ENGINEERING
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STORM WATER DETENTION ANALYSIS
PREPARED BY: BAX ENGINEERING CO., INC.
THE MEADOWS OF PARKWOOD ESTATES- CITY OF O'FALLON, MO
BAX PROJECT NO. **02-12003**
April 1, 2003 REVISED: February 4, 2004

INTRODUCTION:

This presently undeveloped site is located in the City of O'Fallon, Missouri. It is proposed that the 10.28-acre tract be developed into a residential subdivision. Two dry storm water detention basins shall be constructed, one being located in the Southwestern corner of the site and the other in the Southeastern corner of the site. These two detention basins will provide detention for the improvements associated with the project. The storage volume and outflow rates shall be proportioned to insure that the peak rate of runoff leaving the tract under post-developed conditions is less than or equal to the peak rate of runoff under pre-developed conditions for the 2, 15, 25 and 100 year - 20 minutes design storms and also analyzed for safe passage of the 100-year frequency – 20 minute duration design storms under an emergency situation.

GENERAL SITE DATA AND RUNOFF CALCULATIONS:

The pre-developed P.I. factors to be used for the analysis are:

2 year	0-5%	Impervious	1.15	cfs/ac
15 year	0-5%	Impervious	1.87	cfs/ac
25 year	0-5%	Impervious	2.31	cfs/ac
100 year	0-5%	Impervious	2.95	cfs/ac

2/23/04
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APPROVED

The post-developed P.I. factors to be used for the analysis are:

2 year	40%	Impervious	1.61	cfs/ac
15 year	40%	Impervious	2.64	cfs/ac
25 year	40%	Impervious	3.26	cfs/ac
100 year	40%	Impervious	4.17	cfs/ac

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER

BAX ENGINEERING CO., INC.
1052 South Cloverleaf Drive
St. Peters, MO 63376-6445
636-928-5552 FAX 928-1718

TIME OF CONCENTRATION:

BASIN A

Of the inflows to the basin, the hydraulically most remote point lies to the North of the site approximately 260 feet at the intersection of Fort Zumwalt Drive and West Park Drive, in Parkview Subdivision. Flows will travel approximately 320 feet overland to CI 10 and then 715 feet via storm sewer pipe to the detention basin. Time of concentration is estimated as follows:

T(overland): L = 260 feet
Elevation difference = 598 – 587 = 11.0 feet
T(overland) = 0.76 minutes: See figure 1

T(stormpipe) : L = 715 feet
Estimated velocity = 7 feet/second
T(stormpipe) = 715 feet / 7 feet/sec.
= 1.70 minutes.

Total time = 2.46 min use 2 **minutes.**

BASIN B

Of the inflows to the basin, the hydraulically most remote point lies in the Northern section of the site, at the intersection of West Park Drive and the northern site boundary. Flows will travel approximately 520 feet overland to AI 29 and then 465 feet via storm sewer pipe to the detention basin. Time of concentration is estimated as follows:

T(overland): L = 520 feet
Elevation difference = 590 – 572 = 18.0 feet
T(overland) = 3.50 minutes: See figure 1

T(stormpipe) : L = 465 feet
Estimated velocity = 7 feet/second
T(stormpipe) = 465 feet / 7 feet/sec.
= 1.11 minutes.

Total time = 4.61 min use 4 **minutes**

DIFFERENTIAL RUNOFF:

Sub-basin A (15 year)
Existing Flows
5.77 acres @ 1.87 cfs/ac
Q = 10.79 cfs
Proposed Flows
6.70 acres @ 2.64 cfs/ac
Q = 17.69 cfs
Differential Runoff
Proposed – Existing
17.69 cfs – 10.79 cfs
Q = 6.90 cfs (Detention Required)
2 year = 4.15 cfs
15 year = 6.90 cfs
25 year = 8.51 cfs
100 year = 10.92 cfs

Sub-basin B (15 year)
Existing Flows
2.09 acres @ 1.87 cfs/ac
Q = 3.91 cfs
Proposed Flows
3.73 acres @ 2.64 cfs/ac
Q = 9.85 cfs
Differential Runoff
Proposed – Existing
9.85 cfs – 3.91 cfs
Q = 5.94 cfs (Detention Required)
2 year = 3.61 cfs
15 year = 5.94 cfs
25 year = 7.33 cfs
100 year = 9.39 cfs

Sub-basin C (15 year)
Existing Flows
1.45 acres @ 1.87 cfs/ac
Q = 2.71 cfs
Proposed Flows
0.16 acres @ 2.64 cfs/ac
Q = 0.42 cfs
Differential Runoff
Proposed – Existing
2.71 cfs – 0.42 cfs
Q = -2.29 cfs (No Detention Required)
2 year = -1.41 cfs
15 year = -2.29 cfs
25 year = -2.83 cfs
100 year = -3.61 cfs

Sub-basin D (15 year)
Existing Flows
0.97 acres @ 1.87 cfs/ac
Q = 1.81 cfs
Proposed Flows
0.38 acres @ 2.64 cfs/ac
Q = 1.00 cfs
Differential Runoff
Proposed – Existing
1.00 cfs – 1.81 cfs
Q = -0.81 cfs (No Detention Required)
2 year = -0.51 cfs
15 year = -0.81 cfs
25 year = -1.00 cfs
100 year = -1.28 cfs

BASIN PEAK INFLOWS:

Inflows to the basin have been estimated from the drainage area map included in the construction plans:

Basin A

15 year – 20 minute storm:

On Site	5.23 ac x	2.64 cfs/ac	=	13.81 cfs
Off Site	0.68 ac x	2.64 cfs/ac	=	+ 1.79 cfs
		Total	=	15.60 cfs

2 year – 20 minute storm:	9.52 cfs
15 year – 20 minute storm:	15.60 cfs
25 year – 20 minute storm:	19.27 cfs
100 year – 20 minute storm:	24.64 cfs

Basin B

15 year – 20 minute storm:

On Site	3.22 ac x	2.64 cfs/ac	=	8.51 cfs
		Total	=	8.51 cfs

2 year – 20 minute storm:	5.18 cfs
15 year – 20 minute storm:	8.51 cfs
25 year – 20 minute storm:	10.51 cfs
100 year – 20 minute storm:	13.44 cfs

PERMITTED RELEASE RATE:

The permitted release rate of the basin was found by subtracting the Differential Runoff from the peak inflow to the basin for each design storm:

Basin A

	BASIN INFLOW		DIFFERENTIAL RUNOFF		ALLOWABLE RELEASE RATE
2 year	9.52 cfs	-	4.15 cfs	=	5.37 cfs
15 year	15.60 cfs	-	6.90 cfs	=	8.70 cfs
25 years	19.27 cfs	-	8.51 cfs	=	10.75 cfs
100 year	24.64 cfs	-	10.92 cfs	=	13.73 cfs

Basin B

	BASIN INFLOW		DIFFERENTIAL RUNOFF		ALLOWABLE RELEASE RATE
2 year	5.18 cfs	-	3.61 cfs	=	1.57 cfs
15 year	8.51 cfs	-	5.94 cfs	=	2.57 cfs
25 years	10.51 cfs	-	7.33 cfs	=	3.18 cfs
100 year	13.44 cfs	-	9.39 cfs	=	4.05 cfs

STORM ROUTING CALCULATIONS AND RESULTS:

A computer program was used in routing the design 2, 15, 25 and 100 year – 20-minute storms through the basin.

Basin A

20 MIN STORM	PEAK INFLOW	PERMITTED RELEASE RATE	CALCULATED RELEASE RATE	PEAK ELEVATION
2 YR	9.52 cfs	5.37 cfs	4.27 cfs	545.72 ft
15 YR	15.60 cfs	8.70 cfs	6.83 cfs	546.96 ft
25 YR	19.27 cfs	10.75 cfs	9.74 cfs	547.49 ft
100 YR	24.64 cfs	13.73 cfs	11.99 cfs	548.22 ft

Basin B 20 MIN STORM	PEAK INFLOW	PERMITTED RELEASE RATE	CALCULATED RELEASE RATE	PEAK ELEVATION
2 YR	5.18 cfs	1.57 cfs	1.30 cfs	545.34 ft
15 YR	8.51 cfs	2.57 cfs	1.69 cfs	546.29 ft
25 YR	10.51 cfs	3.18 cfs	2.38 cfs	546.74 ft
100 YR	13.44 cfs	4.05 cfs	3.66 cfs	547.29 ft

CHECK 100-YEAR OUTFLOW: (low flow slots blocked)

Basin A

WEIR FLOW	Q = C x L x H (3/2)
Where 100-YEAR FLOW	Q = 24.64
	C = 3.0
Spillway Width	L = 12.57
	H = 0.75 ft
	Sill = 548.29 ft
	100 yr h/w = 549.04 ft

Basin B

WEIR FLOW	Q = C x L x H (3/2)
Where 100-YEAR FLOW	Q = 13.44
	C = 3.0
Spillway Width	L = 12.57
	H = 0.50 ft
	Sill = 547.50 ft
	100 yr h/w = 548.00 ft

SEDIMENT VOLUME CALCULATION:

Basin A

The basin shall be analyzed to accommodate 2 years of sediment storage.

- The Drainage area to the basin = 5.91 Acres
- Rational Method runoff coefficient 'c' = 0.6
- Annual sediment storage volume (from figure 2) = 98 ft^3/Acre
- The sediment volume and storage required =

2 years of sediment storage = 5.91 Acres (98 ft^3/Acre/Year) (2 years)

2 years of sediment storage = 1,158 ft^3

To provide for the additional sediment storage the top of the overflow sill will be set at 547.80. Volume between the 100-year high water of 547.59 and the overflow sill elevation of 547.80 is 1,425 ft^3.

1,425 ft^3 provided > 1,158 ft^3 required

Basin B

The basin shall be analyzed to accommodate 2 years of sediment storage.

- The Drainage area to the basin = 3.24 Acres
- Rational Method runoff coefficient 'c' = 0.6
- Annual sediment storage volume (from figure 2) = 99 ft^3/Acre
- The sediment volume and storage required =

2 years of sediment storage = 3.24 Acres (99 ft^3/Acre/Year) (2 years)

2 years of sediment storage = 641.52 ft^3

To provide for the additional sediment storage the top of the overflow sill will be set at 547.50. Volume between the 100-year high water of 547.29 and the overflow sill elevation of 547.50 is 1,221 ft^3.

1,221 ft^3 provided > 642 ft^3 required

SUMMARY

Basin A

2 year – 20 minute H.W.	545.72
15 year – 20 minute H.W.	546.96
25 year – 20 minute H.W.	547.49
100 year – 20 minute H.W.	548.22
100 year – 20 minute H.W. (Low Flow Blocked)	549.04
Low-Flow Slot	6.50" W x 12.50" H
Low-Flow Elevation	542.72
Upper-Flow Slot	15.00" W x 10.00" H
Upper-Flow Elevation	546.39
Elevation of Spillway	548.29
Top of Berm	550.10

Basin B

2 year – 20 minute H.W.	545.34
15 year – 20 minute H.W.	546.29
25 year – 20 minute H.W.	546.74
100 year – 20 minute H.W.	547.29
100 year – 20 minute H.W. (Low Flow Blocked)	548.00
Low-Flow Slot	3.5" W x 7" H
Low-Flow Elevation	542.50
Upper-Flow Slot	0.50' W x 1.40' H
Upper-Flow Elevation	546.10
Elevation of Spillway	547.50
Top of Berm	549.50

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TIME OF CONCENTRATION FOR SMALL DRAINAGE BASINS

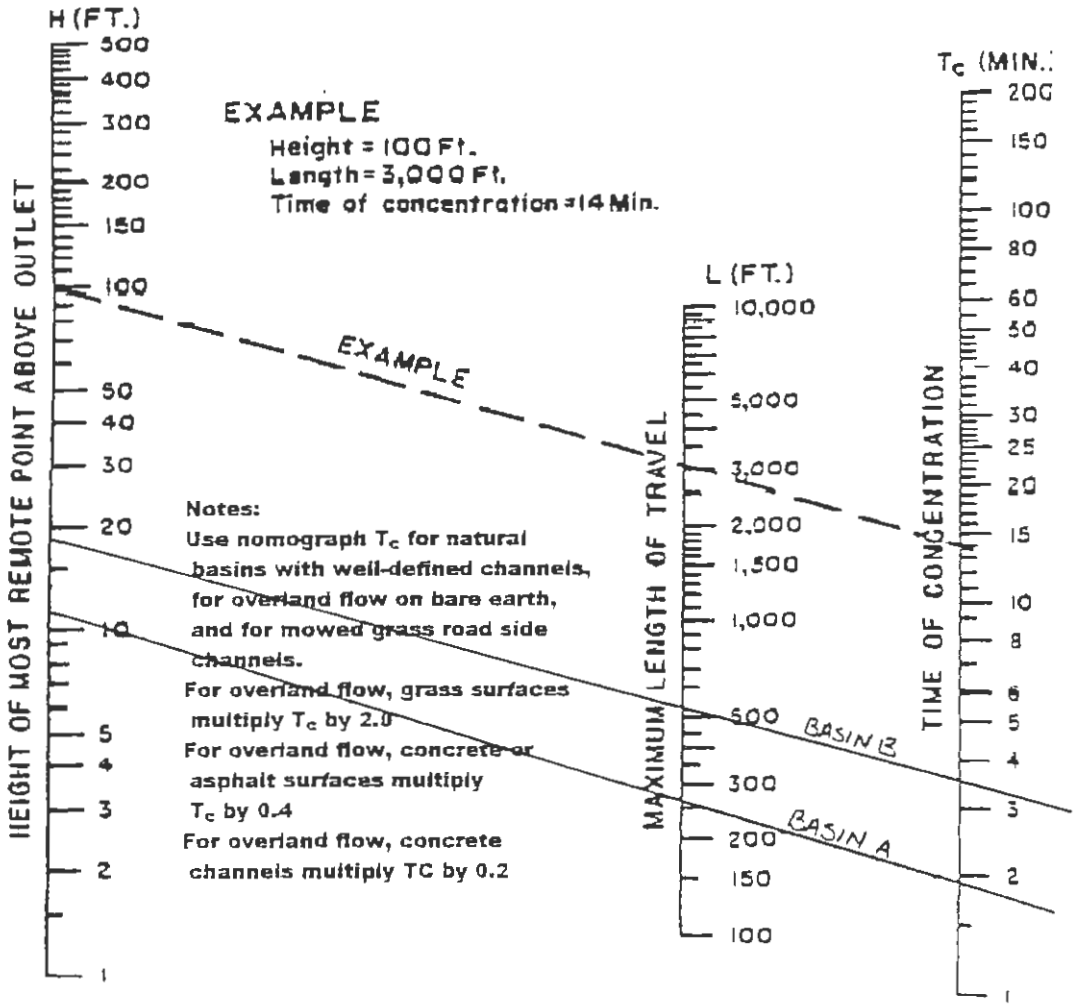


FIGURE 1

BASIN A
$L = 275'$
$\Delta H = 11'$
$t_c = 0.4(1.9) = 0.76$ MIN

BASIN B
$L = 520'$
$\Delta H = 18'$
$t_c = 3.5$ MIN

PROJECT: PARKWOOD ESTATES
DATE: 03/21/03 PROJECT NO: 02-12003
DESIGNED: JLJ CHECKED:

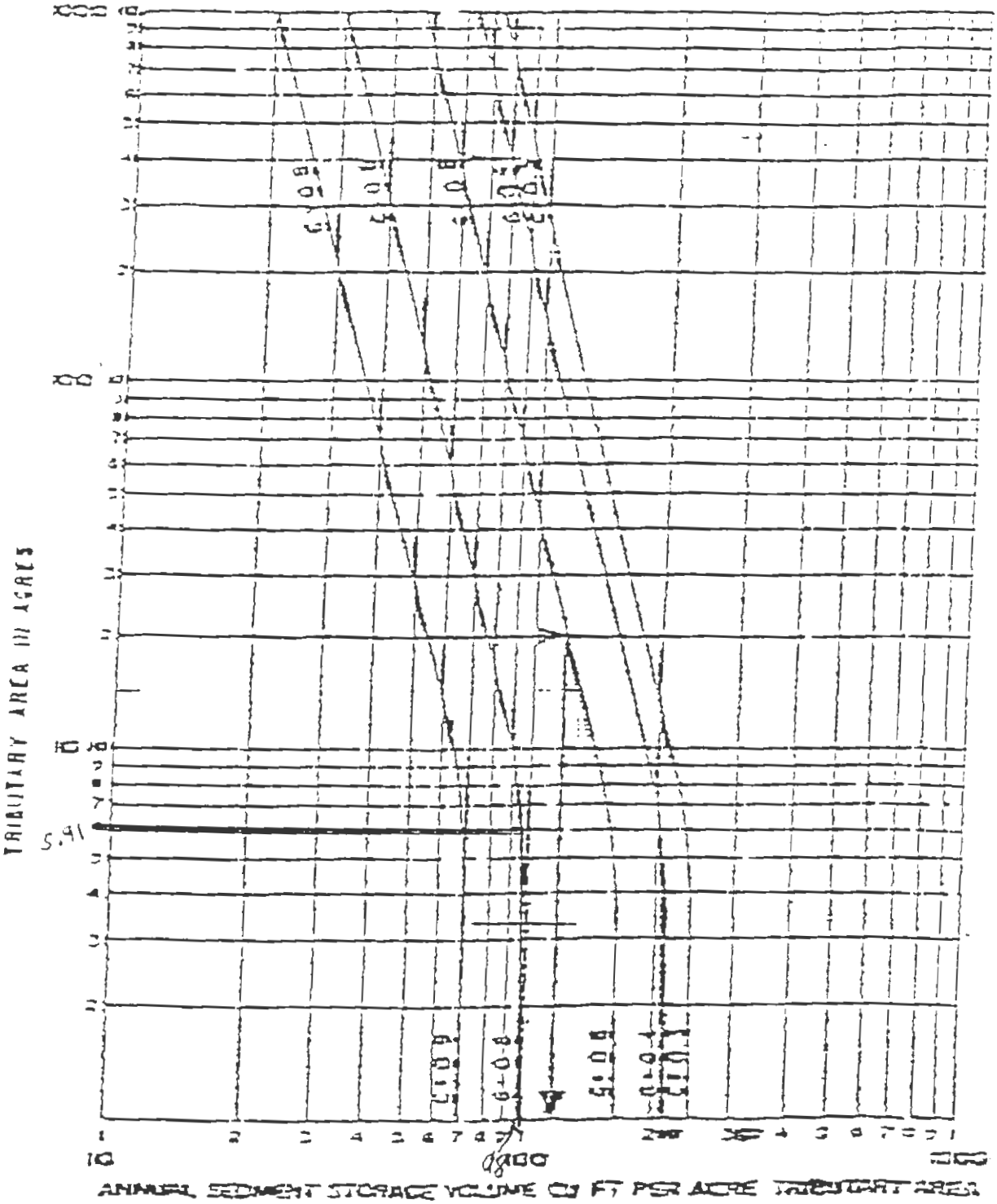
EXAMPLE:

TRIBUTARY AREA = 20 ACRES → ~~CATCHMENT~~ 5.91 AC

RATIONAL METHOD RUNOFF COEFFICIENT "C" = 0.6

SEDIMENT STORAGE = 120 CU FT PER ACRE PER YEAR

TOTAL SEDIMENT STORAGE = 120 × 20 = 2400 CU FT PER YEAR.



BASIN A

ANNUAL SEDIMENT STORAGE

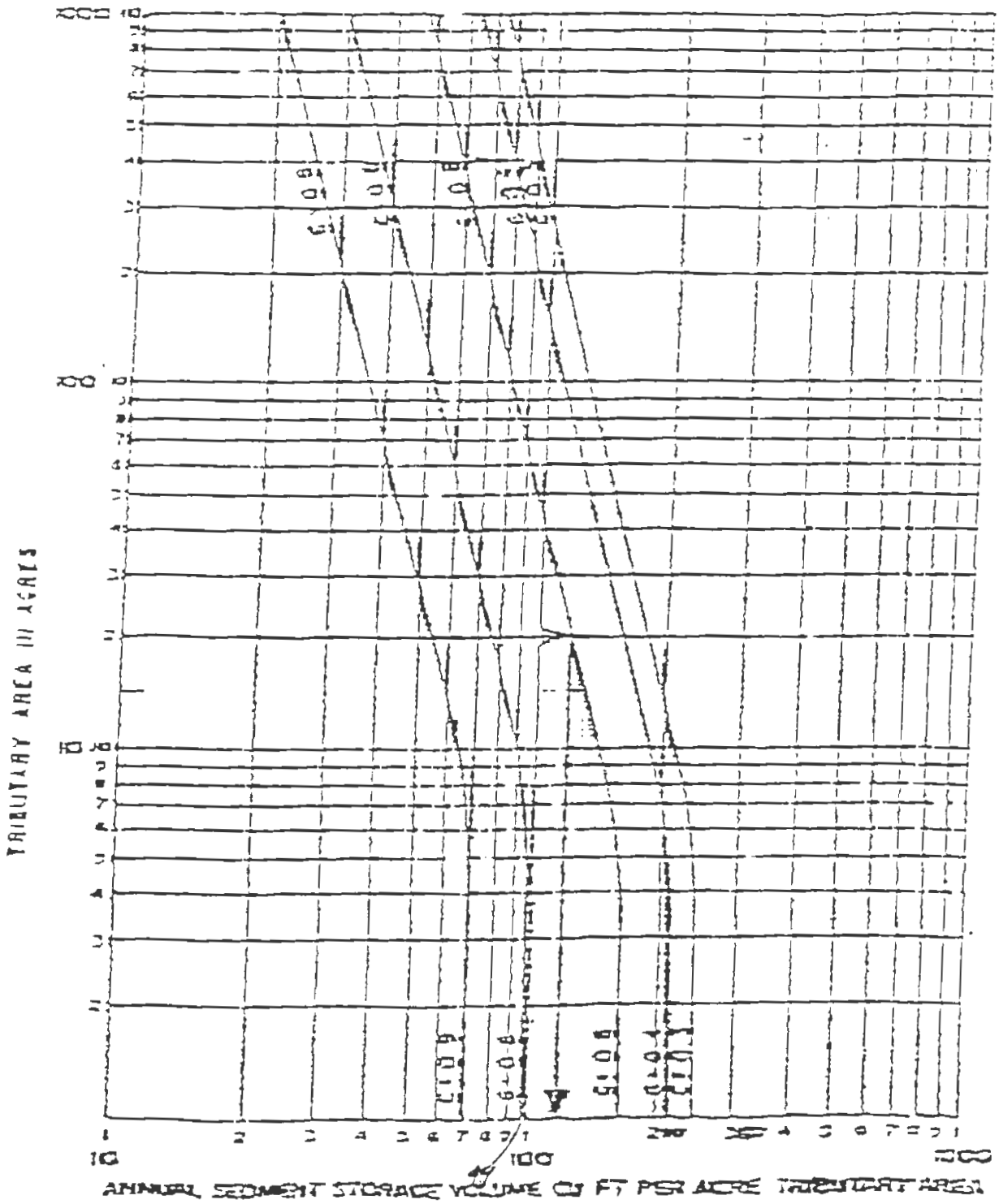
EXAMPLE

TRIBUTARY AREA = ~~20 ACRES~~ 3.84

RATIONAL METHOD RUNOFF COEFFICIENT "C" = 0.6

SEDIMENT STORAGE = 120 CU FT PER ACRE PER YEAR

TOTAL SEDIMENT STORAGE = 120 × 20 = 2400 CU. FT. PER YEAR.



BASIN B
ANNUAL SEDIMENT STORAGE

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POND VOLUME CALCULATIONS

Planimeter scale: 1.00 ft/in

Elevation (ft)	Planimeter (sq.in)	Area (sq.ft)	A1+A2+sqr(A1*A2) (sq.ft)	Volume (cu.ft)	Volume Sum (cu.ft)
542.72	.000	0	0	0	0
544.00	2807.000	2807	2807	1198	1198
546.00	4635.000	4635	11049	7366	8564
548.00	6366.000	6366	16433	10955	19519
550.00	8419.000	8419	22106	14737	34256

POND VOLUME EQUATIONS

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

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + 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

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 542.72 ft
Increment = .10 ft
Max. Elev.= 550.00 ft

****
OUTLET CONNECTIVITY
****

---> Forward Flow Only (UpStream to DnStream)
<--- Reverse Flow Only (DnStream to UpStream)
<---> Forward and Reverse Both Allowed

Structure	No.		Outfall	E1, ft	E2, ft
Inlet Box	5	--->	TW	548.290	550.000
Orifice-Area	4	--->	TW	547.220	550.000
Weir-Rectangular	3	--->	TW	546.390	547.220
Orifice-Area	2	--->	TW	543.760	550.000
Weir-Rectangular	1	--->	TW	542.720	543.760

TW SETUP, DS Channel

OUTLET STRUCTURE INPUT DATA

Structure ID = 5
Structure Type = Inlet Box

# of Openings	=	1
Invert Elev.	=	548.29 ft
Orifice Area	=	12.5700 sq.ft
Orifice Coeff.	=	.600
Weir Length	=	12.57 ft
Weir Coeff.	=	3.000
K, Submerged	=	.000
K, Reverse	=	1.000
Kb,Barrel	=	.000000 (per ft of full flow)
Barrel Length	=	.00 ft
Mannings n	=	.0000

Structure ID = 4
Structure Type = Orifice-Area

# of Openings	=	1
Invert Elev.	=	546.39 ft
Area	=	1.0400 sq.ft
Top of Orifice	=	547.22 ft
Datum Elev.	=	546.81 ft
Orifice Coeff.	=	.600

Structure ID = 3
Structure Type = Weir-Rectangular

# of Openings	=	1
Crest Elev.	=	546.39 ft
Weir Length	=	1.25 ft
Weir Coeff.	=	3.000000

Weir TW effects (Use adjustment equation)

OUTLET STRUCTURE INPUT DATA

Structure ID = 2
Structure Type = Orifice-Area

# of Openings = 1
Invert Elev. = 542.72 ft
Area = .5640 sq.ft
Top of Orifice = 543.76 ft
Datum Elev. = 543.24 ft
Orifice Coeff. = .600

Structure ID = 1
Structure Type = Weir-Rectangular

# of Openings = 1
Crest Elev. = 542.72 ft
Weir Length = .54 ft
Weir Coeff. = 3.000000

Weir TW effects (Use adjustment equation)

Structure ID = TW
Structure Type = TW SETUP, DS Channel

FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...
Maximum Iterations= 30
Min. TW tolerance = .01 ft
Max. TW tolerance = .01 ft
Min. HW tolerance = .01 ft
Max. HW tolerance = .01 ft
Min. Q tolerance = .10 cfs
Max. Q tolerance = .10 cfs

Type.... Composite Rating Curve
Name.... BASIN AASB3

File.... E:\PONDPACK\12003\PARKWOOD ESTATES BASIN A.PPW

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

WS Elev, Total Q		Converge		Notes
Elev. ft	Q cfs	TW Elev ft	Error +/-ft	Contributing Structures
542.72	.00	Free Outfall		1
542.82	.05	Free Outfall		1
542.92	.15	Free Outfall		1
543.02	.27	Free Outfall		1
543.12	.41	Free Outfall		1
543.22	.57	Free Outfall		1
543.32	.76	Free Outfall		1
543.42	.95	Free Outfall		1
543.52	1.16	Free Outfall		1
543.62	1.39	Free Outfall		1
543.72	1.63	Free Outfall		1
543.82	2.07	Free Outfall		2
543.92	2.24	Free Outfall		2
544.02	2.40	Free Outfall		2
544.12	2.55	Free Outfall		2
544.22	2.69	Free Outfall		2
544.32	2.82	Free Outfall		2
544.42	2.95	Free Outfall		2
544.52	3.07	Free Outfall		2
544.62	3.19	Free Outfall		2
544.72	3.30	Free Outfall		2
544.82	3.41	Free Outfall		2
544.92	3.52	Free Outfall		2
545.02	3.62	Free Outfall		2
545.12	3.72	Free Outfall		2
545.22	3.82	Free Outfall		2
545.32	3.91	Free Outfall		2
545.42	4.01	Free Outfall		2
545.52	4.10	Free Outfall		2
545.62	4.19	Free Outfall		2
545.72	4.27	Free Outfall		2
545.82	4.36	Free Outfall		2
545.92	4.44	Free Outfall		2
546.02	4.53	Free Outfall		2
546.12	4.61	Free Outfall		2
546.22	4.69	Free Outfall		2
546.32	4.76	Free Outfall		2
546.39	4.82	Free Outfall		3 +2
546.42	4.86	Free Outfall		3 +2
546.52	5.09	Free Outfall		3 +2

Type.... Composite Rating Curve
Name.... BASIN AASB3

File.... E:\PONDPACK\12003\PARKWOOD ESTATES BASIN A.PPW

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

WS Elev, Total Q		Notes		
		Converge		
Elev. ft	Q cfs	TW Elev ft	Error +/-ft	Contributing Structures
546.62	5.40	Free Outfall		3 +2
546.72	5.77	Free Outfall		3 +2
546.82	6.19	Free Outfall		3 +2
546.92	6.65	Free Outfall		3 +2
547.02	7.15	Free Outfall		3 +2
547.12	7.69	Free Outfall		3 +2
547.22	8.62	Free Outfall		4 +2
547.32	9.06	Free Outfall		4 +2
547.42	9.46	Free Outfall		4 +2
547.52	9.83	Free Outfall		4 +2
547.62	10.19	Free Outfall		4 +2
547.72	10.52	Free Outfall		4 +2
547.82	10.84	Free Outfall		4 +2
547.92	11.15	Free Outfall		4 +2
548.02	11.44	Free Outfall		4 +2
548.12	11.73	Free Outfall		4 +2
548.22	12.00	Free Outfall		4 +2
548.29	12.19	Free Outfall		5 +4 +2
548.32	12.46	Free Outfall		5 +4 +2
548.42	14.30	Free Outfall		5 +4 +2
548.52	16.94	Free Outfall		5 +4 +2
548.62	20.18	Free Outfall		5 +4 +2
548.72	23.91	Free Outfall		5 +4 +2
548.82	28.06	Free Outfall		5 +4 +2
548.92	32.60	Free Outfall		5 +4 +2
549.02	37.49	Free Outfall		5 +4 +2
549.12	42.71	Free Outfall		5 +4 +2
549.22	48.23	Free Outfall		5 +4 +2
549.32	54.04	Free Outfall		5 +4 +2
549.42	60.13	Free Outfall		5 +4 +2
549.52	66.48	Free Outfall		5 +4 +2
549.62	73.09	Free Outfall		5 +4 +2
549.72	79.93	Free Outfall		5 +4 +2
549.82	87.01	Free Outfall		5 +4 +2
549.92	93.08	Free Outfall		5 +4 +2
550.00	95.11	Free Outfall		5 +4 +2

Type.... Pond E-V-Q Table
Name.... BASIN A
File.... E:\PONDPACK\12003\PARKWOOD ESTATES BASIN A.PPW

LEVEL POOL ROUTING DATA

HYG Dir = E:\PONDPACK\12003\
Inflow HYG file = NONE STORED - BASIN A IN 002 YR
Outflow HYG file = NONE STORED - BASIN A OUT 002 YR

Pond Node Data = BASIN A
Pond Volume Data = BASIN AASB2
Pond Outlet Data = BASIN AASB3

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 542.72 ft
Starting Volume = 0 cu.ft
Starting Outflow = .00 cfs
Starting Infiltr. = .00 cfs
Starting Total Qout= .00 cfs
Time Increment = 1.00 min

Elevation ft	Outflow cfs	Storage cu.ft	Area sq.ft	Infilt. cfs	Q Total cfs	2S/t + O cfs
542.72	.00	0	0	.00	.00	.00
542.82	.05	1	17	.00	.05	.07
542.92	.15	5	69	.00	.15	.30
543.02	.27	15	154	.00	.27	.78
543.12	.41	37	274	.00	.41	1.63
543.22	.57	71	428	.00	.57	2.95
543.32	.76	123	617	.00	.76	4.87
543.42	.95	196	839	.00	.95	7.48
543.52	1.16	292	1096	.00	1.16	10.91
543.62	1.39	416	1388	.00	1.39	15.27
543.72	1.63	571	1713	.00	1.63	20.66
543.82	2.07	760	2073	.00	2.07	27.40
543.92	2.24	987	2467	.00	2.24	35.13
544.02	2.40	1254	2823	.00	2.40	44.19
544.12	2.55	1540	2904	.00	2.55	53.89
544.22	2.69	1835	2986	.00	2.69	63.84
544.32	2.82	2137	3069	.00	2.82	74.07
544.42	2.95	2449	3153	.00	2.95	84.57
544.52	3.07	2768	3238	.00	3.07	95.34
544.62	3.19	3096	3325	.00	3.19	106.40
544.72	3.30	3433	3413	.00	3.30	117.74
544.82	3.41	3779	3501	.00	3.41	129.37
544.92	3.52	4133	3591	.00	3.52	141.30

Type.... Pond E-V-Q Table
Name.... BASIN A
File.... E:\PONDPACK\12003\PARKWOOD ESTATES BASIN A.PPW

LEVEL POOL ROUTING DATA

HYG Dir = E:\PONDPACK\12003\
Inflow HYG file = NONE STORED - BASIN A IN 002 YR
Outflow HYG file = NONE STORED - BASIN A OUT 002 YR

Pond Node Data = BASIN A
Pond Volume Data = BASIN AASB2
Pond Outlet Data = BASIN AASB3

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 542.72 ft
Starting Volume = 0 cu.ft
Starting Outflow = .00 cfs
Starting Infiltr. = .00 cfs
Starting Total Qout= .00 cfs
Time Increment = 1.00 min

Elevation ft	Outflow cfs	Storage cu.ft	Area sq.ft	Infilt. cfs	Q Total cfs	2S/t + O cfs
545.02	3.62	4497	3682	.00	3.62	153.52
545.12	3.72	4870	3774	.00	3.72	166.05
545.22	3.82	5252	3868	.00	3.82	178.88
545.32	3.91	5643	3962	.00	3.91	192.03
545.42	4.01	6045	4058	.00	4.01	205.49
545.52	4.10	6455	4155	.00	4.10	219.27
545.62	4.19	6876	4253	.00	4.19	233.37
545.72	4.27	7306	4352	.00	4.27	247.80
545.82	4.36	7746	4452	.00	4.36	262.55
545.92	4.44	8196	4553	.00	4.44	277.65
546.02	4.53	8656	4651	.00	4.53	293.07
546.12	4.61	9126	4731	.00	4.61	308.79
546.22	4.69	9603	4812	.00	4.69	324.77
546.32	4.76	10088	4893	.00	4.76	341.02
546.39	4.82	10433	4951	.00	4.82	352.57
546.42	4.86	10581	4976	.00	4.86	357.57
546.52	5.09	11083	5059	.00	5.09	374.53
546.62	5.40	11593	5142	.00	5.40	391.85
546.72	5.77	12112	5227	.00	5.77	409.49
546.82	6.19	12638	5312	.00	6.19	427.47
546.92	6.65	13174	5397	.00	6.65	445.79
547.02	7.15	13718	5484	.00	7.15	464.41
547.12	7.69	14271	5571	.00	7.69	483.38

Type.... Pond E-V-Q Table
Name.... BASIN A
File.... E:\PONDPACK\12003\PARKWOOD ESTATES BASIN A.PPW

LEVEL POOL ROUTING DATA

HYG Dir = E:\PONDPACK\12003\
Inflow HYG file = NONE STORED - BASIN A IN 002 YR
Outflow HYG file = NONE STORED - BASIN A OUT 002 YR

Pond Node Data = BASIN A
Pond Volume Data = BASIN AASB2
Pond Outlet Data = BASIN AASB3

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 542.72 ft
Starting Volume = 0 cu.ft
Starting Outflow = .00 cfs
Starting Infiltr. = .00 cfs
Starting Total Qout= .00 cfs
Time Increment = 1.00 min

Elevation ft	Outflow cfs	Storage cu.ft	Area sq.ft	Infilt. cfs	Q Total cfs	2S/t + O cfs
547.22	8.62	14832	5658	.00	8.62	503.02
547.32	9.06	15402	5747	.00	9.06	522.46
547.42	9.46	15982	5836	.00	9.46	542.17
547.52	9.83	16569	5926	.00	9.83	562.15
547.62	10.19	17167	6016	.00	10.19	582.41
547.72	10.52	17773	6107	.00	10.52	602.94
547.82	10.84	18388	6199	.00	10.84	623.77
547.92	11.15	19013	6291	.00	11.15	644.90
548.02	11.44	19646	6385	.00	11.44	666.31
548.12	11.73	20290	6481	.00	11.73	688.05
548.22	12.00	20943	6578	.00	12.00	710.09
548.29	12.19	21405	6646	.00	12.19	725.70
548.32	12.46	21605	6675	.00	12.46	732.63
548.42	14.30	22278	6773	.00	14.30	756.89
548.52	16.94	22960	6872	.00	16.94	782.27
548.62	20.18	23652	6972	.00	20.18	808.59
548.72	23.91	24354	7072	.00	23.91	835.71
548.82	28.06	25066	7173	.00	28.06	863.60
548.92	32.60	25789	7275	.00	32.60	892.23
549.02	37.49	26521	7377	.00	37.49	921.53
549.12	42.71	27265	7480	.00	42.71	951.52
549.22	48.23	28018	7584	.00	48.23	982.15
549.32	54.04	28781	7689	.00	54.04	1013.41

LEVEL POOL ROUTING DATA

HYG Dir = E:\PONDPACK\12003\
Inflow HYG file = NONE STORED - BASIN A IN 002 YR
Outflow HYG file = NONE STORED - BASIN A OUT 002 YR

Pond Node Data = BASIN A
Pond Volume Data = BASIN AASB2
Pond Outlet Data = BASIN AASB3

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	542.72 ft
Starting Volume	=	0 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

Elevation ft	Outflow cfs	Storage cu.ft	Area sq.ft	Infilt. cfs	Q Total cfs	2S/t + O cfs
549.42	60.13	29555	7794	.00	60.13	1045.31
549.52	66.48	30340	7900	.00	66.48	1077.81
549.62	73.09	31136	8007	.00	73.09	1110.94
549.72	79.93	31941	8114	.00	79.93	1144.65
549.82	87.01	32758	8222	.00	87.01	1178.95
549.92	93.08	33586	8331	.00	93.08	1212.62
550.00	95.11	34256	8419	.00	95.11	1236.99

SUMMARY FOR HYDROGRAPH ADDITION
at Node: BASIN A IN

HYG Directory: E:\PONDPACK\12003\

Upstream Link ID	Upstream Node ID	HYG file	HYG ID	HYG tag
BASIN A	BASIN A		2 YR A	

INFLOWS TO: BASIN A IN

HYG file	HYG ID	HYG tag	Volume cu.ft	Peak Time min	Peak Flow cfs
	2 YR A		11424	2.00	9.52

TOTAL FLOW INTO: BASIN A IN

HYG file	HYG ID	HYG tag	Volume cu.ft	Peak Time min	Peak Flow cfs
	BASIN A IN	002 YR	11424	2.00	9.52

TOTAL NODE INFLOW...
HYG file =
HYG ID = BASIN A IN
HYG Tag = 002 YR

Peak Discharge =	9.52 cfs
Time to Peak =	2.00 min
HYG Volume =	11424 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	4.76	9.52	9.52	9.52
5.00	9.52	9.52	9.52	9.52	9.52
10.00	9.52	9.52	9.52	9.52	9.52
15.00	9.52	9.52	9.52	9.52	9.52
20.00	9.52	4.76	.00		

SUMMARY FOR HYDROGRAPH ADDITION
at Node: BASIN A IN

HYG Directory: E:\PONDPACK\12003\

Upstream Link ID	Upstream Node ID	HYG file	HYG ID	HYG tag
BASIN A	BASIN A		15 YR A	

INFLOWS TO: BASIN A IN

HYG file	HYG ID	HYG tag	Volume cu.ft	Peak Time min	Peak Flow cfs
	15 YR A		18720	2.00	15.60

TOTAL FLOW INTO: BASIN A IN

HYG file	HYG ID	HYG tag	Volume cu.ft	Peak Time min	Peak Flow cfs
	BASIN A IN	015 YR	18720	2.00	15.60

TOTAL NODE INFLOW...
HYG file =
HYG ID = BASIN A IN
HYG Tag = 015 YR

Peak Discharge =	15.60 cfs
Time to Peak =	2.00 min
HYG Volume =	18720 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	7.80	15.60	15.60	15.60
5.00	15.60	15.60	15.60	15.60	15.60
10.00	15.60	15.60	15.60	15.60	15.60
15.00	15.60	15.60	15.60	15.60	15.60
20.00	15.60	7.80	.00		

SUMMARY FOR HYDROGRAPH ADDITION
at Node: BASIN A IN

HYG Directory: E:\PONDPACK\12003\

Upstream Link ID	Upstream Node ID	HYG file	HYG ID	HYG tag
BASIN A	BASIN A		25 YR A	

INFLOWS TO: BASIN A IN

HYG file	HYG ID	HYG tag	Volume cu.ft	Peak Time min	Peak Flow cfs
	25 YR A		23125	2.00	19.27

TOTAL FLOW INTO: BASIN A IN

HYG file	HYG ID	HYG tag	Volume cu.ft	Peak Time min	Peak Flow cfs
	BASIN A IN	025 YR	23125	2.00	19.27

TOTAL NODE INFLOW...
HYG file =
HYG ID = BASIN A IN
HYG Tag = 025 YR

Peak Discharge =	19.27 cfs
Time to Peak =	2.00 min
HYG Volume =	23125 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	9.64	19.27	19.27	19.27
5.00	19.27	19.27	19.27	19.27	19.27
10.00	19.27	19.27	19.27	19.27	19.27
15.00	19.27	19.27	19.27	19.27	19.27
20.00	19.27	9.64	.00		

SUMMARY FOR HYDROGRAPH ADDITION
at Node: BASIN A IN

HYG Directory: E:\PONDPACK\12003\

Upstream Link ID	Upstream Node ID	HYG file	HYG ID	HYG tag
BASIN A	BASIN A		100 YR A	

INFLOWS TO: BASIN A IN

HYG file	HYG ID	HYG tag	Volume cu.ft	Peak Time min	Peak Flow cfs
	100 YR A		29568	2.00	24.64

TOTAL FLOW INTO: BASIN A IN

HYG file	HYG ID	HYG tag	Volume cu.ft	Peak Time min	Peak Flow cfs
	BASIN A IN	100 YR	29568	2.00	24.64

TOTAL NODE INFLOW...
HYG file =
HYG ID = BASIN A IN
HYG Tag = 100 YR

Peak Discharge =	24.64 cfs
Time to Peak =	2.00 min
HYG Volume =	29568 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	12.32	24.64	24.64	24.64
5.00	24.64	24.64	24.64	24.64	24.64
10.00	24.64	24.64	24.64	24.64	24.64
15.00	24.64	24.64	24.64	24.64	24.64
20.00	24.64	12.32	.00		

LEVEL POOL ROUTING SUMMARY

HYG Dir = E:\PONDPACK\12003\
Inflow HYG file = NONE STORED - BASIN A IN 002 YR
Outflow HYG file = NONE STORED - BASIN A OUT 002 YR

Pond Node Data = BASIN A
Pond Volume Data = BASIN AASB2
Pond Outlet Data = BASIN AASB3

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	542.72 ft
Starting Volume	=	0 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

Peak Inflow	=	9.52 cfs	at	2.00 min
Peak Outflow	=	4.27 cfs	at	21.00 min
Peak Elevation	=	545.72 ft		
Peak Storage	=	7299 cu.ft		

MASS BALANCE (cu.ft)

+ Initial Vol	=	0
+ HYG Vol IN	=	11424
- Infiltration	=	0
- HYG Vol OUT	=	11424
- Retained Vol	=	0
Unrouted Vol	=	0 cu.ft (.000% of Outflow Volume)

LEVEL POOL ROUTING SUMMARY

HYG Dir = E:\PONDPACK\12003\
Inflow HYG file = NONE STORED - BASIN A IN 015 YR
Outflow HYG file = NONE STORED - BASIN A OUT 015 YR

Pond Node Data = BASIN A
Pond Volume Data = BASIN AASB2
Pond Outlet Data = BASIN AASB3

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	542.72 ft
Starting Volume	=	0 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

Peak Inflow	=	15.60 cfs	at	2.00 min
Peak Outflow	=	6.83 cfs	at	21.00 min
Peak Elevation	=	546.96 ft		
Peak Storage	=	13364 cu.ft		

MASS BALANCE (cu.ft)

+ Initial Vol	=	0
+ HYG Vol IN	=	18720
- Infiltration	=	0
- HYG Vol OUT	=	18720
- Retained Vol	=	0
Unrouted Vol	=	0 cu.ft (.000% of Outflow Volume)

LEVEL POOL ROUTING SUMMARY

HYG Dir = E:\PONDPACK\12003\
Inflow HYG file = NONE STORED - BASIN A IN 025 YR
Outflow HYG file = NONE STORED - BASIN A OUT 025 YR

Pond Node Data = BASIN A
Pond Volume Data = BASIN AASB2
Pond Outlet Data = BASIN AASB3

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	542.72 ft
Starting Volume	=	0 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

Peak Inflow	=	19.27 cfs	at	2.00 min
Peak Outflow	=	9.74 cfs	at	21.00 min
Peak Elevation	=	547.49 ft		
Peak Storage	=	16419 cu.ft		

MASS BALANCE (cu.ft)

+ Initial Vol	=	0
+ HYG Vol IN	=	23125
- Infiltration	=	0
- HYG Vol OUT	=	23125
- Retained Vol	=	0
Unrouted Vol	=	0 cu.ft (.000% of Outflow Volume)

LEVEL POOL ROUTING SUMMARY

HYG Dir = E:\PONDPACK\12003\
Inflow HYG file = NONE STORED - BASIN A IN 100 YR
Outflow HYG file = NONE STORED - BASIN A OUT 100 YR

Pond Node Data = BASIN A
Pond Volume Data = BASIN AASB2
Pond Outlet Data = BASIN AASB3

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	542.72 ft
Starting Volume	=	0 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

Peak Inflow	=	24.64 cfs	at	2.00 min
Peak Outflow	=	11.99 cfs	at	21.00 min
Peak Elevation	=	548.22 ft		
Peak Storage	=	20913 cu.ft		

MASS BALANCE (cu.ft)

+ Initial Vol	=	0
+ HYG Vol IN	=	29568
- Infiltration	=	0
- HYG Vol OUT	=	29568
- Retained Vol	=	0
Unrouted Vol	= -	cu.ft (.000% of Inflow Volume)

Index of Starting Page Numbers for ID Names

POND-2 Version: 5.20
S/N:

CALCULATED 04-01-2003 13:27:53
DISK FILE: e:\pondpack\12003\BASINB1 .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)
542.50	0.00	0	0	0	0
544.00	2,165.00	2,165	2,165	1,083	1,083
546.00	4,139.00	4,139	9,297	6,198	7,281
548.00	6,629.00	6,629	16,006	10,671	17,952
549.00	8,045.00	8,045	21,977	7,326	25,277
549.50	8,791.00	8,791	25,246	4,208	29,485
	Elevations With Areas Interpolated From The Closest Two Planimeter Readings				
547.29	-----	5,678	14,665	6,306	13,587
547.50	-----	5,952	15,054	7,527	14,808

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

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 + 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: BASINB1 .STR

POND-2 Version: 5.20 S/N:
Date Executed: Time Executed:

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

Elevation (ft)	Q (cfs)	Contributing Structures
542.50	0.0	1
542.70	0.1	1
542.90	0.2	1
543.10	0.5	2
543.30	0.6	2
543.50	0.7	2
543.70	0.8	2
543.90	0.9	2
544.10	0.9	2
544.30	1.0	2
544.50	1.1	2
544.70	1.1	2
544.90	1.2	2
545.10	1.2	2
545.30	1.3	2
545.50	1.3	2
545.70	1.4	2
545.90	1.4	2
546.10	1.5	2 +3
546.30	1.7	2 +3
546.50	2.0	2 +3
546.70	2.3	2 +3
546.90	2.7	2 +3
547.10	3.2	2 +3
547.30	3.7	2 +3
547.50	1.8	2
547.70	1.8	2
547.90	1.8	2
548.10	1.9	2
548.30	1.9	2
548.50	2.0	2
548.70	2.0	2
548.90	2.0	2
549.10	2.1	2
549.30	2.1	2
549.50	0.0	

Outlet Structure File: BASINB1 .STR

POND-2 Version: 5.20 S/N:
Date Executed: Time Executed:

Outlet Structure File: e:\pondpack\i2003\BASINB1 .STR
Planimeter Input File: e:\pondpack\i2003\BASINB1 .VOL
Rating Table Output File: e:\pondpack\i2003\BASINB1 .PND

Min. Elev.(ft) = 542.5 Max. Elev.(ft) = 549.5 Incr.(ft) = .2

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

****
SYSTEM CONNECTIVITY
****

Structure	No.	Q Table		Q Table
WEIR-VR	1		->	1
ORIFICE	2	? 1	->	A
WEIR-VR	3		->	3

Outflow rating table summary was stored in file:
e:\pondpack\i2003\BASINB1 .PND

Outlet Structure File: BASINB1 .STR

POND-2 Version: 5.20 S/N:
Date Executed: Time Executed:

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

WEIR-VR
Weir - Vertical Rectangular

E1 elev.(ft)?	542.5
E2 elev.(ft)?	543.083
Weir coefficient?	3
Weir elev.(ft)?	542.5
Length (ft)?	.292
Contracted/Suppressed (C/S)?	S

Outlet Structure File: BASINB1 .STR

POND-2 Version: 5.20 S/N:
Date Executed: Time Executed:

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

ORIFICE
Orifice - Based on Area and Datum Elevation

E1 elev.(ft)?	543.083
E2 elev.(ft)?	549.5
Orifice coeff.?	.6
Invert elev.(ft)?	542.5
Datum elev.(ft) ?	542.792
Orifice area (sq ft)?	.170

Outlet Structure File: BASINB1 .STR

POND-2 Version: 5.20 S/N:
Date Executed: Time Executed:

>>>>>> Structure No. 3 <<<<<<
(Input Data)

WEIR-VR
Weir - Vertical Rectangular

E1 elev.(ft)?	546.10
E2 elev.(ft)?	547.50
Weir coefficient?	3
Weir elev.(ft)?	546.10
Length (ft)?	.5
Contracted/Suppressed (C/S)?	S

Outlet Structure File: BASINB1 .STR

POND-2 Version: 5.20 S/N:
Date Executed: Time Executed:

Outflow Rating Table for Structure #1
WEIR-VR Weir - Vertical Rectangular

***** INLET CONTROL ASSUMED *****

Elevation (ft)	Q (cfs)	Computation Messages
542.50	0.0	H =0.0
542.70	0.1	H =.2
542.90	0.2	H =.4
543.10	0.0	E = or > E2=543.083
543.30	0.0	E = or > E2=543.083
543.50	0.0	E = or > E2=543.083
543.70	0.0	E = or > E2=543.083
543.90	0.0	E = or > E2=543.083
544.10	0.0	E = or > E2=543.083
544.30	0.0	E = or > E2=543.083
544.50	0.0	E = or > E2=543.083
544.70	0.0	E = or > E2=543.083
544.90	0.0	E = or > E2=543.083
545.10	0.0	E = or > E2=543.083
545.30	0.0	E = or > E2=543.083
545.50	0.0	E = or > E2=543.083
545.70	0.0	E = or > E2=543.083
545.90	0.0	E = or > E2=543.083
546.10	0.0	E = or > E2=543.083
546.30	0.0	E = or > E2=543.083
546.50	0.0	E = or > E2=543.083
546.70	0.0	E = or > E2=543.083
546.90	0.0	E = or > E2=543.083
547.10	0.0	E = or > E2=543.083
547.30	0.0	E = or > E2=543.083
547.50	0.0	E = or > E2=543.083
547.70	0.0	E = or > E2=543.083
547.90	0.0	E = or > E2=543.083
548.10	0.0	E = or > E2=543.083
548.30	0.0	E = or > E2=543.083
548.50	0.0	E = or > E2=543.083
548.70	0.0	E = or > E2=543.083
548.90	0.0	E = or > E2=543.083
549.10	0.0	E = or > E2=543.083

Outlet Structure File: BASINB1 .STR

POND-2 Version: 5.20 S/N:
Date Executed: Time Executed:

>>>>> CONTINUED from previous page <<<<<

Outflow Rating Table for Structure #1
WEIR-VR Weir - Vertical Rectangular

***** INLET CONTROL ASSUMED *****

Elevation (ft)	Q (cfs)	Computation Messages
549.30	0.0	E = or > E2=543.083
549.50	0.0	E = or > E2=543.083

C = 3 L (ft) = .292
H (ft) = Table elev. - Invert elev. (542.5 ft)
Q (cfs) = C * L * (H**1.5) -- Suppressed Weir

Outlet Structure File: BASINB1 .STR

POND-2 Version: 5.20 S/N:
Date Executed: Time Executed:

Outflow Rating Table for Structure #2
ORIFICE Orifice - Based on Area and Datum Elevation

Elevation (ft)	Q (cfs)	Computation Messages
542.50	0.0	E < E1=543.083
542.70	0.0	E < E1=543.083
542.90	0.0	E < E1=543.083
543.10	0.5	H =.308
543.30	0.6	H =.508
543.50	0.7	H =.708
543.70	0.8	H =.908
543.90	0.9	H =1.108
544.10	0.9	H =1.308
544.30	1.0	H =1.508
544.50	1.1	H =1.708
544.70	1.1	H =1.908
544.90	1.2	H =2.108
545.10	1.2	H =2.308
545.30	1.3	H =2.508
545.50	1.3	H =2.708
545.70	1.4	H =2.908
545.90	1.4	H =3.108
546.10	1.5	H =3.308
546.30	1.5	H =3.508
546.50	1.6	H =3.708
546.70	1.6	H =3.908
546.90	1.7	H =4.108
547.10	1.7	H =4.308
547.30	1.7	H =4.508
547.50	1.8	H =4.708
547.70	1.8	H =4.908
547.90	1.8	H =5.108
548.10	1.9	H =5.308
548.30	1.9	H =5.508
548.50	2.0	H =5.708
548.70	2.0	H =5.908
548.90	2.0	H =6.108
549.10	2.1	H =6.308

Outlet Structure File: BASINB1 .STR

POND-2 Version: 5.20 S/N:
Date Executed: Time Executed:

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Outflow Rating Table for Structure #2
ORIFICE Orifice - Based on Area and Datum Elevation

Elevation (ft)	Q (cfs)	Computation Messages
549.30	2.1	H =6.508
549.50	0.0	E = or > E2=549.5

C = .6 A = .17 sq.ft.
H (ft) = Table elev. - Datum elev. (542.792 ft)
Q (cfs) = C * A * sqr(2g * H)

Outlet Structure File: BASINB1 .STR

POND-2 Version: 5.20 S/N:
Date Executed: Time Executed:

Outflow Rating Table for Structure #3
WEIR-VR Weir - Vertical Rectangular

***** INLET CONTROL ASSUMED *****

Elevation (ft)	Q (cfs)	Computation Messages
542.50	0.0	E < Inv.El.= 546.1
542.70	0.0	E < Inv.El.= 546.1
542.90	0.0	E < Inv.El.= 546.1
543.10	0.0	E < Inv.El.= 546.1
543.30	0.0	E < Inv.El.= 546.1
543.50	0.0	E < Inv.El.= 546.1
543.70	0.0	E < Inv.El.= 546.1
543.90	0.0	E < Inv.El.= 546.1
544.10	0.0	E < Inv.El.= 546.1
544.30	0.0	E < Inv.El.= 546.1
544.50	0.0	E < Inv.El.= 546.1
544.70	0.0	E < Inv.El.= 546.1
544.90	0.0	E < Inv.El.= 546.1
545.10	0.0	E < Inv.El.= 546.1
545.30	0.0	E < Inv.El.= 546.1
545.50	0.0	E < Inv.El.= 546.1
545.70	0.0	E < Inv.El.= 546.1
545.90	0.0	E < Inv.El.= 546.1
546.10	0.0	H =0.0
546.30	0.1	H =.2
546.50	0.4	H =.4
546.70	0.7	H =.6
546.90	1.1	H =.8
547.10	1.5	H =1.0
547.30	2.0	H =1.2
547.50	0.0	E = or > E2=547.50
547.70	0.0	E = or > E2=547.50
547.90	0.0	E = or > E2=547.50
548.10	0.0	E = or > E2=547.50
548.30	0.0	E = or > E2=547.50
548.50	0.0	E = or > E2=547.50
548.70	0.0	E = or > E2=547.50
548.90	0.0	E = or > E2=547.50
549.10	0.0	E = or > E2=547.50

Outlet Structure File: BASINB1 .STR

POND-2 Version: 5.20 S/N:
Date Executed: Time Executed:

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Outflow Rating Table for Structure #3
WEIR-VR Weir - Vertical Rectangular

***** INLET CONTROL ASSUMED *****

Elevation (ft)	Q (cfs)	Computation Messages
549.30	0.0	E = or > E2=547.50
549.50	0.0	E = or > E2=547.50

C = 3 L (ft) = .5
H (ft) = Table elev. - Invert elev. (546.1 ft)
Q (cfs) = C * L * (H**1.5) -- Suppressed Weir

Outlet Structure File: BASINB1 .STR

POND-2 Version: 5.20 S/N:
Date Executed: Time Executed:

Outflow Rating Table A
Table A = 1 2

Elevation (ft)	Q (cfs)	Contributing Structures
542.50	0.0	1
542.70	0.1	1
542.90	0.2	1
543.10	0.5	2
543.30	0.6	2
543.50	0.7	2
543.70	0.8	2
543.90	0.9	2
544.10	0.9	2
544.30	1.0	2
544.50	1.1	2
544.70	1.1	2
544.90	1.2	2
545.10	1.2	2
545.30	1.3	2
545.50	1.3	2
545.70	1.4	2
545.90	1.4	2
546.10	1.5	2
546.30	1.5	2
546.50	1.6	2
546.70	1.6	2
546.90	1.7	2
547.10	1.7	2
547.30	1.7	2
547.50	1.8	2
547.70	1.8	2
547.90	1.8	2
548.10	1.9	2
548.30	1.9	2
548.50	2.0	2
548.70	2.0	2
548.90	2.0	2
549.10	2.1	2
549.30	2.1	2
549.50	0.0	-

Inflow Hydrograph: e:\pondpack\12003\2B-IN .HYD
Rating Table file: e:\pondpack\12003\BASINB1 .PND

----INITIAL CONDITIONS----
Elevation = 542.50 ft
Outflow = 0.00 cfs
Storage = 0 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
542.50	0.0	0
542.70	0.1	3
542.90	0.2	20
543.10	0.5	69
543.30	0.6	164
543.50	0.7	321
543.70	0.8	554
543.90	0.9	880
544.10	0.9	1,303
544.30	1.0	1,770
544.50	1.1	2,272
544.70	1.1	2,810
544.90	1.2	3,386
545.10	1.2	4,000
545.30	1.3	4,655
545.50	1.3	5,351
545.70	1.4	6,090
545.90	1.4	6,873
546.10	1.5	7,700
546.30	1.7	8,573
546.50	2.0	9,491
546.70	2.3	10,456
546.90	2.7	11,469
547.10	3.2	12,531
547.30	3.7	13,643
547.50	1.8	14,808
547.70	1.8	16,025
547.90	1.8	17,296
548.10	1.9	18,621
548.30	1.9	20,001
548.50	2.0	21,437

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
0.0	0.0
0.1	0.2
0.7	0.9
2.3	2.8
5.5	6.1
10.7	11.4
18.5	19.3
29.3	30.2
43.4	44.3
59.0	60.0
75.7	76.8
93.7	94.8
112.9	114.1
133.3	134.5
155.2	156.5
178.4	179.7
203.0	204.4
229.1	230.5
256.7	258.2
285.8	287.5
316.4	318.4
348.5	350.8
382.3	385.0
417.7	420.9
454.8	458.5
493.6	495.4
534.2	536.0
576.5	578.3
620.7	622.6
666.7	668.6
714.6	716.6

GIVEN POND DATA			INTERMEDIATE ROUTING COMPUTATIONS	
ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)	2S/t (cfs)	2S/t + O (cfs)
548.70	2.0	22,930	764.3	766.3
548.90	2.0	24,480	816.0	818.0
549.10	2.1	26,089	869.6	871.7
549.30	2.1	27,757	925.2	927.3

Time increment (t) = 1.0 min.

Pond File: e:\pondpack\i2003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\i2003\2B-IN .HYD
Outflow Hydrograph: e:\pondpack\i2003\2BOUT1 .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	0.00	-----	0.0	0.0	0.00	542.50
1.0	1.30	1.3	0.8	1.3	0.27	542.94
2.0	2.59	3.9	3.5	4.7	0.56	543.21
3.0	3.89	6.5	8.7	10.0	0.67	543.45
4.0	5.18	9.1	16.2	17.7	0.78	543.66
5.0	5.18	10.4	24.8	26.5	0.87	543.83
6.0	5.18	10.4	33.4	35.2	0.90	543.97
7.0	5.18	10.4	41.9	43.7	0.90	544.09
8.0	5.18	10.4	50.4	52.3	0.95	544.20
9.0	5.18	10.4	58.7	60.8	1.00	544.31
10.0	5.18	10.4	67.0	69.1	1.05	544.41
11.0	5.18	10.4	75.2	77.4	1.10	544.51
12.0	5.18	10.4	83.3	85.5	1.10	544.60
13.0	5.18	10.4	91.5	93.7	1.10	544.69
14.0	5.18	10.4	99.6	101.8	1.14	544.77
15.0	5.18	10.4	107.6	109.9	1.18	544.86
16.0	5.18	10.4	115.5	117.9	1.20	544.94
17.0	5.18	10.4	123.5	125.9	1.20	545.02
18.0	5.18	10.4	131.4	133.8	1.20	545.09
19.0	5.18	10.4	139.3	141.8	1.23	545.17
20.0	5.18	10.4	147.2	149.7	1.27	545.24
21.0	3.89	9.1	153.6	156.2	1.30	545.30
22.0	2.59	6.5	157.5	160.1	1.30	545.33
23.0	1.30	3.9	158.8	161.4	1.30	545.34
24.0	0.00	1.3	157.5	160.1	1.30	545.33
25.0	0.00	0.0	154.9	157.5	1.30	545.31
26.0	0.00	0.0	152.3	154.9	1.29	545.29
27.0	0.00	0.0	149.8	152.3	1.28	545.26
28.0	0.00	0.0	147.2	149.8	1.27	545.24
29.0	0.00	0.0	144.7	147.2	1.26	545.22
30.0	0.00	0.0	142.2	144.7	1.25	545.19
31.0	0.00	0.0	139.7	142.2	1.23	545.17
32.0	0.00	0.0	137.3	139.7	1.22	545.15
33.0	0.00	0.0	134.9	137.3	1.21	545.13
34.0	0.00	0.0	132.5	134.9	1.20	545.10
35.0	0.00	0.0	130.1	132.5	1.20	545.08
36.0	0.00	0.0	127.7	130.1	1.20	545.06
37.0	0.00	0.0	125.3	127.7	1.20	545.03
38.0	0.00	0.0	122.9	125.3	1.20	545.01
39.0	0.00	0.0	120.5	122.9	1.20	544.99
40.0	0.00	0.0	118.1	120.5	1.20	544.96
41.0	0.00	0.0	115.7	118.1	1.20	544.94
42.0	0.00	0.0	113.3	115.7	1.20	544.92
43.0	0.00	0.0	110.9	113.3	1.20	544.89
44.0	0.00	0.0	108.5	110.9	1.18	544.87

Pond File: e:\ponopack\12003\BASINB1 .PND
Inflow Hydrograph: e:\ponopack\12003\2B-IN .HYD
Outflow Hydrograph: e:\ponopack\12003\2BOUT1 .HYD

INFLOW HYDROGRAPH		ROUTING			TATIONS		
TIME (min)	INFLOW (cfs)	I1-I2 (cfs)	2S/t - O (cfs)		- O s)	OUTFLOW (cfs)	ELEVATION (ft)
45.0	0.00	0.0	106.2		08.5	1.17	544.84
46.0	0.00	0.0	103.8		06.2	1.16	544.82
47.0	0.00	0.0	101.5		03.8	1.15	544.79
48.0	0.00	0.0	99.3		01.5	1.14	544.77
49.0	0.00	0.0	97.0		99.3	1.12	544.75
50.0	0.00	0.0	94.8		97.0	1.11	544.72
51.0	0.00	0.0	92.6		94.8	1.10	544.70
52.0	0.00	0.0	90.4		92.6	1.10	544.68
53.0	0.00	0.0	88.2		90.4	1.10	544.65
54.0	0.00	0.0	86.0		88.2	1.10	544.63
55.0	0.00	0.0	83.8		86.0	1.10	544.60
56.0	0.00	0.0	81.6		83.8	1.10	544.58
57.0	0.00	0.0	79.4		81.6	1.10	544.55
58.0	0.00	0.0	77.2		79.4	1.10	544.53
59.0	0.00	0.0	75.0		77.2	1.10	544.50
60.0	0.00	0.0	72.8		75.0	1.09	544.48
61.0	0.00	0.0	70.7		72.8	1.08	544.45
62.0	0.00	0.0	68.6		70.7	1.06	544.43
63.0	0.00	0.0	66.4		68.6	1.05	544.40
64.0	0.00	0.0	64.4		66.4	1.04	544.38
65.0	0.00	0.0	62.3		64.4	1.03	544.35
66.0	0.00	0.0	60.3		62.3	1.01	544.33
67.0	0.00	0.0	58.3		60.3	1.00	544.30
68.0	0.00	0.0	56.3		58.3	0.99	544.28
69.0	0.00	0.0	54.4		56.3	0.98	544.25
70.0	0.00	0.0	52.4		54.4	0.96	544.23
71.0	0.00	0.0	50.5		52.4	0.95	544.20
72.0	0.00	0.0	48.6		50.5	0.94	544.18
73.0	0.00	0.0	46.8		48.6	0.93	544.15
74.0	0.00	0.0	45.0		46.8	0.92	544.13
75.0	0.00	0.0	43.2		45.0	0.90	544.11
76.0	0.00	0.0	41.4		43.2	0.90	544.08
77.0	0.00	0.0	39.6		41.4	0.90	544.06
78.0	0.00	0.0	37.8		39.6	0.90	544.03
79.0	0.00	0.0	36.0		37.8	0.90	544.01
80.0	0.00	0.0	34.2		36.0	0.90	543.98
81.0	0.00	0.0	32.4		34.2	0.90	543.96
82.0	0.00	0.0	30.6		32.4	0.90	543.93
83.0	0.00	0.0	28.8		30.6	0.90	543.90
84.0	0.00	0.0	27.0		28.8	0.89	543.87
85.0	0.00	0.0	25.2		27.0	0.87	543.84
86.0	0.00	0.0	23.5		25.2	0.85	543.81
87.0	0.00	0.0	21.9		23.5	0.84	543.78
88.0	0.00	0.0	20.2		21.9	0.82	543.75
89.0	0.00	0.0	18.6		20.2	0.81	543.72
90.0	0.00	0.0	17.0		18.6	0.79	543.68

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\2B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\2BOUT1 .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
91.0	0.00	0.0	15.5	17.0	0.77	543.64
92.0	0.00	0.0	14.0	15.5	0.75	543.60
93.0	0.00	0.0	12.5	14.0	0.73	543.57
94.0	0.00	0.0	11.1	12.5	0.71	543.53
95.0	0.00	0.0	9.7	11.1	0.69	543.49
96.0	0.00	0.0	8.3	9.7	0.67	543.44
97.0	0.00	0.0	7.1	8.3	0.64	543.39
98.0	0.00	0.0	5.8	7.1	0.62	543.34
99.0	0.00	0.0	4.6	5.8	0.59	543.28
100.0	0.00	0.0	3.5	4.6	0.56	543.21
101.0	0.00	0.0	2.5	3.5	0.52	543.14
102.0	0.00	0.0	1.6	2.5	0.45	543.07
103.0	0.00	0.0	1.0	1.6	0.31	542.97
104.0	0.00	0.0	0.5	1.0	0.21	542.91
105.0	0.00	0.0	0.2	0.5	0.15	542.80
106.0	0.00	0.0	0.0	0.2	0.11	542.71
107.0	0.00	0.0	-0.0	0.0	0.01	542.52
108.0	0.00	0.0	-0.0	-0.0	0.00	542.50
109.0	0.00	0.0	-0.0	-0.0	0.00	542.50
110.0	0.00	0.0	-0.0	-0.0	0.00	542.50
111.0	0.00	0.0	-0.0	-0.0	0.00	542.50
112.0	0.00	0.0	-0.0	-0.0	0.00	542.50
113.0	0.00	0.0	-0.0	-0.0	0.00	542.50
114.0	0.00	0.0	-0.0	-0.0	0.00	542.50
115.0	0.00	0.0	-0.0	-0.0	0.00	542.50
116.0	0.00	0.0	-0.0	-0.0	0.00	542.50
117.0	0.00	0.0	-0.0	-0.0	0.00	542.50
118.0	0.00	0.0	-0.0	-0.0	0.00	542.50
119.0	0.00	0.0	-0.0	-0.0	0.00	542.50
120.0	0.00	0.0	-0.0	-0.0	0.00	542.50
121.0	0.00	0.0	-0.0	-0.0	0.00	542.50
122.0	0.00	0.0	-0.0	-0.0	0.00	542.50
123.0	0.00	0.0	-0.0	-0.0	0.00	542.50
124.0	0.00	0.0	-0.0	-0.0	0.00	542.50
125.0	0.00	0.0	-0.0	-0.0	0.00	542.50
126.0	0.00	0.0	-0.0	-0.0	0.00	542.50
127.0	0.00	0.0	-0.0	-0.0	0.00	542.50
128.0	0.00	0.0	-0.0	-0.0	0.00	542.50
129.0	0.00	0.0	-0.0	-0.0	0.00	542.50
130.0	0.00	0.0	-0.0	-0.0	0.00	542.50
131.0	0.00	0.0	-0.0	-0.0	0.00	542.50
132.0	0.00	0.0	-0.0	-0.0	0.00	542.50
133.0	0.00	0.0	-0.0	-0.0	0.00	542.50
134.0	0.00	0.0	-0.0	-0.0	0.00	542.50
135.0	0.00	0.0	-0.0	-0.0	0.00	542.50
136.0	0.00	0.0	-0.0	-0.0	0.00	542.50

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\2B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\2BOUT1 .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
137.0	0.00	0.0	-0.0	-0.0	0.00	542.50
138.0	0.00	0.0	-0.0	-0.0	0.00	542.50
139.0	0.00	0.0	-0.0	-0.0	0.00	542.50
140.0	0.00	0.0	-0.0	-0.0	0.00	542.50
141.0	0.00	0.0	-0.0	-0.0	0.00	542.50
142.0	0.00	0.0	-0.0	-0.0	0.00	542.50
143.0	0.00	0.0	-0.0	-0.0	0.00	542.50
144.0	0.00	0.0	-0.0	-0.0	0.00	542.50
145.0	0.00	0.0	-0.0	-0.0	0.00	542.50
146.0	0.00	0.0	-0.0	-0.0	0.00	542.50
147.0	0.00	0.0	-0.0	-0.0	0.00	542.50
148.0	0.00	0.0	-0.0	-0.0	0.00	542.50
149.0	0.00	0.0	-0.0	-0.0	0.00	542.50
150.0	0.00	0.0	-0.0	-0.0	0.00	542.50
151.0	0.00	0.0	-0.0	-0.0	0.00	542.50

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

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\2B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\2BOUT1 .HYD

Starting Pond W.S. Elevation = 542.50 ft

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

Peak Inflow	=	5.18 cfs
Peak Outflow	=	1.30 cfs
Peak Elevation	=	545.34 ft

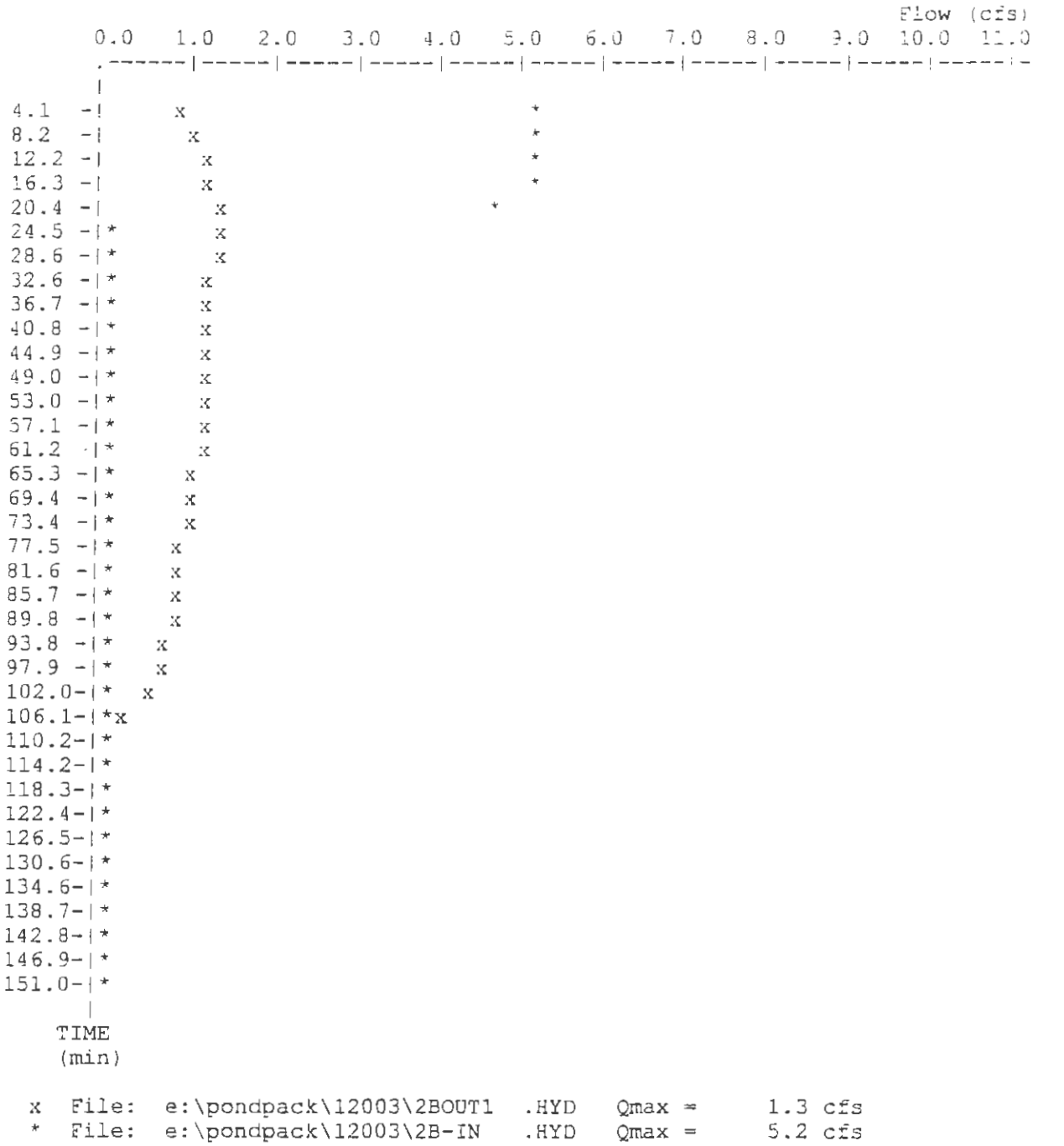
***** Summary of Approximate Peak Storage *****

Initial Storage	=	0 cu-ft
Peak Storage From Storm	=	4,803 cu-ft
Total Storage in Pond	=	4,803 cu-ft

2 Return Freq: 2 years

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\2B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\2BOUT1 .HYD
EXECUTED: 04-01-2003 13:29:57

Peak Inflow = 5.18 cfs
Peak Outflow = 1.30 cfs
Peak Elevation = 545.34 ft



x File: e:\pondpack\12003\2BOUT1 .HYD Qmax = 1.3 cfs
* File: e:\pondpack\12003\2B-IN .HYD Qmax = 5.2 cfs

Inflow Hydrograph: e:\pondpack\12003\15B-IN .HYD
Rating Table file: e:\pondpack\12003\BASINB1 .PND

----INITIAL CONDITIONS----
Elevation = 542.50 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)
542.50	0.0	0	0.0	0.0
542.70	0.1	3	0.1	0.2
542.90	0.2	20	0.7	0.9
543.10	0.5	69	2.3	2.8
543.30	0.6	164	5.5	6.1
543.50	0.7	321	10.7	11.4
543.70	0.8	554	18.5	19.3
543.90	0.9	880	29.3	30.2
544.10	0.9	1,303	43.4	44.3
544.30	1.0	1,770	59.0	60.0
544.50	1.1	2,272	75.7	76.8
544.70	1.1	2,810	93.7	94.8
544.90	1.2	3,386	112.9	114.1
545.10	1.2	4,000	133.3	134.5
545.30	1.3	4,655	155.2	156.5
545.50	1.3	5,351	178.4	179.7
545.70	1.4	6,090	203.0	204.4
545.90	1.4	6,873	229.1	230.5
546.10	1.5	7,700	256.7	258.2
546.30	1.7	8,573	285.8	287.5
546.50	2.0	9,491	316.4	318.4
546.70	2.3	10,456	348.5	350.8
546.90	2.7	11,469	382.3	385.0
547.10	3.2	12,531	417.7	420.9
547.30	3.7	13,643	454.8	458.5
547.50	1.8	14,808	493.6	495.4
547.70	1.8	16,025	534.2	536.0
547.90	1.8	17,296	576.5	578.3
548.10	1.9	18,621	620.7	622.6
548.30	1.9	20,001	666.7	668.6
548.50	2.0	21,437	714.6	716.6

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
548.70	2.0	22,930
548.90	2.0	24,480
549.10	2.1	26,089
549.30	2.1	27,757

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
764.3	766.3
816.0	818.0
869.6	871.7
925.2	927.3

Time increment (t) = 1.0 min.

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\15B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\15BOUT1 .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	0.00	-----	0.0	0.0	0.00	542.50
1.0	2.13	2.1	1.3	2.1	0.39	543.03
2.0	4.26	6.4	6.5	7.7	0.63	543.36
3.0	6.38	10.6	15.6	17.1	0.77	543.65
4.0	8.51	14.9	28.7	30.5	0.90	543.90
5.0	8.51	17.0	43.9	45.7	0.91	544.12
6.0	8.51	17.0	58.9	60.9	1.01	544.31
7.0	8.51	17.0	73.7	75.9	1.09	544.49
8.0	8.51	17.0	88.5	90.7	1.10	544.65
9.0	8.51	17.0	103.2	105.5	1.16	544.81
10.0	8.51	17.0	117.8	120.2	1.20	544.96
11.0	8.51	17.0	132.5	134.9	1.20	545.10
12.0	8.51	17.0	146.9	149.5	1.27	545.24
13.0	8.51	17.0	161.4	164.0	1.30	545.36
14.0	8.51	17.0	175.8	178.4	1.30	545.49
15.0	8.51	17.0	190.1	192.8	1.35	545.61
16.0	8.51	17.0	204.3	207.1	1.40	545.72
17.0	8.51	17.0	218.5	221.3	1.40	545.83
18.0	8.51	17.0	232.7	235.6	1.42	545.94
19.0	8.51	17.0	246.8	249.7	1.47	546.04
20.0	8.51	17.0	260.7	263.8	1.54	546.14
21.0	6.38	14.9	272.4	275.6	1.62	546.22
22.0	4.26	10.6	279.7	283.0	1.67	546.27
23.0	2.13	6.4	282.7	286.1	1.69	546.29
24.0	0.00	2.1	281.5	284.8	1.68	546.28
25.0	0.00	0.0	278.2	281.5	1.66	546.26
26.0	0.00	0.0	274.9	278.2	1.64	546.24
27.0	0.00	0.0	271.7	274.9	1.61	546.21
28.0	0.00	0.0	268.5	271.7	1.59	546.19
29.0	0.00	0.0	265.3	268.5	1.57	546.17
30.0	0.00	0.0	262.2	265.3	1.55	546.15
31.0	0.00	0.0	259.2	262.2	1.53	546.13
32.0	0.00	0.0	256.2	259.2	1.51	546.11
33.0	0.00	0.0	253.2	256.2	1.49	546.09
34.0	0.00	0.0	250.2	253.2	1.48	546.06
35.0	0.00	0.0	247.3	250.2	1.47	546.04
36.0	0.00	0.0	244.3	247.3	1.46	546.02
37.0	0.00	0.0	241.4	244.3	1.45	546.00
38.0	0.00	0.0	238.6	241.4	1.44	545.98
39.0	0.00	0.0	235.7	238.6	1.43	545.96
40.0	0.00	0.0	232.9	235.7	1.42	545.94
41.0	0.00	0.0	230.1	232.9	1.41	545.92
42.0	0.00	0.0	227.3	230.1	1.40	545.90
43.0	0.00	0.0	224.5	227.3	1.40	545.88
44.0	0.00	0.0	221.7	224.5	1.40	545.85

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\15B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\15BOUT1 .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	218.9	221.7	1.40	545.83
46.0	0.00	0.0	216.1	218.9	1.40	545.81
47.0	0.00	0.0	213.3	216.1	1.40	545.79
48.0	0.00	0.0	210.5	213.3	1.40	545.77
49.0	0.00	0.0	207.7	210.5	1.40	545.75
50.0	0.00	0.0	204.9	207.7	1.40	545.72
51.0	0.00	0.0	202.1	204.9	1.40	545.70
52.0	0.00	0.0	199.3	202.1	1.39	545.68
53.0	0.00	0.0	196.5	199.3	1.38	545.66
54.0	0.00	0.0	193.8	196.5	1.37	545.64
55.0	0.00	0.0	191.1	193.8	1.36	545.61
56.0	0.00	0.0	188.4	191.1	1.35	545.59
57.0	0.00	0.0	185.7	188.4	1.34	545.57
58.0	0.00	0.0	183.1	185.7	1.32	545.55
59.0	0.00	0.0	180.4	183.1	1.31	545.53
60.0	0.00	0.0	177.8	180.4	1.30	545.51
61.0	0.00	0.0	175.2	177.8	1.30	545.48
62.0	0.00	0.0	172.6	175.2	1.30	545.46
63.0	0.00	0.0	170.0	172.6	1.30	545.44
64.0	0.00	0.0	167.4	170.0	1.30	545.42
65.0	0.00	0.0	164.8	167.4	1.30	545.39
66.0	0.00	0.0	162.2	164.8	1.30	545.37
67.0	0.00	0.0	159.6	162.2	1.30	545.35
68.0	0.00	0.0	157.0	159.6	1.30	545.33
69.0	0.00	0.0	154.4	157.0	1.30	545.30
70.0	0.00	0.0	151.8	154.4	1.29	545.28
71.0	0.00	0.0	149.3	151.8	1.28	545.26
72.0	0.00	0.0	146.7	149.3	1.27	545.23
73.0	0.00	0.0	144.2	146.7	1.26	545.21
74.0	0.00	0.0	141.7	144.2	1.24	545.19
75.0	0.00	0.0	139.3	141.7	1.23	545.17
76.0	0.00	0.0	136.8	139.3	1.22	545.14
77.0	0.00	0.0	134.4	136.8	1.21	545.12
78.0	0.00	0.0	132.0	134.4	1.20	545.10
79.0	0.00	0.0	129.6	132.0	1.20	545.08
80.0	0.00	0.0	127.2	129.6	1.20	545.05
81.0	0.00	0.0	124.8	127.2	1.20	545.03
82.0	0.00	0.0	122.4	124.8	1.20	545.01
83.0	0.00	0.0	120.0	122.4	1.20	544.98
84.0	0.00	0.0	117.6	120.0	1.20	544.96
85.0	0.00	0.0	115.2	117.6	1.20	544.93
86.0	0.00	0.0	112.8	115.2	1.20	544.91
87.0	0.00	0.0	110.4	112.8	1.19	544.89
88.0	0.00	0.0	108.1	110.4	1.18	544.86
89.0	0.00	0.0	105.7	108.1	1.17	544.84
90.0	0.00	0.0	103.4	105.7	1.16	544.81

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\15B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\15BOUT1 .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
91.0	0.00	0.0	101.1	103.4	1.14	544.79
92.0	0.00	0.0	98.9	101.1	1.13	544.77
93.0	0.00	0.0	96.6	98.9	1.12	544.74
94.0	0.00	0.0	94.4	96.6	1.11	544.72
95.0	0.00	0.0	92.2	94.4	1.10	544.70
96.0	0.00	0.0	90.0	92.2	1.10	544.67
97.0	0.00	0.0	87.8	90.0	1.10	544.65
98.0	0.00	0.0	85.6	87.8	1.10	544.62
99.0	0.00	0.0	83.4	85.6	1.10	544.60
100.0	0.00	0.0	81.2	83.4	1.10	544.57
101.0	0.00	0.0	79.0	81.2	1.10	544.55
102.0	0.00	0.0	76.8	79.0	1.10	544.52
103.0	0.00	0.0	74.6	76.8	1.10	544.50
104.0	0.00	0.0	72.4	74.6	1.09	544.47
105.0	0.00	0.0	70.3	72.4	1.07	544.45
106.0	0.00	0.0	68.2	70.3	1.06	544.42
107.0	0.00	0.0	66.1	68.2	1.05	544.40
108.0	0.00	0.0	64.0	66.1	1.04	544.37
109.0	0.00	0.0	61.9	64.0	1.02	544.35
110.0	0.00	0.0	59.9	61.9	1.01	544.32
111.0	0.00	0.0	57.9	59.9	1.00	544.30
112.0	0.00	0.0	55.9	57.9	0.99	544.27
113.0	0.00	0.0	54.0	55.9	0.97	544.25
114.0	0.00	0.0	52.1	54.0	0.96	544.22
115.0	0.00	0.0	50.2	52.1	0.95	544.20
116.0	0.00	0.0	48.3	50.2	0.94	544.17
117.0	0.00	0.0	46.4	48.3	0.93	544.15
118.0	0.00	0.0	44.6	46.4	0.91	544.13
119.0	0.00	0.0	42.8	44.6	0.90	544.10
120.0	0.00	0.0	41.0	42.8	0.90	544.08
121.0	0.00	0.0	39.2	41.0	0.90	544.05
122.0	0.00	0.0	37.4	39.2	0.90	544.03
123.0	0.00	0.0	35.6	37.4	0.90	544.00
124.0	0.00	0.0	33.8	35.6	0.90	543.98
125.0	0.00	0.0	32.0	33.8	0.90	543.95
126.0	0.00	0.0	30.2	32.0	0.90	543.93
127.0	0.00	0.0	28.4	30.2	0.90	543.90
128.0	0.00	0.0	26.7	28.4	0.88	543.87
129.0	0.00	0.0	24.9	26.7	0.87	543.83
130.0	0.00	0.0	23.2	24.9	0.85	543.80
131.0	0.00	0.0	21.5	23.2	0.84	543.77
132.0	0.00	0.0	19.9	21.5	0.82	543.74
133.0	0.00	0.0	18.3	19.9	0.81	543.71
134.0	0.00	0.0	16.7	18.3	0.79	543.68
135.0	0.00	0.0	15.2	16.7	0.77	543.64
136.0	0.00	0.0	13.7	15.2	0.75	543.60

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\15B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\15BOUT1 .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
137.0	0.00	0.0	12.2	13.7	0.73	543.56
138.0	0.00	0.0	10.8	12.2	0.71	543.52
139.0	0.00	0.0	9.4	10.8	0.69	543.48
140.0	0.00	0.0	8.1	9.4	0.66	543.43
141.0	0.00	0.0	6.8	8.1	0.64	543.38
142.0	0.00	0.0	5.6	6.8	0.61	543.33
143.0	0.00	0.0	4.4	5.6	0.59	543.27
144.0	0.00	0.0	3.3	4.4	0.55	543.20
145.0	0.00	0.0	2.3	3.3	0.52	543.13
146.0	0.00	0.0	1.5	2.3	0.42	543.05
147.0	0.00	0.0	0.9	1.5	0.29	542.96
148.0	0.00	0.0	0.5	0.9	0.20	542.90
149.0	0.00	0.0	0.2	0.5	0.14	542.78
150.0	0.00	0.0	-0.0	0.2	0.10	542.70
151.0	0.00	0.0	-0.0	-0.0	0.00	542.50

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

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\15B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\15BOUT1 .HYD

Starting Pond W.S. Elevation = 542.50 ft

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

Peak Inflow	=	8.51 cfs
Peak Outflow	=	1.69 cfs
Peak Elevation	=	546.29 ft

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

Initial Storage	=	0 cu-ft
Peak Storage From Storm	=	8,532 cu-ft
Total Storage in Pond	=	8,532 cu-ft

15 Return Freq: 15 years

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\15B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\15BOUT1 .HYD

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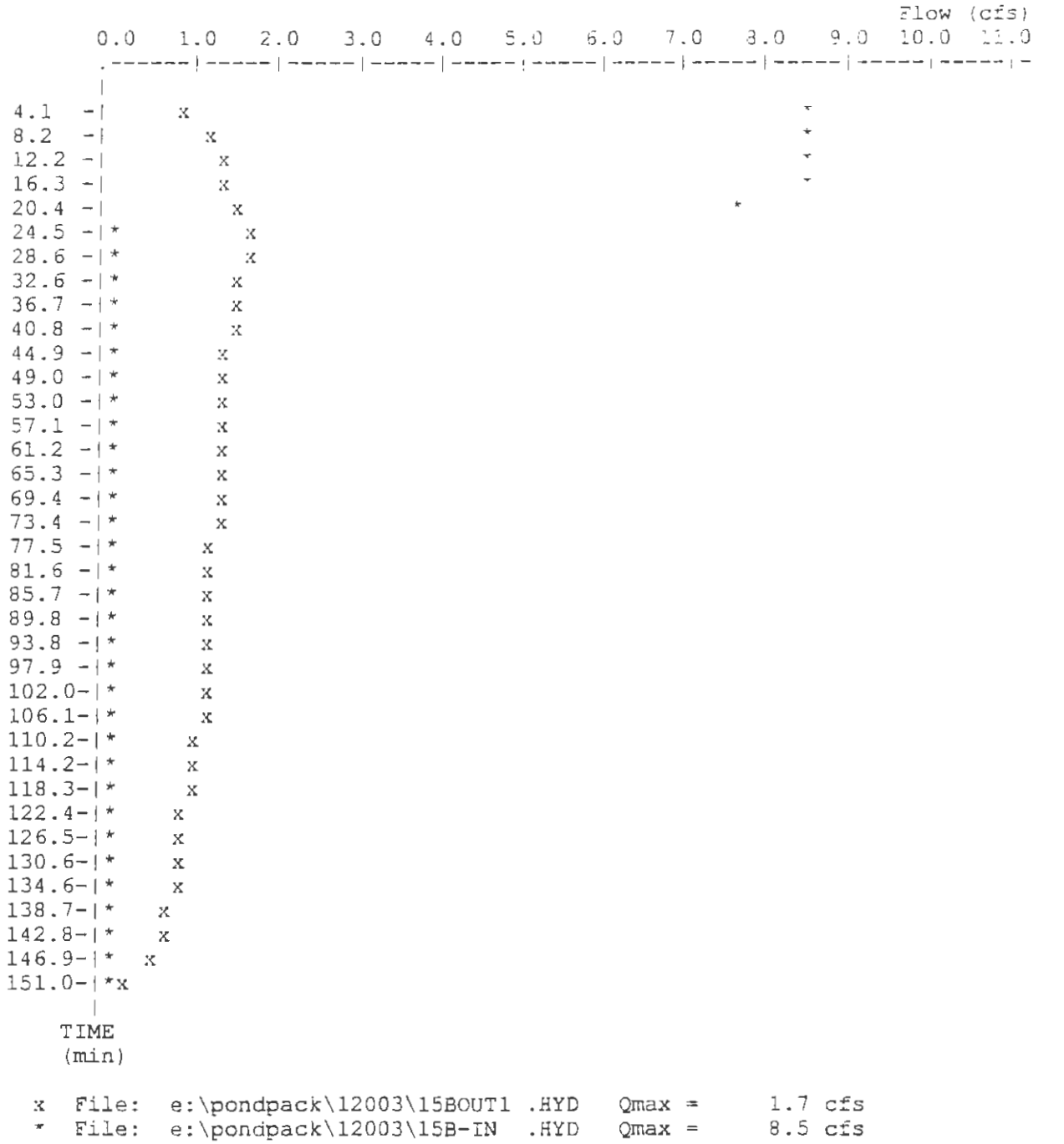
Peak Inflow = 8.51 cfs
Peak Outflow = 1.69 cfs
Peak Elevation = 546.29 ft



x File: e:\pondpack\12003\15BOUT1 .HYD Qmax = 1.7 cfs
* File: e:\pondpack\12003\15B-IN .HYD Qmax = 8.5 cfs

Inflow Hydrograph: e:\pondpack\12003\25B-IN .HYD
Rating Table file: e:\pondpack\12003\BASINB1 .PND

----INITIAL CONDITIONS----
Elevation = 542.50 ft
Outflow = 0.00 cfs
Storage = 0 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
542.50	0.0	0
542.70	0.1	3
542.90	0.2	20
543.10	0.5	69
543.30	0.6	164
543.50	0.7	321
543.70	0.8	554
543.90	0.9	880
544.10	0.9	1,303
544.30	1.0	1,770
544.50	1.1	2,272
544.70	1.1	2,810
544.90	1.2	3,386
545.10	1.2	4,000
545.30	1.3	4,655
545.50	1.3	5,351
545.70	1.4	6,090
545.90	1.4	6,873
546.10	1.5	7,700
546.30	1.7	8,573
546.50	2.0	9,491
546.70	2.3	10,456
546.90	2.7	11,469
547.10	3.2	12,531
547.30	3.7	13,643
547.50	1.8	14,808
547.70	1.8	16,025
547.90	1.8	17,296
548.10	1.9	18,621
548.30	1.9	20,001
548.50	2.0	21,437

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
0.0	0.0
0.1	0.2
0.7	0.9
2.3	2.8
5.5	6.1
10.7	11.4
18.5	19.3
29.3	30.2
43.4	44.3
59.0	60.0
75.7	76.8
93.7	94.8
112.9	114.1
133.3	134.5
155.2	156.5
178.4	179.7
203.0	204.4
229.1	230.5
256.7	258.2
285.8	287.5
316.4	318.4
348.5	350.8
382.3	385.0
417.7	420.9
454.8	458.5
493.6	495.4
534.2	536.0
576.5	578.3
620.7	622.6
666.7	668.6
714.6	716.6

GIVEN POND DATA			INTERMEDIATE ROUTING COMPUTATIONS	
ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)	2S/t (cfs)	2S/t + O (cfs)
548.70	2.0	22,930	764.3	766.3
548.90	2.0	24,480	816.0	818.0
549.10	2.1	26,089	869.6	871.7
549.30	2.1	27,757	925.2	927.3

Time increment (t) = 1.0 min.

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\25B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\25BOUT1 .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	0.00	-----	0.0	0.0	0.00	542.50
1.0	2.63	2.6	1.7	2.6	0.47	543.08
2.0	5.26	7.9	8.2	9.6	0.67	543.43
3.0	7.88	13.1	19.7	21.4	0.82	543.74
4.0	10.51	18.4	36.3	38.1	0.90	544.01
5.0	10.51	21.0	55.4	57.4	0.98	544.27
6.0	10.51	21.0	74.2	76.4	1.10	544.50
7.0	10.51	21.0	93.0	95.2	1.10	544.70
8.0	10.51	21.0	111.6	114.0	1.20	544.90
9.0	10.51	21.0	130.3	132.7	1.20	545.08
10.0	10.51	21.0	148.7	151.3	1.28	545.25
11.0	10.51	21.0	167.2	169.8	1.30	545.41
12.0	10.51	21.0	185.5	188.2	1.33	545.57
13.0	10.51	21.0	203.7	206.5	1.40	545.72
14.0	10.51	21.0	221.9	224.7	1.40	545.86
15.0	10.51	21.0	240.1	243.0	1.45	545.99
16.0	10.51	21.0	258.1	261.1	1.52	546.12
17.0	10.51	21.0	275.8	279.1	1.64	546.24
18.0	10.51	21.0	293.2	296.8	1.79	546.36
19.0	10.51	21.0	310.3	314.3	1.96	546.47
20.0	10.51	21.0	327.1	331.4	2.12	546.58
21.0	7.88	18.4	341.0	345.5	2.25	546.67
22.0	5.26	13.1	349.5	354.1	2.34	546.72
23.0	2.63	7.9	352.6	357.4	2.38	546.74
24.0	0.00	2.6	350.5	355.2	2.35	546.73
25.0	0.00	0.0	345.9	350.5	2.30	546.70
26.0	0.00	0.0	341.4	345.9	2.25	546.67
27.0	0.00	0.0	337.0	341.4	2.21	546.64
28.0	0.00	0.0	332.7	337.0	2.17	546.61
29.0	0.00	0.0	328.4	332.7	2.13	546.59
30.0	0.00	0.0	324.2	328.4	2.09	546.56
31.0	0.00	0.0	320.1	324.2	2.05	546.54
32.0	0.00	0.0	316.1	320.1	2.02	546.51
33.0	0.00	0.0	312.1	316.1	1.98	546.49
34.0	0.00	0.0	308.2	312.1	1.94	546.46
35.0	0.00	0.0	304.4	308.2	1.90	546.43
36.0	0.00	0.0	300.7	304.4	1.86	546.41
37.0	0.00	0.0	297.0	300.7	1.83	546.39
38.0	0.00	0.0	293.5	297.0	1.79	546.36
39.0	0.00	0.0	289.9	293.5	1.76	546.34
40.0	0.00	0.0	286.5	289.9	1.72	546.32
41.0	0.00	0.0	283.1	286.5	1.69	546.29
42.0	0.00	0.0	279.8	283.1	1.67	546.27
43.0	0.00	0.0	276.5	279.8	1.65	546.25
44.0	0.00	0.0	273.2	276.5	1.62	546.22

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\25B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\25BOUT1 .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	270.0	273.2	1.60	546.20
46.0	0.00	0.0	266.8	270.0	1.58	546.18
47.0	0.00	0.0	263.7	266.8	1.56	546.16
48.0	0.00	0.0	260.7	263.7	1.54	546.14
49.0	0.00	0.0	257.6	260.7	1.52	546.12
50.0	0.00	0.0	254.6	257.6	1.50	546.10
51.0	0.00	0.0	251.6	254.6	1.49	546.07
52.0	0.00	0.0	248.7	251.6	1.48	546.05
53.0	0.00	0.0	245.8	248.7	1.47	546.03
54.0	0.00	0.0	242.9	245.8	1.46	546.01
55.0	0.00	0.0	240.0	242.9	1.44	545.99
56.0	0.00	0.0	237.1	240.0	1.43	545.97
57.0	0.00	0.0	234.2	237.1	1.42	545.95
58.0	0.00	0.0	231.4	234.2	1.41	545.93
59.0	0.00	0.0	228.6	231.4	1.40	545.91
60.0	0.00	0.0	225.8	228.6	1.40	545.89
61.0	0.00	0.0	223.0	225.8	1.40	545.86
62.0	0.00	0.0	220.2	223.0	1.40	545.84
63.0	0.00	0.0	217.4	220.2	1.40	545.82
64.0	0.00	0.0	214.6	217.4	1.40	545.80
65.0	0.00	0.0	211.8	214.6	1.40	545.78
66.0	0.00	0.0	209.0	211.8	1.40	545.76
67.0	0.00	0.0	206.2	209.0	1.40	545.74
68.0	0.00	0.0	203.4	206.2	1.40	545.71
69.0	0.00	0.0	200.6	203.4	1.40	545.69
70.0	0.00	0.0	197.9	200.6	1.38	545.67
71.0	0.00	0.0	195.1	197.9	1.37	545.65
72.0	0.00	0.0	192.4	195.1	1.36	545.62
73.0	0.00	0.0	189.7	192.4	1.35	545.60
74.0	0.00	0.0	187.0	189.7	1.34	545.58
75.0	0.00	0.0	184.3	187.0	1.33	545.56
76.0	0.00	0.0	181.7	184.3	1.32	545.54
77.0	0.00	0.0	179.1	181.7	1.31	545.52
78.0	0.00	0.0	176.5	179.1	1.30	545.49
79.0	0.00	0.0	173.9	176.5	1.30	545.47
80.0	0.00	0.0	171.3	173.9	1.30	545.45
81.0	0.00	0.0	168.7	171.3	1.30	545.43
82.0	0.00	0.0	166.1	168.7	1.30	545.41
83.0	0.00	0.0	163.5	166.1	1.30	545.38
84.0	0.00	0.0	160.9	163.5	1.30	545.36
85.0	0.00	0.0	158.3	160.9	1.30	545.34
86.0	0.00	0.0	155.7	158.3	1.30	545.32
87.0	0.00	0.0	153.1	155.7	1.30	545.29
88.0	0.00	0.0	150.5	153.1	1.28	545.27
89.0	0.00	0.0	148.0	150.5	1.27	545.25
90.0	0.00	0.0	145.5	148.0	1.26	545.22

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\25B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\25BOUT1 .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1-I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
91.0	0.00	0.0	143.0	145.5	1.25	545.20
92.0	0.00	0.0	140.5	143.0	1.24	545.18
93.0	0.00	0.0	138.0	140.5	1.23	545.15
94.0	0.00	0.0	135.6	138.0	1.22	545.13
95.0	0.00	0.0	133.2	135.6	1.20	545.11
96.0	0.00	0.0	130.8	133.2	1.20	545.09
97.0	0.00	0.0	128.4	130.8	1.20	545.06
98.0	0.00	0.0	126.0	128.4	1.20	545.04
99.0	0.00	0.0	123.6	126.0	1.20	545.02
100.0	0.00	0.0	121.2	123.6	1.20	544.99
101.0	0.00	0.0	118.8	121.2	1.20	544.97
102.0	0.00	0.0	116.4	118.8	1.20	544.95
103.0	0.00	0.0	114.0	116.4	1.20	544.92
104.0	0.00	0.0	111.6	114.0	1.20	544.90
105.0	0.00	0.0	109.2	111.6	1.19	544.87
106.0	0.00	0.0	106.9	109.2	1.17	544.85
107.0	0.00	0.0	104.5	106.9	1.16	544.83
108.0	0.00	0.0	102.2	104.5	1.15	544.80
109.0	0.00	0.0	100.0	102.2	1.14	544.78
110.0	0.00	0.0	97.7	100.0	1.13	544.75
111.0	0.00	0.0	95.5	97.7	1.12	544.73
112.0	0.00	0.0	93.3	95.5	1.10	544.71
113.0	0.00	0.0	91.1	93.3	1.10	544.68
114.0	0.00	0.0	88.9	91.1	1.10	544.66
115.0	0.00	0.0	86.7	88.9	1.10	544.63
116.0	0.00	0.0	84.5	86.7	1.10	544.61
117.0	0.00	0.0	82.3	84.5	1.10	544.59
118.0	0.00	0.0	80.1	82.3	1.10	544.56
119.0	0.00	0.0	77.9	80.1	1.10	544.54
120.0	0.00	0.0	75.7	77.9	1.10	544.51
121.0	0.00	0.0	73.5	75.7	1.09	544.49
122.0	0.00	0.0	71.3	73.5	1.08	544.46
123.0	0.00	0.0	69.2	71.3	1.07	544.43
124.0	0.00	0.0	67.1	69.2	1.05	544.41
125.0	0.00	0.0	65.0	67.1	1.04	544.38
126.0	0.00	0.0	62.9	65.0	1.03	544.36
127.0	0.00	0.0	60.9	62.9	1.02	544.33
128.0	0.00	0.0	58.9	60.9	1.01	544.31
129.0	0.00	0.0	56.9	58.9	0.99	544.29
130.0	0.00	0.0	54.9	56.9	0.98	544.26
131.0	0.00	0.0	53.0	54.9	0.97	544.24
132.0	0.00	0.0	51.1	53.0	0.96	544.21
133.0	0.00	0.0	49.2	51.1	0.94	544.19
134.0	0.00	0.0	47.3	49.2	0.93	544.16
135.0	0.00	0.0	45.5	47.3	0.92	544.14
136.0	0.00	0.0	43.7	45.5	0.91	544.11

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\25B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\25BOUT1 .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
137.0	0.00	0.0	41.9	43.7	0.90	544.09
138.0	0.00	0.0	40.1	41.9	0.90	544.07
139.0	0.00	0.0	38.3	40.1	0.90	544.04
140.0	0.00	0.0	36.5	38.3	0.90	544.01
141.0	0.00	0.0	34.7	36.5	0.90	543.99
142.0	0.00	0.0	32.9	34.7	0.90	543.96
143.0	0.00	0.0	31.1	32.9	0.90	543.94
144.0	0.00	0.0	29.3	31.1	0.90	543.91
145.0	0.00	0.0	27.5	29.3	0.89	543.88
146.0	0.00	0.0	25.8	27.5	0.88	543.85
147.0	0.00	0.0	24.0	25.8	0.86	543.82
148.0	0.00	0.0	22.4	24.0	0.84	543.79
149.0	0.00	0.0	20.7	22.4	0.83	543.76
150.0	0.00	0.0	19.1	20.7	0.81	543.73
151.0	0.00	0.0	17.5	19.1	0.80	543.69

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

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\25B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\25BOUT1 .HYD

Starting Pond W.S. Elevation = 542.50 ft

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

Peak Inflow	=	10.51 cfs
Peak Outflow	=	2.38 cfs
Peak Elevation	=	546.74 ft

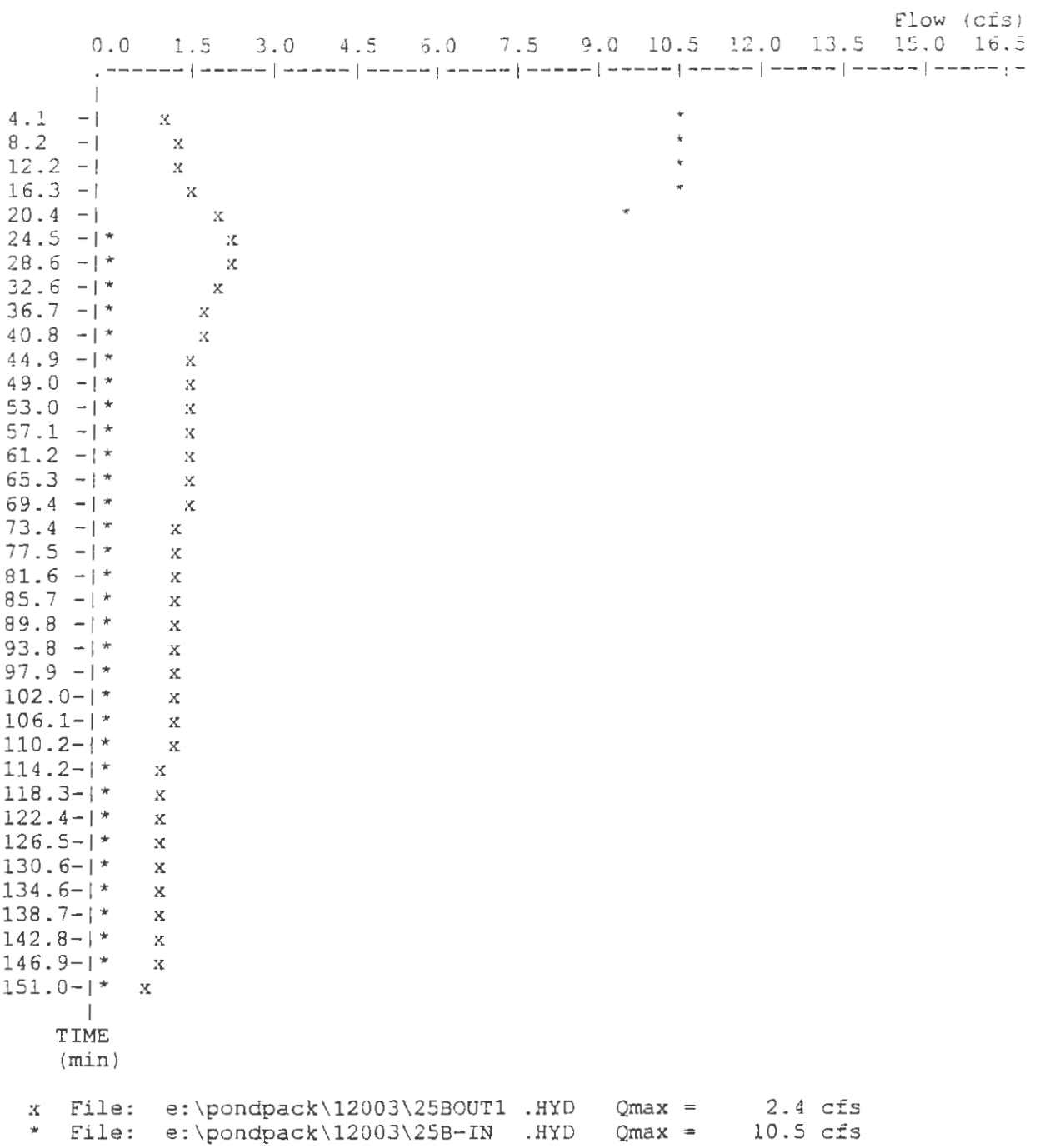
***** Summary of Approximate Peak Storage *****

Initial Storage	=	0 cu-ft
Peak Storage From Storm	=	10,649 cu-ft
Total Storage in Pond	=	10,649 cu-ft

25 Return Freq: 25 years

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\25B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\25BOUT1 .HYD
EXECUTED: 04-01-2003 13:29:57

Peak Inflow = 10.31 cfs
Peak Outflow = 2.38 cfs
Peak Elevation = 546.74 ft



x File: e:\pondpack\12003\25BOUT1 .HYD Qmax = 2.4 cfs
* File: e:\pondpack\12003\25B-IN .HYD Qmax = 10.5 cfs

Inflow Hydrograph: e:\pondpack\12003\100B-IN .HYD
Rating Table file: e:\pondpack\12003\BASINB1 .PND

----INITIAL CONDITIONS----
Elevation = 542.50 ft
Outflow = 0.00 cfs
Storage = 0 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
542.50	0.0	0
542.70	0.1	3
542.90	0.2	20
543.10	0.5	69
543.30	0.6	164
543.50	0.7	321
543.70	0.8	554
543.90	0.9	880
544.10	0.9	1,303
544.30	1.0	1,770
544.50	1.1	2,272
544.70	1.1	2,810
544.90	1.2	3,386
545.10	1.2	4,000
545.30	1.3	4,655
545.50	1.3	5,351
545.70	1.4	6,090
545.90	1.4	6,873
546.10	1.5	7,700
546.30	1.7	8,573
546.50	2.0	9,491
546.70	2.3	10,456
546.90	2.7	11,469
547.10	3.2	12,531
547.30	3.7	13,643
547.50	1.8	14,808
547.70	1.8	16,025
547.90	1.8	17,296
548.10	1.9	18,621
548.30	1.9	20,001
548.50	2.0	21,437

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
0.0	0.0
0.1	0.2
0.7	0.9
2.3	2.8
5.5	6.1
10.7	11.4
18.5	19.3
29.3	30.2
43.4	44.3
59.0	60.0
75.7	76.8
93.7	94.8
112.9	114.1
133.3	134.5
155.2	156.5
178.4	179.7
203.0	204.4
229.1	230.5
256.7	258.2
285.8	287.5
316.4	318.4
348.5	350.8
382.3	385.0
417.7	420.9
454.8	458.5
493.6	495.4
534.2	536.0
576.5	578.3
620.7	622.6
666.7	668.6
714.6	716.6

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
548.70	2.0	22,930
548.90	2.0	24,480
549.10	2.1	26,089
549.30	2.1	27,757

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
764.3	766.3
816.0	818.0
869.6	871.7
925.2	927.3

Time increment (t) = 1.0 min.

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\100B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\100BOUT1.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	0.00	-----	0.0	0.0	0.00	542.50
1.0	3.36	3.4	2.3	3.4	0.52	543.13
2.0	6.72	10.1	11.0	12.4	0.71	543.53
3.0	10.08	16.8	26.0	27.8	0.88	543.86
4.0	13.44	23.5	47.7	49.5	0.93	544.17
5.0	13.44	26.9	72.4	74.6	1.09	544.47
6.0	13.44	26.9	97.0	99.3	1.12	544.75
7.0	13.44	26.9	121.5	123.9	1.20	545.00
8.0	13.44	26.9	145.9	148.4	1.26	545.23
9.0	13.44	26.9	170.1	172.7	1.30	545.44
10.0	13.44	26.9	194.3	197.0	1.37	545.64
11.0	13.44	26.9	218.4	221.2	1.40	545.83
12.0	13.44	26.9	242.3	245.2	1.45	546.01
13.0	13.44	26.9	266.1	269.2	1.58	546.18
14.0	13.44	26.9	289.4	292.9	1.75	546.34
15.0	13.44	26.9	312.3	316.3	1.98	546.49
16.0	13.44	26.9	334.3	339.2	2.19	546.63
17.0	13.44	26.9	356.9	361.7	2.43	546.76
18.0	13.44	26.9	378.4	383.7	2.69	546.89
19.0	13.44	26.9	399.3	405.3	2.98	547.01
20.0	13.44	26.9	419.6	426.2	3.27	547.13
21.0	10.08	23.5	436.2	443.2	3.50	547.22
22.0	6.72	16.8	445.7	453.0	3.63	547.27
23.0	3.36	10.1	448.5	455.8	3.66	547.29
24.0	0.00	3.4	444.6	451.8	3.61	547.26
25.0	0.00	0.0	437.6	444.6	3.52	547.23
26.0	0.00	0.0	430.7	437.6	3.42	547.19
27.0	0.00	0.0	424.1	430.7	3.33	547.15
28.0	0.00	0.0	417.6	424.1	3.24	547.12
29.0	0.00	0.0	411.3	417.6	3.15	547.08
30.0	0.00	0.0	405.1	411.3	3.07	547.05
31.0	0.00	0.0	399.2	405.1	2.98	547.01
32.0	0.00	0.0	393.4	399.2	2.90	546.98
33.0	0.00	0.0	387.7	393.4	2.82	546.95
34.0	0.00	0.0	382.3	387.7	2.74	546.92
35.0	0.00	0.0	376.9	382.3	2.67	546.88
36.0	0.00	0.0	371.7	376.9	2.61	546.85
37.0	0.00	0.0	366.6	371.7	2.54	546.82
38.0	0.00	0.0	361.7	366.6	2.49	546.79
39.0	0.00	0.0	356.8	361.7	2.43	546.76
40.0	0.00	0.0	352.1	356.8	2.37	546.74
41.0	0.00	0.0	347.4	352.1	2.31	546.71
42.0	0.00	0.0	342.9	347.4	2.27	546.68
43.0	0.00	0.0	338.4	342.9	2.23	546.65
44.0	0.00	0.0	334.1	338.4	2.19	546.62

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\100B-IN .HYD
Outflow Hydrograpn: e:\pondpack\12003\100BOUT1.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	329.8	334.1	2.15	546.60
46.0	0.00	0.0	325.6	329.8	2.11	546.57
47.0	0.00	0.0	321.4	325.6	2.07	546.54
48.0	0.00	0.0	317.4	321.4	2.03	546.52
49.0	0.00	0.0	313.4	317.4	1.99	546.49
50.0	0.00	0.0	309.5	313.4	1.95	546.47
51.0	0.00	0.0	305.7	309.5	1.91	546.44
52.0	0.00	0.0	301.9	305.7	1.88	546.42
53.0	0.00	0.0	298.2	301.9	1.84	546.39
54.0	0.00	0.0	294.6	298.2	1.80	546.37
55.0	0.00	0.0	291.1	294.6	1.77	546.35
56.0	0.00	0.0	287.6	291.1	1.74	546.32
57.0	0.00	0.0	284.2	287.6	1.70	546.30
58.0	0.00	0.0	280.9	284.2	1.68	546.28
59.0	0.00	0.0	277.6	280.9	1.65	546.25
60.0	0.00	0.0	274.3	277.6	1.63	546.23
61.0	0.00	0.0	271.1	274.3	1.61	546.21
62.0	0.00	0.0	267.9	271.1	1.59	546.19
63.0	0.00	0.0	264.8	267.9	1.57	546.17
64.0	0.00	0.0	261.7	264.8	1.54	546.14
65.0	0.00	0.0	258.6	261.7	1.52	546.12
66.0	0.00	0.0	255.6	258.6	1.50	546.10
67.0	0.00	0.0	252.6	255.6	1.49	546.08
68.0	0.00	0.0	249.7	252.6	1.48	546.06
69.0	0.00	0.0	246.7	249.7	1.47	546.04
70.0	0.00	0.0	243.8	246.7	1.46	546.02
71.0	0.00	0.0	240.9	243.8	1.45	546.00
72.0	0.00	0.0	238.0	240.9	1.44	545.98
73.0	0.00	0.0	235.2	238.0	1.43	545.95
74.0	0.00	0.0	232.4	235.2	1.42	545.93
75.0	0.00	0.0	229.5	232.4	1.41	545.91
76.0	0.00	0.0	226.7	229.5	1.40	545.89
77.0	0.00	0.0	223.9	226.7	1.40	545.87
78.0	0.00	0.0	221.1	223.9	1.40	545.85
79.0	0.00	0.0	218.3	221.1	1.40	545.83
80.0	0.00	0.0	215.5	218.3	1.40	545.81
81.0	0.00	0.0	212.7	215.5	1.40	545.79
82.0	0.00	0.0	209.9	212.7	1.40	545.76
83.0	0.00	0.0	207.1	209.9	1.40	545.74
84.0	0.00	0.0	204.3	207.1	1.40	545.72
85.0	0.00	0.0	201.5	204.3	1.40	545.70
86.0	0.00	0.0	198.8	201.5	1.39	545.68
87.0	0.00	0.0	196.0	198.8	1.38	545.65
88.0	0.00	0.0	193.3	196.0	1.37	545.63
89.0	0.00	0.0	190.6	193.3	1.36	545.61
90.0	0.00	0.0	187.9	190.6	1.34	545.59

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\100B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\100BOUT1.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
91.0	0.00	0.0	185.2	187.9	1.33	545.57
92.0	0.00	0.0	182.6	185.2	1.32	545.54
93.0	0.00	0.0	179.9	182.6	1.31	545.52
94.0	0.00	0.0	177.3	179.9	1.30	545.50
95.0	0.00	0.0	174.7	177.3	1.30	545.48
96.0	0.00	0.0	172.1	174.7	1.30	545.46
97.0	0.00	0.0	169.5	172.1	1.30	545.44
98.0	0.00	0.0	166.9	169.5	1.30	545.41
99.0	0.00	0.0	164.3	166.9	1.30	545.39
100.0	0.00	0.0	161.7	164.3	1.30	545.37
101.0	0.00	0.0	159.1	161.7	1.30	545.35
102.0	0.00	0.0	156.5	159.1	1.30	545.32
103.0	0.00	0.0	153.9	156.5	1.30	545.30
104.0	0.00	0.0	151.4	153.9	1.29	545.28
105.0	0.00	0.0	148.8	151.4	1.28	545.25
106.0	0.00	0.0	146.3	148.8	1.27	545.23
107.0	0.00	0.0	143.8	146.3	1.25	545.21
108.0	0.00	0.0	141.3	143.8	1.24	545.18
109.0	0.00	0.0	138.8	141.3	1.23	545.16
110.0	0.00	0.0	136.4	138.8	1.22	545.14
111.0	0.00	0.0	134.0	136.4	1.21	545.12
112.0	0.00	0.0	131.6	134.0	1.20	545.09
113.0	0.00	0.0	129.2	131.6	1.20	545.07
114.0	0.00	0.0	126.8	129.2	1.20	545.05
115.0	0.00	0.0	124.4	126.8	1.20	545.02
116.0	0.00	0.0	122.0	124.4	1.20	545.00
117.0	0.00	0.0	119.6	122.0	1.20	544.98
118.0	0.00	0.0	117.2	119.6	1.20	544.95
119.0	0.00	0.0	114.8	117.2	1.20	544.93
120.0	0.00	0.0	112.4	114.8	1.20	544.91
121.0	0.00	0.0	110.0	112.4	1.19	544.88
122.0	0.00	0.0	107.6	110.0	1.18	544.86
123.0	0.00	0.0	105.3	107.6	1.17	544.83
124.0	0.00	0.0	103.0	105.3	1.15	544.81
125.0	0.00	0.0	100.7	103.0	1.14	544.79
126.0	0.00	0.0	98.4	100.7	1.13	544.76
127.0	0.00	0.0	96.2	98.4	1.12	544.74
128.0	0.00	0.0	94.0	96.2	1.11	544.71
129.0	0.00	0.0	91.8	94.0	1.10	544.69
130.0	0.00	0.0	89.6	91.8	1.10	544.67
131.0	0.00	0.0	87.4	89.6	1.10	544.64
132.0	0.00	0.0	85.2	87.4	1.10	544.62
133.0	0.00	0.0	83.0	85.2	1.10	544.59
134.0	0.00	0.0	80.8	83.0	1.10	544.57
135.0	0.00	0.0	78.6	80.8	1.10	544.54
136.0	0.00	0.0	76.4	78.6	1.10	544.52

Pond File: e:\pondpack\12003\BASINB1 .PND
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Outflow Hydrograph: e:\pondpack\12003\100BOUT1.HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
137.0	0.00	0.0	74.2	76.4	1.10	544.49
138.0	0.00	0.0	72.0	74.2	1.08	544.47
139.0	0.00	0.0	69.9	72.0	1.07	544.44
140.0	0.00	0.0	67.8	69.9	1.06	544.42
141.0	0.00	0.0	65.7	67.8	1.05	544.39
142.0	0.00	0.0	63.6	65.7	1.03	544.37
143.0	0.00	0.0	61.6	63.6	1.02	544.34
144.0	0.00	0.0	59.5	61.6	1.01	544.32
145.0	0.00	0.0	57.6	59.5	1.00	544.29
146.0	0.00	0.0	55.6	57.6	0.98	544.27
147.0	0.00	0.0	53.6	55.6	0.97	544.24
148.0	0.00	0.0	51.7	53.6	0.96	544.22
149.0	0.00	0.0	49.8	51.7	0.95	544.19
150.0	0.00	0.0	48.0	49.8	0.94	544.17
151.0	0.00	0.0	46.1	48.0	0.92	544.15

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

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\100B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\100BOUT1.HYD

Starting Pond W.S. Elevation = 542.50 ft

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

Peak Inflow	=	13.44 cfs
Peak Outflow	=	3.66 cfs
Peak Elevation	=	547.29 ft

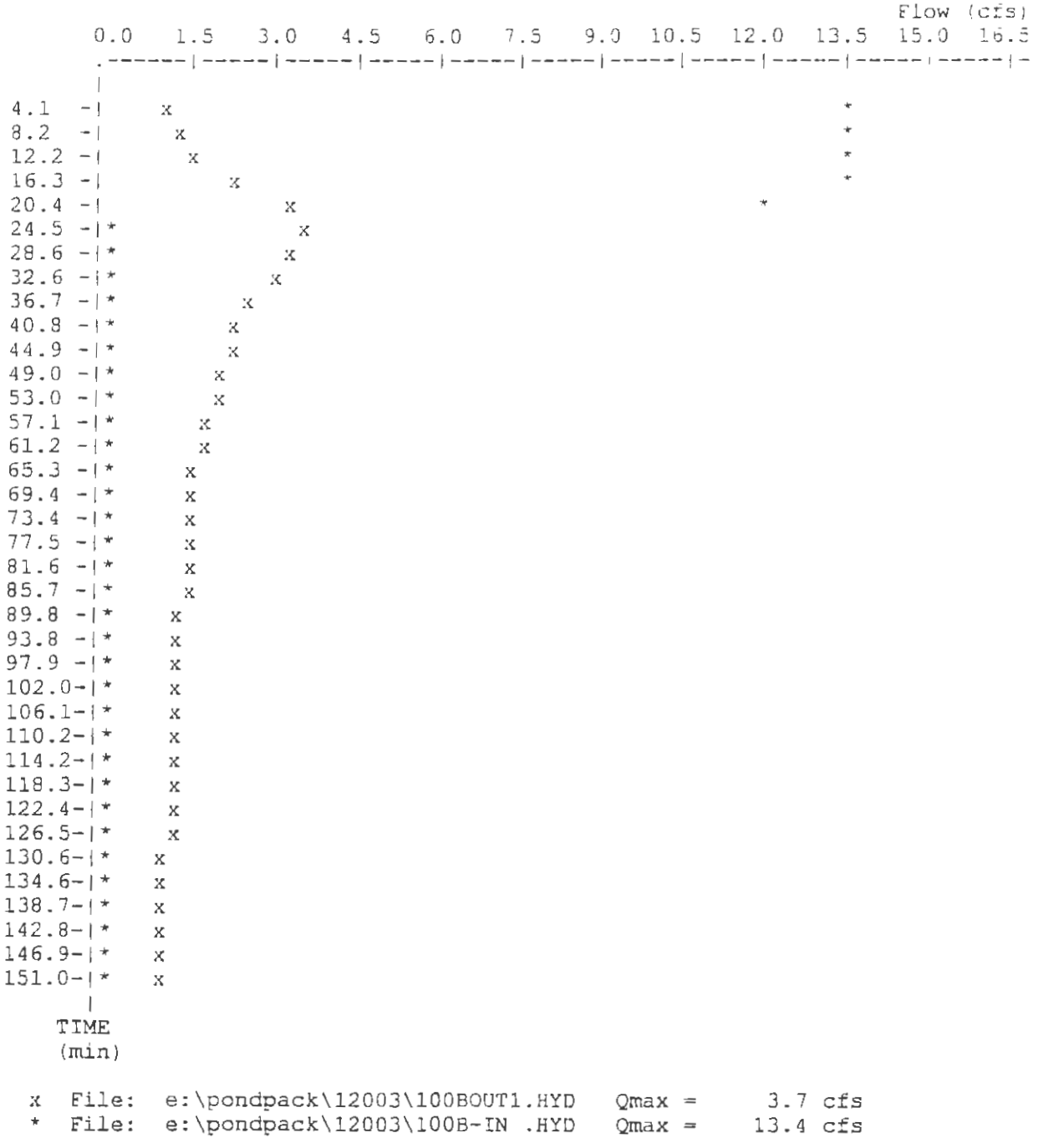
***** Summary of Approximate Peak Storage *****

Initial Storage	=	0 cu-ft
Peak Storage From Storm	=	13,564 cu-ft
Total Storage in Pond	=	13,564 cu-ft

100 Return Freq: 100 years

Pond File: e:\pondpack\12003\BASINB1 .PND
Inflow Hydrograph: e:\pondpack\12003\100B-IN .HYD
Outflow Hydrograph: e:\pondpack\12003\100BOUT1.HYD
EXECUTED: 04-01-2003 13:29:57

Peak Inflow = 13.44 cfs
Peak Outflow = 3.66 cfs
Peak Elevation = 547.29 ft



x File: e:\pondpack\12003\100BOUT1.HYD Qmax = 3.7 cfs
* File: e:\pondpack\12003\100B-IN .HYD Qmax = 13.4 cfs