06/04
 - PER CITY COMMENTS 04/28/04
 - PER SEWER CONFLICT 08/24/04
 - PER MODOT COMMENTS 9/02/04

DWG. BY: J.W
PROJECT NO. 1004B
SHEET NO.

C8.4
STORM SEWER PROFILES