PARKside Villas

Commercial = 2.91
R-2 = 15.14 Ac

3/16/98

Differential Runoff

Regional Pond

2 Yr. 15.14 (1.80 - 1.15) + 2.91 (2.39 - 1.15) = 13.45 cfs
5 Yr. 15.14 (2.20 - 1.41) + 2.91 (2.93 - 1.41) = 17.17 cfs
15 Yr. 15.14 (2.75 - 1.87) + 2.91 (3.85 - 1.87) = 19.09 cfs
25 Yr. 15.14 (3.39 - 2.31) + 2.91 (4.75 - 2.31) = 23.45 cfs

Q To Basin
13.20 Ac (N. of Tom C.)
1.33 Ac (Commercial)
8.29 (Lake Forest)

2 Yr. 13.20 (1.61) + 1.33 (2.39) + 8.29 (1.80) = 39.35 cfs
5 Yr. 13.20 (1.98) + 1.33 (2.93) + 8.29 (2.20) = 48.27 cfs
15 Yr. 13.20 (2.64) + 1.33 (3.85) + 8.29 (2.75) = 62.77 cfs
25 Yr. 13.20 (3.26) + 1.33 (4.75) + 8.29 (3.39) = 77.45 cfs
100 Yr. 13.20 (4.17) + 1.33 (6.08) + 8.29 (4.34) = 99.11 cfs

Allowable Discharge.

2 Yr. 39.35 - 13.45 = 25.89 cfs
5 Yr. 48.27 - 17.17 = 31.10 cfs
15 Yr. 62.77 - 19.09 = 43.68 cfs
25 Yr. 77.45 - 23.45 = 54.00 cfs

Tc = 11 min.

2 yr.

LAKE FOREST MANOR 4/6/98 SUBMITTAL DATE:

ELEVATION	AREA	VOLUME	CUM. VOLUME
472.60	0		
		7611	7611
474.00	10874		
		25178	32789
476.00	14304		
		33538	66327
478.00	19234		

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*****************************************
*                                       *
*  RECTANGULAR ORIFICE                  *
*   20 in W X 42 in H   ELEV= 472.6     *
*                                       *
*  Outlet Pipe -  67 ft - 48 in pipe    *
*  UFL= 469  LFL= 467   n= .013         *
*                                       *
*****************************************
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LAKE FOREST MANOR 4/6/98 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	214.64	214.64	0.00	214.64	472.64
2	429.27	643.91	2.04	641.87	472.72
3	643.91	1285.78	10.54	1275.23	472.83
4	858.55	2133.78	29.54	2104.24	472.99
5	1073.18	3177.42	62.60	3114.82	473.17
6	1287.82	4402.64	112.75	4289.89	473.39
7	1502.45	5792.35	182.23	5610.12	473.63
8	1717.09	7327.21	272.51	7054.70	473.90
9	1931.73	8986.43	384.29	8602.14	474.08
10	2146.36	10748.50	467.50	10281.01	474.21
11	2361.00	12642.01	532.15	12109.86	474.36
12	2361.00	14470.86	605.68	13865.19	474.50
13	2361.00	16226.19	679.17	15547.02	474.63
14	2361.00	17908.02	752.19	17155.83	474.76
15	2361.00	19516.83	824.30	18692.53	474.88
16	2361.00	21053.53	895.22	20158.31	475.00
17	2361.00	22519.31	964.65	21554.67	475.11
18	2361.00	23915.67	1032.39	22883.28	475.21
19	2361.00	25244.28	1098.25	24146.04	475.31
20	2361.00	26507.04	1162.09	25344.95	475.41
21	2146.36	27491.31	1223.81	26267.51	475.48
22	1931.73	28199.24	1272.01	26927.23	475.53
23	1717.09	28644.32	1306.86	27337.46	475.57
24	1502.45	28839.92	1328.69	27511.22	475.58
25	1287.82	28799.04	1337.97	27461.07	475.58
26	1073.18	28534.25	1335.30	27198.95	475.56
27	858.55	28057.50	1321.32	26736.18	475.52
28	643.91	27380.09	1296.74	26083.35	475.47
29	429.27	26512.62	1262.35	25250.28	475.40
30	214.64	25464.92	1218.89	24246.03	475.32
31	0.00	24246.03	1167.19	23078.84	475.23

PEAK OUTFLOW= 1337.9 CFS AT 25 MINUTES

5 yr.

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**************************************
*                                    *
*  RECTANGULAR ORIFICE               *
*   20 in W X 42 in H   ELEV= 472.6  *
*                                    *
*  Outlet Pipe -  67 ft - 48 in pipe *
*  UFL= 469  LFL= 467   n= .013      *
*                                    *
**************************************
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LAKE FOREST MANOR 4/6/98 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	263.29	263.29	0.00	263.29	472.65
2	526.58	789.87	2.77	787.10	472.74
3	789.87	1576.97	14.32	1562.65	472.89
4	1053.16	2615.81	40.06	2575.75	473.07
5	1316.45	3892.20	84.78	3807.42	473.30
6	1579.75	5387.17	152.37	5234.80	473.56
7	1843.04	7077.84	245.63	6832.21	473.86
8	2106.33	8938.54	366.25	8572.29	474.05
9	2369.62	10941.91	466.37	10475.54	474.23
10	2632.91	13108.45	539.81	12568.64	474.39
11	2896.20	15464.84	624.61	14840.23	474.57
12	2896.20	17736.43	721.20	17015.23	474.75
13	2896.20	19911.43	817.91	19093.52	474.91
14	2896.20	21989.72	914.04	21075.68	475.07
15	2896.20	23971.88	1008.98	22962.90	475.22
16	2896.20	25859.10	1102.25	24756.85	475.36
17	2896.20	27653.05	1193.40	26459.65	475.50
18	2896.20	29355.85	1282.13	28073.72	475.63
19	2896.20	30969.92	1368.19	29601.73	475.75
20	2896.20	32497.93	1451.34	31046.59	475.86
21	2632.91	33679.50	1531.46	32148.04	475.95
22	2369.62	34517.66	1593.50	32924.16	476.01
23	2106.33	35030.49	1635.79	33394.70	476.04
24	1843.04	35237.74	1656.02	33581.72	476.05
25	1579.75	35161.47	1664.10	33497.36	476.04
26	1316.45	34813.81	1660.46	33153.36	476.02
27	1053.16	34206.52	1645.62	32560.91	475.98
28	789.87	33350.78	1616.95	31733.83	475.92
29	526.58	32260.41	1570.08	30690.34	475.83
30	263.29	30953.63	1511.56	29442.07	475.73
31	0.00	29442.07	1442.56	27999.51	475.62

PEAK OUTFLOW= 27.73 CFS AT 25 MINUTES

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*****************************************
*                                       *
*  RECTANGULAR ORIFICE                  *
*   20 in W X 42 in H   ELEV= 472.6     *
*                                       *
*  Outlet Pipe -  67 ft - 48 in pipe    *
*  UFL= 469  LFL= 467   n= .013         *
*                                       *
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LAKE FOREST MANOR 4/6/98 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	342.38	342.38	0.00	342.38	472.66
2	684.76	1027.14	4.11	1023.04	472.79
3	1027.15	2050.19	21.22	2028.96	472.97
4	1369.53	3398.49	59.27	3339.22	473.21
5	1711.91	5051.13	125.14	4925.99	473.51
6	2054.29	6980.28	224.22	6756.06	473.84
7	2396.67	9152.73	360.15	8792.59	474.09
8	2739.05	11531.65	474.69	11056.95	474.27
9	3081.44	14138.39	562.95	13575.44	474.47
10	3423.82	16999.26	666.85	16332.41	474.69
11	3766.20	20098.61	787.11	19311.50	474.93
12	3766.20	23077.70	924.32	22153.38	475.16
13	3766.20	25919.58	1061.89	24857.69	475.37
14	3766.20	28623.89	1198.61	27425.28	475.57
15	3766.20	31191.48	1333.39	29858.09	475.77
16	3766.20	33624.29	1465.44	32158.85	475.95
17	3766.20	35925.05	1594.11	34330.94	476.09
18	3766.20	38097.14	1696.56	36400.58	476.22
19	3766.20	40166.78	2340.01	37826.77	476.30
20	3766.20	41592.97	2392.77	39200.20	476.38
21	3423.82	42624.02	2442.49	40181.52	476.44
22	3081.44	43262.96	2477.40	40785.56	476.48
23	2739.05	43524.62	2498.64	41025.97	476.49
24	2396.67	43422.64	2507.05	40915.59	476.48
25	2054.29	42969.88	2503.21	40466.67	476.46
26	1711.91	42178.58	2487.45	39691.13	476.41
27	1369.53	41060.66	2460.02	38600.64	476.35
28	1027.15	39627.79	2420.91	37206.88	476.26
29	684.76	37891.64	2369.97	35521.67	476.15
30	342.38	35864.06	2306.89	33557.17	476.05
31	0.00	33557.17	1663.04	31894.13	475.93

PEAK OUTFLOW= ~~41.78~~ CFS AT 24 MINUTES

25 yr.

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*****************************************
*                                       *
*  RECTANGULAR ORIFICE                  *
*   20 in W X 42 in H   ELEV= 472.6     *
*                                       *
*  Outlet Pipe -  67 ft - 48 in pipe    *
*  UFL= 469  LFL= 467   n= .013         *
*                                       *
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LAKE FOREST MANOR 4/6/98 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	422.45	422.45	0.00	422.45	472.68
2	844.91	1267.36	5.63	1261.73	472.83
3	1267.36	2529.09	29.06	2500.03	473.06
4	1689.82	4189.85	81.07	4108.78	473.36
5	2112.27	6221.05	170.81	6050.25	473.71
6	2534.73	8584.98	305.21	8279.77	474.05
7	2957.18	11236.95	455.41	10781.54	474.25
8	3379.64	14161.18	551.96	13609.22	474.48
9	3802.09	17411.31	668.29	16743.02	474.73
10	4224.55	20967.57	805.59	20161.97	475.00
11	4647.00	24808.97	964.83	23844.14	475.29
12	4647.00	28491.14	1146.71	27344.43	475.57
13	4647.00	31991.43	1329.06	30662.37	475.83
14	4647.00	35309.37	1510.02	33799.35	476.06
15	4647.00	38446.35	1673.50	36772.85	476.24
16	4647.00	41419.85	2353.89	39065.97	476.37
17	4647.00	43712.97	2437.67	41275.31	476.51
18	4647.00	45922.31	2515.74	43406.57	476.63
19	4647.00	48053.57	2588.84	45464.74	476.76
20	4647.00	50111.74	2657.51	47454.23	476.87
21	4224.55	51678.78	2722.26	48956.52	476.96
22	3802.09	52758.61	2770.13	49988.48	477.03
23	3379.64	53368.12	2802.55	50565.56	477.06
24	2957.18	53522.74	2820.51	50702.24	477.07
25	2534.73	53236.97	2824.74	50412.22	477.05
26	2112.27	52524.49	2815.76	49708.74	477.01
27	1689.82	51398.56	2793.80	48604.76	476.94
28	1267.36	49872.13	2759.00	47113.13	476.85
29	844.91	47958.04	2711.26	45246.78	476.74
30	422.45	45669.24	2650.32	43018.91	476.61
31	0.00	43018.91	2575.70	40443.21	476.46

PEAK OUTFLOW= ~~47.08~~ CFS AT 25 MINUTES

100 Yr.

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*********************************************
*                                           *
*  RECTANGULAR ORIFICE                      *
*   20 in W X 42 in H   ELEV= 472.6         *
*                                           *
*  Outlet Pipe -  67 ft - 48 in pipe        *
*  UFL= 469  LFL= 467   n= .013             *
*                                           *
*********************************************
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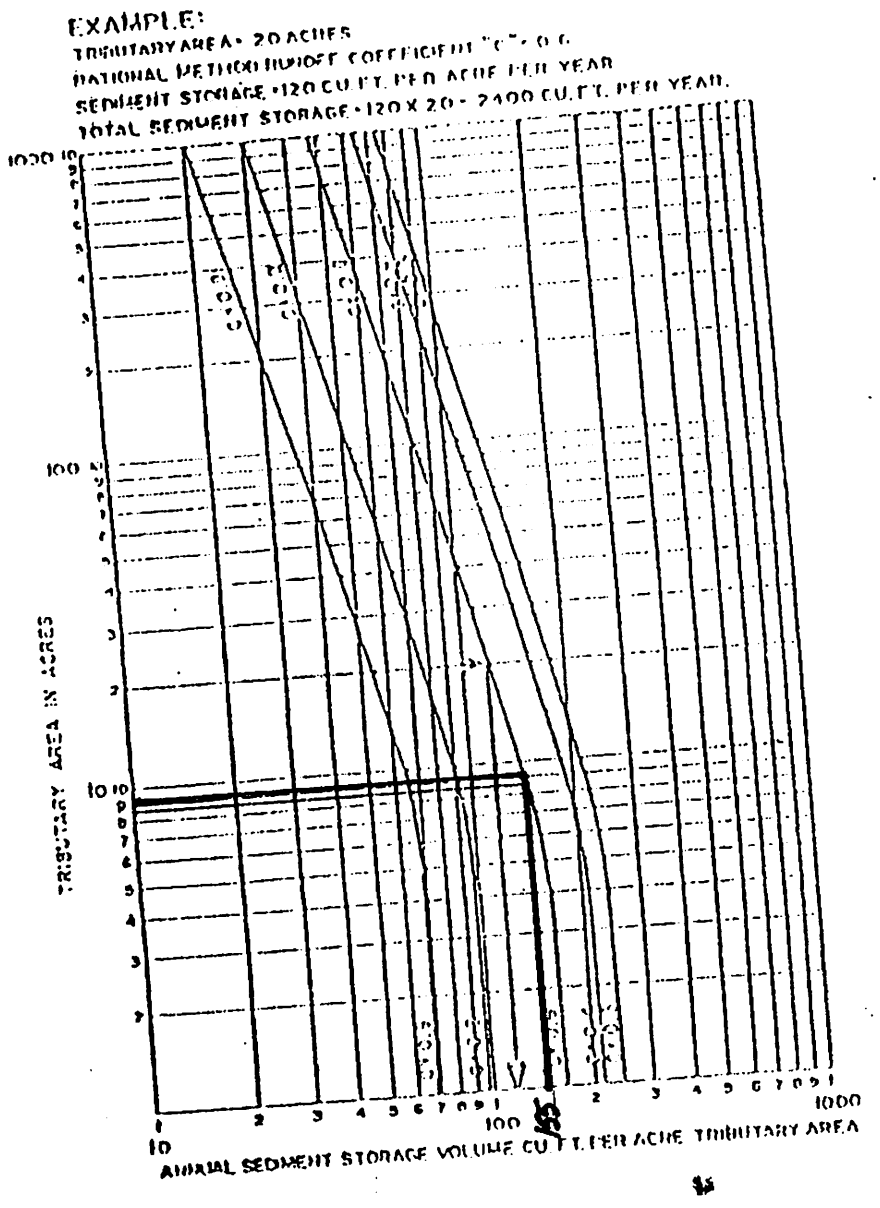
LAKE FOREST MANOR 4/6/98 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	540.60	540.60	0.00	540.60	472.70
2	1081.20	1621.80	8.15	1613.65	472.90
3	1621.80	3235.45	42.04	3193.41	473.19
4	2162.40	5355.81	117.03	5238.78	473.56
5	2703.00	7941.78	245.91	7695.87	474.01
6	3243.60	10939.47	433.78	10505.70	474.23
7	3784.20	14289.90	541.01	13748.89	474.49
8	4324.80	18073.69	674.21	17399.48	474.78
9	4865.40	22264.88	835.43	21429.46	475.10
10	5406.00	26835.46	1026.25	25809.21	475.45
11	5946.60	31755.81	1247.98	30507.83	475.82
12	5946.60	36454.43	1501.41	34953.02	476.13
13	5946.60	40899.62	2285.22	38614.40	476.35
14	5946.60	44561.00	2421.40	42139.60	476.56
15	5946.60	48086.21	2545.63	45540.57	476.76
16	5946.60	51487.17	2660.01	48827.17	476.96
17	5946.60	54773.78	2766.03	52007.74	477.15
18	5946.60	57954.34	2864.91	55089.43	477.33
19	5946.60	61036.03	2957.56	58078.47	477.51
20	5946.60	64025.07	3044.74	60980.33	477.68
21	5406.00	66386.33	3127.06	63259.28	477.82
22	4865.40	68124.68	3190.20	64934.48	477.92
23	4324.80	69259.28	3235.83	66023.46	477.98

BASIN OVERFLOW

96-257 R2



ANNUAL SEDIMENT STORAGE

FIG. 1

155 (9.24)(2) = 2,864.4

OVERFLOW STRUCTURE

Use a Precast Double Inlet T = 477.24
IE = 469.00
20'W x 42"h Low Flow Opening = 472.6

25 yr H.W. (See attached) 477.07

Sediment Storage Required 2,864.4 Cu. ft.
Area @ 477 = 16,769
2,864.4 ÷ 16,769 = 0.17'

Set Top of Overflow @ (477.07 + 0.17) 477.24

100 Yr. H.W. = 477.92 + 1.0'
= 478.92
Top of Berm = 480.0