VOLZ

Engineers
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Land Surveyors

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Winghaven Village "E"
5500-8

STORMWATER DETENTION REPORT

JUNE 5, 1998

REVISED JULY 15, 1998

The proposed improvement is a part of Phase 2 of the Winghaven residential development. The basin provides detention for 6.41 Acres of Village "U", and 12.04 Acres of Village "E".

The drainage area tributary to the basin includes parts of Villages "E" and "U", as well property north of Highway "N" (16.82 acres) and property at the southeast corner of Highway "N" and Post Road (7.48 Acres).

I have routed the 2, 15, 25, and 100 year storms with the basin starting water surface elevations equal to the high water elevations in the creek, and with the basin empty. This range accounts for any creek water that would back up through the structure into the basin.

The volume between the floor of the basin, and elevation 582.00 is 96,819 ft.^{3} (The 25 year H.W. in the creek is 582.03.) The calculated sediment storage required for this basin is 7,010 ft.^{3}, which is less than the 96,819^3 provided.

STATE OF MISSOURI
WILLIAM G. KRUSSEL
NUMBER E-27561
REGISTERED PROFESSIONAL ENGINEER
7-17-98

Wm. G. Krussel, P.E.

File Copy
APPROVED
7/28/98
Jean Cuellup

[redacted]

Stormwater Detention Hydraulics

Job Name: Winghaven Village E Detention

Job Number: 5500-8

Differential Runoff:

Area of Site 6.41 + 12.04 = 18.45 Acre

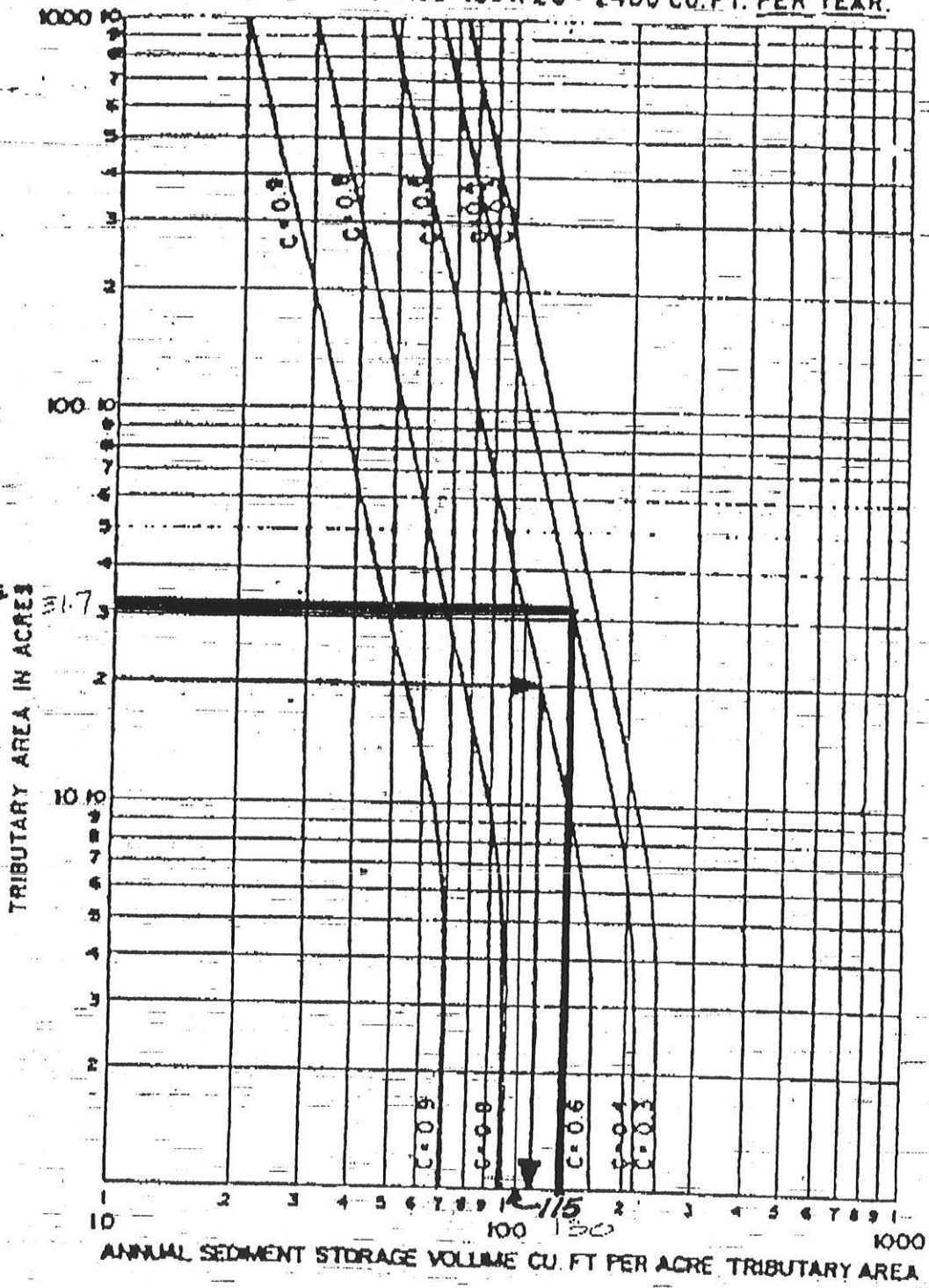
Storm Frequenty	Developed PI c.f.s./ac.	Developed Q c.f.s.	Undeveloped PI c.f.s./ac.	Undeveloped Q c.f.s..	Differential Runoff c.f.s
2 year	2.20	40.59	1.27	23.43	17.16
15 year	3.30	60.89	1.87	34.50	26.39
25 year	4.07	75.09	2.31	42.62	32.47
100 year	5.21	96.12	2.95	54.43	41.69

Allowable flow out of basin

Storm Frequency	Q in c.f.s.		Differential Runoffs c.f.s.	=	Allowable Q out c.f.s.
2 year	64.56		17.16		47.40
15 year	95.79		26.39		69.40
25 year	118.22		32.47		85.75
100 year	151.27		41.69		109.58

Winghaven Village E
Detention Basin
5500-8

EXAMPLE:
TRIBUTARY AREA = 20 ACRES
RATIONAL METHOD RUNOFF COEFFICIENT "C" = 0.6
SEDIMENT STORAGE = 120 CU. FT. PER ACRE PER YEAR
TOTAL SEDIMENT STORAGE = 120 X 20 = 2400 CU. FT. PER YEAR.



30.48 Ac

Sediment Storage Required ANNUAL SEDIMENT STORAGE
30.48 × 115 = 3,505.2 ft³/yr × 2 yrs = 7,010 ft³ FIG. 6

Sediment Storage Provided = > 109,000 ft³

∴ Adequate Sediment Storage is provided.

***** Multiply Hydrograph by Constant *****

Unit .HYD File: /pondpack\SLUG.HYD
Output Hydrograph: b5500\5500-002.HYD

Multiplier Constant: 64.56

TIME (min)	Unit Ordinates		Multiplier Constant		Output Hydrograph (cfs)
0.0	1.00	x	64.560	=	64.56
1.0	1.00	x	64.560	=	64.56
2.0	1.00	x	64.560	=	64.56
3.0	1.00	x	64.560	=	64.56
4.0	1.00	x	64.560	=	64.56
5.0	1.00	x	64.560	=	64.56
6.0	1.00	x	64.560	=	64.56
7.0	1.00	x	64.560	=	64.56
8.0	1.00	x	64.560	=	64.56
9.0	1.00	x	64.560	=	64.56
10.0	1.00	x	64.560	=	64.56
11.0	1.00	x	64.560	=	64.56
12.0	1.00	x	64.560	=	64.56
13.0	1.00	x	64.560	=	64.56
14.0	1.00	x	64.560	=	64.56
15.0	1.00	x	64.560	=	64.56
16.0	1.00	x	64.560	=	64.56
17.0	1.00	x	64.560	=	64.56
18.0	1.00	x	64.560	=	64.56
19.0	1.00	x	64.560	=	64.56
20.0	0.00	x	64.560	=	0.00
21.0	0.00	x	64.560	=	0.00
22.0	0.00	x	64.560	=	0.00
23.0	0.00	x	64.560	=	0.00
24.0	0.00	x	64.560	=	0.00
25.0	0.00	x	64.560	=	0.00
26.0	0.00	x	64.560	=	0.00
27.0	0.00	x	64.560	=	0.00
28.0	0.00	x	64.560	=	0.00
29.0	0.00	x	64.560	=	0.00
30.0	0.00	x	64.560	=	0.00
31.0	0.00	x	64.560	=	0.00
32.0	0.00	x	64.560	=	0.00
33.0	0.00	x	64.560	=	0.00
34.0	0.00	x	64.560	=	0.00
35.0	0.00	x	64.560	=	0.00
36.0	0.00	x	64.560	=	0.00
37.0	0.00	x	64.560	=	0.00
38.0	0.00	x	64.560	=	0.00
39.0	0.00	x	64.560	=	0.00
40.0	0.00	x	64.560	=	0.00
41.0	0.00	x	64.560	=	0.00

***** Multiply Hydrograph by Constant *****

Unit .HYD File: /pondpack\SLUG.HYD
Output Hydrograph: b5500\5500-002.HYD

Multiplier Constant: 64.56

TIME (min)	Unit Ordinates		Multiplier Constant		Output Hydrograph (cfs)
42.0	0.00	x	64.560	=	0.00
43.0	0.00	x	64.560	=	0.00
44.0	0.00	x	64.560	=	0.00
45.0	0.00	x	64.560	=	0.00
46.0	0.00	x	64.560	=	0.00
47.0	0.00	x	64.560	=	0.00
48.0	0.00	x	64.560	=	0.00
49.0	0.00	x	64.560	=	0.00
50.0	0.00	x	64.560	=	0.00
51.0	0.00	x	64.560	=	0.00
52.0	0.00	x	64.560	=	0.00
53.0	0.00	x	64.560	=	0.00
54.0	0.00	x	64.560	=	0.00
55.0	0.00	x	64.560	=	0.00
56.0	0.00	x	64.560	=	0.00
57.0	0.00	x	64.560	=	0.00
58.0	0.00	x	64.560	=	0.00
59.0	0.00	x	64.560	=	0.00
60.0	0.00	x	64.560	=	0.00

***** Multiply Hydrograph by Constant *****

Unit .HYD File: /pondpack\SLUG.HYD
Output Hydrograph: b5500\5500-015.HYD

Multiplier Constant: 95.79

TIME (min)	Unit Ordinates		Multiplier Constant		Output Hydrograph (cfs)
0.0	1.00	x	95.790	=	95.79
1.0	1.00	x	95.790	=	95.79
2.0	1.00	x	95.790	=	95.79
3.0	1.00	x	95.790	=	95.79
4.0	1.00	x	95.790	=	95.79
5.0	1.00	x	95.790	=	95.79
6.0	1.00	x	95.790	=	95.79
7.0	1.00	x	95.790	=	95.79
8.0	1.00	x	95.790	=	95.79
9.0	1.00	x	95.790	=	95.79
10.0	1.00	x	95.790	=	95.79
11.0	1.00	x	95.790	=	95.79
12.0	1.00	x	95.790	=	95.79
13.0	1.00	x	95.790	=	95.79
14.0	1.00	x	95.790	=	95.79
15.0	1.00	x	95.790	=	95.79
16.0	1.00	x	95.790	=	95.79
17.0	1.00	x	95.790	=	95.79
18.0	1.00	x	95.790	=	95.79
19.0	1.00	x	95.790	=	95.79
20.0	0.00	x	95.790	=	0.00
21.0	0.00	x	95.790	=	0.00
22.0	0.00	x	95.790	=	0.00
23.0	0.00	x	95.790	=	0.00
24.0	0.00	x	95.790	=	0.00
25.0	0.00	x	95.790	=	0.00
26.0	0.00	x	95.790	=	0.00
27.0	0.00	x	95.790	=	0.00
28.0	0.00	x	95.790	=	0.00
29.0	0.00	x	95.790	=	0.00
30.0	0.00	x	95.790	=	0.00
31.0	0.00	x	95.790	=	0.00
32.0	0.00	x	95.790	=	0.00
33.0	0.00	x	95.790	=	0.00
34.0	0.00	x	95.790	=	0.00
35.0	0.00	x	95.790	=	0.00
36.0	0.00	x	95.790	=	0.00
37.0	0.00	x	95.790	=	0.00
38.0	0.00	x	95.790	=	0.00
39.0	0.00	x	95.790	=	0.00
40.0	0.00	x	95.790	=	0.00
41.0	0.00	x	95.790	=	0.00

***** Multiply Hydrograph by Constant *****

Unit .HYD File: /pondpack\SLUG.HYD
Output Hydrograph: b5500\5500-015.HYD

Multiplier Constant: 95.79

TIME (min)	Unit Ordinates		Multiplier Constant		Output Hydrograph (cfs)
42.0	0.00	x	95.790	=	0.00
43.0	0.00	x	95.790	=	0.00
44.0	0.00	x	95.790	=	0.00
45.0	0.00	x	95.790	=	0.00
46.0	0.00	x	95.790	=	0.00
47.0	0.00	x	95.790	=	0.00
48.0	0.00	x	95.790	=	0.00
49.0	0.00	x	95.790	=	0.00
50.0	0.00	x	95.790	=	0.00
51.0	0.00	x	95.790	=	0.00
52.0	0.00	x	95.790	=	0.00
53.0	0.00	x	95.790	=	0.00
54.0	0.00	x	95.790	=	0.00
55.0	0.00	x	95.790	=	0.00
56.0	0.00	x	95.790	=	0.00
57.0	0.00	x	95.790	=	0.00
58.0	0.00	x	95.790	=	0.00
59.0	0.00	x	95.790	=	0.00
60.0	0.00	x	95.790	=	0.00

***** Multiply Hydrograph by Constant *****

Unit .HYD File: /pondpack\SLUG.HYD
Output Hydrograph: b5500\5500-025.HYD

Multiplier Constant: 118.22

TIME (min)	Unit Ordinates		Multiplier Constant		Output Hydrograph (cfs)
0.0	1.00	x	118.220	=	118.22
1.0	1.00	x	118.220	=	118.22
2.0	1.00	x	118.220	=	118.22
3.0	1.00	x	118.220	=	118.22
4.0	1.00	x	118.220	=	118.22
5.0	1.00	x	118.220	=	118.22
6.0	1.00	x	118.220	=	118.22
7.0	1.00	x	118.220	=	118.22
8.0	1.00	x	118.220	=	118.22
9.0	1.00	x	118.220	=	118.22
10.0	1.00	x	118.220	=	118.22
11.0	1.00	x	118.220	=	118.22
12.0	1.00	x	118.220	=	118.22
13.0	1.00	x	118.220	=	118.22
14.0	1.00	x	118.220	=	118.22
15.0	1.00	x	118.220	=	118.22
16.0	1.00	x	118.220	=	118.22
17.0	1.00	x	118.220	=	118.22
18.0	1.00	x	118.220	=	118.22
19.0	1.00	x	118.220	=	118.22
20.0	0.00	x	118.220	=	0.00
21.0	0.00	x	118.220	=	0.00
22.0	0.00	x	118.220	=	0.00
23.0	0.00	x	118.220	=	0.00
24.0	0.00	x	118.220	=	0.00
25.0	0.00	x	118.220	=	0.00
26.0	0.00	x	118.220	=	0.00
27.0	0.00	x	118.220	=	0.00
28.0	0.00	x	118.220	=	0.00
29.0	0.00	x	118.220	=	0.00
30.0	0.00	x	118.220	=	0.00
31.0	0.00	x	118.220	=	0.00
32.0	0.00	x	118.220	=	0.00
33.0	0.00	x	118.220	=	0.00
34.0	0.00	x	118.220	=	0.00
35.0	0.00	x	118.220	=	0.00
36.0	0.00	x	118.220	=	0.00
37.0	0.00	x	118.220	=	0.00
38.0	0.00	x	118.220	=	0.00
39.0	0.00	x	118.220	=	0.00
40.0	0.00	x	118.220	=	0.00
41.0	0.00	x	118.220	=	0.00

***** Multiply Hydrograph by Constant *****

Unit .HYD File: /pondpack\SLUG.HYD
Output Hydrograph: b5500\5500-025.HYD

Multiplier Constant: 118.22

TIME (min)	Unit Ordinates		Multiplier Constant		Output Hydrograph (cfs)
42.0	0.00	x	118.220	=	0.00
43.0	0.00	x	118.220	=	0.00
44.0	0.00	x	118.220	=	0.00
45.0	0.00	x	118.220	=	0.00
46.0	0.00	x	118.220	=	0.00
47.0	0.00	x	118.220	=	0.00
48.0	0.00	x	118.220	=	0.00
49.0	0.00	x	118.220	=	0.00
50.0	0.00	x	118.220	=	0.00
51.0	0.00	x	118.220	=	0.00
52.0	0.00	x	118.220	=	0.00
53.0	0.00	x	118.220	=	0.00
54.0	0.00	x	118.220	=	0.00
55.0	0.00	x	118.220	=	0.00
56.0	0.00	x	118.220	=	0.00
57.0	0.00	x	118.220	=	0.00
58.0	0.00	x	118.220	=	0.00
59.0	0.00	x	118.220	=	0.00
60.0	0.00	x	118.220	=	0.00

***** Multiply Hydrograph by Constant *****

Unit .HYD File: /pondpack\SLUG.HYD
Output Hydrograph: b5500\5500-100.HYD

Multiplier Constant: 151.27

TIME (min)	Unit Ordinates		Multiplier Constant		Output Hydrograph (cfs)
0.0	1.00	x	151.270	=	151.27
1.0	1.00	x	151.270	=	151.27
2.0	1.00	x	151.270	=	151.27
3.0	1.00	x	151.270	=	151.27
4.0	1.00	x	151.270	=	151.27
5.0	1.00	x	151.270	=	151.27
6.0	1.00	x	151.270	=	151.27
7.0	1.00	x	151.270	=	151.27
8.0	1.00	x	151.270	=	151.27
9.0	1.00	x	151.270	=	151.27
10.0	1.00	x	151.270	=	151.27
11.0	1.00	x	151.270	=	151.27
12.0	1.00	x	151.270	=	151.27
13.0	1.00	x	151.270	=	151.27
14.0	1.00	x	151.270	=	151.27
15.0	1.00	x	151.270	=	151.27
16.0	1.00	x	151.270	=	151.27
17.0	1.00	x	151.270	=	151.27
18.0	1.00	x	151.270	=	151.27
19.0	1.00	x	151.270	=	151.27
20.0	0.00	x	151.270	=	0.00
21.0	0.00	x	151.270	=	0.00
22.0	0.00	x	151.270	=	0.00
23.0	0.00	x	151.270	=	0.00
24.0	0.00	x	151.270	=	0.00
25.0	0.00	x	151.270	=	0.00
26.0	0.00	x	151.270	=	0.00
27.0	0.00	x	151.270	=	0.00
28.0	0.00	x	151.270	=	0.00
29.0	0.00	x	151.270	=	0.00
30.0	0.00	x	151.270	=	0.00
31.0	0.00	x	151.270	=	0.00
32.0	0.00	x	151.270	=	0.00
33.0	0.00	x	151.270	=	0.00
34.0	0.00	x	151.270	=	0.00
35.0	0.00	x	151.270	=	0.00
36.0	0.00	x	151.270	=	0.00
37.0	0.00	x	151.270	=	0.00
38.0	0.00	x	151.270	=	0.00
39.0	0.00	x	151.270	=	0.00
40.0	0.00	x	151.270	=	0.00
41.0	0.00	x	151.270	=	0.00

***** Multiply Hydrograph by Constant *****

Unit .HYD File: /pondpack\SLUG.HYD
Output Hydrograph: b5500\5500-100.HYD

Multiplier Constant: 151.27

TIME (min)	Unit Ordinates		Multiplier Constant		Output Hydrograph (cfs)
42.0	0.00	x	151.270	=	0.00
43.0	0.00	x	151.270	=	0.00
44.0	0.00	x	151.270	=	0.00
45.0	0.00	x	151.270	=	0.00
46.0	0.00	x	151.270	=	0.00
47.0	0.00	x	151.270	=	0.00
48.0	0.00	x	151.270	=	0.00
49.0	0.00	x	151.270	=	0.00
50.0	0.00	x	151.270	=	0.00
51.0	0.00	x	151.270	=	0.00
52.0	0.00	x	151.270	=	0.00
53.0	0.00	x	151.270	=	0.00
54.0	0.00	x	151.270	=	0.00
55.0	0.00	x	151.270	=	0.00
56.0	0.00	x	151.270	=	0.00
57.0	0.00	x	151.270	=	0.00
58.0	0.00	x	151.270	=	0.00
59.0	0.00	x	151.270	=	0.00
60.0	0.00	x	151.270	=	0.00

POND-2 Version: 5.21
S/N:

WingHaven Village E Detention Basin

CALCULATED 07-15-1998 14:18:28
DISK FILE: b5500\5500 .VOL

Planimeter scale: 1 inch = 1 ft.

Elevation (ft)	Planimeter (sq.in.)	Area (sq.ft)	A1+A2+sqr(A1*A2) (sq.ft)	* Volume (cubic-ft)	Volume Sum (cubic-ft)
577.60	0.00	0	0	0	0
578.00	5,378.00	5,378	5,378	717	717
579.70	27,702.00	27,702	45,286	25,662	26,379
580.00	28,450.00	28,450	84,226	8,422	34,801
582.00	33,640.00	33,640	93,026	62,018	96,819
584.00	39,053.00	39,053	108,939	72,626	169,445
586.00	44,678.00	44,678	125,502	83,668	253,113

$$IA = (\text{sq.rt}(Area1) + ((Ei-E1)/(E2-E1))*(\text{sq.rt}(Area2)-\text{sq.rt}(Area1)))^2$$

where: E1, E2 = Closest two elevations with planimeter data
Ei = Elevation at which to interpolate area
Area1,Area2 = Areas computed for E1, E2, respectively
IA = Interpolated area for Ei

* Incremental volume computed by the Conic Method for Reservoir Volumes.

$$Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + \text{sq.rt.}(Area1*Area2))$$

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

Outlet Structure File: 5500 .STR

POND-2 Version: 5.21 S/N:
Date Executed: Time Executed:

****
WingHaven Village E Detention Basin

****

***** COMPOSITE OUTFLOW SUMMARY ****

Elevation (ft)	Q (cfs)	Contributing Structures
577.60	0.0	1
577.85	1.1	1
578.10	3.2	1
578.35	5.8	1
578.60	9.0	1
578.85	12.5	2
579.10	14.4	2
579.35	16.1	2
579.60	17.7	2
579.85	19.1	2
580.10	20.4	2
580.35	21.7	2
580.60	22.8	2
580.85	24.0	2
581.10	25.0	2
581.35	26.0	2
581.60	27.0	2
581.85	28.0	2
582.10	29.2	2 +4
582.35	31.6	2 +4
582.60	34.8	2 +4
582.85	38.5	2 +4
583.10	42.7	2 +4
583.35	46.4	2 +5
583.60	49.0	2 +5
583.85	51.4	2 +5
584.10	55.9	2 +5 +7
584.35	70.7	2 +5 +7
584.60	91.2	2 +5 +7
584.85	116.1	2 +5 +7
585.10	144.6	2 +5 +7
585.35	176.2	2 +5 +7
585.60	210.7	2 +5 +7
585.85	247.8	2 +5 +7
586.00	267.1	2 +5 +7

Outlet Structure File: 5500 .STR

POND-2 Version: 5.21 S/N:
Date Executed: Time Executed:

****
WingHaven Village E Detention Basin

****

Outlet Structure File: b5500\5500 .STR
Planimeter Input File: b5500\5500 .VOL
Rating Table Output File: b5500\5500 .PND

Min. Elev.(ft) = 577.6 Max. Elev.(ft) = 586 Incr.(ft) = .25

Additional elevations (ft) to be included in table:
* *

****
SYSTEM CONNECTIVITY
****

Structure	No.	Q Table		Q Table
WEIR-VR	1		->	1
ORIFICE	2	? 1	->	3
WEIR-VR	4		->	4
ORIFICE	5	? 4	->	6
INLET BOX	7		->	7

Outflow rating table summary was stored in file:
b5500\5500 .PND

Outlet Structure File: 5500 .STR

POND-2 Version: 5.21 S/N:
Date Executed: Time Executed:

****
WingHaven Village E Detention Basin

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>>>>>> Structure No. 1 <<<<<<
(Input Data)

WEIR-VR
Weir - Vertical Rectangular

E1 elev.(ft)?	577.6
E2 elev.(ft)?	586.5
Weir coefficient?	3
Weir elev.(ft)?	577.6
Length (ft)?	3
Contracted/Suppressed (C/S)?	S

Outlet Structure File: 5500 .STR

POND-2 Version: 5.21 S/N:
Date Executed: Time Executed:

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WingHaven Village E Detention Basin

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>>>>>> Structure No. 2 <<<<<<
(Input Data)

ORIFICE
Orifice - Based on Area and Datum Elevation

E1 elev.(ft)?	578.6
E2 elev.(ft)?	586.5
Orifice coeff.?	0.6
Invert elev.(ft)?	577.6
Datum elev.(ft) ?	578.1
Orifice area (sq ft)?	3

Outlet Structure File: 5500 .STR

POND-2 Version: 5.21 S/N:
Date Executed: Time Executed:

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WingHaven Village E Detention Basin

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>>>>>> Structure No. 4 <<<<<<
(Input Data)

WEIR-VR
Weir - Vertical Rectangular

E1 elev.(ft)?	582.00
E2 elev.(ft)?	586.5
Weir coefficient?	3
Weir elev.(ft)?	582.00
Length (ft)?	3
Contracted/Suppressed (C/S)?	S

Outlet Structure File: 5500 .STR

POND-2 Version: 5.21 S/N:
Date Executed: Time Executed:

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WingHaven Village E Detention Basin

****

>>>>>> Structure No. 5 <<<<<<
(Input Data)

ORIFICE
Orifice - Based on Area and Datum Elevation

E1 elev.(ft)?	583.00
E2 elev.(ft)?	586.5
Orifice coeff.?	0.6
Invert elev.(ft)?	582.00
Datum elev.(ft) ?	582.50
Orifice area (sq ft)?	3

Outlet Structure File: 5500 .STR

POND-2 Version: 5.21 S/N:
Date Executed: Time Executed:

****
WingHaven Village E Detention Basin

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>>>>>> Structure No. 7 <<<<<<
(Input Data)

INLET BOX
Weir & Orifice defined by length and area

E1 elev.(ft)?	584
E2 elev.(ft)?	586.5
Crest elev.(ft)?	584
Weir length (ft)?	24
Weir coefficient?	3
Orifice area (sq.ft)?	36
Orifice coefficient?	0.6
Start transition elev.(ft) @ ?	
Transition height (ft)?	1

****
*
* WingHaven Village E Detention Basin
* The starting water surface elevations used
* match the high water elevations in the
* creek for each storm.
*
****

Inflow Hydrograph: b5500\5500-002.HYD
Rating Table file: b5500\5500 .PND

----INITIAL CONDITIONS----
Elevation = 581.66 ft
Outflow = 27.24 cfs
Storage = 85,550 cu-ft

GIVEN POND DATA			INTERMEDIATE ROUTING COMPUTATIONS	
ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)	2S/t (cfs)	2S/t + O (cfs)
577.60	0.0	0	0.0	0.0
577.85	1.1	175	5.8	6.9
578.10	3.2	1,296	43.2	46.4
578.35	5.8	3,134	104.5	110.3
578.60	9.0	5,605	186.8	195.8
578.85	12.5	8,804	293.5	306.0
579.10	14.4	12,823	427.4	441.8
579.35	16.1	17,756	591.9	608.0
579.60	17.7	23,698	789.9	807.6
579.85	19.1	30,561	1018.7	1037.8
580.10	20.4	37,658	1255.3	1275.7
580.35	21.7	44,911	1497.0	1518.7
580.60	22.8	52,322	1744.1	1766.9
580.85	24.0	59,892	1996.4	2020.4
581.10	25.0	67,624	2254.1	2279.1
581.35	26.0	75,518	2517.3	2543.3
581.60	27.0	83,577	2785.9	2812.9
581.85	28.0	91,803	3060.1	3088.1
582.10	29.2	100,195	3339.8	3369.0
582.35	31.6	108,752	3625.1	3656.7
582.60	34.8	117,475	3915.8	3950.6
582.85	38.5	126,364	4212.1	4250.6
583.10	42.7	135,421	4514.0	4556.7
583.35	46.4	144,648	4821.6	4868.0
583.60	49.0	154,046	5134.9	5183.9
583.85	51.4	163,617	5453.9	5505.3
584.10	55.9	173,363	5778.7	5834.6
584.35	70.7	183,280	6109.3	6180.0
584.60	91.2	193,368	6445.6	6536.8
584.85	116.1	203,630	6787.7	6903.8
585.10	144.6	214,067	7135.6	7280.2

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
585.35	176.2	224,681
585.60	210.7	235,472
585.85	247.8	246,442
586.00	267.1	253,113

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
7489.3	7665.5
7849.0	8059.7
8214.7	8462.5
8437.1	8704.2

Time increment (t) = 1.0 min.

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-002.HYD
Outflow Hydrograph: b5500\5500-02O.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.0	64.56	-----	2824.4	2878.9	27.24	581.66
1.0	64.56	129.1	2898.5	2953.6	27.51	581.73
2.0	64.56	129.1	2972.1	3027.7	27.78	581.80
3.0	64.56	129.1	3045.1	3101.2	28.06	581.86
4.0	64.56	129.1	3117.5	3174.2	28.37	581.93
5.0	64.56	129.1	3189.3	3246.6	28.68	581.99
6.0	64.56	129.1	3260.4	3318.4	28.98	582.05
7.0	64.56	129.1	3330.8	3389.5	29.37	582.12
8.0	64.56	129.1	3400.0	3459.9	29.96	582.18
9.0	64.56	129.1	3468.0	3529.1	30.54	582.24
10.0	64.56	129.1	3534.9	3597.2	31.10	582.30
11.0	64.56	129.1	3600.7	3664.1	31.68	582.36
12.0	64.56	129.1	3665.0	3729.8	32.40	582.41
13.0	64.56	129.1	3728.0	3794.2	33.10	582.47
14.0	64.56	129.1	3789.5	3857.1	33.78	582.52
15.0	64.56	129.1	3849.7	3918.6	34.45	582.57
16.0	64.56	129.1	3908.6	3978.9	35.15	582.62
17.0	64.56	129.1	3965.9	4037.7	35.87	582.67
18.0	64.56	129.1	4021.9	4095.1	36.58	582.72
19.0	64.56	129.1	4076.5	4151.0	37.27	582.77
20.0	0.00	64.6	4066.7	4141.0	37.15	582.76
21.0	0.00	0.0	3994.3	4066.7	36.23	582.70
22.0	0.00	0.0	3923.6	3994.3	35.34	582.64
23.0	0.00	0.0	3854.6	3923.6	34.51	582.58
24.0	0.00	0.0	3787.1	3854.6	33.75	582.52
25.0	0.00	0.0	3721.0	3787.1	33.02	582.46
26.0	0.00	0.0	3656.4	3721.0	32.30	582.40
27.0	0.00	0.0	3593.2	3656.4	31.60	582.35
28.0	0.00	0.0	3531.1	3593.2	31.07	582.29
29.0	0.00	0.0	3470.0	3531.1	30.55	582.24
30.0	0.00	0.0	3409.9	3470.0	30.04	582.19
31.0	0.00	0.0	3350.8	3409.9	29.54	582.14
32.0	0.00	0.0	3292.6	3350.8	29.12	582.08
33.0	0.00	0.0	3234.8	3292.6	28.87	582.03
34.0	0.00	0.0	3177.6	3234.8	28.63	581.98
35.0	0.00	0.0	3120.8	3177.6	28.38	581.93
36.0	0.00	0.0	3064.5	3120.8	28.14	581.88
37.0	0.00	0.0	3008.7	3064.5	27.91	581.83
38.0	0.00	0.0	2953.3	3008.7	27.71	581.78
39.0	0.00	0.0	2898.3	2953.3	27.51	581.73
40.0	0.00	0.0	2843.6	2898.3	27.31	581.68
41.0	0.00	0.0	2789.4	2843.6	27.11	581.63
42.0	0.00	0.0	2735.6	2789.4	26.91	581.58
43.0	0.00	0.0	2682.2	2735.6	26.71	581.53
44.0	0.00	0.0	2629.1	2682.2	26.52	581.48

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-002.HYD
Outflow Hydrograph: b5500\5500-02O.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
45.0	0.00	0.0	2576.5	2629.1	26.32	581.43
46.0	0.00	0.0	2524.2	2576.5	26.12	581.38
47.0	0.00	0.0	2472.4	2524.2	25.93	581.33
48.0	0.00	0.0	2420.9	2472.4	25.73	581.28
49.0	0.00	0.0	2369.9	2420.9	25.54	581.23
50.0	0.00	0.0	2319.2	2369.9	25.34	581.19
51.0	0.00	0.0	2268.9	2319.2	25.15	581.14
52.0	0.00	0.0	2218.9	2268.9	24.96	581.09
53.0	0.00	0.0	2169.4	2218.9	24.77	581.04
54.0	0.00	0.0	2120.3	2169.4	24.58	580.99
55.0	0.00	0.0	2071.5	2120.3	24.39	580.95
56.0	0.00	0.0	2023.1	2071.5	24.20	580.90
57.0	0.00	0.0	1975.1	2023.1	24.01	580.85
58.0	0.00	0.0	1927.5	1975.1	23.79	580.81
59.0	0.00	0.0	1880.4	1927.5	23.56	580.76
60.0	0.00	0.0	1833.7	1880.4	23.34	580.71

********** SUMMARY OF ROUTING COMPUTATIONS **********

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-002.HYD
Outflow Hydrograph: b5500\5500-02O.HYD

Starting Pond W.S. Elevation = 581.66 ft

***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow	=	64.56 cfs
Peak Outflow	=	37.27 cfs
Peak Elevation	=	582.77 ft

***** Summary of Approximate Peak Storage *****

Initial Storage	=	85,550 cu-ft
Peak Storage From Storm	=	37,861 cu-ft
Total Storage in Pond	=	123,411 cu-ft

Warning: Inflow hydrograph truncated on left side.

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-002.HYD
Outflow Hydrograph: b5500\5500-020.HYD

EXECUTED: 07-15-1998
14:25:43

Peak Inflow = 64.56 cfs
Peak Outflow = 37.27 cfs
Peak Elevation = 582.77 ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
585.35	176.2	224,681
585.60	210.7	235,472
585.85	247.8	246,442
586.00	267.1	253,113

INTERMEDIATE ROUTING COMPUTATIONS

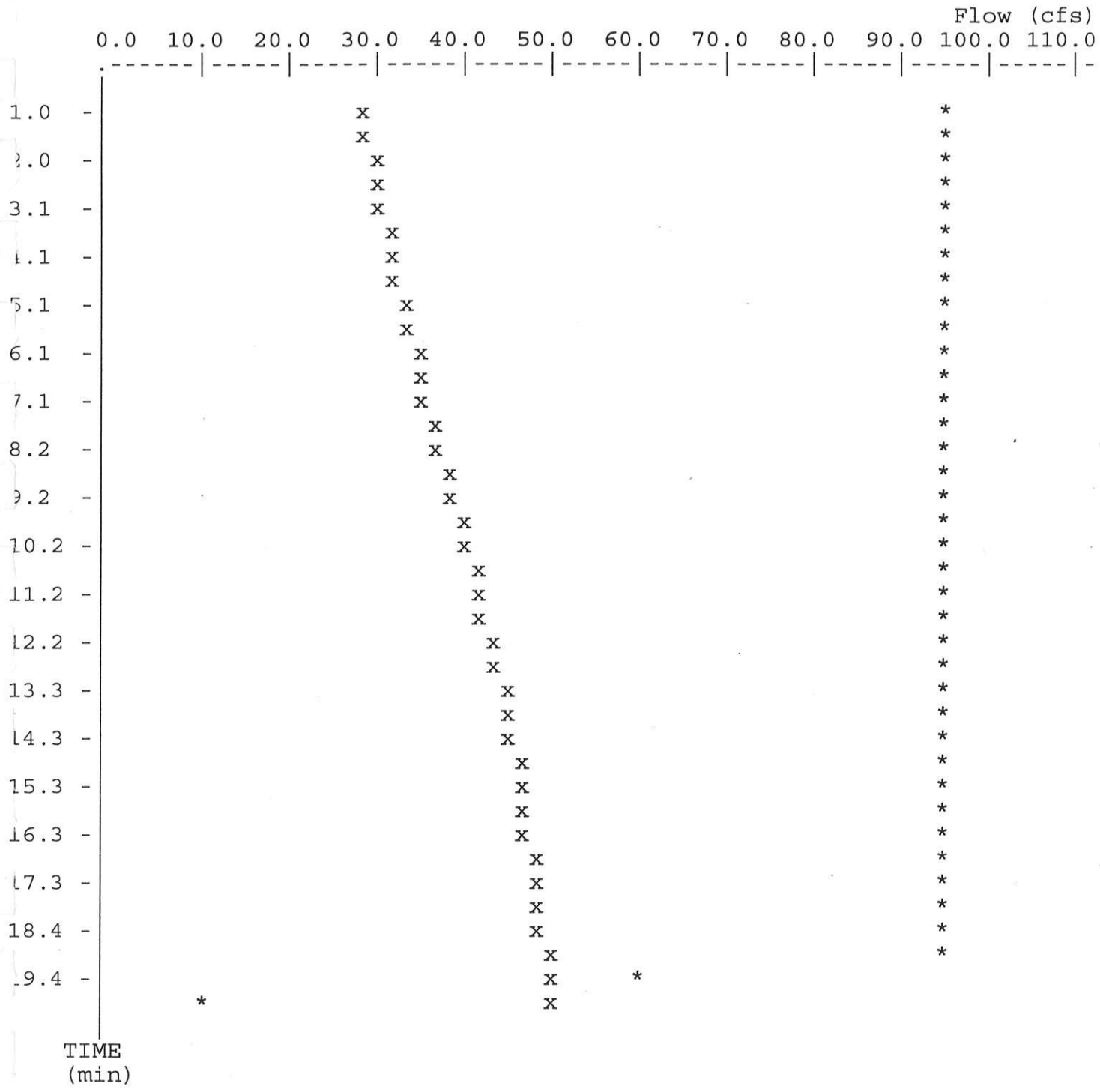
2S/t (cfs)	2S/t + O (cfs)
7489.3	7665.5
7849.0	8059.7
8214.7	8462.5
8437.1	8704.2

Time increment (t) = 1.0 min.

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-015.HYD
Outflow Hydrograph: b5500\5500-15O.HYD

EXECUTED: 07-15-1998
14:25:43

Peak Inflow = 95.79 cfs
Peak Outflow = 49.75 cfs
Peak Elevation = 583.68 ft



x File: b5500\5500-150.HYD Qmax = 49.8 cfs
* File: b5500\5500-015.HYD Qmax = 95.8 cfs

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*
* WingHaven Village E Detention Basin *
* The starting water surface elevations used *
* match the high water elevations in the *
* creek for each storm. *
*
****

Inflow Hydrograph: b5500\5500-025.HYD
Rating Table file: b5500\5500 .PND

----INITIAL CONDITIONS----
Elevation = 582.03 ft
Outflow = 28.86 cfs
Storage = 97,846 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
577.60	0.0	0
577.85	1.1	175
578.10	3.2	1,296
578.35	5.8	3,134
578.60	9.0	5,605
578.85	12.5	8,804
579.10	14.4	12,823
579.35	16.1	17,756
579.60	17.7	23,698
579.85	19.1	30,561
580.10	20.4	37,658
580.35	21.7	44,911
580.60	22.8	52,322
580.85	24.0	59,892
581.10	25.0	67,624
581.35	26.0	75,518
581.60	27.0	83,577
581.85	28.0	91,803
582.10	29.2	100,195
582.35	31.6	108,752
582.60	34.8	117,475
582.85	38.5	126,364
583.10	42.7	135,421
583.35	46.4	144,648
583.60	49.0	154,046
583.85	51.4	163,617
584.10	55.9	173,363
584.35	70.7	183,280
584.60	91.2	193,368
584.85	116.1	203,630
585.10	144.6	214,067

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
0.0	0.0
5.8	6.9
43.2	46.4
104.5	110.3
186.8	195.8
293.5	306.0
427.4	441.8
591.9	608.0
789.9	807.6
1018.7	1037.8
1255.3	1275.7
1497.0	1518.7
1744.1	1766.9
1996.4	2020.4
2254.1	2279.1
2517.3	2543.3
2785.9	2812.9
3060.1	3088.1
3339.8	3369.0
3625.1	3656.7
3915.8	3950.6
4212.1	4250.6
4514.0	4556.7
4821.6	4868.0
5134.9	5183.9
5453.9	5505.3
5778.7	5834.6
6109.3	6180.0
6445.6	6536.8
6787.7	6903.8
7135.6	7280.2

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
585.35	176.2	224,681
585.60	210.7	235,472
585.85	247.8	246,442
586.00	267.1	253,113

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
7489.3	7665.5
7849.0	8059.7
8214.7	8462.5
8437.1	8704.2

Time increment (t) = 1.0 min.

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-025.HYD
Outflow Hydrograph: b5500\5500-250.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.0	118.22	-----	3232.7	3290.4	28.86	582.03
1.0	118.22	236.4	3409.0	3469.1	30.04	582.19
2.0	118.22	236.4	3582.5	3645.5	31.51	582.34
3.0	118.22	236.4	3752.2	3818.9	33.37	582.49
4.0	118.22	236.4	3918.1	3988.6	35.27	582.63
5.0	118.22	236.4	4079.9	4154.5	37.31	582.77
6.0	118.22	236.4	4237.5	4316.3	39.40	582.90
7.0	118.22	236.4	4390.8	4474.0	41.56	583.03
8.0	118.22	236.4	4540.2	4627.3	43.54	583.16
9.0	118.22	236.4	4686.0	4776.6	45.31	583.28
10.0	118.22	236.4	4828.8	4922.5	46.85	583.39
11.0	118.22	236.4	4969.2	5065.2	48.02	583.51
12.0	118.22	236.4	5107.3	5205.6	49.16	583.62
13.0	118.22	236.4	5243.3	5343.7	50.19	583.72
14.0	118.22	236.4	5377.3	5479.8	51.21	583.83
15.0	118.22	236.4	5508.0	5613.8	52.88	583.93
16.0	118.22	236.4	5635.1	5744.5	54.67	584.03
17.0	118.22	236.4	5756.6	5871.6	57.48	584.13
18.0	118.22	236.4	5867.7	5993.0	62.69	584.21
19.0	118.22	236.4	5969.2	6104.1	67.45	584.30
20.0	0.00	118.2	5954.0	6087.4	66.73	584.28
21.0	0.00	0.0	5831.9	5954.0	61.01	584.19
22.0	0.00	0.0	5720.2	5831.9	55.86	584.10
23.0	0.00	0.0	5611.5	5720.2	54.34	584.01
24.0	0.00	0.0	5505.8	5611.5	52.85	583.93
25.0	0.00	0.0	5403.0	5505.8	51.41	583.85
26.0	0.00	0.0	5301.7	5403.0	50.64	583.77
27.0	0.00	0.0	5202.0	5301.7	49.88	583.69
28.0	0.00	0.0	5103.7	5202.0	49.14	583.61
29.0	0.00	0.0	5007.0	5103.7	48.34	583.54
30.0	0.00	0.0	4911.9	5007.0	47.54	583.46
31.0	0.00	0.0	4818.4	4911.9	46.76	583.38
32.0	0.00	0.0	4726.8	4818.4	45.81	583.31
33.0	0.00	0.0	4637.4	4726.8	44.72	583.24
34.0	0.00	0.0	4550.0	4637.4	43.66	583.16
35.0	0.00	0.0	4464.8	4550.0	42.61	583.09
36.0	0.00	0.0	4381.9	4464.8	41.44	583.02
37.0	0.00	0.0	4301.3	4381.9	40.30	582.96
38.0	0.00	0.0	4223.0	4301.3	39.20	582.89
39.0	0.00	0.0	4146.6	4223.0	38.16	582.83
40.0	0.00	0.0	4072.2	4146.6	37.22	582.76
41.0	0.00	0.0	3999.6	4072.2	36.30	582.70
42.0	0.00	0.0	3928.8	3999.6	35.40	582.64
43.0	0.00	0.0	3859.7	3928.8	34.56	582.58
44.0	0.00	0.0	3792.0	3859.7	33.81	582.52

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-025.HYD
Outflow Hydrograph: b5500\5500-25O.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
45.0	0.00	0.0	3725.9	3792.0	33.07	582.47
46.0	0.00	0.0	3661.2	3725.9	32.35	582.41
47.0	0.00	0.0	3597.9	3661.2	31.65	582.35
48.0	0.00	0.0	3535.7	3597.9	31.11	582.30
49.0	0.00	0.0	3474.5	3535.7	30.59	582.24
50.0	0.00	0.0	3414.3	3474.5	30.08	582.19
51.0	0.00	0.0	3355.2	3414.3	29.58	582.14
52.0	0.00	0.0	3296.9	3355.2	29.14	582.09
53.0	0.00	0.0	3239.1	3296.9	28.89	582.04
54.0	0.00	0.0	3181.8	3239.1	28.65	581.98
55.0	0.00	0.0	3125.0	3181.8	28.40	581.93
56.0	0.00	0.0	3068.7	3125.0	28.16	581.88
57.0	0.00	0.0	3012.8	3068.7	27.93	581.83
58.0	0.00	0.0	2957.4	3012.8	27.73	581.78
59.0	0.00	0.0	2902.3	2957.4	27.53	581.73
60.0	0.00	0.0	2847.7	2902.3	27.33	581.68

********** SUMMARY OF ROUTING COMPUTATIONS **********

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-025.HYD
Outflow Hydrograph: b5500\5500-25O.HYD

Starting Pond W.S. Elevation = 582.03 ft

***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow	=	118.22 cfs
Peak Outflow	=	67.45 cfs
Peak Elevation	=	584.30 ft

***** Summary of Approximate Peak Storage *****

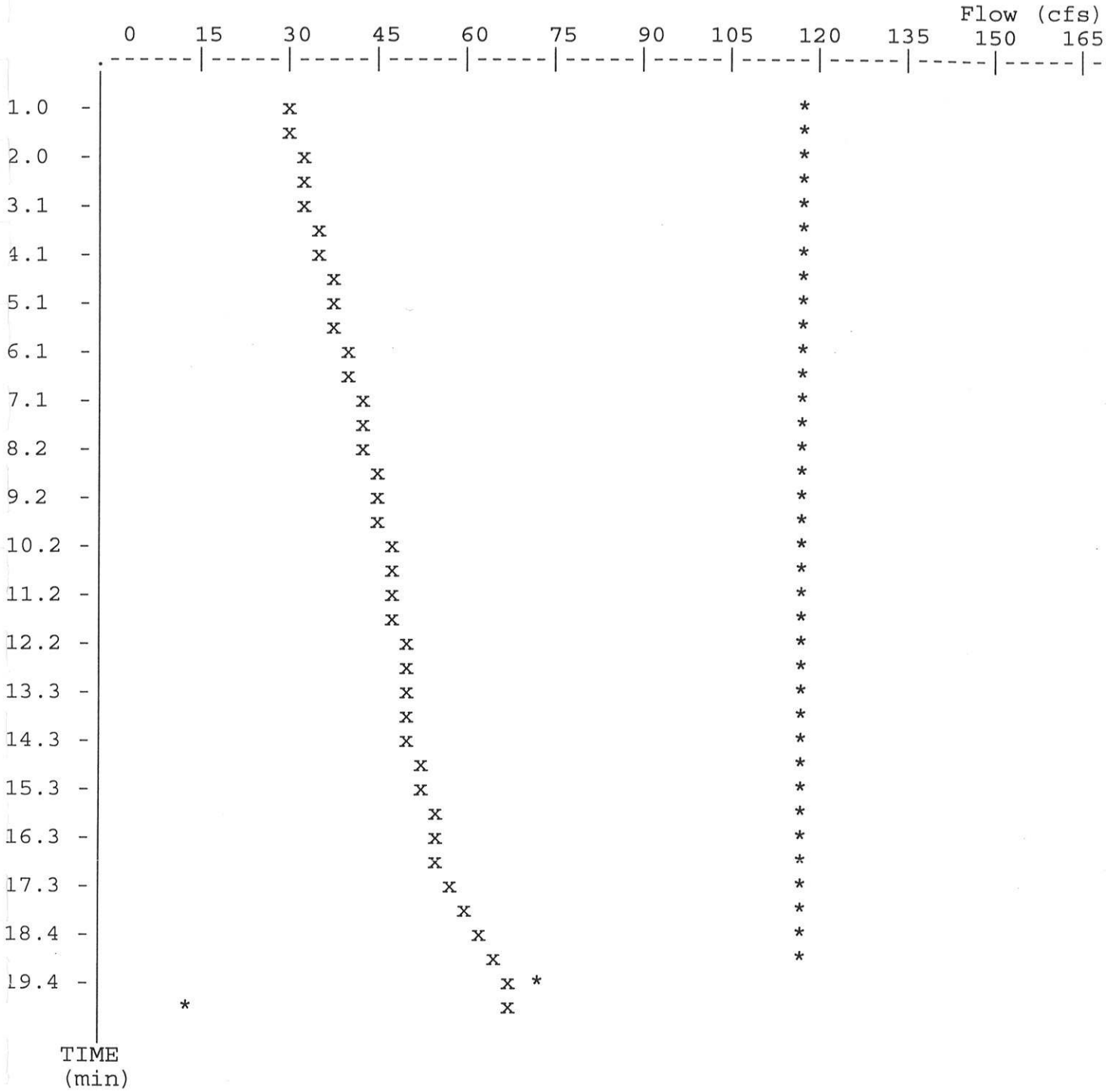
Initial Storage	=	97,846 cu-ft
Peak Storage From Storm	=	83,253 cu-ft
Total Storage in Pond	=	181,100 cu-ft

Warning: Inflow hydrograph truncated on left side.

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-025.HYD
Outflow Hydrograph: b5500\5500-25O.HYD

EXECUTED: 07-15-1998
14:25:43

Peak Inflow = 118.22 cfs
Peak Outflow = 67.45 cfs
Peak Elevation = 584.30 ft



x File: b5500\5500-25O.HYD Qmax = 67.4 cfs
* File: b5500\5500-025.HYD Qmax = 118.2 cfs

****
*
* WingHaven Village E Detention Basin *
* The starting water surface elevations used *
* match the high water elevations in the *
* creek for each storm. *
*
****

Inflow Hydrograph: b5500\5500-100.HYD
Rating Table file: b5500\5500 .PND

----INITIAL CONDITIONS----
Elevation = 582.67 ft
Outflow = 35.84 cfs
Storage = 119,963 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
577.60	0.0	0
577.85	1.1	175
578.10	3.2	1,296
578.35	5.8	3,134
578.60	9.0	5,605
578.85	12.5	8,804
579.10	14.4	12,823
579.35	16.1	17,756
579.60	17.7	23,698
579.85	19.1	30,561
580.10	20.4	37,658
580.35	21.7	44,911
580.60	22.8	52,322
580.85	24.0	59,892
581.10	25.0	67,624
581.35	26.0	75,518
581.60	27.0	83,577
581.85	28.0	91,803
582.10	29.2	100,195
582.35	31.6	108,752
582.60	34.8	117,475
582.85	38.5	126,364
583.10	42.7	135,421
583.35	46.4	144,648
583.60	49.0	154,046
583.85	51.4	163,617
584.10	55.9	173,363
584.35	70.7	183,280
584.60	91.2	193,368
584.85	116.1	203,630
585.10	144.6	214,067

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
0.0	0.0
5.8	6.9
43.2	46.4
104.5	110.3
186.8	195.8
293.5	306.0
427.4	441.8
591.9	608.0
789.9	807.6
1018.7	1037.8
1255.3	1275.7
1497.0	1518.7
1744.1	1766.9
1996.4	2020.4
2254.1	2279.1
2517.3	2543.3
2785.9	2812.9
3060.1	3088.1
3339.8	3369.0
3625.1	3656.7
3915.8	3950.6
4212.1	4250.6
4514.0	4556.7
4821.6	4868.0
5134.9	5183.9
5453.9	5505.3
5778.7	5834.6
6109.3	6180.0
6445.6	6536.8
6787.7	6903.8
7135.6	7280.2

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-100.HYD
Outflow Hydrograph: b5500\55001000.HYD

INFLOW HYDROGRAPH

TIME (min)	INFLOW (cfs)
0.0	151.27
1.0	151.27
2.0	151.27
3.0	151.27
4.0	151.27
5.0	151.27
6.0	151.27
7.0	151.27
8.0	151.27
9.0	151.27
10.0	151.27
11.0	151.27
12.0	151.27
13.0	151.27
14.0	151.27
15.0	151.27
16.0	151.27
17.0	151.27
18.0	151.27
19.0	151.27
20.0	0.00
21.0	0.00
22.0	0.00
23.0	0.00
24.0	0.00
25.0	0.00
26.0	0.00
27.0	0.00
28.0	0.00
29.0	0.00
30.0	0.00
31.0	0.00
32.0	0.00
33.0	0.00
34.0	0.00
35.0	0.00
36.0	0.00
37.0	0.00
38.0	0.00
39.0	0.00
40.0	0.00
41.0	0.00
42.0	0.00
43.0	0.00
44.0	0.00

ROUTING COMPUTATIONS

I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
-----	3962.9	4034.6	35.84	582.67
302.5	4188.1	4265.5	38.70	582.86
302.5	4407.0	4490.6	41.79	583.05
302.5	4620.5	4709.6	44.52	583.22
302.5	4829.4	4923.1	46.85	583.39
302.5	5034.7	5131.9	48.57	583.56
302.5	5237.0	5337.3	50.15	583.72
302.5	5435.8	5539.5	51.87	583.88
302.5	5629.2	5738.3	54.58	584.03
302.5	5811.6	5931.7	60.06	584.17
302.5	5978.4	6114.1	67.88	584.30
302.5	6127.9	6280.9	76.50	584.42
302.5	6260.3	6430.5	85.09	584.53
302.5	6376.9	6562.8	92.97	584.62
302.5	6477.7	6679.4	100.88	584.70
302.5	6564.8	6780.2	107.72	584.77
302.5	6640.1	6867.3	113.63	584.83
302.5	6704.5	6942.6	119.04	584.88
302.5	6759.2	7007.1	123.92	584.92
302.5	6805.6	7061.8	128.06	584.95
151.3	6716.7	6956.9	120.12	584.89
0.0	6509.8	6716.7	103.40	584.72
0.0	6330.5	6509.8	89.65	584.58
0.0	6171.8	6330.5	79.35	584.46
0.0	6031.1	6171.8	70.35	584.34
0.0	5902.5	6031.1	64.32	584.24
0.0	5784.9	5902.5	58.81	584.15
0.0	5674.4	5784.9	55.22	584.06
0.0	5567.0	5674.4	53.71	583.98
0.0	5462.5	5567.0	52.24	583.90
0.0	5360.4	5462.5	51.08	583.82
0.0	5259.7	5360.4	50.32	583.74
0.0	5160.6	5259.7	49.57	583.66
0.0	5063.0	5160.6	48.81	583.58
0.0	4967.0	5063.0	48.01	583.50
0.0	4872.6	4967.0	47.21	583.43
0.0	4779.7	4872.6	46.44	583.35
0.0	4689.0	4779.7	45.35	583.28
0.0	4600.4	4689.0	44.27	583.21
0.0	4514.0	4600.4	43.22	583.14
0.0	4429.8	4514.0	42.11	583.07
0.0	4347.8	4429.8	40.96	583.00
0.0	4268.2	4347.8	39.83	582.93
0.0	4190.7	4268.2	38.74	582.86
0.0	4115.2	4190.7	37.76	582.80

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-100.HYD
Outflow Hydrograph: b5500\55001000.HYD

INFLOW HYDROGRAPH

ROUTING COMPUTATIONS

TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
45.0	0.00	0.0	4041.5	4115.2	36.83	582.74
46.0	0.00	0.0	3969.7	4041.5	35.92	582.68
47.0	0.00	0.0	3899.6	3969.7	35.04	582.62
48.0	0.00	0.0	3831.1	3899.6	34.24	582.56
49.0	0.00	0.0	3764.1	3831.1	33.50	582.50
50.0	0.00	0.0	3698.6	3764.1	32.77	582.44
51.0	0.00	0.0	3634.5	3698.6	32.06	582.39
52.0	0.00	0.0	3571.6	3634.5	31.41	582.33
53.0	0.00	0.0	3509.9	3571.6	30.89	582.28
54.0	0.00	0.0	3449.1	3509.9	30.37	582.22
55.0	0.00	0.0	3389.4	3449.1	29.87	582.17
56.0	0.00	0.0	3330.6	3389.4	29.37	582.12
57.0	0.00	0.0	3272.6	3330.6	29.04	582.07
58.0	0.00	0.0	3215.0	3272.6	28.79	582.01
59.0	0.00	0.0	3157.9	3215.0	28.54	581.96
60.0	0.00	0.0	3101.3	3157.9	28.30	581.91

********** SUMMARY OF ROUTING COMPUTATIONS **********

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-100.HYD
Outflow Hydrograph: b5500\55001000.HYD

Starting Pond W.S. Elevation = 582.67 ft

***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow	=	151.27 cfs
Peak Outflow	=	128.06 cfs
Peak Elevation	=	584.95 ft

***** Summary of Approximate Peak Storage *****

Initial Storage	=	119,963 cu-ft
Peak Storage From Storm	=	88,049 cu-ft
Total Storage in Pond	=	208,012 cu-ft

Warning: Inflow hydrograph truncated on left side.

POND-2 Version: 5.21 S/N:

Return Freq: 100 years

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-100.HYD
Outflow Hydrograph: b5500\55001000.HYD

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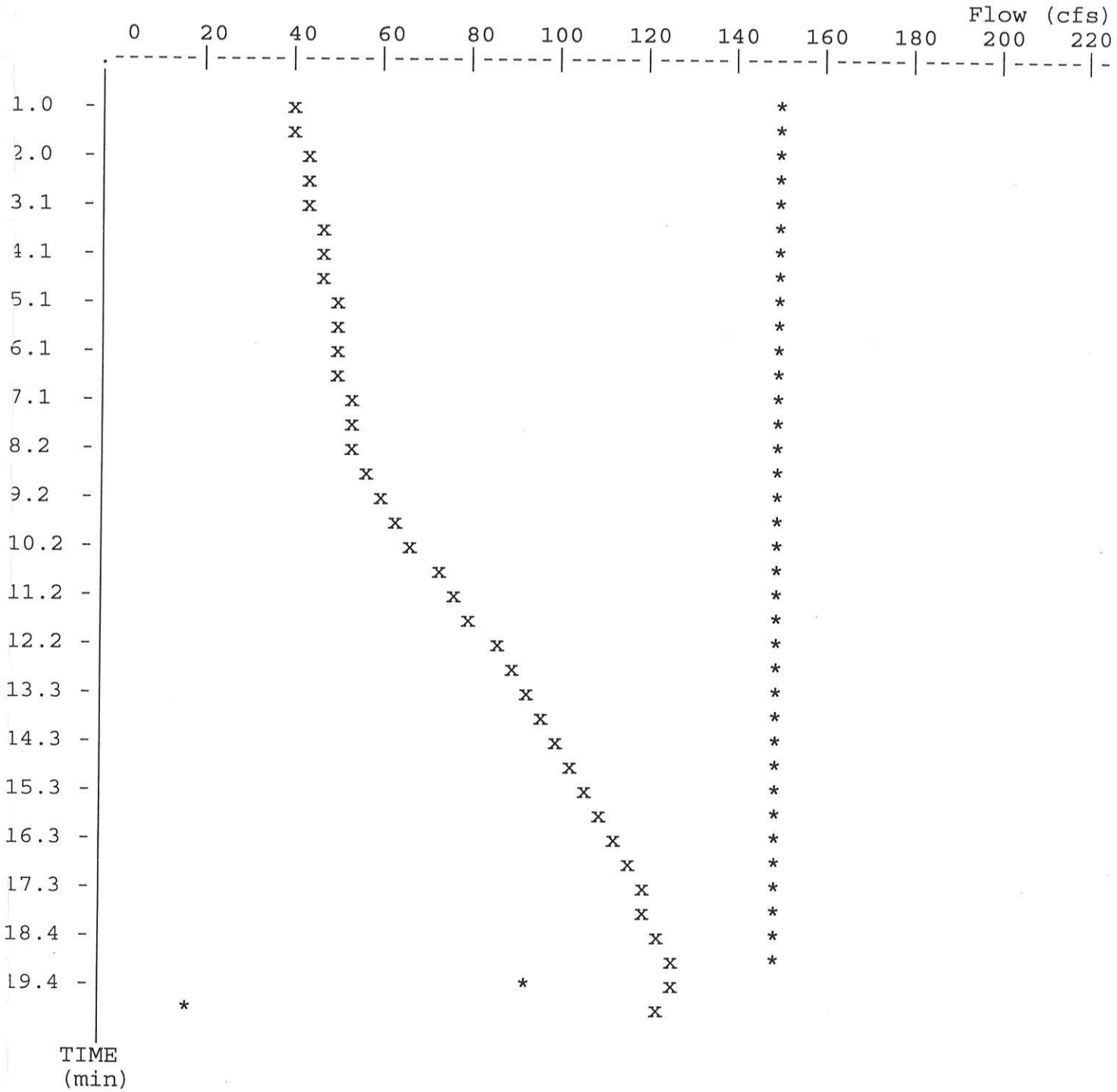
Peak Inflow = 151.27 cfs
Peak Outflow = 128.06 cfs
Peak Elevation = 584.95 ft



x File: b5500\5500100O.HYD Qmax = 128.1 cfs
* File: b5500\5500-100.HYD Qmax = 151.3 cfs

```
*****************************************
*                                       *
*  WingHaven Village E Detention Basin  *
*  The starting water surface elevation *
*      is the bottom of the basin.      *
*                                       *
*                                       *
*****************************************
```

Inflow Hydrograph: b5500\5500-002.HYD
Rating Table file: b5500\5500 .PND

----INITIAL CONDITIONS----
Elevation = 577.60 ft
Outflow = 0.00 cfs
Storage = 0 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
577.60	0.0	0
577.85	1.1	175
578.10	3.2	1,296
578.35	5.8	3,134
578.60	9.0	5,605
578.85	12.5	8,804
579.10	14.4	12,823
579.35	16.1	17,756
579.60	17.7	23,698
579.85	19.1	30,561
580.10	20.4	37,658
580.35	21.7	44,911
580.60	22.8	52,322
580.85	24.0	59,892
581.10	25.0	67,624
581.35	26.0	75,518
581.60	27.0	83,577
581.85	28.0	91,803
582.10	29.2	100,195
582.35	31.6	108,752
582.60	34.8	117,475
582.85	38.5	126,364
583.10	42.7	135,421
583.35	46.4	144,648
583.60	49.0	154,046
583.85	51.4	163,617
584.10	55.9	173,363
584.35	70.7	183,280
584.60	91.2	193,368
584.85	116.1	203,630
585.10	144.6	214,067

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
0.0	0.0
5.8	6.9
43.2	46.4
104.5	110.3
186.8	195.8
293.5	306.0
427.4	441.8
591.9	608.0
789.9	807.6
1018.7	1037.8
1255.3	1275.7
1497.0	1518.7
1744.1	1766.9
1996.4	2020.4
2254.1	2279.1
2517.3	2543.3
2785.9	2812.9
3060.1	3088.1
3339.8	3369.0
3625.1	3656.7
3915.8	3950.6
4212.1	4250.6
4514.0	4556.7
4821.6	4868.0
5134.9	5183.9
5453.9	5505.3
5778.7	5834.6
6109.3	6180.0
6445.6	6536.8
6787.7	6903.8
7135.6	7280.2

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
585.35	176.2	224,681
585.60	210.7	235,472
585.85	247.8	246,442
586.00	267.1	253,113

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
7489.3	7665.5
7849.0	8059.7
8214.7	8462.5
8437.1	8704.2

Time increment (t) = 1.0 min.

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-002.HYD
Outflow Hydrograph: b5500\5500-02E.HYD

INFLOW HYDROGRAPH / ROUTING COMPUTATIONS

TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.0	64.56	-----	0.0	0.0	0.00	577.60
1.0	64.56	129.1	116.1	129.1	6.50	578.41
2.0	64.56	129.1	224.1	245.2	10.57	578.71
3.0	64.56	129.1	326.9	353.2	13.16	578.94
4.0	64.56	129.1	426.9	456.0	14.55	579.12
5.0	64.56	129.1	524.9	556.0	15.57	579.27
6.0	64.56	129.1	621.1	654.0	16.47	579.41
7.0	64.56	129.1	715.7	750.2	17.24	579.53
8.0	64.56	129.1	809.0	844.8	17.93	579.64
9.0	64.56	129.1	901.1	938.1	18.49	579.74
10.0	64.56	129.1	992.1	1030.2	19.05	579.84
11.0	64.56	129.1	1082.1	1121.3	19.56	579.94
12.0	64.56	129.1	1171.2	1211.3	20.05	580.03
13.0	64.56	129.1	1259.2	1300.3	20.53	580.13
14.0	64.56	129.1	1346.3	1388.3	21.00	580.22
15.0	64.56	129.1	1432.5	1475.5	21.47	580.31
16.0	64.56	129.1	1517.9	1561.6	21.89	580.39
17.0	64.56	129.1	1602.4	1647.0	22.27	580.48
18.0	64.56	129.1	1686.3	1731.6	22.64	580.56
19.0	64.56	129.1	1769.3	1815.4	23.03	580.65
20.0	0.00	64.6	1787.7	1833.9	23.12	580.67
21.0	0.00	0.0	1741.9	1787.7	22.90	580.62
22.0	0.00	0.0	1696.5	1741.9	22.69	580.57
23.0	0.00	0.0	1651.5	1696.5	22.49	580.53
24.0	0.00	0.0	1606.9	1651.5	22.29	580.48
25.0	0.00	0.0	1562.8	1606.9	22.09	580.44
26.0	0.00	0.0	1519.0	1562.8	21.90	580.39
27.0	0.00	0.0	1475.6	1519.0	21.70	580.35
28.0	0.00	0.0	1432.6	1475.6	21.47	580.31
29.0	0.00	0.0	1390.1	1432.6	21.24	580.26
30.0	0.00	0.0	1348.1	1390.1	21.01	580.22
31.0	0.00	0.0	1306.5	1348.1	20.79	580.17
32.0	0.00	0.0	1265.4	1306.5	20.57	580.13
33.0	0.00	0.0	1224.7	1265.4	20.34	580.09
34.0	0.00	0.0	1184.5	1224.7	20.12	580.05
35.0	0.00	0.0	1144.7	1184.5	19.90	580.00
36.0	0.00	0.0	1105.3	1144.7	19.68	579.96
37.0	0.00	0.0	1066.4	1105.3	19.47	579.92
38.0	0.00	0.0	1027.9	1066.4	19.26	579.88
39.0	0.00	0.0	989.8	1027.9	19.04	579.84
40.0	0.00	0.0	952.2	989.8	18.81	579.80
41.0	0.00	0.0	915.0	952.2	18.58	579.76
42.0	0.00	0.0	878.3	915.0	18.35	579.72
43.0	0.00	0.0	842.0	878.3	18.13	579.68
44.0	0.00	0.0	806.2	842.0	17.91	579.64

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-002.HYD
Outflow Hydrograph: b5500\5500-02E.HYD

INFLOW HYDROGRAPH

TIME (min)	INFLOW (cfs)
45.0	0.00
46.0	0.00
47.0	0.00
48.0	0.00
49.0	0.00
50.0	0.00
51.0	0.00
52.0	0.00
53.0	0.00
54.0	0.00
55.0	0.00
56.0	0.00
57.0	0.00
58.0	0.00
59.0	0.00
60.0	0.00

ROUTING COMPUTATIONS

I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.0	770.8	806.2	17.69	579.60
0.0	736.0	770.8	17.41	579.55
0.0	701.8	736.0	17.13	579.51
0.0	668.1	701.8	16.85	579.47
0.0	634.9	668.1	16.58	579.43
0.0	602.3	634.9	16.32	579.38
0.0	570.2	602.3	16.04	579.34
0.0	538.8	570.2	15.71	579.29
0.0	508.0	538.8	15.39	579.25
0.0	477.8	508.0	15.08	579.20
0.0	448.3	477.8	14.77	579.15
0.0	419.4	448.3	14.47	579.11
0.0	391.2	419.4	14.09	579.06
0.0	363.8	391.2	13.69	579.01
0.0	337.2	363.8	13.31	578.96
0.0	311.3	337.2	12.94	578.91

********** SUMMARY OF ROUTING COMPUTATIONS **********

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-002.HYD
Outflow Hydrograph: b5500\5500-02E.HYD

Starting Pond W.S. Elevation = 577.60 ft

***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow	=	64.56 cfs
Peak Outflow	=	23.12 cfs
Peak Elevation	=	580.67 ft

***** Summary of Approximate Peak Storage *****

Initial Storage	=	0 cu-ft
Peak Storage From Storm	=	54,323 cu-ft
Total Storage in Pond	=	54,323 cu-ft

Warning: Inflow hydrograph truncated on left side.

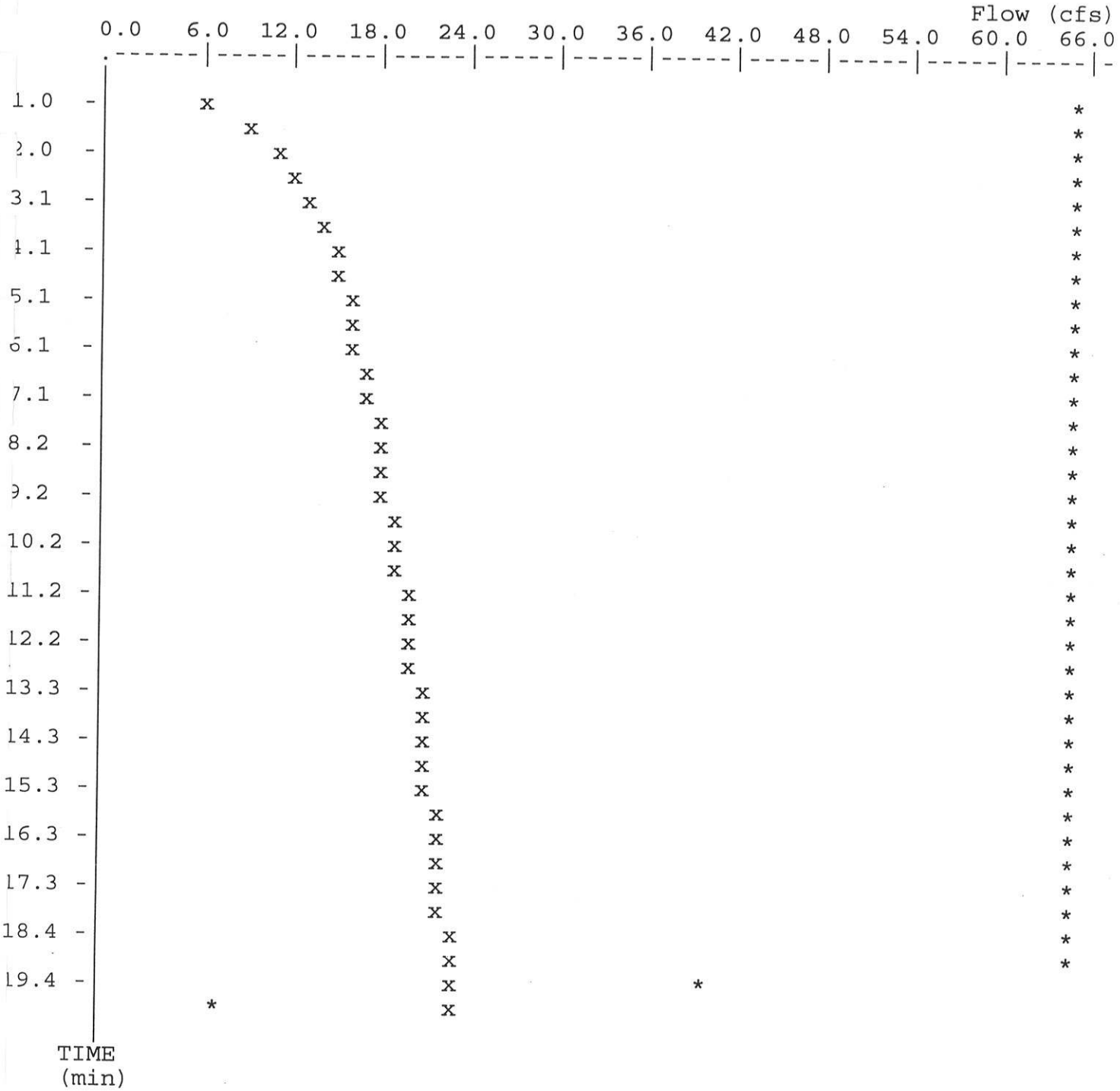
POND-2 Version: 5.21 S/N:

Return Freq: 2 years

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-002.HYD
Outflow Hydrograph: b5500\5500-02E.HYD

EXECUTED: 07-15-1998
14:26:38

Peak Inflow = 64.56 cfs
Peak Outflow = 23.12 cfs
Peak Elevation = 580.67 ft



x File: b5500\5500-02E.HYD Qmax = 23.1 cfs
* File: b5500\5500-002.HYD Qmax = 64.6 cfs

```
*****************************************
*                                       *
*  WingHaven Village E Detention Basin  *
*  The starting water surface elevation *
*      is the bottom of the basin.      *
*                                       *
*                                       *
*****************************************
```

Inflow Hydrograph: b5500\5500-015.HYD
Rating Table file: b5500\5500 .PND

----INITIAL CONDITIONS----
Elevation = 577.60 ft
Outflow = 0.00 cfs
Storage = 0 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
577.60	0.0	0
577.85	1.1	175
578.10	3.2	1,296
578.35	5.8	3,134
578.60	9.0	5,605
578.85	12.5	8,804
579.10	14.4	12,823
579.35	16.1	17,756
579.60	17.7	23,698
579.85	19.1	30,561
580.10	20.4	37,658
580.35	21.7	44,911
580.60	22.8	52,322
580.85	24.0	59,892
581.10	25.0	67,624
581.35	26.0	75,518
581.60	27.0	83,577
581.85	28.0	91,803
582.10	29.2	100,195
582.35	31.6	108,752
582.60	34.8	117,475
582.85	38.5	126,364
583.10	42.7	135,421
583.35	46.4	144,648
583.60	49.0	154,046
583.85	51.4	163,617
584.10	55.9	173,363
584.35	70.7	183,280
584.60	91.2	193,368
584.85	116.1	203,630
585.10	144.6	214,067

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
0.0	0.0
5.8	6.9
43.2	46.4
104.5	110.3
186.8	195.8
293.5	306.0
427.4	441.8
591.9	608.0
789.9	807.6
1018.7	1037.8
1255.3	1275.7
1497.0	1518.7
1744.1	1766.9
1996.4	2020.4
2254.1	2279.1
2517.3	2543.3
2785.9	2812.9
3060.1	3088.1
3339.8	3369.0
3625.1	3656.7
3915.8	3950.6
4212.1	4250.6
4514.0	4556.7
4821.6	4868.0
5134.9	5183.9
5453.9	5505.3
5778.7	5834.6
6109.3	6180.0
6445.6	6536.8
6787.7	6903.8
7135.6	7280.2

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
585.35	176.2	224,681
585.60	210.7	235,472
585.85	247.8	246,442
586.00	267.1	253,113

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
7489.3	7665.5
7849.0	8059.7
8214.7	8462.5
8437.1	8704.2

Time increment (t) = 1.0 min.

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-015.HYD
Outflow Hydrograph: b5500\5500-15E.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.0	95.79	-----	0.0	0.0	0.00	577.60
1.0	95.79	191.6	173.9	191.6	8.84	578.59
2.0	95.79	191.6	338.8	365.5	13.33	578.96
3.0	95.79	191.6	499.8	530.4	15.31	579.23
4.0	95.79	191.6	657.8	691.4	16.77	579.45
5.0	95.79	191.6	813.5	849.4	17.95	579.65
6.0	95.79	191.6	967.3	1005.1	18.90	579.81
7.0	95.79	191.6	1119.3	1158.9	19.76	579.98
8.0	95.79	191.6	1269.7	1310.9	20.59	580.14
9.0	95.79	191.6	1418.5	1461.3	21.39	580.29
10.0	95.79	191.6	1565.9	1610.1	22.11	580.44
11.0	95.79	191.6	1712.0	1757.5	22.76	580.59
12.0	95.79	191.6	1856.6	1903.5	23.45	580.73
13.0	95.79	191.6	2000.0	2048.2	24.11	580.88
14.0	95.79	191.6	2142.3	2191.6	24.66	581.02
15.0	95.79	191.6	2283.4	2333.9	25.21	581.15
16.0	95.79	191.6	2423.5	2475.0	25.74	581.29
17.0	95.79	191.6	2562.6	2615.1	26.27	581.42
18.0	95.79	191.6	2700.6	2754.2	26.78	581.55
19.0	95.79	191.6	2837.6	2892.2	27.29	581.67
20.0	0.00	95.8	2878.5	2933.4	27.44	581.71
21.0	0.00	0.0	2824.0	2878.5	27.24	581.66
22.0	0.00	0.0	2770.0	2824.0	27.04	581.61
23.0	0.00	0.0	2716.3	2770.0	26.84	581.56
24.0	0.00	0.0	2663.0	2716.3	26.64	581.51
25.0	0.00	0.0	2610.1	2663.0	26.44	581.46
26.0	0.00	0.0	2557.6	2610.1	26.25	581.41
27.0	0.00	0.0	2505.5	2557.6	26.05	581.36
28.0	0.00	0.0	2453.8	2505.5	25.86	581.31
29.0	0.00	0.0	2402.5	2453.8	25.66	581.27
30.0	0.00	0.0	2351.5	2402.5	25.47	581.22
31.0	0.00	0.0	2301.0	2351.5	25.27	581.17
32.0	0.00	0.0	2250.8	2301.0	25.08	581.12
33.0	0.00	0.0	2201.0	2250.8	24.89	581.07
34.0	0.00	0.0	2151.6	2201.0	24.70	581.02
35.0	0.00	0.0	2102.6	2151.6	24.51	580.98
36.0	0.00	0.0	2054.0	2102.6	24.32	580.93
37.0	0.00	0.0	2005.7	2054.0	24.13	580.88
38.0	0.00	0.0	1957.9	2005.7	23.93	580.84
39.0	0.00	0.0	1910.5	1957.9	23.70	580.79
40.0	0.00	0.0	1863.5	1910.5	23.48	580.74
41.0	0.00	0.0	1817.0	1863.5	23.26	580.70
42.0	0.00	0.0	1770.9	1817.0	23.04	580.65
43.0	0.00	0.0	1725.3	1770.9	22.82	580.60
44.0	0.00	0.0	1680.0	1725.3	22.62	580.56

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-015.HYD
Outflow Hydrograph: b5500\5500-15E.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
45.0	0.00	0.0	1635.2	1680.0	22.42	580.51
46.0	0.00	0.0	1590.8	1635.2	22.22	580.47
47.0	0.00	0.0	1546.7	1590.8	22.02	580.42
48.0	0.00	0.0	1503.1	1546.7	21.82	580.38
49.0	0.00	0.0	1459.9	1503.1	21.62	580.33
50.0	0.00	0.0	1417.1	1459.9	21.39	580.29
51.0	0.00	0.0	1374.8	1417.1	21.16	580.25
52.0	0.00	0.0	1332.9	1374.8	20.93	580.20
53.0	0.00	0.0	1291.5	1332.9	20.71	580.16
54.0	0.00	0.0	1250.5	1291.5	20.48	580.12
55.0	0.00	0.0	1210.0	1250.5	20.26	580.07
56.0	0.00	0.0	1169.9	1210.0	20.04	580.03
57.0	0.00	0.0	1130.3	1169.9	19.82	579.99
58.0	0.00	0.0	1091.1	1130.3	19.61	579.95
59.0	0.00	0.0	1052.3	1091.1	19.39	579.91
60.0	0.00	0.0	1013.9	1052.3	19.18	579.87

********** SUMMARY OF ROUTING COMPUTATIONS **********

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-015.HYD
Outflow Hydrograph: b5500\5500-15E.HYD

Starting Pond W.S. Elevation = 577.60 ft

***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow	=	95.79 cfs
Peak Outflow	=	27.44 cfs
Peak Elevation	=	581.71 ft

***** Summary of Approximate Peak Storage *****

Initial Storage	=	0 cu-ft
Peak Storage From Storm	=	87,179 cu-ft
Total Storage in Pond	=	87,179 cu-ft

Warning: Inflow hydrograph truncated on left side.

POND-2 Version: 5.21 S/N:

Return Freq: 15 years

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-015.HYD
Outflow Hydrograph: b5500\5500-15E.HYD

EXECUTED: 07-15-1998
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Peak Inflow = 95.79 cfs
Peak Outflow = 27.44 cfs
Peak Elevation = 581.71 ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
585.35	176.2	224,681
585.60	210.7	235,472
585.85	247.8	246,442
586.00	267.1	253,113

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
7489.3	7665.5
7849.0	8059.7
8214.7	8462.5
8437.1	8704.2

Time increment (t) = 1.0 min.

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-025.HYD
Outflow Hydrograph: b5500\5500-25E.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.0	118.22	-----	0.0	0.0	0.00	577.60
1.0	118.22	236.4	215.9	236.4	10.29	578.69
2.0	118.22	236.4	423.3	452.3	14.51	579.12
3.0	118.22	236.4	626.7	659.7	16.51	579.41
4.0	118.22	236.4	827.1	863.1	18.04	579.66
5.0	118.22	236.4	1025.0	1063.5	19.24	579.88
6.0	118.22	236.4	1220.8	1261.5	20.32	580.09
7.0	118.22	236.4	1414.5	1457.3	21.37	580.29
8.0	118.22	236.4	1606.4	1651.0	22.29	580.48
9.0	118.22	236.4	1796.5	1842.8	23.16	580.67
10.0	118.22	236.4	1984.8	2032.9	24.05	580.86
11.0	118.22	236.4	2171.7	2221.3	24.78	581.04
12.0	118.22	236.4	2357.2	2408.2	25.49	581.22
13.0	118.22	236.4	2541.3	2593.6	26.19	581.40
14.0	118.22	236.4	2724.0	2777.7	26.87	581.57
15.0	118.22	236.4	2905.3	2960.4	27.54	581.73
16.0	118.22	236.4	3085.3	3141.8	28.23	581.90
17.0	118.22	236.4	3263.8	3321.8	29.00	582.06
18.0	118.22	236.4	3439.6	3500.2	30.29	582.21
19.0	118.22	236.4	3612.4	3676.0	31.81	582.37
20.0	0.00	118.2	3665.8	3730.6	32.41	582.41
21.0	0.00	0.0	3602.4	3665.8	31.70	582.36
22.0	0.00	0.0	3540.1	3602.4	31.15	582.30
23.0	0.00	0.0	3478.9	3540.1	30.63	582.25
24.0	0.00	0.0	3418.7	3478.9	30.12	582.20
25.0	0.00	0.0	3359.4	3418.7	29.61	582.14
26.0	0.00	0.0	3301.1	3359.4	29.16	582.09
27.0	0.00	0.0	3243.3	3301.1	28.91	582.04
28.0	0.00	0.0	3186.0	3243.3	28.66	581.99
29.0	0.00	0.0	3129.1	3186.0	28.42	581.94
30.0	0.00	0.0	3072.8	3129.1	28.18	581.89
31.0	0.00	0.0	3016.9	3072.8	27.94	581.84
32.0	0.00	0.0	2961.4	3016.9	27.74	581.79
33.0	0.00	0.0	2906.3	2961.4	27.54	581.73
34.0	0.00	0.0	2851.6	2906.3	27.34	581.68
35.0	0.00	0.0	2797.4	2851.6	27.14	581.64
36.0	0.00	0.0	2743.5	2797.4	26.94	581.59
37.0	0.00	0.0	2690.0	2743.5	26.74	581.54
38.0	0.00	0.0	2636.9	2690.0	26.54	581.49
39.0	0.00	0.0	2584.2	2636.9	26.35	581.44
40.0	0.00	0.0	2531.9	2584.2	26.15	581.39
41.0	0.00	0.0	2480.0	2531.9	25.96	581.34
42.0	0.00	0.0	2428.5	2480.0	25.76	581.29
43.0	0.00	0.0	2377.3	2428.5	25.57	581.24
44.0	0.00	0.0	2326.6	2377.3	25.37	581.19

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-025.HYD
Outflow Hydrograph: b5500\5500-25E.HYD

INFLOW HYDROGRAPH

TIME (min)	INFLOW (cfs)
45.0	0.00
46.0	0.00
47.0	0.00
48.0	0.00
49.0	0.00
50.0	0.00
51.0	0.00
52.0	0.00
53.0	0.00
54.0	0.00
55.0	0.00
56.0	0.00
57.0	0.00
58.0	0.00
59.0	0.00
60.0	0.00

ROUTING COMPUTATIONS

I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.0	2276.2	2326.6	25.18	581.14
0.0	2226.3	2276.2	24.99	581.10
0.0	2176.7	2226.3	24.80	581.05
0.0	2127.5	2176.7	24.60	581.00
0.0	2078.6	2127.5	24.41	580.95
0.0	2030.2	2078.6	24.23	580.91
0.0	1982.1	2030.2	24.04	580.86
0.0	1934.5	1982.1	23.82	580.81
0.0	1887.3	1934.5	23.59	580.77
0.0	1840.5	1887.3	23.37	580.72
0.0	1794.2	1840.5	23.15	580.67
0.0	1748.4	1794.2	22.93	580.63
0.0	1703.0	1748.4	22.72	580.58
0.0	1657.9	1703.0	22.52	580.54
0.0	1613.3	1657.9	22.32	580.49
0.0	1569.0	1613.3	22.12	580.45

********** SUMMARY OF ROUTING COMPUTATIONS **********

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-025.HYD
Outflow Hydrograph: b5500\5500-25E.HYD

Starting Pond W.S. Elevation = 577.60 ft

***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow	=	118.22 cfs
Peak Outflow	=	32.41 cfs
Peak Elevation	=	582.41 ft

***** Summary of Approximate Peak Storage *****

Initial Storage	=	0 cu-ft
Peak Storage From Storm	=	110,947 cu-ft
Total Storage in Pond	=	110,947 cu-ft

Warning: Inflow hydrograph truncated on left side.

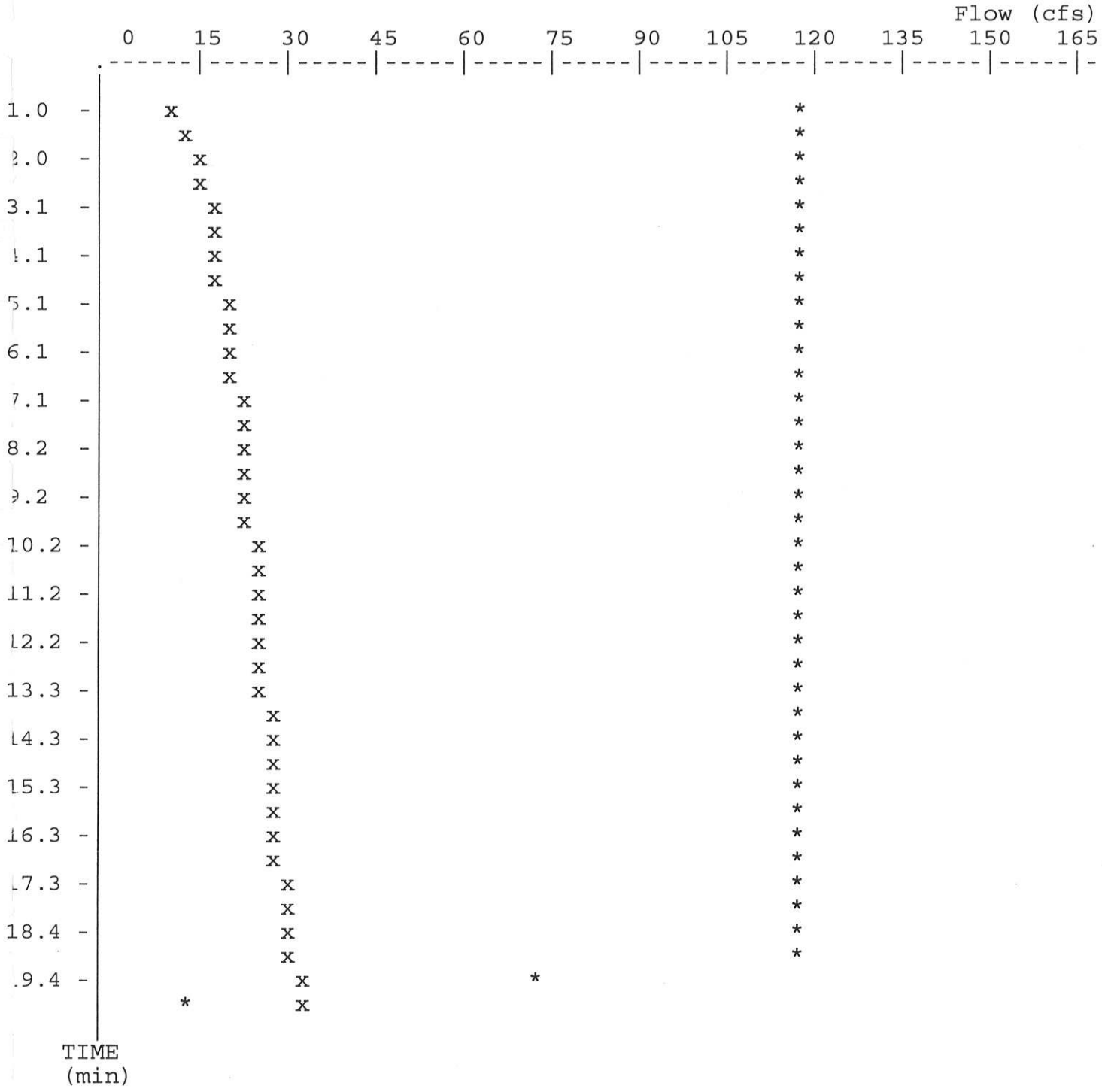
POND-2 Version: 5.21 S/N:

Return Freq: 25 years

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-025.HYD
Outflow Hydrograph: b5500\5500-25E.HYD

EXECUTED: 07-15-1998
14:26:38

Peak Inflow = 118.22 cfs
Peak Outflow = 32.41 cfs
Peak Elevation = 582.41 ft



x File: b5500\5500-25E.HYD Qmax = 32.4 cfs
* File: b5500\5500-025.HYD Qmax = 118.2 cfs

```
*****************************************
*                                       *
*  WingHaven Village E Detention Basin  *
*  The starting water surface elevation *
*      is the bottom of the basin.      *
*                                       *
*                                       *
*****************************************
```

Inflow Hydrograph: b5500\5500-100.HYD
Rating Table file: b5500\5500 .PND

----INITIAL CONDITIONS----
Elevation = 577.60 ft
Outflow = 0.00 cfs
Storage = 0 cu-ft

GIVEN POND DATA			INTERMEDIATE ROUTING COMPUTATIONS	
ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)	2S/t (cfs)	2S/t + O (cfs)
577.60	0.0	0	0.0	0.0
577.85	1.1	175	5.8	6.9
578.10	3.2	1,296	43.2	46.4
578.35	5.8	3,134	104.5	110.3
578.60	9.0	5,605	186.8	195.8
578.85	12.5	8,804	293.5	306.0
579.10	14.4	12,823	427.4	441.8
579.35	16.1	17,756	591.9	608.0
579.60	17.7	23,698	789.9	807.6
579.85	19.1	30,561	1018.7	1037.8
580.10	20.4	37,658	1255.3	1275.7
580.35	21.7	44,911	1497.0	1518.7
580.60	22.8	52,322	1744.1	1766.9
580.85	24.0	59,892	1996.4	2020.4
581.10	25.0	67,624	2254.1	2279.1
581.35	26.0	75,518	2517.3	2543.3
581.60	27.0	83,577	2785.9	2812.9
581.85	28.0	91,803	3060.1	3088.1
582.10	29.2	100,195	3339.8	3369.0
582.35	31.6	108,752	3625.1	3656.7
582.60	34.8	117,475	3915.8	3950.6
582.85	38.5	126,364	4212.1	4250.6
583.10	42.7	135,421	4514.0	4556.7
583.35	46.4	144,648	4821.6	4868.0
583.60	49.0	154,046	5134.9	5183.9
583.85	51.4	163,617	5453.9	5505.3
584.10	55.9	173,363	5778.7	5834.6
584.35	70.7	183,280	6109.3	6180.0
584.60	91.2	193,368	6445.6	6536.8
584.85	116.1	203,630	6787.7	6903.8
585.10	144.6	214,067	7135.6	7280.2

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
585.35	176.2	224,681
585.60	210.7	235,472
585.85	247.8	246,442
586.00	267.1	253,113

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
7489.3	7665.5
7849.0	8059.7
8214.7	8462.5
8437.1	8704.2

Time increment (t) = 1.0 min.

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-100.HYD
Outflow Hydrograph: b5500\5500-00E.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.0	151.27	-----	0.0	0.0	0.00	577.60
1.0	151.27	302.5	277.8	302.5	12.39	578.84
2.0	151.27	302.5	548.7	580.3	15.82	579.31
3.0	151.27	302.5	815.3	851.2	17.96	579.65
4.0	151.27	302.5	1078.7	1117.8	19.54	579.93
5.0	151.27	302.5	1339.3	1381.3	20.96	580.21
6.0	151.27	302.5	1597.4	1641.9	22.25	580.47
7.0	151.27	302.5	1853.1	1899.9	23.43	580.73
8.0	151.27	302.5	2106.6	2155.6	24.52	580.98
9.0	151.27	302.5	2358.1	2409.1	25.49	581.22
10.0	151.27	302.5	2607.8	2660.7	26.44	581.46
11.0	151.27	302.5	2855.6	2910.3	27.35	581.69
12.0	151.27	302.5	3101.6	3158.2	28.30	581.91
13.0	151.27	302.5	3345.1	3404.1	29.49	582.13
14.0	151.27	302.5	3584.6	3647.7	31.52	582.34
15.0	151.27	302.5	3818.9	3887.2	34.11	582.55
16.0	151.27	302.5	4047.7	4121.5	36.91	582.74
17.0	151.27	302.5	4270.5	4350.2	39.87	582.93
18.0	151.27	302.5	4487.2	4573.0	42.89	583.11
19.0	151.27	302.5	4698.8	4789.8	45.47	583.29
20.0	0.00	151.3	4757.7	4850.1	46.19	583.34
21.0	0.00	0.0	4667.5	4757.7	45.09	583.26
22.0	0.00	0.0	4579.5	4667.5	44.02	583.19
23.0	0.00	0.0	4493.6	4579.5	42.97	583.12
24.0	0.00	0.0	4409.9	4493.6	41.83	583.05
25.0	0.00	0.0	4328.5	4409.9	40.69	582.98
26.0	0.00	0.0	4249.4	4328.5	39.57	582.91
27.0	0.00	0.0	4172.4	4249.4	38.48	582.85
28.0	0.00	0.0	4097.3	4172.4	37.54	582.78
29.0	0.00	0.0	4024.1	4097.3	36.61	582.72
30.0	0.00	0.0	3952.7	4024.1	35.71	582.66
31.0	0.00	0.0	3883.1	3952.7	34.83	582.60
32.0	0.00	0.0	3814.9	3883.1	34.06	582.54
33.0	0.00	0.0	3748.3	3814.9	33.32	582.48
34.0	0.00	0.0	3683.1	3748.3	32.60	582.43
35.0	0.00	0.0	3619.3	3683.1	31.89	582.37
36.0	0.00	0.0	3556.7	3619.3	31.29	582.32
37.0	0.00	0.0	3495.2	3556.7	30.77	582.26
38.0	0.00	0.0	3434.7	3495.2	30.25	582.21
39.0	0.00	0.0	3375.2	3434.7	29.75	582.16
40.0	0.00	0.0	3316.7	3375.2	29.25	582.11
41.0	0.00	0.0	3258.8	3316.7	28.98	582.05
42.0	0.00	0.0	3201.3	3258.8	28.73	582.00
43.0	0.00	0.0	3144.3	3201.3	28.48	581.95
44.0	0.00	0.0	3087.8	3144.3	28.24	581.90

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-100.HYD
Outflow Hydrograph: b5500\5500-00E.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
45.0	0.00	0.0	3031.8	3087.8	28.00	581.85
46.0	0.00	0.0	2976.3	3031.8	27.80	581.80
47.0	0.00	0.0	2921.1	2976.3	27.59	581.75
48.0	0.00	0.0	2866.3	2921.1	27.39	581.70
49.0	0.00	0.0	2811.9	2866.3	27.19	581.65
50.0	0.00	0.0	2757.9	2811.9	27.00	581.60
51.0	0.00	0.0	2704.3	2757.9	26.80	581.55
52.0	0.00	0.0	2651.1	2704.3	26.60	581.50
53.0	0.00	0.0	2598.3	2651.1	26.40	581.45
54.0	0.00	0.0	2545.9	2598.3	26.20	581.40
55.0	0.00	0.0	2493.9	2545.9	26.01	581.35
56.0	0.00	0.0	2442.3	2493.9	25.81	581.30
57.0	0.00	0.0	2391.0	2442.3	25.62	581.25
58.0	0.00	0.0	2340.2	2391.0	25.42	581.21
59.0	0.00	0.0	2289.7	2340.2	25.23	581.16
60.0	0.00	0.0	2239.6	2289.7	25.04	581.11

********** SUMMARY OF ROUTING COMPUTATIONS **********

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-100.HYD
Outflow Hydrograph: b5500\5500-00E.HYD

Starting Pond W.S. Elevation = 577.60 ft

***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow	=	151.27 cfs
Peak Outflow	=	46.19 cfs
Peak Elevation	=	583.34 ft

***** Summary of Approximate Peak Storage *****

Initial Storage	=	0 cu-ft
Peak Storage From Storm	=	144,118 cu-ft
Total Storage in Pond	=	144,118 cu-ft

Warning: Inflow hydrograph truncated on left side.

POND-2 Version: 5.21 S/N:

Return Freq: 100 years

Pond File: b5500\5500 .PND
Inflow Hydrograph: b5500\5500-100.HYD
Outflow Hydrograph: b5500\5500-00E.HYD

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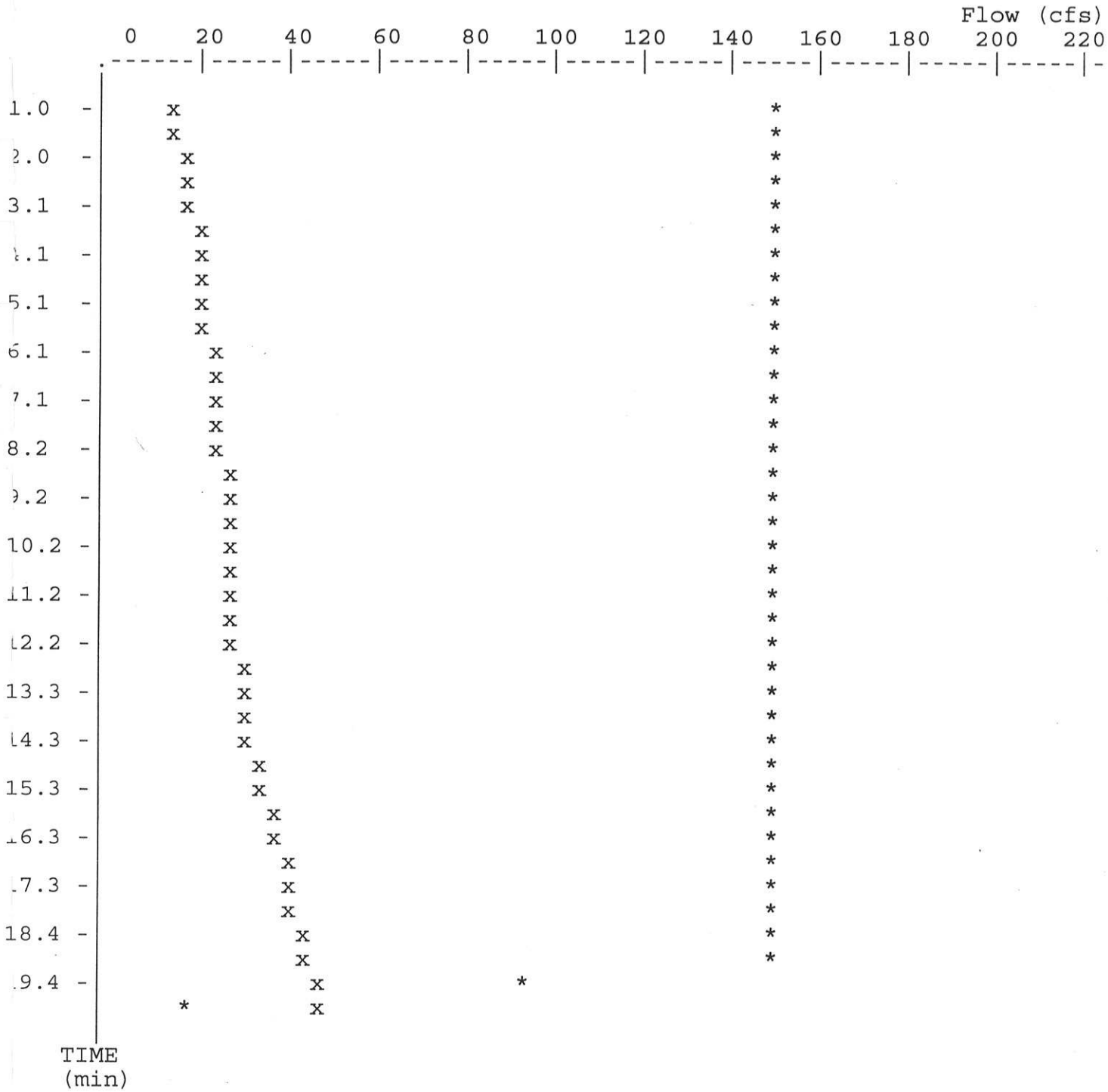
14:26:38

Peak Inflow = 151.27 cfs
Peak Outflow = 46.19 cfs
Peak Elevation = 583.34 ft



x File: b5500\5500-00E.HYD Qmax = 46.2 cfs
* File: b5500\5500-100.HYD Qmax = 151.3 cfs

Outlet Structure File: 5500LFB .STR

POND-2 Version: 5.21 S/N:
Date Executed: Time Executed:

****
WingHaven Village E Detention Basin

****

***** COMPOSITE OUTFLOW SUMMARY ****

Elevation (ft)	Q (cfs)	Contributing Structures
577.60	0.0	
577.85	0.0	
578.10	0.0	
578.35	0.0	
578.60	0.0	
578.85	0.0	
579.10	0.0	
579.35	0.0	
579.60	0.0	
579.85	0.0	
580.10	0.0	
580.35	0.0	
580.60	0.0	
580.85	0.0	
581.10	0.0	
581.35	0.0	
581.60	0.0	
581.85	0.0	
582.10	0.0	
582.35	0.0	
582.60	0.0	
582.85	0.0	
583.10	0.0	
583.35	0.0	
583.60	0.0	
583.85	0.0	
584.10	2.3	1
584.35	14.9	1
584.60	33.5	1
584.85	56.4	1
585.10	83.1	1
585.35	112.9	1
585.60	145.7	1
585.85	181.2	1
586.00	199.5	1

Outlet Structure File: 5500LFB .STR

POND-2 Version: 5.21 S/N:
Date Executed: Time Executed:

****
WingHaven Village E Detention Basin

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Outlet Structure File: b5500\5500LFB .STR
Planimeter Input File: b5500\5500 .VOL
Rating Table Output File: b5500\5500LFB .PND

Min. Elev.(ft) = 577.6 Max. Elev.(ft) = 586 Incr.(ft) = .25

Additional elevations (ft) to be included in table:
* *

****
SYSTEM CONNECTIVITY
****

Structure	No.	Q Table		Q Table
INLET BOX	1		->	1

Outflow rating table summary was stored in file:
b5500\5500LFB .PND

Outlet Structure File: 5500LFB .STR

POND-2 Version: 5.21 S/N:
Date Executed: Time Executed:

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WingHaven Village E Detention Basin

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>>>>>> Structure No. 1 <<<<<<
(Input Data)

INLET BOX
Weir & Orifice defined by length and area

E1 elev.(ft)?	584
E2 elev.(ft)?	586.5
Crest elev.(ft)?	584
Weir length (ft)?	24
Weir coefficient?	3
Orifice area (sq.ft)?	36
Orifice coefficient?	0.6
Start transition elev.(ft) @ ?	
Transition height (ft)?	1

****
*
* WingHaven Village E Detention Basin *
* 100 year storm with the low flow blocked. *
*
*
*
****

Inflow Hydrograph: b5500\5500-100.HYD
Rating Table file: b5500\5500LFB .PND

----INITIAL CONDITIONS----
Elevation = 582.67 ft
Outflow = 0.00 cfs
Storage = 119,963 cu-ft

GIVEN POND DATA			INTERMEDIATE ROUTING COMPUTATIONS	
ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)	2S/t (cfs)	2S/t + O (cfs)
577.60	0.0	0	0.0	0.0
577.85	0.0	175	5.8	5.8
578.10	0.0	1,296	43.2	43.2
578.35	0.0	3,134	104.5	104.5
578.60	0.0	5,605	186.8	186.8
578.85	0.0	8,804	293.5	293.5
579.10	0.0	12,823	427.4	427.4
579.35	0.0	17,756	591.9	591.9
579.60	0.0	23,698	789.9	789.9
579.85	0.0	30,561	1018.7	1018.7
580.10	0.0	37,658	1255.3	1255.3
580.35	0.0	44,911	1497.0	1497.0
580.60	0.0	52,322	1744.1	1744.1
580.85	0.0	59,892	1996.4	1996.4
581.10	0.0	67,624	2254.1	2254.1
581.35	0.0	75,518	2517.3	2517.3
581.60	0.0	83,577	2785.9	2785.9
581.85	0.0	91,803	3060.1	3060.1
582.10	0.0	100,195	3339.8	3339.8
582.35	0.0	108,752	3625.1	3625.1
582.60	0.0	117,475	3915.8	3915.8
582.85	0.0	126,364	4212.1	4212.1
583.10	0.0	135,421	4514.0	4514.0
583.35	0.0	144,648	4821.6	4821.6
583.60	0.0	154,046	5134.9	5134.9
583.85	0.0	163,617	5453.9	5453.9
584.10	2.3	173,363	5778.7	5781.0
584.35	14.9	183,280	6109.3	6124.2
584.60	33.5	193,368	6445.6	6479.1
584.85	56.4	203,630	6787.7	6844.1
585.10	83.1	214,067	7135.6	7218.7

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
585.35	112.9	224,681
585.60	145.7	235,472
585.85	181.2	246,442
586.00	199.5	253,113

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
7489.3	7602.2
7849.0	7994.7
8214.7	8395.9
8437.1	8636.6

Time increment (t) = 1.0 min.

Pond File: b5500\5500LFB .PND
Inflow Hydrograph: b5500\5500-100.HYD
Outflow Hydrograph: b5500\5500-LFB.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.0	151.27	-----	3998.8	3998.8	0.00	582.67
1.0	151.27	302.5	4301.3	4301.3	0.00	582.92
2.0	151.27	302.5	4603.8	4603.8	0.00	583.17
3.0	151.27	302.5	4906.4	4906.4	0.00	583.42
4.0	151.27	302.5	5208.9	5208.9	0.00	583.66
5.0	151.27	302.5	5510.7	5511.5	0.40	583.89
6.0	151.27	302.5	5806.2	5813.2	3.48	584.12
7.0	151.27	302.5	6080.1	6108.8	14.33	584.34
8.0	151.27	302.5	6325.8	6382.6	28.45	584.53
9.0	151.27	302.5	6542.6	6628.3	42.86	584.70
10.0	151.27	302.5	6732.2	6845.1	56.47	584.85
11.0	151.27	302.5	6894.7	7034.7	69.99	584.98
12.0	151.27	302.5	7034.1	7197.3	81.57	585.09
13.0	151.27	302.5	7152.1	7336.7	92.27	585.18
14.0	151.27	302.5	7251.8	7454.7	101.43	585.25
15.0	151.27	302.5	7336.0	7554.3	109.18	585.32
16.0	151.27	302.5	7406.7	7638.5	115.93	585.37
17.0	151.27	302.5	7465.5	7709.2	121.84	585.42
18.0	151.27	302.5	7514.5	7768.1	126.76	585.46
19.0	151.27	302.5	7555.4	7817.1	130.85	585.49
20.0	0.00	151.3	7463.4	7706.6	121.62	585.42
21.0	0.00	0.0	7259.2	7463.4	102.11	585.26
22.0	0.00	0.0	7086.7	7259.2	86.25	585.13
23.0	0.00	0.0	6939.3	7086.7	73.69	585.01
24.0	0.00	0.0	6812.9	6939.3	63.19	584.91
25.0	0.00	0.0	6704.0	6812.9	54.45	584.83
26.0	0.00	0.0	6608.8	6704.0	47.61	584.75
27.0	0.00	0.0	6525.5	6608.8	41.64	584.69
28.0	0.00	0.0	6452.7	6525.5	36.41	584.63
29.0	0.00	0.0	6388.5	6452.7	32.12	584.58
30.0	0.00	0.0	6331.0	6388.5	28.75	584.54
31.0	0.00	0.0	6279.5	6331.0	25.74	584.50
32.0	0.00	0.0	6233.4	6279.5	23.04	584.46
33.0	0.00	0.0	6192.2	6233.4	20.62	584.43
34.0	0.00	0.0	6155.2	6192.2	18.46	584.40
35.0	0.00	0.0	6122.2	6155.2	16.53	584.37
36.0	0.00	0.0	6092.5	6122.2	14.83	584.35
37.0	0.00	0.0	6065.1	6092.5	13.74	584.33
38.0	0.00	0.0	6039.6	6065.1	12.73	584.31
39.0	0.00	0.0	6016.0	6039.6	11.79	584.29
40.0	0.00	0.0	5994.2	6016.0	10.93	584.27
41.0	0.00	0.0	5973.9	5994.2	10.13	584.26
42.0	0.00	0.0	5955.1	5973.9	9.38	584.24
43.0	0.00	0.0	5937.8	5955.1	8.69	584.23
44.0	0.00	0.0	5921.7	5937.8	8.05	584.21

Pond File: b5500\5500LFB .PND
Inflow Hydrograph: b5500\5500-100.HYD
Outflow Hydrograph: b5500\5500-LFB.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
45.0	0.00	0.0	5906.7	5921.7	7.46	584.20
46.0	0.00	0.0	5892.9	5906.7	6.91	584.19
47.0	0.00	0.0	5880.1	5892.9	6.41	584.18
48.0	0.00	0.0	5868.2	5880.1	5.94	584.17
49.0	0.00	0.0	5857.2	5868.2	5.50	584.16
50.0	0.00	0.0	5847.0	5857.2	5.10	584.16
51.0	0.00	0.0	5837.6	5847.0	4.72	584.15
52.0	0.00	0.0	5828.8	5837.6	4.38	584.14
53.0	0.00	0.0	5820.7	5828.8	4.05	584.13
54.0	0.00	0.0	5813.2	5820.7	3.76	584.13
55.0	0.00	0.0	5806.2	5813.2	3.48	584.12
56.0	0.00	0.0	5799.8	5806.2	3.23	584.12
57.0	0.00	0.0	5793.8	5799.8	2.99	584.11
58.0	0.00	0.0	5788.3	5793.8	2.77	584.11
59.0	0.00	0.0	5783.1	5788.3	2.57	584.11
60.0	0.00	0.0	5778.4	5783.1	2.38	584.10

********** SUMMARY OF ROUTING COMPUTATIONS **********

Pond File: b5500\5500LFB .PND
Inflow Hydrograph: b5500\5500-100.HYD
Outflow Hydrograph: b5500\5500-LFB.HYD

Starting Pond W.S. Elevation = 582.67 ft

***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow	=	151.27 cfs
Peak Outflow	=	130.85 cfs
Peak Elevation	=	585.49 ft

***** Summary of Approximate Peak Storage *****

Initial Storage	=	119,963 cu-ft
Peak Storage From Storm	=	110,623 cu-ft
Total Storage in Pond	=	230,586 cu-ft

Warning: Inflow hydrograph truncated on left side.

POND-2 Version: 5.21 S/N:

Return Freq: 100 years

Pond File: b5500\5500LFB .PND
Inflow Hydrograph: b5500\5500-100.HYD
Outflow Hydrograph: b5500\5500-LFB.HYD

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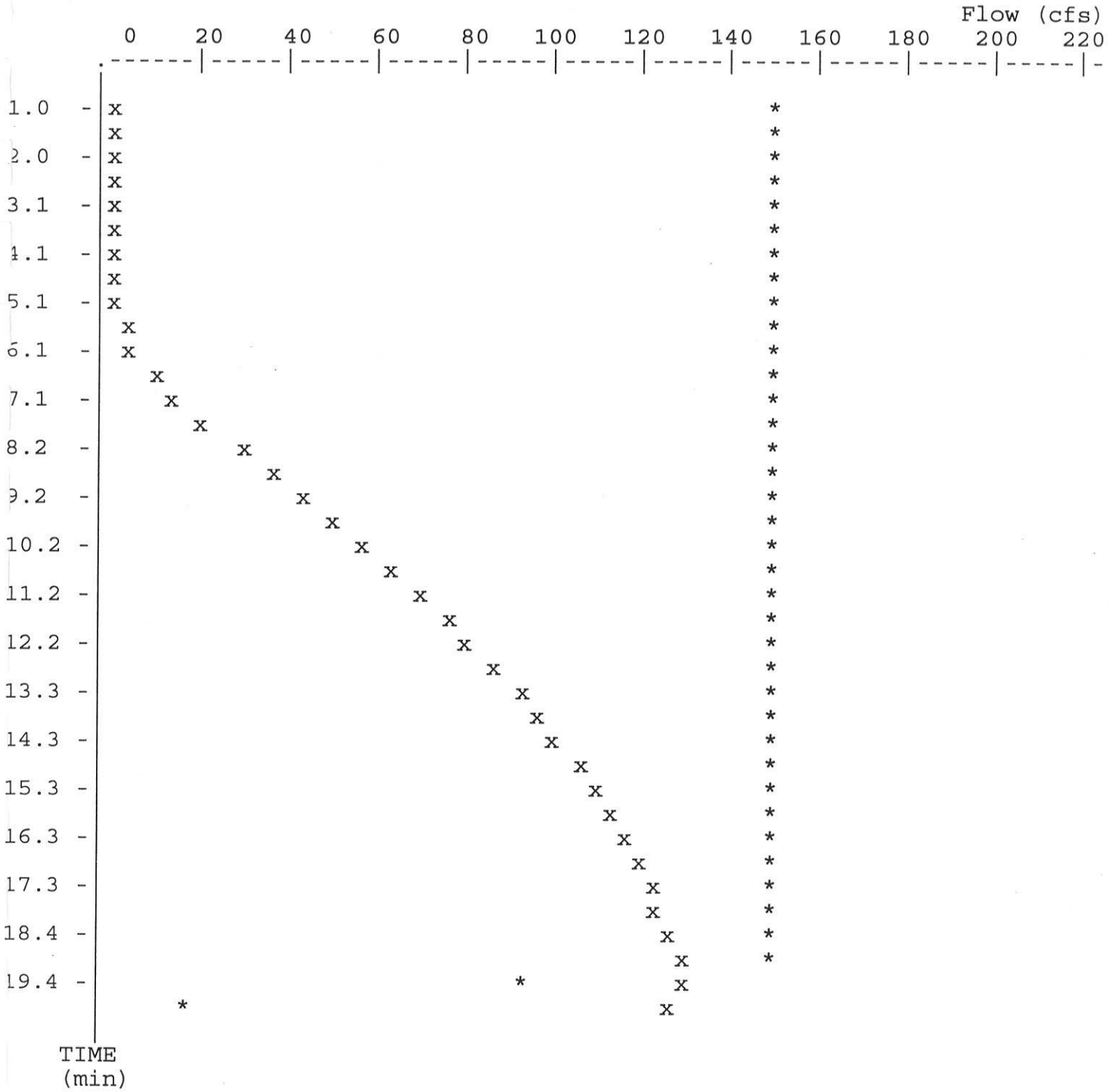
Peak Inflow = 151.27 cfs
Peak Outflow = 130.85 cfs
Peak Elevation = 585.49 ft



x File: b5500\5500-LFB.HYD Qmax = 130.9 cfs
* File: b5500\5500-100.HYD Qmax = 151.3 cfs