SHEET _____ OF _____

KF FGD

D150034C

COMPUTED RLP DATE 9/21/07

CHECKED _____ DATE _____

10yr Storm 4.75 in/24 hr

25yr Storm 5.70 in/24 hrs V_{pond} = 32.024 af

100yr Storm 6.70 in/24 hrs V_{pond} = 39.923 af

FROM PERMIT DOCUMENTS

$$V_{25yr} = V_{100yr}\left(\frac{5.70}{6.70}\right)a$$

$32.024 = 33.964a$ $a = .94$ ← CORRECTION FACTOR

$$V_{10} = (32.024)\left(\frac{1.75}{5.70}\right)(.94)$$

V_{10} = 25.085 acft

48 hr $Q = \dfrac{(25.085)(\cancel{Ac})\,43560\,\cancel{ft^3}/\cancel{acft}\,(7.48\,gal/\cancel{ft^3})}{48\,\cancel{hr}\,(60\,min/\cancel{hr})}$

Q_{min} = 2838 gpm Average flow Rate

" Drawdown w/in 24 hr period from 24 hr Storm"

∴ Time = 48 hrs

TVA 11030 (WM-7-75)

KIF Sediment Pond

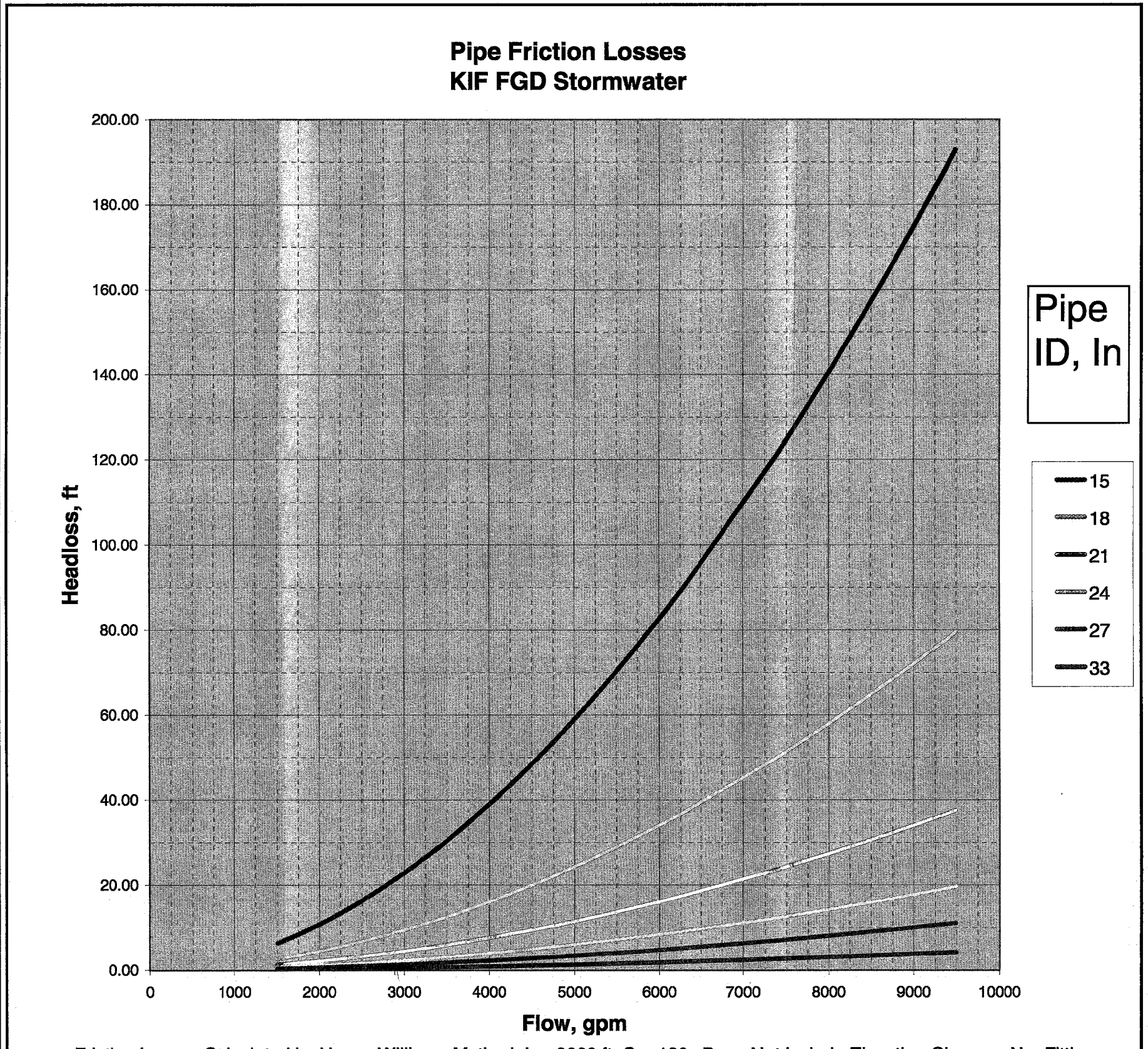
Q 1 Pump	2500 gpm	1rst On	758	1rst off	758
Q 2 Pump	3500 gpm	2nd On	761	2nd off	756

Storm		2	5	10	25
Max Pond EL		760.26	761.17	761.75	762.97
Pond EL	95.25	756.76	756.53	756.35	756.04
	95.50	756.76	756.53	756.36	756.04
	95.75	756.77	756.54	756.37	756.05
Pond EL at 96 hrs	96.00	756.78	756.55	756.37	756.06
	96.25	756.79	756.56	756.38	756.07
	96.50	756.80	756.57	756.39	756.07
	96.75	756.80	756.57	756.40	756.08
	97.00	756.81	756.58	756.40	756.09

Q 1 Pump	2000 gpm	1rst On	758	1rst off	758
Q 2 Pump	3000 gpm	2nd On	761	2nd off	756

Storm		2	5	10	25
Max Pond EL		760.47	761.32	761.92	763.18
Pond EL	95.25	756.50	756.24	756.05	756.85
	95.50	756.51	756.25	756.05	756.83
	95.75	756.52	756.25	756.06	756.81
Pond EL at 96 hrs	96.00	756.53	756.26	756.07	756.79
	96.25	756.53	756.27	756.08	756.77
	96.50	756.54	756.28	756.09	756.76
	96.75	756.55	756.29	756.09	756.74
	97.00	756.56	756.29	756.10	756.72

Friction Headloss, ft (Hazen Williams Method)							
C (hw)	120	Net Pipe ID, in					
L, ft	3000	15	18	21	24	27	33
Flow		Net Area, ft^2					
gpm	cfs	1.23	1.77	2.41	3.14	3.98	5.94
1500	3.34	6.35	2.61	1.23	0.64	0.36	0.14
1750	3.90	8.44	3.48	1.64	0.86	0.48	0.18
2000	4.46	10.81	4.45	2.10	1.10	0.62	0.23
2250	5.01	13.44	5.53	2.61	1.36	0.77	0.29
2500	5.57	16.33	6.72	3.18	1.66	0.93	0.35
2750	6.13	19.48	8.02	3.79	1.98	1.11	0.42
3000	6.68	22.88	9.42	4.45	2.32	1.31	0.49
3250	7.24	26.53	10.92	5.16	2.69	1.52	0.57
3500	7.80	30.43	12.53	5.92	3.09	1.74	0.66
3750	8.36	34.57	14.23	6.72	3.51	1.98	0.74
4000	8.91	38.96	16.04	7.57	3.95	2.23	0.84
4250	9.47	43.58	17.94	8.47	4.42	2.49	0.94
4500	10.03	48.44	19.95	9.42	4.92	2.77	1.04
4750	10.58	53.54	22.04	10.41	5.43	3.06	1.15
5000	11.14	58.87	24.24	11.45	5.98	3.37	1.27
5250	11.70	64.43	26.53	12.53	6.54	3.69	1.39
5500	12.25	70.22	28.91	13.65	7.13	4.02	1.51
5750	12.81	76.23	31.39	14.82	7.74	4.36	1.64
6000	13.37	82.48	33.96	16.04	8.37	4.72	1.78
6250	13.93	88.95	36.62	17.30	9.03	5.09	1.92
6500	14.48	95.64	39.38	18.60	9.71	5.47	2.06
6750	15.04	102.56	42.23	19.94	10.41	5.87	2.21
7000	15.60	109.70	45.17	21.33	11.14	6.28	2.36
7250	16.15	117.06	48.20	22.76	11.88	6.70	2.52
7500	16.71	124.63	51.32	24.23	12.65	7.13	2.69
7750	17.27	132.43	54.53	25.75	13.44	7.58	2.85
8000	17.83	140.44	57.82	27.31	14.26	8.04	3.03
8250	18.38	148.66	61.21	28.91	15.09	8.51	3.20
8500	18.94	157.11	64.69	30.55	15.95	8.99	3.39
8750	19.50	165.76	68.25	32.23	16.83	9.49	3.57
9000	20.05	174.63	71.90	33.96	17.73	9.99	3.76
9250	20.61	183.71	75.64	35.72	18.65	10.51	3.96
9500	21.17	193.00	79.47	37.53	19.59	11.04	4.16



Friction Losses Calculated by Hazen Williams Method, L = 3000 ft, C = 120. Does Not Include Elevation Changes Nor Fittings-Losses