Project : TOWNE PARC DRAINAGE NW CORNER 2 YEAR RUN WITH CMP Date: 11/10/1987 Time: 17:26:51

INPUT DATA LISTING

CD	L2	MAX Q	ADJ Q	LENGTH	FL 1	FL 2	CTL/TW	D	W	S	KJ	KE	KM	LC	L1	L3	L4	A1	A3	A4	J	N
8	1						187.40															
2	2	36.9	36.9	155.00	185.50	186.00	194.80	30.	0.	3	.00	.00	.00	1	3	0	0	79.	0.	0.	5.00	.024
2	3	36.9	36.9	53.10	186.10	186.30	194.52	30.	0.	3	.00	.00	.00	0	4	8	0	13.	75.	0.	10.00	.024
2	4	24.9	24.9	391.80	186.40	193.10	198.53	30.	0.	3	.00	.00	.00	0	5	9	0	53.	93.	0.	5.00	.024
2	5	19.3	19.3	198.30	193.60	196.50	201.42	24.	0.	3	.00	.00	.00	0	6	10	0	50.	40.	0.	5.00	.024
2	6	13.1	13.1	222.00	196.75	200.50	205.85	21.	0.	3	.00	.00	.00	0	7	11	0	45.	90.	0.	5.00	.024
2	7	6.0	6.0	80.00	200.75	202.20	205.65	18.	0.	1	.00	.00	.00	0	0	0	0	0.	0.	0.	5.00	.024
2	8	5.2	5.2	42.00	189.00	190.00	194.53	15.	0.	1	.00	.00	.00	4	0	0	0	0.	0.	0.	5.00	.024
2	9	1.7	1.7	42.00	193.85	194.40	198.53	15.	0.	1	.00	.00	.00	5	0	0	0	0.	0.	0.	5.00	.024
2	10	1.6	1.6	42.00	197.25	198.10	201.42	15.	0.	1	.00	.00	.00	6	0	0	0	0.	0.	0.	5.00	.024
2	11	2.5	2.5	42.00	201.00	201.80	205.85	15.	0.	1	.00	.00	.00	7	0	0	0	0.	0.	0.	5.00	.024

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STORM DRAIN ANALYSIS RESULTS

Line No	Q (cfs)	D (in)	W (in)	Dn (ft)	Dc (ft)	Flow Type	Sf-full (ft/ft)	V 1 (fps)	V 2 (fps)	FL 1 (ft)	FL 2 (ft)	HG 1 Calc	HG 2 Calc	D 1 (ft)	D 2 (ft)	TW Calc	TW CK
1	Hydraulic grade line control = 187.40																
2	36.9	30	0	2.50	2.05	Seal	.02758	8.5	7.5	185.50	186.00	187.55	192.07	2.05	6.07	.00	.00
	X = 8.53			X(N) = .00													
3	36.9	30	0	2.50	2.05	Full	.02758	7.5	7.5	186.10	186.30	193.49	194.95	7.39	8.65	.00	.00
4	24.9	30	0	1.78	1.70	Full	.01256	5.1	5.1	186.40	193.10	196.09	201.01	9.69	7.91	.00	.00
	X = .00			X(N) = 6.21													
5	19.3	24	0	2.00	1.58	Full	.02481	6.1	6.1	193.60	196.50	201.53	206.45	7.93	9.95	.00	.00
6	13.1	21	0	1.75	1.35	Full	.02330	5.4	5.4	196.75	200.50	207.37	212.54	10.62	12.04	.00	.00
7	6.0	18	0	1.00	.94	Full	.01112	3.4	3.4	200.75	202.20	213.47	214.36	12.72	12.16	214.54	205.65
	X = .00			X(N) = 3.63													
4	Hydraulic grade line control = 195.52																
8	5.2	15	0	.99	.92	Full	.02208	4.2	4.2	189.00	190.00	195.52	196.45	6.52	6.45	196.73	194.53
5	Hydraulic grade line control = 201.27																
9	1.7	15	0	.57	.52	Full	.00236	1.4	1.4	193.85	194.40	201.27	201.37	7.42	6.97	201.40	198.53
6	Hydraulic grade line control = 206.91																
10	1.6	15	0	.49	.50	Full	.00209	1.3	1.3	197.25	198.10	206.91	207.00	9.66	8.90	207.02	201.42
7	Hydraulic grade line control = 213.01																
11	2.5	15	0	.64	.63	Full	.00510	2.0	2.0	201.00	201.80	213.01	213.22	12.01	11.42	213.28	205.85

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LIST OF ABBREVIATIONS

V 1, FL 1, D 1 and HG 1 refer to downstream end
V 2, FL 2, D 2 and HG 2 refer to upstream end
X - Distance in feet from downstream end to point where HG intersects soffit in seal condition
X(N) - Distance in feet from downstream end to point where water surface reaches normal depth by either drawdown or backwater
X(J) - Distance in feet from downstream end to point where hydraulic jump occurs in line
F(J) - The computed force at the hydraulic jump
D(BJ) - Depth of water before the hydraulic jump (upstream side)
D(AJ) - Depth of water after the hydraulic jump (downstream side)
SEAL indicates flow changes from part to full or from full to part
HJ indicates that flow changes from supercritical to subcritical through a hydraulic jump
HJU indicates that hydraulic jump occurs at the junction at the upstream end of the line
HJD indicates that hydraulic jump occurs at the junction at the downstream end of the line

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