

HYDROLOGIC REPORT FOR

MONTICELLO ESTATES  
PHASE ONE

DRY DETENTION BASIN  
25 YEAR / 20 MIN. STORM  
PRS NO. 91-030/30679

PREPARED BY:

PICKETT, RAY & SILVER, INC.  
333 MID RIVERS MALL DRIVE  
ST. PETERS, MO 63376

DESIGNER: JIM CANNADY

DATE: SEPTEMBER 24, 1992

REVISED: JANUARY 22, 1994

STORM DESIGN  
25 YEAR/20 MIN

PEAK INFLOW

Offsite	68.73	Ac.	x	2.31	=	158.77	cfs
Onsite (Res.)	55.05	Ac.	x	3.26	=	179.46	cfs
<b>TOTAL</b>	<b>123.78</b>	<b>Acres</b>			=	<b>338.23</b>	<b>cfs (Peak Inflow)</b>

EXISTING WATERSHED CONDITION:

123.78 Acres x 2.31 = 285.93 cfs

DETENTION REQUIRED:

338.23 cfs - 285.93 cfs = 52.30 cfs

VOLUME REQUIRED ABOVE 100 YEAR H.W. ELEV. 484.00 ALONG EXISTING CREEK

52.30 cfs x 30 Min. x 60 Sec./Min. = 94,140 Cu. Ft.

\* NOTE: Peak inflow is based on offsite areas providing their own detention or retention basins.

RESERVOIR REPORT

RECORD NUMBER : 2  
STORAGE TYPE : MAN STAGE/AREA  
DISCHARGE TYPE : COMP STAGE/DISC  
DESCRIPTION : DRY DET.BASIN (AS-BUILT)

[RATING CURVE LIMIT]

Minimum Elevation..... = 478.89 (ft) *Æ 42" PIPE "AS-BUILT" NEW Bottom BASIN*  
Maximum Elevation..... = 490.00 (ft)  
Elevation Increment..... = 0.10 (ft)

[STAGE STORAGE INFORMATION]

Input file = NULL  
Output file = NULL

[Manual Contour Area vs. Elevation]

ELEVATION (ft)	CONTOUR AREA (sqft)
480.00	15575.00
482.00	19800.00
484.00	24125.00
486.00	53375.00
488.00	34500.00
490.00	63750.00

[STAGE DISCHARGE INFORMATION]

OUTLET STRUCTURE:  
STR # : 2  
TYPE : CIRCULAR CONCRETE w/ groove end projecting  
DESCRIPTION : 42" CONC. PIPE (AS-BUILT)

## RESERVOIR REPORT

RECORD NUMBER : 2  
STORAGE TYPE : MAN STAGE/AREA

DISCHARGE TYPE : COMP STAGE/DISC  
DESCRIPTION : DRY DET.BASIN (AS-BUILT)

[Reservoir Discharge Value vs. Stage]  
(the elevation increment is 0.1)

STAGE (ft)	ELEVATION (ft)	CONTOUR AREA (sqft)	STORAGE (cuft)	DISCHARGE (cfs)
0.00	478.89	0.00	0.00	0.00
0.10	478.99	1403.17	70.16	0.00
0.20	479.09	2806.34	280.63	0.00
0.30	479.19	4209.52	631.43	0.00
0.40	479.29	5612.69	1122.54	0.00
0.50	479.39	7015.86	1753.96	0.00
0.60	479.49	8419.03	2525.71	0.00
0.70	479.59	9822.20	3437.77	0.00
0.80	479.69	11225.37	4490.15	0.00
0.90	479.79	12628.54	5682.85	0.00
1.00	479.89	14031.72	7015.86	0.00
1.10	479.99	15434.89	8489.19	0.00
1.20	480.09	15765.16	10049.19	0.00
1.30	480.19	15976.41	11636.27	0.00
1.40	480.29	16187.66	13244.47	0.00
1.50	480.39	16398.91	14873.80	0.00
1.60	480.49	16610.16	16524.25	0.00
1.70	480.59	16821.41	18195.83	0.00
1.80	480.69	17032.66	19888.54	0.00
1.90	480.79	17243.91	21602.36	0.00
2.00	480.89	17455.16	23337.32	0.00
2.10	480.99	17666.41	25093.39	0.00
2.20	481.09	17877.66	26870.60	0.00
2.30	481.19	18088.91	28668.93	0.00
2.40	481.29	18300.16	30488.38	0.00
2.50	481.39	18511.41	32328.96	0.00
2.60	481.49	18722.66	34190.66	0.00
2.70	481.59	18933.91	36073.49	16.68
2.80	481.69	19145.16	37977.44	24.16
2.90	481.79	19356.41	39902.52	27.43
3.00	481.89	19567.66	41848.72	30.70
3.10	481.99	19778.91	43816.05	33.98
3.20	482.09	19994.66	45804.73	37.25
3.30	482.19	20210.91	47815.01	40.52
3.40	482.29	20427.16	49846.91	43.80
3.50	482.39	20643.41	51900.44	47.07
3.60	482.49	20859.66	53975.59	50.34
3.70	482.59	21075.91	56072.37	53.62

## RESERVOIR REPORT

RECORD NUMBER : 2

STORAGE TYPE : MAN STAGE/AREA

DISCHARGE TYPE : COMP STAGE/DISC

DESCRIPTION : DRY DET.BASIN (AS-BUILT)

[Reservoir Discharge Value vs. Stage]  
 (the elevation increment is 0.1)

STAGE (ft)	ELEVATION (ft)	CONTOUR AREA (sqft)	STORAGE (cuft)	DISCHARGE (cfs)
3.80	482.69	21292.16	58190.77	56.89
3.90	482.79	21508.41	60330.80	60.16
4.00	482.89	21724.66	62492.45	63.43
4.10	482.99	21940.91	64675.73	66.71
4.20	483.09	22157.16	66880.63	69.98
4.30	483.19	22373.41	69107.16	72.16
4.40	483.29	22589.66	71355.32	74.27
4.50	483.39	22805.91	73625.10	76.33
4.60	483.49	23022.16	75916.51	78.32
4.70	483.59	23238.41	78229.54	80.27
4.80	483.69	23454.66	80564.20	82.14
4.90	483.79	23670.91	82920.48	84.01
5.00	483.89	23887.16	85298.38	85.80
5.10	483.99	24103.41	87697.91	87.59
5.20	484.09	25441.46	90175.16	89.35
5.30	484.19	26903.96	92792.43	91.06
5.40	484.29	28366.46	95555.95	92.74
5.50	484.39	29828.96	98465.73	94.37
5.60	484.49	31291.46	101521.75	95.99
5.70	484.59	32753.96	104724.02	97.57
5.80	484.69	34216.46	108072.55	99.15
5.90	484.79	35678.96	111567.32	100.68
6.00	484.89	37141.46	115208.34	102.20
6.10	484.99	38603.96	118995.62	103.70
6.20	485.09	40066.46	122929.14	105.17
6.30	485.19	41528.96	127008.91	106.65
6.40	485.29	42991.46	131234.94	108.07
6.50	485.39	44453.96	135607.20	109.49
6.60	485.49	45916.46	140125.72	110.89
6.70	485.59	47378.96	144790.48	112.22
6.80	485.69	48841.46	149601.50	113.52
6.90	485.79	50303.96	154558.77	114.79
7.00	485.89	51766.46	159662.28	116.06
7.10	485.99	53228.96	164912.05	117.32
7.20	486.09	52525.48	170199.77	118.55
7.30	486.19	51581.73	175405.13	119.78
7.40	486.29	50637.98	180516.11	120.98
7.50	486.39	49694.23	185532.72	122.19

## RESERVOIR REPORT

RECORD NUMBER : 2

STORAGE TYPE : MAN STAGE/AREA

DISCHARGE TYPE : COMP STAGE/DISC

DESCRIPTION : DRY DET.BASIN (AS-BUILT)

[Reservoir Discharge Value vs. Stage]  
 (the elevation increment is 0.1)

STAGE (ft)	ELEVATION (ft)	CONTOUR AREA (sqft)	STORAGE (cuft)	DISCHARGE (cfs)
7.60	486.49	48750.48	190454.95	123.38
7.70	486.59	47806.73	195282.81	124.55
7.80	486.69	46862.98	200016.30	125.72
7.90	486.79	45919.23	204655.41	126.87
8.00	486.89	44975.48	209200.14	128.02
8.10	486.99	44031.73	213650.50	129.17
8.20	487.09	43087.98	218006.48	130.28
8.30	487.19	42144.23	222268.09	131.41
8.40	487.29	41200.48	226435.33	132.52
8.50	487.39	40256.73	230508.19	133.61
8.60	487.49	39312.98	234486.67	134.70
8.70	487.59	38369.23	238370.78	135.77
8.80	487.69	37425.48	242160.52	136.84
8.90	487.79	36481.73	245855.88	137.91
9.00	487.89	35537.98	249456.86	138.97
9.10	487.99	34594.23	252963.47	140.00
9.20	488.09	35816.46	256484.00	141.05
9.30	488.19	37278.96	260138.77	142.08
9.40	488.29	38741.46	263939.78	143.10
9.50	488.39	40203.96	267887.06	144.11
9.60	488.49	41666.46	271980.59	145.12
9.70	488.59	43128.96	276220.38	146.14
9.80	488.69	44591.46	280606.41	147.13
9.90	488.79	46053.96	285138.69	148.12
10.00	488.89	47516.46	289817.22	149.10
10.10	488.99	48978.96	294642.00	150.07
10.20	489.09	50441.46	299613.03	151.05
10.30	489.19	51903.96	304730.31	152.00
10.40	489.29	53366.46	309993.84	152.97
10.50	489.39	54828.96	315403.63	153.91
10.60	489.49	56291.46	320959.66	154.86
10.70	489.59	57753.96	326661.94	155.80
10.80	489.69	59216.46	332510.47	156.73
10.90	489.79	60678.96	338505.25	157.67
11.00	489.89	62141.46	344646.28	158.59
11.10	489.99	63603.96	350933.56	159.50

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## OUTLET STRUCTURE REPORT

RECORD NUMBER : 2  
 TYPE : CIRCULAR CONCRETE w/ groove end projecting  
 DESCRIPTION : 42" CONC. PIPE (AS-BUILT)

## [RATING CURVE LIMIT]

Minimum Elevation..... = 478.89 (ft) *RE 42" PIPE "AS-BUILT"*  
 Maximum Elevation..... = 490.00 (ft)  
 Elevation Increment..... = 0.10 (ft)

## [OUTLET STRUCTURE INFORMATION]

Circular Radius..... = 1.75000 (ft)  
 Culvert Invert Elevation..... = 478.89 (ft) *RE 42" PIPE AS-BUILT*  
 Slope..... = 0.01600  
 Manning's N-value..... = 0.01300  
 Orifice Coefficient..... = 0.60000  
 Tailwater..... = 481.50 (ft) *TOP INSIDE PIPE DOWNSTREAM AT M.H. #55*  
 Number barrels..... = 1

## [UNSUBMERGED EQUATION]

$H/Diam = Hc/Diam + K * (Q/A * Diam^{0.5})^M - 0.5 * S^2$   
 Coefficient K..... = 0.04500  
 coefficient M..... = 2.00000

## [SUBMERGED EQUATION]

$H/Diam = c * (Q / (A * Diam^{0.5}))^Z + Y - 0.5 * S^2$   
 Coefficient c..... = 0.03170  
 Coefficient Y..... = 0.69000

## [DEFINITIONS]

H = Headwater depth above inlet control section invert, (ft)  
 Diam = Interior height of culvert barrel, (ft)  
 Hc = Specific head at critical depth ( $d_c + V_c^2/2g$ ), (ft)  
 Q = Discharge, (cuft/s)  
 A = Full cross sectional area of culvert barrel, (sqft)  
 S = Culvert barrel slope, (ft/ft)

## OUTLET STRUCTURE REPORT

RECORD NUMBER : 2  
TYPE : CIRCULAR CONCRETE w/ groove end projecting  
DESCRIPTION : 42" CONC. PIPE (AS-BUILT)

[Culvert Weir Discharge Value vs. Stage]  
(the elevation increment is 0.1)

STAGE	ELEVATION (ft)	FLOW (cfs)
2.70	481.59	16.68
2.80	481.69	24.16
2.90	481.79	27.43
3.00	481.89	30.70
3.10	481.99	33.98
3.20	482.09	37.25
3.30	482.19	40.52
3.40	482.29	43.80
3.50	482.39	47.07
3.60	482.49	50.34
3.70	482.59	53.62
3.80	482.69	56.89
3.90	482.79	60.16
4.00	482.89	63.43
4.10	482.99	66.71
4.20	483.09	69.98
4.30	483.19	72.16
4.40	483.29	74.27
4.50	483.39	76.33
4.60	483.49	78.32
4.70	483.59	80.27
4.80	483.69	82.14
4.90	483.79	84.01
5.00	483.89	85.80
5.10	483.99	87.59
5.20	484.09	89.35
5.30	484.19	91.06
5.40	484.29	92.74
5.50	484.39	94.37
5.60	484.49	95.99
5.70	484.59	97.57
5.80	484.69	99.15
5.90	484.79	100.68
6.00	484.89	102.20
6.10	484.99	103.70
6.20	485.09	105.17
6.30	485.19	106.65
6.40	485.29	108.07
6.50	485.39	109.49



## OUTLET STRUCTURE REPORT

RECORD NUMBER : 2  
 TYPE : CIRCULAR CONCRETE w/ groove end projecting  
 DESCRIPTION : 42" CONC. PIPE (AS-BUILT)

[Culvert Weir Discharge Value vs. Stage]  
 (the elevation increment is 0.1)

STAGE	ELEVATION (ft)	FLOW (cfs)
6.60	485.49	110.89
6.70	485.59	112.22
6.80	485.69	113.52
6.90	485.79	114.79
7.00	485.89	116.06
7.10	485.99	117.32
7.20	486.09	118.55
7.30	486.19	119.78
7.40	486.29	120.98
7.50	486.39	122.19
7.60	486.49	123.38
7.70	486.59	124.55
7.80	486.69	125.72
7.90	486.79	126.87
8.00	486.89	128.02
8.10	486.99	129.17
8.20	487.09	130.28
8.30	487.19	131.41
8.40	487.29	132.52
8.50	487.39	133.61
8.60	487.49	134.70
8.70	487.59	135.77
8.80	487.69	136.84
8.90	487.79	137.91
9.00	487.89	138.97
9.10	487.99	140.00
9.20	488.09	141.05
9.30	488.19	142.08
9.40	488.29	143.10
9.50	488.39	144.11
9.60	488.49	145.12
9.70	488.59	146.14
9.80	488.69	147.13
9.90	488.79	148.12
10.00	488.89	149.10
10.10	488.99	150.07
10.20	489.09	151.05
10.30	489.19	152.00
10.40	489.29	152.97

## OUTLET STRUCTURE REPORT

RECORD NUMBER : 2  
TYPE : CIRCULAR CONCRETE w/ groove end projecting  
DESCRIPTION : 42" CONC. PIPE (AS-BUILT)

[Culvert Weir Discharge Value vs. Stage]  
(the elevation increment is 0.1)

STAGE	ELEVATION (ft)	FLOW (cfs)
10.50	489.39	153.91
10.60	489.49	154.86
10.70	489.59	155.80
10.80	489.69	156.73
10.90	489.79	157.67
11.00	489.89	158.59
11.10	489.99	159.50

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## HYDROGRAPH REPORT

RECORD NUMBER : 3  
 TYPE : MOD. RATIONAL  
 DESCRIPTION : INFLOW 25 YR/ 20 MIN.

## [HYDROGRAPH INFORMATION]

Peak Discharge..... = 338.23 (cfs)  
 Volume..... = 9.33 (acft)  
 Time Interval..... = 1 (min)  
 Time to Peak..... = 20.00 (min)  
 Time of Base..... = 40.00 (min)  
 Multiplication factor..... = 1.00

## [RATIONAL HYDROGRAPH INFORMATION]

Runoff Coefficient..... = 0.00000 (cfs)  
 Receding limb factor..... = 1.00000

## [BASIN DESCRIPTION]

Watershed Area..... = 123.78 (ac)  
 Curve Number..... = 0  
 Runoff coefficient..... = 0.55

## [TIME CONCENTRATION -- USER DEFINED]

Time of Concentration..... = 20.00 (min)

## [RAINFALL DESCRIPTION]

Distribution Type..... = SYNTHETIC  
 Total Precipitation..... = 1.66 (in)  
 Return Period..... = 25 (yr)  
 Storm Duration..... = 0.33 (hr)

## HYDROGRAPH REPORT

RECORD NUMBER : 3  
 TYPE : MOD. RATIONAL  
 DESCRIPTION : INFLOW 25 YR/ 20 MIN.

[Hydrograph Flow Values Time vs. Flow]  
 (The time interval is 1 min)

TIME INTV	TIME (min)	INCREMENTAL RAINFALL (in)	CUMULATIVE RAINFALL (in)	INCREMENTAL OUTFLOW (cfs)	DESIGN OUTFLOW (cfs)
1	1	0.08	0.08	16.91	16.91
2	2	0.08	0.17	16.91	33.82
3	3	0.08	0.25	16.91	50.73
4	4	0.08	0.33	16.91	67.65
5	5	0.08	0.42	16.91	84.56
6	6	0.08	0.50	16.91	101.47
7	7	0.08	0.58	16.91	118.38
8	8	0.08	0.67	16.91	135.29
9	9	0.08	0.75	16.91	152.20
10	10	0.08	0.83	16.91	169.11
11	11	0.08	0.91	16.91	186.03
12	12	0.08	1.00	16.91	202.94
13	13	0.08	1.08	16.91	219.85
14	14	0.08	1.16	16.91	236.76
15	15	0.08	1.25	16.91	253.67
16	16	0.08	1.33	16.91	270.58
17	17	0.08	1.41	16.91	287.50
18	18	0.08	1.50	16.91	304.41
19	19	0.08	1.58	16.91	321.32
20	20	0.08	1.66	16.91	338.23
21	21	0.00	1.66	-16.91	321.32
22	22	0.00	1.66	-16.91	304.41
23	23	0.00	1.66	-16.91	287.50
24	24	0.00	1.66	-16.91	270.58
25	25	0.00	1.66	-16.91	253.67
26	26	0.00	1.66	-16.91	236.76
27	27	0.00	1.66	-16.91	219.85
28	28	0.00	1.66	-16.91	202.94
29	29	0.00	1.66	-16.91	186.03
30	30	0.00	1.66	-16.91	169.11
31	31	0.00	1.66	-16.91	152.20
32	32	0.00	1.66	-16.91	135.29
33	33	0.00	1.66	-16.91	118.38
34	34	0.00	1.66	-16.91	101.47
35	35	0.00	1.66	-16.91	84.56
36	36	0.00	1.66	-16.91	67.65
37	37	0.00	1.66	-16.91	50.73
38	38	0.00	1.66	-16.91	33.82

## HYDROGRAPH REPORT

RECORD NUMBER : 3  
TYPE : MOD. RATIONAL  
DESCRIPTION : INFLOW 25 YR/ 20 MIN.

[Hydrograph Flow Values Time vs. Flow]  
(The time interval is 1 min)

TIME INTV	TIME (min)	INCREMENTAL RAINFALL (in)	CUMULATIVE RAINFALL (in)	INCREMENTAL OUTFLOW (cfs)	DESIGN OUTFLOW (cfs)
39	39	0.00	1.66	-16.91	16.91

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## HYDROGRAPH REPORT

RECORD NUMBER : 7  
TYPE : RESER STOR. IND  
DESCRIPTION : OUTFLOW 25 YR./ 20 MIN. (AS-BUILT)

## [HYDROGRAPH INFORMATION]

Peak Discharge..... = 133.02 (cfs)  
Volume..... = 8.54 (acft)  
Time Interval..... = 1 (min)  
Time to Peak..... = 32.00 (min)  
Time of Base..... = 91.00 (min)  
Peak Elevation..... = 487.34 (ft)

## [RESERVOIR STRUCTURE INFORMATION]

Reservoir #..... = 2  
Description..... = DRY DET.BASIN (AS-BUILT)  
Storage type..... = MAN STAGE/AREA  
Max storage..... = 350933.56 sqft  
Discharge type..... = COMP STAGE/DISC  
Max discharge..... = 159.50 cfs

## [RESERVOIR INFORMATION]

Reservoir #..... = 2  
Reservoir Description..... = DRY DET.BASIN (AS-BUILT)

## [INFLOW HYDROGRAPH INFORMATION]

Hydrograph #..... = 3  
Hydrograph Description..... = INFLOW 25 YR/ 20 MIN.

## HYDROGRAPH REPORT

RECORD NUMBER : 7  
 TYPE : RESER STOR. IND  
 DESCRIPTION : OUTFLOW 25 YR./ 20 MIN. (AS-BUILT)

[Computation of Reservoir Outflow Table of Storage Indication Method]  
 (The time interval is 1 min)

INTV#	TIME (min)	INFLOW (cfs)	EQUATION			OUTFLOW O2(cfs)	STORAGE (cuft)	ELEVATION (ft)	
			$0.5(I1+I2)dt$	$+ S1-0.5(O1)dt$	$= S2+0.5(O2)dt$				
9	9.0	152.20	8624.86	+	32470.06 =	41094.92	28.02	40254.23	481.81
10	10.0	169.11	9639.55	+	39413.54 =	49053.09	40.56	47836.37	482.19
11	11.0	186.03	10654.24	+	46619.65 =	57273.89	53.01	55683.63	482.57
12	12.0	202.94	11668.93	+	54093.36 =	65762.30	65.39	63800.45	482.95
13	13.0	219.85	12683.62	+	61838.60 =	74522.22	75.10	72269.28	483.33
14	14.0	236.76	13698.31	+	70016.35 =	83714.65	82.67	81234.57	483.72
15	15.0	253.67	14712.99	+	78754.49 =	93467.49	89.74	90775.33	484.11
16	16.0	270.58	15727.68	+	88083.17 =	103810.85	95.68	100940.41	484.47
17	17.0	287.50	16742.37	+	98069.96 =	114812.33	100.78	111789.03	484.80
18	18.0	304.41	17757.06	+	108765.73 =	126522.80	105.32	123363.12	485.10
19	19.0	321.32	18771.75	+	120203.44 =	138975.19	109.52	135689.72	485.39
20	20.0	338.23	19786.44	+	132404.24 =	152190.68	113.30	148791.58	485.67
21	21.0	321.32	19786.44	+	145392.48 =	165178.93	116.54	161682.64	485.93
22	22.0	304.41	18771.75	+	158186.35 =	176958.10	119.30	173379.13	486.15
23	23.0	287.50	17757.06	+	169800.15 =	187557.20	121.80	183903.19	486.36
24	24.0	270.58	16742.37	+	180249.18 =	196991.55	124.06	193269.67	486.55
25	25.0	253.67	15727.68	+	189547.80 =	205275.48	126.08	201492.94	486.72
26	26.0	236.76	14712.99	+	197710.39 =	212423.39	127.86	208587.50	486.88
27	27.0	219.85	13698.31	+	204751.61 =	218449.91	129.40	214567.88	487.01
28	28.0	202.94	12683.62	+	210685.84 =	223369.44	130.66	219449.63	487.12
29	29.0	186.03	11668.93	+	215529.81 =	227198.76	131.67	223248.69	487.21
30	30.0	169.11	10654.24	+	219298.62 =	229952.84	132.40	225980.92	487.28
31	31.0	152.20	9639.55	+	222009.01 =	231648.54	132.85	227663.13	487.32
32	32.0	135.29	8624.86	+	223677.71 =	232302.56	133.02	228311.94	487.34
33	33.0	118.38	7610.17	+	224321.31 =	231931.47	132.92	227943.80	487.33
34	34.0	101.47	6595.48	+	223956.13 =	230551.59	132.56	226574.92	487.29
35	35.0	84.56	5580.79	+	222598.25 =	228179.05	131.93	224221.20	487.24
36	36.0	67.65	4566.10	+	220263.36 =	224829.48	131.04	220898.14	487.16
37	37.0	50.73	3551.41	+	216966.81 =	220518.20	129.92	216620.47	487.06
38	38.0	33.82	2536.72	+	212722.74 =	215259.44	128.59	211401.84	486.94
39	39.0	16.91	1522.03	+	207544.25 =	209066.28	127.02	205255.67	486.80
40	40.0	0.00	507.34	+	201445.07 =	201952.41	125.27	198194.34	486.65
41	41.0	0.00	0.00	+	194436.27 =	194436.26	123.45	190732.81	486.50
42	42.0	0.00	0.00	+	187029.36 =	187029.35	121.67	183379.13	486.35
43	43.0	0.00	0.00	+	179728.90 =	179728.90	119.95	176130.45	486.20
44	44.0	0.00	0.00	+	172532.01 =	172532.00	118.27	168983.98	486.07
45	45.0	0.00	0.00	+	165435.97 =	165435.95	116.60	161937.81	485.93
46	46.0	0.00	0.00	+	158439.67 =	158439.68	114.90	154992.77	485.80
47	47.0	0.00	0.00	+	151545.85 =	151545.86	113.13	148151.97	485.66

← PEAK

## HYDROGRAPH REPORT

RECORD NUMBER : 7  
 TYPE : RESER. STOR. IND  
 DESCRIPTION : OUTFLOW 25 YR./ 20 MIN. (AS-BUILT)

[Computation of Reservoir Outflow Table of Storage Indication Method]  
 (The time interval is 1 min)

INTV#	TIME (min)	INFLOW (cfs)	EQUATION $0.5(I1+I2)dt + S1 - 0.5(O1)dt = S2 + 0.5(O2)dt$			OUTFLOW O2(cfs)	STORAGE (cuft)	ELEVATION (ft)	
48	48.0	0.00	0.00	+	144758.08 =	144758.07	111.26	141420.25	485.52
49	49.0	0.00	0.00	+	138082.43 =	138082.43	109.23	134805.55	485.37
50	50.0	0.00	0.00	+	131528.66 =	131528.66	107.09	128316.09	485.22
51	51.0	0.00	0.00	+	125103.51 =	125103.52	104.80	121959.38	485.07
52	52.0	0.00	0.00	+	118815.23 =	118815.23	102.42	115742.77	484.90
53	53.0	0.00	0.00	+	112670.30 =	112670.30	99.85	109674.78	484.74
54	54.0	0.00	0.00	+	106679.26 =	106679.26	97.10	103766.41	484.56
55	55.0	0.00	0.00	+	100853.55 =	100853.55	94.13	98029.75	484.38
56	56.0	0.00	0.00	+	95205.95 =	95205.96	90.86	92480.29	484.18
57	57.0	0.00	0.00	+	89754.62 =	89754.63	87.17	87139.38	483.97
58	58.0	0.00	0.00	+	84524.13 =	84524.12	83.30	82025.22	483.75
59	59.0	0.00	0.00	+	79526.31 =	79526.31	79.35	77145.70	483.54
60	60.0	0.00	0.00	+	74765.08 =	74765.07	75.31	72505.68	483.34
61	61.0	0.00	0.00	+	70246.29 =	70246.29	71.19	68110.72	483.15
62	62.0	0.00	0.00	+	65975.15 =	65975.15	65.70	64004.14	482.96
63	63.0	0.00	0.00	+	62033.14 =	62033.14	60.01	60232.81	482.79
64	64.0	0.00	0.00	+	58432.48 =	58432.48	54.73	56790.73	482.62
65	65.0	0.00	0.00	+	55148.98 =	55148.98	49.84	53653.93	482.47
66	66.0	0.00	0.00	+	52158.87 =	52158.88	45.31	50799.45	482.34
67	67.0	0.00	0.00	+	49440.01 =	49440.02	41.15	48205.46	482.21
68	68.0	0.00	0.00	+	46970.90 =	46970.90	37.33	45851.11	482.09
69	69.0	0.00	0.00	+	44731.32 =	44731.32	33.81	43716.94	481.98
70	70.0	0.00	0.00	+	42702.55 =	42702.55	30.60	41784.65	481.89
71	71.0	0.00	0.00	+	40866.74 =	40866.75	27.66	40037.02	481.80
72	72.0	0.00	0.00	+	39207.29 =	39207.29	24.98	38458.04	481.71
73	73.0	0.00	0.00	+	37708.78 =	37708.78	20.67	37088.80	481.64
74	74.0	0.00	0.00	+	36468.81 =	36468.81	15.94	35990.54	481.59
75	75.0	0.00	0.00	+	35512.28 =	35512.28	9.25	35234.82	481.55
76	76.0	0.00	0.00	+	34957.37 =	34957.37	5.37	34796.41	481.52
77	77.0	0.00	0.00	+	34635.45 =	34635.45	3.11	34542.07	481.51
78	78.0	0.00	0.00	+	34448.69 =	34448.69	1.81	34394.52	481.50
79	79.0	0.00	0.00	+	34340.35 =	34340.36	1.05	34308.93	481.50
80	80.0	0.00	0.00	+	34277.50 =	34277.50	0.61	34259.27	481.49
81	81.0	0.00	0.00	+	34241.04 =	34241.04	0.35	34230.46	481.49
82	82.0	0.00	0.00	+	34219.89 =	34219.89	0.20	34213.75	481.49
83	83.0	0.00	0.00	+	34207.61 =	34207.61	0.12	34204.05	481.49
84	84.0	0.00	0.00	+	34200.50 =	34200.49	0.07	34198.43	481.49
85	85.0	0.00	0.00	+	34196.36 =	34196.37	0.04	34195.17	481.49
86	86.0	0.00	0.00	+	34193.97 =	34193.97	0.02	34193.28	481.49



## HYDROGRAPH REPORT

RECORD NUMBER : 7  
 TYPE : RESER STOR. IND  
 DESCRIPTION : OUTFLOW 25 YR./ 20 MIN. (AS-BUILT)

[Computation of Reservoir Outflow Table of Storage Indication Method]  
 (The time interval is 1 min)

INTV#	TIME (min)	INFLOW (cfs)	EQUATION $0.5(I_1+I_2)dt + S_1 - 0.5(O_1)dt = S_2 + 0.5(O_2)dt$	OUTFLOW O2(cfs)	STORAGE (cuft)	ELEVATION (ft)
87	87.0	0.00	0.00 + 34192.58 = 34192.58	0.01	34192.18	481.49
88	88.0	0.00	0.00 + 34191.77 = 34191.77	0.01	34191.54	481.49
89	89.0	0.00	0.00 + 34191.31 = 34191.31	0.00	34191.17	481.49
90	90.0	0.00	0.00 + 34191.04 = 34191.04	0.00	34190.96	481.49
91	91.0	0.00	0.00 + 34190.88 = 34190.88	0.00	34190.83	481.49

# HYDROGRAPH

