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CITY OF O'FALLON, MO

**PERSIMMON POINTE P.U.D.  
O'FALLON, MISSOURI**

**REGIONAL DETENTION ANALYSIS**

Prepared for:

**R.G.Brinkmann Co.  
16650 Chesterfield Grove Rd.  
Chesterfield, MO 63005**

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Checked by: J. Grimes  
Job No. 675B  
Date: 04-09-02  
Revised: August 9, 2002**



# INDEX

**Introduction**

**Stormwater Runoff Summary**

**Support Data**

**Point of Interest #1 – Drainage to Future Detention Basin on 64K**

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**Existing Drainage Network Summary (Pondpack ver. 7.5)**

Undeveloped Conditions-Ex. 64K Area I (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15-Year and 25-Year Runoff Hydrograph

Existing Conditions-Rustique (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15-Year and 25-Year Runoff Hydrograph

**Developed Drainage Network Summary (Pondpack ver. 7.5)**

Developed Conditions-64K-Area II (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15 Year, 25 Year and 100-Year Runoff Hydrograph

Developed Conditions-Rustique (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15 Year, 25 Year and 100-Year Runoff Hydrograph

**Basin Routings**

Dry Basin – Lake Volume  
Dry Basin Inflow – 2Yr., 15 Yr., 25 Yr., & 100 Yr.  
Dry Basin Outflow Control Structure (48" Dia., w/ 24" Dia. Low Flow Orifice & 4' Wide I.W.)  
Dry Basin Routings – 2Yr., 15 Yr., 25 Yr., & 100 Yr.

**Point of Interest # 2 – Southernside Drainage By-Passing Detention**

**Existing Area II Drainage Network Summary (Pondpack ver. 7.5)**

Undeveloped Conditions-Ex. Area II (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15 Year, 25 Year and 100-Year Runoff Hydrograph

**Southern Bypass Drainage Network Summary (Pondpack ver. 7.5)**

Developed Conditions- Southern Bypass Area (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15 Year, 25 Year and 100-Year Runoff Hydrograph



## INDEX (con't.)

### P.O.I.#3 - Developed Drainage Network Summary (Pondpack ver. 7.5)

Existing Conditions-Ex-64K Area (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15-Year, 25-Year and 100-Year Runoff Hydrograph

Existing Conditions- Ex-64K -3 Area (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15-Year, 25-Year and 100-Year Runoff Hydrograph

Existing Conditions-Ex. K40 Area (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15-Year, 25-Year and 100-Year Runoff Hydrograph

Existing Conditions-Offsite Area (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15-Year, 25-Year and 100-Year Runoff Hydrograph

Developed Conditions-Kellen-Beck Area (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15-Year, 25-Year and 100-Year Runoff Hydrograph

Developed Conditions-SouthernSide Area (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15-Year, 25-Year and 100-Year Runoff Hydrograph

Developed Conditions-SouthernSide Bypass-Area (Pondpack ver. 7.5)  
Tc Computations  
Runoff Curve Number  
2-Yr., 15-Year, 25-Year and 100-Year Runoff Hydrograph

#### Ex. Lake #1 Routings

Lake #1 – Lake Volume  
Lake #1 Inflow – 2-Yr., 15-Yr., 25-Yr., & 100-Yr.  
Lake #1 Outflow Control Structure (13'x13' Structure w/1.5' Wide Intermediate Weir)  
Lake #1 – 2-Yr., 15-Yr., 25-Yr., & 100-Yr.

#### KB-Lake Routings

KB-Lake – Lake Volume  
KB-Lake Inflow – 2-Yr., 15-Yr., 25-Yr., & 100-Yr.  
KB-Lake Outflow Control Structure (96" Dia. Structure w/5.33' Wide Intermediate Weir)  
KB-Lake – 2-Yr., 15-Yr., 25-Yr., & 100-Yr.

#### SouthernSide-Lake Routings

KB-Lake – Lake Volume  
KB-Lake Inflow – 2-Yr., 15-Yr., 25-Yr., & 100-Yr.  
KB-Lake Outflow Control Structure (96" Dia. Structure w/5.33' Wide Intermediate Weir)  
KB-Lake – 2-Yr., 15-Yr., 25-Yr., & 100-Yr.

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### **Point of Interest #3 – Drainage Through Southernside Lake**

#### **P.O.I.#3 - Existing Drainage Network Summary (Pondpack ver. 7.5)**

Undeveloped Conditions-Ex. Area To Ex. Lake #1 (Pondpack ver. 7.5)

Tc Computations

Runoff Curve Number

2-Yr., 15-Year and 25-Year Runoff Hydrograph

Undeveloped Conditions-Ex. Area To Ex. Lake #2 (Pondpack ver. 7.5)

Tc Computations

Runoff Curve Number

2-Yr., 15-Year and 25-Year Runoff Hydrograph

Undeveloped Conditions-Ex. Southernside Area (Pondpack ver. 7.5)

Tc Computations

Runoff Curve Number

2-Yr., 15-Year and 25-Year Runoff Hydrograph

Existing Conditions-Offsite Area (Pondpack ver. 7.5)

Tc Computations

Runoff Curve Number

2-Yr., 15-Year and 25-Year Runoff Hydrograph

#### **Ex. Lake #1 Routings**

Ex. Pond #1 – Lake Volume

Ex. Pond #1 – 2-Yr., 15 Yr., 25 Yr., & 100 Yr.

Ex. Pond #1 Outflow Control Structure (15" Dia. Pipe)

Ex. Pond #1 – 2-Yr., 15 Yr., & 25 Yr.

#### **Ex. Lake #2 Routings**

Ex. Pond #2 – Lake Volume

Ex. Pond #2 – 2-Yr., 15 Yr., 25 Yr., & 100 Yr.

Ex. Pond #2 Outflow Control Structure (12" Dia. Pipe, 15" Dia. Pipe, & 10' EarthWeir)

Ex. Pond #2 – 2-Yr., 15 Yr. & 25 Yr.

#### **Allowable Discharge Hydrographs**

2-Year Storm

15-Year Storm

25-Year Storm

100-Year Storm

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### Network Outlet

- 2-Year Storm
- 15-Year Storm
- 25-Year Storm
- 100-Year Storm

### Appendix

- Soil Map & Index

### Drainage Area Maps

- Existing Drainage Area Map
- Developed Drainage Area Map

## INTRODUCTION

The Persimmon Pointe P.U.D. is an approximately 80 acre development located in the northwest quadrant of the intersection of Missouri State Highway "K" and Interstate 64. The development is located in the City of O'Fallon, Missouri and future uses for the development will include office buildings as well as a 200-unit apartment complex known as Southernside Apartments. The development of this area will include the construction of Persimmon Pointe Boulevard from the intersection of Weldon Springs Rd. and Crusher Rd. to the intersection of O'Fallon Corporate Centre Drive and Tee Kay Drive. Phase I of this development will include the construction of a portion of Persimmon Pointe Blvd., the Southernside Apartment development, and the detention lake on the Kellen-Beck parcel. This report will show that stormwater detention will be provided for this development in accordance with the criteria set forth by the City of O'Fallon, Missouri.

The existing site is mostly open pasture with some woods. A majority of the existing drainage for the site currently flows through two (2) lakes near the center of the site. The discharge from these lakes eventually leaves the site at the northern corner where it goes into a box culvert under Weldon Springs Rd. The existing site drainage near the Rustique Development leaves the site at a discharge point along the western boundary of the Brookhaven Subdivision, which is located northwest of this development. The discharge from the detention basin constructed for the Rustique Development discharges onto this development and is accounted for in this detention analysis. In addition, there is approximately 49 Acres of offsite drainage onto this site from the Busch Wildlife Area located to the southwest across Interstate 64 from this site. We have included all these drainage areas into our model for the existing stormwater runoff for this development. A model was developed using Haestad Pondpack version 7.5 software and the existing 2-year, 15-year and 25-year stormwater runoff conditions were created to use as the allowable discharge values for the future development.

The detention system proposed for the development will consist of one future dry detention basin located along Persimmon Pointe Blvd. near the existing Rustique development. This basin will detain the future developed stormwater runoff that will discharge at the existing drainage outlet along the western boundary of the Brookhaven Subdivision. The ultimate design of this basin will be completed when the actual development plan for the drainage area is determined. For the purposes of this report, the discharge point from this basin is considered **POINT OF INTEREST #1 (P.O.I. #1)**.

**POINT OF INTEREST #2 (P.O.I. #2)** includes an area of the Apartment development that also discharges along the western boundary of the Brookhaven Subdivision, but is allowed to discharge without detention. The reason for allowing the detention bypass for this area is the developed discharge is actually lower than the existing discharge as will be shown within this report.

The remaining area of this development discharges at the northeast corner of the property and is known as **POINT OF INTEREST #3 (P.O.I. #3)** in this report. This area includes the discharge from the two existing lakes and the offsite area from Busch Wildlife Area. The first phase of the development of this area will require the removal (filling in) of one of the existing lakes. In order to provide the detention required by the City of O'Fallon two (2) lakes will be constructed during the first phase of construction. One lake, referred too as South-Lake in the report, will be located within the Southernside Apartment development on the North side of Persimmon Pointe Blvd. The other lake, known as K-B Lake in this report, will be located on the Kellen-Beck property. The existing lake on the 64-K property will used in place during the first phase. The Kellen-Beck lake is sized

## INTRODUCTION (con't.)

and will be constructed to provide the detention volume required upon full development of the Kellen-Beck parcel. This includes a maximum of 80% roof and pavement coverage as allowed by the City of O'Fallon's zoning ordinance.

Using TR-55 software, and Haestad Pondpack version 7.5 software, the developed (pavement, buildings, basins, etc.) 2-year, 15-year, 25-year, and 100 year stormwater runoff conditions were calculated based on the proposed Southernside Apartment layout and an estimated 80% pavement and roof coverage for the remaining area to be developed. A network was setup within the software to model the runoff to each of lake as well as the dry detention basin. The detention routings for the 2-year, 15-year, 25-year, and 100-year design storms were then calculated for the network to show that the total discharge for each P.O.I. will be reduced after development of this property. The following information and calculations show that the system proposed for this development will provide stormwater detention in accordance with the City of O'Fallon, Missouri requirements.

THE ROSTIQUE & G4K AREA ASSUME A DRY  
BASIN FOR DEV. FLOWS  
WHEN DEVELOPED. THIS WILL HAVE TO BE CHECKED WHEN THIS  
AREA IS DEVELOPED IN FUTURE  
SEE DEV. DRAIN. AREA MAP. J.S. 10/22/02

DETENTION IS FOR THEIR SITE ONLY WITH THIS PHASE OF DEV.

# STORMWATER RUNOFF SUMMARY

## POINT OF INTEREST #1

### **2 Year 24 Hour Storm Event**

Existing . Discharge Rate @ Outlet 23.08 cfs (Allowable Discharge)  
Dev. Discharge Rate @ Outlet 22.06 cfs (From Network Routing)  
Difference = 1.02 cfs

### **15 Year 24 Hour Storm Event**

Existing . Discharge Rate @ Outlet 39.03 cfs (Allowable Discharge)  
Dev. Discharge Rate @ Outlet 28.88 cfs (From Network Routing)  
Difference = 10.15 cfs

### **25 Year 24 Hour Storm Event**

Existing . Discharge Rate @ Outlet 43.87 cfs (Allowable Discharge)  
Dev. Discharge Rate @ Outlet 31.83 cfs (From Network Routing)  
Difference = 12.04 cfs

### **100 Year 24 Hour Storm Event**

Existing . Discharge Rate @ Outlet 58.58 cfs (Allowable Discharge)  
Dev. Discharge Rate @ Outlet 43.53 cfs (From Network Routing)  
Difference = 15.05 cfs

### **Maximum Storage Elevation**

Dry Basin = 546.99'

## POINT OF INTEREST #2

### **2 Year 24 Hour Storm Event**

Existing . Discharge Rate @ Outlet 4.48 cfs (Allowable Discharge)  
Dev. Discharge Rate @ Outlet 3.14 cfs (From Network Routing)  
Difference = 1.34 cfs

### **15 Year 24 Hour Storm Event**

Existing . Discharge Rate @ Outlet 10.62 cfs (Allowable Discharge)  
Dev. Discharge Rate @ Outlet 6.06 cfs (From Network Routing)  
Difference = 4.56 cfs

### **25 Year 24 Hour Storm Event**

Existing . Discharge Rate @ Outlet 12.60 cfs (Allowable Discharge)  
Dev. Discharge Rate @ Outlet 6.95 cfs (From Network Routing)  
Difference = 5.65 cfs

### **100 Year 24 Hour Storm Event**

Existing . Discharge Rate @ Outlet 18.82 cfs (Allowable Discharge)  
Dev. Discharge Rate @ Outlet 9.67 cfs (From Network Routing)  
Difference = 9.15 cfs





## STORMWATER RUNOFF SUMMARY

### POINT OF INTEREST #3

#### **2 Year 24 Hour Storm Event**

|                                    |                  |                        |
|------------------------------------|------------------|------------------------|
| Existing . Discharge Rate @ Outlet | 22.32 cfs        | (Allowable Discharge)  |
| Dev. Discharge Rate @ Outlet       | <u>21.50 cfs</u> | (From Network Routing) |
| Difference =                       | 0.82 cfs         |                        |

#### **15 Year 24 Hour Storm Event**

|                                    |                  |                        |
|------------------------------------|------------------|------------------------|
| Existing . Discharge Rate @ Outlet | 57.24 cfs        | (Allowable Discharge)  |
| Dev. Discharge Rate @ Outlet       | <u>54.40 cfs</u> | (From Network Routing) |
| Difference =                       | 2.84 cfs         |                        |

#### **25 Year 24 Hour Storm Event**

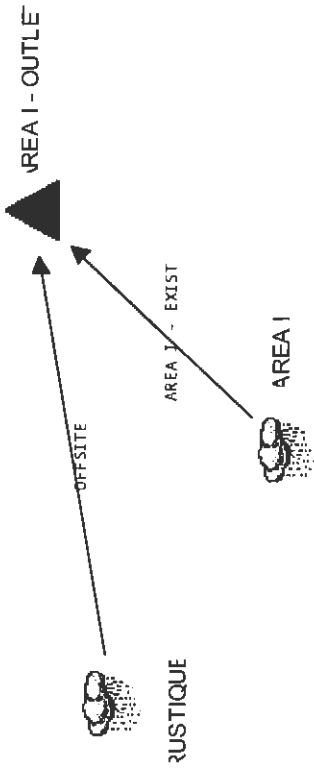
|                                    |                  |                        |
|------------------------------------|------------------|------------------------|
| Existing . Discharge Rate @ Outlet | 73.09 cfs        | (Allowable Discharge)  |
| Dev. Discharge Rate @ Outlet       | <u>71.87 cfs</u> | (From Network Routing) |
| Difference =                       | 1.22 cfs         |                        |

#### **100 Year 24 Hour Storm Event**

|  |            |                        |
|--|------------|------------------------|
| Dev. Discharge Rate @ Outlet               | 130.98 cfs | (From Network Routing) |
| (Use 48" RCP @ 1.00% capacity = 143.64cfs) |            |                        |

#### **Maximum Storage Elevation**

|               |         |
|---------------|---------|
| South-Lake =  | 524.91' |
| K-B Lake =    | 530.98' |
| Ex. Lake #2 = | 552.60' |



MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID PERSIMON.RNQ PERSIMMON

| Return Event | Total Depth<br>in | Rainfall<br>Type | RNF File | RNF ID |      |
|--------------|-------------------|------------------|----------|--------|------|
| Pre..2       | 3.5000            | Synthetic Curve  | SCSTYPES | TypeII | 24hr |
| Pre.15       | 5.2000            | Synthetic Curve  | SCSTYPES | TypeII | 24hr |
| Pre.25       | 5.7000            | Synthetic Curve  | SCSTYPES | TypeII | 24hr |
| Pre100       | 7.2000            | Synthetic Curve  | SCSTYPES | TypeII | 24hr |

MASTER NETWORK SUMMARY  
 SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID          | Type | Return Event | HYG Vol<br>ac-ft | Trun | Qpeak<br>hrs | Qpeak<br>cfs | Max WSEL<br>ft | Max<br>Pond Storage<br>ac-ft |
|------------------|------|--------------|------------------|------|--------------|--------------|----------------|------------------------------|
| AREA I           | AREA | 2            | .547             |      | 12.1000      | 5.83         |                |                              |
| AREA I           | AREA | 15           | 1.130            |      | 12.1000      | 12.79        |                |                              |
| AREA I           | AREA | 25           | 1.317            |      | 12.1000      | 15.00        |                |                              |
| AREA I           | AREA | 100          | 1.904            |      | 12.1000      | 21.86        |                |                              |
| *AREA I - OUTLET | JCT  | 2            | 2.209            |      | 12.1000      | 23.08        |                |                              |
| *AREA I - OUTLET | JCT  | 15           | 3.713            |      | 12.1000      | 39.03        |                |                              |
| *AREA I - OUTLET | JCT  | 25           | 4.172            |      | 12.1000      | 43.87        |                |                              |
| *AREA I - OUTLET | JCT  | 100          | 5.575            |      | 12.1000      | 58.58        |                |                              |
| RUSTIQUE         | AREA | 2            | 1.663            |      | 12.1000      | 17.25        |                |                              |
| RUSTIQUE         | AREA | 15           | 2.583            |      | 12.1000      | 26.24        |                |                              |
| RUSTIQUE         | AREA | 25           | 2.855            |      | 12.1000      | 28.87        |                |                              |
| RUSTIQUE         | AREA | 100          | 3.671            |      | 12.1000      | 36.73        |                |                              |

Type.... Tc Calcs  
Name.... AREA I - EX. TC

File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
Title... AREA I - EXISTING Tc

.....  
TIME OF CONCENTRATION CALCULATOR  
.....

AREA I - EXISTING Tc  
-----

Segment #1: Tc: TR-55 Sheet  
Description: SEGMENT A

Mannings n           .2400  
Hydraulic Length    300.00 ft  
2yr, 24hr P         3.5000 in  
Slope                .050000 ft/ft

Avg.Velocity           .22 ft/sec

Segment #1 Time:       .3796 hrs  
-----

Segment #2: Tc: TR-55 Shallow  
Description: SEGMENT B

Hydraulic Length    305.00 ft  
Slope                .055700 ft/ft  
Unpaved

Avg.Velocity           3.81 ft/sec

Segment #2 Time:       .0222 hrs  
-----

=====  
Total Tc:             .4019 hrs  
=====

Type.... Runoff CN-Area  
Name.... AREA I

File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
Title... AREA I - RUNOFF CN

RUNOFF CURVE NUMBER DATA

.....

AREA I - RUNOFF CN

-----

| Soil/Surface Description | CN | Area<br>acres | Impervious<br>Adjustment<br>%C %UC | Adjusted<br>CN |
|--------------------------|----|---------------|------------------------------------|----------------|
| PASTURE (SOIL GROUP 'C') | 74 | 4.760         |                                    | 74.00          |
| PASTURE (SOIL GROUP 'B') | 69 | .800          |                                    | 69.00          |

COMPOSITE AREA & WEIGHTED CN ---> 5.560 73.28 (73)

.....

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 11:51:40 Date: 08-07-2002

Type.... Runoff CN-Area  
Name.... RUSTIQUE

File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
Title... RUSTIQUE DEVELOPED CN (FROM CALCS. PROVIDED BY ST.  
CHARLES COUNTY)

RUNOFF CURVE NUMBER DATA

.....

RUSTIQUE DEVELOPED CN (FROM CALCS. PROVIDED BY ST. CHARLES COUNTY)

-----

| Soil/Surface Description | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|--------------------------|----|---------------|--------------------------|-----|----------------|
|                          |    |               | %C                       | %UC |                |
| PAVEMENT/ROOF            | 98 | 6.080         |                          |     | 98.00          |
| GRASS                    | 74 | .470          |                          |     | 74.00          |

COMPOSITE AREA & WEIGHTED CN --->                   6.550                   96.28 (96)

.....

S/N: 721701406A81   J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767)           Compute Time: 11:51:40   Date: 08-07-2002

Type.... SCS Unit Hyd. Summary  
Name.... AREA I Tag: Pre..2  
File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
Storm... TypeII 24hr Tag: Pre..2

Page 4.01  
Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = - AREA I Pre..2  
Tc = .4019 hrs  
Drainage Area = 5.560 acres Runoff CN= 73

=====  
Computational Time Increment = .05358 hrs  
Computed Peak Time = 12.1631 hrs  
Computed Peak Flow = 6.02 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 5.83 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

=====

DRAINAGE AREA

-----  
ID:AREA I  
CN = 73  
Area = 5.560 acres  
S = 3.6986 in  
0.2S = .7397 in

Cumulative Runoff

-----  
1.1796 in  
.547 ac-ft

HYG Volume... .547 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .40186 hrs (ID: AREA I - EX. Tc)  
Computational Incr, Tm = .05358 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 15.68 cfs  
Unit peak time Tp = .26791 hrs  
Unit receding limb, Tr = 1.07164 hrs  
Total unit time, Tb = 1.33954 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... AREA I Tag: Pre..2  
 File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre..2

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 Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = - AREA I Pre..2  
 Tc = .4019 hrs  
 Drainage Area = 5.560 acres Runoff CN= 73  
 Calc.Increment= .05358 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .547 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |      |      |      |      |      |
|----------|------|------|------|------|------|
| 10.7000  | .00  | .00  | .01  | .01  | .03  |
| 11.2000  | .04  | .07  | .10  | .13  | .20  |
| 11.7000  | .39  | .88  | 2.06 | 4.16 | 5.83 |
| 12.2000  | 5.70 | 4.40 | 3.14 | 2.35 | 1.82 |
| 12.7000  | 1.45 | 1.21 | 1.04 | .93  | .84  |
| 13.2000  | .77  | .72  | .68  | .64  | .61  |
| 13.7000  | .58  | .55  | .53  | .50  | .48  |
| 14.2000  | .46  | .45  | .43  | .42  | .42  |
| 14.7000  | .41  | .40  | .39  | .38  | .38  |
| 15.2000  | .37  | .36  | .35  | .35  | .34  |
| 15.7000  | .33  | .32  | .32  | .31  | .30  |
| 16.2000  | .29  | .29  | .28  | .28  | .28  |
| 16.7000  | .27  | .27  | .27  | .26  | .26  |
| 17.2000  | .26  | .26  | .25  | .25  | .25  |
| 17.7000  | .24  | .24  | .24  | .24  | .23  |
| 18.2000  | .23  | .23  | .22  | .22  | .22  |
| 18.7000  | .22  | .21  | .21  | .21  | .20  |
| 19.2000  | .20  | .20  | .19  | .19  | .19  |
| 19.7000  | .19  | .18  | .18  | .18  | .17  |
| 20.2000  | .17  | .17  | .17  | .17  | .17  |
| 20.7000  | .17  | .16  | .16  | .16  | .16  |
| 21.2000  | .16  | .16  | .16  | .16  | .16  |
| 21.7000  | .16  | .16  | .16  | .16  | .16  |
| 22.2000  | .16  | .16  | .16  | .16  | .15  |
| 22.7000  | .15  | .15  | .15  | .15  | .15  |
| 23.2000  | .15  | .15  | .15  | .15  | .15  |
| 23.7000  | .15  | .15  | .15  | .15  | .14  |
| 24.2000  | .11  | .07  | .04  | .02  | .01  |
| 24.7000  | .01  | .00  | .00  | .00  |      |



Type.... SCS Unit Hyd. Summary  
Name.... AREA I Tag: Pre.15  
File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
Storm... TypeII 24hr Tag: Pre.15

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Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = - AREA I Pre.15  
Tc = .4019 hrs  
Drainage Area = 5.560 acres Runoff CN= 73

=====  
Computational Time Increment = .05358 hrs  
Computed Peak Time = 12.1095 hrs  
Computed Peak Flow = 12.99 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 12.79 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%  
=====

DRAINAGE AREA

-----  
ID:AREA I  
CN = 73  
Area = 5.560 acres  
S = 3.6986 in  
0.2S = .7397 in

Cumulative Runoff

-----  
2.4383 in  
1.130 ac-ft

HYG Volume... 1.130 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .40186 hrs (ID: AREA I - EX. Tc)  
Computational Incr, Tm = .05358 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 15.68 cfs  
Unit peak time Tp = .26791 hrs  
Unit receding limb, Tr = 1.07164 hrs  
Total unit time, Tb = 1.33954 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... AREA I Tag: Pre.15  
 File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre.15

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = - AREA I Pre.15  
 Tc = .4019 hrs  
 Drainage Area = 5.560 acres Runoff CN= 73  
 Calc.Increment= .05358 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.130 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |      |      |
|----------|---|-------|-------|------|------|
|          | Time on left represents time for first value in each row. |       |       |      |      |
| 9.0000   | .00   | .00   | .01   | .01  | .02  |
| 9.5000   | .03   | .04   | .04   | .05  | .06  |
| 10.0000  | .07   | .09   | .10   | .12  | .14  |
| 10.5000  | .16   | .18   | .21   | .24  | .27  |
| 11.0000  | .31   | .35   | .41   | .48  | .56  |
| 11.5000  | .67   | .86   | 1.38  | 2.67 | 5.39 |
| 12.0000  | 9.72  | 12.79 | 12.07 | 9.11 | 6.39 |
| 12.5000  | 4.69  | 3.58  | 2.82  | 2.32 | 1.99 |
| 13.0000  | 1.76  | 1.58  | 1.44  | 1.34 | 1.26 |
| 13.5000  | 1.19  | 1.13  | 1.07  | 1.02 | .97  |
| 14.0000  | .93   | .89   | .85   | .82  | .80  |
| 14.5000  | .78   | .76   | .75   | .73  | .72  |
| 15.0000  | .70   | .69   | .67   | .66  | .64  |
| 15.5000  | .63   | .62   | .60   | .59  | .57  |
| 16.0000  | .56   | .54   | .53   | .52  | .51  |
| 16.5000  | .50   | .50   | .49   | .48  | .48  |
| 17.0000  | .47   | .47   | .46   | .46  | .45  |
| 17.5000  | .45   | .44   | .44   | .43  | .43  |
| 18.0000  | .42   | .42   | .41   | .41  | .40  |
| 18.5000  | .40   | .39   | .38   | .38  | .37  |
| 19.0000  | .37   | .36   | .36   | .35  | .35  |
| 19.5000  | .34   | .34   | .33   | .32  | .32  |
| 20.0000  | .31   | .31   | .30   | .30  | .30  |
| 20.5000  | .30   | .29   | .29   | .29  | .29  |
| 21.0000  | .29   | .29   | .29   | .29  | .29  |
| 21.5000  | .28   | .28   | .28   | .28  | .28  |
| 22.0000  | .28   | .28   | .28   | .28  | .27  |
| 22.5000  | .27   | .27   | .27   | .27  | .27  |
| 23.0000  | .27   | .27   | .27   | .27  | .26  |
| 23.5000  | .26   | .26   | .26   | .26  | .26  |
| 24.0000  | .26   | .24   | .19   | .12  | .07  |
| 24.5000  | .04   | .02   | .01   | .01  | .00  |
| 25.0000  | .00   | .00   |       |      |      |

Type.... SCS Unit Hyd. Summary  
Name.... AREA I Tag: Pre.25  
File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
Storm... TypeII 24hr Tag: Pre.25

Page 4.06  
Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = - AREA I Pre.25  
Tc = .4019 hrs  
Drainage Area = 5.560 acres Runoff CN= 73

=====  
Computational Time Increment = .05358 hrs  
Computed Peak Time = 12.1095 hrs  
Computed Peak Flow = 15.22 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 15.00 cfs  
=====

DRAINAGE AREA

-----  
ID:AREA I  
CN = 73  
Area = 5.560 acres  
S = 3.6986 in  
0.2S = .7397 in

Cumulative Runoff

-----  
2.8415 in  
1.317 ac-ft

HYG Volume... 1.317 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .40186 hrs (ID: AREA I - EX. Tc)  
Computational Incr, Tm = .05358 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 15.68 cfs  
Unit peak time Tp = .26791 hrs  
Unit receding limb, Tr = 1.07164 hrs  
Total unit time, Tb = 1.33954 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... AREA I Tag: Pre.25  
 File.... J:\0675B\PONDPACK\AREAL-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre.25

Page 4.07  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = - AREA I Pre.25  
 Tc = .4019 hrs  
 Drainage Area = 5.560 acres Runoff CN= 73  
 Calc.Increment= .05358 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.317 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |      |
|----------|-------|-------|-------|-------|------|
| 8.5000   | .00   | .00   | .00   | .01   | .02  |
| 9.0000   | .02   | .03   | .04   | .05   | .06  |
| 9.5000   | .07   | .08   | .09   | .10   | .11  |
| 10.0000  | .13   | .14   | .16   | .18   | .20  |
| 10.5000  | .23   | .26   | .29   | .33   | .37  |
| 11.0000  | .42   | .47   | .54   | .62   | .73  |
| 11.5000  | .86   | 1.09  | 1.73  | 3.27  | 6.48 |
| 12.0000  | 11.52 | 15.00 | 14.07 | 10.58 | 7.40 |
| 12.5000  | 5.41  | 4.12  | 3.24  | 2.66  | 2.27 |
| 13.0000  | 2.01  | 1.80  | 1.64  | 1.52  | 1.43 |
| 13.5000  | 1.36  | 1.29  | 1.22  | 1.16  | 1.11 |
| 14.0000  | 1.06  | 1.01  | .97   | .93   | .91  |
| 14.5000  | .88   | .86   | .85   | .83   | .81  |
| 15.0000  | .80   | .78   | .76   | .75   | .73  |
| 15.5000  | .71   | .70   | .68   | .66   | .65  |
| 16.0000  | .63   | .61   | .60   | .59   | .58  |
| 16.5000  | .57   | .56   | .56   | .55   | .54  |
| 17.0000  | .54   | .53   | .53   | .52   | .51  |
| 17.5000  | .51   | .50   | .50   | .49   | .48  |
| 18.0000  | .48   | .47   | .47   | .46   | .45  |
| 18.5000  | .45   | .44   | .44   | .43   | .42  |
| 19.0000  | .42   | .41   | .40   | .40   | .39  |
| 19.5000  | .39   | .38   | .37   | .37   | .36  |
| 20.0000  | .35   | .35   | .34   | .34   | .34  |
| 20.5000  | .33   | .33   | .33   | .33   | .33  |
| 21.0000  | .33   | .33   | .32   | .32   | .32  |
| 21.5000  | .32   | .32   | .32   | .32   | .32  |
| 22.0000  | .32   | .31   | .31   | .31   | .31  |
| 22.5000  | .31   | .31   | .31   | .31   | .30  |
| 23.0000  | .30   | .30   | .30   | .30   | .30  |
| 23.5000  | .30   | .30   | .29   | .29   | .29  |
| 24.0000  | .29   | .27   | .21   | .14   | .07  |
| 24.5000  | .04   | .02   | .01   | .01   | .00  |
| 25.0000  | .00   | .00   |       |       |      |

Type.... SCS Unit Hyd. Summary  
Name.... AREA I Tag: Pre100  
File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
Storm... TypeII 24hr Tag: Pre100

Page 4.09  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = - AREA I Pre100  
Tc = .4019 hrs  
Drainage Area = 5.560 acres Runoff CN= 73

=====  
Computational Time Increment = .05358 hrs  
Computed Peak Time = 12.1095 hrs  
Computed Peak Flow = 22.14 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 21.86 cfs  
=====

DRAINAGE AREA

-----  
ID:AREA I  
CN = 73  
Area = 5.560 acres  
S = 3.6986 in  
0.2S = .7397 in

Cumulative Runoff

-----  
4.1082 in  
1.903 ac-ft

HYG Volume... 1.904 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .40186 hrs (ID: AREA I - EX. Tc)  
Computational Incr, Tm = .05358 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 15.68 cfs  
Unit peak time Tp = .26791 hrs  
Unit receding limb, Tr = 1.07164 hrs  
Total unit time, Tb = 1.33954 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... AREA I Tag: Pre100  
 File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre100

Page 4.10  
 Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = - AREA I Pre100  
 Tc = .4019 hrs  
 Drainage Area = 5.560 acres Runoff CN= 73  
 Calc.Increment= .05358 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.904 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 7.3000   | .00   | .00   | .00   | .01   | .01   |
| 7.8000   | .02   | .03   | .03   | .04   | .05   |
| 8.3000   | .06   | .07   | .08   | .09   | .10   |
| 8.8000   | .11   | .13   | .14   | .16   | .18   |
| 9.3000   | .19   | .20   | .22   | .23   | .25   |
| 9.8000   | .26   | .28   | .31   | .34   | .37   |
| 10.3000  | .40   | .44   | .48   | .53   | .58   |
| 10.8000  | .64   | .71   | .79   | .88   | .98   |
| 11.3000  | 1.11  | 1.28  | 1.48  | 1.84  | 2.84  |
| 11.8000  | 5.21  | 9.96  | 17.14 | 21.86 | 20.26 |
| 12.3000  | 15.10   | 10.49 | 7.63  | 5.77  | 4.52  |
| 12.8000  | 3.69  | 3.14  | 2.77  | 2.48  | 2.26  |
| 13.3000  | 2.09  | 1.97  | 1.86  | 1.76  | 1.67  |
| 13.8000  | 1.59  | 1.51  | 1.45  | 1.38  | 1.32  |
| 14.3000  | 1.27  | 1.23  | 1.20  | 1.18  | 1.15  |
| 14.8000  | 1.13  | 1.11  | 1.08  | 1.06  | 1.04  |
| 15.3000  | 1.02  | .99   | .97   | .95   | .92   |
| 15.8000  | .90   | .88   | .86   | .83   | .81   |
| 16.3000  | .79   | .78   | .77   | .76   | .75   |
| 16.8000  | .74   | .73   | .73   | .72   | .71   |
| 17.3000  | .70   | .69   | .69   | .68   | .67   |
| 17.8000  | .66   | .65   | .64   | .64   | .63   |
| 18.3000  | .62   | .61   | .60   | .60   | .59   |
| 18.8000  | .58   | .57   | .56   | .55   | .54   |
| 19.3000  | .54   | .53   | .52   | .51   | .50   |
| 19.8000  | .49   | .49   | .48   | .47   | .46   |
| 20.3000  | .46   | .45   | .45   | .45   | .44   |
| 20.8000  | .44   | .44   | .44   | .44   | .44   |
| 21.3000  | .43   | .43   | .43   | .43   | .43   |
| 21.8000  | .43   | .42   | .42   | .42   | .42   |
| 22.3000  | .42   | .42   | .42   | .41   | .41   |
| 22.8000  | .41   | .41   | .41   | .41   | .40   |
| 23.3000  | .40   | .40   | .40   | .40   | .40   |
| 23.8000  | .39   | .39   | .39   | .37   | .29   |
| 24.3000  | .18   | .10   | .05   | .03   | .02   |
| 24.8000  | .01   | .00   | .00   | .00   |       |

Type.... SCS Unit Hyd. Summary  
Name.... RUSTIQUE Tag: Pre..2  
File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
Title... RUSTIQUE RUNOFF HYDROGRAPHS  
Storm... TypeII 24hr Tag: Pre..2

Page 4.12  
Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = - RUSTIQUE Pre..2  
Tc = .4300 hrs  
Drainage Area = 6.550 acres Runoff CN= 96

=====  
Computational Time Increment = .05733 hrs  
Computed Peak Time = 12.1547 hrs  
Computed Peak Flow = 17.27 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 17.25 cfs  
=====

DRAINAGE AREA

-----  
ID:RUSTIQUE  
CN = 96  
Area = 6.550 acres  
S = .4167 in  
0.2S = .0833 in

Cumulative Runoff

-----  
3.0453 in  
1.662 ac-ft

HYG Volume... 1.663 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .43000 hrs (ID: None Selected)  
Computational Incr, Tm = .05733 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 17.26 cfs  
Unit peak time Tp = .28667 hrs  
Unit receding limb, Tr = 1.14667 hrs  
Total unit time, Tb = 1.43333 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... RUSTIQUE Tag: Pre..2  
 File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
 Title... RUSTIQUE RUNOFF HYDROGRAPHS  
 Storm... TypeII 24hr Tag: Pre..2

Page 4.13  
 Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = - RUSTIQUE Pre..2  
 Tc = .4300 hrs  
 Drainage Area = 6.550 acres Runoff CN= 96  
 Calc.Increment= .05733 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.663 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |      |       |       |       |
|----------|---|------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |      |       |       |       |
| 2.3000   | .00   | .00  | .00   | .01   | .01   |
| 2.8000   | .02   | .02  | .03   | .03   | .04   |
| 3.3000   | .05   | .05  | .06   | .06   | .07   |
| 3.8000   | .07   | .08  | .08   | .09   | .09   |
| 4.3000   | .10   | .10  | .11   | .12   | .12   |
| 4.8000   | .13   | .13  | .14   | .15   | .15   |
| 5.3000   | .16   | .16  | .17   | .18   | .18   |
| 5.8000   | .19   | .20  | .20   | .21   | .22   |
| 6.3000   | .22   | .23  | .23   | .24   | .25   |
| 6.8000   | .25   | .26  | .27   | .27   | .28   |
| 7.3000   | .29   | .29  | .30   | .31   | .31   |
| 7.8000   | .32   | .32  | .33   | .34   | .35   |
| 8.3000   | .36   | .37  | .39   | .41   | .43   |
| 8.8000   | .45   | .47  | .49   | .51   | .53   |
| 9.3000   | .54   | .55  | .56   | .57   | .58   |
| 9.8000   | .60   | .62  | .64   | .68   | .71   |
| 10.3000  | .75   | .79  | .84   | .89   | .94   |
| 10.8000  | 1.01  | 1.08 | 1.16  | 1.24  | 1.35  |
| 11.3000  | 1.47  | 1.63 | 1.82  | 2.16  | 3.02  |
| 11.8000  | 5.04  | 8.80 | 13.80 | 17.25 | 16.20 |
| 12.3000  | 12.45   | 8.74 | 6.23  | 4.66  | 3.59  |
| 12.8000  | 2.86  | 2.37 | 2.05  | 1.82  | 1.63  |
| 13.3000  | 1.49  | 1.39 | 1.30  | 1.23  | 1.16  |
| 13.8000  | 1.11  | 1.05 | 1.00  | .95   | .91   |
| 14.3000  | .88   | .85  | .82   | .80   | .79   |
| 14.8000  | .77   | .75  | .74   | .72   | .70   |
| 15.3000  | .69   | .67  | .66   | .64   | .63   |
| 15.8000  | .61   | .59  | .58   | .56   | .55   |
| 16.3000  | .54   | .53  | .52   | .51   | .50   |
| 16.8000  | .50   | .49  | .49   | .48   | .48   |
| 17.3000  | .47   | .46  | .46   | .45   | .45   |



Type.... SCS Unit Hyd. Summary  
Name.... RUSTIQUE Tag: Pre.15  
File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
Storm... TypeII 24hr Tag: Pre.15

Page 4.15  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = - RUSTIQUE Pre.15  
Tc = .4300 hrs  
Drainage Area = 6.550 acres Runoff CN= 96

=====  
Computational Time Increment = .05733 hrs  
Computed Peak Time = 12.0973 hrs  
Computed Peak Flow = 26.24 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 26.24 cfs  
=====

DRAINAGE AREA

-----  
ID:RUSTIQUE  
CN = 96  
Area = 6.550 acres  
S = .4167 in  
0.2S = .0833 in

Cumulative Runoff

-----  
4.7314 in  
2.583 ac-ft

HYG Volume... 2.583 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .43000 hrs (ID: None Selected)  
Computational Incr, Tm = .05733 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 17.26 cfs  
Unit peak time Tp = .28667 hrs  
Unit receding limb, Tr = 1.14667 hrs  
Total unit time, Tb = 1.43333 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 11:51:40 Date: 08-07-2002

Type... SCS Unit Hyd. (HYG output)  
 Name... RUSTIQUE Tag: Pre.15  
 File... J:\0675B\PONDPACK\AREAL-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre.15

Page 4.16  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = - RUSTIQUE Pre.15  
 Tc = .4300 hrs  
 Drainage Area = 6.550 acres Runoff CN= 96  
 Calc.Increment= .05733 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 2.583 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 1.6000   | .00   | .00   | .01   | .01   | .02   |
| 2.1000   | .03   | .04   | .05   | .06   | .07   |
| 2.6000   | .08   | .09   | .10   | .11   | .12   |
| 3.1000   | .13   | .14   | .15   | .16   | .17   |
| 3.6000   | .17   | .18   | .19   | .20   | .21   |
| 4.1000   | .22   | .22   | .23   | .24   | .25   |
| 4.6000   | .26   | .27   | .28   | .29   | .30   |
| 5.1000   | .31   | .32   | .33   | .34   | .35   |
| 5.6000   | .36   | .37   | .38   | .38   | .39   |
| 6.1000   | .40   | .41   | .42   | .43   | .44   |
| 6.6000   | .45   | .46   | .47   | .48   | .49   |
| 7.1000   | .50   | .51   | .52   | .53   | .54   |
| 7.6000   | .54   | .55   | .56   | .57   | .58   |
| 8.1000   | .59   | .60   | .62   | .64   | .67   |
| 8.6000   | .70   | .73   | .76   | .79   | .83   |
| 9.1000   | .86   | .89   | .91   | .93   | .94   |
| 9.6000   | .95   | .96   | .98   | 1.02  | 1.06  |
| 10.1000  | 1.11  | 1.16  | 1.22  | 1.29  | 1.36  |
| 10.6000  | 1.44  | 1.52  | 1.62  | 1.73  | 1.85  |
| 11.1000  | 1.98  | 2.14  | 2.34  | 2.58  | 2.87  |
| 11.6000  | 3.39  | 4.71  | 7.82  | 13.54 | 21.09 |
| 12.1000  | 26.24   | 24.57 | 18.84 | 13.21 | 9.41  |
| 12.6000  | 7.03  | 5.40  | 4.30  | 3.57  | 3.08  |
| 13.1000  | 2.73  | 2.45  | 2.23  | 2.08  | 1.96  |
| 13.6000  | 1.85  | 1.75  | 1.66  | 1.58  | 1.50  |
| 14.1000  | 1.43  | 1.37  | 1.31  | 1.27  | 1.24  |
| 14.6000  | 1.21  | 1.18  | 1.15  | 1.13  | 1.10  |
| 15.1000  | 1.08  | 1.06  | 1.03  | 1.01  | .98   |
| 15.6000  | .96   | .94   | .91   | .89   | .87   |
| 16.1000  | .84   | .82   | .80   | .79   | .78   |
| 16.6000  | .76   | .76   | .75   | .74   | .73   |
| 17.1000  | .72   | .71   | .70   | .69   | .69   |

Type.... SCS Unit Hyd. Summary  
Name.... RUSTIQUE Tag: Pre.25  
File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
Storm... TypeII 24hr Tag: Pre.25

Page 4.18  
Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = - RUSTIQUE Pre.25  
Tc = .4300 hrs  
Drainage Area = 6.550 acres Runoff CN= 96

=====  
Computational Time Increment = .05733 hrs  
Computed Peak Time = 12.0973 hrs  
Computed Peak Flow = 28.87 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 28.87 cfs  
=====

DRAINAGE AREA

-----  
ID:RUSTIQUE  
CN = 96  
Area = 6.550 acres  
S = .4167 in  
0.2S = .0833 in

Cumulative Runoff

-----  
5.2288 in  
2.854 ac-ft

HYG Volume... 2.855 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .43000 hrs (ID: None Selected)  
Computational Incr, Tm = .05733 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 17.26 cfs  
Unit peak time Tp = .28667 hrs  
Unit receding limb, Tr = 1.14667 hrs  
Total unit time, Tb = 1.43333 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 11:51:40 Date: 08-07-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... RUSTIQUE Tag: Pre.25  
 File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre.25

Page 4.19  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = - RUSTIQUE Pre.25  
 Tc = .4300 hrs  
 Drainage Area = 6.550 acres Runoff CN= 96  
 Calc.Increment= .05733 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 2.855 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 1.5000   | .00   | .00   | .01   | .02   | .03   |
| 2.0000   | .04   | .05   | .06   | .07   | .09   |
| 2.5000   | .10   | .11   | .12   | .13   | .14   |
| 3.0000   | .15   | .16   | .17   | .18   | .19   |
| 3.5000   | .20   | .21   | .22   | .23   | .24   |
| 4.0000   | .25   | .26   | .27   | .28   | .29   |
| 4.5000   | .30   | .31   | .32   | .33   | .34   |
| 5.0000   | .35   | .36   | .37   | .38   | .39   |
| 5.5000   | .40   | .41   | .42   | .43   | .44   |
| 6.0000   | .45   | .46   | .47   | .48   | .49   |
| 6.5000   | .51   | .52   | .53   | .54   | .55   |
| 7.0000   | .56   | .57   | .58   | .59   | .60   |
| 7.5000   | .61   | .62   | .63   | .64   | .65   |
| 8.0000   | .66   | .67   | .68   | .70   | .72   |
| 8.5000   | .75   | .78   | .82   | .85   | .89   |
| 9.0000   | .93   | .96   | .99   | 1.02  | 1.04  |
| 9.5000   | 1.05  | 1.06  | 1.07  | 1.10  | 1.14  |
| 10.0000  | 1.18  | 1.23  | 1.29  | 1.36  | 1.43  |
| 10.5000  | 1.51  | 1.60  | 1.69  | 1.80  | 1.92  |
| 11.0000  | 2.06  | 2.20  | 2.37  | 2.59  | 2.86  |
| 11.5000  | 3.17  | 3.75  | 5.21  | 8.63  | 14.93 |
| 12.0000  | 23.22   | 28.87 | 27.02 | 20.72 | 14.52 |
| 12.5000  | 10.34   | 7.73  | 5.93  | 4.72  | 3.92  |
| 13.0000  | 3.39  | 2.99  | 2.69  | 2.45  | 2.28  |
| 13.5000  | 2.15  | 2.03  | 1.92  | 1.82  | 1.73  |
| 14.0000  | 1.65  | 1.57  | 1.50  | 1.44  | 1.39  |
| 14.5000  | 1.36  | 1.32  | 1.29  | 1.27  | 1.24  |
| 15.0000  | 1.21  | 1.19  | 1.16  | 1.13  | 1.11  |
| 15.5000  | 1.08  | 1.05  | 1.03  | 1.00  | .98   |
| 16.0000  | .95   | .92   | .90   | .88   | .86   |
| 16.5000  | .85   | .84   | .83   | .82   | .81   |
| 17.0000  | .80   | .79   | .78   | .77   | .76   |

Type.... SCS Unit Hyd. Summary  
Name.... RUSTIQUE Tag: Pre100  
File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
Storm... TypeII 24hr Tag: Pre100

Page 4.21  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = - RUSTIQUE Pre100  
Tc = .4300 hrs  
Drainage Area = 6.550 acres Runoff CN= 96

=====  
Computational Time Increment = .05733 hrs  
Computed Peak Time = 12.0973 hrs  
Computed Peak Flow = 36.73 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 36.73 cfs  
=====

DRAINAGE AREA

-----  
ID:RUSTIQUE  
CN = 96  
Area = 6.550 acres  
S = .4167 in  
0.2S = .0833 in

Cumulative Runoff

-----  
6.7230 in  
3.670 ac-ft

HYG Volume... 3.671 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .43000 hrs (ID: None Selected)  
Computational Incr, Tm = .05733 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 17.26 cfs  
Unit peak time Tp = .28667 hrs  
Unit receding limb, Tr = 1.14667 hrs  
Total unit time, Tb = 1.43333 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 11:51:40 Date: 08-07-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... RUSTIQUE Tag: Pre100  
 File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre100

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = - RUSTIQUE Pre100  
 Tc = .4300 hrs  
 Drainage Area = 6.550 acres Runoff CN= 96  
 Calc.Increment= .05733 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 3.671 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 1.2000   | .00   | .00   | .01   | .02   | .04   |
| 1.7000   | .05   | .07   | .09   | .10   | .12   |
| 2.2000   | .14   | .15   | .17   | .18   | .20   |
| 2.7000   | .21   | .23   | .24   | .26   | .27   |
| 3.2000   | .28   | .30   | .31   | .32   | .33   |
| 3.7000   | .34   | .36   | .37   | .38   | .39   |
| 4.2000   | .40   | .41   | .42   | .44   | .45   |
| 4.7000   | .46   | .48   | .49   | .50   | .52   |
| 5.2000   | .53   | .54   | .56   | .57   | .58   |
| 5.7000   | .59   | .61   | .62   | .63   | .65   |
| 6.2000   | .66   | .67   | .68   | .70   | .71   |
| 6.7000   | .72   | .73   | .75   | .76   | .77   |
| 7.2000   | .78   | .80   | .81   | .82   | .83   |
| 7.7000   | .84   | .86   | .87   | .88   | .89   |
| 8.2000   | .91   | .93   | .96   | 1.00  | 1.04  |
| 8.7000   | 1.09  | 1.13  | 1.18  | 1.22  | 1.27  |
| 9.2000   | 1.31  | 1.34  | 1.37  | 1.38  | 1.39  |
| 9.7000   | 1.41  | 1.44  | 1.49  | 1.54  | 1.61  |
| 10.2000  | 1.69  | 1.77  | 1.87  | 1.97  | 2.08  |
| 10.7000  | 2.20  | 2.33  | 2.49  | 2.66  | 2.84  |
| 11.2000  | 3.06  | 3.34  | 3.68  | 4.09  | 4.82  |
| 11.7000  | 6.68  | 11.05 | 19.06 | 29.58 | 36.73 |
| 12.2000  | 34.34 | 26.31 | 18.44 | 13.12 | 9.80  |
| 12.7000  | 7.53  | 5.99  | 4.97  | 4.29  | 3.79  |
| 13.2000  | 3.40  | 3.10  | 2.89  | 2.72  | 2.57  |
| 13.7000  | 2.43  | 2.30  | 2.19  | 2.09  | 1.99  |
| 14.2000  | 1.90  | 1.83  | 1.77  | 1.72  | 1.68  |
| 14.7000  | 1.64  | 1.60  | 1.57  | 1.53  | 1.50  |
| 15.2000  | 1.47  | 1.43  | 1.40  | 1.37  | 1.33  |
| 15.7000  | 1.30  | 1.27  | 1.24  | 1.20  | 1.17  |
| 16.2000  | 1.14  | 1.11  | 1.09  | 1.08  | 1.06  |
| 16.7000  | 1.05  | 1.04  | 1.02  | 1.01  | 1.00  |

Type.... Node: Addition Summary  
 Name.... AREA I - OUTLET  
 File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre..2

Page 5.01  
 Event: 2 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: AREA I - OUTLET

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
AREA I - EXIST   AREA I              AREA I        Pre..2
OFFSITE         RUSTIQUE           RUSTIQUE     Pre..2
=====
  
```

INFLOWS TO: AREA I - OUTLET

```

-----
HYG file      HYG ID          HYG tag        Volume      Peak Time     Peak Flow
              HYG ID          HYG tag        ac-ft       hrs           cfs
-----
              AREA I          Pre..2         .547        12.1000      5.83
              RUSTIQUE       Pre..2         1.663        12.1000      17.25
  
```

TOTAL FLOW INTO: AREA I - OUTLET

```

-----
HYG file      HYG ID          HYG tag        Volume      Peak Time     Peak Flow
              HYG ID          HYG tag        ac-ft       hrs           cfs
-----
              AREA I - OUTLET Pre..2         2.209        12.1000      23.08
  
```

/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 11:51:40 Date: 08-07-2002

Type.... Node: Addition Summary  
 Name.... AREA I - OUTLET  
 File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre..2

Page 5.02  
 Event: 2 yr

TOTAL NODE INFLOW...

HYG file =  
 HYG ID = AREA I - OUTLET  
 HYG Tag = Pre..2

-----  
 Peak Discharge = 23.08 cfs  
 Time to Peak = 12.1000 hrs  
 HYG Volume = 2.209 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 2.3000   | .00   | .00   | .00   | .01   | .01   |
| 2.8000   | .02   | .02   | .03   | .03   | .04   |
| 3.3000   | .05   | .05   | .06   | .06   | .07   |
| 3.8000   | .07   | .08   | .08   | .09   | .09   |
| 4.3000   | .10   | .10   | .11   | .12   | .12   |
| 4.8000   | .13   | .13   | .14   | .15   | .15   |
| 5.3000   | .16   | .16   | .17   | .18   | .18   |
| 5.8000   | .19   | .20   | .20   | .21   | .22   |
| 6.3000   | .22   | .23   | .23   | .24   | .25   |
| 6.8000   | .25   | .26   | .27   | .27   | .28   |
| 7.3000   | .29   | .29   | .30   | .31   | .31   |
| 7.8000   | .32   | .32   | .33   | .34   | .35   |
| 8.3000   | .36   | .37   | .39   | .41   | .43   |
| 8.8000   | .45   | .47   | .49   | .51   | .53   |
| 9.3000   | .54   | .55   | .56   | .57   | .58   |
| 9.8000   | .60   | .62   | .64   | .68   | .71   |
| 10.3000  | .75   | .79   | .84   | .89   | .94   |
| 10.8000  | 1.01  | 1.09  | 1.17  | 1.27  | 1.39  |
| 11.3000  | 1.54  | 1.73  | 1.95  | 2.36  | 3.40  |
| 11.8000  | 5.92  | 10.86 | 17.95 | 23.08 | 21.90 |
| 12.3000  | 16.85 | 11.88 | 8.58  | 6.48  | 5.04  |
| 12.8000  | 4.06  | 3.42  | 2.98  | 2.66  | 2.40  |
| 13.3000  | 2.20  | 2.06  | 1.95  | 1.84  | 1.74  |
| 13.8000  | 1.66  | 1.58  | 1.51  | 1.44  | 1.37  |
| 14.3000  | 1.32  | 1.28  | 1.25  | 1.22  | 1.19  |
| 14.8000  | 1.17  | 1.15  | 1.12  | 1.10  | 1.07  |
| 15.3000  | 1.05  | 1.03  | 1.00  | .98   | .96   |
| 15.8000  | .93   | .91   | .89   | .86   | .84   |
| 16.3000  | .82   | .81   | .80   | .79   | .78   |
| 16.8000  | .77   | .76   | .75   | .74   | .73   |
| 17.3000  | .73   | .72   | .71   | .70   | .69   |
| 17.8000  | .68   | .67   | .67   | .66   | .65   |
| 18.3000  | .64   | .63   | .62   | .61   | .61   |



Type.... Node: Addition Summary  
 Name.... AREA I - OUTLET  
 File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre.15

Page 5.04  
 Event: 15 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: AREA I - OUTLET

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
AREA I - EXIST    AREA I          AREA I        Pre.15
OFFSITE          RUSTIQUE       RUSTIQUE     Pre.15
=====
  
```

INFLOWS TO: AREA I - OUTLET

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag        ac-ft         hrs           cfs
-----
          AREA I          Pre.15         1.130         12.1000       12.79
          RUSTIQUE       Pre.15         2.583         12.1000       26.24
  
```

TOTAL FLOW INTO: AREA I - OUTLET

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag        ac-ft         hrs           cfs
-----
          AREA I - OUTLET  Pre.15         3.713         12.1000       39.03
  
```

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 11:51:40 Date: 08-07-2002

Type.... Node: Addition Summary  
 Name.... AREA I - OUTLET  
 File.... J:\0675B\PONDPACK\AREAL-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre.15

Page 5.05  
 Event: 15 yr

TOTAL NODE INFLOW...  
 HYG file =  
 HYG ID = AREA I - OUTLET  
 HYG Tag = Pre.15

-----  
 Peak Discharge = 39.03 cfs  
 Time to Peak = 12.1000 hrs  
 HYG Volume = 3.713 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 1.6000   | .00   | .00   | .01   | .01   | .02   |
| 2.1000   | .03   | .04   | .05   | .06   | .07   |
| 2.6000   | .08   | .09   | .10   | .11   | .12   |
| 3.1000   | .13   | .14   | .15   | .16   | .17   |
| 3.6000   | .17   | .18   | .19   | .20   | .21   |
| 4.1000   | .22   | .22   | .23   | .24   | .25   |
| 4.6000   | .26   | .27   | .28   | .29   | .30   |
| 5.1000   | .31   | .32   | .33   | .34   | .35   |
| 5.6000   | .36   | .37   | .38   | .38   | .39   |
| 6.1000   | .40   | .41   | .42   | .43   | .44   |
| 6.6000   | .45   | .46   | .47   | .48   | .49   |
| 7.1000   | .50   | .51   | .52   | .53   | .54   |
| 7.6000   | .54   | .55   | .56   | .57   | .58   |
| 8.1000   | .59   | .60   | .62   | .64   | .67   |
| 8.6000   | .70   | .73   | .76   | .79   | .83   |
| 9.1000   | .86   | .90   | .92   | .95   | .97   |
| 9.6000   | .98   | 1.01  | 1.04  | 1.08  | 1.13  |
| 10.1000  | 1.19  | 1.26  | 1.34  | 1.42  | 1.52  |
| 10.6000  | 1.62  | 1.73  | 1.86  | 2.00  | 2.16  |
| 11.1000  | 2.34  | 2.55  | 2.81  | 3.14  | 3.54  |
| 11.6000  | 4.25  | 6.10  | 10.49 | 18.93 | 30.81 |
| 12.1000  | 39.03 | 36.64 | 27.95 | 19.60 | 14.10 |
| 12.6000  | 10.61 | 8.22  | 6.62  | 5.56  | 4.84  |
| 13.1000  | 4.31  | 3.89  | 3.57  | 3.34  | 3.15  |
| 13.6000  | 2.98  | 2.82  | 2.68  | 2.55  | 2.43  |
| 14.1000  | 2.32  | 2.22  | 2.13  | 2.07  | 2.01  |
| 14.6000  | 1.97  | 1.92  | 1.88  | 1.84  | 1.81  |
| 15.1000  | 1.77  | 1.73  | 1.69  | 1.65  | 1.61  |
| 15.6000  | 1.58  | 1.54  | 1.50  | 1.46  | 1.42  |
| 16.1000  | 1.38  | 1.35  | 1.32  | 1.30  | 1.28  |
| 16.6000  | 1.26  | 1.25  | 1.23  | 1.22  | 1.20  |
| 17.1000  | 1.19  | 1.18  | 1.16  | 1.15  | 1.13  |
| 17.6000  | 1.12  | 1.11  | 1.09  | 1.08  | 1.07  |

Type.... Node: Addition Summary  
 Name.... AREA I - OUTLET  
 File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre.25

Page 5.07  
 Event: 25 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: AREA I - OUTLET

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
AREA I - EXIST    AREA I          AREA I         Pre.25
OFFSITE          RUSTIQUE       RUSTIQUE       Pre.25
=====
  
```

INFLOWS TO: AREA I - OUTLET

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag      ac-ft        hrs          cfs
-----
          AREA I          Pre.25        1.317        12.1000        15.00
          RUSTIQUE       Pre.25        2.855        12.1000        28.87
  
```

TOTAL FLOW INTO: AREA I - OUTLET

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag      ac-ft        hrs          cfs
-----
          AREA I - OUTLET  Pre.25        4.172        12.1000        43.87
  
```

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 11:51:40 Date: 08-07-2002

Type.... Node: Addition Summary  
 Name.... AREA I - OUTLET  
 File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre.25

Page 5.08  
 Event: 25 yr

TOTAL NODE INFLOW...  
 HYG file =  
 HYG ID = AREA I - OUTLET  
 HYG Tag = Pre.25

-----  
 Peak Discharge = 43.87 cfs  
 Time to Peak = 12.1000 hrs  
 HYG Volume = 4.172 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 1.5000   | .00   | .00   | .01   | .02   | .03   |
| 2.0000   | .04   | .05   | .06   | .07   | .09   |
| 2.5000   | .10   | .11   | .12   | .13   | .14   |
| 3.0000   | .15   | .16   | .17   | .18   | .19   |
| 3.5000   | .20   | .21   | .22   | .23   | .24   |
| 4.0000   | .25   | .26   | .27   | .28   | .29   |
| 4.5000   | .30   | .31   | .32   | .33   | .34   |
| 5.0000   | .35   | .36   | .37   | .38   | .39   |
| 5.5000   | .40   | .41   | .42   | .43   | .44   |
| 6.0000   | .45   | .46   | .47   | .48   | .49   |
| 6.5000   | .51   | .52   | .53   | .54   | .55   |
| 7.0000   | .56   | .57   | .58   | .59   | .60   |
| 7.5000   | .61   | .62   | .63   | .64   | .65   |
| 8.0000   | .66   | .67   | .68   | .70   | .72   |
| 8.5000   | .75   | .79   | .82   | .86   | .90   |
| 9.0000   | .95   | .99   | 1.03  | 1.07  | 1.10  |
| 9.5000   | 1.12  | 1.14  | 1.16  | 1.20  | 1.25  |
| 10.0000  | 1.31  | 1.38  | 1.45  | 1.54  | 1.64  |
| 10.5000  | 1.74  | 1.86  | 1.98  | 2.13  | 2.29  |
| 11.0000  | 2.47  | 2.67  | 2.91  | 3.21  | 3.58  |
| 11.5000  | 4.03  | 4.83  | 6.93  | 11.90 | 21.41 |
| 12.0000  | 34.73 | 43.87 | 41.09 | 31.29 | 21.92 |
| 12.5000  | 15.75 | 11.85 | 9.18  | 7.38  | 6.19  |
| 13.0000  | 5.39  | 4.80  | 4.33  | 3.97  | 3.72  |
| 13.5000  | 3.50  | 3.31  | 3.14  | 2.98  | 2.84  |
| 14.0000  | 2.71  | 2.58  | 2.47  | 2.37  | 2.30  |
| 14.5000  | 2.24  | 2.19  | 2.14  | 2.10  | 2.05  |
| 15.0000  | 2.01  | 1.97  | 1.92  | 1.88  | 1.84  |
| 15.5000  | 1.80  | 1.75  | 1.71  | 1.67  | 1.62  |
| 16.0000  | 1.58  | 1.54  | 1.50  | 1.47  | 1.44  |
| 16.5000  | 1.42  | 1.40  | 1.38  | 1.37  | 1.35  |
| 17.0000  | 1.34  | 1.32  | 1.31  | 1.29  | 1.28  |
| 17.5000  | 1.26  | 1.24  | 1.23  | 1.21  | 1.20  |

Type.... Node: Addition Summary  
 Name.... AREA I - OUTLET  
 File.... J:\0675B\PONDPACK\AREA1-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre100

Page 5.10  
 Event: 100 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: AREA I - OUTLET

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
AREA I - EXIST    AREA I              AREA I        Pre100
OFFSITE          RUSTIQUE            RUSTIQUE      Pre100
=====
  
```

INFLOWS TO: AREA I - OUTLET

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag      ac-ft        hrs          cfs
-----
          AREA I              Pre100        1.904        12.1000      21.86
          RUSTIQUE            Pre100        3.671        12.1000      36.73
  
```

TOTAL FLOW INTO: AREA I - OUTLET

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag      ac-ft        hrs          cfs
-----
          AREA I - OUTLET    Pre100        5.575        12.1000      58.58
  
```

/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 11:51:40 Date: 08-07-2002

Type.... Node: Addition Summary  
 Name.... AREA I - OUTLET  
 File.... J:\0675B\PONDPACK\AREAI-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre100

Page 5.11  
 Event: 100 yr

TOTAL NODE INFLOW...

HYG file =  
 HYG ID = AREA I - OUTLET  
 HYG Tag = Pre100

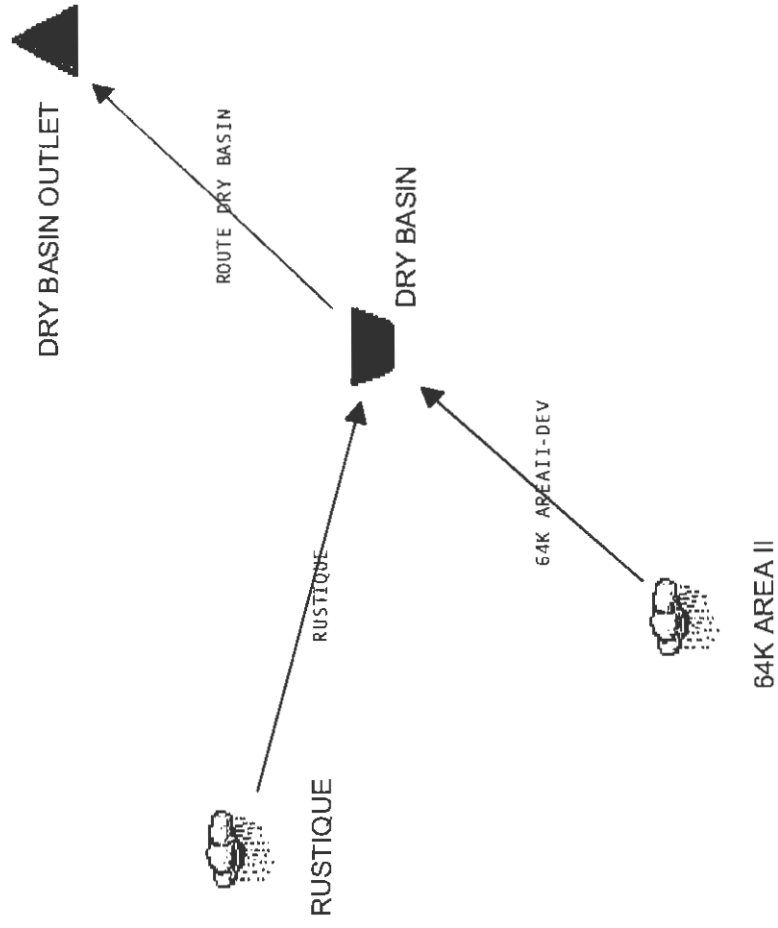
-----  
 Peak Discharge = 58.58 cfs  
 Time to Peak = 12.1000 hrs  
 HYG Volume = 5.575 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 1.2000   | .00   | .00   | .01   | .02   | .04   |
| 1.7000   | .05   | .07   | .09   | .10   | .12   |
| 2.2000   | .14   | .15   | .17   | .18   | .20   |
| 2.7000   | .21   | .23   | .24   | .26   | .27   |
| 3.2000   | .28   | .30   | .31   | .32   | .33   |
| 3.7000   | .34   | .36   | .37   | .38   | .39   |
| 4.2000   | .40   | .41   | .42   | .44   | .45   |
| 4.7000   | .46   | .48   | .49   | .50   | .52   |
| 5.2000   | .53   | .54   | .56   | .57   | .58   |
| 5.7000   | .59   | .61   | .62   | .63   | .65   |
| 6.2000   | .66   | .67   | .68   | .70   | .71   |
| 6.7000   | .72   | .73   | .75   | .76   | .77   |
| 7.2000   | .78   | .80   | .81   | .82   | .84   |
| 7.7000   | .86   | .88   | .89   | .91   | .93   |
| 8.2000   | .96   | .99   | 1.03  | 1.08  | 1.13  |
| 8.7000   | 1.19  | 1.25  | 1.31  | 1.37  | 1.43  |
| 9.2000   | 1.49  | 1.53  | 1.57  | 1.60  | 1.62  |
| 9.7000   | 1.65  | 1.70  | 1.77  | 1.85  | 1.95  |
| 10.2000  | 2.05  | 2.17  | 2.30  | 2.45  | 2.61  |
| 10.7000  | 2.78  | 2.98  | 3.20  | 3.45  | 3.72  |
| 11.2000  | 4.04  | 4.45  | 4.96  | 5.56  | 6.66  |
| 11.7000  | 9.52  | 16.26 | 29.02 | 46.72 | 58.58 |
| 12.2000  | 54.60 | 41.41 | 28.93 | 20.75 | 15.57 |
| 12.7000  | 12.04 | 9.68  | 8.11  | 7.06  | 6.27  |
| 13.2000  | 5.66  | 5.19  | 4.86  | 4.58  | 4.33  |
| 13.7000  | 4.10  | 3.89  | 3.71  | 3.53  | 3.37  |
| 14.2000  | 3.22  | 3.10  | 3.00  | 2.92  | 2.85  |
| 14.7000  | 2.79  | 2.73  | 2.67  | 2.62  | 2.56  |
| 15.2000  | 2.51  | 2.45  | 2.39  | 2.34  | 2.28  |
| 15.7000  | 2.23  | 2.17  | 2.11  | 2.06  | 2.00  |
| 16.2000  | 1.95  | 1.91  | 1.87  | 1.85  | 1.82  |
| 16.7000  | 1.80  | 1.78  | 1.76  | 1.74  | 1.72  |
| 17.2000  | 1.70  | 1.68  | 1.66  | 1.64  | 1.62  |



MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID PERSIMON.RNQ PERSIMMON

| Return Event | Total Depth<br>in | Rainfall<br>Type | RNF File | RNF ID |      |
|--------------|-------------------|------------------|----------|--------|------|
| Dev..2       | 3.5000            | Synthetic Curve  | SCSTYPES | TypeII | 24hr |
| Dev.15       | 5.2000            | Synthetic Curve  | SCSTYPES | TypeII | 24hr |
| Dev.25       | 5.7000            | Synthetic Curve  | SCSTYPES | TypeII | 24hr |
| Dev100       | 7.2000            | Synthetic Curve  | SCSTYPES | TypeII | 24hr |

MASTER NETWORK SUMMARY  
 SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID           | Type     | Return Event | HYG Vol<br>ac-ft | Trun | Qpeak<br>hrs | Qpeak<br>cfs | Max WSEL<br>ft | Max<br>Pond Storage<br>ac-ft |
|-------------------|----------|--------------|------------------|------|--------------|--------------|----------------|------------------------------|
| 64K AREA II       | AREA     | 2            | 1.721            |      | 11.9000      | 30.26        |                |                              |
| 64K AREA II       | AREA     | 15           | 2.765            |      | 11.9000      | 47.44        |                |                              |
| 64K AREA II       | AREA     | 25           | 3.075            |      | 11.9000      | 52.45        |                |                              |
| 64K AREA II       | AREA     | 100          | 4.007            |      | 11.9000      | 67.39        |                |                              |
| DRY BASIN         | IN POND  | 2            | 3.383            |      | 11.9000      | 38.96        |                |                              |
| DRY BASIN         | IN POND  | 15           | 5.347            |      | 11.9000      | 60.84        |                |                              |
| DRY BASIN         | IN POND  | 25           | 5.928            |      | 11.9000      | 67.22        |                |                              |
| DRY BASIN         | IN POND  | 100          | 7.676            |      | 11.9000      | 86.25        |                |                              |
| DRY BASIN         | OUT POND | 2            | 3.383            |      | 12.2000      | 22.06        | 544.13         | .582                         |
| DRY BASIN         | OUT POND | 15           | 5.347            |      | 12.2000      | 28.88        | 545.65         | 1.065                        |
| DRY BASIN         | OUT POND | 25           | 5.928            |      | 12.2000      | 31.83        | 546.05         | 1.208                        |
| DRY BASIN         | OUT POND | 100          | 7.676            |      | 12.2000      | 43.53        | 546.99         | 1.574                        |
| *DRY BASIN OUTLET | JCT      | 2            | 3.383            |      | 12.2000      | 22.06        |                |                              |
| *DRY BASIN OUTLET | JCT      | 15           | 5.347            |      | 12.2000      | 28.88        |                |                              |
| *DRY BASIN OUTLET | JCT      | 25           | 5.928            |      | 12.2000      | 31.83        |                |                              |
| *DRY BASIN OUTLET | JCT      | 100          | 7.676            |      | 12.2000      | 43.53        |                |                              |
| RUSTIQUE          | AREA     | 2            | 1.662            |      | 12.1000      | 17.01        |                |                              |
| RUSTIQUE          | AREA     | 15           | 2.582            |      | 12.1000      | 25.87        |                |                              |
| RUSTIQUE          | AREA     | 25           | 2.853            |      | 12.1000      | 28.46        |                |                              |



MASTER NETWORK SUMMARY  
SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion;)  
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID  | Return Type | Event | HYG Vol ac-ft | Trun | Qpeak hrs | Qpeak cfs | Max WSEL ft | Max Pond Storage ac-ft |
|----------|-------------|-------|---------------|------|-----------|-----------|-------------|------------------------|
| RUSTIQUE | AREA        | 100   | 3.669         |      | 12.1000   | 36.21     |             |                        |

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002

Type.... Runoff CN-Area  
Name.... AREA II- DEV. CN

File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Title... 64K AREA II - DEVELOPED RUNOFF CN

RUNOFF CURVE NUMBER DATA

.....

64K AREA II - DEVELOPED RUNOFF CN

-----

| Soil/Surface Description | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|--------------------------|----|---------------|--------------------------|-----|----------------|
|                          |    |               | %C                       | %UC |                |
| PAVED                    | 98 | 6.040         |                          |     | 98.00          |
| GRASS                    | 74 | 1.510         |                          |     | 74.00          |

COMPOSITE AREA & WEIGHTED CN --->                    7.550                    93.20 (93)

.....

S/N: 721701406A81    J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)                    Compute Time: 11:22:40                    Date: 08-07-2002

Type.... SCS Unit Hyd. Summary  
Name.... 64K AREA II Tag: Dev..2  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr Tag: Dev..2

Page 3.01  
Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = AREA1-DE.HYG - 64K AREA II Dev..2  
Tc (Min. Tc) = .0833 hrs  
Drainage Area = 7.550 acres Runoff CN= 93

=====  
Computational Time Increment = .01111 hrs  
Computed Peak Time = 11.9175 hrs  
Computed Peak Flow = 31.04 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 11.9000 hrs  
Peak Flow, Interpolated Output = 30.26 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

DRAINAGE AREA

-----  
ID:AREA II- DEV. CN  
CN = 93  
Area = 7.550 acres  
S = .7527 in  
0.2S = .1505 in

Cumulative Runoff

-----  
2.7349 in  
1.721 ac-ft

HYG Volume... 1.721 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .08330 hrs (ID: None Selected)  
Computational Incr, Tm = .01111 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 102.69 cfs  
Unit peak time Tp = .05553 hrs  
Unit receding limb, Tr = .22213 hrs  
Total unit time, Tb = .27767 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... 64K AREA II Tag: Dev..2  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev..2

Page 3.02  
 Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = AREA1-DE.HYG - 64K AREA II Dev..2  
 Tc (Min. Tc) = .0833 hrs  
 Drainage Area = 7.550 acres Runoff CN= 93  
 Calc.Increment= .01111 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.721 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |      |       |       |       |      |
|----------|------|-------|-------|-------|------|
| 3.7000   | .00  | .00   | .01   | .01   | .02  |
| 4.2000   | .02  | .03   | .03   | .04   | .04  |
| 4.7000   | .05  | .05   | .06   | .07   | .07  |
| 5.2000   | .08  | .08   | .09   | .10   | .10  |
| 5.7000   | .11  | .11   | .12   | .13   | .13  |
| 6.2000   | .14  | .15   | .15   | .16   | .17  |
| 6.7000   | .17  | .18   | .19   | .19   | .20  |
| 7.2000   | .21  | .21   | .22   | .23   | .23  |
| 7.7000   | .24  | .25   | .26   | .26   | .28  |
| 8.2000   | .29  | .31   | .33   | .35   | .37  |
| 8.7000   | .39  | .41   | .43   | .45   | .47  |
| 9.2000   | .48  | .48   | .49   | .50   | .51  |
| 9.7000   | .54  | .58   | .61   | .65   | .69  |
| 10.2000  | .74  | .79   | .84   | .90   | .96  |
| 10.7000  | 1.05 | 1.14  | 1.23  | 1.32  | 1.46 |
| 11.2000  | 1.66 | 1.88  | 2.10  | 2.34  | 4.61 |
| 11.7000  | 9.51 | 16.31 | 30.26 | 24.75 | 7.71 |
| 12.2000  | 4.39 | 3.70  | 3.13  | 2.56  | 2.18 |
| 12.7000  | 2.02 | 1.89  | 1.76  | 1.63  | 1.52 |
| 13.2000  | 1.45 | 1.38  | 1.31  | 1.24  | 1.18 |
| 13.7000  | 1.12 | 1.07  | 1.02  | .97   | .94  |
| 14.2000  | .92  | .90   | .88   | .86   | .85  |
| 14.7000  | .83  | .81   | .79   | .77   | .76  |
| 15.2000  | .74  | .72   | .70   | .69   | .67  |
| 15.7000  | .65  | .63   | .62   | .60   | .59  |
| 16.2000  | .58  | .57   | .57   | .56   | .55  |
| 16.7000  | .55  | .54   | .54   | .53   | .52  |
| 17.2000  | .52  | .51   | .50   | .50   | .49  |
| 17.7000  | .48  | .48   | .47   | .46   | .46  |
| 18.2000  | .45  | .45   | .44   | .43   | .43  |
| 18.7000  | .42  | .41   | .41   | .40   | .40  |
| 19.2000  | .39  | .38   | .38   | .37   | .36  |
| 19.7000  | .36  | .35   | .34   | .34   | .33  |
| 20.2000  | .33  | .33   | .33   | .33   | .33  |
| 20.7000  | .33  | .32   | .32   | .32   | .32  |
| 21.2000  | .32  | .32   | .32   | .32   | .31  |

Type.... SCS Unit Hyd. Summary  
Name.... 64K AREA II Tag: Dev.15  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr Tag: Dev.15

Page 3.04  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = AREA1-DE.HYG - 64K AREA II Dev.15  
Tc (Min. Tc) = .0833 hrs  
Drainage Area = 7.550 acres Runoff CN= 93

=====  
Computational Time Increment = .01111 hrs  
Computed Peak Time = 11.9175 hrs  
Computed Peak Flow = 48.51 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 11.9000 hrs  
Peak Flow, Interpolated Output = 47.44 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%  
=====

DRAINAGE AREA

-----  
ID:AREA II- DEV. CN  
CN = 93  
Area = 7.550 acres  
S = .7527 in  
0.2S = .1505 in

Cumulative Runoff

-----  
4.3944 in  
2.765 ac-ft

HYG Volume... 2.765 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .08330 hrs (ID: None Selected)  
Computational Incr, Tm = .01111 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 102.69 cfs  
Unit peak time Tp = .05553 hrs  
Unit receding limb, Tr = .22213 hrs  
Total unit time, Tb = .27767 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... 64K AREA II Tag: Dev.15  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev.15

Page 3.05  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = AREA1-DE.HYG - 64K AREA II Dev.15  
 Tc (Min. Tc) = .0833 hrs  
 Drainage Area = 7.550 acres Runoff CN= 93  
 Calc.Increment= .01111 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 2.765 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 2.6000   | .00   | .01   | .01   | .02   | .03   |
| 3.1000   | .04   | .05   | .06   | .07   | .07   |
| 3.6000   | .08   | .09   | .10   | .11   | .12   |
| 4.1000   | .12   | .13   | .14   | .15   | .16   |
| 4.6000   | .17   | .18   | .19   | .20   | .21   |
| 5.1000   | .22   | .23   | .24   | .25   | .26   |
| 5.6000   | .27   | .28   | .29   | .31   | .32   |
| 6.1000   | .33   | .34   | .35   | .36   | .37   |
| 6.6000   | .38   | .39   | .40   | .41   | .42   |
| 7.1000   | .44   | .45   | .46   | .47   | .48   |
| 7.6000   | .49   | .50   | .51   | .52   | .54   |
| 8.1000   | .55   | .58   | .62   | .65   | .68   |
| 8.6000   | .72   | .75   | .79   | .82   | .86   |
| 9.1000   | .88   | .89   | .90   | .91   | .92   |
| 9.6000   | .95   | 1.00  | 1.05  | 1.11  | 1.17  |
| 10.1000  | 1.24  | 1.32  | 1.40  | 1.49  | 1.58  |
| 10.6000  | 1.69  | 1.83  | 1.97  | 2.12  | 2.27  |
| 11.1000  | 2.50  | 2.82  | 3.17  | 3.52  | 3.90  |
| 11.6000  | 7.62  | 15.50 | 26.10 | 47.44 | 38.27 |
| 12.1000  | 11.86 | 6.73  | 5.66  | 4.79  | 3.92  |
| 12.6000  | 3.33  | 3.08  | 2.88  | 2.68  | 2.48  |
| 13.1000  | 2.32  | 2.21  | 2.10  | 1.99  | 1.88  |
| 13.6000  | 1.79  | 1.71  | 1.63  | 1.56  | 1.48  |
| 14.1000  | 1.43  | 1.39  | 1.37  | 1.34  | 1.31  |
| 14.6000  | 1.29  | 1.26  | 1.23  | 1.21  | 1.18  |
| 15.1000  | 1.15  | 1.12  | 1.10  | 1.07  | 1.05  |
| 15.6000  | 1.02  | .99   | .96   | .94   | .91   |
| 16.1000  | .89   | .88   | .87   | .86   | .85   |
| 16.6000  | .84   | .83   | .82   | .81   | .80   |
| 17.1000  | .79   | .78   | .77   | .76   | .75   |
| 17.6000  | .74   | .73   | .72   | .72   | .70   |
| 18.1000  | .70   | .69   | .68   | .67   | .66   |
| 18.6000  | .65   | .64   | .63   | .62   | .61   |
| 19.1000  | .60   | .59   | .58   | .57   | .56   |
| 19.6000  | .55   | .54   | .53   | .52   | .51   |
| 20.1000  | .51   | .50   | .50   | .50   | .50   |

Type.... SCS Unit Hyd. Summary  
Name.... 64K AREA II Tag: Dev.25  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr Tag: Dev.25

Page 3.07  
Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = AREA1-DE.HYG - 64K AREA II Dev.25  
Tc (Min. Tc) = .0833 hrs  
Drainage Area = 7.550 acres Runoff CN= 93

=====  
Computational Time Increment = .01111 hrs  
Computed Peak Time = 11.9175 hrs  
Computed Peak Flow = 53.61 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 11.9000 hrs  
Peak Flow, Interpolated Output = 52.45 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

=====

DRAINAGE AREA

-----  
ID:AREA II- DEV. CN  
CN = 93  
Area = 7.550 acres  
S = .7527 in  
0.2S = .1505 in

Cumulative Runoff

-----  
4.8867 in  
3.075 ac-ft

HYG Volume... 3.075 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .08330 hrs (ID: None Selected)  
Computational Incr, Tm = .01111 hrs = 0.20000 Tp  
  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)  
  
Unit peak, qp = 102.69 cfs  
Unit peak time Tp = .05553 hrs  
Unit receding limb, Tr = .22213 hrs  
Total unit time, Tb = .27767 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... 64K AREA II Tag: Dev.25  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev.25

Page 3.08  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = AREA1-DE.HYG - 64K AREA II Dev.25  
 Tc (Min. Tc) = .0833 hrs  
 Drainage Area = 7.550 acres Runoff CN= 93  
 Calc.Increment= .01111 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 3.075 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs | .00   | .01   | .02   | .03   | .04   |
|----------|-------|-------|-------|-------|-------|
| 2.4000   | .00   | .01   | .02   | .03   | .04   |
| 2.9000   | .05   | .06   | .07   | .08   | .09   |
| 3.4000   | .10   | .11   | .11   | .12   | .13   |
| 3.9000   | .14   | .15   | .16   | .17   | .18   |
| 4.4000   | .19   | .21   | .22   | .23   | .24   |
| 4.9000   | .25   | .26   | .27   | .28   | .30   |
| 5.4000   | .31   | .32   | .33   | .34   | .35   |
| 5.9000   | .37   | .38   | .39   | .40   | .41   |
| 6.4000   | .43   | .44   | .45   | .46   | .47   |
| 6.9000   | .49   | .50   | .51   | .52   | .53   |
| 7.4000   | .55   | .56   | .57   | .58   | .60   |
| 7.9000   | .61   | .62   | .64   | .68   | .71   |
| 8.4000   | .75   | .79   | .82   | .86   | .90   |
| 8.9000   | .94   | .98   | 1.01  | 1.02  | 1.03  |
| 9.4000   | 1.04  | 1.05  | 1.08  | 1.14  | 1.20  |
| 9.9000   | 1.26  | 1.32  | 1.40  | 1.49  | 1.59  |
| 10.4000  | 1.68  | 1.78  | 1.90  | 2.06  | 2.22  |
| 10.9000  | 2.38  | 2.55  | 2.80  | 3.16  | 3.55  |
| 11.4000  | 3.94  | 4.36  | 8.50  | 17.25 | 28.96 |
| 11.9000  | 52.45 | 42.22 | 13.07 | 7.41  | 6.23  |
| 12.4000  | 5.28  | 4.32  | 3.67  | 3.39  | 3.17  |
| 12.9000  | 2.95  | 2.73  | 2.56  | 2.43  | 2.31  |
| 13.4000  | 2.19  | 2.07  | 1.97  | 1.88  | 1.80  |
| 13.9000  | 1.71  | 1.63  | 1.57  | 1.53  | 1.51  |
| 14.4000  | 1.47  | 1.45  | 1.41  | 1.39  | 1.35  |
| 14.9000  | 1.33  | 1.30  | 1.27  | 1.24  | 1.21  |
| 15.4000  | 1.18  | 1.15  | 1.12  | 1.09  | 1.06  |
| 15.9000  | 1.03  | 1.00  | .98   | .97   | .96   |
| 16.4000  | .94   | .93   | .92   | .91   | .90   |
| 16.9000  | .89   | .88   | .87   | .86   | .85   |
| 17.4000  | .84   | .83   | .82   | .81   | .80   |
| 17.9000  | .79   | .77   | .77   | .75   | .74   |
| 18.4000  | .73   | .72   | .71   | .70   | .69   |
| 18.9000  | .68   | .67   | .66   | .65   | .64   |
| 19.4000  | .63   | .62   | .60   | .60   | .58   |
| 19.9000  | .57   | .56   | .56   | .55   | .55   |



Type.... SCS Unit Hyd. Summary  
Name.... 64K AREA II Tag: Dev100  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr Tag: Dev100

Page 3.10  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = AREA1-DE.HYG - 64K AREA II Dev100  
Tc (Min. Tc) = .0833 hrs  
Drainage Area = 7.550 acres Runoff CN= 93

=====  
Computational Time Increment = .01111 hrs  
Computed Peak Time = 11.9175 hrs  
Computed Peak Flow = 68.81 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 11.9000 hrs  
Peak Flow, Interpolated Output = 67.39 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%  
=====

DRAINAGE AREA

-----  
ID:AREA II- DEV. CN  
CN = 93  
Area = 7.550 acres  
S = .7527 in  
0.2S = .1505 in

Cumulative Runoff

-----  
6.3694 in  
4.007 ac-ft

HYG Volume... 4.007 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .08330 hrs (ID: None Selected)  
Computational Incr, Tm = .01111 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 102.69 cfs  
Unit peak time Tp = .05553 hrs  
Unit receding limb, Tr = .22213 hrs  
Total unit time, Tb = .27767 hrs

;/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 11:22:40

Date: 08-07-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... 64K AREA II Tag: Dev100  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev100

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = AREA1-DE.HYG - 64K AREA II Dev100  
 Tc (Min. Tc) = .0833 hrs  
 Drainage Area = 7.550 acres Runoff CN= 93  
 Calc.Increment= .01111 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 4.007 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 1.9000   | .00   | .00   | .02   | .03   | .05   |
| 2.4000   | .06   | .08   | .09   | .10   | .12   |
| 2.9000   | .13   | .15   | .16   | .17   | .19   |
| 3.4000   | .20   | .21   | .22   | .24   | .25   |
| 3.9000   | .26   | .27   | .29   | .30   | .32   |
| 4.4000   | .33   | .35   | .36   | .38   | .39   |
| 4.9000   | .41   | .42   | .44   | .45   | .47   |
| 5.4000   | .48   | .50   | .51   | .53   | .54   |
| 5.9000   | .56   | .57   | .59   | .60   | .62   |
| 6.4000   | .64   | .65   | .67   | .68   | .70   |
| 6.9000   | .71   | .73   | .74   | .76   | .77   |
| 7.4000   | .79   | .80   | .82   | .83   | .85   |
| 7.9000   | .86   | .88   | .91   | .95   | 1.00  |
| 8.4000   | 1.05  | 1.10  | 1.15  | 1.20  | 1.25  |
| 8.9000   | 1.31  | 1.36  | 1.39  | 1.41  | 1.42  |
| 9.4000   | 1.42  | 1.43  | 1.47  | 1.55  | 1.63  |
| 9.9000   | 1.71  | 1.80  | 1.90  | 2.01  | 2.14  |
| 10.4000  | 2.26  | 2.39  | 2.55  | 2.75  | 2.96  |
| 10.9000  | 3.17  | 3.38  | 3.71  | 4.18  | 4.68  |
| 11.4000  | 5.19  | 5.72  | 11.13 | 22.48 | 37.49 |
| 11.9000  | 67.39   | 53.99 | 16.68 | 9.45  | 7.95  |
| 12.4000  | 6.72  | 5.50  | 4.68  | 4.32  | 4.04  |
| 12.9000  | 3.76  | 3.48  | 3.25  | 3.09  | 2.94  |
| 13.4000  | 2.79  | 2.64  | 2.51  | 2.40  | 2.29  |
| 13.9000  | 2.18  | 2.07  | 2.00  | 1.95  | 1.91  |
| 14.4000  | 1.87  | 1.84  | 1.80  | 1.76  | 1.72  |
| 14.9000  | 1.69  | 1.65  | 1.61  | 1.57  | 1.54  |
| 15.4000  | 1.50  | 1.46  | 1.42  | 1.39  | 1.34  |
| 15.9000  | 1.31  | 1.27  | 1.24  | 1.23  | 1.22  |
| 16.4000  | 1.20  | 1.19  | 1.17  | 1.16  | 1.15  |
| 16.9000  | 1.13  | 1.12  | 1.11  | 1.09  | 1.08  |
| 17.4000  | 1.06  | 1.05  | 1.04  | 1.03  | 1.01  |
| 17.9000  | 1.00  | .98   | .97   | .96   | .95   |
| 18.4000  | .93   | .92   | .90   | .89   | .88   |
| 18.9000  | .86   | .85   | .84   | .82   | .81   |
| 19.4000  | .79   | .78   | .77   | .76   | .74   |
| 19.9000  | .73   | .71   | .71   | .70   | .70   |

Type... SCS Unit Hyd. Summary Page 3.13  
 Name... RUSTIQUE Tag: Dev..2 Event: 2 yr  
 File... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Title... RUSTIQUE DISCHARGE (FROM DATA PROVIDED BY ST. CHARLES  
 COUNTY)  
 Storm... TypeII 24hr Tag: Dev..2

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = AREA1-DE.HYG - RUSTIQUE Dev..2  
 Tc = .4333 hrs  
 Drainage Area = 6.550 acres Runoff CN= 96

=====  
 Computational Time Increment = .05777 hrs  
 Computed Peak Time = 12.1324 hrs  
 Computed Peak Flow = 17.38 cfs

Time Increment for HYG File = .1000 hrs  
 Peak Time, Interpolated Output = 12.1000 hrs  
 Peak Flow, Interpolated Output = 17.01 cfs  
 WARNING: The difference between calculated peak flow  
 and interpolated peak flow is greater than 1.50%  
 =====

DRAINAGE AREA

-----  
 ID:RUSTIQUE  
 CN = 96  
 Area = 6.550 acres  
 S = .4167 in  
 0.2S = .0833 in

Cumulative Runoff

-----  
 3.0453 in  
 1.662 ac-ft

HYG Volume... 1.662 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .43330 hrs (ID: DEV. AREA I)  
 Computational Incr, Tm = .05777 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
 K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
 Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 17.13 cfs  
 Unit peak time Tp = .28887 hrs  
 Unit receding limb, Tr = 1.15547 hrs  
 Total unit time, Tb = 1.44433 hrs

Type.... SCS Unit Hyd. (HYG output) Page 3.14  
 Name.... RUSTIQUE Tag: Dev..2 Event: 2 yr  
 File.... J:\0675B\PONDPACK\AREAL-DEV.PPW  
 Title... RUSTIQUE DISCHARGE (FROM DATA PROVIDED BY ST. CHARLES  
 COUNTY)  
 Storm... TypeII 24hr Tag: Dev..2

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = AREAL-DE.HYG - RUSTIQUE Dev..2  
 Tc = .4333 hrs  
 Drainage Area = 6.550 acres Runoff CN= 96  
 Calc.Increment= .05777 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.662 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |      |       |       |       |
|----------|-------|------|-------|-------|-------|
| 2.3000   | .00   | .00  | .00   | .01   | .01   |
| 2.8000   | .02   | .02  | .03   | .03   | .04   |
| 3.3000   | .05   | .05  | .06   | .06   | .07   |
| 3.8000   | .07   | .08  | .08   | .09   | .09   |
| 4.3000   | .10   | .10  | .11   | .12   | .12   |
| 4.8000   | .13   | .13  | .14   | .15   | .15   |
| 5.3000   | .16   | .16  | .17   | .18   | .18   |
| 5.8000   | .19   | .20  | .20   | .21   | .21   |
| 6.3000   | .22   | .23  | .23   | .24   | .25   |
| 6.8000   | .25   | .26  | .27   | .27   | .28   |
| 7.3000   | .29   | .29  | .30   | .31   | .31   |
| 7.8000   | .32   | .32  | .33   | .34   | .35   |
| 8.3000   | .36   | .37  | .39   | .41   | .43   |
| 8.8000   | .45   | .47  | .49   | .51   | .53   |
| 9.3000   | .54   | .55  | .56   | .57   | .58   |
| 9.8000   | .60   | .62  | .64   | .67   | .71   |
| 10.3000  | .75   | .79  | .84   | .89   | .94   |
| 10.8000  | 1.01  | 1.08 | 1.16  | 1.24  | 1.34  |
| 11.3000  | 1.47  | 1.63 | 1.81  | 2.13  | 3.03  |
| 11.8000  | 5.04  | 8.70 | 13.77 | 17.01 | 16.21 |
| 12.3000  | 12.46 | 8.80 | 6.30  | 4.69  | 3.61  |
| 12.8000  | 2.88  | 2.40 | 2.06  | 1.82  | 1.64  |
| 13.3000  | 1.49  | 1.39 | 1.31  | 1.23  | 1.17  |
| 13.8000  | 1.11  | 1.05 | 1.00  | .96   | .91   |
| 14.3000  | .88   | .85  | .83   | .81   | .79   |
| 14.8000  | .77   | .75  | .74   | .72   | .71   |
| 15.3000  | .69   | .67  | .66   | .64   | .63   |
| 15.8000  | .61   | .59  | .58   | .56   | .55   |
| 16.3000  | .54   | .53  | .52   | .51   | .50   |
| 16.8000  | .50   | .49  | .49   | .48   | .48   |

Type.... SCS Unit Hyd. Summary  
Name.... RUSTIQUE Tag: Dev.15  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr Tag: Dev.15

Page 3.16  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = AREA1-DE.HYG - RUSTIQUE Dev.15  
Tc = .4333 hrs  
Drainage Area = 6.550 acres Runoff CN= 96

=====  
Computational Time Increment = .05777 hrs  
Computed Peak Time = 12.1324 hrs  
Computed Peak Flow = 26.41 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 25.87 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

=====

DRAINAGE AREA

-----  
ID:RUSTIQUE  
CN = 96  
Area = 6.550 acres  
S = .4167 in  
0.2S = .0833 in

Cumulative Runoff

-----  
4.7314 in  
2.583 ac-ft

HYG Volume... 2.582 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .43330 hrs (ID: DEV. AREA I)  
Computational Incr, Tm = .05777 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 17.13 cfs  
Unit peak time Tp = .28887 hrs  
Unit receding limb, Tr = 1.15547 hrs  
Total unit time, Tb = 1.44433 hrs

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 11:22:40

Date: 08-07-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... RUSTIQUE Tag: Dev.15  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev.15

Page 3.17  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = AREA1-DE.HYG - RUSTIQUE Dev.15  
 Tc = .4333 hrs  
 Drainage Area = 6.550 acres Runoff CN= 96  
 Calc.Increment= .05777 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 2.582 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 1.6000   | .00   | .00   | .01   | .01   | .02   |
| 2.1000   | .03   | .04   | .05   | .06   | .07   |
| 2.6000   | .08   | .09   | .10   | .11   | .12   |
| 3.1000   | .13   | .14   | .15   | .16   | .17   |
| 3.6000   | .17   | .18   | .19   | .20   | .21   |
| 4.1000   | .22   | .22   | .23   | .24   | .25   |
| 4.6000   | .26   | .27   | .28   | .29   | .30   |
| 5.1000   | .31   | .32   | .33   | .34   | .35   |
| 5.6000   | .36   | .37   | .37   | .38   | .39   |
| 6.1000   | .40   | .41   | .42   | .43   | .44   |
| 6.6000   | .45   | .46   | .47   | .48   | .49   |
| 7.1000   | .50   | .51   | .52   | .53   | .54   |
| 7.6000   | .54   | .55   | .56   | .57   | .58   |
| 8.1000   | .59   | .60   | .62   | .64   | .67   |
| 8.6000   | .70   | .73   | .76   | .79   | .83   |
| 9.1000   | .86   | .89   | .91   | .93   | .94   |
| 9.6000   | .95   | .96   | .98   | 1.02  | 1.06  |
| 10.1000  | 1.11  | 1.16  | 1.22  | 1.29  | 1.36  |
| 10.6000  | 1.44  | 1.52  | 1.62  | 1.73  | 1.85  |
| 11.1000  | 1.98  | 2.14  | 2.33  | 2.57  | 2.85  |
| 11.6000  | 3.35  | 4.74  | 7.81  | 13.40 | 21.05 |
| 12.1000  | 25.87 | 24.59 | 18.87 | 13.31 | 9.52  |
| 12.6000  | 7.07  | 5.44  | 4.34  | 3.60  | 3.10  |
| 13.1000  | 2.74  | 2.46  | 2.24  | 2.08  | 1.96  |
| 13.6000  | 1.85  | 1.75  | 1.66  | 1.58  | 1.50  |
| 14.1000  | 1.43  | 1.37  | 1.31  | 1.27  | 1.24  |
| 14.6000  | 1.21  | 1.18  | 1.15  | 1.13  | 1.10  |
| 15.1000  | 1.08  | 1.06  | 1.03  | 1.01  | .99   |
| 15.6000  | .96   | .94   | .91   | .89   | .87   |
| 16.1000  | .84   | .82   | .80   | .79   | .78   |
| 16.6000  | .77   | .76   | .75   | .74   | .73   |
| 17.1000  | .72   | .71   | .70   | .69   | .69   |

Type.... SCS Unit Hyd. Summary  
Name.... RUSTIQUE Tag: Dev.25  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr Tag: Dev.25

Page 3.19  
Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = AREA1-DE.HYG - RUSTIQUE Dev.25  
Tc = .4333 hrs  
Drainage Area = 6.550 acres Runoff CN= 96

=====  
Computational Time Increment = .05777 hrs  
Computed Peak Time = 12.1324 hrs  
Computed Peak Flow = 29.05 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 28.46 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%  
=====

DRAINAGE AREA

-----  
ID:RUSTIQUE  
CN = 96  
Area = 6.550 acres  
S = .4167 in  
0.2S = .0833 in

Cumulative Runoff

-----  
5.2288 in  
2.854 ac-ft

HYG Volume... 2.853 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .43330 hrs (ID: DEV. AREA I)  
Computational Incr, Tm = .05777 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 17.13 cfs  
Unit peak time Tp = .28887 hrs  
Unit receding limb, Tr = 1.15547 hrs  
Total unit time, Tb = 1.44433 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
ondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... RUSTIQUE Tag: Dev.25  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev.25

Page 3.20  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = AREA1-DE.HYG - RUSTIQUE Dev.25  
 Tc = .4333 hrs  
 Drainage Area = 6.550 acres Runoff CN= 96  
 Calc.Increment= .05777 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 2.853 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 1.5000   | .00   | .00   | .01   | .02   | .03   |
| 2.0000   | .04   | .05   | .06   | .07   | .09   |
| 2.5000   | .10   | .11   | .12   | .13   | .14   |
| 3.0000   | .15   | .16   | .17   | .18   | .19   |
| 3.5000   | .20   | .21   | .22   | .23   | .24   |
| 4.0000   | .25   | .26   | .27   | .28   | .29   |
| 4.5000   | .30   | .31   | .32   | .33   | .34   |
| 5.0000   | .35   | .36   | .37   | .38   | .39   |
| 5.5000   | .40   | .41   | .42   | .43   | .44   |
| 6.0000   | .45   | .46   | .47   | .48   | .49   |
| 6.5000   | .50   | .52   | .53   | .54   | .55   |
| 7.0000   | .56   | .57   | .58   | .59   | .60   |
| 7.5000   | .61   | .62   | .63   | .64   | .65   |
| 8.0000   | .66   | .67   | .68   | .70   | .72   |
| 8.5000   | .75   | .78   | .82   | .85   | .89   |
| 9.0000   | .92   | .96   | .99   | 1.02  | 1.04  |
| 9.5000   | 1.05  | 1.06  | 1.07  | 1.10  | 1.13  |
| 10.0000  | 1.18  | 1.23  | 1.29  | 1.36  | 1.43  |
| 10.5000  | 1.51  | 1.60  | 1.69  | 1.80  | 1.92  |
| 11.0000  | 2.05  | 2.20  | 2.37  | 2.58  | 2.85  |
| 11.5000  | 3.16  | 3.70  | 5.24  | 8.62  | 14.77 |
| 12.0000  | 23.17   | 28.46 | 27.04 | 20.74 | 14.62 |
| 12.5000  | 10.46   | 7.77  | 5.97  | 4.76  | 3.96  |
| 13.0000  | 3.40  | 3.01  | 2.70  | 2.46  | 2.28  |
| 13.5000  | 2.15  | 2.03  | 1.92  | 1.82  | 1.73  |
| 14.0000  | 1.65  | 1.57  | 1.50  | 1.44  | 1.40  |
| 14.5000  | 1.36  | 1.32  | 1.29  | 1.27  | 1.24  |
| 15.0000  | 1.21  | 1.19  | 1.16  | 1.13  | 1.11  |
| 15.5000  | 1.08  | 1.06  | 1.03  | 1.00  | .98   |
| 16.0000  | .95   | .92   | .90   | .88   | .86   |
| 16.5000  | .85   | .84   | .83   | .82   | .81   |
| 17.0000  | .80   | .79   | .78   | .77   | .76   |



Type.... SCS Unit Hyd. Summary  
Name.... RUSTIQUE Tag: Dev100  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr Tag: Dev100

Page 3.22  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = AREA1-DE.HYG - RUSTIQUE Dev100  
Tc = .4333 hrs  
Drainage Area = 6.550 acres Runoff CN= 96

=====  
Computational Time Increment = .05777 hrs  
Computed Peak Time = 12.1324 hrs  
Computed Peak Flow = 36.95 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 36.21 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

=====

DRAINAGE AREA

-----  
ID:RUSTIQUE  
CN = 96  
Area = 6.550 acres  
S = .4167 in  
0.2S = .0833 in

Cumulative Runoff

-----  
6.7230 in  
3.670 ac-ft

HYG Volume... 3.669 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .43330 hrs (ID: DEV. AREA I)  
Computational Incr, Tm = .05777 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 17.13 cfs  
Unit peak time Tp = .28887 hrs  
Unit receding limb, Tr = 1.15547 hrs  
Total unit time, Tb = 1.44433 hrs

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 11:22:40

Date: 08-07-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... RUSTIQUE Tag: Dev100  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev100

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = AREA1-DE.HYG - RUSTIQUE Dev100  
 Tc = .4333 hrs  
 Drainage Area = 6.550 acres Runoff CN= 96  
 Calc.Increment= .05777 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 3.669 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 1.2000   | .00   | .00   | .01   | .02   | .04   |
| 1.7000   | .05   | .07   | .09   | .10   | .12   |
| 2.2000   | .14   | .15   | .17   | .18   | .20   |
| 2.7000   | .21   | .23   | .24   | .26   | .27   |
| 3.2000   | .28   | .30   | .31   | .32   | .33   |
| 3.7000   | .34   | .36   | .37   | .38   | .39   |
| 4.2000   | .40   | .41   | .42   | .44   | .45   |
| 4.7000   | .46   | .48   | .49   | .50   | .52   |
| 5.2000   | .53   | .54   | .55   | .57   | .58   |
| 5.7000   | .59   | .61   | .62   | .63   | .65   |
| 6.2000   | .66   | .67   | .68   | .70   | .71   |
| 6.7000   | .72   | .73   | .75   | .76   | .77   |
| 7.2000   | .78   | .79   | .81   | .82   | .83   |
| 7.7000   | .84   | .86   | .87   | .88   | .89   |
| 8.2000   | .91   | .93   | .96   | 1.00  | 1.04  |
| 8.7000   | 1.09  | 1.13  | 1.18  | 1.22  | 1.27  |
| 9.2000   | 1.31  | 1.34  | 1.36  | 1.38  | 1.39  |
| 9.7000   | 1.41  | 1.44  | 1.48  | 1.54  | 1.61  |
| 10.2000  | 1.68  | 1.77  | 1.86  | 1.97  | 2.07  |
| 10.7000  | 2.19  | 2.33  | 2.49  | 2.66  | 2.84  |
| 11.2000  | 3.06  | 3.33  | 3.67  | 4.06  | 4.76  |
| 11.7000  | 6.72  | 11.04 | 18.86 | 29.52 | 36.21 |
| 12.2000  | 34.37 | 26.35 | 18.57 | 13.27 | 9.86  |
| 12.7000  | 7.57  | 6.04  | 5.01  | 4.31  | 3.81  |
| 13.2000  | 3.42  | 3.12  | 2.89  | 2.72  | 2.57  |
| 13.7000  | 2.43  | 2.31  | 2.20  | 2.09  | 1.99  |
| 14.2000  | 1.90  | 1.83  | 1.77  | 1.72  | 1.68  |
| 14.7000  | 1.64  | 1.60  | 1.57  | 1.54  | 1.50  |
| 15.2000  | 1.47  | 1.44  | 1.40  | 1.37  | 1.34  |
| 15.7000  | 1.30  | 1.27  | 1.24  | 1.20  | 1.17  |
| 16.2000  | 1.14  | 1.11  | 1.09  | 1.08  | 1.06  |
| 16.7000  | 1.05  | 1.04  | 1.02  | 1.01  | 1.00  |

Type.... Time-Elev  
 Name.... DRY BASIN      OUT      Tag: Dev..2  
 File.... J:\0675B\PONDPACK\AREAL-DEV.PPW  
 Storm... TypeII 24hr      Tag: Dev..2

Page 4.01  
 Event: 2 yr

TIME vs. ELEVATION (ft)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |        |        |        |        |        |
|----------|--------|--------|--------|--------|--------|
| 2.3000   | 541.00 | 541.00 | 541.00 | 541.01 | 541.01 |
| 2.8000   | 541.02 | 541.03 | 541.03 | 541.04 | 541.05 |
| 3.3000   | 541.05 | 541.06 | 541.07 | 541.07 | 541.08 |
| 3.8000   | 541.09 | 541.10 | 541.11 | 541.13 | 541.14 |
| 4.3000   | 541.15 | 541.16 | 541.18 | 541.19 | 541.20 |
| 4.8000   | 541.20 | 541.21 | 541.21 | 541.21 | 541.22 |
| 5.3000   | 541.22 | 541.22 | 541.23 | 541.23 | 541.23 |
| 5.8000   | 541.24 | 541.24 | 541.25 | 541.25 | 541.25 |
| 6.3000   | 541.26 | 541.26 | 541.27 | 541.27 | 541.28 |
| 6.8000   | 541.28 | 541.29 | 541.29 | 541.30 | 541.30 |
| 7.3000   | 541.31 | 541.31 | 541.32 | 541.32 | 541.33 |
| 7.8000   | 541.33 | 541.33 | 541.34 | 541.35 | 541.35 |
| 8.3000   | 541.36 | 541.37 | 541.38 | 541.40 | 541.40 |
| 8.8000   | 541.41 | 541.42 | 541.43 | 541.44 | 541.45 |
| 9.3000   | 541.45 | 541.46 | 541.46 | 541.47 | 541.47 |
| 9.8000   | 541.48 | 541.49 | 541.50 | 541.52 | 541.53 |
| 10.3000  | 541.55 | 541.57 | 541.59 | 541.61 | 541.62 |
| 10.8000  | 541.64 | 541.66 | 541.69 | 541.72 | 541.75 |
| 11.3000  | 541.79 | 541.83 | 541.86 | 541.96 | 542.16 |
| 11.8000  | 542.53 | 543.15 | 543.80 | 544.11 | 544.13 |
| 12.3000  | 544.03 | 543.82 | 543.54 | 543.22 | 542.91 |
| 12.8000  | 542.66 | 542.46 | 542.31 | 542.19 | 542.10 |
| 13.3000  | 542.02 | 541.95 | 541.89 | 541.85 | 541.81 |
| 13.8000  | 541.77 | 541.73 | 541.71 | 541.68 | 541.66 |
| 14.3000  | 541.65 | 541.64 | 541.63 | 541.62 | 541.61 |
| 14.8000  | 541.60 | 541.59 | 541.58 | 541.57 | 541.57 |
| 15.3000  | 541.56 | 541.55 | 541.54 | 541.54 | 541.53 |
| 15.8000  | 541.52 | 541.51 | 541.51 | 541.50 | 541.49 |
| 16.3000  | 541.49 | 541.48 | 541.48 | 541.47 | 541.47 |
| 16.8000  | 541.47 | 541.47 | 541.46 | 541.46 | 541.46 |
| 17.3000  | 541.45 | 541.45 | 541.45 | 541.45 | 541.44 |
| 17.8000  | 541.44 | 541.44 | 541.44 | 541.43 | 541.43 |
| 18.3000  | 541.43 | 541.42 | 541.42 | 541.42 | 541.42 |
| 18.8000  | 541.41 | 541.41 | 541.41 | 541.41 | 541.40 |
| 19.3000  | 541.40 | 541.39 | 541.39 | 541.39 | 541.38 |
| 19.8000  | 541.38 | 541.37 | 541.37 | 541.36 | 541.36 |
| 20.3000  | 541.36 | 541.36 | 541.36 | 541.35 | 541.35 |
| 20.8000  | 541.35 | 541.35 | 541.35 | 541.35 | 541.35 |
| 21.3000  | 541.35 | 541.35 | 541.35 | 541.35 | 541.34 |
| 21.8000  | 541.34 | 541.34 | 541.34 | 541.34 | 541.34 |
| 22.3000  | 541.34 | 541.34 | 541.34 | 541.34 | 541.34 |
| 22.8000  | 541.33 | 541.33 | 541.33 | 541.33 | 541.33 |
| 23.3000  | 541.33 | 541.33 | 541.33 | 541.33 | 541.33 |
| 23.8000  | 541.33 | 541.33 | 541.32 | 541.29 | 541.23 |
| 24.3000  | 541.20 | 541.13 | 541.08 | 541.04 | 541.02 |
| 24.8000  | 541.01 | 541.01 | 541.00 | 541.00 | 541.00 |

Type.... Time-Elev  
 Name.... DRY BASIN      OUT      Tag: Dev.15  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr      Tag: Dev.15

Page 4.03  
 Event: 15 yr

TIME vs. ELEVATION (ft)

| Time hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|----------|---|--------|--------|--------|--------|
|          | Time on left represents time for first value in each row. |        |        |        |        |
| 1.6000   | 541.00  | 541.00 | 541.01 | 541.01 | 541.02 |
| 2.1000   | 541.03  | 541.04 | 541.06 | 541.07 | 541.08 |
| 2.6000   | 541.10  | 541.11 | 541.13 | 541.16 | 541.18 |
| 3.1000   | 541.20  | 541.21 | 541.21 | 541.21 | 541.22 |
| 3.6000   | 541.22  | 541.23 | 541.23 | 541.24 | 541.24 |
| 4.1000   | 541.25  | 541.25 | 541.26 | 541.27 | 541.27 |
| 4.6000   | 541.28  | 541.29 | 541.29 | 541.30 | 541.31 |
| 5.1000   | 541.31  | 541.32 | 541.33 | 541.34 | 541.34 |
| 5.6000   | 541.35  | 541.36 | 541.36 | 541.37 | 541.38 |
| 6.1000   | 541.39  | 541.39 | 541.40 | 541.40 | 541.41 |
| 6.6000   | 541.41  | 541.42 | 541.42 | 541.43 | 541.43 |
| 7.1000   | 541.43  | 541.44 | 541.44 | 541.45 | 541.45 |
| 7.6000   | 541.46  | 541.46 | 541.47 | 541.47 | 541.48 |
| 8.1000   | 541.48  | 541.49 | 541.50 | 541.51 | 541.52 |
| 8.6000   | 541.53  | 541.54 | 541.56 | 541.57 | 541.59 |
| 9.1000   | 541.60  | 541.61 | 541.62 | 541.62 | 541.63 |
| 9.6000   | 541.63  | 541.64 | 541.65 | 541.66 | 541.67 |
| 10.1000  | 541.68  | 541.70 | 541.72 | 541.74 | 541.77 |
| 10.6000  | 541.79  | 541.81 | 541.84 | 541.86 | 541.89 |
| 11.1000  | 541.92  | 541.97 | 542.01 | 542.06 | 542.11 |
| 11.6000  | 542.24  | 542.53 | 543.06 | 543.98 | 544.98 |
| 12.1000  | 545.51  | 545.65 | 545.63 | 545.46 | 545.17 |
| 12.6000  | 544.80  | 544.40 | 543.99 | 543.58 | 543.20 |
| 13.1000  | 542.87  | 542.62 | 542.44 | 542.30 | 542.20 |
| 13.6000  | 542.12  | 542.06 | 542.01 | 541.96 | 541.92 |
| 14.1000  | 541.88  | 541.86 | 541.83 | 541.81 | 541.80 |
| 14.6000  | 541.78  | 541.76 | 541.75 | 541.74 | 541.73 |
| 15.1000  | 541.72  | 541.71 | 541.70 | 541.69 | 541.68 |
| 15.6000  | 541.67  | 541.66 | 541.66 | 541.65 | 541.64 |
| 16.1000  | 541.63  | 541.62 | 541.62 | 541.61 | 541.61 |
| 16.6000  | 541.60  | 541.60 | 541.59 | 541.58 | 541.58 |
| 17.1000  | 541.58  | 541.57 | 541.57 | 541.56 | 541.56 |
| 17.6000  | 541.56  | 541.55 | 541.55 | 541.54 | 541.54 |
| 18.1000  | 541.53  | 541.53 | 541.53 | 541.52 | 541.52 |
| 18.6000  | 541.51  | 541.51 | 541.51 | 541.50 | 541.50 |
| 19.1000  | 541.49  | 541.49 | 541.49 | 541.48 | 541.48 |
| 19.6000  | 541.47  | 541.47 | 541.47 | 541.46 | 541.46 |
| 20.1000  | 541.45  | 541.45 | 541.45 | 541.45 | 541.44 |
| 20.6000  | 541.44  | 541.44 | 541.44 | 541.44 | 541.44 |
| 21.1000  | 541.44  | 541.44 | 541.44 | 541.44 | 541.43 |
| 21.6000  | 541.43  | 541.43 | 541.43 | 541.43 | 541.43 |
| 22.1000  | 541.43  | 541.43 | 541.43 | 541.43 | 541.43 |
| 22.6000  | 541.43  | 541.42 | 541.42 | 541.42 | 541.42 |
| 23.1000  | 541.42  | 541.42 | 541.42 | 541.42 | 541.42 |
| 23.6000  | 541.42  | 541.42 | 541.42 | 541.41 | 541.41 |
| 24.1000  | 541.38  | 541.29 | 541.24 | 541.20 | 541.11 |
| 24.6000  | 541.06  | 541.04 | 541.02 | 541.01 | 541.01 |
| 25.1000  | 541.00  | 541.00 |        |        |        |

Type.... Time-Elev  
 Name.... DRY BASIN      OUT      Tag: Dev.25  
 File.... J:\0675B\PONDPACK\AREAL-DEV.PPW  
 Storm... TypeII 24hr      Tag: Dev.25

Page 4.05  
 Event: 25 yr

TIME vs. ELEVATION (ft)

| Time hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|----------|---|--------|--------|--------|--------|
|          | Time on left represents time for first value in each row. |        |        |        |        |
| 1.5000   | 541.00  | 541.00 | 541.01 | 541.02 | 541.03 |
| 2.0000   | 541.04  | 541.06 | 541.07 | 541.08 | 541.10 |
| 2.5000   | 541.12  | 541.14 | 541.17 | 541.20 | 541.20 |
| 3.0000   | 541.21  | 541.22 | 541.22 | 541.23 | 541.23 |
| 3.5000   | 541.24  | 541.24 | 541.25 | 541.26 | 541.26 |
| 4.0000   | 541.27  | 541.28 | 541.28 | 541.29 | 541.30 |
| 4.5000   | 541.30  | 541.31 | 541.32 | 541.33 | 541.33 |
| 5.0000   | 541.34  | 541.35 | 541.36 | 541.37 | 541.37 |
| 5.5000   | 541.38  | 541.39 | 541.40 | 541.40 | 541.41 |
| 6.0000   | 541.41  | 541.42 | 541.42 | 541.43 | 541.43 |
| 6.5000   | 541.44  | 541.44 | 541.45 | 541.45 | 541.46 |
| 7.0000   | 541.46  | 541.47 | 541.47 | 541.48 | 541.48 |
| 7.5000   | 541.49  | 541.49 | 541.50 | 541.50 | 541.51 |
| 8.0000   | 541.51  | 541.52 | 541.52 | 541.53 | 541.54 |
| 8.5000   | 541.56  | 541.57 | 541.59 | 541.60 | 541.61 |
| 9.0000   | 541.62  | 541.63 | 541.64 | 541.65 | 541.66 |
| 9.5000   | 541.66  | 541.67 | 541.68 | 541.69 | 541.70 |
| 10.0000  | 541.71  | 541.73 | 541.75 | 541.77 | 541.79 |
| 10.5000  | 541.81  | 541.83 | 541.86 | 541.88 | 541.91 |
| 11.0000  | 541.95  | 541.98 | 542.02 | 542.07 | 542.12 |
| 11.5000  | 542.18  | 542.32 | 542.64 | 543.22 | 544.22 |
| 12.0000  | 545.31  | 545.89 | 546.05 | 546.03 | 545.86 |
| 12.5000  | 545.58  | 545.22 | 544.81 | 544.39 | 543.96 |
| 13.0000  | 543.55  | 543.17 | 542.85 | 542.61 | 542.43 |
| 13.5000  | 542.30  | 542.21 | 542.13 | 542.07 | 542.02 |
| 14.0000  | 541.98  | 541.94 | 541.90 | 541.88 | 541.86 |
| 14.5000  | 541.84  | 541.82 | 541.81 | 541.80 | 541.78 |
| 15.0000  | 541.77  | 541.76 | 541.75 | 541.74 | 541.73 |
| 15.5000  | 541.72  | 541.71 | 541.70 | 541.69 | 541.68 |
| 16.0000  | 541.67  | 541.66 | 541.65 | 541.64 | 541.64 |
| 16.5000  | 541.63  | 541.63 | 541.62 | 541.62 | 541.62 |
| 17.0000  | 541.61  | 541.61 | 541.61 | 541.60 | 541.60 |
| 17.5000  | 541.59  | 541.59 | 541.58 | 541.58 | 541.57 |
| 18.0000  | 541.57  | 541.56 | 541.56 | 541.56 | 541.55 |
| 18.5000  | 541.55  | 541.54 | 541.54 | 541.53 | 541.53 |
| 19.0000  | 541.52  | 541.52 | 541.52 | 541.51 | 541.51 |
| 19.5000  | 541.50  | 541.50 | 541.49 | 541.49 | 541.48 |
| 20.0000  | 541.48  | 541.48 | 541.47 | 541.47 | 541.47 |
| 20.5000  | 541.46  | 541.46 | 541.46 | 541.46 | 541.46 |
| 21.0000  | 541.46  | 541.46 | 541.46 | 541.46 | 541.46 |
| 21.5000  | 541.45  | 541.45 | 541.45 | 541.45 | 541.45 |
| 22.0000  | 541.45  | 541.45 | 541.45 | 541.45 | 541.45 |
| 22.5000  | 541.45  | 541.44 | 541.44 | 541.44 | 541.44 |
| 23.0000  | 541.44  | 541.44 | 541.44 | 541.44 | 541.44 |
| 23.5000  | 541.44  | 541.44 | 541.43 | 541.43 | 541.43 |
| 24.0000  | 541.43  | 541.41 | 541.31 | 541.25 | 541.21 |
| 24.5000  | 541.12  | 541.07 | 541.04 | 541.02 | 541.01 |
| 25.0000  | 541.01  | 541.00 | 541.00 |        |        |

Type.... Time-Elev  
 Name.... DRY BASIN      OUT      Tag: Dev100  
 File.... J:\0675B\PONDPACK\AREAL-DEV.PPW  
 Storm... TypeII 24hr      Tag: Dev100

Page 4.07  
 Event: 100 yr

TIME vs. ELEVATION (ft)

| Time<br>hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|-------------|---|--------|--------|--------|--------|
|             | Time on left represents time for first value in each row. |        |        |        |        |
| 1.2000      | 541.00  | 541.00 | 541.01 | 541.02 | 541.04 |
| 1.7000      | 541.06  | 541.08 | 541.10 | 541.12 | 541.15 |
| 2.2000      | 541.19  | 541.21 | 541.22 | 541.22 | 541.23 |
| 2.7000      | 541.24  | 541.25 | 541.26 | 541.27 | 541.28 |
| 3.2000      | 541.29  | 541.30 | 541.30 | 541.31 | 541.32 |
| 3.7000      | 541.33  | 541.34 | 541.35 | 541.36 | 541.37 |
| 4.2000      | 541.37  | 541.38 | 541.39 | 541.40 | 541.41 |
| 4.7000      | 541.41  | 541.42 | 541.42 | 541.43 | 541.44 |
| 5.2000      | 541.44  | 541.45 | 541.45 | 541.46 | 541.47 |
| 5.7000      | 541.47  | 541.48 | 541.49 | 541.49 | 541.50 |
| 6.2000      | 541.51  | 541.51 | 541.52 | 541.52 | 541.53 |
| 6.7000      | 541.54  | 541.54 | 541.55 | 541.56 | 541.56 |
| 7.2000      | 541.57  | 541.57 | 541.58 | 541.59 | 541.59 |
| 7.7000      | 541.60  | 541.60 | 541.61 | 541.61 | 541.61 |
| 8.2000      | 541.62  | 541.63 | 541.64 | 541.65 | 541.66 |
| 8.7000      | 541.68  | 541.69 | 541.71 | 541.72 | 541.74 |
| 9.2000      | 541.75  | 541.76 | 541.77 | 541.78 | 541.79 |
| 9.7000      | 541.80  | 541.81 | 541.82 | 541.83 | 541.84 |
| 10.2000     | 541.86  | 541.88 | 541.91 | 541.93 | 541.96 |
| 10.7000     | 541.99  | 542.02 | 542.06 | 542.09 | 542.13 |
| 11.2000     | 542.18  | 542.24 | 542.31 | 542.38 | 542.54 |
| 11.7000     | 542.93  | 543.66 | 544.92 | 546.23 | 546.87 |
| 12.2000     | 546.99  | 546.91 | 546.68 | 546.36 | 545.99 |
| 12.7000     | 545.61  | 545.19 | 544.77 | 544.33 | 543.91 |
| 13.2000     | 543.52  | 543.15 | 542.85 | 542.63 | 542.47 |
| 13.7000     | 542.35  | 542.26 | 542.19 | 542.13 | 542.08 |
| 14.2000     | 542.04  | 542.01 | 541.98 | 541.96 | 541.94 |
| 14.7000     | 541.92  | 541.90 | 541.89 | 541.88 | 541.87 |
| 15.2000     | 541.85  | 541.84 | 541.83 | 541.82 | 541.81 |
| 15.7000     | 541.80  | 541.79 | 541.78 | 541.76 | 541.75 |
| 16.2000     | 541.74  | 541.73 | 541.72 | 541.72 | 541.71 |
| 16.7000     | 541.70  | 541.70 | 541.69 | 541.69 | 541.69 |
| 17.2000     | 541.68  | 541.68 | 541.67 | 541.67 | 541.66 |
| 17.7000     | 541.66  | 541.66 | 541.65 | 541.65 | 541.64 |
| 18.2000     | 541.64  | 541.63 | 541.63 | 541.63 | 541.62 |
| 18.7000     | 541.62  | 541.61 | 541.61 | 541.60 | 541.60 |
| 19.2000     | 541.59  | 541.59 | 541.58 | 541.57 | 541.57 |
| 19.7000     | 541.56  | 541.56 | 541.55 | 541.55 | 541.54 |
| 20.2000     | 541.54  | 541.53 | 541.53 | 541.53 | 541.53 |
| 20.7000     | 541.52  | 541.52 | 541.52 | 541.52 | 541.52 |
| 21.2000     | 541.52  | 541.52 | 541.52 | 541.51 | 541.51 |
| 21.7000     | 541.51  | 541.51 | 541.51 | 541.51 | 541.51 |
| 22.2000     | 541.51  | 541.50 | 541.50 | 541.50 | 541.50 |
| 22.7000     | 541.50  | 541.50 | 541.50 | 541.50 | 541.50 |
| 23.2000     | 541.49  | 541.49 | 541.49 | 541.49 | 541.49 |
| 23.7000     | 541.49  | 541.49 | 541.49 | 541.49 | 541.45 |
| 24.2000     | 541.39  | 541.28 | 541.23 | 541.16 | 541.09 |
| 24.7000     | 541.05  | 541.03 | 541.02 | 541.01 | 541.00 |
| 25.2000     | 541.00  | 541.00 |        |        |        |

Type.... Vol: Planimeter  
Name.... DRY BASIN

File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Title... DRY DETENTION BASIN

POND VOLUME CALCULATIONS

Planimeter scale: 1.00 ft/in

| Elevation<br>(ft) | Planimeter<br>(sq.in) | Area<br>(acres) | $A1+A2+\text{sqr}(A1*A2)$<br>(acres) | Volume<br>(ac-ft) | Volume Sum<br>(ac-ft) |
|-------------------|-----------------------|-----------------|--------------------------------------|-------------------|-----------------------|
| 541.00            | .000                  | .0000           | .0000                                | .000              | .000                  |
| 542.00            | 8680.000              | .1993           | .1993                                | .066              | .066                  |
| 544.00            | 12272.000             | .2817           | .7179                                | .479              | .545                  |
| 549.00            | 22280.000             | .5115           | 1.1728                               | 1.955             | 2.500                 |

POND VOLUME EQUATIONS

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

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

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

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002

Type.... Outlet Input Data  
Name.... DRY BASIN OUTLET

File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Title... DRY BASIN OUTLET CONTROL STRUCTURE

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 541.00 ft  
Increment = .20 ft  
Max. Elev.= 549.00 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            | 48  | ---> | TW      | 547.000 | 549.000 |
| Weir-Rectangular     | 2W  | ---> | TW      | 545.700 | 549.000 |
| Orifice-Circular     | OR  | ---> | TW      | 541.000 | 549.000 |
| TW SETUP, DS Channel |     |      |         |         |         |

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002



Type.... Outlet Input Data  
Name.... DRY BASIN OUTLET

File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Title... DRY BASIN OUTLET CONTROL STRUCTURE

OUTLET STRUCTURE INPUT DATA

Structure ID = 48  
Structure Type = Inlet Box  
-----  
# of Openings = 1  
Invert Elev. = 547.00 ft  
Orifice Area = 12.5700 sq.ft  
Orifice Coeff. = .600  
Weir Length = 10.56 ft  
Weir Coeff. = 3.330  
K, Submerged = .000  
K, Reverse = 1.000  
Kb, Barrel = .000000 (per ft of full flow)  
Barrel Length = .00 ft  
Mannings n = .0000

Structure ID = 2W  
Structure Type = Weir-Rectangular  
-----  
# of Openings = 1  
Crest Elev. = 545.70 ft  
Weir Length = 2.00 ft  
Weir Coeff. = 3.330000  
  
Weir TW effects (Use adjustment equation)

Structure ID = OR  
Structure Type = Orifice-Circular  
-----  
# of Openings = 1  
Invert Elev. = 541.00 ft  
Diameter = 2.0000 ft  
Orifice Coeff. = .600

Type.... Outlet Input Data  
Name.... DRY BASIN OUTLET

Page 6.03

File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Title... DRY BASIN OUTLET CONTROL STRUCTURE

OUTLET STRUCTURE INPUT DATA

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

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002

Type.... Composite Rating Curve  
 Name.... DRY BASIN OUTLET

File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Title... DRY BASIN OUTLET CONTROL STRUCTURE

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

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 541.00           | .00      | Free          | Outfall        | None contributing       |
| 541.20           | .19      | Free          | Outfall        | OR                      |
| 541.40           | .75      | Free          | Outfall        | OR                      |
| 541.60           | 1.65     | Free          | Outfall        | OR                      |
| 541.80           | 2.85     | Free          | Outfall        | OR                      |
| 542.00           | 4.33     | Free          | Outfall        | OR                      |
| 542.20           | 6.04     | Free          | Outfall        | OR                      |
| 542.40           | 7.97     | Free          | Outfall        | OR                      |
| 542.60           | 10.07    | Free          | Outfall        | OR                      |
| 542.80           | 12.29    | Free          | Outfall        | OR                      |
| 543.00           | 15.12    | Free          | Outfall        | OR                      |
| 543.20           | 16.56    | Free          | Outfall        | OR                      |
| 543.40           | 17.89    | Free          | Outfall        | OR                      |
| 543.60           | 19.13    | Free          | Outfall        | OR                      |
| 543.80           | 20.29    | Free          | Outfall        | OR                      |
| 544.00           | 21.38    | Free          | Outfall        | OR                      |
| 544.20           | 22.43    | Free          | Outfall        | OR                      |
| 544.40           | 23.42    | Free          | Outfall        | OR                      |
| 544.60           | 24.38    | Free          | Outfall        | OR                      |
| 544.80           | 25.30    | Free          | Outfall        | OR                      |
| 545.00           | 26.19    | Free          | Outfall        | OR                      |
| 545.20           | 27.05    | Free          | Outfall        | OR                      |
| 545.40           | 27.88    | Free          | Outfall        | OR                      |
| 545.60           | 28.69    | Free          | Outfall        | OR                      |
| 545.70           | 29.09    | Free          | Outfall        | 2W +OR                  |
| 545.80           | 29.69    | Free          | Outfall        | 2W +OR                  |
| 546.00           | 31.34    | Free          | Outfall        | 2W +OR                  |
| 546.20           | 33.34    | Free          | Outfall        | 2W +OR                  |
| 546.40           | 35.62    | Free          | Outfall        | 2W +OR                  |
| 546.60           | 38.12    | Free          | Outfall        | 2W +OR                  |
| 546.80           | 40.81    | Free          | Outfall        | 2W +OR                  |
| 547.00           | 43.68    | Free          | Outfall        | 48 +2W +OR              |
| 547.20           | 49.86    | Free          | Outfall        | 48 +2W +OR              |
| 547.40           | 58.80    | Free          | Outfall        | 48 +2W +OR              |
| 547.60           | 69.57    | Free          | Outfall        | 48 +2W +OR              |
| 547.80           | 81.84    | Free          | Outfall        | 48 +2W +OR              |
| 548.00           | 95.43    | Free          | Outfall        | 48 +2W +OR              |
| 548.20           | 110.20   | Free          | Outfall        | 48 +2W +OR              |
| 548.40           | 126.05   | Free          | Outfall        | 48 +2W +OR              |
| 548.60           | 142.90   | Free          | Outfall        | 48 +2W +OR              |
| 548.80           | 156.95   | Free          | Outfall        | 48 +2W +OR              |
| 549.00           | 165.49   | Free          | Outfall        | 48 +2W +OR              |

Type.... Pond E-V-Q Table  
 Name.... DRY BASIN  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW

LEVEL POOL ROUTING DATA

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = AREA1-DE.HYG - DRY BASIN IN Dev..2  
 Outflow HYG file = AREA1-DE.HYG - DRY BASIN OUT Dev..2

Pond Node Data = DRY BASIN  
 Pond Volume Data = DRY BASIN  
 Pond Outlet Data = DRY BASIN OUTLET

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 541.00 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout= .00 cfs  
 Time Increment = .1000 hrs

| Elevation<br>ft | Outflow<br>cfs | Storage<br>ac-ft | Area<br>acres | Infiltr.<br>cfs | Q Total<br>cfs | 2S/t + O<br>cfs |
|-----------------|----------------|------------------|---------------|-----------------|----------------|-----------------|
| 541.00          | .00            | .000             | .0000         | .00             | .00            | .00             |
| 541.20          | .19            | .001             | .0080         | .00             | .19            | .32             |
| 541.40          | .75            | .004             | .0319         | .00             | .75            | 1.78            |
| 541.60          | 1.65           | .014             | .0717         | .00             | 1.65           | 5.12            |
| 541.80          | 2.85           | .034             | .1275         | .00             | 2.85           | 11.08           |
| 542.00          | 4.33           | .066             | .1993         | .00             | 4.33           | 20.40           |
| 542.20          | 6.04           | .107             | .2069         | .00             | 6.04           | 31.94           |
| 542.40          | 7.97           | .149             | .2146         | .00             | 7.97           | 44.08           |
| 542.60          | 10.07          | .193             | .2225         | .00             | 10.07          | 56.75           |
| 542.80          | 12.29          | .238             | .2305         | .00             | 12.29          | 69.93           |
| 543.00          | 15.12          | .285             | .2387         | .00             | 15.12          | 84.12           |
| 543.20          | 16.56          | .334             | .2470         | .00             | 16.56          | 97.32           |
| 543.40          | 17.89          | .384             | .2555         | .00             | 17.89          | 110.81          |
| 543.60          | 19.13          | .436             | .2641         | .00             | 19.13          | 124.61          |
| 543.80          | 20.29          | .490             | .2728         | .00             | 20.29          | 138.77          |
| 544.00          | 21.38          | .545             | .2817         | .00             | 21.38          | 153.28          |
| 544.20          | 22.43          | .602             | .2896         | .00             | 22.43          | 168.15          |
| 544.40          | 23.42          | .661             | .2976         | .00             | 23.42          | 183.36          |
| 544.60          | 24.38          | .721             | .3057         | .00             | 24.38          | 198.91          |
| 544.80          | 25.30          | .783             | .3139         | .00             | 25.30          | 214.83          |
| 545.00          | 26.19          | .847             | .3222         | .00             | 26.19          | 231.11          |
| 545.20          | 27.05          | .912             | .3307         | .00             | 27.05          | 247.77          |
| 545.40          | 27.88          | .979             | .3392         | .00             | 27.88          | 264.82          |

Type.... Pond E-V-Q Table  
 Name.... DRY BASIN  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW

LEVEL POOL ROUTING DATA

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = AREA1-DE.HYG - DRY BASIN IN Dev..2  
 Outflow HYG file = AREA1-DE.HYG - DRY BASIN OUT Dev..2

Pond Node Data = DRY BASIN  
 Pond Volume Data = DRY BASIN  
 Pond Outlet Data = DRY BASIN OUTLET

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 541.00 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout= .00 cfs  
 Time Increment = .1000 hrs

| Elevation<br>ft | Outflow<br>cfs | Storage<br>ac-ft | Area<br>acres | Infiltr.<br>cfs | Q Total<br>cfs | 2S/t + O<br>cfs |
|-----------------|----------------|------------------|---------------|-----------------|----------------|-----------------|
| 545.60          | 28.69          | 1.048            | .3478         | .00             | 28.69          | 282.25          |
| 545.70          | 29.09          | 1.083            | .3522         | .00             | 29.09          | 291.12          |
| 545.80          | 29.69          | 1.118            | .3566         | .00             | 29.69          | 300.29          |
| 6.00            | 31.34          | 1.190            | .3655         | .00             | 31.34          | 319.42          |
| 546.20          | 33.34          | 1.264            | .3744         | .00             | 33.34          | 339.33          |
| 546.40          | 35.62          | 1.340            | .3835         | .00             | 35.62          | 359.95          |
| 546.60          | 38.12          | 1.418            | .3927         | .00             | 38.12          | 381.23          |
| 546.80          | 40.81          | 1.497            | .4020         | .00             | 40.81          | 403.15          |
| 547.00          | 43.68          | 1.579            | .4114         | .00             | 43.68          | 425.71          |
| 547.20          | 49.86          | 1.662            | .4209         | .00             | 49.86          | 452.03          |
| 547.40          | 58.80          | 1.747            | .4306         | .00             | 58.80          | 481.58          |
| 547.60          | 69.57          | 1.834            | .4403         | .00             | 69.57          | 513.41          |
| 547.80          | 81.84          | 1.923            | .4501         | .00             | 81.84          | 547.24          |
| 548.00          | 95.43          | 2.014            | .4601         | .00             | 95.43          | 582.86          |
| 548.20          | 110.20         | 2.107            | .4701         | .00             | 110.20         | 620.14          |
| 548.40          | 126.05         | 2.202            | .4803         | .00             | 126.05         | 658.99          |
| 548.60          | 142.90         | 2.299            | .4906         | .00             | 142.90         | 699.33          |
| 548.80          | 156.95         | 2.398            | .5010         | .00             | 156.95         | 737.38          |
| 549.00          | 165.49         | 2.500            | .5115         | .00             | 165.49         | 770.42          |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002

Type.... Node: Pond Inflow Summary  
 Name.... DRY BASIN IN  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev..2

Page 7.03  
 Event: 2 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: DRY BASIN IN

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
64K AREAII-DEV    64K AREA II        AREA1-DE.HYG  64K AREA II   Dev..2
RUSTIQUE          RUSTIQUE           AREA1-DE.HYG  RUSTIQUE      Dev..2
=====

```

INFLOWS TO: DRY BASIN IN

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag       ac-ft         hrs           cfs
-----
AREA1-DE.HYG 64K AREA II   Dev..2        1.721         11.9000      30.26
AREA1-DE.HYG RUSTIQUE      Dev..2        1.662         12.1000      17.01

```

TOTAL FLOW INTO: DRY BASIN IN

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag       ac-ft         hrs           cfs
-----
AREA1-DE.HYG DRY BASIN   IN   Dev..2        3.383         11.9000      38.96

```

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002

Type.... Node: Pond Inflow Summary  
 Name.... DRY BASIN IN  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev..2

Page 7.04  
 Event: 2 yr

TOTAL NODE INFLOW...  
 HYG file = J:\0675B\PONDPACK\AREA1-DE.HYG  
 HYG ID = DRY BASIN IN  
 HYG Tag = Dev..2

-----  
 Peak Discharge = 38.96 cfs  
 Time to Peak = 11.9000 hrs  
 HYG Volume = 3.383 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs) |       |       |       |       |
|----------|----------------------------|-------|-------|-------|-------|
| 2.3000   | .00                        | .00   | .00   | .01   | .01   |
| 2.8000   | .02                        | .02   | .03   | .03   | .04   |
| 3.3000   | .05                        | .05   | .06   | .06   | .07   |
| 3.8000   | .08                        | .09   | .10   | .11   | .12   |
| 4.3000   | .13                        | .14   | .15   | .16   | .17   |
| 4.8000   | .18                        | .19   | .21   | .22   | .23   |
| 5.3000   | .24                        | .25   | .27   | .28   | .29   |
| 5.8000   | .30                        | .32   | .33   | .34   | .35   |
| 6.3000   | .37                        | .38   | .39   | .41   | .42   |
| 6.8000   | .43                        | .45   | .46   | .47   | .49   |
| 7.3000   | .50                        | .51   | .53   | .54   | .55   |
| 7.8000   | .57                        | .58   | .59   | .61   | .64   |
| 8.3000   | .67                        | .70   | .74   | .77   | .81   |
| 8.8000   | .85                        | .89   | .94   | .97   | 1.00  |
| 9.3000   | 1.03                       | 1.04  | 1.06  | 1.08  | 1.12  |
| 9.8000   | 1.17                       | 1.23  | 1.29  | 1.36  | 1.45  |
| 10.3000  | 1.54                       | 1.63  | 1.73  | 1.85  | 1.99  |
| 10.8000  | 2.14                       | 2.31  | 2.48  | 2.70  | 3.01  |
| 11.3000  | 3.35                       | 3.73  | 4.15  | 6.74  | 12.54 |
| 11.8000  | 21.35                      | 38.96 | 38.52 | 24.72 | 20.60 |
| 12.3000  | 16.16                      | 11.93 | 8.87  | 6.87  | 5.63  |
| 12.8000  | 4.77                       | 4.15  | 3.69  | 3.35  | 3.09  |
| 13.3000  | 2.87                       | 2.69  | 2.54  | 2.41  | 2.29  |
| 13.8000  | 2.18                       | 2.08  | 1.98  | 1.89  | 1.83  |
| 14.3000  | 1.78                       | 1.73  | 1.69  | 1.65  | 1.62  |
| 14.8000  | 1.58                       | 1.55  | 1.51  | 1.48  | 1.45  |
| 15.3000  | 1.41                       | 1.38  | 1.35  | 1.31  | 1.28  |
| 15.8000  | 1.24                       | 1.21  | 1.18  | 1.15  | 1.13  |
| 16.3000  | 1.11                       | 1.09  | 1.08  | 1.06  | 1.05  |
| 16.8000  | 1.04                       | 1.03  | 1.01  | 1.00  | .99   |
| 17.3000  | .98                        | .97   | .96   | .94   | .93   |
| 17.8000  | .92                        | .91   | .89   | .88   | .87   |
| 18.3000  | .86                        | .85   | .84   | .82   | .81   |

Type.... Node: Pond Inflow Summary  
 Name.... DRY BASIN IN  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev.15

Page 7.06  
 Event: 15 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: DRY BASIN IN

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
64K AREAII-DEV    64K AREA II      AREA1-DE.HYG  64K AREA II   Dev.15
RUSTIQUE          RUSTIQUE         AREA1-DE.HYG  RUSTIQUE      Dev.15
=====
  
```

INFLOWS TO: DRY BASIN IN

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag      ac-ft      hrs      cfs
-----
AREA1-DE.HYG 64K AREA II   Dev.15      2.765      11.9000    47.44
AREA1-DE.HYG RUSTIQUE      Dev.15      2.582      12.1000    25.87
  
```

TOTAL FLOW INTO: DRY BASIN IN

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag      ac-ft      hrs      cfs
-----
AREA1-DE.HYG DRY BASIN   IN   Dev.15      5.347      11.9000    60.84
  
```

/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002



Type.... Node: Pond Inflow Summary  
 Name.... DRY BASIN IN  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev.15

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 Event: 15 yr

TOTAL NODE INFLOW...  
 HYG file = J:\0675B\PONDPACK\AREA1-DE.HYG  
 HYG ID = DRY BASIN IN  
 HYG Tag = Dev.15

-----  
 Peak Discharge = 60.84 cfs  
 Time to Peak = 11.9000 hrs  
 HYG Volume = 5.347 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 1.6000   | .00   | .00   | .01   | .01   | .02   |
| 2.1000   | .03   | .04   | .05   | .06   | .07   |
| 2.6000   | .08   | .10   | .12   | .13   | .15   |
| 3.1000   | .17   | .19   | .20   | .22   | .24   |
| 3.6000   | .26   | .27   | .29   | .31   | .32   |
| 4.1000   | .34   | .36   | .38   | .39   | .41   |
| 4.6000   | .43   | .45   | .47   | .49   | .51   |
| 5.1000   | .53   | .55   | .57   | .59   | .61   |
| 5.6000   | .63   | .65   | .67   | .69   | .71   |
| 6.1000   | .73   | .75   | .77   | .79   | .81   |
| 6.6000   | .83   | .85   | .87   | .89   | .91   |
| 7.1000   | .93   | .95   | .97   | 1.00  | 1.02  |
| 7.6000   | 1.04  | 1.06  | 1.08  | 1.10  | 1.12  |
| 8.1000   | 1.15  | 1.19  | 1.24  | 1.29  | 1.35  |
| 8.6000   | 1.41  | 1.48  | 1.55  | 1.61  | 1.68  |
| 9.1000   | 1.74  | 1.78  | 1.81  | 1.84  | 1.86  |
| 9.6000   | 1.90  | 1.96  | 2.04  | 2.13  | 2.23  |
| 10.1000  | 2.34  | 2.48  | 2.62  | 2.78  | 2.94  |
| 10.6000  | 3.13  | 3.35  | 3.59  | 3.85  | 4.12  |
| 11.1000  | 4.48  | 4.96  | 5.50  | 6.10  | 6.75  |
| 11.6000  | 10.96 | 20.24 | 33.92 | 60.84 | 59.32 |
| 12.1000  | 37.73 | 31.32 | 24.53 | 18.10 | 13.44 |
| 12.6000  | 10.41 | 8.52  | 7.22  | 6.28  | 5.58  |
| 13.1000  | 5.06  | 4.67  | 4.34  | 4.07  | 3.84  |
| 13.6000  | 3.64  | 3.46  | 3.29  | 3.14  | 2.98  |
| 14.1000  | 2.86  | 2.76  | 2.68  | 2.61  | 2.55  |
| 14.6000  | 2.49  | 2.44  | 2.39  | 2.34  | 2.28  |
| 15.1000  | 2.23  | 2.18  | 2.13  | 2.08  | 2.03  |
| 15.6000  | 1.98  | 1.93  | 1.88  | 1.83  | 1.77  |
| 16.1000  | 1.73  | 1.70  | 1.67  | 1.65  | 1.63  |
| 16.6000  | 1.60  | 1.59  | 1.57  | 1.55  | 1.53  |
| 17.1000  | 1.51  | 1.49  | 1.48  | 1.46  | 1.44  |
| 17.6000  | 1.42  | 1.40  | 1.38  | 1.37  | 1.35  |

Type.... Node: Pond Inflow Summary  
 Name.... DRY BASIN IN  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev.25

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: DRY BASIN IN

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
64K AREAII-DEV    64K AREA II      AREA1-DE.HYG  64K AREA II   Dev.25
RUSTIQUE          RUSTIQUE         AREA1-DE.HYG  RUSTIQUE      Dev.25
=====
  
```

```

INFLOWS TO:  DRY BASIN  IN
-----
HYG file      HYG ID          HYG tag        Volume      Peak Time     Peak Flow
              HYG ID          HYG tag        ac-ft       hrs           cfs
-----
AREA1-DE.HYG 64K AREA II   Dev.25         3.075       11.9000      52.45
AREA1-DE.HYG RUSTIQUE       Dev.25         2.853       12.1000      28.46
  
```

```

TOTAL FLOW INTO:  DRY BASIN  IN
-----
HYG file      HYG ID          HYG tag        Volume      Peak Time     Peak Flow
              HYG ID          HYG tag        ac-ft       hrs           cfs
-----
AREA1-DE.HYG DRY BASIN  IN   Dev.25         5.928       11.9000      67.22
  
```

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002

Type.... Node: Pond Inflow Summary  
 Name.... DRY BASIN IN  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev,25

Page 7.10  
 Event: 25 yr

TOTAL NODE INFLOW...  
 HYG file = J:\0675B\PONDPACK\AREA1-DE.HYG  
 HYG ID = DRY BASIN IN  
 HYG Tag = Dev,25

-----  
 Peak Discharge = 67.22 cfs  
 Time to Peak = 11.9000 hrs  
 HYG Volume = 5.928 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |  |
|----------|-------|-------|-------|-------|-------|--|
| 1.5000   | .00   | .00   | .01   | .02   | .03   |  |
| 2.0000   | .04   | .05   | .06   | .07   | .09   |  |
| 2.5000   | .10   | .13   | .15   | .17   | .19   |  |
| 3.0000   | .21   | .23   | .25   | .27   | .29   |  |
| 3.5000   | .31   | .33   | .35   | .36   | .38   |  |
| 4.0000   | .40   | .42   | .44   | .46   | .48   |  |
| 4.5000   | .50   | .52   | .54   | .57   | .59   |  |
| 5.0000   | .61   | .63   | .65   | .68   | .70   |  |
| 5.5000   | .72   | .74   | .76   | .79   | .81   |  |
| 6.0000   | .83   | .85   | .88   | .90   | .92   |  |
| 6.5000   | .94   | .97   | .99   | 1.01  | 1.03  |  |
| 7.0000   | 1.05  | 1.08  | 1.10  | 1.12  | 1.14  |  |
| 7.5000   | 1.17  | 1.19  | 1.21  | 1.23  | 1.25  |  |
| 8.0000   | 1.28  | 1.31  | 1.35  | 1.41  | 1.47  |  |
| 8.5000   | 1.54  | 1.61  | 1.68  | 1.75  | 1.83  |  |
| 9.0000   | 1.91  | 1.97  | 2.01  | 2.05  | 2.08  |  |
| 9.5000   | 2.10  | 2.14  | 2.21  | 2.30  | 2.40  |  |
| 10.0000  | 2.50  | 2.63  | 2.78  | 2.94  | 3.11  |  |
| 10.5000  | 3.29  | 3.50  | 3.75  | 4.02  | 4.30  |  |
| 11.0000  | 4.60  | 5.00  | 5.53  | 6.13  | 6.79  |  |
| 11.5000  | 7.51  | 12.20 | 22.49 | 37.59 | 67.22 |  |
| 12.0000  | 65.39 | 41.53 | 34.45 | 26.98 | 19.90 |  |
| 12.5000  | 14.78 | 11.44 | 9.36  | 7.93  | 6.91  |  |
| 13.0000  | 6.13  | 5.56  | 5.13  | 4.77  | 4.48  |  |
| 13.5000  | 4.23  | 4.00  | 3.80  | 3.62  | 3.45  |  |
| 14.0000  | 3.28  | 3.14  | 3.03  | 2.95  | 2.87  |  |
| 14.5000  | 2.80  | 2.74  | 2.68  | 2.62  | 2.57  |  |
| 15.0000  | 2.51  | 2.45  | 2.40  | 2.34  | 2.28  |  |
| 15.5000  | 2.23  | 2.17  | 2.12  | 2.06  | 2.01  |  |
| 16.0000  | 1.95  | 1.90  | 1.87  | 1.84  | 1.81  |  |
| 16.5000  | 1.79  | 1.76  | 1.74  | 1.72  | 1.70  |  |
| 17.0000  | 1.68  | 1.66  | 1.64  | 1.62  | 1.60  |  |
| 17.5000  | 1.58  | 1.56  | 1.54  | 1.52  | 1.50  |  |

Type.... Node: Pond Inflow Summary  
 Name.... DRY BASIN IN  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag; Dev100

Page 7.12  
 Event: 100 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: DRY BASIN IN

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
64K AREAII-DEV    64K AREA II        AREA1-DE.HYG  64K AREA II   Dev100
RUSTIQUE          RUSTIQUE           AREA1-DE.HYG  RUSTIQUE      Dev100
=====
  
```

INFLOWS TO: DRY BASIN IN

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag        ac-ft         hrs           cfs
-----
AREA1-DE.HYG 64K AREA II   Dev100         4.007         11.9000      67.39
AREA1-DE.HYG RUSTIQUE       Dev100         3.669         12.1000      36.21
  
```

TOTAL FLOW INTO: DRY BASIN IN

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag        ac-ft         hrs           cfs
-----
AREA1-DE.HYG DRY BASIN  IN  Dev100         7.676         11.9000      86.25
  
```

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002

Type.... Node: Pond Inflow Summary  
 Name.... DRY BASIN IN  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev100

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 Event: 100 yr

TOTAL NODE INFLOW...  
 HYG file = J:\0675B\PONDPACK\AREA1-DE.HYG  
 HYG ID = DRY BASIN IN  
 HYG Tag = Dev100

-----  
 Peak Discharge = 86.25 cfs  
 Time to Peak = 11.9000 hrs  
 HYG Volume = 7.676 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs) |       |       |       |       |  |
|----------|----------------------------|-------|-------|-------|-------|--|
| 1.2000   | .00                        | .00   | .01   | .02   | .04   |  |
| 1.7000   | .05                        | .07   | .09   | .11   | .14   |  |
| 2.2000   | .17                        | .20   | .23   | .26   | .29   |  |
| 2.7000   | .32                        | .35   | .37   | .40   | .43   |  |
| 3.2000   | .45                        | .48   | .51   | .53   | .56   |  |
| 3.7000   | .58                        | .60   | .63   | .65   | .68   |  |
| 4.2000   | .70                        | .73   | .76   | .78   | .81   |  |
| 4.7000   | .84                        | .87   | .90   | .92   | .95   |  |
| 5.2000   | .98                        | 1.01  | 1.04  | 1.07  | 1.09  |  |
| 5.7000   | 1.12                       | 1.15  | 1.18  | 1.21  | 1.23  |  |
| 6.2000   | 1.26                       | 1.29  | 1.32  | 1.35  | 1.37  |  |
| 6.7000   | 1.40                       | 1.43  | 1.46  | 1.49  | 1.51  |  |
| 7.2000   | 1.54                       | 1.57  | 1.59  | 1.62  | 1.65  |  |
| 7.7000   | 1.68                       | 1.70  | 1.73  | 1.76  | 1.80  |  |
| 8.2000   | 1.86                       | 1.93  | 2.01  | 2.10  | 2.19  |  |
| 8.7000   | 2.29                       | 2.38  | 2.48  | 2.58  | 2.66  |  |
| 9.2000   | 2.72                       | 2.76  | 2.79  | 2.81  | 2.86  |  |
| 9.7000   | 2.95                       | 3.07  | 3.20  | 3.34  | 3.50  |  |
| 10.2000  | 3.70                       | 3.91  | 4.13  | 4.36  | 4.62  |  |
| 10.7000  | 4.94                       | 5.29  | 5.65  | 6.04  | 6.55  |  |
| 11.2000  | 7.24                       | 8.02  | 8.86  | 9.79  | 15.89 |  |
| 11.7000  | 29.19                      | 48.53 | 86.25 | 83.51 | 52.89 |  |
| 12.2000  | 43.82                      | 34.29 | 25.29 | 18.77 | 14.54 |  |
| 12.7000  | 11.89                      | 10.08 | 8.77  | 7.79  | 7.07  |  |
| 13.2000  | 6.51                       | 6.06  | 5.68  | 5.36  | 5.08  |  |
| 13.7000  | 4.83                       | 4.60  | 4.37  | 4.16  | 3.99  |  |
| 14.2000  | 3.85                       | 3.74  | 3.64  | 3.56  | 3.48  |  |
| 14.7000  | 3.40                       | 3.33  | 3.26  | 3.18  | 3.11  |  |
| 15.2000  | 3.04                       | 2.97  | 2.90  | 2.83  | 2.76  |  |
| 15.7000  | 2.69                       | 2.61  | 2.55  | 2.47  | 2.41  |  |
| 16.2000  | 2.37                       | 2.33  | 2.29  | 2.27  | 2.24  |  |
| 16.7000  | 2.21                       | 2.18  | 2.16  | 2.13  | 2.11  |  |
| 17.2000  | 2.08                       | 2.06  | 2.03  | 2.01  | 1.98  |  |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002

Type.... Pond Routing Summary  
Name.... DRY BASIN OUT Tag: Dev..2  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr Tag: Dev..2

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Event: 2 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = AREA1-DE.HYG - DRY BASIN IN Dev..2  
Outflow HYG file = AREA1-DE.HYG - DRY BASIN OUT Dev..2

Pond Node Data = DRY BASIN  
Pond Volume Data = DRY BASIN  
Pond Outlet Data = DRY BASIN OUTLET

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 541.00 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout= .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 38.96 cfs at 11.9000 hrs  
Peak Outflow = 22.06 cfs at 12.2000 hrs  
-----  
Peak Elevation = 544.13 ft  
Peak Storage = .582 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 3.383  
- Infiltration = .000  
- HYG Vol OUT = 3.383  
- Retained Vol = .000  
-----  
Unrouted Vol = -.000 ac-ft (.000% of Inflow Volume)

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002

Type.... Detention Time  
Name.... DRY BASIN    OUT    Tag: Dev..2  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr    Tag: Dev..2

Page 7.16  
Event: 2 yr

DETENTION TIMES SUMMARY

HYG Dir            = J:\0675B\PONDPACK\  
Inflow HYG file = AREA1-DE.HYG - DRY BASIN    IN Dev..2  
Outflow HYG file = AREA1-DE.HYG - DRY BASIN    OUT Dev..2

Pond Node    Data = DRY BASIN  
Pond Volume Data = DRY BASIN  
Pond Outlet Data = DRY BASIN OUTLET

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt.    =    12.2000 hrs  
Tp, Total Inflow        =    11.9000 hrs  
Peak to Peak            =       .3000 hrs  
  
Qout+Infilt. Centroid    =    13.2598 hrs  
Inflow Centroid         =    13.0655 hrs  
Centroid to Centroid    =       .1943 hrs  
  
Weighted Avg. Plug Time =       .2018 hrs  
Max.Plug Vol. Plug Time =       .2742 hrs  
Max.Inflow Plug Volume =       .320 ac-ft    (From 11.9000 to 12.0000 hrs)  
-----

S/N: 721701406A81    J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767)    Compute Time: 11:22:40    Date: 08-07-2002

Type.... Pond Routed HYG (total out)  
 Name.... DRY BASIN OUT Tag: Dev..2  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev..2

Page 7.17  
 Event: 2 yr

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\AREA1-DE.HYG  
 HYG ID = DRY BASIN OUT  
 HYG Tag = Dev..2

-----  
 Peak Discharge = 22.06 cfs  
 Time to Peak = 12.2000 hrs  
 HYG Volume = 3.383 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 2.3000   | .00   | .00   | .00   | .01   | .01   |
| 2.8000   | .02   | .02   | .03   | .03   | .04   |
| 3.3000   | .04   | .05   | .05   | .06   | .06   |
| 3.8000   | .07   | .08   | .09   | .10   | .11   |
| 4.3000   | .12   | .13   | .14   | .15   | .16   |
| 4.8000   | .18   | .19   | .20   | .21   | .22   |
| 5.3000   | .23   | .25   | .26   | .27   | .28   |
| 5.8000   | .30   | .31   | .32   | .33   | .34   |
| 6.3000   | .36   | .37   | .38   | .40   | .41   |
| 6.8000   | .42   | .44   | .45   | .46   | .48   |
| 7.3000   | .49   | .50   | .52   | .53   | .54   |
| 7.8000   | .56   | .57   | .58   | .60   | .62   |
| 8.3000   | .64   | .67   | .71   | .74   | .77   |
| 8.8000   | .80   | .84   | .88   | .92   | .96   |
| 9.3000   | .99   | 1.01  | 1.03  | 1.05  | 1.08  |
| 9.8000   | 1.12  | 1.16  | 1.21  | 1.27  | 1.34  |
| 10.3000  | 1.42  | 1.51  | 1.60  | 1.69  | 1.78  |
| 10.8000  | 1.90  | 2.03  | 2.18  | 2.34  | 2.55  |
| 11.3000  | 2.80  | 3.05  | 3.33  | 4.00  | 5.69  |
| 11.8000  | 9.30  | 16.18 | 20.30 | 21.96 | 22.06 |
| 12.3000  | 21.54 | 20.42 | 18.76 | 16.70 | 13.86 |
| 12.8000  | 10.70 | 8.63  | 7.10  | 5.96  | 5.15  |
| 13.3000  | 4.50  | 3.97  | 3.54  | 3.20  | 2.93  |
| 13.8000  | 2.67  | 2.45  | 2.28  | 2.14  | 2.03  |
| 14.3000  | 1.94  | 1.86  | 1.80  | 1.75  | 1.70  |
| 14.8000  | 1.66  | 1.61  | 1.57  | 1.53  | 1.49  |
| 15.3000  | 1.46  | 1.43  | 1.39  | 1.36  | 1.32  |
| 15.8000  | 1.29  | 1.26  | 1.22  | 1.19  | 1.16  |
| 16.3000  | 1.14  | 1.12  | 1.10  | 1.08  | 1.07  |
| 16.8000  | 1.06  | 1.04  | 1.03  | 1.02  | 1.01  |
| 17.3000  | 1.00  | .98   | .97   | .96   | .95   |
| 17.8000  | .94   | .92   | .91   | .90   | .89   |
| 18.3000  | .88   | .86   | .85   | .84   | .83   |



Type.... Pond Routing Summary  
Name.... DRY BASIN OUT Tag: Dev.15  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr Tag: Dev.15

Page 7.19  
Event: 15 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = AREA1-DE.HYG - DRY BASIN IN Dev.15  
Outflow HYG file = AREA1-DE.HYG - DRY BASIN OUT Dev.15

Pond Node Data = DRY BASIN  
Pond Volume Data = DRY BASIN  
Pond Outlet Data = DRY BASIN OUTLET

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 541.00 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 60.84 cfs at 11.9000 hrs  
Peak Outflow = 28.88 cfs at 12.2000 hrs  
-----  
Peak Elevation = 545.65 ft  
Peak Storage = 1.065 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 5.347  
- Infiltration = .000  
- HYG Vol OUT = 5.347  
- Retained Vol = .000  
-----  
Unrouted Vol = -.000 ac-ft (.000% of Inflow Volume)

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Type... Detention Time  
Name... DRY BASIN OUT Tag: Dev.15  
File... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr Tag: Dev.15

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Event: 15 yr

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = AREA1-DE.HYG - DRY BASIN IN Dev.15  
Outflow HYG file = AREA1-DE.HYG - DRY BASIN OUT Dev.15

Pond Node Data = DRY BASIN  
Pond Volume Data = DRY BASIN  
Pond Outlet Data = DRY BASIN OUTLET

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 12.2000 hrs  
Tp, Total Inflow = 11.9000 hrs  
Peak to Peak = .3000 hrs

Qout+Infilt. Centroid = 13.1231 hrs  
Inflow Centroid = 12.8734 hrs  
Centroid to Centroid = .2498 hrs

Weighted Avg. Plug Time = .2607 hrs  
Max.Plug Vol. Plug Time = .3596 hrs  
Max.Inflow Plug Volume = .497 ac-ft (From 11.9000 to 12.0000 hrs)  
-----

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002

Type.... Pond Routed HYG (total out)  
 Name.... DRY BASIN     OUT     Tag: Dev.15  
 File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr     Tag: Dev.15

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 Event: 15 yr

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\AREA1-DE.HYG  
 HYG ID   = DRY BASIN     OUT  
 HYG Tag   = Dev.15

-----  
 Peak Discharge =           28.88 cfs  
 Time to Peak   =           12.2000 hrs  
 HYG Volume     =           5.347 ac-ft  
 -----

| Time<br>hrs   | HYDROGRAPH ORDINATES (cfs)        |       |       |       |       |  |
|---|-----------------------------------|-------|-------|-------|-------|--|
|   | Output Time increment = .1000 hrs |       |       |       |       |  |
| Time on left represents time for first value in each row. |                                   |       |       |       |       |  |
| 1.6000  | .00                               | .00   | .00   | .01   | .02   |  |
| 2.1000  | .03                               | .04   | .05   | .06   | .07   |  |
| 2.6000  | .08                               | .09   | .11   | .12   | .14   |  |
| 3.1000  | .16                               | .18   | .20   | .21   | .23   |  |
| 3.6000  | .25                               | .26   | .28   | .30   | .31   |  |
| 4.1000  | .33                               | .34   | .36   | .38   | .40   |  |
| 4.6000  | .42                               | .44   | .45   | .47   | .49   |  |
| 5.1000  | .51                               | .53   | .55   | .57   | .59   |  |
| 5.6000  | .61                               | .63   | .65   | .67   | .69   |  |
| 6.1000  | .71                               | .73   | .75   | .77   | .79   |  |
| 6.6000  | .81                               | .83   | .85   | .87   | .89   |  |
| 7.1000  | .91                               | .93   | .95   | .97   | .99   |  |
| 7.6000  | 1.01                              | 1.03  | 1.05  | 1.07  | 1.09  |  |
| 8.1000  | 1.11                              | 1.14  | 1.18  | 1.22  | 1.28  |  |
| 8.6000  | 1.33                              | 1.39  | 1.46  | 1.52  | 1.59  |  |
| 9.1000  | 1.65                              | 1.70  | 1.74  | 1.77  | 1.80  |  |
| 9.6000  | 1.83                              | 1.87  | 1.92  | 1.99  | 2.06  |  |
| 10.1000   | 2.15                              | 2.26  | 2.38  | 2.51  | 2.65  |  |
| 10.6000   | 2.80                              | 2.95  | 3.11  | 3.31  | 3.52  |  |
| 11.1000   | 3.77                              | 4.07  | 4.43  | 4.84  | 5.31  |  |
| 11.6000   | 6.38                              | 9.37  | 15.54 | 21.26 | 26.09 |  |
| 12.1000   | 28.31                             | 28.88 | 28.80 | 28.11 | 26.91 |  |
| 12.6000   | 25.31                             | 23.42 | 21.30 | 18.99 | 16.53 |  |
| 13.1000   | 13.22                             | 10.26 | 8.35  | 7.02  | 6.04  |  |
| 13.6000   | 5.36                              | 4.82  | 4.39  | 4.02  | 3.72  |  |
| 14.1000   | 3.47                              | 3.26  | 3.09  | 2.95  | 2.83  |  |
| 14.6000   | 2.70                              | 2.61  | 2.53  | 2.46  | 2.40  |  |
| 15.1000   | 2.34                              | 2.29  | 2.23  | 2.18  | 2.13  |  |
| 15.6000   | 2.08                              | 2.03  | 1.98  | 1.93  | 1.88  |  |
| 16.1000   | 1.83                              | 1.78  | 1.74  | 1.71  | 1.68  |  |
| 16.6000   | 1.65                              | 1.62  | 1.60  | 1.58  | 1.56  |  |
| 17.1000   | 1.54                              | 1.52  | 1.50  | 1.48  | 1.46  |  |
| 17.6000   | 1.45                              | 1.43  | 1.41  | 1.39  | 1.37  |  |

Type.... Pond Routing Summary  
Name.... DRY BASIN   OUT   Tag: Dev.25  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr   Tag: Dev.25

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Event: 25 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir           = J:\0675B\PONDPACK\  
Inflow HYG file = AREA1-DE.HYG - DRY BASIN   IN Dev.25  
Outflow HYG file = AREA1-DE.HYG - DRY BASIN   OUT Dev.25

Pond Node   Data = DRY BASIN  
Pond Volume Data = DRY BASIN  
Pond Outlet Data = DRY BASIN OUTLET

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev   =   541.00 ft  
Starting Volume    =       .000 ac-ft  
Starting Outflow   =       .00 cfs  
Starting Infiltr.  =       .00 cfs  
Starting Total Qout=       .00 cfs  
Time Increment    =       .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow       =       67.22 cfs   at   11.9000 hrs  
Peak Outflow      =       31.83 cfs   at   12.2000 hrs  
-----

Peak Elevation    =       546.05 ft  
Peak Storage      =       1.208 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol    =       .000  
+ HYG Vol IN     =       5.928  
- Infiltration   =       .000  
- HYG Vol OUT    =       5.928  
- Retained Vol   =       .000  
-----  
Unrouted Vol    =       -.000 ac-ft (.000% of Inflow Volume)

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Type.... Detention Time  
Name.... DRY BASIN     OUT     Tag: Dev.25  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr     Tag: Dev.25

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Event: 25 yr

DETENTION TIMES SUMMARY

HYG Dir             = J:\0675B\PONDPACK\  
Inflow HYG file = AREA1-DE.HYG - DRY BASIN     IN   Dev.25  
Outflow HYG file = AREA1-DE.HYG - DRY BASIN     OUT  Dev.25

Pond Node    Data = DRY BASIN  
Pond Volume Data = DRY BASIN  
Pond Outlet Data = DRY BASIN OUTLET

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt.     =    12.2000 hrs  
Tp, Total Inflow         =    11.9000 hrs  
Peak to Peak             =       .3000 hrs  
  
Qout+Infilt. Centroid    =    13.0957 hrs  
Inflow Centroid         =    12.8325 hrs  
Centroid to Centroid     =       .2631 hrs  
  
Weighted Avg. Plug Time =       .2749 hrs  
Max.Plug Vol. Plug Time =       .3747 hrs  
Max.Inflow Plug Volume =       .548 ac-ft    (From 11.9000 to 12.0000 hrs)  
-----

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Type.... Pond Routed HYG (total out)  
 Name.... DRY BASIN OUT Tag: Dev.25  
 File.... J:\0675B\PONDPACK\AREAL-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev.25

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 Event: 25 yr

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\AREAL-DE.HYG  
 HYG ID = DRY BASIN OUT  
 HYG Tag = Dev.25

-----  
 Peak Discharge = 31.83 cfs  
 Time to Peak = 12.2000 hrs  
 HYG Volume = 5.928 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 1.5000   | .00   | .00   | .01   | .01   | .02   |
| 2.0000   | .03   | .04   | .06   | .07   | .08   |
| 2.5000   | .09   | .11   | .14   | .16   | .18   |
| 3.0000   | .20   | .22   | .24   | .26   | .28   |
| 3.5000   | .30   | .31   | .33   | .35   | .37   |
| 4.0000   | .39   | .40   | .42   | .44   | .46   |
| 4.5000   | .48   | .51   | .53   | .55   | .57   |
| 5.0000   | .59   | .61   | .64   | .66   | .68   |
| 5.5000   | .70   | .72   | .75   | .76   | .78   |
| 6.0000   | .80   | .82   | .85   | .87   | .89   |
| 6.5000   | .91   | .93   | .96   | .98   | 1.00  |
| 7.0000   | 1.02  | 1.05  | 1.07  | 1.09  | 1.11  |
| 7.5000   | 1.14  | 1.16  | 1.18  | 1.20  | 1.22  |
| 8.0000   | 1.25  | 1.27  | 1.30  | 1.35  | 1.40  |
| 8.5000   | 1.45  | 1.52  | 1.59  | 1.65  | 1.71  |
| 9.0000   | 1.77  | 1.84  | 1.90  | 1.95  | 2.00  |
| 9.5000   | 2.03  | 2.07  | 2.11  | 2.17  | 2.24  |
| 10.0000  | 2.32  | 2.42  | 2.54  | 2.67  | 2.82  |
| 10.5000  | 2.95  | 3.09  | 3.26  | 3.46  | 3.68  |
| 11.0000  | 3.92  | 4.20  | 4.52  | 4.91  | 5.37  |
| 11.5000  | 5.90  | 7.15  | 10.50 | 16.67 | 22.54 |
| 12.0000  | 27.52   | 30.46 | 31.83 | 31.61 | 30.16 |
| 12.5000  | 28.59   | 27.12 | 25.35 | 23.36 | 21.17 |
| 13.0000  | 18.82   | 16.33 | 12.95 | 10.15 | 8.32  |
| 13.5000  | 7.04  | 6.11  | 5.45  | 4.93  | 4.52  |
| 14.0000  | 4.17  | 3.86  | 3.62  | 3.42  | 3.26  |
| 14.5000  | 3.12  | 3.01  | 2.92  | 2.83  | 2.73  |
| 15.0000  | 2.65  | 2.58  | 2.52  | 2.46  | 2.40  |
| 15.5000  | 2.34  | 2.29  | 2.23  | 2.17  | 2.12  |
| 16.0000  | 2.06  | 2.01  | 1.96  | 1.91  | 1.88  |
| 16.5000  | 1.85  | 1.82  | 1.79  | 1.77  | 1.74  |
| 17.0000  | 1.72  | 1.70  | 1.68  | 1.66  | 1.64  |
| 17.5000  | 1.61  | 1.59  | 1.57  | 1.55  | 1.53  |

Type.... Pond Routing Summary  
Name.... DRY BASIN   OUT   Tag: Dev100  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr   Tag: Dev100

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Event: 100 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir            = J:\0675B\PONDPACK\  
Inflow HYG file = AREA1-DE.HYG - DRY BASIN   IN Dev100  
Outflow HYG file = AREA1-DE.HYG - DRY BASIN   OUT Dev100

Pond Node   Data = DRY BASIN  
Pond Volume Data = DRY BASIN  
Pond Outlet Data = DRY BASIN OUTLET

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev   =   541.00 ft  
Starting Volume    =       .000 ac-ft  
Starting Outflow   =       .00 cfs  
Starting Infiltr.  =       .00 cfs  
Starting Total Qout=       .00 cfs  
Time Increment    =       .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow       =    86.25 cfs   at   11.9000 hrs  
Peak Outflow      =    43.53 cfs   at   12.2000 hrs  
-----  
Peak Elevation    =   546.99 ft  
Peak Storage      =       1.574 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol    =       .000  
+ HYG Vol IN     =       7.676  
- Infiltration   =       .000  
- HYG Vol OUT    =       7.676  
- Retained Vol   =       .000  
-----  
Unrouted Vol    =       -.000 ac-ft   (.000% of Inflow Volume)

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Type.... Detention Time  
Name.... DRY BASIN    OUT    Tag: Dev100  
File.... J:\0675B\PONDPACK\AREA1-DEV.PPW  
Storm... TypeII 24hr    Tag: Dev100

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Event: 100 yr

DETENTION TIMES SUMMARY

HYG Dir                = J:\0675B\PONDPACK\  
Inflow HYG file = AREA1-DE.HYG - DRY BASIN    IN Dev100  
Outflow HYG file = AREA1-DE.HYG - DRY BASIN    OUT Dev100

Pond Node    Data = DRY BASIN  
Pond Volume Data = DRY BASIN  
Pond Outlet Data = DRY BASIN OUTLET

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt.    =    12.2000 hrs  
Tp, Total Inflow        =    11.9000 hrs  
Peak to Peak            =       .3000 hrs  
  
Qout+Infilt. Centroid    =    13.0162 hrs  
Inflow Centroid         =    12.7352 hrs  
Centroid to Centroid    =       .2810 hrs  
  
Weighted Avg. Plug Time =       .2934 hrs  
Max.Plug Vol. Plug Time =       .3759 hrs  
Max.Inflow Plug Volume =       .701 ac-ft    (From 11.9000 to 12.0000 hrs)  
-----

S/N: 721701406A81    J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767)        Compute Time: 11:22:40    Date: 08-07-2002



Type... Pond Routed HYG (total out)  
 Name... DRY BASIN OUT Tag: Dev100  
 File... J:\0675B\PONDPACK\AREA1-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev100

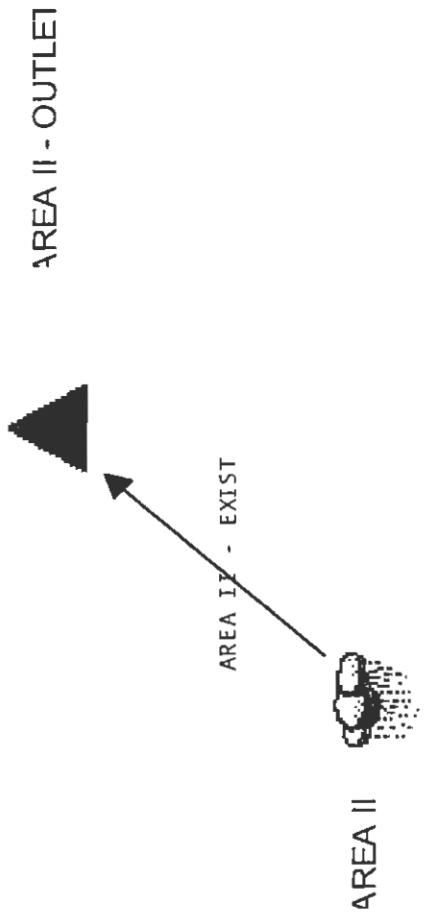
Page 7.29  
 Event: 100 yr

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\AREA1-DE.HYG  
 HYG ID = DRY BASIN OUT  
 HYG Tag = Dev100

-----  
 Peak Discharge = 43.53 cfs  
 Time to Peak = 12.2000 hrs  
 HYG Volume = 7.676 ac-ft  
 -----

| HYDROGRAPH ORDINATES (cfs) |   |       |       |       |       |  |
|----------------------------|---|-------|-------|-------|-------|--|
| Time<br>hrs                | Output Time increment = .1000 hrs                         |       |       |       |       |  |
|                            | Time on left represents time for first value in each row. |       |       |       |       |  |
| 1.2000                     | .00   | .00   | .01   | .02   | .03   |  |
| 1.7000                     | .04   | .06   | .08   | .10   | .12   |  |
| 2.2000                     | .15   | .19   | .22   | .25   | .28   |  |
| 2.7000                     | .30   | .33   | .35   | .38   | .41   |  |
| 3.2000                     | .43   | .46   | .49   | .51   | .54   |  |
| 3.7000                     | .56   | .59   | .61   | .63   | .66   |  |
| 4.2000                     | .68   | .71   | .73   | .76   | .78   |  |
| 4.7000                     | .80   | .83   | .86   | .89   | .91   |  |
| 5.2000                     | .94   | .97   | 1.00  | 1.03  | 1.05  |  |
| 5.7000                     | 1.08  | 1.11  | 1.14  | 1.17  | 1.20  |  |
| 6.2000                     | 1.22  | 1.25  | 1.28  | 1.31  | 1.34  |  |
| 6.7000                     | 1.36  | 1.39  | 1.42  | 1.45  | 1.47  |  |
| 7.2000                     | 1.50  | 1.53  | 1.56  | 1.58  | 1.61  |  |
| 7.7000                     | 1.64  | 1.66  | 1.68  | 1.71  | 1.74  |  |
| 8.2000                     | 1.77  | 1.82  | 1.88  | 1.95  | 2.03  |  |
| 8.7000                     | 2.12  | 2.20  | 2.30  | 2.39  | 2.48  |  |
| 9.2000                     | 2.57  | 2.64  | 2.69  | 2.74  | 2.78  |  |
| 9.7000                     | 2.83  | 2.89  | 2.97  | 3.06  | 3.18  |  |
| 10.2000                    | 3.31  | 3.47  | 3.64  | 3.83  | 4.04  |  |
| 10.7000                    | 4.28  | 4.53  | 4.81  | 5.12  | 5.47  |  |
| 11.2000                    | 5.89  | 6.43  | 7.07  | 7.79  | 9.45  |  |
| 11.7000                    | 14.14   | 19.46 | 25.83 | 33.70 | 41.89 |  |
| 12.2000                    | 43.53   | 42.39 | 39.24 | 35.18 | 31.29 |  |
| 12.7000                    | 28.71   | 27.03 | 25.14 | 23.10 | 20.91 |  |
| 13.2000                    | 18.61   | 16.22 | 12.99 | 10.37 | 8.66  |  |
| 13.7000                    | 7.45  | 6.58  | 5.92  | 5.43  | 5.03  |  |
| 14.2000                    | 4.70  | 4.43  | 4.20  | 4.01  | 3.86  |  |
| 14.7000                    | 3.72  | 3.61  | 3.51  | 3.42  | 3.33  |  |
| 15.2000                    | 3.25  | 3.17  | 3.10  | 3.02  | 2.95  |  |
| 15.7000                    | 2.88  | 2.79  | 2.71  | 2.63  | 2.55  |  |
| 16.2000                    | 2.49  | 2.43  | 2.38  | 2.34  | 2.30  |  |
| 16.7000                    | 2.27  | 2.24  | 2.21  | 2.19  | 2.16  |  |
| 17.2000                    | 2.13  | 2.11  | 2.08  | 2.06  | 2.03  |  |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 11:22:40 Date: 08-07-2002



MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID PERSIMON.RNQ PERSIMMON

| Return Event | Total Depth in | Rainfall Type   | RNF File | RNF ID |      |
|--------------|----------------|-----------------|----------|--------|------|
| Pre..2       | 3.5000         | Synthetic Curve | SCSTYPES | TypeII | 24hr |
| Pre.15       | 5.2000         | Synthetic Curve | SCSTYPES | TypeII | 24hr |
| Pre.25       | 5.7000         | Synthetic Curve | SCSTYPES | TypeII | 24hr |
| Pre100       | 7.2000         | Synthetic Curve | SCSTYPES | TypeII | 24hr |

MASTER NETWORK SUMMARY  
 SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID               | Type | Return Event | HYG Vol ac-ft | Trun | Qpeak hrs | Qpeak cfs | Max WSEL ft | Max Pond Storage ac-ft |
|-----------------------|------|--------------|---------------|------|-----------|-----------|-------------|------------------------|
| AREA II               | AREA | 2            | .462          |      | 12.2000   | 4.48      |             |                        |
| AREA II               | AREA | 15           | 1.019         |      | 12.2000   | 10.62     |             |                        |
| AREA II               | AREA | 25           | 1.201         |      | 12.2000   | 12.60     |             |                        |
| AREA II               | AREA | 100          | 1.781         |      | 12.2000   | 18.82     |             |                        |
| *AREA II - OUTLET JCT |      | 2            | .462          |      | 12.2000   | 4.48      |             |                        |
| *AREA II - OUTLET JCT |      | 15           | 1.019         |      | 12.2000   | 10.62     |             |                        |
| *AREA II - OUTLET JCT |      | 25           | 1.201         |      | 12.2000   | 12.60     |             |                        |
| *AREA II - OUTLET JCT |      | 100          | 1.781         |      | 12.2000   | 18.82     |             |                        |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 11:41:24 Date: 08-07-2002

Type... Tc Calcs  
Name... AREA II - EX. TC

File... J:\0675B\PONDPACK\RESTORE\AREA2-EXIST.PPW  
Title... AREA II - EXISTING Tc

TIME OF CONCENTRATION CALCULATOR

AREA II - EXISTING Tc

Segment #1: Tc: TR-55 Sheet  
Description: SEGMENT A

Mannings n .2400  
Hydraulic Length 300.00 ft  
2yr, 24hr P 3.5000 in  
Slope .036700 ft/ft

Avg.Velocity .19 ft/sec

Segment #1 Time: .4296 hrs

Segment #2: Tc: TR-55 Shallow  
Description: SEGMENT B

Hydraulic Length 339.00 ft  
Slope .076700 ft/ft  
Unpaved

Avg.Velocity 4.47 ft/sec

Segment #2 Time: .0211 hrs

=====  
Total Tc: .4507 hrs  
=====

Type.... Runoff CN-Area  
Name.... AREA II

File.... J:\0675B\PONDPACK\RESTORE\AREA2-EXIST.PPW  
Title... AREA II - RUNOFF CN

RUNOFF CURVE NUMBER DATA

.....

AREA II - RUNOFF CN

-----

| Soil/Surface Description | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|--------------------------|----|---------------|--------------------------|-----|----------------|
|                          |    |               | %C                       | %UC |                |
| PASTURE (SOIL GROUP 'B') | 61 | 2.320         |                          |     | 61.00          |
| PASTURE (SOIL GROUP 'C') | 74 | 3.490         |                          |     | 74.00          |

COMPOSITE AREA & WEIGHTED CN --->                    5.810                    68.81 (69)

.....

S/N: 721701406A81    J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)                    Compute Time: 11:41:24                    Date: 08-07-2002

Type.... SCS Unit Hyd. Summary  
Name.... AREA II Tag: Pre..2  
File.... J:\0675B\PONDPACK\RESTORE\AREA2-EXIST.PPW  
Storm... TypeII 24hr Tag: Pre..2

Page 4.01  
Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\RESTORE\  
HYG File - ID = AREA2-EX.HYG - AREA II Pre..2  
Tc = .4507 hrs  
Drainage Area = 5.810 acres Runoff CN= 69

=====  
Computational Time Increment = .06009 hrs  
Computed Peak Time = 12.1982 hrs  
Computed Peak Flow = 4.49 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.2000 hrs  
Peak Flow, Interpolated Output = 4.48 cfs  
=====

DRAINAGE AREA

-----  
ID:AREA II  
CN = 69  
Area = 5.810 acres  
S = 4.4928 in  
0.2S = .8986 in

Cumulative Runoff

-----  
.9540 in  
.462 ac-ft

HYG Volume... .462 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .45067 hrs (ID: AREA II - EX. Tc)  
Computational Incr, Tm = .06009 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 14.61 cfs  
Unit peak time Tp = .30045 hrs  
Unit receding limb, Tr = 1.20180 hrs  
Total unit time, Tb = 1.50224 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... AREA II Tag: Pre..2  
 File.... J:\0675B\PONDPACK\RESTORE\AREA2-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre..2

Page 4.02  
 Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\RESTORE\  
 HYG File - ID = AREA2-EX.HYG - AREA II Pre..2  
 Tc = .4507 hrs  
 Drainage Area = 5.810 acres Runoff CN= 69  
 Calc.Increment= .06009 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .462 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |      |      |      |      |
|----------|---|------|------|------|------|
|          | Time on left represents time for first value in each row. |      |      |      |      |
| 11.3000  | .00   | .00  | .01  | .03  | .12  |
| 11.8000  | .39   | 1.12 | 2.58 | 4.01 | 4.48 |
| 12.3000  | 3.84  | 2.94 | 2.22 | 1.75 | 1.41 |
| 12.8000  | 1.16  | 1.00 | .88  | .79  | .72  |
| 13.3000  | .67   | .62  | .59  | .56  | .53  |
| 13.8000  | .51   | .48  | .46  | .44  | .43  |
| 14.3000  | .41   | .40  | .39  | .38  | .37  |
| 14.8000  | .37   | .36  | .35  | .35  | .34  |
| 15.3000  | .33   | .33  | .32  | .31  | .30  |
| 15.8000  | .30   | .29  | .28  | .28  | .27  |
| 16.3000  | .26   | .26  | .26  | .25  | .25  |
| 16.8000  | .25   | .25  | .24  | .24  | .24  |
| 17.3000  | .24   | .23  | .23  | .23  | .23  |
| 17.8000  | .22   | .22  | .22  | .22  | .21  |
| 18.3000  | .21   | .21  | .21  | .20  | .20  |
| 18.8000  | .20   | .19  | .19  | .19  | .19  |
| 19.3000  | .18   | .18  | .18  | .18  | .17  |
| 19.8000  | .17   | .17  | .16  | .16  | .16  |
| 20.3000  | .16   | .16  | .15  | .15  | .15  |
| 20.8000  | .15   | .15  | .15  | .15  | .15  |
| 21.3000  | .15   | .15  | .15  | .15  | .15  |
| 21.8000  | .15   | .15  | .15  | .15  | .15  |
| 22.3000  | .15   | .14  | .14  | .14  | .14  |
| 22.8000  | .14   | .14  | .14  | .14  | .14  |
| 23.3000  | .14   | .14  | .14  | .14  | .14  |
| 23.8000  | .14   | .14  | .14  | .13  | .11  |
| 24.3000  | .08   | .05  | .03  | .02  | .01  |
| 24.8000  | .01   | .00  | .00  | .00  |      |

Type... SCS Unit Hyd. Summary  
Name... AREA II Tag: Pre.15  
File... J:\0675B\PONDPACK\RESTORE\AREA2-EXIST.PPW  
Storm... TypeII 24hr Tag: Pre.15

Page 4.03  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\RESTORE\  
HYG File - ID = AREA2-EX.HYG - AREA II Pre.15  
Tc = .4507 hrs  
Drainage Area = 5.810 acres Runoff CN= 69

=====  
Computational Time Increment = .06009 hrs  
Computed Peak Time = 12.1381 hrs  
Computed Peak Flow = 10.69 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.2000 hrs  
Peak Flow, Interpolated Output = 10.62 cfs  
=====

DRAINAGE AREA

-----  
ID:AREA II  
CN = 69  
Area = 5.810 acres  
S = 4.4928 in  
0.2S = .8986 in

Cumulative Runoff

-----  
2.1039 in  
1.019 ac-ft

HYG Volume... 1.019 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .45067 hrs (ID: AREA II - EX. Tc)  
Computational Incr, Tm = .06009 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 14.61 cfs  
Unit peak time Tp = .30045 hrs  
Unit receding limb, Tr = 1.20180 hrs  
Total unit time, Tb = 1.50224 hrs



Type.... SCS Unit Hyd. (HYG output)  
 Name.... AREA II Tag: Pre.15  
 File.... J:\0675B\PONDPACK\RESTORE\AREA2-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre.15

Page 4.04  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\RESTORE\  
 HYG File - ID = AREA2-EX.HYG - AREA II Pre.15  
 Tc = .4507 hrs  
 Drainage Area = 5.810 acres Runoff CN= 69  
 Calc.Increment= .06009 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.019 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |      |       |       |      |
|----------|---|------|-------|-------|------|
|          | Time on left represents time for first value in each row. |      |       |       |      |
| 9.9000   | .00   | .00  | .01   | .01   | .02  |
| 10.4000  | .03   | .05  | .06   | .08   | .10  |
| 10.9000  | .13   | .16  | .19   | .23   | .28  |
| 11.4000  | .34   | .42  | .55   | .90   | 1.81 |
| 11.9000  | 3.77  | 7.14 | 10.05 | 10.62 | 8.79 |
| 12.4000  | 6.55  | 4.85 | 3.76  | 2.97  | 2.41 |
| 12.9000  | 2.04  | 1.78 | 1.59  | 1.44  | 1.32 |
| 13.4000  | 1.23  | 1.16 | 1.10  | 1.04  | .99  |
| 13.9000  | .95   | .90  | .86   | .83   | .79  |
| 14.4000  | .77   | .75  | .73   | .72   | .70  |
| 14.9000  | .69   | .68  | .66   | .65   | .64  |
| 15.4000  | .62   | .61  | .59   | .58   | .57  |
| 15.9000  | .55   | .54  | .53   | .51   | .50  |
| 16.4000  | .49   | .49  | .48   | .47   | .47  |
| 16.9000  | .46   | .46  | .45   | .45   | .44  |
| 17.4000  | .44   | .43  | .43   | .42   | .42  |
| 17.9000  | .41   | .41  | .40   | .40   | .39  |
| 18.4000  | .39   | .38  | .38   | .37   | .37  |
| 18.9000  | .36   | .36  | .35   | .35   | .34  |
| 19.4000  | .34   | .33  | .33   | .32   | .32  |
| 19.9000  | .31   | .31  | .30   | .30   | .29  |
| 20.4000  | .29   | .29  | .29   | .28   | .28  |
| 20.9000  | .28   | .28  | .28   | .28   | .28  |
| 21.4000  | .28   | .28  | .27   | .27   | .27  |
| 21.9000  | .27   | .27  | .27   | .27   | .27  |
| 22.4000  | .27   | .27  | .27   | .26   | .26  |
| 22.9000  | .26   | .26  | .26   | .26   | .26  |
| 23.4000  | .26   | .26  | .26   | .25   | .25  |
| 23.9000  | .25   | .25  | .24   | .20   | .14  |
| 24.4000  | .08   | .05  | .03   | .02   | .01  |
| 24.9000  | .01   | .00  | .00   | .00   |      |

Type... SCS Unit Hyd. Summary  
Name... AREA II Tag: Pre.25  
File... J:\0675B\PONDPACK\RESTORE\AREA2-EXIST.PPW  
Storm... TypeII 24hr Tag: Pre.25

Page 4.05  
Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\RESTORE\  
HYG File - ID = AREA2-EX.HYG - AREA II Pre.25  
Tc = .4507 hrs  
Drainage Area = 5.810 acres Runoff CN= 69

=====  
Computational Time Increment = .06009 hrs  
Computed Peak Time = 12.1381 hrs  
Computed Peak Flow = 12.75 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.2000 hrs  
Peak Flow, Interpolated Output = 12.60 cfs  
=====

DRAINAGE AREA

-----  
ID:AREA II  
CN = 69  
Area = 5.810 acres  
S = 4.4928 in  
0.2S = .8986 in

Cumulative Runoff

-----  
2.4805 in  
1.201 ac-ft

HYG Volume... 1.201 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .45067 hrs (ID: AREA II - EX. Tc)  
Computational Incr, Tm = .06009 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 14.61 cfs  
Unit peak time Tp = .30045 hrs  
Unit receding limb, Tr = 1.20180 hrs  
Total unit time, Tb = 1.50224 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 11:41:24 Date: 08-07-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... AREA II Tag: Pre.25  
 File.... J:\0675B\PONDPACK\RESTORE\AREA2-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre.25

Page 4.06  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\RESTORE\  
 HYG File - ID = AREA2-EX.HYG - AREA II Pre.25  
 Tc = .4507 hrs  
 Drainage Area = 5.810 acres Runoff CN= 69  
 Calc.Increment= .06009 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.201 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |      |
|----------|---|-------|-------|-------|------|
|          | Time on left represents time for first value in each row. |       |       |       |      |
| 9.5000   | .00   | .00   | .01   | .01   | .02  |
| 10.0000  | .03   | .04   | .06   | .07   | .09  |
| 10.5000  | .11   | .13   | .15   | .18   | .21  |
| 11.0000  | .25   | .29   | .34   | .41   | .49  |
| 11.5000  | .59   | .75   | 1.19  | 2.30  | 4.68 |
| 12.0000  | 8.66  | 12.02 | 12.60 | 10.37 | 7.71 |
| 12.5000  | 5.68  | 4.39  | 3.46  | 2.80  | 2.37 |
| 13.0000  | 2.06  | 1.84  | 1.67  | 1.52  | 1.42 |
| 13.5000  | 1.33  | 1.26  | 1.20  | 1.14  | 1.09 |
| 14.0000  | 1.04  | .99   | .95   | .91   | .88  |
| 14.5000  | .86   | .84   | .82   | .81   | .79  |
| 15.0000  | .77   | .76   | .74   | .73   | .71  |
| 15.5000  | .70   | .68   | .67   | .65   | .63  |
| 16.0000  | .62   | .60   | .59   | .57   | .56  |
| 16.5000  | .55   | .55   | .54   | .54   | .53  |
| 17.0000  | .52   | .52   | .51   | .51   | .50  |
| 17.5000  | .50   | .49   | .48   | .48   | .47  |
| 18.0000  | .47   | .46   | .46   | .45   | .44  |
| 18.5000  | .44   | .43   | .43   | .42   | .41  |
| 19.0000  | .41   | .40   | .40   | .39   | .38  |
| 19.5000  | .38   | .37   | .37   | .36   | .35  |
| 20.0000  | .35   | .34   | .34   | .33   | .33  |
| 20.5000  | .33   | .32   | .32   | .32   | .32  |
| 21.0000  | .32   | .32   | .32   | .32   | .32  |
| 21.5000  | .31   | .31   | .31   | .31   | .31  |
| 22.0000  | .31   | .31   | .31   | .31   | .30  |
| 22.5000  | .30   | .30   | .30   | .30   | .30  |
| 23.0000  | .30   | .30   | .29   | .29   | .29  |
| 23.5000  | .29   | .29   | .29   | .29   | .29  |
| 24.0000  | .28   | .27   | .22   | .16   | .09  |
| 24.5000  | .05   | .03   | .02   | .01   | .01  |
| 25.0000  | .00   | .00   | .00   |       |      |

Type.... SCS Unit Hyd. Summary  
Name.... AREA II Tag: Pre100  
File.... J:\0675B\PONDPACK\RESTORE\AREA2-EXIST.PPW  
Storm... TypeII 24hr Tag: Pre100

Page 4.07  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\RESTORE\  
HYG File - ID = AREA2-EX.HYG - AREA II Pre100  
Tc = .4507 hrs  
Drainage Area = 5.810 acres Runoff CN= 69

=====  
Computational Time Increment = .06009 hrs  
Computed Peak Time = 12.1381 hrs  
Computed Peak Flow = 19.22 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.2000 hrs  
Peak Flow, Interpolated Output = 18.82 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%  
=====

DRAINAGE AREA

-----  
ID:AREA II  
CN = 69  
Area = 5.810 acres  
S = 4.4928 in  
0.2S = .8986 in

Cumulative Runoff

-----  
3.6787 in  
1.781 ac-ft

HYG Volume... 1.781 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .45067 hrs (ID: AREA II - EX. Tc)  
Computational Incr, Tm = .06009 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also,  $K = 2 / (1 + (Tr/Tp))$ )  
Receding/Rising, Tr/Tp = 1.6698 (solved from  $K = .7491$ )

Unit peak, qp = 14.61 cfs  
Unit peak time Tp = .30045 hrs  
Unit receding limb, Tr = 1.20180 hrs  
Total unit time, Tb = 1.50224 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... AREA II Tag: Pre100  
 File.... J:\0675B\PONDPACK\RESTORE\AREA2-EXIST.PPW  
 Storm... TypeII 24hr Tag: Pre100

Page 4.08  
 Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

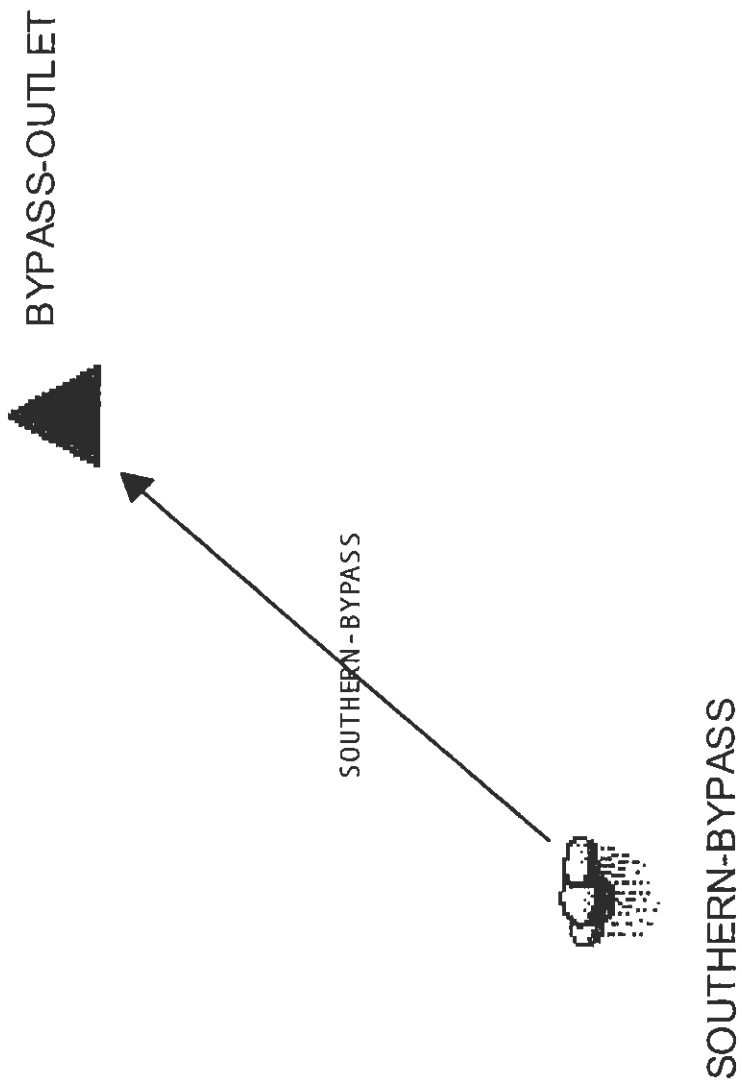
STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\RESTORE\  
 HYG File - ID = AREA2-EX.HYG - AREA II Pre100  
 Tc = .4507 hrs  
 Drainage Area = 5.810 acres Runoff CN= 69  
 Calc.Increment= .06009 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.781 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 8.4000   | .00   | .00   | .01   | .02   | .02   |
| 8.9000   | .03   | .04   | .06   | .07   | .08   |
| 9.4000   | .10   | .11   | .12   | .13   | .15   |
| 9.9000   | .17   | .19   | .21   | .23   | .26   |
| 10.4000  | .29   | .32   | .36   | .40   | .45   |
| 10.9000  | .51   | .57   | .65   | .73   | .84   |
| 11.4000  | .97   | 1.14  | 1.41  | 2.14  | 3.94  |
| 11.9000  | 7.62  | 13.52 | 18.26 | 18.82 | 15.34 |
| 12.4000  | 11.30   | 8.27  | 6.34  | 4.96  | 4.00  |
| 12.9000  | 3.37  | 2.92  | 2.59  | 2.34  | 2.14  |
| 13.4000  | 1.98  | 1.87  | 1.77  | 1.67  | 1.59  |
| 13.9000  | 1.52  | 1.45  | 1.38  | 1.32  | 1.27  |
| 14.4000  | 1.23  | 1.20  | 1.17  | 1.14  | 1.12  |
| 14.9000  | 1.10  | 1.07  | 1.05  | 1.03  | 1.01  |
| 15.4000  | .99   | .96   | .94   | .92   | .90   |
| 15.9000  | .88   | .85   | .83   | .81   | .79   |
| 16.4000  | .78   | .77   | .76   | .75   | .74   |
| 16.9000  | .73   | .72   | .71   | .71   | .70   |
| 17.4000  | .69   | .68   | .67   | .67   | .66   |
| 17.9000  | .65   | .64   | .63   | .63   | .62   |
| 18.4000  | .61   | .60   | .59   | .58   | .58   |
| 18.9000  | .57   | .56   | .55   | .54   | .54   |
| 19.4000  | .53   | .52   | .51   | .50   | .49   |
| 19.9000  | .49   | .48   | .47   | .46   | .46   |
| 20.4000  | .45   | .45   | .44   | .44   | .44   |
| 20.9000  | .44   | .44   | .44   | .43   | .43   |
| 21.4000  | .43   | .43   | .43   | .43   | .42   |
| 21.9000  | .42   | .42   | .42   | .42   | .42   |
| 22.4000  | .42   | .41   | .41   | .41   | .41   |
| 22.9000  | .41   | .41   | .40   | .40   | .40   |
| 23.4000  | .40   | .40   | .40   | .39   | .39   |
| 23.9000  | .39   | .39   | .37   | .31   | .21   |
| 24.4000  | .13   | .07   | .04   | .02   | .01   |
| 24.9000  | .01   | .00   | .00   | .00   | .00   |



MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID PERSIMON.RNQ PERSIMMON

| Return Event | Total Depth<br>in | Rainfall<br>Type | RNF File | RNF ID      |
|--------------|-------------------|------------------|----------|-------------|
| Dev..2       | 3.5000            | Synthetic Curve  | SCSTYPES | TypeII 24hr |
| Dev.15       | 5.2000            | Synthetic Curve  | SCSTYPES | TypeII 24hr |
| Dev.25       | 5.7000            | Synthetic Curve  | SCSTYPES | TypeII 24hr |
| Dev100       | 7.2000            | Synthetic Curve  | SCSTYPES | TypeII 24hr |

MASTER NETWORK SUMMARY  
SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion;)  
(Trun= HYG Truncation; Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID         | Type | Return Event | HYG Vol<br>ac-ft | Trun | Qpeak<br>hrs | Qpeak<br>cfs | Max WSEL<br>ft | Max<br>Pond Storage<br>ac-ft |
|-----------------|------|--------------|------------------|------|--------------|--------------|----------------|------------------------------|
| * ASS-OUTLET    | JCT  | 2            | .266             |      | 12.1000      | 3.14         |                |                              |
| *BYPASS-OUTLET  | JCT  | 15           | .506             |      | 12.1000      | 6.06         |                |                              |
| *BYPASS-OUTLET  | JCT  | 25           | .580             |      | 12.1000      | 6.95         |                |                              |
| *BYPASS-OUTLET  | JCT  | 100          | .811             |      | 12.1000      | 9.67         |                |                              |
| SOUTHERN-BYPASS | AREA | 2            | .266             |      | 12.1000      | 3.14         |                |                              |
| SOUTHERN-BYPASS | AREA | 15           | .506             |      | 12.1000      | 6.06         |                |                              |
| SOUTHERN-BYPASS | AREA | 25           | .580             |      | 12.1000      | 6.95         |                |                              |
| SOUTHERN-BYPASS | AREA | 100          | .811             |      | 12.1000      | 9.67         |                |                              |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 17:17:30

Date: 08-07-2002

Type.... Tc Calcs  
Name.... SOUTHERN-BYPASS

File.... J:\0675B\PONDPACK\RESTORE\AREA3-DEV.PPW  
Title... SOUTHERN BYPASS - DEVELOPED Tc

.....  
TIME OF CONCENTRATION CALCULATOR  
.....

SOUTHERN BYPASS - DEVELOPED Tc  
-----

Segment #1: Tc: TR-55 Sheet  
Description: SEGMENT 'A'

Mannings n           .2400  
Hydraulic Length    300.00 ft  
2yr, 24hr P         3.5000 in  
Slope                .050000 ft/ft

Avg.Velocity         .22 ft/sec

Segment #1 Time:     .3796 hrs  
-----

=====  
Total Tc:            .3796 hrs  
=====

^/N: 721701406A81    J R GRIMES CONSULTING  
ndPack Ver: 7.5 (767)        Compute Time: 17:17:30    Date: 08-07-2002



Type.... Runoff CN-Area  
Name.... SOUTHERN-BYPASS

File.... J:\0675B\PONDPACK\RESTORE\AREA3-DEV.PPW  
Title... SOUTHERN BYPASS - DEVELOPED RUNOFF CN

UNOFF CURVE NUMBER DATA

.....

SOUTHERN BYPASS - DEVELOPED RUNOFF CN

-----

| Soil/Surface Description | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|--------------------------|----|---------------|--------------------------|-----|----------------|
|                          |    |               | %C                       | %UC |                |
| PAVEMENT/ROOFS           | 98 | .450          |                          |     | 98.00          |
| GRASS (SOIL GROUP 'C')   | 74 | 1.590         |                          |     | 74.00          |

COMPOSITE AREA & WEIGHTED CN --->                    2.040                    79.29 (79)

.....

S/N: 721701406A81    J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 17:17:30

Date: 08-07-2002

Type.... SCS Unit Hyd. Summary  
Name.... SOUTHERN-BYPASS Tag: Dev..2  
File.... J:\0675B\PONDPACK\RESTORE\AREA3-DEV.PPW  
Storm... TypeII 24hr Tag: Dev..2

Page 4.01  
Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\RESTORE\  
HYG File - ID = - SOUTHERN-BYPASS Dev..2  
Tc = .3796 hrs  
Drainage Area = 2.040 acres Runoff CN= 79

=====  
Computational Time Increment = .05062 hrs  
Computed Peak Time = 12.0970 hrs  
Computed Peak Flow = 3.14 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 3.14 cfs  
=====

DRAINAGE AREA

-----  
ID:SOUTHERN-BYPASS  
CN = 79  
Area = 2.040 acres  
S = 2.6582 in  
0.2S = .5316 in

Cumulative Runoff

-----  
1.5660 in  
.266 ac-ft

HYG Volume... .266 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .37961 hrs (ID: SOUTHERN-BYPASS)  
Computational Incr, Tm = .05062 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 6.09 cfs  
Unit peak time Tp = .25308 hrs  
Unit receding limb, Tr = 1.01230 hrs  
Total unit time, Tb = 1.26538 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 17:17:30 Date: 08-07-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... SOUTHERN-BYPASS Tag: Dev..2  
 File.... J:\0675B\PONDPACK\RESTORE\AREA3-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev..2

Page 4.02  
 Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\RESTORE\  
 HYG File - ID = - SOUTHERN-BYPASS Dev..2  
 Tc = .3796 hrs  
 Drainage Area = 2.040 acres Runoff CN= 79  
 Calc.Increment= .05062 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .266 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs) |      |      |      |      |
|----------|----------------------------|------|------|------|------|
| 9.4000   | .00                        | .00  | .00  | .01  | .01  |
| 9.9000   | .01                        | .01  | .01  | .02  | .02  |
| 10.4000  | .03                        | .03  | .04  | .04  | .05  |
| 10.9000  | .06                        | .07  | .08  | .09  | .10  |
| 11.4000  | .12                        | .15  | .19  | .32  | .64  |
| 11.9000  | 1.33                       | 2.42 | 3.14 | 2.85 | 2.05 |
| 12.4000  | 1.42                       | 1.05 | .80  | .64  | .53  |
| 12.9000  | .46                        | .41  | .37  | .34  | .32  |
| 13.4000  | .30                        | .28  | .27  | .25  | .24  |
| 13.9000  | .23                        | .22  | .21  | .20  | .20  |
| 14.4000  | .19                        | .19  | .18  | .18  | .17  |
| 14.9000  | .17                        | .17  | .16  | .16  | .16  |
| 15.4000  | .15                        | .15  | .15  | .14  | .14  |
| 15.9000  | .14                        | .13  | .13  | .13  | .12  |
| 16.4000  | .12                        | .12  | .12  | .12  | .12  |
| 16.9000  | .12                        | .11  | .11  | .11  | .11  |
| 17.4000  | .11                        | .11  | .11  | .11  | .10  |
| 17.9000  | .10                        | .10  | .10  | .10  | .10  |
| 18.4000  | .10                        | .10  | .09  | .09  | .09  |
| 18.9000  | .09                        | .09  | .09  | .09  | .08  |
| 19.4000  | .08                        | .08  | .08  | .08  | .08  |
| 19.9000  | .08                        | .08  | .07  | .07  | .07  |
| 20.4000  | .07                        | .07  | .07  | .07  | .07  |
| 20.9000  | .07                        | .07  | .07  | .07  | .07  |
| 21.4000  | .07                        | .07  | .07  | .07  | .07  |
| 21.9000  | .07                        | .07  | .07  | .07  | .07  |
| 22.4000  | .07                        | .07  | .07  | .07  | .07  |
| 22.9000  | .07                        | .06  | .06  | .06  | .06  |
| 23.4000  | .06                        | .06  | .06  | .06  | .06  |
| 23.9000  | .06                        | .06  | .06  | .04  | .03  |
| 24.4000  | .01                        | .01  | .00  | .00  | .00  |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 17:17:30

Date: 08-07-2002

Type.... SCS Unit Hyd. Summary  
Name.... SOUTHERN-BYPASS Tag: Dev.15  
File.... J:\0675B\PONDPACK\RESTORE\AREA3-DEV.PPW  
Storm... TypeII 24hr Tag: Dev.15

Page 4.03  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\RESTORE\  
HYG File - ID = - SOUTHERN-BYPASS Dev.15  
Tc = .3796 hrs  
Drainage Area = 2.040 acres Runoff CN= 79

=====  
Computational Time Increment = .05062 hrs  
Computed Peak Time = 12.0970 hrs  
Computed Peak Flow = 6.07 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 6.06 cfs  
=====

DRAINAGE AREA

-----  
ID: SOUTHERN-BYPASS  
CN = 79  
Area = 2.040 acres  
S = 2.6582 in  
0.2S = .5316 in

Cumulative Runoff

-----  
2.9746 in  
.506 ac-ft

HYG Volume... .506 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .37961 hrs (ID: SOUTHERN-BYPASS)  
Computational Incr, Tm = .05062 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 6.09 cfs  
Unit peak time Tp = .25308 hrs  
Unit receding limb, Tr = 1.01230 hrs  
Total unit time, Tb = 1.26538 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 17:17:30 Date: 08-07-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... SOUTHERN-BYPASS Tag: Dev.15  
 File.... J:\0675B\PONDPACK\RESTORE\AREA3-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev.15

Page 4.04  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\RESTORE\  
 HYG File - ID = ~ SOUTHERN-BYPASS Dev.15  
 Tc = .3796 hrs  
 Drainage Area = 2.040 acres Runoff CN= 79  
 Calc.Increment= .05062 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .506 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs  | Output Time increment = .1000 hrs |      |      |      |      |
|---|-----------------------------------|------|------|------|------|
| Time on left represents time for first value in each row. |                                   |      |      |      |      |
| 7.4000  | .00                               | .00  | .00  | .00  | .01  |
| 7.9000  | .01                               | .01  | .01  | .01  | .02  |
| 8.4000  | .02                               | .02  | .02  | .03  | .03  |
| 8.9000  | .04                               | .04  | .04  | .05  | .05  |
| 9.4000  | .06                               | .06  | .06  | .07  | .07  |
| 9.9000  | .08                               | .08  | .09  | .10  | .11  |
| 10.4000   | .12                               | .13  | .14  | .16  | .17  |
| 10.9000   | .19                               | .21  | .24  | .27  | .30  |
| 11.4000   | .35                               | .40  | .50  | .79  | 1.47 |
| 11.9000   | 2.84                              | 4.86 | 6.06 | 5.37 | 3.82 |
| 12.4000   | 2.61                              | 1.90 | 1.44 | 1.13 | .93  |
| 12.9000   | .80                               | .71  | .64  | .59  | .55  |
| 13.4000   | .52                               | .49  | .46  | .44  | .42  |
| 13.9000   | .40                               | .38  | .36  | .35  | .34  |
| 14.4000   | .33                               | .32  | .31  | .30  | .30  |
| 14.9000   | .29                               | .29  | .28  | .27  | .27  |
| 15.4000   | .26                               | .26  | .25  | .24  | .24  |
| 15.9000   | .23                               | .23  | .22  | .21  | .21  |
| 16.4000   | .21                               | .20  | .20  | .20  | .20  |
| 16.9000   | .19                               | .19  | .19  | .19  | .19  |
| 17.4000   | .18                               | .18  | .18  | .18  | .18  |
| 17.9000   | .17                               | .17  | .17  | .17  | .16  |
| 18.4000   | .16                               | .16  | .16  | .16  | .15  |
| 18.9000   | .15                               | .15  | .15  | .14  | .14  |
| 19.4000   | .14                               | .14  | .14  | .13  | .13  |
| 19.9000   | .13                               | .13  | .12  | .12  | .12  |
| 20.4000   | .12                               | .12  | .12  | .12  | .12  |
| 20.9000   | .12                               | .12  | .12  | .12  | .12  |
| 21.4000   | .11                               | .11  | .11  | .11  | .11  |
| 21.9000   | .11                               | .11  | .11  | .11  | .11  |
| 22.4000   | .11                               | .11  | .11  | .11  | .11  |
| 22.9000   | .11                               | .11  | .11  | .11  | .11  |
| 23.4000   | .11                               | .11  | .11  | .10  | .10  |
| 23.9000   | .10                               | .10  | .10  | .07  | .04  |
| 24.4000   | .02                               | .01  | .01  | .00  | .00  |
| 24.9000   | .00                               |      |      |      |      |

Type.... SCS Unit Hyd. Summary  
Name.... SOUTHERN-BYPASS Tag: Dev.25  
File.... J:\0675B\PONDPACK\RESTORE\AREA3-DEV.PPW  
Storm... TypeII 24hr Tag: Dev.25

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\RESTORE\  
HYG File - ID = - SOUTHERN-BYPASS Dev.25  
Tc = .3796 hrs  
Drainage Area = 2.040 acres Runoff CN= 79

=====  
Computational Time Increment = .05062 hrs  
Computed Peak Time = 12.0970 hrs  
Computed Peak Flow = 6.96 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 6.95 cfs  
=====

DRAINAGE AREA

-----  
ID:SOUTHERN-BYPASS  
CN = 79  
Area = 2.040 acres  
S = 2.6582 in  
0.2S = .5316 in

Cumulative Runoff

-----  
3.4130 in  
.580 ac-ft

HYG Volume... .580 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .37961 hrs (ID: SOUTHERN-BYPASS)  
Computational Incr, Tm = .05062 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 6.09 cfs  
Unit peak time Tp = .25308 hrs  
Unit receding limb, Tr = 1.01230 hrs  
Total unit time, Tb = 1.26538 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... SOUTHERN-BYPASS Tag: Dev.25  
 File.... J:\0675B\PONDPACK\RESTORE\AREA3-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev.25

Page 4.07  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCS TYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\RESTORE\  
 HYG File - ID = - SOUTHERN-BYPASS Dev.25  
 Tc = .3796 hrs  
 Drainage Area = 2.040 acres Runoff CN= 79  
 Calc.Increment= .05062 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .580 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |      |      |      |      |      |
|----------|------|------|------|------|------|
| 6.9000   | .00  | .00  | .00  | .00  | .01  |
| 7.4000   | .01  | .01  | .01  | .01  | .02  |
| 7.9000   | .02  | .02  | .02  | .03  | .03  |
| 8.4000   | .03  | .03  | .04  | .04  | .05  |
| 8.9000   | .05  | .06  | .06  | .07  | .07  |
| 9.4000   | .08  | .08  | .08  | .09  | .09  |
| 9.9000   | .10  | .11  | .12  | .13  | .14  |
| 10.4000  | .15  | .17  | .18  | .20  | .22  |
| 10.9000  | .24  | .26  | .29  | .33  | .37  |
| 11.4000  | .42  | .48  | .60  | .94  | 1.73 |
| 11.9000  | 3.31 | 5.61 | 6.95 | 6.14 | 4.35 |
| 12.4000  | 2.96 | 2.15 | 1.63 | 1.28 | 1.05 |
| 12.9000  | .90  | .80  | .72  | .66  | .62  |
| 13.4000  | .58  | .55  | .52  | .49  | .47  |
| 13.9000  | .45  | .43  | .41  | .39  | .38  |
| 14.4000  | .37  | .36  | .35  | .34  | .33  |
| 14.9000  | .33  | .32  | .31  | .31  | .30  |
| 15.4000  | .29  | .29  | .28  | .27  | .27  |
| 15.9000  | .26  | .25  | .25  | .24  | .24  |
| 16.4000  | .23  | .23  | .23  | .22  | .22  |
| 16.9000  | .22  | .22  | .21  | .21  | .21  |
| 17.4000  | .21  | .20  | .20  | .20  | .20  |
| 17.9000  | .19  | .19  | .19  | .19  | .18  |
| 18.4000  | .18  | .18  | .18  | .17  | .17  |
| 18.9000  | .17  | .17  | .16  | .16  | .16  |
| 19.4000  | .16  | .15  | .15  | .15  | .15  |
| 19.9000  | .14  | .14  | .14  | .14  | .13  |
| 20.4000  | .13  | .13  | .13  | .13  | .13  |
| 20.9000  | .13  | .13  | .13  | .13  | .13  |
| 21.4000  | .13  | .13  | .13  | .13  | .13  |
| 21.9000  | .13  | .13  | .12  | .12  | .12  |
| 22.4000  | .12  | .12  | .12  | .12  | .12  |
| 22.9000  | .12  | .12  | .12  | .12  | .12  |
| 23.4000  | .12  | .12  | .12  | .12  | .12  |
| 23.9000  | .12  | .12  | .11  | .08  | .05  |
| 24.4000  | .03  | .01  | .01  | .00  | .00  |
| 24.9000  | .00  |      |      |      |      |

Type.... SCS Unit Hyd. Summary  
Name.... SOUTHERN-BYPASS Tag: Dev100  
File.... J:\0675B\PONDPACK\RESTORE\AREA3-DEV.PPW  
Storm... TypeII 24hr Tag: Dev100

Page 4.09  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\RESTORE\  
HYG File - ID = - SOUTHERN-BYPASS Dev100  
Tc = .3796 hrs  
Drainage Area = 2.040 acres Runoff CN= 79

=====  
Computational Time Increment = .05062 hrs  
Computed Peak Time = 12.0970 hrs  
Computed Peak Flow = 9.68 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 9.67 cfs  
=====

DRAINAGE AREA

-----  
ID: SOUTHERN-BYPASS  
CN = 79  
Area = 2.040 acres  
S = 2.6582 in  
0.2S = .5316 in

Cumulative Runoff

-----  
4.7678 in  
.811 ac-ft

HYG Volume... .811 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .37961 hrs (ID: SOUTHERN-BYPASS)  
Computational Incr, Tm = .05062 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also,  $K = 2 / (1 + (Tr/Tp))$ )  
Receding/Rising, Tr/Tp = 1.6698 (solved from  $K = .7491$ )

Unit peak, qp = 6.09 cfs  
Unit peak time Tp = .25308 hrs  
Unit receding limb, Tr = 1.01230 hrs  
Total unit time, Tb = 1.26538 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 17:17:30 Date: 08-07-2002



Type.... SCS Unit Hyd. (HYG output)  
 Name.... SOUTHERN-BYPASS Tag: Dev100  
 File.... J:\0675B\PONDPACK\RESTORE\AREA3-DEV.PPW  
 Storm... TypeII 24hr Tag: Dev100

SCS UNIT HYDROGRAPH METHOD

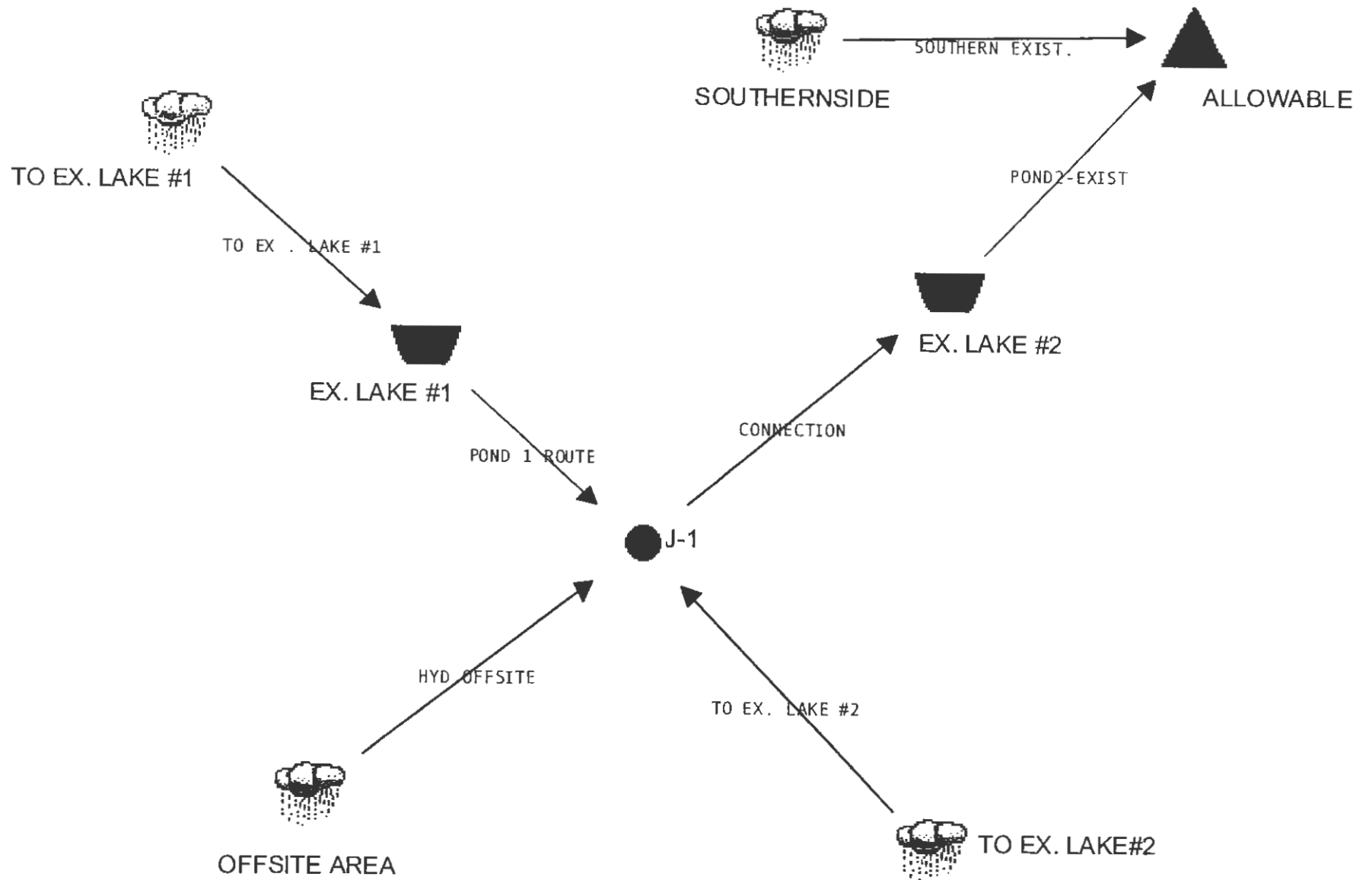
STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\RESTORE\  
 HYG File - ID = - SOUTHERN-BYPASS Dev100  
 Tc = .3796 hrs  
 Drainage Area = 2.040 acres Runoff CN= 79  
 Calc.Increment= .05062 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .811 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |      |      |      |      |
|----------|---|------|------|------|------|
|          | Time on left represents time for first value in each row. |      |      |      |      |
| 5.9000   | .00   | .00  | .00  | .01  | .01  |
| 6.4000   | .01   | .01  | .02  | .02  | .02  |
| 6.9000   | .02   | .03  | .03  | .03  | .04  |
| 7.4000   | .04   | .04  | .05  | .05  | .05  |
| 7.9000   | .06   | .06  | .06  | .07  | .07  |
| 8.4000   | .08   | .08  | .09  | .09  | .10  |
| 8.9000   | .11   | .12  | .13  | .13  | .14  |
| 9.4000   | .15   | .15  | .16  | .16  | .17  |
| 9.9000   | .18   | .19  | .21  | .22  | .24  |
| 10.4000  | .26   | .28  | .30  | .33  | .36  |
| 10.9000  | .39   | .43  | .47  | .52  | .58  |
| 11.4000  | .66   | .75  | .92  | 1.41 | 2.56 |
| 11.9000  | 4.78  | 7.92 | 9.67 | 8.46 | 5.96 |
| 12.4000  | 4.04  | 2.92 | 2.20 | 1.72 | 1.41 |
| 12.9000  | 1.21  | 1.07 | .96  | .88  | .82  |
| 13.4000  | .77   | .73  | .69  | .66  | .62  |
| 13.9000  | .60   | .57  | .54  | .52  | .50  |
| 14.4000  | .49   | .47  | .46  | .45  | .44  |
| 14.9000  | .43   | .43  | .42  | .41  | .40  |
| 15.4000  | .39   | .38  | .37  | .36  | .35  |
| 15.9000  | .34   | .33  | .33  | .32  | .31  |
| 16.4000  | .31   | .30  | .30  | .29  | .29  |
| 16.9000  | .29   | .28  | .28  | .28  | .27  |
| 17.4000  | .27   | .27  | .27  | .26  | .26  |
| 17.9000  | .26   | .25  | .25  | .25  | .24  |
| 18.4000  | .24   | .24  | .23  | .23  | .23  |
| 18.9000  | .22   | .22  | .22  | .21  | .21  |
| 19.4000  | .21   | .20  | .20  | .20  | .19  |
| 19.9000  | .19   | .19  | .18  | .18  | .18  |
| 20.4000  | .18   | .17  | .17  | .17  | .17  |
| 20.9000  | .17   | .17  | .17  | .17  | .17  |
| 21.4000  | .17   | .17  | .17  | .17  | .17  |
| 21.9000  | .17   | .16  | .16  | .16  | .16  |
| 22.4000  | .16   | .16  | .16  | .16  | .16  |
| 22.9000  | .16   | .16  | .16  | .16  | .16  |



MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID EXPERSMN.RNQ EX-STORMS

| Return Event | Total Depth in | Rainfall Type   | RNF File | RNF ID      |
|--------------|----------------|-----------------|----------|-------------|
| Pre..2       | 3.5000         | Synthetic Curve | SCSTYPES | TypeII 24hr |
| Pre.15       | 5.2000         | Synthetic Curve | SCSTYPES | TypeII 24hr |
| Pre.25       | 5.7000         | Synthetic Curve | SCSTYPES | TypeII 24hr |
| Pre100       | 7.2000         | Synthetic Curve | SCSTYPES | TypeII 24hr |

MASTER NETWORK SUMMARY  
 SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID     | Type     | Return Event | HYG Vol ac-ft | Trun | Qpeak hrs | Qpeak cfs | Max WSEL ft | Max Pond Storage ac-ft |
|-------------|----------|--------------|---------------|------|-----------|-----------|-------------|------------------------|
| *ALLOWABLE  | JCT      | 2            | 10.665        |      | 13.8000   | 22.32     |             |                        |
| *ALLOWABLE  | JCT      | 15           | 22.621        |      | 13.5000   | 57.24     |             |                        |
| *ALLOWABLE  | JCT      | 25           | 26.498        |      | 13.3000   | 73.09     |             |                        |
| *ALLOWABLE  | JCT      | 100          | 38.775        |      | 13.0000   | 122.00    |             |                        |
| EX. LAKE #1 | IN POND  | 2            | 1.301         |      | 12.4000   | 8.80      |             |                        |
| EX. LAKE #1 | IN POND  | 15           | 2.975         |      | 12.3000   | 22.78     |             |                        |
| EX. LAKE #1 | IN POND  | 25           | 3.530         |      | 12.3000   | 27.46     |             |                        |
| EX. LAKE #1 | IN POND  | 100          | 5.308         |      | 12.3000   | 42.35     |             |                        |
| EX. LAKE #1 | OUT POND | 2            | 1.301         |      | 13.0000   | 3.45      | 551.46      | .321                   |
| EX. LAKE #1 | OUT POND | 15           | 2.975         |      | 13.3000   | 5.61      | 551.99      | 1.083                  |
| EX. LAKE #1 | OUT POND | 25           | 3.530         |      | 13.3000   | 6.05      | 552.13      | 1.370                  |
| EX. LAKE #1 | OUT POND | 100          | 5.308         |      | 13.5000   | 7.32      | 552.57      | 2.338                  |
| EX. LAKE #2 | IN POND  | 2            | 10.222        |      | 12.7000   | 38.73     |             |                        |
| EX. LAKE #2 | IN POND  | 15           | 21.568        |      | 12.5000   | 88.11     |             |                        |
| EX. LAKE #2 | IN POND  | 25           | 25.240        |      | 12.5000   | 104.19    |             |                        |
| EX. LAKE #2 | IN POND  | 100          | 36.856        |      | 12.5000   | 154.58    |             |                        |
| EX. LAKE #2 | OUT POND | 2            | 10.222        |      | 13.9000   | 21.83     | 523.11      | 2.487                  |
| EX. LAKE #2 | OUT POND | 15           | 21.568        |      | 13.5000   | 56.02     | 524.47      | 5.465                  |
| EX. LAKE #2 | OUT POND | 25           | 25.240        |      | 13.3000   | 71.51     | 524.65      | 5.917                  |

MASTER NETWORK SUMMARY  
 SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID        | Type     | Return Event | HYG Vol ac-ft | Trun | Qpeak hrs | Qpeak cfs | Max WSEL ft | Max Pond Storage ac-ft |
|----------------|----------|--------------|---------------|------|-----------|-----------|-------------|------------------------|
| EX. LAKE #2    | OUT POND | 100          | 36.856        |      | 13.0000   | 119.06    | 525.13      | 7.098                  |
| J-1            | JCT      | 2            | 10.222        |      | 12.7000   | 38.73     |             |                        |
| J-1            | JCT      | 15           | 21.568        |      | 12.5000   | 88.11     |             |                        |
| J-1            | JCT      | 25           | 25.240        |      | 12.5000   | 104.19    |             |                        |
| J-1            | JCT      | 100          | 36.856        |      | 12.5000   | 154.58    |             |                        |
| OFFSITE AREA   | AREA     | 2            | 5.793         |      | 13.0000   | 23.01     |             |                        |
| OFFSITE AREA   | AREA     | 15           | 11.304        |      | 13.0000   | 46.62     |             |                        |
| OFFSITE AREA   | AREA     | 25           | 13.035        |      | 13.0000   | 53.96     |             |                        |
| OFFSITE AREA   | AREA     | 100          | 18.411        |      | 13.0000   | 76.55     |             |                        |
| SOUTHERNSIDE   | AREA     | 2            | .443          |      | 12.2000   | 4.21      |             |                        |
| SOUTHERNSIDE   | AREA     | 15           | 1.053         |      | 12.1000   | 11.59     |             |                        |
| SOUTHERNSIDE   | AREA     | 25           | 1.258         |      | 12.1000   | 14.09     |             |                        |
| SOUTHERNSIDE   | AREA     | 100          | 1.919         |      | 12.1000   | 22.12     |             |                        |
| TO EX. LAKE #1 | AREA     | 2            | 1.301         |      | 12.4000   | 8.80      |             |                        |
| TO EX. LAKE #1 | AREA     | 15           | 2.975         |      | 12.3000   | 22.78     |             |                        |
| TO EX. LAKE #1 | AREA     | 25           | 3.530         |      | 12.3000   | 27.46     |             |                        |
| TO EX. LAKE #1 | AREA     | 100          | 5.308         |      | 12.3000   | 42.35     |             |                        |
| TO EX. LAKE#2  | AREA     | 2            | 3.127         |      | 12.4000   | 19.41     |             |                        |
| TO EX. LAKE#2  | AREA     | 15           | 7.288         |      | 12.4000   | 51.90     |             |                        |
| TO EX. LAKE#2  | AREA     | 25           | 8.676         |      | 12.4000   | 62.70     |             |                        |
| TO EX. LAKE#2  | AREA     | 100          | 13.138        |      | 12.4000   | 97.16     |             |                        |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002

Type.... Tc Calcs  
Name.... EX. SOUTHERN

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... SOUTHERNSIDE - EXISTING TIME OF CONCENTRATION

.....  
TIME OF CONCENTRATION CALCULATOR  
.....

SOUTHERNSIDE - EXISTING TIME OF CONCENTRATION  
-----

Segment #1: Tc: TR-55 Sheet  
Description: SEGMENT 'A'

Mannings n .2400  
Hydraulic Length 300.00 ft  
2yr, 24hr P 3.5000 in  
Slope .060000 ft/ft

Avg.Velocity .24 ft/sec

Segment #1 Time: .3529 hrs  
-----

Segment #2: Tc: TR-55 Shallow  
Description: SEGMENT 'B'

Hydraulic Length 508.00 ft  
Slope .073200 ft/ft  
Unpaved

Avg.Velocity 4.37 ft/sec

Segment #2 Time: .0323 hrs  
-----

=====  
Total Tc: .3852 hrs  
=====

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... OFFSITE TIME OF CONCENTRATION

.....  
TIME OF CONCENTRATION CALCULATOR  
.....

OFFSITE TIME OF CONCENTRATION  
-----

Segment #1: Tc: TR-55 Sheet  
Description: SEGMENT 'A'

Mannings n           .2400  
Hydraulic Length    300.00 ft  
2yr, 24hr P         3.5000 in  
Slope                .010000 ft/ft

Avg.Velocity           .12 ft/sec

Segment #1 Time:       .7227 hrs  
-----

Segment #2: Tc: TR-55 Shallow  
Description: SEGMENT 'B'

Hydraulic Length    750.00 ft  
Slope                .005300 ft/ft  
Unpaved

Avg.Velocity           1.17 ft/sec

Segment #2 Time:       .1774 hrs  
-----

Segment #3: Tc: SCS Lag  
Description: SEGMENT 'C'

Hydraulic Length    1650.00 ft  
Runoff CN            77  
Slope                .010000 ft/ft

Avg.Velocity           .53 ft/sec

Segment #3 Time:       .8658 hrs  
-----

=====  
Total Tc:            1.7659 hrs  
=====

Type.... Tc Calcs  
Name.... TO EX. LAKE #1

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... AREA TO EX. LAKE #1 - Tc

.....  
TIME OF CONCENTRATION CALCULATOR  
.....

AREA TO EX. LAKE #1 - Tc  
-----

Segment #1: Tc: TR-55 Sheet  
Description: SEGMENT 'A'

Mannings n           .2400  
Hydraulic Length    300.00 ft  
2yr, 24hr P         3.5000 in  
Slope                .043300 ft/ft

Avg.Velocity         .21 ft/sec

Segment #1 Time:     .4021 hrs  
-----

Segment #2: Tc: SCS Lag  
Description: SEGMENT 'B'

Hydraulic Length    725.00 ft  
Runoff CN            67  
Slope                .035900 ft/ft

Avg.Velocity         .64 ft/sec

Segment #2 Time:     .3123 hrs  
-----

=====  
Total Tc:            .7144 hrs  
=====

Type.... Tc Calcs  
Name.... TO EX. LAKE #2

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... SEGMENT 'A'

.....  
TIME OF CONCENTRATION CALCULATOR  
.....

SEGMENT 'A'  
-----

Segment #1: Tc: TR-55 Sheet  
Description: SEGMENT 'A'

Mannings n           .2400  
Hydraulic Length    300.00 ft  
2yr, 24hr P         3.5000 in  
Slope                .050000 ft/ft

Avg.Velocity           .22 ft/sec

Segment #1 Time:       .3796 hrs  
-----

Segment #2: Tc: TR-55 Shallow  
Description: SEGMENT 'B'

Hydraulic Length    678.00 ft  
Slope                .053600 ft/ft  
Inpaved

Avg.Velocity           3.74 ft/sec

Segment #2 Time:       .0504 hrs  
-----

Segment #3: Tc: SCS Lag  
Description: SEGMENT 'C'

Hydraulic Length    485.00 ft  
Runoff CN            66  
Slope                .016500 ft/ft

Avg.Velocity           .39 ft/sec

Segment #3 Time:       .3429 hrs  
-----

=====  
Total Tc:             .7729 hrs  
=====



Type.... Runoff CN-Area  
Name.... EX. SOUTHERN

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
'itle... SOUTHERNSIDE - EXISTING CN

RUNOFF CURVE NUMBER DATA

.....

SOUTHERNSIDE - EXISTING CN

-----

| Soil/Surface Description | CN | Area<br>acres | Impervious       |     | Adjusted<br>CN |
|--------------------------|----|---------------|------------------|-----|----------------|
|                          |    |               | Adjustment<br>%C | %UC |                |
| PASTURE (SOIL GROUP 'C') | 74 | 2.300         |                  |     | 74.00          |
| PASTURE (SOIL GROUP 'B') | 61 | 4.770         |                  |     | 61.00          |

COMPOSITE AREA & WEIGHTED CN ---->                    7.070                    65.23 (65)

.....

S/N: 721701406A81    J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767)                    Compute Time: 16:38:53                    Date: 08-06-2002

Type.... Runoff CN-Area  
Name.... OFFSITE AREA

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... OFFSITE RUNOFF CN

RUNOFF CURVE NUMBER DATA

.....

OFFSITE RUNOFF CN

| Soil/Surface Description       | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|--------------------------------|----|---------------|--------------------------|-----|----------------|
|                                |    |               | %C                       | %UC |                |
| EXISTING WOODS(SOIL GROUP 'D') | 77 | 48.600        |                          |     | 77.00          |

COMPOSITE AREA & WEIGHTED CN ---> 48.600 77.00 (77)

.....

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Runoff CN-Area  
Name.... TO EX. LAKE #1

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING CN

RUNOFF CURVE NUMBER DATA

.....

EXISTING CN

---

| Soil/Surface Description | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|--------------------------|----|---------------|--------------------------|-----|----------------|
|                          |    |               | %C                       | %UC |                |
| PASTURE (SOIL GROUP 'C') | 74 | 8.250         |                          |     | 74.00          |
| PASTURE (SOIL GROUP 'B') | 61 | 10.110        |                          |     | 61.00          |

COMPOSITE AREA & WEIGHTED CN --->                    18.360                    66.84 (67)

.....

S/N: 721701406A81    J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002

Type.... Runoff CN-Area  
Name.... TO EX. LAKE #2

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... AREA IV - EXISTING CN

RUNOFF CURVE NUMBER DATA

.....

AREA IV - EXISTING CN

-----

| Soil/Surface Description | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|--------------------------|----|---------------|--------------------------|-----|----------------|
|                          |    |               | %C                       | %UC |                |
| PASTURE (SOIL GROUP 'C') | 74 | 19.370        |                          |     | 74.00          |
| PASTURE (SOIL GROUP 'B') | 61 | 27.530        |                          |     | 61.00          |

COMPOSITE AREA & WEIGHTED CN --->                    46.900                    66.37 (66)

.....

S/N: 721701406A81    J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767)                    Compute Time: 16:38:53                    Date: 08-06-2002

Type.... SCS Unit Hyd. Summary  
Name.... OFFSITE AREA Tag: Pre..2  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Form... TypeII 24hr Tag: Pre..2

Page 4.01  
Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - OFFSITE AREA Pre..2  
Tc = 1.7659 hrs  
Drainage Area = 48.600 acres Runoff CN= 77

=====  
Computational Time Increment = .23545 hrs  
Computed Peak Time = 12.9497 hrs  
Computed Peak Flow = 23.08 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 13.0000 hrs  
Peak Flow, Interpolated Output = 23.01 cfs  
=====

DRAINAGE AREA

-----  
ID:OFFSITE AREA  
CN = 77  
Area = 48.600 acres  
S = 2.9870 in  
0.2S = .5974 in

Cumulative Runoff

-----  
1.4305 in  
5.794 ac-ft

HYG Volume... 5.793 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = 1.76586 hrs (ID: OFFSITE AREA)  
Computational Incr, Tm = .23545 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 31.18 cfs  
Unit peak time Tp = 1.17724 hrs  
Unit receding limb, Tr = 4.70897 hrs  
Total unit time, Tb = 5.88621 hrs

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... OFFSITE AREA Tag: Pre..2  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre..2

Page 4.02  
 Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - OFFSITE AREA Pre..2  
 Tc = 1.7659 hrs  
 Drainage Area = 48.600 acres Runoff CN= 77  
 Calc.Increment= .23545 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 5.793 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 9.9000   | .00   | .00   | .00   | .01   | .01   |
| 10.4000  | .02   | .04   | .05   | .08   | .10   |
| 10.9000  | .14   | .19   | .24   | .31   | .38   |
| 11.4000  | .50   | .61   | .85   | 1.17  | 1.69  |
| 11.9000  | 2.79  | 3.89  | 5.85  | 7.88  | 10.37 |
| 12.4000  | 13.22 | 15.95 | 18.23 | 20.51 | 21.65 |
| 12.9000  | 22.60 | 23.01 | 22.87 | 22.62 | 21.69 |
| 13.4000  | 20.77 | 19.42 | 17.97 | 16.60 | 15.32 |
| 13.9000  | 14.08 | 13.11 | 12.14 | 11.34 | 10.59 |
| 14.4000  | 9.89  | 9.26  | 8.63  | 8.14  | 7.65  |
| 14.9000  | 7.23  | 6.83  | 6.47  | 6.16  | 5.84  |
| 15.4000  | 5.60  | 5.35  | 5.14  | 4.94  | 4.75  |
| 15.9000  | 4.58  | 4.42  | 4.28  | 4.13  | 4.00  |
| 16.4000  | 3.88  | 3.77  | 3.66  | 3.56  | 3.46  |
| 16.9000  | 3.37  | 3.29  | 3.21  | 3.13  | 3.06  |
| 17.4000  | 2.99  | 2.92  | 2.86  | 2.81  | 2.76  |
| 17.9000  | 2.72  | 2.68  | 2.64  | 2.61  | 2.57  |
| 18.4000  | 2.53  | 2.50  | 2.47  | 2.44  | 2.40  |
| 18.9000  | 2.37  | 2.34  | 2.31  | 2.28  | 2.25  |
| 19.4000  | 2.22  | 2.19  | 2.16  | 2.13  | 2.10  |
| 19.9000  | 2.07  | 2.04  | 2.01  | 1.98  | 1.95  |
| 20.4000  | 1.92  | 1.89  | 1.87  | 1.84  | 1.82  |
| 20.9000  | 1.79  | 1.77  | 1.75  | 1.73  | 1.71  |
| 21.4000  | 1.70  | 1.68  | 1.67  | 1.65  | 1.64  |
| 21.9000  | 1.63  | 1.62  | 1.61  | 1.60  | 1.59  |
| 22.4000  | 1.59  | 1.58  | 1.57  | 1.56  | 1.56  |
| 22.9000  | 1.55  | 1.54  | 1.54  | 1.53  | 1.52  |
| 23.4000  | 1.52  | 1.51  | 1.51  | 1.50  | 1.49  |
| 23.9000  | 1.49  | 1.48  | 1.47  | 1.45  | 1.42  |
| 24.4000  | 1.39  | 1.35  | 1.28  | 1.22  | 1.14  |
| 24.9000  | 1.05  | .96   | .87   | .77   | .69   |
| 25.4000  | .60   | .53   | .46   | .40   | .35   |

Type.... SCS Unit Hyd. Summary  
Name.... OFFSITE AREA Tag: Pre.15  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
`form... TypeII 24hr Tag: Pre.15

Page 4.04  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - OFFSITE AREA Pre.15  
Tc = 1.7659 hrs  
Drainage Area = 48.600 acres Runoff CN= 77

=====  
Computational Time Increment = .23545 hrs  
Computed Peak Time = 12.9497 hrs  
Computed Peak Flow = 46.92 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 13.0000 hrs  
Peak Flow, Interpolated Output = 46.62 cfs  
=====

DRAINAGE AREA

-----  
ID:OFFSITE AREA  
CN = 77  
Area = 48.600 acres  
S = 2.9870 in  
0.2S = .5974 in

Cumulative Runoff

-----  
2.7912 in  
11.304 ac-ft

HYG Volume... 11.304 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = 1.76586 hrs (ID: OFFSITE AREA)  
Computational Incr, Tm = .23545 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 31.18 cfs  
Unit peak time Tp = 1.17724 hrs  
Unit receding limb, Tr = 4.70897 hrs  
Total unit time, Tb = 5.88621 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
ondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... OFFSITE AREA Tag: Pre.15  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre.15

Page 4.05  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - OFFSITE AREA Pre.15  
 Tc = 1.7659 hrs  
 Drainage Area = 48.600 acres Runoff CN= 77  
 Calc.Increment= .23545 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 11.304 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs) |       |       |       |       |
|----------|----------------------------|-------|-------|-------|-------|
| 8.0000   | .00                        | .00   | .00   | .01   | .01   |
| 8.5000   | .02                        | .03   | .04   | .06   | .08   |
| 9.0000   | .11                        | .14   | .17   | .21   | .26   |
| 9.5000   | .31                        | .36   | .41   | .48   | .54   |
| 10.0000  | .61                        | .68   | .76   | .85   | .94   |
| 10.5000  | 1.04                       | 1.15  | 1.28  | 1.41  | 1.56  |
| 11.0000  | 1.73                       | 1.91  | 2.14  | 2.36  | 2.67  |
| 11.5000  | 2.99                       | 3.59  | 4.35  | 5.54  | 7.86  |
| 12.0000  | 10.18                      | 14.18 | 18.33 | 23.28 | 28.86 |
| 12.5000  | 34.15                      | 38.40 | 42.66 | 44.59 | 46.15 |
| 13.0000  | 46.62                      | 46.01 | 45.18 | 43.06 | 40.95 |
| 13.5000  | 38.09                      | 35.03 | 32.17 | 29.55 | 26.99 |
| 14.0000  | 25.04                      | 23.08 | 21.45 | 19.95 | 18.54 |
| 14.5000  | 17.28                      | 16.03 | 15.07 | 14.11 | 13.27 |
| 15.0000  | 12.50                      | 11.78 | 11.18 | 10.57 | 10.09 |
| 15.5000  | 9.62                       | 9.21  | 8.83  | 8.46  | 8.15  |
| 16.0000  | 7.84                       | 7.57  | 7.30  | 7.06  | 6.83  |
| 16.5000  | 6.61                       | 6.42  | 6.23  | 6.06  | 5.89  |
| 17.0000  | 5.73                       | 5.59  | 5.44  | 5.31  | 5.18  |
| 17.5000  | 5.06                       | 4.95  | 4.85  | 4.77  | 4.69  |
| 18.0000  | 4.62                       | 4.55  | 4.49  | 4.43  | 4.36  |
| 18.5000  | 4.30                       | 4.24  | 4.19  | 4.13  | 4.07  |
| 19.0000  | 4.02                       | 3.97  | 3.91  | 3.86  | 3.80  |
| 19.5000  | 3.75                       | 3.70  | 3.65  | 3.59  | 3.54  |
| 20.0000  | 3.49                       | 3.44  | 3.39  | 3.34  | 3.29  |
| 20.5000  | 3.24                       | 3.19  | 3.14  | 3.10  | 3.06  |
| 21.0000  | 3.02                       | 2.98  | 2.95  | 2.92  | 2.89  |
| 21.5000  | 2.86                       | 2.84  | 2.82  | 2.80  | 2.78  |
| 22.0000  | 2.76                       | 2.74  | 2.73  | 2.71  | 2.70  |
| 22.5000  | 2.68                       | 2.67  | 2.66  | 2.64  | 2.63  |
| 23.0000  | 2.62                       | 2.61  | 2.60  | 2.59  | 2.58  |
| 23.5000  | 2.56                       | 2.55  | 2.54  | 2.53  | 2.52  |



Type.... SCS Unit Hyd. Summary  
Name.... OFFSITE AREA Tag: Pre.25  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre.25

Page 4.07  
Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - OFFSITE AREA Pre.25  
Tc = 1.7659 hrs  
Drainage Area = 48.600 acres Runoff CN= 77

=====  
Computational Time Increment = .23545 hrs  
Computed Peak Time = 12.9497 hrs  
Computed Peak Flow = 54.34 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 13.0000 hrs  
Peak Flow, Interpolated Output = 53.96 cfs  
=====

DRAINAGE AREA

-----  
ID:OFFSITE AREA  
CN = 77  
Area = 48.600 acres  
S = 2.9870 in  
0.2S = .5974 in

Cumulative Runoff

-----  
3.2185 in  
13.035 ac-ft

HYG Volume... 13.035 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = 1.76586 hrs (ID: OFFSITE AREA)  
Computational Incr, Tm = .23545 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 31.18 cfs  
Unit peak time Tp = 1.17724 hrs  
Unit receding limb, Tr = 4.70897 hrs  
Total unit time, Tb = 5.88621 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... OFFSITE AREA Tag: Pre.25  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre.25

Page 4.08  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - OFFSITE AREA Pre.25  
 Tc = 1.7659 hrs  
 Drainage Area = 48.600 acres Runoff CN= 77  
 Calc.Increment= .23545 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 13.035 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs  | Output Time increment = .1000 hrs |       |       |       |       |
|---|-----------------------------------|-------|-------|-------|-------|
| Time on left represents time for first value in each row. |                                   |       |       |       |       |
| 7.5000  | .00                               | .00   | .00   | .01   | .01   |
| 8.0000  | .02                               | .03   | .04   | .06   | .08   |
| 8.5000  | .10                               | .12   | .15   | .19   | .23   |
| 9.0000  | .27                               | .32   | .38   | .44   | .50   |
| 9.5000  | .57                               | .64   | .71   | .79   | .87   |
| 10.0000   | .96                               | 1.05  | 1.15  | 1.26  | 1.37  |
| 10.5000   | 1.49                              | 1.62  | 1.78  | 1.94  | 2.13  |
| 11.0000   | 2.33                              | 2.55  | 2.82  | 3.09  | 3.47  |
| 11.5000   | 3.85                              | 4.56  | 5.46  | 6.86  | 9.57  |
| 12.0000   | 12.27                             | 16.91 | 21.71 | 27.42 | 33.83 |
| 12.5000   | 39.90                             | 44.75 | 49.60 | 51.77 | 53.49 |
| 13.0000   | 53.96                             | 53.19 | 52.17 | 49.67 | 47.18 |
| 13.5000   | 43.83                             | 40.28 | 36.95 | 33.91 | 30.95 |
| 14.0000   | 28.68                             | 26.42 | 24.53 | 22.79 | 21.16 |
| 14.5000   | 19.72                             | 18.28 | 17.17 | 16.06 | 15.10 |
| 15.0000   | 14.21                             | 13.38 | 12.69 | 11.99 | 11.44 |
| 15.5000   | 10.90                             | 10.43 | 9.99  | 9.58  | 9.22  |
| 16.0000   | 8.86                              | 8.55  | 8.25  | 7.97  | 7.71  |
| 16.5000   | 7.46                              | 7.24  | 7.02  | 6.83  | 6.64  |
| 17.0000   | 6.46                              | 6.29  | 6.13  | 5.98  | 5.83  |
| 17.5000   | 5.70                              | 5.57  | 5.46  | 5.37  | 5.28  |
| 18.0000   | 5.20                              | 5.12  | 5.05  | 4.97  | 4.90  |
| 18.5000   | 4.84                              | 4.77  | 4.71  | 4.64  | 4.58  |
| 19.0000   | 4.52                              | 4.45  | 4.39  | 4.33  | 4.27  |
| 19.5000   | 4.21                              | 4.15  | 4.10  | 4.04  | 3.98  |
| 20.0000   | 3.92                              | 3.86  | 3.80  | 3.75  | 3.69  |
| 20.5000   | 3.63                              | 3.58  | 3.53  | 3.48  | 3.43  |
| 21.0000   | 3.39                              | 3.35  | 3.31  | 3.28  | 3.24  |
| 21.5000   | 3.21                              | 3.19  | 3.16  | 3.14  | 3.11  |
| 22.0000   | 3.10                              | 3.08  | 3.06  | 3.04  | 3.02  |
| 22.5000   | 3.01                              | 2.99  | 2.98  | 2.97  | 2.95  |
| 23.0000   | 2.94                              | 2.92  | 2.91  | 2.90  | 2.89  |

S/N: 721701406A81 J R GRIMES CONSULTING

ondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002

Type... SCS Unit Hyd. Summary  
Name... OFFSITE AREA Tag: Pre100  
File... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre100

Page 4.10  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - OFFSITE AREA Pre100  
Tc = 1.7659 hrs  
Drainage Area = 48.600 acres Runoff CN= 77

=====  
Computational Time Increment = .23545 hrs  
Computed Peak Time = 12.9497 hrs  
Computed Peak Flow = 77.20 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 13.0000 hrs  
Peak Flow, Interpolated Output = 76.55 cfs  
=====

DRAINAGE AREA

-----  
ID:OFFSITE AREA  
CN = 77  
Area = 48.600 acres  
S = 2.9870 in  
0.2S = .5974 in

Cumulative Runoff

-----  
4.5460 in  
18.411 ac-ft

HYG Volume... 18.411 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = 1.76586 hrs (ID: OFFSITE AREA)  
Computational Incr, Tm = .23545 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 31.18 cfs  
Unit peak time Tp = 1.17724 hrs  
Unit receding limb, Tr = 4.70897 hrs  
Total unit time, Tb = 5.88621 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... OFFSITE AREA Tag: Pre100  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre100

Page 4.11  
 Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - OFFSITE AREA Pre100  
 Tc = 1.7659 hrs  
 Drainage Area = 48.600 acres Runoff CN= 77  
 Calc.Increment= .23545 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 18.411 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs) |       |       |       |       |
|----------|----------------------------|-------|-------|-------|-------|
| 6.3000   | .00                        | .00   | .00   | .01   | .01   |
| 6.8000   | .02                        | .03   | .04   | .05   | .08   |
| 7.3000   | .10                        | .13   | .16   | .19   | .23   |
| 7.8000   | .28                        | .32   | .37   | .42   | .48   |
| 8.3000   | .54                        | .60   | .66   | .73   | .80   |
| 8.8000   | .88                        | .96   | 1.04  | 1.14  | 1.24  |
| 9.3000   | 1.35                       | 1.46  | 1.58  | 1.70  | 1.82  |
| 9.8000   | 1.96                       | 2.09  | 2.23  | 2.38  | 2.53  |
| 10.3000  | 2.70                       | 2.87  | 3.07  | 3.27  | 3.52  |
| 10.8000  | 3.76                       | 4.05  | 4.37  | 4.71  | 5.13  |
| 11.3000  | 5.54                       | 6.12  | 6.70  | 7.76  | 9.11  |
| 11.8000  | 11.16                      | 15.05 | 18.94 | 25.52 | 32.33 |
| 12.3000  | 40.36                      | 49.31 | 57.78 | 64.42 | 71.06 |
| 12.8000  | 73.90                      | 76.10 | 76.55 | 75.27 | 73.63 |
| 13.3000  | 69.93                      | 66.24 | 61.42 | 56.31 | 51.55 |
| 13.8000  | 47.23                      | 43.00 | 39.79 | 36.58 | 33.91 |
| 14.3000  | 31.45                      | 29.15 | 27.11 | 25.08 | 23.52 |
| 14.8000  | 21.97                      | 20.62 | 19.38 | 18.22 | 17.25 |
| 15.3000  | 16.28                      | 15.52 | 14.76 | 14.10 | 13.50 |
| 15.8000  | 12.92                      | 12.42 | 11.93 | 11.50 | 11.08 |
| 16.3000  | 10.70                      | 10.35 | 10.01 | 9.70  | 9.40  |
| 16.8000  | 9.14                       | 8.88  | 8.63  | 8.40  | 8.18  |
| 17.3000  | 7.97                       | 7.77  | 7.59  | 7.42  | 7.27  |
| 17.8000  | 7.15                       | 7.03  | 6.92  | 6.81  | 6.71  |
| 18.3000  | 6.62                       | 6.52  | 6.43  | 6.34  | 6.25  |
| 18.8000  | 6.17                       | 6.08  | 6.00  | 5.92  | 5.84  |
| 19.3000  | 5.75                       | 5.67  | 5.59  | 5.52  | 5.44  |
| 19.8000  | 5.36                       | 5.28  | 5.20  | 5.12  | 5.04  |
| 20.3000  | 4.97                       | 4.89  | 4.82  | 4.75  | 4.68  |
| 20.8000  | 4.61                       | 4.55  | 4.49  | 4.44  | 4.38  |
| 21.3000  | 4.34                       | 4.30  | 4.26  | 4.22  | 4.19  |
| 21.8000  | 4.16                       | 4.12  | 4.10  | 4.07  | 4.05  |

Type.... SCS Unit Hyd. Summary  
Name.... SOUTHERNSIDE Tag: Pre..2  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... SOUTHERNSIDE - EXISTING DRAINAGE  
Storm... TypeII 24hr Tag: Pre..2

Page 4.13  
Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - SOUTHERNSIDE Pre..2  
Tc = .3852 hrs  
Drainage Area = 7.070 acres Runoff CN= 65

=====  
Computational Time Increment = .05137 hrs  
Computed Peak Time = 12.1736 hrs  
Computed Peak Flow = 4.37 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.2000 hrs  
Peak Flow, Interpolated Output = 4.21 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

=====

DRAINAGE AREA

-----  
ID:EX. SOUTHERN  
CN = 65  
Area = 7.070 acres  
S = 5.3846 in  
0.2S = 1.0769 in

Cumulative Runoff

-----  
.7520 in  
.443 ac-ft

HYG Volume... .443 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .38524 hrs (ID: EX. SOUTHERN)  
Computational Incr, Tm = .05137 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 20.79 cfs  
Unit peak time Tp = .25683 hrs  
Unit receding limb, Tr = 1.02731 hrs  
Total unit time, Tb = 1.28414 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... SOUTHERNSIDE Tag: Pre..2  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Title... SOUTHERNSIDE - EXISTING DRAINAGE  
 Storm... TypeII 24hr Tag: Pre..2

Page 4.14  
 Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - SOUTHERNSIDE Pre..2  
 Tc = .3852 hrs  
 Drainage Area = 7.070 acres Runoff CN= 65  
 Calc.Increment= .05137 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .443 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |      |      |      |      |
|----------|---|------|------|------|------|
|          | Time on left represents time for first value in each row. |      |      |      |      |
| 11.6000  | .00   | .02  | .19  | .94  | 2.57 |
| 12.1000  | 4.09  | 4.21 | 3.31 | 2.41 | 1.85 |
| 12.6000  | 1.47  | 1.20 | 1.02 | .90  | .81  |
| 13.1000  | .74   | .68  | .64  | .61  | .58  |
| 13.6000  | .55   | .53  | .51  | .48  | .46  |
| 14.1000  | .44   | .43  | .41  | .40  | .39  |
| 14.6000  | .39   | .38  | .37  | .37  | .36  |
| 15.1000  | .35   | .35  | .34  | .33  | .33  |
| 15.6000  | .32   | .31  | .31  | .30  | .29  |
| 16.1000  | .28   | .28  | .27  | .27  | .27  |
| 16.6000  | .26   | .26  | .26  | .26  | .25  |
| 17.1000  | .25   | .25  | .25  | .24  | .24  |
| 17.6000  | .24   | .24  | .23  | .23  | .23  |
| 18.1000  | .22   | .22  | .22  | .22  | .21  |
| 18.6000  | .21   | .21  | .21  | .20  | .20  |
| 19.1000  | .20   | .20  | .19  | .19  | .19  |
| 19.6000  | .18   | .18  | .18  | .18  | .17  |
| 20.1000  | .17   | .17  | .16  | .16  | .16  |
| 20.6000  | .16   | .16  | .16  | .16  | .16  |
| 21.1000  | .16   | .16  | .16  | .16  | .16  |
| 21.6000  | .16   | .16  | .16  | .16  | .16  |
| 22.1000  | .16   | .15  | .15  | .15  | .15  |
| 22.6000  | .15   | .15  | .15  | .15  | .15  |
| 23.1000  | .15   | .15  | .15  | .15  | .15  |
| 23.6000  | .15   | .15  | .15  | .15  | .15  |
| 24.1000  | .14   | .10  | .06  | .03  | .02  |
| 24.6000  | .01   | .00  | .00  | .00  | .00  |

Type.... SCS Unit Hyd. Summary  
Name.... SOUTHERNSIDE Tag: Pre.15  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre.15

Page 4.15  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - SOUTHERNSIDE Pre.15  
Tc = .3852 hrs  
Drainage Area = 7.070 acres Runoff CN= 65

=====  
Computational Time Increment = .05137 hrs  
Computed Peak Time = 12.1222 hrs  
Computed Peak Flow = 11.94 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 11.59 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%  
=====

DRAINAGE AREA

-----  
ID:EX. SOUTHERN  
CN = 65  
Area = 7.070 acres  
S = 5.3846 in  
0.2S = 1.0769 in

Cumulative Runoff

-----  
1.7880 in  
1.053 ac-ft

HYG Volume... 1.053 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .38524 hrs (ID: EX. SOUTHERN)  
Computational Incr, Tm = .05137 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 20.79 cfs  
Unit peak time Tp = .25683 hrs  
Unit receding limb, Tr = 1.02731 hrs  
Total unit time, Tb = 1.28414 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... SOUTHERNSIDE Tag: Pre.15  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre.15

Page 4.16  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - SOUTHERNSIDE Pre.15  
 Tc = .3852 hrs  
 Drainage Area = 7.070 acres Runoff CN= 65  
 Calc.Increment= .05137 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.053 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)                                |       |      |      |      |
|-------------|---|-------|------|------|------|
|             | Output Time increment = .1000 hrs                         |       |      |      |      |
|             | Time on left represents time for first value in each row. |       |      |      |      |
| 10.6000     | .00   | .00   | .01  | .02  | .04  |
| 11.1000     | .07   | .11   | .15  | .21  | .29  |
| 11.6000     | .42   | .81   | 1.85 | 4.34 | 8.49 |
| 12.1000     | 11.59   | 11.04 | 8.29 | 5.85 | 4.35 |
| 12.6000     | 3.37  | 2.70  | 2.24 | 1.95 | 1.74 |
| 13.1000     | 1.58  | 1.45  | 1.36 | 1.28 | 1.22 |
| 13.6000     | 1.16  | 1.10  | 1.05 | 1.00 | .96  |
| 14.1000     | .92   | .88   | .85  | .83  | .81  |
| 14.6000     | .79   | .78   | .76  | .75  | .73  |
| 15.1000     | .72   | .71   | .69  | .68  | .66  |
| 15.6000     | .65   | .63   | .62  | .60  | .59  |
| 16.1000     | .57   | .56   | .55  | .54  | .53  |
| 16.6000     | .53   | .52   | .51  | .51  | .50  |
| 17.1000     | .50   | .49   | .49  | .48  | .48  |
| 17.6000     | .47   | .47   | .46  | .46  | .45  |
| 18.1000     | .44   | .44   | .43  | .43  | .42  |
| 18.6000     | .42   | .41   | .41  | .40  | .39  |
| 19.1000     | .39   | .38   | .38  | .37  | .37  |
| 19.6000     | .36   | .35   | .35  | .34  | .34  |
| 20.1000     | .33   | .33   | .32  | .32  | .32  |
| 20.6000     | .32   | .32   | .31  | .31  | .31  |
| 21.1000     | .31   | .31   | .31  | .31  | .31  |
| 21.6000     | .31   | .30   | .30  | .30  | .30  |
| 22.1000     | .30   | .30   | .30  | .30  | .30  |
| 22.6000     | .30   | .29   | .29  | .29  | .29  |
| 23.1000     | .29   | .29   | .29  | .29  | .29  |
| 23.6000     | .28   | .28   | .28  | .28  | .28  |
| 24.1000     | .26   | .20   | .12  | .06  | .03  |
| 24.6000     | .02   | .01   | .00  | .00  | .00  |
| 25.1000     | .00   |       |      |      |      |



Type.... SCS Unit Hyd. Summary  
Name.... SOUTHERNSIDE Tag: Pre.25  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre.25

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Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - SOUTHERNSIDE Pre.25  
Tc = .3852 hrs  
Drainage Area = 7.070 acres Runoff CN= 65

=====  
Computational Time Increment = .05137 hrs  
Computed Peak Time = 12.1222 hrs  
Computed Peak Flow = 14.47 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 14.09 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%  
=====

DRAINAGE AREA

-----  
ID:EX. SOUTHERN  
CN = 65  
Area = 7.070 acres  
S = 5.3846 in  
0.2S = 1.0769 in

Cumulative Runoff

-----  
2.1356 in  
1.258 ac-ft

HYG Volume... 1.258 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .38524 hrs (ID: EX. SOUTHERN)  
Computational Incr, Tm = .05137 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also,  $K = 2 / (1 + (Tr/Tp))$ )  
Receding/Rising, Tr/Tp = 1.6698 (solved from  $K = .7491$ )

Unit peak, qp = 20.79 cfs  
Unit peak time Tp = .25683 hrs  
Unit receding limb, Tr = 1.02731 hrs  
Total unit time, Tb = 1.28414 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... SOUTHERNSIDE Tag: Pre.25  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 'form... TypeII 24hr Tag: Pre.25

Page 4.18  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - SOUTHERNSIDE Pre.25  
 Tc = .3852 hrs  
 Drainage Area = 7.070 acres Runoff CN= 65  
 Calc.Increment= .05137 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.258 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |      |       |       |       |
|----------|---|------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |      |       |       |       |
|          | Time on left represents time for first value in each row. |      |       |       |       |
| 10.3000  | .00   | .00  | .01   | .03   | .05   |
| 10.8000  | .07   | .10  | .14   | .18   | .23   |
| 11.3000  | .29   | .37  | .47   | .64   | 1.15  |
| 11.8000  | 2.49  | 5.55 | 10.51 | 14.09 | 13.29 |
| 12.3000  | 9.92  | 6.97 | 5.16  | 3.98  | 3.17  |
| 12.8000  | 2.63  | 2.28 | 2.03  | 1.84  | 1.69  |
| 13.3000  | 1.58  | 1.50 | 1.42  | 1.35  | 1.28  |
| 13.8000  | 1.22  | 1.17 | 1.12  | 1.07  | 1.02  |
| 14.3000  | .99   | .96  | .94   | .92   | .90   |
| 14.8000  | .88   | .87  | .85   | .83   | .82   |
| 15.3000  | .80   | .78  | .77   | .75   | .73   |
| 15.8000  | .71   | .70  | .68   | .66   | .64   |
| 16.3000  | .63   | .62  | .61   | .61   | .60   |
| 16.8000  | .59   | .59  | .58   | .58   | .57   |
| 17.3000  | .56   | .56  | .55   | .54   | .54   |
| 17.8000  | .53   | .53  | .52   | .51   | .51   |
| 18.3000  | .50   | .49  | .49   | .48   | .47   |
| 18.8000  | .47   | .46  | .45   | .45   | .44   |
| 19.3000  | .43   | .43  | .42   | .41   | .41   |
| 19.8000  | .40   | .39  | .39   | .38   | .38   |
| 20.3000  | .37   | .37  | .37   | .36   | .36   |
| 20.8000  | .36   | .36  | .36   | .36   | .36   |
| 21.3000  | .35   | .35  | .35   | .35   | .35   |
| 21.8000  | .35   | .35  | .35   | .35   | .34   |
| 22.3000  | .34   | .34  | .34   | .34   | .34   |
| 22.8000  | .34   | .34  | .33   | .33   | .33   |
| 23.3000  | .33   | .33  | .33   | .33   | .33   |
| 23.8000  | .32   | .32  | .32   | .30   | .23   |
| 24.3000  | .14   | .07  | .04   | .02   | .01   |
| 24.8000  | .01   | .00  | .00   | .00   |       |

Type.... SCS Unit Hyd. Summary  
Name.... SOUTHERNSIDE Tag: Pre100  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre100

Page 4.19  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - SOUTHERNSIDE Pre100  
Tc = .3852 hrs  
Drainage Area = 7.070 acres Runoff CN= 65

=====  
Computational Time Increment = .05137 hrs  
Computed Peak Time = 12.1222 hrs  
Computed Peak Flow = 22.59 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 22.12 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

=====

DRAINAGE AREA

-----  
ID:EX. SOUTHERN  
CN = 65  
Area = 7.070 acres  
S = 5.3846 in  
0.2S = 1.0769 in

Cumulative Runoff

-----  
3.2580 in  
1.920 ac-ft

HYG Volume... 1.919 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .38524 hrs (ID: EX. SOUTHERN)  
Computational Incr, Tm = .05137 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 20.79 cfs  
Unit peak time Tp = .25683 hrs  
Unit receding limb, Tr = 1.02731 hrs  
Total unit time, Tb = 1.28414 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... SOUTHERNSIDE Tag: Pre100  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 'form... TypeII 24hr Tag: Pre100

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - SOUTHERNSIDE Pre100  
 Tc = .3852 hrs  
 Drainage Area = 7.070 acres Runoff CN= 65  
 Calc.Increment= .05137 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.919 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Time on left represents time for first value in each row. |       |       |       |       |
|----------|---|-------|-------|-------|-------|
| 9.2000   | .00   | .00   | .01   | .02   | .03   |
| 9.7000   | .04   | .06   | .08   | .10   | .12   |
| 10.2000  | .14   | .17   | .20   | .23   | .27   |
| 10.7000  | .31   | .36   | .42   | .48   | .56   |
| 11.2000  | .65   | .77   | .91   | 1.08  | 1.40  |
| 11.7000  | 2.32  | 4.62  | 9.55  | 17.07 | 22.12 |
| 12.2000  | 20.46   | 15.08 | 10.49 | 7.69  | 5.88  |
| 12.7000  | 4.65  | 3.84  | 3.31  | 2.94  | 2.65  |
| 13.2000  | 2.43  | 2.27  | 2.15  | 2.03  | 1.93  |
| 13.7000  | 1.83  | 1.75  | 1.67  | 1.59  | 1.52  |
| 14.2000  | 1.46  | 1.41  | 1.37  | 1.33  | 1.31  |
| 14.7000  | 1.28  | 1.26  | 1.23  | 1.21  | 1.18  |
| 15.2000  | 1.16  | 1.13  | 1.11  | 1.08  | 1.06  |
| 15.7000  | 1.03  | 1.01  | .98   | .96   | .93   |
| 16.2000  | .91   | .89   | .88   | .86   | .85   |
| 16.7000  | .84   | .84   | .83   | .82   | .81   |
| 17.2000  | .80   | .79   | .78   | .77   | .76   |
| 17.7000  | .76   | .75   | .74   | .73   | .72   |
| 18.2000  | .71   | .70   | .69   | .68   | .67   |
| 18.7000  | .66   | .65   | .65   | .64   | .63   |
| 19.2000  | .62   | .61   | .60   | .59   | .58   |
| 19.7000  | .57   | .56   | .55   | .54   | .53   |
| 20.2000  | .52   | .52   | .51   | .51   | .51   |
| 20.7000  | .51   | .50   | .50   | .50   | .50   |
| 21.2000  | .50   | .49   | .49   | .49   | .49   |
| 21.7000  | .49   | .49   | .48   | .48   | .48   |
| 22.2000  | .48   | .48   | .48   | .47   | .47   |
| 22.7000  | .47   | .47   | .47   | .46   | .46   |
| 23.2000  | .46   | .46   | .46   | .46   | .45   |
| 23.7000  | .45   | .45   | .45   | .45   | .42   |
| 24.2000  | .32   | .19   | .10   | .05   | .03   |
| 24.7000  | .01   | .01   | .00   | .00   | .00   |

Type... SCS Unit Hyd. Summary  
Name... TO EX. LAKE #1 Tag: Pre..2  
File... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING RUNOFF TO EX. LAKE #1  
Storm... TypeII 24hr Tag: Pre..2

Page 4.21  
Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - TO EX. LAKE #1 Pre..2  
Tc = .7144 hrs  
Drainage Area = 18.360 acres Runoff CN= 67

=====  
Computational Time Increment = .09526 hrs  
Computed Peak Time = 12.3836 hrs  
Computed Peak Flow = 8.89 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.4000 hrs  
Peak Flow, Interpolated Output = 8.80 cfs  
=====

DRAINAGE AREA

-----  
ID:TO EX. LAKE #1  
CN = 67  
Area = 18.360 acres  
S = 4.9254 in  
0.2S = .9851 in

Cumulative Runoff

-----  
.8501 in  
1.301 ac-ft

HYG Volume... 1.301 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .71444 hrs (ID: TO EX. LAKE #1)  
Computational Incr, Tm = .09526 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 29.12 cfs  
Unit peak time Tp = .47629 hrs  
Unit receding limb, Tr = 1.90517 hrs  
Total unit time, Tb = 2.38146 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... TO EX. LAKE #1 Tag: Pre..2  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Title... EXISTING RUNOFF TO EX. LAKE #1  
 Storm... TypeII 24hr Tag: Pre..2

Page 4.22  
 Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - TO EX. LAKE #1 Pre..2  
 Tc = .7144 hrs  
 Drainage Area = 18.360 acres Runoff CN= 67  
 Calc.Increment= .09526 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.301 ac-ft

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)   |      |      |      |      |
|-------------|--|------|------|------|------|
|             | Output Time increment = .1000 hrs<br>Time on left represents time for first value in each row. |      |      |      |      |
| 11.5000     | .00  | .01  | .06  | .29  | 1.03 |
| 12.0000     | 2.64   | 5.02 | 7.35 | 8.64 | 8.80 |
| 12.5000     | 8.14   | 7.02 | 5.87 | 4.96 | 4.25 |
| 13.0000     | 3.67   | 3.21 | 2.85 | 2.56 | 2.32 |
| 13.5000     | 2.13   | 1.97 | 1.84 | 1.73 | 1.63 |
| 14.0000     | 1.54   | 1.46 | 1.38 | 1.32 | 1.27 |
| 14.5000     | 1.22   | 1.18 | 1.15 | 1.13 | 1.10 |
| 15.0000     | 1.08   | 1.06 | 1.03 | 1.01 | .99  |
| 15.5000     | .97  | .95  | .93  | .91  | .89  |
| 16.0000     | .87  | .85  | .83  | .82  | .80  |
| 16.5000     | .78  | .77  | .76  | .75  | .74  |
| 17.0000     | .73  | .72  | .72  | .71  | .70  |
| 17.5000     | .69  | .69  | .68  | .67  | .66  |
| 18.0000     | .66  | .65  | .64  | .63  | .63  |
| 18.5000     | .62  | .61  | .60  | .60  | .59  |
| 19.0000     | .58  | .57  | .57  | .56  | .55  |
| 19.5000     | .54  | .53  | .53  | .52  | .51  |
| 20.0000     | .50  | .49  | .49  | .48  | .47  |
| 20.5000     | .47  | .46  | .46  | .46  | .45  |
| 21.0000     | .45  | .45  | .45  | .45  | .45  |
| 21.5000     | .44  | .44  | .44  | .44  | .44  |
| 22.0000     | .44  | .44  | .43  | .43  | .43  |
| 22.5000     | .43  | .43  | .43  | .43  | .42  |
| 23.0000     | .42  | .42  | .42  | .42  | .42  |
| 23.5000     | .42  | .41  | .41  | .41  | .41  |
| 24.0000     | .41  | .40  | .38  | .33  | .27  |
| 24.5000     | .21  | .15  | .11  | .08  | .05  |
| 25.0000     | .04  | .03  | .02  | .01  | .01  |
| 25.5000     | .01  | .00  | .00  | .00  | .00  |
| 26.0000     | .00  |      |      |      |      |

Type.... SCS Unit Hyd. Summary  
Name.... TO EX. LAKE #1 Tag: Pre.15  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
storm... TypeII 24hr Tag: Pre.15

Page 4.23  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - TO EX. LAKE #1 Pre.15  
Tc = .7144 hrs  
Drainage Area = 18.360 acres Runoff CN= 67

=====  
Computational Time Increment = .09526 hrs  
Computed Peak Time = 12.2883 hrs  
Computed Peak Flow = 22.79 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 22.78 cfs  
=====

DRAINAGE AREA

-----  
ID:TO EX. LAKE #1  
CN = 67  
Area = 18.360 acres  
S = 4.9254 in  
0.2S = .9851 in

Cumulative Runoff

-----  
1.9437 in  
2.974 ac-ft

HYG Volume... 2.975 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .71444 hrs (ID: TO EX. LAKE #1)  
Computational Incr, Tm = .09526 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 29.12 cfs  
Unit peak time Tp = .47629 hrs  
Unit receding limb, Tr = 1.90517 hrs  
Total unit time, Tb = 2.38146 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... TO EX. LAKE #1 Tag: Pre.15  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre.15

Page 4.24  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - TO EX. LAKE #1 Pre.15  
 Tc = .7144 hrs  
 Drainage Area = 18.360 acres Runoff CN= 67  
 Calc.Increment= .09526 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 2.975 ac-ft

HYDROGRAPH ORDINATES (cfs)

| Time<br>hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|-------------|---|-------|-------|-------|-------|
|             | Time on left represents time for first value in each row. |       |       |       |       |
| 10.3000     | .00   | .00   | .01   | .02   | .04   |
| 10.8000     | .07   | .11   | .17   | .23   | .31   |
| 11.3000     | .41   | .53   | .68   | .91   | 1.38  |
| 11.8000     | 2.47  | 4.95  | 9.39  | 15.26 | 20.42 |
| 12.3000     | 22.78   | 22.34 | 20.06 | 16.87 | 13.82 |
| 12.8000     | 11.46   | 9.64  | 8.20  | 7.06  | 6.17  |
| 13.3000     | 5.47  | 4.92  | 4.47  | 4.10  | 3.80  |
| 13.8000     | 3.54  | 3.32  | 3.12  | 2.94  | 2.78  |
| 14.3000     | 2.64  | 2.53  | 2.44  | 2.36  | 2.29  |
| 14.8000     | 2.24  | 2.18  | 2.13  | 2.09  | 2.04  |
| 15.3000     | 2.00  | 1.96  | 1.92  | 1.88  | 1.84  |
| 15.8000     | 1.79  | 1.75  | 1.71  | 1.67  | 1.63  |
| 16.3000     | 1.59  | 1.56  | 1.53  | 1.50  | 1.48  |
| 16.8000     | 1.46  | 1.44  | 1.42  | 1.40  | 1.39  |
| 17.3000     | 1.37  | 1.36  | 1.34  | 1.33  | 1.31  |
| 17.8000     | 1.30  | 1.28  | 1.27  | 1.25  | 1.24  |
| 18.3000     | 1.22  | 1.21  | 1.19  | 1.18  | 1.16  |
| 18.8000     | 1.15  | 1.13  | 1.11  | 1.10  | 1.08  |
| 19.3000     | 1.07  | 1.05  | 1.04  | 1.02  | 1.01  |
| 19.8000     | .99   | .97   | .96   | .94   | .93   |
| 20.3000     | .91   | .90   | .89   | .88   | .87   |
| 20.8000     | .87   | .86   | .86   | .85   | .85   |
| 21.3000     | .85   | .84   | .84   | .84   | .84   |
| 21.8000     | .83   | .83   | .83   | .82   | .82   |
| 22.3000     | .82   | .82   | .81   | .81   | .81   |
| 22.8000     | .80   | .80   | .80   | .80   | .79   |
| 23.3000     | .79   | .79   | .78   | .78   | .78   |
| 23.8000     | .77   | .77   | .77   | .75   | .71   |
| 24.3000     | .62   | .51   | .39   | .29   | .20   |
| 24.8000     | .14   | .10   | .07   | .05   | .04   |
| 25.3000     | .02   | .02   | .01   | .01   | .01   |
| 25.8000     | .00   | .00   | .00   | .00   | .00   |



Type... SCS Unit Hyd. Summary  
Name... TO EX. LAKE #1 Tag: Pre.25  
File... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre.25

Page 4.25  
Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - TO EX. LAKE #1 Pre.25  
Tc = .7144 hrs  
Drainage Area = 18.360 acres Runoff CN= 67

=====  
Computational Time Increment = .09526 hrs  
Computed Peak Time = 12.2883 hrs  
Computed Peak Flow = 27.49 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 27.46 cfs  
=====

DRAINAGE AREA

-----  
ID:TO EX. LAKE #1  
CN = 67  
Area = 18.360 acres  
S = 4.9254 in  
0.2S = .9851 in

Cumulative Runoff

-----  
2.3060 in  
3.528 ac-ft

HYG Volume... 3.530 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .71444 hrs (ID: TO EX. LAKE #1)  
Computational Incr, Tm = .09526 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 29.12 cfs  
Unit peak time Tp = .47629 hrs  
Unit receding limb, Tr = 1.90517 hrs  
Total unit time, Tb = 2.38146 hrs

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... TO EX. LAKE #1 Tag: Pre.25  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre.25

Page 4.26  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - TO EX. LAKE #1 Pre.25  
 Tc = .7144 hrs  
 Drainage Area = 18.360 acres Runoff CN= 67  
 Calc.Increment= .09526 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 3.530 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 9.9000   | .00   | .00   | .01   | .02   | .04   |
| 10.4000  | .06   | .09   | .13   | .18   | .24   |
| 10.9000  | .30   | .38   | .47   | .58   | .70   |
| 11.4000  | .86   | 1.06  | 1.36  | 1.96  | 3.33  |
| 11.9000  | 6.38  | 11.75 | 18.74 | 24.79 | 27.46 |
| 12.4000  | 26.79   | 23.95 | 20.07 | 16.39 | 13.55 |
| 12.9000  | 11.37   | 9.64  | 8.28  | 7.22  | 6.39  |
| 13.4000  | 5.73  | 5.20  | 4.77  | 4.41  | 4.11  |
| 13.9000  | 3.85  | 3.61  | 3.40  | 3.21  | 3.05  |
| 14.4000  | 2.92  | 2.82  | 2.72  | 2.65  | 2.58  |
| 14.9000  | 2.52  | 2.46  | 2.41  | 2.36  | 2.31  |
| 15.4000  | 2.26  | 2.21  | 2.16  | 2.11  | 2.06  |
| 15.9000  | 2.02  | 1.97  | 1.92  | 1.87  | 1.83  |
| 16.4000  | 1.79  | 1.75  | 1.72  | 1.70  | 1.67  |
| 16.9000  | 1.65  | 1.63  | 1.61  | 1.59  | 1.57  |
| 17.4000  | 1.56  | 1.54  | 1.52  | 1.50  | 1.49  |
| 17.9000  | 1.47  | 1.45  | 1.44  | 1.42  | 1.40  |
| 18.4000  | 1.38  | 1.37  | 1.35  | 1.33  | 1.31  |
| 18.9000  | 1.29  | 1.28  | 1.26  | 1.24  | 1.22  |
| 19.4000  | 1.21  | 1.19  | 1.17  | 1.15  | 1.13  |
| 19.9000  | 1.11  | 1.10  | 1.08  | 1.06  | 1.04  |
| 20.4000  | 1.03  | 1.02  | 1.01  | 1.00  | .99   |
| 20.9000  | .99   | .98   | .98   | .97   | .97   |
| 21.4000  | .97   | .96   | .96   | .96   | .95   |
| 21.9000  | .95   | .95   | .94   | .94   | .94   |
| 22.4000  | .93   | .93   | .93   | .92   | .92   |
| 22.9000  | .92   | .91   | .91   | .91   | .90   |
| 23.4000  | .90   | .89   | .89   | .89   | .88   |
| 23.9000  | .88   | .88   | .86   | .81   | .71   |
| 24.4000  | .58   | .45   | .33   | .23   | .16   |
| 24.9000  | .12   | .08   | .06   | .04   | .03   |
| 25.4000  | .02   | .01   | .01   | .01   | .00   |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002

Type.... SCS Unit Hyd. Summary  
Name.... TO EX. LAKE #1 Tag: Pre100  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre100

Page 4.28  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - TO EX. LAKE #1 Pre100  
Tc = .7144 hrs  
Drainage Area = 18.360 acres Runoff CN= 67

=====  
Computational Time Increment = .09526 hrs  
Computed Peak Time = 12.2883 hrs  
Computed Peak Flow = 42.46 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 42.35 cfs  
=====

DRAINAGE AREA

-----  
ID:TO EX. LAKE #1  
CN = 67  
Area = 18.360 acres  
S = 4.9254 in  
0.2S = .9851 in

Cumulative Runoff

-----  
3.4672 in  
5.305 ac-ft

HYG Volume... 5.308 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .71444 hrs (ID: TO EX. LAKE #1)  
Computational Incr, Tm = .09526 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 29.12 cfs  
Unit peak time Tp = .47629 hrs  
Unit receding limb, Tr = 1.90517 hrs  
Total unit time, Tb = 2.38146 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... TO EX. LAKE #1 Tag: Pre100  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 'torm... TypeII 24hr Tag: Pre100

Page 4.29  
 Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - TO EX. LAKE #1 Pre100  
 Tc = .7144 hrs  
 Drainage Area = 18.360 acres Runoff CN= 67  
 Calc.Increment= .09526 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 5.308 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 8.8000   | .00   | .00   | .01   | .02   | .04   |
| 9.3000   | .06   | .09   | .12   | .15   | .18   |
| 9.8000   | .22   | .26   | .30   | .35   | .41   |
| 10.3000  | .47   | .54   | .62   | .71   | .80   |
| 10.8000  | .92   | 1.04  | 1.19  | 1.35  | 1.54  |
| 11.3000  | 1.77  | 2.05  | 2.39  | 2.92  | 3.95  |
| 11.8000  | 6.24  | 11.14 | 19.45 | 29.97 | 38.78 |
| 12.3000  | 42.35   | 40.89 | 36.23 | 30.14 | 24.46 |
| 12.8000  | 20.10   | 16.77 | 14.14 | 12.08 | 10.48 |
| 13.3000  | 9.23  | 8.25  | 7.46  | 6.82  | 6.29  |
| 13.8000  | 5.84  | 5.46  | 5.12  | 4.80  | 4.53  |
| 14.3000  | 4.30  | 4.12  | 3.97  | 3.83  | 3.72  |
| 14.8000  | 3.62  | 3.54  | 3.45  | 3.38  | 3.30  |
| 15.3000  | 3.23  | 3.16  | 3.09  | 3.02  | 2.96  |
| 15.8000  | 2.89  | 2.82  | 2.75  | 2.68  | 2.62  |
| 16.3000  | 2.55  | 2.50  | 2.45  | 2.40  | 2.36  |
| 16.8000  | 2.33  | 2.30  | 2.27  | 2.24  | 2.22  |
| 17.3000  | 2.19  | 2.17  | 2.14  | 2.12  | 2.09  |
| 17.8000  | 2.07  | 2.04  | 2.02  | 1.99  | 1.97  |
| 18.3000  | 1.94  | 1.92  | 1.89  | 1.87  | 1.84  |
| 18.8000  | 1.82  | 1.80  | 1.77  | 1.74  | 1.72  |
| 19.3000  | 1.69  | 1.67  | 1.64  | 1.62  | 1.59  |
| 19.8000  | 1.57  | 1.54  | 1.52  | 1.49  | 1.47  |
| 20.3000  | 1.44  | 1.42  | 1.41  | 1.39  | 1.38  |
| 20.8000  | 1.37  | 1.36  | 1.36  | 1.35  | 1.35  |
| 21.3000  | 1.34  | 1.33  | 1.33  | 1.32  | 1.32  |
| 21.8000  | 1.31  | 1.31  | 1.30  | 1.30  | 1.29  |
| 22.3000  | 1.29  | 1.29  | 1.28  | 1.28  | 1.27  |
| 22.8000  | 1.27  | 1.26  | 1.26  | 1.25  | 1.25  |
| 23.3000  | 1.24  | 1.24  | 1.23  | 1.23  | 1.22  |
| 23.8000  | 1.22  | 1.21  | 1.21  | 1.18  | 1.11  |
| 24.3000  | .98   | .80   | .62   | .45   | .32   |

Type.... SCS Unit Hyd. Summary  
Name.... TO EX. LAKE#2 Tag: Pre..2  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING RUNOFF TO EX. LAKE #2  
Storm... TypeII 24hr Tag: Pre..2

Page 4.31  
Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - TO EX. LAKE#2 Pre..2  
Tc = .7729 hrs  
Drainage Area = 46.900 acres Runoff CN= 66

=====  
Computational Time Increment = .10305 hrs  
Computed Peak Time = 12.4696 hrs  
Computed Peak Flow = 19.46 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.4000 hrs  
Peak Flow, Interpolated Output = 19.41 cfs  
=====

DRAINAGE AREA

-----  
ID:TO EX. LAKE #2  
CN = 66  
Area = 46.900 acres  
S = 5.1515 in  
0.2S = 1.0303 in

Cumulative Runoff

-----  
.8003 in  
3.128 ac-ft

HYG Volume... 3.127 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .77291 hrs (ID: TO EX. LAKE #2)  
Computational Incr, Tm = .10305 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 68.75 cfs  
Unit peak time Tp = .51527 hrs  
Unit receding limb, Tr = 2.06109 hrs  
Total unit time, Tb = 2.57637 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... TO EX. LAKE#2 Tag: Pre..2  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Title... EXISTING RUNOFF TO EX. LAKE #2  
 Storm... TypeII 24hr Tag: Pre..2

Page 4.32  
 Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - TO EX. LAKE#2 Pre..2  
 Tc = .7729 hrs  
 Drainage Area = 46.900 acres Runoff CN= 66  
 Calc.Increment= .10305 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 3.127 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 11.5000  | .00   | .01   | .11   | .58   | 2.06  |
| 12.0000  | 5.09  | 9.58  | 14.39 | 17.94 | 19.41 |
| 12.5000  | 19.01   | 17.29 | 14.94 | 12.71 | 10.93 |
| 13.0000  | 9.51  | 8.33  | 7.38  | 6.62  | 5.99  |
| 13.5000  | 5.48  | 5.06  | 4.71  | 4.40  | 4.14  |
| 14.0000  | 3.91  | 3.70  | 3.51  | 3.33  | 3.18  |
| 14.5000  | 3.05  | 2.95  | 2.87  | 2.80  | 2.73  |
| 15.0000  | 2.67  | 2.62  | 2.56  | 2.51  | 2.46  |
| 15.5000  | 2.41  | 2.36  | 2.32  | 2.27  | 2.22  |
| 16.0000  | 2.17  | 2.12  | 2.07  | 2.02  | 1.98  |
| 16.5000  | 1.94  | 1.91  | 1.88  | 1.85  | 1.83  |
| 17.0000  | 1.81  | 1.79  | 1.77  | 1.75  | 1.73  |
| 17.5000  | 1.71  | 1.70  | 1.68  | 1.66  | 1.64  |
| 18.0000  | 1.62  | 1.61  | 1.59  | 1.57  | 1.55  |
| 18.5000  | 1.53  | 1.52  | 1.50  | 1.48  | 1.46  |
| 19.0000  | 1.44  | 1.42  | 1.40  | 1.38  | 1.36  |
| 19.5000  | 1.34  | 1.33  | 1.31  | 1.29  | 1.27  |
| 20.0000  | 1.25  | 1.23  | 1.21  | 1.19  | 1.17  |
| 20.5000  | 1.16  | 1.15  | 1.14  | 1.13  | 1.12  |
| 21.0000  | 1.12  | 1.11  | 1.11  | 1.10  | 1.10  |
| 21.5000  | 1.10  | 1.09  | 1.09  | 1.09  | 1.08  |
| 22.0000  | 1.08  | 1.08  | 1.07  | 1.07  | 1.07  |
| 22.5000  | 1.06  | 1.06  | 1.06  | 1.05  | 1.05  |
| 23.0000  | 1.05  | 1.04  | 1.04  | 1.04  | 1.03  |
| 23.5000  | 1.03  | 1.03  | 1.02  | 1.02  | 1.01  |
| 24.0000  | 1.01  | .99   | .94   | .85   | .72   |
| 24.5000  | .57   | .44   | .32   | .23   | .17   |
| 25.0000  | .12   | .09   | .06   | .05   | .03   |
| 25.5000  | .02   | .02   | .01   | .01   | .01   |
| 26.0000  | .00   | .00   | .00   | .00   | .00   |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002

Type.... SCS Unit Hyd. Summary  
Name.... TO EX. LAKE#2 Tag: Pre.15  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
storm... TypeII 24hr Tag: Pre.15

Page 4.33  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - TO EX. LAKE#2 Pre.15  
Tc = .7729 hrs  
Drainage Area = 46.900 acres Runoff CN= 66

=====  
Computational Time Increment = .10305 hrs  
Computed Peak Time = 12.3666 hrs  
Computed Peak Flow = 52.49 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.4000 hrs  
Peak Flow, Interpolated Output = 51.90 cfs  
=====

DRAINAGE AREA

-----  
ID:TO EX. LAKE #2  
CN = 66  
Area = 46.900 acres  
S = 5.1515 in  
0.2S = 1.0303 in

Cumulative Runoff

-----  
1.8652 in  
7.290 ac-ft

HYG Volume... 7.288 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .77291 hrs (ID: TO EX. LAKE #2)  
Computational Incr, Tm = .10305 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 68.75 cfs  
Unit peak time Tp = .51527 hrs  
Unit receding limb, Tr = 2.06109 hrs  
Total unit time, Tb = 2.57637 hrs

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... TO EX. LAKE#2 Tag: Pre.15  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre.15

Page 4.34  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - TO EX. LAKE#2 Pre.15  
 Tc = .7729 hrs  
 Drainage Area = 46.900 acres Runoff CN= 66  
 Calc.Increment= .10305 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 7.288 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 10.4000  | .00   | .00   | .01   | .02   | .06   |
| 10.9000  | .12   | .21   | .33   | .49   | .69   |
| 11.4000  | .94   | 1.28  | 1.80  | 2.87  | 5.36  |
| 11.9000  | 10.68   | 19.70 | 31.48 | 42.86 | 50.15 |
| 12.4000  | 51.90   | 49.07 | 43.33 | 36.56 | 30.50 |
| 12.9000  | 25.74   | 22.00 | 18.96 | 16.54 | 14.62 |
| 13.4000  | 13.07   | 11.83 | 10.81 | 9.97  | 9.25  |
| 13.9000  | 8.64  | 8.11  | 7.64  | 7.21  | 6.81  |
| 14.4000  | 6.48  | 6.21  | 5.99  | 5.81  | 5.65  |
| 14.9000  | 5.51  | 5.38  | 5.26  | 5.15  | 5.04  |
| 15.4000  | 4.93  | 4.83  | 4.72  | 4.62  | 4.52  |
| 15.9000  | 4.41  | 4.31  | 4.21  | 4.11  | 4.01  |
| 16.4000  | 3.92  | 3.84  | 3.77  | 3.71  | 3.66  |
| 16.9000  | 3.61  | 3.56  | 3.52  | 3.48  | 3.44  |
| 17.4000  | 3.40  | 3.36  | 3.32  | 3.29  | 3.25  |
| 17.9000  | 3.21  | 3.18  | 3.14  | 3.10  | 3.06  |
| 18.4000  | 3.03  | 2.99  | 2.95  | 2.91  | 2.88  |
| 18.9000  | 2.84  | 2.80  | 2.76  | 2.72  | 2.68  |
| 19.4000  | 2.64  | 2.61  | 2.57  | 2.53  | 2.49  |
| 19.9000  | 2.45  | 2.41  | 2.37  | 2.33  | 2.30  |
| 20.4000  | 2.26  | 2.24  | 2.21  | 2.19  | 2.18  |
| 20.9000  | 2.16  | 2.15  | 2.14  | 2.13  | 2.12  |
| 21.4000  | 2.11  | 2.11  | 2.10  | 2.09  | 2.08  |
| 21.9000  | 2.08  | 2.07  | 2.06  | 2.06  | 2.05  |
| 22.4000  | 2.04  | 2.03  | 2.03  | 2.02  | 2.01  |
| 22.9000  | 2.01  | 2.00  | 1.99  | 1.98  | 1.98  |
| 23.4000  | 1.97  | 1.96  | 1.95  | 1.95  | 1.94  |
| 23.9000  | 1.93  | 1.92  | 1.88  | 1.79  | 1.61  |
| 24.4000  | 1.36  | 1.09  | .83   | .61   | .44   |
| 24.9000  | .32   | .23   | .17   | .12   | .09   |
| 25.4000  | .06   | .05   | .03   | .02   | .02   |
| 25.9000  | .01   | .01   | .00   | .00   | .00   |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002



Type.... SCS Unit Hyd. Summary  
Name.... TO EX. LAKE#2 Tag: Pre.25  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre.25

Page 4.36  
Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - TO EX. LAKE#2 Pre.25  
Tc = .7729 hrs  
Drainage Area = 46.900 acres Runoff CN= 66

=====  
Computational Time Increment = .10305 hrs  
Computed Peak Time = 12.3666 hrs  
Computed Peak Flow = 63.52 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.4000 hrs  
Peak Flow, Interpolated Output = 62.70 cfs  
=====

DRAINAGE AREA

-----  
ID:TO EX. LAKE #2  
CN = 66  
Area = 46.900 acres  
S = 5.1515 in  
0.2S = 1.0303 in

Cumulative Runoff

-----  
2.2203 in  
8.678 ac-ft

HYG Volume... 8.676 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .77291 hrs (ID: TO EX. LAKE #2)  
Computational Incr, Tm = .10305 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 68.75 cfs  
Unit peak time Tp = .51527 hrs  
Unit receding limb, Tr = 2.06109 hrs  
Total unit time, Tb = 2.57637 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... TO EX. LAKE#2 Tag: Pre.25  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre.25

Page 4.37  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - TO EX. LAKE#2 Pre.25  
 Tc = .7729 hrs  
 Drainage Area = 46.900 acres Runoff CN= 66  
 Calc.Increment= .10305 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 8.676 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 10.1000  | .00   | .00   | .02   | .04   | .09   |
| 10.6000  | .15   | .24   | .35   | .49   | .65   |
| 11.1000  | .85   | 1.08  | 1.36  | 1.71  | 2.15  |
| 11.6000  | 2.85  | 4.23  | 7.38  | 13.96 | 24.94 |
| 12.1000  | 39.07 | 52.53 | 60.96 | 62.70 | 58.98 |
| 12.6000  | 51.87 | 43.61 | 36.27 | 30.53 | 26.02 |
| 13.1000  | 22.37 | 19.47 | 17.16 | 15.32 | 13.83 |
| 13.6000  | 12.62 | 11.62 | 10.77 | 10.05 | 9.42  |
| 14.1000  | 8.86  | 8.36  | 7.90  | 7.50  | 7.19  |
| 14.6000  | 6.93  | 6.72  | 6.53  | 6.37  | 6.22  |
| 15.1000  | 6.08  | 5.95  | 5.82  | 5.69  | 5.57  |
| 15.6000  | 5.45  | 5.33  | 5.21  | 5.09  | 4.97  |
| 16.1000  | 4.85  | 4.73  | 4.62  | 4.52  | 4.43  |
| 16.6000  | 4.35  | 4.27  | 4.21  | 4.15  | 4.10  |
| 17.1000  | 4.05  | 4.00  | 3.96  | 3.91  | 3.87  |
| 17.6000  | 3.82  | 3.78  | 3.74  | 3.69  | 3.65  |
| 18.1000  | 3.61  | 3.56  | 3.52  | 3.48  | 3.43  |
| 18.6000  | 3.39  | 3.35  | 3.30  | 3.26  | 3.21  |
| 19.1000  | 3.17  | 3.13  | 3.08  | 3.04  | 2.99  |
| 19.6000  | 2.95  | 2.90  | 2.86  | 2.81  | 2.77  |
| 20.1000  | 2.72  | 2.68  | 2.63  | 2.60  | 2.56  |
| 20.6000  | 2.54  | 2.51  | 2.50  | 2.48  | 2.47  |
| 21.1000  | 2.45  | 2.44  | 2.43  | 2.42  | 2.41  |
| 21.6000  | 2.41  | 2.40  | 2.39  | 2.38  | 2.37  |
| 22.1000  | 2.36  | 2.35  | 2.35  | 2.34  | 2.33  |
| 22.6000  | 2.32  | 2.31  | 2.30  | 2.30  | 2.29  |
| 23.1000  | 2.28  | 2.27  | 2.26  | 2.25  | 2.25  |
| 23.6000  | 2.24  | 2.23  | 2.22  | 2.21  | 2.20  |
| 24.1000  | 2.16  | 2.05  | 1.84  | 1.56  | 1.25  |
| 24.6000  | .95   | .70   | .50   | .37   | .27   |
| 25.1000  | .19   | .14   | .10   | .07   | .05   |
| 25.6000  | .04   | .03   | .02   | .01   | .01   |

Type... SCS Unit Hyd. Summary  
Name... TO EX. LAKE#2 Tag: Pre100  
File... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre100

Page 4.39  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = EX-PERS.HYG - TO EX. LAKE#2 Pre100  
Tc = .7729 hrs  
Drainage Area = 46.900 acres Runoff CN= 66

=====  
Computational Time Increment = .10305 hrs  
Computed Peak Time = 12.3666 hrs  
Computed Peak Flow = 98.76 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.4000 hrs  
Peak Flow, Interpolated Output = 97.16 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

=====

DRAINAGE AREA

-----  
ID:TO EX. LAKE #2  
CN = 66  
Area = 46.900 acres  
S = 5.1515 in  
0.2S = 1.0303 in

Cumulative Runoff

-----  
3.3623 in  
13.141 ac-ft

HYG Volume... 13.138 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .77291 hrs (ID: TO EX. LAKE #2)  
Computational Incr, Tm = .10305 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 68.75 cfs  
Unit peak time Tp = .51527 hrs  
Unit receding limb, Tr = 2.06109 hrs  
Total unit time, Tb = 2.57637 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... TO EX. LAKE#2 Tag: Pre100  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre100

Page 4.40  
 Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = EX-PERS.HYG - TO EX. LAKE#2 Pre100  
 Tc = .7729 hrs  
 Drainage Area = 46.900 acres Runoff CN= 66  
 Calc.Increment= .10305 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 13.138 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 8.9000   | .00   | .00   | .01   | .02   | .04   |
| 9.4000   | .08   | .13   | .19   | .26   | .34   |
| 9.9000   | .43   | .53   | .64   | .77   | .91   |
| 10.4000  | 1.06  | 1.24  | 1.44  | 1.66  | 1.92  |
| 10.9000  | 2.21  | 2.54  | 2.91  | 3.35  | 3.87  |
| 11.4000  | 4.50  | 5.30  | 6.54  | 8.95  | 14.28 |
| 11.9000  | 24.95   | 42.19 | 63.79 | 83.74 | 95.60 |
| 12.4000  | 97.16   | 90.51 | 78.92 | 65.89 | 54.47 |
| 12.9000  | 45.59   | 38.63 | 33.03 | 28.59 | 25.09 |
| 13.4000  | 22.28   | 20.04 | 18.23 | 16.72 | 15.46 |
| 13.9000  | 14.39   | 13.46 | 12.64 | 11.89 | 11.22 |
| 14.4000  | 10.64   | 10.18 | 9.81  | 9.50  | 9.24  |
| 14.9000  | 9.00  | 8.78  | 8.58  | 8.39  | 8.20  |
| 15.4000  | 8.03  | 7.85  | 7.68  | 7.50  | 7.33  |
| 15.9000  | 7.16  | 6.99  | 6.82  | 6.65  | 6.49  |
| 16.4000  | 6.34  | 6.21  | 6.09  | 5.99  | 5.90  |
| 16.9000  | 5.82  | 5.75  | 5.67  | 5.61  | 5.54  |
| 17.4000  | 5.47  | 5.41  | 5.35  | 5.29  | 5.22  |
| 17.9000  | 5.16  | 5.10  | 5.04  | 4.98  | 4.91  |
| 18.4000  | 4.85  | 4.79  | 4.73  | 4.67  | 4.60  |
| 18.9000  | 4.54  | 4.48  | 4.42  | 4.35  | 4.29  |
| 19.4000  | 4.23  | 4.16  | 4.10  | 4.04  | 3.97  |
| 19.9000  | 3.91  | 3.85  | 3.78  | 3.72  | 3.66  |
| 20.4000  | 3.61  | 3.56  | 3.52  | 3.49  | 3.47  |
| 20.9000  | 3.45  | 3.43  | 3.41  | 3.39  | 3.38  |
| 21.4000  | 3.36  | 3.35  | 3.34  | 3.33  | 3.31  |
| 21.9000  | 3.30  | 3.29  | 3.28  | 3.26  | 3.25  |
| 22.4000  | 3.24  | 3.23  | 3.22  | 3.20  | 3.19  |
| 22.9000  | 3.18  | 3.17  | 3.16  | 3.14  | 3.13  |
| 23.4000  | 3.12  | 3.11  | 3.09  | 3.08  | 3.07  |
| 23.9000  | 3.06  | 3.04  | 2.98  | 2.83  | 2.55  |
| 24.4000  | 2.16  | 1.72  | 1.32  | .96   | .70   |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002

Type... Node: Addition Summary  
 Name... ALLOWABLE  
 File... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre..2

Page 5.01  
 Event: 2 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: ALLOWABLE

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
POND2-EXIST      EX. LAKE #2  IN  EX-PERS.HYG  POND2-EXIST  Pre..2
SOUTHERN EXIST.  SOUTHERNSIDE  EX-PERS.HYG  SOUTHERNSIDE  Pre..2
=====
  
```

INFLOWS TO: ALLOWABLE

```

-----
HYG file          HYG ID          HYG tag          Volume          Peak Time        Peak Flow
ac-ft             hrs              cfs
-----
EX-PERS.HYG      POND2-EXIST     Pre..2           10.222          13.9000          21.83
EX-PERS.HYG      SOUTHERNSIDE    Pre..2           .443            12.2000          4.21
  
```

TOTAL FLOW INTO: ALLOWABLE

```

-----
HYG file          HYG ID          HYG tag          Volume          Peak Time        Peak Flow
ac-ft             hrs              cfs
-----
EX-PERS.HYG      ALLOWABLE        Pre..2           10.665          13.8000          22.32
  
```

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Node: Addition Summary  
 Name.... ALLOWABLE  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Form... TypeII 24hr Tag: Pre..2

Page 5.02  
 Event: 2 yr

TOTAL NODE INFLOW...  
 HYG file = J:\0675B\PONDPACK\EX-PERS.HYG  
 HYG ID = ALLOWABLE  
 HYG Tag = Pre..2

-----  
 Peak Discharge = 22.32 cfs  
 Time to Peak = 13.8000 hrs  
 HYG Volume = 10.665 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 10.0000  | .00   | .00   | .00   | .01   | .01   |
| 10.5000  | .02   | .03   | .05   | .07   | .10   |
| 11.0000  | .14   | .19   | .24   | .27   | .32   |
| 11.5000  | .39   | .46   | .60   | .96   | 2.06  |
| 12.0000  | 4.21  | 6.51  | 7.84  | 8.80  | 10.35 |
| 12.5000  | 12.62 | 15.22 | 16.64 | 17.56 | 18.43 |
| 13.0000  | 19.23 | 19.95 | 20.57 | 21.11 | 21.54 |
| 13.5000  | 21.88 | 22.11 | 22.26 | 22.32 | 22.31 |
| 14.0000  | 22.24 | 22.12 | 21.95 | 21.74 | 21.51 |
| 14.5000  | 21.24 | 20.95 | 20.64 | 20.31 | 19.96 |
| 15.0000  | 19.61 | 19.24 | 18.87 | 18.49 | 18.11 |
| 15.5000  | 17.72 | 17.33 | 16.95 | 16.56 | 16.18 |
| 16.0000  | 15.80 | 15.42 | 14.95 | 14.37 | 13.70 |
| 16.5000  | 12.98 | 12.34 | 11.75 | 11.20 | 10.72 |
| 17.0000  | 10.27 | 9.86  | 9.49  | 9.14  | 8.82  |
| 17.5000  | 8.51  | 8.24  | 7.98  | 7.74  | 7.52  |
| 18.0000  | 7.31  | 7.12  | 6.94  | 6.77  | 6.62  |
| 18.5000  | 6.47  | 6.32  | 6.19  | 6.06  | 5.94  |
| 19.0000  | 5.83  | 5.72  | 5.62  | 5.52  | 5.42  |
| 19.5000  | 5.33  | 5.24  | 5.15  | 5.06  | 4.98  |
| 20.0000  | 4.90  | 4.83  | 4.75  | 4.68  | 4.61  |
| 20.5000  | 4.54  | 4.47  | 4.41  | 4.35  | 4.28  |
| 21.0000  | 4.23  | 4.17  | 4.11  | 4.06  | 4.01  |
| 21.5000  | 3.96  | 3.92  | 3.88  | 3.84  | 3.80  |
| 22.0000  | 3.77  | 3.73  | 3.70  | 3.67  | 3.64  |
| 22.5000  | 3.61  | 3.58  | 3.55  | 3.53  | 3.50  |
| 23.0000  | 3.48  | 3.46  | 3.43  | 3.41  | 3.39  |
| 23.5000  | 3.37  | 3.35  | 3.33  | 3.32  | 3.30  |
| 24.0000  | 3.28  | 3.25  | 3.20  | 3.13  | 3.07  |
| 24.5000  | 3.00  | 2.93  | 2.85  | 2.77  | 2.68  |
| 25.0000  | 2.59  | 2.49  | 2.39  | 2.29  | 2.19  |
| 25.5000  | 2.09  | 1.99  | 1.88  | 1.77  | 1.67  |
| 26.0000  | 1.57  | 1.47  | 1.38  | 1.30  | 1.17  |

Type.... Node: Addition Summary  
 Name.... ALLOWABLE  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre.15

Page 5.04  
 Event: 15 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: ALLOWABLE

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
POND2-EXIST      EX. LAKE #2  IN  EX-PERS.HYG  POND2-EXIST  Pre.15
SOUTHERN EXIST.  SOUTHERNSIDE  EX-PERS.HYG  SOUTHERNSIDE  Pre.15
=====

```

INFLOWS TO: ALLOWABLE

```

-----
HYG file      HYG ID        HYG tag      Volume      Peak Time      Peak Flow
ac-ft         hrs           cfs
-----
EX-PERS.HYG  POND2-EXIST  Pre.15      21.568      13.5000       56.02
EX-PERS.HYG  SOUTHERNSIDE  Pre.15      1.053       12.1000       11.59

```

TOTAL FLOW INTO: ALLOWABLE

```

-----
HYG file      HYG ID        HYG tag      Volume      Peak Time      Peak Flow
ac-ft         hrs           cfs
-----
EX-PERS.HYG  ALLOWABLE     Pre.15      22.621      13.5000       57.24

```

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Node: Addition Summary  
 Name.... ALLOWABLE  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre.15

Page 5.05  
 Event: 15 yr

TOTAL NODE INFLOW...  
 HYG file = J:\0675B\PONDPACK\EX-PERS.HYG  
 HYG ID = ALLOWABLE  
 HYG Tag = Pre.15

-----  
 Peak Discharge = 57.24 cfs  
 Time to Peak = 13.5000 hrs  
 HYG Volume = 22.621 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 8.1000   | .00   | .00   | .00   | .01   | .01   |
| 8.6000   | .02   | .03   | .04   | .06   | .08   |
| 9.1000   | .11   | .14   | .17   | .21   | .24   |
| 9.6000   | .27   | .30   | .34   | .39   | .43   |
| 10.1000  | .47   | .52   | .58   | .64   | .70   |
| 10.6000  | .75   | .81   | .88   | .98   | 1.12  |
| 11.1000  | 1.28  | 1.45  | 1.62  | 1.84  | 2.11  |
| 11.6000  | 2.48  | 3.18  | 4.69  | 8.10  | 14.00 |
| 12.1000  | 20.22   | 24.67 | 25.24 | 25.81 | 27.27 |
| 12.6000  | 29.02   | 30.77 | 32.34 | 34.54 | 40.74 |
| 13.1000  | 46.98   | 51.86 | 55.13 | 56.83 | 57.24 |
| 13.6000  | 56.57   | 55.16 | 53.28 | 51.12 | 48.84 |
| 14.1000  | 46.61   | 44.43 | 42.35 | 40.45 | 38.67 |
| 14.6000  | 37.02   | 35.58 | 34.30 | 33.15 | 32.37 |
| 15.1000  | 31.82   | 31.50 | 31.13 | 30.74 | 30.34 |
| 15.6000  | 29.94   | 29.52 | 29.08 | 28.63 | 28.17 |
| 16.1000  | 27.70   | 27.23 | 26.76 | 26.29 | 25.81 |
| 16.6000  | 25.35   | 24.89 | 24.42 | 23.96 | 23.51 |
| 17.1000  | 23.05   | 22.61 | 22.16 | 21.73 | 21.30 |
| 17.6000  | 20.87   | 20.45 | 20.03 | 19.62 | 19.23 |
| 18.1000  | 18.83   | 18.45 | 18.07 | 17.70 | 17.33 |
| 18.6000  | 16.97   | 16.62 | 16.27 | 15.93 | 15.60 |
| 19.1000  | 15.27   | 14.76 | 14.28 | 13.66 | 13.08 |
| 19.6000  | 12.55   | 12.07 | 11.63 | 11.22 | 10.85 |
| 20.1000  | 10.51   | 10.19 | 9.88  | 9.61  | 9.35  |
| 20.6000  | 9.11  | 8.88  | 8.67  | 8.47  | 8.29  |
| 21.1000  | 8.12  | 7.95  | 7.80  | 7.66  | 7.52  |
| 21.6000  | 7.39  | 7.28  | 7.17  | 7.07  | 6.98  |
| 22.1000  | 6.89  | 6.81  | 6.73  | 6.65  | 6.58  |
| 22.6000  | 6.52  | 6.45  | 6.39  | 6.34  | 6.28  |
| 23.1000  | 6.23  | 6.18  | 6.14  | 6.10  | 6.06  |
| 23.6000  | 6.02  | 5.98  | 5.94  | 5.91  | 5.87  |
| 24.1000  | 5.82  | 5.72  | 5.59  | 5.46  | 5.33  |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002



Type... Node: Addition Summary  
 Name... ALLOWABLE  
 File... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre.25

Page 5.07  
 Event: 25 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: ALLOWABLE

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
POND2-EXIST      EX. LAKE #2 IN    EX-PERS.HYG   POND2-EXIST   Pre.25
SOUTHERN EXIST.  SOUTHERNSIDE     EX-PERS.HYG   SOUTHERNSIDE  Pre.25
=====
  
```

INFLOWS TO: ALLOWABLE

```

-----
HYG file          HYG ID          HYG tag          Volume          Peak Time        Peak Flow
ac-ft             hrs              cfs
-----
EX-PERS.HYG      POND2-EXIST     Pre.25           25.240          13.3000          71.51
EX-PERS.HYG      SOUTHERNSIDE    Pre.25           1.258           12.1000          14.09
  
```

TOTAL FLOW INTO: ALLOWABLE

```

-----
HYG file          HYG ID          HYG tag          Volume          Peak Time        Peak Flow
ac-ft             hrs              cfs
-----
EX-PERS.HYG      ALLOWABLE        Pre.25           26.498          13.3000          73.09
  
```

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Node: Addition Summary  
 Name.... ALLOWABLE  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 torm... TypeII 24hr Tag: Pre.25

Page 5.08  
 Event: 25 yr

TOTAL NODE INFLOW...  
 HYG file = J:\0675B\PONDPACK\EX-PERS.HYG  
 HYG ID = ALLOWABLE  
 HYG Tag = Pre.25

-----  
 Peak Discharge = 73.09 cfs  
 Time to Peak = 13.3000 hrs  
 HYG Volume = 26.498 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 7.6000   | .00   | .00   | .00   | .01   | .01   |
| 8.1000   | .02   | .03   | .04   | .06   | .07   |
| 8.6000   | .10   | .12   | .15   | .19   | .23   |
| 9.1000   | .25   | .28   | .32   | .36   | .40   |
| 9.6000   | .44   | .49   | .54   | .60   | .66   |
| 10.1000  | .71   | .76   | .81   | .88   | .97   |
| 10.6000  | 1.07  | 1.21  | 1.36  | 1.49  | 1.64  |
| 11.1000  | 1.83  | 2.05  | 2.31  | 2.60  | 2.95  |
| 11.6000  | 3.43  | 4.40  | 6.44  | 10.80 | 18.13 |
| 12.1000  | 25.88 | 29.40 | 29.29 | 29.81 | 31.37 |
| 12.6000  | 33.21 | 35.60 | 45.26 | 55.35 | 63.35 |
| 13.1000  | 68.76 | 71.88 | 73.09 | 72.80 | 71.38 |
| 13.6000  | 69.09 | 66.24 | 63.11 | 59.87 | 56.70 |
| 14.1000  | 53.68 | 50.82 | 48.17 | 45.72 | 43.49 |
| 14.6000  | 41.44 | 39.56 | 37.92 | 36.43 | 35.07 |
| 15.1000  | 33.97 | 32.99 | 32.27 | 31.83 | 31.53 |
| 15.6000  | 31.18 | 30.82 | 30.44 | 30.06 | 29.67 |
| 16.1000  | 29.27 | 28.85 | 28.42 | 27.99 | 27.56 |
| 16.6000  | 27.13 | 26.69 | 26.26 | 25.83 | 25.40 |
| 17.1000  | 24.97 | 24.54 | 24.12 | 23.70 | 23.29 |
| 17.6000  | 22.87 | 22.47 | 22.06 | 21.67 | 21.28 |
| 18.1000  | 20.89 | 20.51 | 20.14 | 19.77 | 19.41 |
| 18.6000  | 19.05 | 18.70 | 18.35 | 18.02 | 17.68 |
| 19.1000  | 17.34 | 17.02 | 16.70 | 16.38 | 16.07 |
| 19.6000  | 15.76 | 15.46 | 15.07 | 14.61 | 14.14 |
| 20.1000  | 13.56 | 13.03 | 12.55 | 12.11 | 11.70 |
| 20.6000  | 11.32 | 10.98 | 10.66 | 10.36 | 10.09 |
| 21.1000  | 9.83  | 9.60  | 9.38  | 9.17  | 8.98  |
| 21.6000  | 8.80  | 8.63  | 8.47  | 8.33  | 8.20  |
| 22.1000  | 8.07  | 7.95  | 7.84  | 7.74  | 7.64  |
| 22.6000  | 7.54  | 7.46  | 7.38  | 7.30  | 7.23  |
| 23.1000  | 7.17  | 7.10  | 7.04  | 6.99  | 6.93  |
| 23.6000  | 6.88  | 6.83  | 6.78  | 6.74  | 6.69  |

Type.... Node: Addition Summary  
 Name.... ALLOWABLE  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre100

Page 5.10  
 Event: 100 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: ALLOWABLE

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
POND2-EXIST      EX. LAKE #2  IN  EX-PERS.HYG  POND2-EXIST  Pre100
SOUTHERN EXIST.  SOUTHERNSIDE EX-PERS.HYG  SOUTHERNSIDE Pre100
=====
  
```

INFLOWS TO: ALLOWABLE

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag        ac-ft         hrs           cfs
-----
EX-PERS.HYG  POND2-EXIST  Pre100        36.856        13.0000       119.06
EX-PERS.HYG  SOUTHERNSIDE Pre100         1.919         12.1000       22.12
  
```

TOTAL FLOW INTO: ALLOWABLE

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag        ac-ft         hrs           cfs
-----
EX-PERS.HYG  ALLOWABLE     Pre100        38.775        13.0000       122.00
  
```

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Node: Addition Summary  
 Name.... ALLOWABLE  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Prel00

Page 5.11  
 Event: 100 yr

TOTAL NODE INFLOW...  
 HYG file = J:\0675B\PONDPACK\EX-PERS.HYG  
 HYG ID = ALLOWABLE  
 HYG Tag = Prel00

-----  
 Peak Discharge = 122.00 cfs  
 Time to Peak = 13.0000 hrs  
 HYG Volume = 38.775 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |        |        |        |        |        |
|----------|--------|--------|--------|--------|--------|
| 6.4000   | .00    | .00    | .00    | .01    | .01    |
| 6.9000   | .02    | .03    | .04    | .06    | .07    |
| 7.4000   | .10    | .13    | .16    | .19    | .23    |
| 7.9000   | .25    | .28    | .31    | .35    | .39    |
| 8.4000   | .43    | .47    | .51    | .56    | .61    |
| 8.9000   | .67    | .72    | .76    | .81    | .88    |
| 9.4000   | .96    | 1.06   | 1.17   | 1.29   | 1.40   |
| 9.9000   | 1.51   | 1.63   | 1.77   | 1.92   | 2.10   |
| 10.4000  | 2.28   | 2.47   | 2.68   | 2.92   | 3.18   |
| 10.9000  | 3.51   | 3.87   | 4.28   | 4.77   | 5.34   |
| 11.4000  | 6.01   | 6.81   | 7.89   | 9.83   | 13.67  |
| 11.9000  | 21.24  | 32.40  | 40.48  | 42.83  | 42.02  |
| 12.4000  | 42.03  | 60.34  | 83.39  | 101.53 | 113.24 |
| 12.9000  | 119.51 | 122.00 | 121.68 | 119.48 | 115.96 |
| 13.4000  | 111.45 | 106.31 | 100.66 | 94.81  | 89.02  |
| 13.9000  | 83.42  | 78.15  | 73.30  | 68.83  | 64.77  |
| 14.4000  | 61.06  | 57.69  | 54.62  | 51.83  | 49.33  |
| 14.9000  | 47.08  | 45.03  | 43.16  | 41.49  | 39.93  |
| 15.4000  | 38.58  | 37.30  | 36.20  | 35.14  | 34.27  |
| 15.9000  | 33.41  | 32.82  | 32.24  | 31.96  | 31.71  |
| 16.4000  | 31.43  | 31.15  | 30.85  | 30.55  | 30.24  |
| 16.9000  | 29.92  | 29.60  | 29.27  | 28.94  | 28.59  |
| 17.4000  | 28.25  | 27.90  | 27.55  | 27.20  | 26.86  |
| 17.9000  | 26.52  | 26.18  | 25.84  | 25.50  | 25.18  |
| 18.4000  | 24.84  | 24.52  | 24.19  | 23.87  | 23.56  |
| 18.9000  | 23.24  | 22.93  | 22.62  | 22.31  | 22.01  |
| 19.4000  | 21.71  | 21.41  | 21.12  | 20.82  | 20.53  |
| 19.9000  | 20.23  | 19.94  | 19.65  | 19.37  | 19.09  |
| 20.4000  | 18.81  | 18.53  | 18.26  | 17.99  | 17.72  |
| 20.9000  | 17.46  | 17.20  | 16.94  | 16.69  | 16.44  |
| 21.4000  | 16.20  | 15.96  | 15.72  | 15.49  | 15.18  |
| 21.9000  | 14.83  | 14.50  | 14.12  | 13.72  | 13.34  |
| 22.4000  | 12.99  | 12.68  | 12.39  | 12.12  | 11.87  |

Type.... Vol: Planimeter  
Name.... POND1

'ile.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 1

POND VOLUME CALCULATIONS

Planimeter scale: 1.00 ft/in

| Elevation<br>(ft) | Planimeter<br>(sq.in) | Area<br>(acres) | A1+A2+sq <sup>r</sup> (A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume Sum<br>(ac-ft) |
|-------------------|-----------------------|-----------------|--|-------------------|-----------------------|
| 550.40            | .000                  | .0000           | .0000                                    | .000              | .000                  |
| 552.00            | 90440.000             | 2.0762          | 2.0762                                   | 1.107             | 1.107                 |
| 554.00            | 112120.000            | 2.5739          | 6.9619                                   | 4.641             | 5.749                 |
| 555.00            | 116870.000            | 2.6830          | 7.8848                                   | 2.628             | 8.377                 |

POND VOLUME EQUATIONS

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

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

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

'/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Vol: Planimeter  
Name.... POND2

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 2

POND VOLUME CALCULATIONS

Planimeter scale: 1.00 ft/in

| Elevation<br>(ft) | Planimeter<br>(sq.in) | Area<br>(acres) | A1+A2+sqr(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume Sum<br>(ac-ft) |
|-------------------|-----------------------|-----------------|-----------------------------|-------------------|-----------------------|
| 521.80            | .000                  | .0000           | .0000                       | .000              | .000                  |
| 522.00            | 90520.000             | 2.0781          | 2.0781                      | .139              | .139                  |
| 524.00            | 95500.000             | 2.1924          | 6.4049                      | 4.270             | 4.408                 |
| 526.00            | 127200.000            | 2.9201          | 7.6427                      | 5.095             | 9.504                 |
| 527.00            | 130500.000            | 2.9959          | 8.8737                      | 2.958             | 12.462                |

POND VOLUME EQUATIONS

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

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

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

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Outlet Input Data  
Name.... EX. POND 1 ROUTE

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 1 OUTLET ROUTING

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 550.40 ft  
Increment = .05 ft  
Max. Elev.= 555.00 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  |
|---|-----|---------|---------|---------|
| -----<br>Culvert-Circular<br>TW SETUP, DS Channel | P1  | ---> TW | 550.400 | 555.000 |

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type... Outlet Input Data  
Name... EX. POND 1 ROUTE

File... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 1 OUTLET ROUTING

OUTLET STRUCTURE INPUT DATA

Structure ID = P1  
Structure Type = Culvert-Circular  
-----  
No. Barrels = 1  
Barrel Diameter = 1.2500 ft  
Upstream Invert = 550.40 ft  
Downstream Invert = 534.00 ft  
Horiz. Length = 127.00 ft  
Barrel Length = 128.05 ft  
Barrel Slope = .12913 ft/ft

OUTLET CONTROL DATA...

Mannings n = .0130  
Ke = .5000 (forward entrance loss)  
Kb = .023225 (per ft of full flow)  
Kr = .5000 (reverse entrance loss)  
HW Convergence = .001 +/- ft

INLET CONTROL DATA...

Equation form = 1  
Inlet Control K = .0098  
Inlet Control M = 2.0000  
Inlet Control c = .03980  
Inlet Control Y = .6700  
T1 ratio (HW/D) = 1.096  
T2 ratio (HW/D) = 1.242  
Slope Factor = -.500  
Calc inlet only = Yes

Use unsubmerged inlet control Form 1 equ. below T1 elev.  
Use submerged inlet control Form 1 equ. above T2 elev.

In transition zone between unsubmerged and submerged inlet control,  
interpolate between flows at T1 & T2...

At T1 Elev = 551.77 ft ---> Flow = 4.80 cfs  
At T2 Elev = 551.95 ft ---> Flow = 5.49 cfs



Type.... Outlet Input Data  
Name.... EX. POND 1 ROUTE

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File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 1 OUTLET ROUTING

OUTLET STRUCTURE INPUT DATA

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

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002

Type.... Composite Rating Curve  
Name.... EX. POND 1 ROUTE

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 1 OUTLET ROUTING

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

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 550.40           | .00      | Free          | Outfall        | None contributing       |
| 550.45           | .07      | Free          | Outfall        | P1                      |
| 550.50           | .12      | Free          | Outfall        | P1                      |
| 550.55           | .20      | Free          | Outfall        | P1                      |
| 550.60           | .29      | Free          | Outfall        | P1                      |
| 550.65           | .39      | Free          | Outfall        | P1                      |
| 550.70           | .52      | Free          | Outfall        | P1                      |
| 550.75           | .66      | Free          | Outfall        | P1                      |
| 550.80           | .80      | Free          | Outfall        | P1                      |
| 550.85           | .97      | Free          | Outfall        | P1                      |
| 550.90           | 1.13     | Free          | Outfall        | P1                      |
| 550.95           | 1.31     | Free          | Outfall        | P1                      |
| 551.00           | 1.50     | Free          | Outfall        | P1                      |
| 551.05           | 1.70     | Free          | Outfall        | P1                      |
| 551.10           | 1.90     | Free          | Outfall        | P1                      |
| 551.15           | 2.10     | Free          | Outfall        | P1                      |
| 551.20           | 2.32     | Free          | Outfall        | P1                      |
| 551.25           | 2.53     | Free          | Outfall        | P1                      |
| 551.30           | 2.74     | Free          | Outfall        | P1                      |
| 551.35           | 2.97     | Free          | Outfall        | P1                      |
| 551.40           | 3.18     | Free          | Outfall        | P1                      |
| 551.45           | 3.41     | Free          | Outfall        | P1                      |
| 551.50           | 3.63     | Free          | Outfall        | P1                      |
| 551.55           | 3.85     | Free          | Outfall        | P1                      |
| 551.60           | 4.07     | Free          | Outfall        | P1                      |
| 551.65           | 4.29     | Free          | Outfall        | P1                      |
| 551.70           | 4.51     | Free          | Outfall        | P1                      |
| 551.75           | 4.72     | Free          | Outfall        | P1                      |
| 551.80           | 4.91     | Free          | Outfall        | P1                      |
| 551.85           | 5.10     | Free          | Outfall        | P1                      |
| 551.90           | 5.29     | Free          | Outfall        | P1                      |
| 551.95           | 5.48     | Free          | Outfall        | P1                      |
| 552.00           | 5.65     | Free          | Outfall        | P1                      |
| 552.05           | 5.81     | Free          | Outfall        | P1                      |
| 552.10           | 5.97     | Free          | Outfall        | P1                      |
| 552.15           | 6.13     | Free          | Outfall        | P1                      |
| 552.20           | 6.28     | Free          | Outfall        | P1                      |

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Composite Rating Curve  
Name.... EX. POND 1 ROUTE

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 1 OUTLET ROUTING

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

| WS Elev, Total Q |       | Notes    |         |                         |
|------------------|-------|----------|---------|-------------------------|
| Elev.            | Q     | Converge |         | Contributing Structures |
| ft               | cfs   | TW Elev  | Error   |                         |
|                  |       | ft       | +/-ft   |                         |
| 552.25           | 6.43  | Free     | Outfall | P1                      |
| 552.30           | 6.57  | Free     | Outfall | P1                      |
| 552.35           | 6.72  | Free     | Outfall | P1                      |
| 552.40           | 6.86  | Free     | Outfall | P1                      |
| 552.45           | 7.00  | Free     | Outfall | P1                      |
| 552.50           | 7.13  | Free     | Outfall | P1                      |
| 552.55           | 7.26  | Free     | Outfall | P1                      |
| 552.60           | 7.39  | Free     | Outfall | P1                      |
| 552.65           | 7.52  | Free     | Outfall | P1                      |
| 552.70           | 7.64  | Free     | Outfall | P1                      |
| 552.75           | 7.77  | Free     | Outfall | P1                      |
| 552.80           | 7.89  | Free     | Outfall | P1                      |
| 552.85           | 8.00  | Free     | Outfall | P1                      |
| 552.90           | 8.12  | Free     | Outfall | P1                      |
| 552.95           | 8.24  | Free     | Outfall | P1                      |
| 553.00           | 8.35  | Free     | Outfall | P1                      |
| 553.05           | 8.46  | Free     | Outfall | P1                      |
| 553.10           | 8.58  | Free     | Outfall | P1                      |
| 553.15           | 8.68  | Free     | Outfall | P1                      |
| 553.20           | 8.79  | Free     | Outfall | P1                      |
| 553.25           | 8.90  | Free     | Outfall | P1                      |
| 553.30           | 9.01  | Free     | Outfall | P1                      |
| 553.35           | 9.11  | Free     | Outfall | P1                      |
| 553.40           | 9.21  | Free     | Outfall | P1                      |
| 553.45           | 9.32  | Free     | Outfall | P1                      |
| 553.50           | 9.42  | Free     | Outfall | P1                      |
| 553.55           | 9.52  | Free     | Outfall | P1                      |
| 553.60           | 9.61  | Free     | Outfall | P1                      |
| 553.65           | 9.71  | Free     | Outfall | P1                      |
| 553.70           | 9.81  | Free     | Outfall | P1                      |
| 553.75           | 9.91  | Free     | Outfall | P1                      |
| 553.80           | 10.00 | Free     | Outfall | P1                      |
| 553.85           | 10.09 | Free     | Outfall | P1                      |
| 553.90           | 10.19 | Free     | Outfall | P1                      |
| 553.95           | 10.28 | Free     | Outfall | P1                      |
| 554.00           | 10.37 | Free     | Outfall | P1                      |
| 554.05           | 10.46 | Free     | Outfall | P1                      |

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Composite Rating Curve  
Name.... EX. POND 1 ROUTE

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 1 OUTLET ROUTING

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

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 554.10           | 10.55    | Free          | Outfall        | P1                      |
| 554.15           | 10.64    | Free          | Outfall        | P1                      |
| 554.20           | 10.73    | Free          | Outfall        | P1                      |
| 554.25           | 10.82    | Free          | Outfall        | P1                      |
| 554.30           | 10.90    | Free          | Outfall        | P1                      |
| 554.35           | 10.99    | Free          | Outfall        | P1                      |
| 554.40           | 11.08    | Free          | Outfall        | P1                      |
| 554.45           | 11.16    | Free          | Outfall        | P1                      |
| 554.50           | 11.25    | Free          | Outfall        | P1                      |
| 554.55           | 11.33    | Free          | Outfall        | P1                      |
| 554.60           | 11.41    | Free          | Outfall        | P1                      |
| 554.65           | 11.50    | Free          | Outfall        | P1                      |
| 554.70           | 11.58    | Free          | Outfall        | P1                      |
| 554.75           | 11.66    | Free          | Outfall        | P1                      |
| 554.80           | 11.74    | Free          | Outfall        | P1                      |
| 554.85           | 11.82    | Free          | Outfall        | P1                      |
| 554.90           | 11.90    | Free          | Outfall        | P1                      |
| 554.95           | 11.98    | Free          | Outfall        | P1                      |
| 555.00           | 12.06    | Free          | Outfall        | P1                      |

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PondPack Ver: 7.5 (767)    Compute Time: 16:38:53    Date: 08-06-2002

Type.... Outlet Input Data  
Name.... POND2-EXIST

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 2 ROUTE

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 521.80 ft  
Increment = .05 ft  
Max. Elev.= 527.00 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  |
|----------------------|-----|------|---------|---------|---------|
| Stand Pipe           | 24  | ---> | TW      | 521.800 | 527.000 |
| Weir-Rectangular     | PW  | ---> | TW      | 524.000 | 527.000 |
| Culvert-Circular     | 18  | ---> | TW      | 521.870 | 527.000 |
| TW SETUP, DS Channel |     |      |         |         |         |

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Outlet Input Data  
Name.... POND2-EXIST

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 2 ROUTE

OUTLET STRUCTURE INPUT DATA

Structure ID = 24  
Structure Type = Stand Pipe  
-----  
# of Openings = 1  
Invert Elev. = 521.80 ft  
Diameter = 2.0000 ft  
Orifice Area = 3.1416 sq.ft  
Orifice Coeff. = .600  
Weir Length = 6.28 ft  
Weir Coeff. = 3.330  
K, Submerged = .000  
K, Reverse = 1.000  
Kb, Barrel = .000000 (per ft of full flow)  
Barrel Length = .00 ft  
Mannings n = .0000

Structure ID = PW  
Structure Type = Weir-Rectangular  
-----  
# of Openings = 1  
Crest Elev. = 524.00 ft  
Weir Length = 20.00 ft  
Weir Coeff. = 3.330000

Weir TW effects (Use adjustment equation)

Type.... Outlet Input Data  
Name.... POND2-EXIST

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 2 ROUTE

OUTLET STRUCTURE INPUT DATA

Structure ID = 18  
Structure Type = Culvert-Circular  
-----  
No. Barrels = 1  
Barrel Diameter = 1.5000 ft  
Upstream Invert = 521.87 ft  
Dnstream Invert = 508.87 ft  
Horiz. Length = 186.00 ft  
Barrel Length = 186.45 ft  
Barrel Slope = .06989 ft/ft

OUTLET CONTROL DATA...

Mannings n = .0100  
Ke = .5000 (forward entrance loss)  
Kb = .010777 (per ft of full flow)  
Kr = .5000 (reverse entrance loss)  
HW Convergence = .001 +/- ft

INLET CONTROL DATA...

Equation form = 1  
Inlet Control K = .0340  
Inlet Control M = 1.5000  
Inlet Control c = .05530  
Inlet Control Y = .5400  
T1 ratio (HW/D) = 1.228  
T2 ratio (HW/D) = 1.390  
Slope Factor = -.500  
Calc inlet only = Yes

Use unsubmerged inlet control Form 1 equ. below T1 elev.  
Use submerged inlet control Form 1 equ. above T2 elev.

In transition zone between unsubmerged and submerged inlet control,  
interpolate between flows at T1 & T2...

At T1 Elev = 523.71 ft ---> Flow = 7.58 cfs  
At T2 Elev = 523.95 ft ---> Flow = 8.66 cfs

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.... POND2-EXIST

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 2 ROUTE

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

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 521.80           | .00      | Free          | Outfall        | 24                      |
| 521.85           | .23      | Free          | Outfall        | 24                      |
| 521.87           | .39      | Free          | Outfall        | 24                      |
| 521.90           | .69      | Free          | Outfall        | 24 +18                  |
| 521.95           | 1.29     | Free          | Outfall        | 24 +18                  |
| 522.00           | 2.01     | Free          | Outfall        | 24 +18                  |
| 522.05           | 2.83     | Free          | Outfall        | 24 +18                  |
| 522.10           | 3.75     | Free          | Outfall        | 24 +18                  |
| 522.15           | 4.77     | Free          | Outfall        | 24 +18                  |
| 522.20           | 5.86     | Free          | Outfall        | 24 +18                  |
| 522.25           | 7.03     | Free          | Outfall        | 24 +18                  |
| 522.30           | 8.27     | Free          | Outfall        | 24 +18                  |
| 522.35           | 9.57     | Free          | Outfall        | 24 +18                  |
| 522.40           | 10.94    | Free          | Outfall        | 24 +18                  |
| 522.45           | 12.38    | Free          | Outfall        | 24 +18                  |
| 522.50           | 13.86    | Free          | Outfall        | 24 +18                  |
| 522.55           | 14.92    | Free          | Outfall        | 24 +18                  |
| 22.60            | 15.56    | Free          | Outfall        | 24 +18                  |
| 522.65           | 16.19    | Free          | Outfall        | 24 +18                  |
| 522.70           | 16.82    | Free          | Outfall        | 24 +18                  |
| 522.75           | 17.46    | Free          | Outfall        | 24 +18                  |
| 522.80           | 18.07    | Free          | Outfall        | 24 +18                  |
| 522.85           | 18.69    | Free          | Outfall        | 24 +18                  |
| 522.90           | 19.29    | Free          | Outfall        | 24 +18                  |
| 522.95           | 19.90    | Free          | Outfall        | 24 +18                  |
| 523.00           | 20.50    | Free          | Outfall        | 24 +18                  |
| 523.05           | 21.09    | Free          | Outfall        | 24 +18                  |
| 523.10           | 21.67    | Free          | Outfall        | 24 +18                  |
| 523.15           | 22.26    | Free          | Outfall        | 24 +18                  |
| 523.20           | 22.84    | Free          | Outfall        | 24 +18                  |
| 523.25           | 23.41    | Free          | Outfall        | 24 +18                  |
| 523.30           | 23.98    | Free          | Outfall        | 24 +18                  |
| 523.35           | 24.55    | Free          | Outfall        | 24 +18                  |
| 523.40           | 25.10    | Free          | Outfall        | 24 +18                  |
| 523.45           | 25.66    | Free          | Outfall        | 24 +18                  |
| 523.50           | 26.21    | Free          | Outfall        | 24 +18                  |
| 523.55           | 26.75    | Free          | Outfall        | 24 +18                  |

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Type.... Composite Rating Curve  
 Name.... POND2-EXIST

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Title... EXISTING POND 2 ROUTE

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

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 523.60           | 27.29    | Free          | Outfall        | 24 +18                  |
| 523.65           | 27.83    | Free          | Outfall        | 24 +18                  |
| 523.70           | 28.35    | Free          | Outfall        | 24 +18                  |
| 523.75           | 28.86    | Free          | Outfall        | 24 +18                  |
| 523.80           | 29.35    | Free          | Outfall        | 24 +18                  |
| 523.85           | 29.84    | Free          | Outfall        | 24 +18                  |
| 523.90           | 30.32    | Free          | Outfall        | 24 +18                  |
| 523.95           | 30.81    | Free          | Outfall        | 24 +18                  |
| 524.00           | 31.23    | Free          | Outfall        | 24 +PW +18              |
| 524.05           | 32.39    | Free          | Outfall        | 24 +PW +18              |
| 524.10           | 34.16    | Free          | Outfall        | 24 +PW +18              |
| 524.15           | 36.32    | Free          | Outfall        | 24 +PW +18              |
| 524.20           | 38.81    | Free          | Outfall        | 24 +PW +18              |
| 524.25           | 41.57    | Free          | Outfall        | 24 +PW +18              |
| 524.30           | 44.57    | Free          | Outfall        | 24 +PW +18              |
| 524.35           | 47.80    | Free          | Outfall        | 24 +PW +18              |
| 24.40            | 51.23    | Free          | Outfall        | 24 +PW +18              |
| 524.45           | 54.86    | Free          | Outfall        | 24 +PW +18              |
| 524.50           | 58.67    | Free          | Outfall        | 24 +PW +18              |
| 524.55           | 62.66    | Free          | Outfall        | 24 +PW +18              |
| 524.60           | 66.81    | Free          | Outfall        | 24 +PW +18              |
| 524.65           | 71.11    | Free          | Outfall        | 24 +PW +18              |
| 524.70           | 75.57    | Free          | Outfall        | 24 +PW +18              |
| 524.75           | 80.18    | Free          | Outfall        | 24 +PW +18              |
| 524.80           | 84.92    | Free          | Outfall        | 24 +PW +18              |
| 524.85           | 89.80    | Free          | Outfall        | 24 +PW +18              |
| 524.90           | 94.81    | Free          | Outfall        | 24 +PW +18              |
| 524.95           | 99.96    | Free          | Outfall        | 24 +PW +18              |
| 525.00           | 105.22   | Free          | Outfall        | 24 +PW +18              |
| 525.05           | 110.61   | Free          | Outfall        | 24 +PW +18              |
| 525.10           | 116.11   | Free          | Outfall        | 24 +PW +18              |
| 525.15           | 121.74   | Free          | Outfall        | 24 +PW +18              |
| 525.20           | 127.48   | Free          | Outfall        | 24 +PW +18              |
| 525.25           | 133.33   | Free          | Outfall        | 24 +PW +18              |
| 525.30           | 139.29   | Free          | Outfall        | 24 +PW +18              |
| 525.35           | 145.35   | Free          | Outfall        | 24 +PW +18              |
| 525.40           | 151.52   | Free          | Outfall        | 24 +PW +18              |

S/N: 721701406A81 J R GRIMES CONSULTING  
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Type.... Composite Rating Curve  
Name.... POND2-EXIST

File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Title... EXISTING POND 2 ROUTE

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

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 525.45           | 157.80   | Free          | Outfall        | 24 +PW +18              |
| 525.50           | 164.17   | Free          | Outfall        | 24 +PW +18              |
| 525.55           | 170.64   | Free          | Outfall        | 24 +PW +18              |
| 525.60           | 177.22   | Free          | Outfall        | 24 +PW +18              |
| 525.65           | 183.89   | Free          | Outfall        | 24 +PW +18              |
| 525.70           | 190.66   | Free          | Outfall        | 24 +PW +18              |
| 525.75           | 197.51   | Free          | Outfall        | 24 +PW +18              |
| 525.80           | 204.46   | Free          | Outfall        | 24 +PW +18              |
| 525.85           | 211.50   | Free          | Outfall        | 24 +PW +18              |
| 525.90           | 218.63   | Free          | Outfall        | 24 +PW +18              |
| 525.95           | 225.86   | Free          | Outfall        | 24 +PW +18              |
| 526.00           | 233.16   | Free          | Outfall        | 24 +PW +18              |
| 526.05           | 240.55   | Free          | Outfall        | 24 +PW +18              |
| 526.10           | 248.03   | Free          | Outfall        | 24 +PW +18              |
| 526.15           | 255.59   | Free          | Outfall        | 24 +PW +18              |
| 526.20           | 263.25   | Free          | Outfall        | 24 +PW +18              |
| 26.25            | 270.97   | Free          | Outfall        | 24 +PW +18              |
| 526.30           | 278.78   | Free          | Outfall        | 24 +PW +18              |
| 526.35           | 286.67   | Free          | Outfall        | 24 +PW +18              |
| 526.40           | 294.64   | Free          | Outfall        | 24 +PW +18              |
| 526.45           | 302.70   | Free          | Outfall        | 24 +PW +18              |
| 526.50           | 310.83   | Free          | Outfall        | 24 +PW +18              |
| 526.55           | 319.03   | Free          | Outfall        | 24 +PW +18              |
| 526.60           | 327.31   | Free          | Outfall        | 24 +PW +18              |
| 526.65           | 335.67   | Free          | Outfall        | 24 +PW +18              |
| 526.70           | 344.11   | Free          | Outfall        | 24 +PW +18              |
| 526.75           | 352.62   | Free          | Outfall        | 24 +PW +18              |
| 526.80           | 361.20   | Free          | Outfall        | 24 +PW +18              |
| 526.85           | 369.85   | Free          | Outfall        | 24 +PW +18              |
| 526.90           | 378.58   | Free          | Outfall        | 24 +PW +18              |
| 526.95           | 387.39   | Free          | Outfall        | 24 +PW +18              |
| 527.00           | 396.26   | Free          | Outfall        | 24 +PW +18              |

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Pond E-V-Q Table  
 Name.... EX. LAKE #1  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW

LEVEL POOL ROUTING DATA

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = EX-PERS.HYG - EX. LAKE #1 IN Pre..2  
 Outflow HYG file = EX-PERS.HYG - EX. LAKE #1 OUT Pre..2

Pond Node Data = EX. LAKE #1  
 Pond Volume Data = POND1  
 Pond Outlet Data = EX. POND 1 ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 550.40 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout = .00 cfs  
 Time Increment = .1000 hrs

| Elevation<br>ft | Outflow<br>cfs | Storage<br>ac-ft | Area<br>acres | Infiltr.<br>cfs | Q Total<br>cfs | 2S/t + O<br>cfs |
|-----------------|----------------|------------------|---------------|-----------------|----------------|-----------------|
| 550.40          | .00            | .000             | .0000         | .00             | .00            | .00             |
| 550.45          | .07            | .000             | .0020         | .00             | .07            | .07             |
| 550.50          | .12            | .000             | .0081         | .00             | .12            | .19             |
| 550.55          | .20            | .001             | .0183         | .00             | .20            | .42             |
| 550.60          | .29            | .002             | .0324         | .00             | .29            | .81             |
| 550.65          | .39            | .004             | .0507         | .00             | .39            | 1.42            |
| 550.70          | .52            | .007             | .0730         | .00             | .52            | 2.28            |
| 550.75          | .66            | .012             | .0993         | .00             | .66            | 3.46            |
| 550.80          | .80            | .017             | .1298         | .00             | .80            | 4.99            |
| 550.85          | .97            | .025             | .1642         | .00             | .97            | 6.93            |
| 550.90          | 1.13           | .034             | .2028         | .00             | 1.13           | 9.31            |
| 550.95          | 1.31           | .045             | .2453         | .00             | 1.31           | 12.20           |
| 551.00          | 1.50           | .058             | .2920         | .00             | 1.50           | 15.63           |
| 551.05          | 1.70           | .074             | .3427         | .00             | 1.70           | 19.67           |
| 551.10          | 1.90           | .093             | .3974         | .00             | 1.90           | 24.34           |
| 551.15          | 2.10           | .114             | .4562         | .00             | 2.10           | 29.70           |
| 551.20          | 2.32           | .138             | .5191         | .00             | 2.32           | 35.81           |
| 551.25          | 2.53           | .166             | .5859         | .00             | 2.53           | 42.70           |
| 551.30          | 2.74           | .197             | .6570         | .00             | 2.74           | 50.44           |
| 551.35          | 2.97           | .232             | .7320         | .00             | 2.97           | 59.06           |
| 551.40          | 3.18           | .270             | .8110         | .00             | 3.18           | 68.61           |
| 551.45          | 3.41           | .313             | .8942         | .00             | 3.41           | 79.14           |
| 551.50          | 3.63           | .360             | .9813         | .00             | 3.63           | 90.70           |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Pond E-V-Q Table  
 Name.... EX. LAKE #1  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW

LEVEL POOL ROUTING DATA

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = EX-PERS.HYG - EX. LAKE #1 IN Pre..2  
 Outflow HYG file = EX-PERS.HYG - EX. LAKE #1 OUT Pre..2

Pond Node Data = EX. LAKE #1  
 Pond Volume Data = POND1  
 Pond Outlet Data = EX. POND 1 ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 550.40 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout = .00 cfs  
 Time Increment = .1000 hrs

| Elevation<br>ft | Outflow<br>cfs | Storage<br>ac-ft | Area<br>acres | Infiltr.<br>cfs | Q Total<br>cfs | 2S/t + O<br>cfs |
|-----------------|----------------|------------------|---------------|-----------------|----------------|-----------------|
| 551.55          | 3.85           | .411             | 1.0727        | .00             | 3.85           | 103.36          |
| 551.60          | 4.07           | .467             | 1.1679        | .00             | 4.07           | 117.12          |
| 1.65            | 4.29           | .528             | 1.2673        | .00             | 4.29           | 132.07          |
| 551.70          | 4.51           | .594             | 1.3706        | .00             | 4.51           | 148.24          |
| 551.75          | 4.72           | .665             | 1.4781        | .00             | 4.72           | 165.68          |
| 551.80          | 4.91           | .742             | 1.5897        | .00             | 4.91           | 184.45          |
| 551.85          | 5.10           | .824             | 1.7053        | .00             | 5.10           | 204.56          |
| 551.90          | 5.29           | .912             | 1.8249        | .00             | 5.29           | 226.10          |
| 551.95          | 5.48           | 1.007            | 1.9485        | .00             | 5.48           | 249.10          |
| 552.00          | 5.65           | 1.107            | 2.0762        | .00             | 5.65           | 273.62          |
| 552.05          | 5.81           | 1.212            | 2.0880        | .00             | 5.81           | 299.00          |
| 552.10          | 5.97           | 1.316            | 2.0998        | .00             | 5.97           | 324.49          |
| 552.15          | 6.13           | 1.421            | 2.1117        | .00             | 6.13           | 350.12          |
| 552.20          | 6.28           | 1.527            | 2.1236        | .00             | 6.28           | 375.89          |
| 552.25          | 6.43           | 1.634            | 2.1355        | .00             | 6.43           | 401.80          |
| 552.30          | 6.57           | 1.741            | 2.1475        | .00             | 6.57           | 427.88          |
| 552.35          | 6.72           | 1.849            | 2.1595        | .00             | 6.72           | 454.07          |
| 552.40          | 6.86           | 1.957            | 2.1715        | .00             | 6.86           | 480.41          |
| 552.45          | 7.00           | 2.066            | 2.1835        | .00             | 7.00           | 506.89          |
| 552.50          | 7.13           | 2.175            | 2.1956        | .00             | 7.13           | 533.51          |
| 552.55          | 7.26           | 2.285            | 2.2078        | .00             | 7.26           | 560.31          |
| 552.60          | 7.39           | 2.396            | 2.2199        | .00             | 7.39           | 587.22          |
| 552.65          | 7.52           | 2.507            | 2.2321        | .00             | 7.52           | 614.27          |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Pond E-V-Q Table  
 Name.... EX. LAKE #1  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW

LEVEL POOL ROUTING DATA

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = EX-PERS.HYG - EX. LAKE #1 IN Pre..2  
 Outflow HYG file = EX-PERS.HYG - EX. LAKE #1 OUT Pre..2

Pond Node Data = EX. LAKE #1  
 Pond Volume Data = POND1  
 Pond Outlet Data = EX. POND 1 ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 550.40 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout = .00 cfs  
 Time Increment = .1000 hrs

| Elevation<br>ft | Outflow<br>cfs | Storage<br>ac-ft | Area<br>acres | Infiltr.<br>cfs | Q Total<br>cfs | 2S/t + O<br>cfs |
|-----------------|----------------|------------------|---------------|-----------------|----------------|-----------------|
| 552.70          | 7.64           | 2.619            | 2.2443        | .00             | 7.64           | 641.47          |
| 552.75          | 7.77           | 2.732            | 2.2566        | .00             | 7.77           | 668.82          |
| 2.80            | 7.89           | 2.845            | 2.2689        | .00             | 7.89           | 696.35          |
| 552.85          | 8.00           | 2.959            | 2.2812        | .00             | 8.00           | 723.99          |
| 552.90          | 8.12           | 3.073            | 2.2936        | .00             | 8.12           | 751.77          |
| 552.95          | 8.24           | 3.188            | 2.3060        | .00             | 8.24           | 779.71          |
| 553.00          | 8.35           | 3.303            | 2.3184        | .00             | 8.35           | 807.80          |
| 553.05          | 8.46           | 3.420            | 2.3309        | .00             | 8.46           | 836.06          |
| 553.10          | 8.58           | 3.537            | 2.3434        | .00             | 8.58           | 864.45          |
| 553.15          | 8.68           | 3.654            | 2.3559        | .00             | 8.68           | 892.98          |
| 553.20          | 8.79           | 3.772            | 2.3684        | .00             | 8.79           | 921.66          |
| 553.25          | 8.90           | 3.891            | 2.3810        | .00             | 8.90           | 950.50          |
| 553.30          | 9.01           | 4.010            | 2.3937        | .00             | 9.01           | 979.52          |
| 553.35          | 9.11           | 4.130            | 2.4063        | .00             | 9.11           | 1008.66         |
| 553.40          | 9.21           | 4.251            | 2.4190        | .00             | 9.21           | 1037.95         |
| 553.45          | 9.32           | 4.372            | 2.4317        | .00             | 9.32           | 1067.39         |
| 553.50          | 9.42           | 4.494            | 2.4445        | .00             | 9.42           | 1096.98         |
| 553.55          | 9.52           | 4.617            | 2.4573        | .00             | 9.52           | 1126.77         |
| 553.60          | 9.61           | 4.740            | 2.4701        | .00             | 9.61           | 1156.67         |
| 553.65          | 9.71           | 4.864            | 2.4830        | .00             | 9.71           | 1186.72         |
| 553.70          | 9.81           | 4.988            | 2.4959        | .00             | 9.81           | 1216.94         |
| 553.75          | 9.91           | 5.113            | 2.5088        | .00             | 9.91           | 1247.30         |
| 553.80          | 10.00          | 5.239            | 2.5218        | .00             | 10.00          | 1277.86         |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Pond E-V-Q Table  
 Name.... EX. LAKE #1  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW

LEVEL POOL ROUTING DATA

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = EX-PERS.HYG - EX. LAKE #1 IN Pre..2  
 Outflow HYG file = EX-PERS.HYG - EX. LAKE #1 OUT Pre..2

Pond Node Data = EX. LAKE #1  
 Pond Volume Data = POND1  
 Pond Outlet Data = EX. POND 1 ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 550.40 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout = .00 cfs  
 Time Increment = .1000 hrs

| Elevation<br>ft | Outflow<br>cfs | Storage<br>ac-ft | Area<br>acres | Infiltr.<br>cfs | Q Total<br>cfs | 2S/t + O<br>cfs |
|-----------------|----------------|------------------|---------------|-----------------|----------------|-----------------|
| 553.85          | 10.09          | 5.365            | 2.5348        | .00             | 10.09          | 1308.54         |
| 553.90          | 10.19          | 5.493            | 2.5478        | .00             | 10.19          | 1339.37         |
| 3.95            | 10.28          | 5.620            | 2.5608        | .00             | 10.28          | 1370.37         |
| 554.00          | 10.37          | 5.749            | 2.5739        | .00             | 10.37          | 1401.52         |
| 554.05          | 10.46          | 5.877            | 2.5793        | .00             | 10.46          | 1432.82         |
| 554.10          | 10.55          | 6.007            | 2.5847        | .00             | 10.55          | 1464.14         |
| 554.15          | 10.64          | 6.136            | 2.5901        | .00             | 10.64          | 1495.53         |
| 554.20          | 10.73          | 6.266            | 2.5956        | .00             | 10.73          | 1526.99         |
| 554.25          | 10.82          | 6.395            | 2.6010        | .00             | 10.82          | 1558.50         |
| 554.30          | 10.90          | 6.526            | 2.6064        | .00             | 10.90          | 1590.13         |
| 554.35          | 10.99          | 6.656            | 2.6118        | .00             | 10.99          | 1621.77         |
| 554.40          | 11.08          | 6.787            | 2.6173        | .00             | 11.08          | 1653.49         |
| 554.45          | 11.16          | 6.918            | 2.6227        | .00             | 11.16          | 1685.27         |
| 554.50          | 11.25          | 7.049            | 2.6282        | .00             | 11.25          | 1717.11         |
| 554.55          | 11.33          | 7.181            | 2.6336        | .00             | 11.33          | 1749.06         |
| 554.60          | 11.41          | 7.312            | 2.6391        | .00             | 11.41          | 1781.04         |
| 554.65          | 11.50          | 7.445            | 2.6445        | .00             | 11.50          | 1813.08         |
| 554.70          | 11.58          | 7.577            | 2.6500        | .00             | 11.58          | 1845.18         |
| 554.75          | 11.66          | 7.709            | 2.6555        | .00             | 11.66          | 1877.35         |
| 554.80          | 11.74          | 7.843            | 2.6610        | .00             | 11.74          | 1909.63         |
| 554.85          | 11.82          | 7.976            | 2.6665        | .00             | 11.82          | 1941.94         |
| 554.90          | 11.90          | 8.109            | 2.6720        | .00             | 11.90          | 1974.30         |
| 554.95          | 11.98          | 8.243            | 2.6775        | .00             | 11.98          | 2006.74         |
| 555.00          | 12.06          | 8.377            | 2.6830        | .00             | 12.06          | 2039.24         |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type... Pond Routing Summary  
Name... EX. LAKE #1 OUT Tag: Pre..2  
File... J:\0675B\PONDPACK\EXISTING-2.PPW  
Form... TypeII 24hr Tag: Pre..2

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Event: 2 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #1 IN Pre..2  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #1 OUT Pre..2  
  
Pond Node Data = EX. LAKE #1  
Pond Volume Data = POND1  
Pond Outlet Data = EX. POND 1 ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 550.40 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 8.80 cfs at 12.4000 hrs  
Peak Outflow = 3.45 cfs at 13.0000 hrs  
-----  
Peak Elevation = 551.46 ft  
Peak Storage = .321 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 1.301  
- Infiltration = .000  
- HYG Vol OUT = 1.301  
- Retained Vol = .000  
-----  
Unrouted Vol = -.000 ac-ft (.000% of Inflow Volume)

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Detention Time  
Name.... EX. LAKE #1 OUT Tag: Pre..2  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Form... TypeII 24hr Tag: Pre..2

Page 8.07  
Event: 2 yr

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #1 IN Pre..2  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #1 OUT Pre..2

Pond Node Data = EX. LAKE #1  
Pond Volume Data = POND1  
Pond Outlet Data = EX. POND 1 ROUTE

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.0000 hrs  
Tp, Total Inflow = 12.4000 hrs  
Peak to Peak = .6000 hrs

Qout+Infilt. Centroid = 15.7448 hrs  
Inflow Centroid = 15.0841 hrs  
Centroid to Centroid = .6606 hrs

Weighted Avg. Plug Time = .6804 hrs  
Max.Plug Vol. Plug Time = .6709 hrs  
Max.Inflow Plug Volume = .072 ac-ft (From 12.3000 to 12.4000 hrs)

-----  
S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002



Type... Pond Routed HYG (total out)  
 Name... EX. LAKE #1 OUT Tag: Pre..2  
 File... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Form... TypeII 24hr Tag: Pre..2

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\EX-PERS.HYG  
 HYG ID = EX. LAKE #1 OUT  
 HYG Tag = Pre..2

-----  
 Peak Discharge = 3.45 cfs  
 Time to Peak = 13.0000 hrs  
 HYG Volume = 1.301 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |      |      |      |      |
|----------|---|------|------|------|------|
|          | Output Time increment = .1000 hrs                         |      |      |      |      |
|          | Time on left represents time for first value in each row. |      |      |      |      |
| 11.5000  | .00   | .00  | .03  | .17  | .38  |
| 12.0000  | .73   | 1.20 | 1.73 | 2.22 | 2.62 |
| 12.5000  | 2.93  | 3.15 | 3.29 | 3.38 | 3.43 |
| 13.0000  | 3.45  | 3.45 | 3.43 | 3.41 | 3.36 |
| 13.5000  | 3.32  | 3.26 | 3.20 | 3.14 | 3.07 |
| 14.0000  | 3.01  | 2.93 | 2.85 | 2.78 | 2.70 |
| 14.5000  | 2.61  | 2.54 | 2.45 | 2.37 | 2.30 |
| 15.0000  | 2.21  | 2.13 | 2.05 | 1.97 | 1.89 |
| 15.5000  | 1.82  | 1.75 | 1.67 | 1.60 | 1.53 |
| 16.0000  | 1.47  | 1.40 | 1.34 | 1.28 | 1.22 |
| 16.5000  | 1.17  | 1.12 | 1.07 | 1.02 | .98  |
| 17.0000  | .95   | .91  | .88  | .85  | .83  |
| 17.5000  | .80   | .78  | .76  | .75  | .73  |
| 18.0000  | .72   | .70  | .69  | .68  | .67  |
| 18.5000  | .66   | .65  | .64  | .63  | .62  |
| 19.0000  | .61   | .61  | .60  | .59  | .58  |
| 19.5000  | .57   | .56  | .56  | .55  | .54  |
| 20.0000  | .53   | .52  | .52  | .51  | .50  |
| 20.5000  | .49   | .48  | .48  | .47  | .47  |
| 21.0000  | .46   | .46  | .46  | .45  | .45  |
| 21.5000  | .45   | .45  | .45  | .44  | .44  |
| 22.0000  | .44   | .44  | .44  | .44  | .44  |
| 22.5000  | .43   | .43  | .43  | .43  | .43  |
| 23.0000  | .43   | .43  | .42  | .42  | .42  |
| 23.5000  | .42   | .42  | .42  | .42  | .41  |
| 24.0000  | .41   | .41  | .40  | .39  | .36  |
| 24.5000  | .32   | .26  | .20  | .11  | .06  |
| 25.0000  | .05   | .03  | .02  | .02  | .01  |
| 25.5000  | .01   | .01  | .00  | .00  | .00  |
| 26.0000  | .00   |      |      |      |      |

Type... Pond Routing Summary  
Name... EX. LAKE #1 OUT Tag: Pre.15  
File... J:\0675B\PONDPACK\EXISTING-2.PPW  
Form... TypeII 24hr Tag: Pre.15

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Event: 15 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #1 IN Pre.15  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #1 OUT Pre.15  
  
Pond Node Data = EX. LAKE #1  
Pond Volume Data = POND1  
Pond Outlet Data = EX. POND 1 ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 550.40 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 22.78 cfs at 12.3000 hrs  
Peak Outflow = 5.61 cfs at 13.3000 hrs  
-----  
Peak Elevation = 551.99 ft  
Peak Storage = 1.083 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 2.975  
- Infiltration = .000  
- HYG Vol OUT = 2.975  
- Retained Vol = .000  
-----  
Unrouted Vol = -.000 ac-ft (.000% of Inflow Volume)

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Detention Time  
Name.... EX. LAKE #1 OUT Tag: Pre.15  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Term... TypeII 24hr Tag: Pre.15

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Event: 15 yr

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #1 IN Pre.15  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #1 OUT Pre.15

Pond Node Data = EX. LAKE #1  
Pond Volume Data = POND1  
Pond Outlet Data = EX. POND 1 ROUTE

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.3000 hrs  
Tp, Total Inflow = 12.3000 hrs  
Peak to Peak = 1.0000 hrs

Qout+Infilt. Centroid = 16.0851 hrs  
Inflow Centroid = 14.6381 hrs  
Centroid to Centroid = 1.4470 hrs

Weighted Avg. Plug Time = 1.4955 hrs  
Max.Plug Vol. Plug Time = 1.3292 hrs  
Max.Inflow Plug Volume = .186 ac-ft (From 12.3000 to 12.4000 hrs)

-----  
S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Pond Routed HYG (total out)  
 Name.... EX. LAKE #1 OUT Tag: Pre.15  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 'form... TypeII 24hr Tag: Pre.15

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 Event: 15 yr

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\EX-PERS.HYG  
 HYG ID = EX. LAKE #1 OUT  
 HYG Tag = Pre.15

-----  
 Peak Discharge = 5.61 cfs  
 Time to Peak = 13.3000 hrs  
 HYG Volume = 2.975 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs |      |      |      |      |
|----------|-----------------------------------|------|------|------|------|
| 10.3000  | .00                               | .00  | .01  | .01  | .03  |
| 10.8000  | .06                               | .09  | .14  | .19  | .23  |
| 11.3000  | .29                               | .35  | .43  | .53  | .67  |
| 11.8000  | .90                               | 1.28 | 1.86 | 2.58 | 3.32 |
| 12.3000  | 3.98                              | 4.51 | 4.89 | 5.14 | 5.32 |
| 12.8000  | 5.44                              | 5.52 | 5.56 | 5.59 | 5.61 |
| 13.3000  | 5.61                              | 5.60 | 5.59 | 5.57 | 5.55 |
| 13.8000  | 5.52                              | 5.49 | 5.46 | 5.42 | 5.38 |
| 14.3000  | 5.34                              | 5.29 | 5.24 | 5.19 | 5.14 |
| 14.8000  | 5.09                              | 5.04 | 4.98 | 4.93 | 4.87 |
| 15.3000  | 4.81                              | 4.75 | 4.69 | 4.62 | 4.56 |
| 15.8000  | 4.49                              | 4.41 | 4.34 | 4.27 | 4.19 |
| 16.3000  | 4.11                              | 4.04 | 3.96 | 3.88 | 3.80 |
| 16.8000  | 3.72                              | 3.64 | 3.56 | 3.48 | 3.40 |
| 17.3000  | 3.31                              | 3.22 | 3.14 | 3.06 | 2.98 |
| 17.8000  | 2.90                              | 2.81 | 2.73 | 2.65 | 2.57 |
| 18.3000  | 2.49                              | 2.42 | 2.34 | 2.27 | 2.19 |
| 18.8000  | 2.12                              | 2.04 | 1.97 | 1.90 | 1.83 |
| 19.3000  | 1.77                              | 1.71 | 1.65 | 1.59 | 1.53 |
| 19.8000  | 1.48                              | 1.42 | 1.37 | 1.32 | 1.28 |
| 20.3000  | 1.23                              | 1.19 | 1.16 | 1.12 | 1.09 |
| 20.8000  | 1.06                              | 1.03 | 1.01 | .99  | .97  |
| 21.3000  | .95                               | .93  | .92  | .90  | .89  |
| 21.8000  | .88                               | .87  | .87  | .86  | .85  |
| 22.3000  | .85                               | .84  | .84  | .83  | .83  |
| 22.8000  | .83                               | .82  | .82  | .81  | .81  |
| 23.3000  | .81                               | .80  | .80  | .80  | .79  |
| 23.8000  | .79                               | .79  | .78  | .78  | .77  |
| 24.3000  | .75                               | .71  | .66  | .59  | .51  |
| 24.8000  | .41                               | .31  | .22  | .10  | .04  |
| 25.3000  | .03                               | .02  | .01  | .01  | .01  |
| 25.8000  | .00                               | .00  | .00  | .00  |      |

Type... Pond Routing Summary  
Name... EX. LAKE #1 OUT Tag: Pre.25  
File... J:\0675B\PONDPACK\EXISTING-2.PPW  
'form... TypeII 24hr Tag: Pre.25

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Event: 25 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #1 IN Pre.25  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #1 OUT Pre.25

Pond Node Data = EX. LAKE #1  
Pond Volume Data = POND1  
Pond Outlet Data = EX. POND 1 ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 550.40 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 27.46 cfs at 12.3000 hrs  
Peak Outflow = 6.05 cfs at 13.3000 hrs  
-----  
Peak Elevation = 552.13 ft  
Peak Storage = 1.370 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 3.530  
- Infiltration = .000  
- HYG Vol OUT = 3.530  
- Retained Vol = .000  
-----  
Unrouted Vol = -.000 ac-ft (.000% of Inflow Volume)

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Detention Time  
Name.... EX. LAKE #1 OUT Tag: Pre.25  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
'torm... TypeII 24hr Tag: Pre.25

Page 8.13  
Event: 25 yr

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #1 IN Pre.25  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #1 OUT Pre.25

Pond Node Data = EX. LAKE #1  
Pond Volume Data = POND1  
Pond Outlet Data = EX. POND 1 ROUTE

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.4000 hrs  
Tp, Total Inflow = 12.3000 hrs  
Peak to Peak = 1.1000 hrs

Qout+Infilt. Centroid = 16.2633 hrs  
Inflow Centroid = 14.5532 hrs  
Centroid to Centroid = 1.7101 hrs

Weighted Avg. Plug Time = 1.7677 hrs  
Max.Plug Vol. Plug Time = 1.5429 hrs  
Max.Inflow Plug Volume = .224 ac-ft (From 12.3000 to 12.4000 hrs)

-----  
S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type... Pond Routed HYG (total out)  
 Name... EX. LAKE #1 OUT Tag: Pre.25  
 File... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Term... TypeII 24hr Tag: Pre.25

Page 8.14  
 Event: 25 yr

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\EX-PERS.HYG  
 HYG ID = EX. LAKE #1 OUT  
 HYG Tag = Pre.25

-----  
 Peak Discharge = 6.05 cfs  
 Time to Peak = 13.3000 hrs  
 HYG Volume = 3.530 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |      |      |      |      |
|----------|---|------|------|------|------|
|          | Time on left represents time for first value in each row. |      |      |      |      |
| 9.9000   | .00   | .00  | .00  | .01  | .03  |
| 10.4000  | .05   | .08  | .11  | .16  | .20  |
| 10.9000  | .23   | .28  | .33  | .40  | .47  |
| 11.4000  | .55   | .65  | .76  | .92  | 1.16 |
| 11.9000  | 1.58  | 2.19 | 2.95 | 3.72 | 4.40 |
| 12.4000  | 4.93  | 5.30 | 5.56 | 5.73 | 5.84 |
| 12.9000  | 5.93  | 5.99 | 6.02 | 6.04 | 6.05 |
| 13.4000  | 6.05  | 6.04 | 6.03 | 6.01 | 5.99 |
| 13.9000  | 5.97  | 5.94 | 5.91 | 5.88 | 5.84 |
| 14.4000  | 5.81  | 5.77 | 5.73 | 5.69 | 5.65 |
| 14.9000  | 5.61  | 5.57 | 5.52 | 5.48 | 5.43 |
| 15.4000  | 5.37  | 5.32 | 5.27 | 5.22 | 5.16 |
| 15.9000  | 5.11  | 5.05 | 4.99 | 4.93 | 4.87 |
| 16.4000  | 4.81  | 4.75 | 4.68 | 4.60 | 4.53 |
| 16.9000  | 4.46  | 4.38 | 4.30 | 4.23 | 4.15 |
| 17.4000  | 4.07  | 3.99 | 3.92 | 3.84 | 3.76 |
| 17.9000  | 3.68  | 3.60 | 3.52 | 3.44 | 3.35 |
| 18.4000  | 3.27  | 3.19 | 3.11 | 3.03 | 2.95 |
| 18.9000  | 2.86  | 2.78 | 2.70 | 2.62 | 2.54 |
| 19.4000  | 2.46  | 2.38 | 2.31 | 2.23 | 2.15 |
| 19.9000  | 2.08  | 2.00 | 1.93 | 1.86 | 1.79 |
| 20.4000  | 1.73  | 1.67 | 1.60 | 1.54 | 1.49 |
| 20.9000  | 1.43  | 1.38 | 1.34 | 1.30 | 1.26 |
| 21.4000  | 1.22  | 1.19 | 1.16 | 1.14 | 1.11 |
| 21.9000  | 1.09  | 1.07 | 1.05 | 1.04 | 1.02 |
| 22.4000  | 1.01  | 1.00 | .99  | .98  | .97  |
| 22.9000  | .96   | .95  | .95  | .94  | .93  |
| 23.4000  | .93   | .92  | .92  | .91  | .91  |
| 23.9000  | .90   | .90  | .89  | .88  | .86  |
| 24.4000  | .83   | .77  | .70  | .61  | .51  |
| 24.9000  | .40   | .30  | .20  | .06  | .03  |
| 25.4000  | .02   | .02  | .01  | .01  | .01  |
| 25.9000  | .00   | .00  | .00  |      |      |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002

Type.... Pond Routing Summary  
Name.... EX. LAKE #1 OUT Tag: Pre100  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
'form... TypeII 24hr Tag: Pre100

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Event: 100 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #1 IN Pre100  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #1 OUT Pre100  
  
Pond Node Data = EX. LAKE #1  
Pond Volume Data = POND1  
Pond Outlet Data = EX. POND 1 ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 550.40 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 42.35 cfs at 12.3000 hrs  
Peak Outflow = 7.32 cfs at 13.5000 hrs  
-----  
Peak Elevation = 552.57 ft  
Peak Storage = 2.338 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 5.308  
- Infiltration = .000  
- HYG Vol OUT = 5.308  
- Retained Vol = .000  
-----  
Unrouted Vol = -.000 ac-ft (.000% of Inflow Volume)

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002



Type.... Detention Time  
Name.... EX. LAKE #1 OUT Tag: Pre100  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
'torm... TypeII 24hr Tag: Pre100

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Event: 100 yr

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #1 IN Pre100  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #1 OUT Pre100

Pond Node Data = EX. LAKE #1  
Pond Volume Data = POND1  
Pond Outlet Data = EX. POND 1 ROUTE

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.5000 hrs  
Tp, Total Inflow = 12.3000 hrs  
Peak to Peak = 1.2000 hrs

Qout+Infilt. Centroid = 16.8638 hrs  
Inflow Centroid = 14.3554 hrs  
Centroid to Centroid = 2.5083 hrs

Weighted Avg. Plug Time = 2.5919 hrs  
Max.Plug Vol. Plug Time = 2.1608 hrs  
Max.Inflow Plug Volume = .344 ac-ft (From 12.3000 to 12.4000 hrs)

-----  
S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Pond Routed HYG (total out)  
 Name.... EX. LAKE #1 OUT Tag: Pre100  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 torm... TypeII 24hr Tag: Pre100

Page 8.17  
 Event: 100 yr

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\EX-PERS.HYG  
 HYG ID = EX. LAKE #1 OUT  
 HYG Tag = Pre100

-----  
 Peak Discharge = 7.32 cfs  
 Time to Peak = 13.5000 hrs  
 HYG Volume = 5.308 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

| Time hrs | Output Time increment = .1000 hrs                         |      |      |      |      |
|----------|---|------|------|------|------|
|          | Time on left represents time for first value in each row. |      |      |      |      |
| 8.8000   | .00   | .00  | .01  | .01  | .03  |
| 9.3000   | .05   | .07  | .10  | .13  | .17  |
| 9.8000   | .19   | .22  | .25  | .28  | .32  |
| 10.3000  | .36   | .41  | .46  | .52  | .57  |
| 10.8000  | .64   | .71  | .79  | .87  | .97  |
| 11.3000  | 1.06  | 1.18 | 1.30 | 1.46 | 1.65 |
| 11.8000  | 1.95  | 2.42 | 3.10 | 3.92 | 4.76 |
| 12.3000  | 5.41  | 5.90 | 6.30 | 6.60 | 6.82 |
| 12.8000  | 6.99  | 7.10 | 7.18 | 7.24 | 7.28 |
| 13.3000  | 7.30  | 7.32 | 7.32 | 7.32 | 7.31 |
| 13.8000  | 7.30  | 7.28 | 7.27 | 7.24 | 7.22 |
| 14.3000  | 7.19  | 7.16 | 7.13 | 7.10 | 7.07 |
| 14.8000  | 7.03  | 7.00 | 6.96 | 6.93 | 6.89 |
| 15.3000  | 6.85  | 6.81 | 6.77 | 6.73 | 6.69 |
| 15.8000  | 6.65  | 6.61 | 6.57 | 6.52 | 6.48 |
| 16.3000  | 6.44  | 6.39 | 6.35 | 6.30 | 6.26 |
| 16.8000  | 6.21  | 6.16 | 6.12 | 6.07 | 6.02 |
| 17.3000  | 5.98  | 5.93 | 5.88 | 5.83 | 5.79 |
| 17.8000  | 5.74  | 5.69 | 5.65 | 5.60 | 5.54 |
| 18.3000  | 5.49  | 5.44 | 5.38 | 5.32 | 5.27 |
| 18.8000  | 5.21  | 5.15 | 5.09 | 5.02 | 4.96 |
| 19.3000  | 4.90  | 4.83 | 4.77 | 4.70 | 4.62 |
| 19.8000  | 4.55  | 4.47 | 4.39 | 4.31 | 4.23 |
| 20.3000  | 4.15  | 4.07 | 3.99 | 3.91 | 3.83 |
| 20.8000  | 3.74  | 3.66 | 3.57 | 3.49 | 3.41 |
| 21.3000  | 3.32  | 3.23 | 3.15 | 3.07 | 2.99 |
| 21.8000  | 2.90  | 2.82 | 2.74 | 2.66 | 2.59 |
| 22.3000  | 2.51  | 2.44 | 2.37 | 2.30 | 2.23 |
| 22.8000  | 2.16  | 2.10 | 2.03 | 1.97 | 1.92 |
| 23.3000  | 1.86  | 1.81 | 1.76 | 1.71 | 1.67 |
| 23.8000  | 1.63  | 1.59 | 1.55 | 1.51 | 1.48 |
| 24.3000  | 1.43  | 1.37 | 1.29 | 1.20 | 1.09 |
| 24.8000  | .98   | .85  | .72  | .59  | .45  |

Name.... EX. LAKE #2

File.... J:\0675B\PONDPACK\EXISTING-2.PPW

## LEVEL POOL ROUTING DATA

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre..2  
 Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre..2

Pond Node Data = EX. LAKE #2  
 Pond Volume Data = POND2  
 Pond Outlet Data = POND2-EXIST

No Infiltration

## INITIAL CONDITIONS

-----  
 Starting WS Elev = 521.80 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout = .00 cfs  
 Time Increment = .1000 hrs

| Elevation<br>ft | Outflow<br>cfs | Storage<br>ac-ft | Area<br>acres | Infiltr.<br>cfs | Q Total<br>cfs | 2S/t + O<br>cfs |
|-----------------|----------------|------------------|---------------|-----------------|----------------|-----------------|
| 521.80          | .00            | .000             | .0000         | .00             | .00            | .00             |
| 521.85          | .23            | .002             | .1298         | .00             | .23            | .76             |
| 521.87          | .39            | .006             | .2546         | .00             | .39            | 1.83            |
| 521.90          | .69            | .017             | .5192         | .00             | .69            | 4.88            |
| 521.95          | 1.29           | .058             | 1.1691        | .00             | 1.29           | 15.44           |
| 522.00          | 2.01           | .139             | 2.0781        | .00             | 2.01           | 35.54           |
| 522.05          | 2.83           | .242             | 2.0809        | .00             | 2.83           | 61.52           |
| 522.10          | 3.75           | .347             | 2.0837        | .00             | 3.75           | 87.63           |
| 522.15          | 4.77           | .451             | 2.0865        | .00             | 4.77           | 113.86          |
| 522.20          | 5.86           | .555             | 2.0893        | .00             | 5.86           | 140.25          |
| 522.25          | 7.03           | .660             | 2.0922        | .00             | 7.03           | 166.70          |
| 522.30          | 8.27           | .764             | 2.0950        | .00             | 8.27           | 193.27          |
| 522.35          | 9.57           | .869             | 2.0978        | .00             | 9.57           | 219.94          |
| 522.40          | 10.94          | .974             | 2.1007        | .00             | 10.94          | 246.70          |
| 522.45          | 12.38          | 1.079            | 2.1035        | .00             | 12.38          | 273.60          |
| 522.50          | 13.86          | 1.185            | 2.1063        | .00             | 13.86          | 300.55          |
| 522.55          | 14.92          | 1.290            | 2.1092        | .00             | 14.92          | 327.10          |
| 522.60          | 15.56          | 1.396            | 2.1120        | .00             | 15.56          | 353.27          |
| 522.65          | 16.19          | 1.501            | 2.1149        | .00             | 16.19          | 379.47          |
| 522.70          | 16.82          | 1.607            | 2.1177        | .00             | 16.82          | 405.74          |
| 522.75          | 17.46          | 1.713            | 2.1206        | .00             | 17.46          | 432.00          |
| 522.80          | 18.07          | 1.819            | 2.1234        | .00             | 18.07          | 458.29          |
| 522.85          | 18.69          | 1.925            | 2.1263        | .00             | 18.69          | 484.61          |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 16:38:53

Date: 08-06-2002

Type.... Pond E-V-Q Table  
 Name.... EX. LAKE #2  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW

LEVEL POOL ROUTING DATA

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre..2  
 Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre..2

Pond Node Data = EX. LAKE #2  
 Pond Volume Data = POND2  
 Pond Outlet Data = POND2-EXIST

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 521.80 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout = .00 cfs  
 Time Increment = .1000 hrs

| Elevation<br>ft | Outflow<br>cfs | Storage<br>ac-ft | Area<br>acres | Infilt.<br>cfs | Q Total<br>cfs | 2S/t + O<br>cfs |
|-----------------|----------------|------------------|---------------|----------------|----------------|-----------------|
| 522.90          | 19.99          | 2.032            | 2.1291        | .00            | 19.29          | 510.95          |
| 522.95          | 19.90          | 2.138            | 2.1320        | .00            | 19.90          | 537.36          |
| 523.00          | 20.40          | 2.245            | 2.1348        | .00            | 20.50          | 563.77          |
| 523.05          | 21.09          | 2.352            | 2.1377        | .00            | 21.09          | 590.20          |
| 523.10          | 21.67          | 2.459            | 2.1406        | .00            | 21.67          | 616.67          |
| 523.15          | 22.26          | 2.566            | 2.1434        | .00            | 22.26          | 643.16          |
| 523.20          | 22.84          | 2.673            | 2.1463        | .00            | 22.84          | 669.72          |
| 523.25          | 23.41          | 2.780            | 2.1491        | .00            | 23.41          | 696.27          |
| 523.30          | 23.98          | 2.888            | 2.1520        | .00            | 23.98          | 722.86          |
| 523.35          | 24.55          | 2.996            | 2.1549        | .00            | 24.55          | 749.48          |
| 523.40          | 25.10          | 3.103            | 2.1578        | .00            | 25.10          | 776.11          |
| 523.45          | 25.66          | 3.211            | 2.1606        | .00            | 25.66          | 802.82          |
| 523.50          | 26.21          | 3.320            | 2.1635        | .00            | 26.21          | 829.53          |
| 523.55          | 26.75          | 3.428            | 2.1664        | .00            | 26.75          | 856.26          |
| 523.60          | 27.29          | 3.536            | 2.1693        | .00            | 27.29          | 883.02          |
| 523.65          | 27.83          | 3.645            | 2.1721        | .00            | 27.83          | 909.82          |
| 523.70          | 28.35          | 3.753            | 2.1750        | .00            | 28.35          | 936.67          |
| 523.75          | 28.86          | 3.862            | 2.1779        | .00            | 28.86          | 963.51          |
| 523.80          | 29.35          | 3.971            | 2.1808        | .00            | 29.35          | 990.36          |
| 523.85          | 29.84          | 4.080            | 2.1837        | .00            | 29.84          | 1017.25         |
| 523.90          | 30.32          | 4.189            | 2.1866        | .00            | 30.32          | 1044.17         |
| 523.95          | 30.81          | 4.299            | 2.1895        | .00            | 30.81          | 1071.15         |
| 524.00          | 31.23          | 4.408            | 2.1924        | .00            | 31.23          | 1098.08         |

Type.... Pond E-V-Q Table  
 Name.... EX. LAKE #2  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW

LEVEL POOL ROUTING DATA

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre..2  
 Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre..2

Pond Node Data = EX. LAKE #2  
 Pond Volume Data = POND2  
 Pond Outlet Data = POND2-EXIST

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 521.80 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout = .00 cfs  
 Time Increment = .1000 hrs

| Elevation<br>ft | Outflow<br>cfs | Storage<br>ac-ft | Area<br>acres | Infilt.<br>cfs | Q Total<br>cfs | 2S/t + O<br>cfs |
|-----------------|----------------|------------------|---------------|----------------|----------------|-----------------|
| 524.05          | 32.39          | 4.518            | 2.2093        | .00            | 32.39          | 1125.86         |
| 524.10          | 34.16          | 4.629            | 2.2263        | .00            | 34.16          | 1154.46         |
| 524.15          | 36.32          | 4.741            | 2.2433        | .00            | 36.32          | 1183.66         |
| 524.20          | 38.81          | 4.854            | 2.2605        | .00            | 38.81          | 1213.42         |
| 524.25          | 41.57          | 4.967            | 2.2777        | .00            | 41.57          | 1243.62         |
| 524.30          | 44.57          | 5.081            | 2.2949        | .00            | 44.57          | 1274.28         |
| 524.35          | 47.80          | 5.197            | 2.3122        | .00            | 47.80          | 1305.38         |
| 524.40          | 51.23          | 5.313            | 2.3296        | .00            | 51.23          | 1336.89         |
| 524.45          | 54.86          | 5.430            | 2.3470        | .00            | 54.86          | 1368.84         |
| 524.50          | 58.67          | 5.547            | 2.3646        | .00            | 58.67          | 1401.15         |
| 524.55          | 62.66          | 5.666            | 2.3821        | .00            | 62.66          | 1433.85         |
| 524.60          | 66.81          | 5.786            | 2.3998        | .00            | 66.81          | 1466.92         |
| 524.65          | 71.11          | 5.906            | 2.4175        | .00            | 71.11          | 1500.36         |
| 524.70          | 75.57          | 6.027            | 2.4352        | .00            | 75.57          | 1534.21         |
| 524.75          | 80.18          | 6.150            | 2.4531        | .00            | 80.18          | 1568.38         |
| 524.80          | 84.92          | 6.273            | 2.4710        | .00            | 84.92          | 1602.90         |
| 524.85          | 89.80          | 6.397            | 2.4889        | .00            | 89.80          | 1637.79         |
| 524.90          | 94.81          | 6.522            | 2.5070        | .00            | 94.81          | 1673.01         |
| 524.95          | 99.96          | 6.647            | 2.5251        | .00            | 99.96          | 1708.63         |
| 525.00          | 105.22         | 6.774            | 2.5432        | .00            | 105.22         | 1744.56         |
| 525.05          | 110.61         | 6.902            | 2.5615        | .00            | 110.61         | 1780.82         |
| 525.10          | 116.11         | 7.030            | 2.5797        | .00            | 116.11         | 1817.42         |
| 525.15          | 121.74         | 7.160            | 2.5981        | .00            | 121.74         | 1854.36         |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Pond E-V-Q Table  
 Name.... EX. LAKE #2  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW

LEVEL POOL ROUTING DATA

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre..2  
 Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre..2

Pond Node Data = EX. LAKE #2  
 Pond Volume Data = POND2  
 Pond Outlet Data = POND2-EXIST

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 521.80 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout = .00 cfs  
 Time Increment = .1000 hrs

| Elevation<br>ft | Outflow<br>cfs | Storage<br>ac-ft | Area<br>acres | Infilt.<br>cfs | Q Total<br>cfs | 2S/t + O<br>cfs |
|-----------------|----------------|------------------|---------------|----------------|----------------|-----------------|
| 525.20          | 127.48         | 7.290            | 2.6165        | .00            | 127.48         | 1891.68         |
| 525.25          | 133.33         | 7.421            | 2.6350        | .00            | 133.33         | 1929.30         |
| 525.30          | 139.29         | 7.554            | 2.6536        | .00            | 139.29         | 1967.24         |
| 525.35          | 145.35         | 7.687            | 2.6722        | .00            | 145.35         | 2005.52         |
| 525.40          | 151.52         | 7.821            | 2.6908        | .00            | 151.52         | 2044.12         |
| 525.45          | 157.80         | 7.956            | 2.7096        | .00            | 157.80         | 2083.11         |
| 525.50          | 164.17         | 8.092            | 2.7284        | .00            | 164.17         | 2122.38         |
| 525.55          | 170.64         | 8.229            | 2.7473        | .00            | 170.64         | 2161.97         |
| 525.60          | 177.22         | 8.366            | 2.7662        | .00            | 177.22         | 2201.89         |
| 525.65          | 183.89         | 8.505            | 2.7852        | .00            | 183.89         | 2242.13         |
| 525.70          | 190.66         | 8.645            | 2.8043        | .00            | 190.66         | 2282.75         |
| 525.75          | 197.51         | 8.786            | 2.8235        | .00            | 197.51         | 2323.65         |
| 525.80          | 204.46         | 8.927            | 2.8426        | .00            | 204.46         | 2364.87         |
| 525.85          | 211.50         | 9.070            | 2.8619        | .00            | 211.50         | 2406.41         |
| 525.90          | 218.63         | 9.213            | 2.8812        | .00            | 218.63         | 2448.28         |
| 525.95          | 225.86         | 9.358            | 2.9007        | .00            | 225.86         | 2490.52         |
| 526.00          | 233.16         | 9.504            | 2.9201        | .00            | 233.16         | 2533.03         |
| 526.05          | 240.55         | 9.650            | 2.9239        | .00            | 240.55         | 2575.77         |
| 526.10          | 248.03         | 9.796            | 2.9276        | .00            | 248.03         | 2618.64         |
| 526.15          | 255.59         | 9.942            | 2.9314        | .00            | 255.59         | 2661.64         |
| 526.20          | 263.25         | 10.089           | 2.9352        | .00            | 263.25         | 2704.83         |
| 526.25          | 270.97         | 10.236           | 2.9390        | .00            | 270.97         | 2748.08         |
| 526.30          | 278.78         | 10.383           | 2.9427        | .00            | 278.78         | 2791.47         |

S/N: 721701406AB1 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Pond E-V-Q Table  
 Name.... EX. LAKE #2  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW

LEVEL POOL ROUTING DATA

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre..2  
 Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre..2

Pond Node Data = EX. LAKE #2  
 Pond Volume Data = POND2  
 Pond Outlet Data = POND2-EXIST

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 521.80 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout = .00 cfs  
 Time Increment = .1000 hrs

| Elevation<br>ft | Outflow<br>cfs | Storage<br>ac-ft | Area<br>acres | Infilt.<br>cfs | Q Total<br>cfs | 2S/t + O<br>cfs |
|-----------------|----------------|------------------|---------------|----------------|----------------|-----------------|
| 526.35          | 286.67         | 10.530           | 2.9465        | .00            | 286.67         | 2834.98         |
| 526.40          | 294.64         | 10.678           | 2.9503        | .00            | 294.64         | 2878.62         |
| 526.45          | 302.70         | 10.825           | 2.9541        | .00            | 302.70         | 2922.43         |
| 526.50          | 310.83         | 10.973           | 2.9579        | .00            | 310.83         | 2966.32         |
| 526.55          | 319.03         | 11.121           | 2.9617        | .00            | 319.03         | 3010.32         |
| 526.60          | 327.31         | 11.269           | 2.9654        | .00            | 327.31         | 3054.46         |
| 526.65          | 335.67         | 11.418           | 2.9692        | .00            | 335.67         | 3098.71         |
| 526.70          | 344.11         | 11.566           | 2.9730        | .00            | 344.11         | 3143.13         |
| 526.75          | 352.62         | 11.715           | 2.9768        | .00            | 352.62         | 3187.63         |
| 526.80          | 361.20         | 11.864           | 2.9806        | .00            | 361.20         | 3232.24         |
| 526.85          | 369.85         | 12.013           | 2.9844        | .00            | 369.85         | 3276.98         |
| 526.90          | 378.58         | 12.162           | 2.9882        | .00            | 378.58         | 3321.83         |
| 526.95          | 387.39         | 12.312           | 2.9921        | .00            | 387.39         | 3366.85         |
| 527.00          | 396.26         | 12.462           | 2.9959        | .00            | 396.26         | 3411.94         |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Pond Routing Summary  
Name.... EX. LAKE #2 OUT Tag: Pre..2  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre..2

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre..2  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre..2

Pond Node Data = EX. LAKE #2  
Pond Volume Data = POND2  
Pond Outlet Data = POND2-EXIST

No Infiltration

INITIAL CONDITIONS

-----  
Starting Ws Elev = 521.80 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 38.73 cfs at 12.7000 hrs  
Peak Outflow = 21.83 cfs at 13.9000 hrs  
-----  
Peak Elevation = 523.11 ft  
Peak Storage = 2.487 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 10.222  
- Infiltration = .000  
- HYG Vol OUT = 10.222  
- Retained Vol = .000  
-----

Unrouted Vol = -.000 ac-ft (.000% of Inflow Volume)



Type.... Detention Time  
Name.... EX. LAKE #2 OUT Tag: Pre..2  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre..2

Page 8.25  
Event: 2 yr

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre..2  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre..2

Pond Node Data = EX. LAKE #2  
Pond Volume Data = POND2  
Pond Outlet Data = POND2-EXIST

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.9000 hrs  
Tp, Total Inflow = 12.7000 hrs  
Peak to Peak = 1.2000 hrs

Qout+Infil. Centroid = 16.5479 hrs  
Inflow Centroid = 15.3672 hrs  
Centroid to Centroid = 1.1807 hrs

Weighted Avg. Plug Time = 1.1952 hrs  
Max.Plug Vol. Plug Time = .8704 hrs  
Max.Inflow Plug Volume = .320 ac-ft (From 12.6000 to 12.7000 hrs)

-----  
S/N: 721701406A31 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Pond Routed HYG (total out)  
 Name.... EX. LAKE #2 OUT Tag: Pre..2  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Form... TypeII 24hr Tag: Pre..2

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\EX-PERS.HYG  
 HYG ID = EX. LAKE #2 OUT  
 HYG Tag = Pre..2

-----  
 Peak Discharge = 21.83 cfs  
 Time to Peak = 13.9000 hrs  
 HYG Volume = 10.222 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 9.9000   | .00   | .00   | .00   | .00   | .01   |
| 10.4000  | .01   | .02   | .03   | .05   | .07   |
| 10.9000  | .10   | .14   | .19   | .24   | .27   |
| 11.4000  | .32   | .39   | .46   | .58   | .77   |
| 11.9000  | 1.12  | 1.64  | 2.41  | 3.63  | 5.49  |
| 12.4000  | 7.93  | 10.77 | 13.75 | 15.44 | 16.54 |
| 12.9000  | 17.54   | 18.43 | 19.20 | 19.89 | 20.46 |
| 13.4000  | 20.93   | 21.30 | 21.56 | 21.73 | 21.82 |
| 13.9000  | 21.83   | 21.78 | 21.67 | 21.52 | 21.33 |
| 14.4000  | 21.10   | 20.85 | 20.56 | 20.26 | 19.93 |
| 14.9000  | 19.59   | 19.24 | 18.89 | 18.52 | 18.15 |
| 15.4000  | 17.77   | 17.40 | 17.01 | 16.63 | 16.25 |
| 15.9000  | 15.88   | 15.50 | 15.13 | 14.68 | 14.10 |
| 16.4000  | 13.43   | 12.72 | 12.07 | 11.49 | 10.95 |
| 16.9000  | 10.47   | 10.02 | 9.61  | 9.24  | 8.89  |
| 17.4000  | 8.57  | 8.27  | 8.00  | 7.75  | 7.51  |
| 17.9000  | 7.29  | 7.08  | 6.89  | 6.72  | 6.55  |
| 18.4000  | 6.40  | 6.25  | 6.11  | 5.98  | 5.85  |
| 18.9000  | 5.74  | 5.63  | 5.53  | 5.43  | 5.33  |
| 19.4000  | 5.23  | 5.14  | 5.06  | 4.97  | 4.89  |
| 19.9000  | 4.80  | 4.73  | 4.66  | 4.58  | 4.51  |
| 20.4000  | 4.45  | 4.38  | 4.31  | 4.25  | 4.18  |
| 20.9000  | 4.12  | 4.07  | 4.01  | 3.95  | 3.90  |
| 21.4000  | 3.85  | 3.81  | 3.76  | 3.72  | 3.68  |
| 21.9000  | 3.65  | 3.61  | 3.58  | 3.54  | 3.51  |
| 22.4000  | 3.48  | 3.46  | 3.43  | 3.40  | 3.38  |
| 22.9000  | 3.35  | 3.33  | 3.31  | 3.29  | 3.26  |
| 23.4000  | 3.24  | 3.22  | 3.21  | 3.19  | 3.17  |
| 23.9000  | 3.15  | 3.13  | 3.12  | 3.10  | 3.07  |
| 24.4000  | 3.03  | 2.99  | 2.92  | 2.85  | 2.77  |
| 24.9000  | 2.68  | 2.59  | 2.49  | 2.39  | 2.29  |
| 25.4000  | 2.19  | 2.09  | 1.99  | 1.88  | 1.77  |
| 25.9000  | 1.67  | 1.57  | 1.47  | 1.38  | 1.30  |

Type.... Pond Routing Summary  
Name.... EX. LAKE #2 OUT Tag: Pre.15  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre.15

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Event: 15 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre.15  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre.15  
  
Pond Node Data = EX. LAKE #2  
Pond Volume Data = POND2  
Pond Outlet Data = POND2-EXIST

No Infiltration

INITIAL CONDITIONS

-----  
Starting Wt Elev = 521.80 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 88.11 cfs at 12.5000 hrs  
Peak Outflow = 56.02 cfs at 13.5000 hrs  
-----  
Peak Elevation = 524.47 ft  
Peak Storage = 5.465 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol In = 21.568  
- Infiltration = .000  
- HYG Vol Out = 21.568  
- Retained Vol = .000  
-----  
Unrouted Vol = -.000 ac-ft (.000% of Inflow Volume)

S/N: 721701 06A81 J R GRIMES CONSULTING  
PondPack Ver : 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Detention Time  
Name.... EX. LAKE #2 OUT Tag: Pre.15  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre.15

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre.15  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre.15

Pond Node Data = EX. LAKE #2  
Pond Volume Data = POND2  
Pond Outlet Data = POND2-EXIST

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.5000 hrs  
Tp, Total Inflow = 12.5000 hrs  
Peak to Peak = 1.0000 hrs  
  
Qout+Infiltr. Centroid = 16.4246 hrs  
Inflow Centroid = 15.0866 hrs  
Centroid to Centroid = 1.3380 hrs  
  
Weighted Avg. Plug Time = 1.3547 hrs  
Max.Plug Vol. Plug Time = .9227 hrs  
Max.Inflow Plug Volume = .723 ac-ft (From 12.5000 to 12.6000 hrs)  
-----

Type.... Pond Routed HYG (total out)  
 Name.... EX. LAKE #2 OUT Tag: Pre.15  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Storm... TypeII 24hr Tag: Pre.15

Page 8.30  
 Event: 15 yr

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\EX-PERS.HYG  
 HYG ID = EX. LAKE #2 OUT  
 HYG Tag = Pre.15

-----  
 Peak Discharge = 56.02 cfs  
 Time to Peak = 13.5000 hrs  
 HYG Volume = 21.568 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 8.0000   | .00   | .00   | .00   | .00   | .01   |
| 8.5000   | .01   | .02   | .03   | .04   | .06   |
| 9.0000   | .08   | .11   | .14   | .17   | .21   |
| 9.5000   | .24   | .27   | .30   | .34   | .39   |
| 10.0000  | .43   | .47   | .52   | .58   | .64   |
| 10.5000  | .70   | .75   | .80   | .87   | .96   |
| 11.0000  | 1.07  | 1.21  | 1.34  | 1.47  | 1.62  |
| 11.5000  | 1.82  | 2.06  | 2.37  | 2.84  | 3.76  |
| 12.0000  | 5.51  | 8.63  | 13.63 | 16.95 | 19.95 |
| 12.5000  | 22.91   | 25.65 | 28.07 | 30.09 | 32.59 |
| 13.0000  | 39.00   | 45.40 | 50.41 | 53.77 | 55.54 |
| 13.5000  | 56.02   | 55.41 | 54.06 | 52.23 | 50.12 |
| 14.0000  | 47.88   | 45.69 | 43.55 | 41.50 | 39.62 |
| 14.5000  | 37.86   | 36.22 | 34.80 | 33.53 | 32.40 |
| 15.0000  | 31.64   | 31.09 | 30.79 | 30.44 | 30.07 |
| 15.5000  | 29.68   | 29.29 | 28.89 | 28.46 | 28.03 |
| 16.0000  | 27.58   | 27.13 | 26.67 | 26.21 | 25.75 |
| 16.5000  | 25.28   | 24.82 | 24.37 | 23.91 | 23.45 |
| 17.0000  | 23.00   | 22.56 | 22.11 | 21.67 | 21.24 |
| 17.5000  | 20.82   | 20.40 | 19.98 | 19.57 | 19.17 |
| 18.0000  | 18.78   | 18.39 | 18.01 | 17.64 | 17.27 |
| 18.5000  | 16.91   | 16.55 | 16.21 | 15.87 | 15.53 |
| 19.0000  | 15.21   | 14.88 | 14.37 | 13.90 | 13.29 |
| 19.5000  | 12.71   | 12.19 | 11.72 | 11.28 | 10.88 |
| 20.0000  | 10.52   | 10.18 | 9.86  | 9.56  | 9.29  |
| 20.5000  | 9.04  | 8.80  | 8.57  | 8.35  | 8.16  |
| 21.0000  | 7.98  | 7.80  | 7.64  | 7.49  | 7.35  |
| 21.5000  | 7.21  | 7.09  | 6.97  | 6.87  | 6.77  |
| 22.0000  | 6.68  | 6.59  | 6.51  | 6.43  | 6.35  |
| 22.5000  | 6.29  | 6.22  | 6.16  | 6.10  | 6.04  |
| 23.0000  | 5.99  | 5.94  | 5.89  | 5.85  | 5.81  |
| 23.5000  | 5.77  | 5.73  | 5.70  | 5.66  | 5.63  |
| 24.0000  | 5.59  | 5.56  | 5.52  | 5.47  | 5.40  |

Type.... Pond Routing Summary  
Name.... EX. LAKE #2 OUT Tag: Pre.25  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Storm... TypeII 24hr Tag: Pre.25

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Event: 25 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre.25  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre.25

Pond Node Data = EX. LAKE #2  
Pond Volume Data = POND2  
Pond Outlet Data = POND2-EXIST

No Infiltration

INITIAL CONDITIONS

-----  
Starting Water Elev = 521.80 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 104.19 cfs at 12.5000 hrs  
Peak Outflow = 71.51 cfs at 13.3000 hrs  
-----

Peak Elevation = 524.65 ft  
Peak Storage = 5.917 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol In = 25.240  
- Infiltration = .000  
- HYG Vol Out = 25.240  
- Retained Vol = .000  
-----

Unrouted Vol = -.000 ac-ft (.000% of Inflow Volume)

S/N: 721701-06A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Detention Time  
Name.... EX. LAKE #2 OUT Tag: Pre.25  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Form... TypeI1 24hr Tag: Pre.25

Page 8.33  
Event: 25 yr

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre.25  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre.25  
  
Pond Node Data = EX. LAKE #2  
Pond Volume Data = POND2  
Pond Outlet Data = POND2-EXIST

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infiltr. = 13.3000 hrs  
Tp, Total Inflow = 12.5000 hrs  
Peak to Peak = .8000 hrs  
  
Qout+Infiltr. Centroid = 16.3297 hrs  
Inflow Centroid = 15.0467 hrs  
Centroid to Centroid = 1.2830 hrs  
  
Weighted Avg. Plug Time = 1.2980 hrs  
Max.Plug Vol. Plug Time = .8410 hrs  
Max.Inflow Plug Volume = .853 ac-ft (From 12.5000 to 12.6000 hrs)  
-----

S/N: 721701 06A81 J R GRIMES CONSULTING  
PondPack Vol: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type... Pond Routed HYG (total out)  
 Name... EX. LAKE #2 OUT Tag: Pre.25  
 File... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Term... TypeII 24hr Tag: Pre.25

Page 8.34  
 Event: 25 yr

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\EX-PERS.HYG  
 HYG ID = EX. LAKE #2 OUT  
 HYG Tag = Pre.25

-----  
 Peak Discharge = 71.51 cfs  
 Time to Peak = 13.3000 hrs  
 HYG Volume = 25.240 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 7.5000   | .00   | .00   | .00   | .00   | .01   |
| 8.0000   | .01   | .02   | .03   | .04   | .06   |
| 8.5000   | .07   | .10   | .12   | .15   | .19   |
| 9.0000   | .23   | .25   | .28   | .32   | .36   |
| 9.5000   | .40   | .44   | .49   | .54   | .60   |
| 10.0000  | .66   | .71   | .76   | .81   | .88   |
| 10.5000  | .95   | 1.05  | 1.16  | 1.29  | 1.39  |
| 11.0000  | 1.51  | 1.65  | 1.82  | 2.02  | 2.23  |
| 11.5000  | 2.48  | 2.79  | 3.25  | 3.96  | 5.25  |
| 12.0000  | 7.63  | 11.79 | 16.11 | 19.37 | 22.84 |
| 12.5000  | 26.21   | 29.23 | 32.43 | 42.62 | 53.07 |
| 13.0000  | 61.31   | 66.91 | 70.19 | 71.51 | 71.30 |
| 13.5000  | 69.96   | 67.74 | 64.96 | 61.89 | 58.70 |
| 14.0000  | 55.59   | 52.61 | 49.80 | 47.18 | 44.76 |
| 14.5000  | 42.55   | 40.52 | 38.66 | 37.03 | 35.56 |
| 15.0000  | 34.22   | 33.13 | 32.18 | 31.47 | 31.05 |
| 15.5000  | 30.76   | 30.43 | 30.09 | 29.73 | 29.37 |
| 16.0000  | 28.99   | 28.61 | 28.20 | 27.79 | 27.37 |
| 16.5000  | 26.95   | 26.52 | 26.09 | 25.67 | 25.24 |
| 17.0000  | 24.82   | 24.40 | 23.98 | 23.56 | 23.15 |
| 17.5000  | 22.74   | 22.33 | 21.93 | 21.53 | 21.14 |
| 18.0000  | 20.76   | 20.38 | 20.01 | 19.64 | 19.28 |
| 18.5000  | 18.92   | 18.57 | 18.23 | 17.89 | 17.56 |
| 19.0000  | 17.22   | 16.90 | 16.58 | 16.26 | 15.95 |
| 19.5000  | 15.65   | 15.35 | 15.05 | 14.67 | 14.21 |
| 20.0000  | 13.75   | 13.18 | 12.66 | 12.18 | 11.74 |
| 20.5000  | 11.33   | 10.96 | 10.62 | 10.30 | 10.00 |
| 21.0000  | 9.73  | 9.47  | 9.24  | 9.02  | 8.82  |
| 21.5000  | 8.62  | 8.44  | 8.28  | 8.13  | 7.98  |
| 22.0000  | 7.85  | 7.73  | 7.61  | 7.50  | 7.39  |
| 22.5000  | 7.30  | 7.21  | 7.12  | 7.04  | 6.97  |
| 23.0000  | 6.90  | 6.83  | 6.77  | 6.71  | 6.66  |
| 23.5000  | 6.61  | 6.56  | 6.51  | 6.46  | 6.42  |



Type... Pond Routing Summary  
Name... EX. LAKE #2 OUT Tag: Pre100  
File... J:\0675B\PONDPACK\EXISTING-2.PPW  
Term... Type11 24hr Tag: Pre100

Page 8.36  
Event: 100 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre100  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre100

Pond Node Data = EX. LAKE #2  
Pond Volume Data = POND2  
Pond Outlet Data = POND2-EXIST

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 521.80 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 154.58 cfs at 12.5000 hrs  
Peak Outflow = 119.06 cfs at 13.0000 hrs  
-----  
Peak Elevation = 525.13 ft  
Peak Storage = 7.098 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 36.856  
- Infiltration = .000  
- HYG Vol OUT = 36.856  
- Retained Vol = .000  
-----  
Unrouted Vol = -.000 ac-ft (.000% of Inflow Volume)

S/N: 721701-006A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Detention Time  
Name.... EX. LAKE #2 OUT Tag: Pre100  
File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
Term... Typell 24hr Tag: Pre100

Page 8.37  
Event: 100 yr

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = EX-PERS.HYG - EX. LAKE #2 IN Pre100  
Outflow HYG file = EX-PERS.HYG - EX. LAKE #2 OUT Pre100

Pond Node Data = EX. LAKE #2  
Pond Volume Data = POND2  
Pond Outlet Data = POND2-EXIST

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.0000 hrs  
Tp, Total Inflow = 12.5000 hrs  
Peak to Peak = .5000 hrs

Qout+Infill. Centroid = 16.1280 hrs  
Inflow Centroid = 14.9800 hrs  
Centroid to Centroid = 1.1479 hrs

Weighted Avg. Plug Time = 1.1594 hrs  
Max.Plug Vol. Plug Time = .6368 hrs  
Max.Inflow Plug Volume = 1.268 ac-ft (From 12.4000 to 12.5000 hrs)  
-----

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

Type.... Pond Routed HYG (total out)  
 Name.... EX. LAKE #2 OUT Tag: Pre100  
 File.... J:\0675B\PONDPACK\EXISTING-2.PPW  
 Form... TypeII 24hr Tag: Pre100

Page 8.38  
 Event: 100 yr

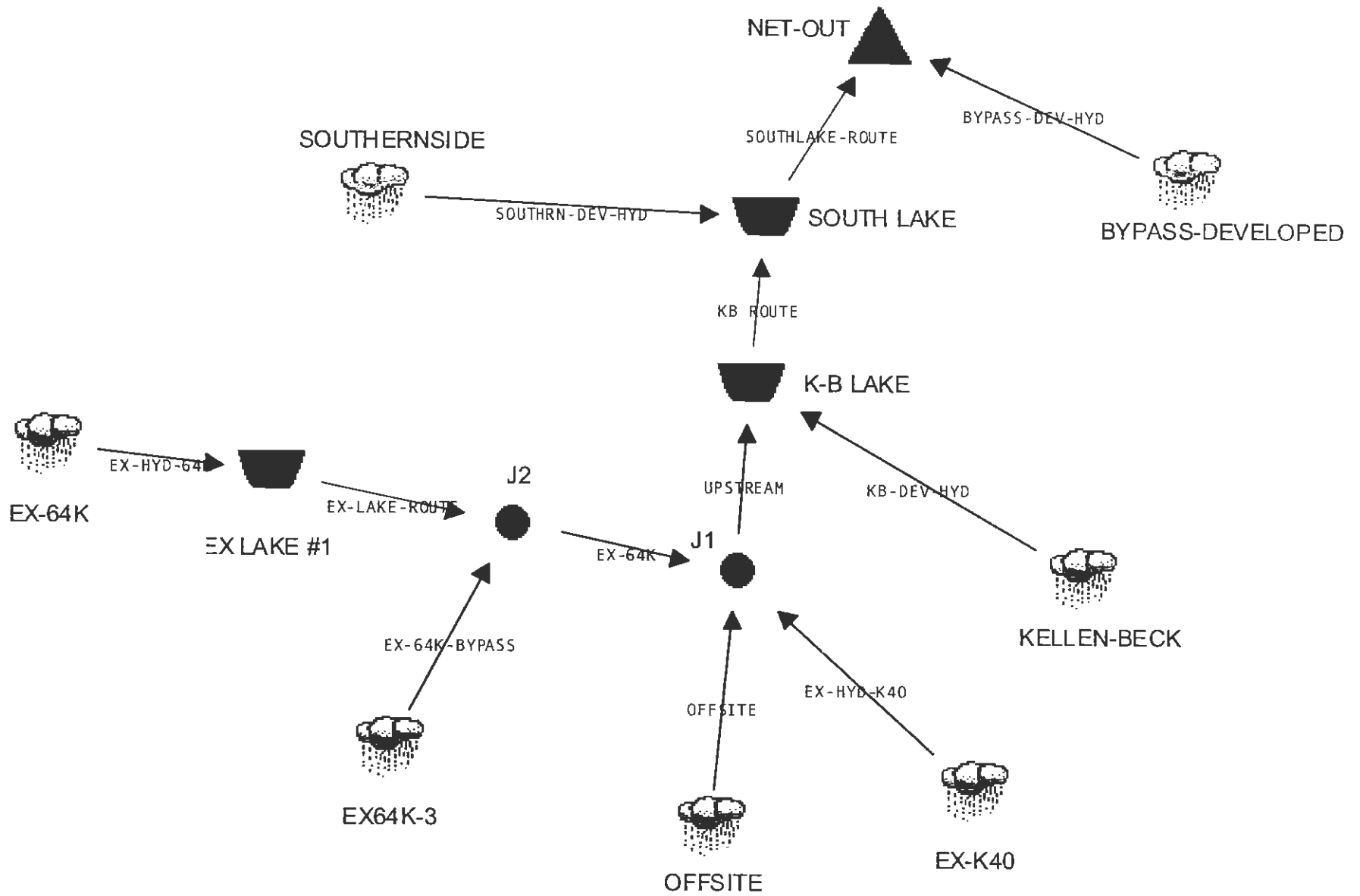
POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\EX-PERS.HYG  
 HYG ID = EX. LAKE #2 OUT  
 HYG Tag = Pre100

-----  
 Peak Discharge = 119.06 cfs  
 Time to Peak = 13.0000 hrs  
 HYG Volume = 36.856 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|----------|---|--------|--------|--------|--------|
|          | Time on left represents time for first value in each row. |        |        |        |        |
| 6.3000   | .00   | .00    | .00    | .00    | .01    |
| 6.8000   | .01   | .02    | .03    | .04    | .06    |
| 7.3000   | .07   | .10    | .13    | .16    | .19    |
| 7.8000   | .23   | .25    | .28    | .31    | .35    |
| 8.3000   | .39   | .43    | .47    | .51    | .56    |
| 8.8000   | .61   | .67    | .72    | .76    | .81    |
| 9.3000   | .88   | .95    | 1.04   | 1.13   | 1.25   |
| 9.8000   | 1.34  | 1.43   | 1.54   | 1.65   | 1.78   |
| 10.3000  | 1.93  | 2.08   | 2.24   | 2.41   | 2.61   |
| 10.8000  | 2.82  | 3.09   | 3.39   | 3.72   | 4.12   |
| 11.3000  | 4.58  | 5.10   | 5.72   | 6.49   | 7.51   |
| 11.8000  | 9.04  | 11.69  | 15.33  | 18.37  | 22.37  |
| 12.3000  | 26.94   | 31.54  | 52.65  | 77.51  | 96.87  |
| 12.8000  | 109.40  | 116.21 | 119.06 | 119.02 | 117.04 |
| 13.3000  | 113.68  | 109.31 | 104.27 | 98.73  | 92.98  |
| 13.8000  | 87.28   | 81.75  | 76.56  | 71.77  | 67.37  |
| 14.3000  | 63.36   | 59.69  | 56.36  | 53.31  | 50.55  |
| 14.8000  | 48.07   | 45.85  | 43.82  | 41.98  | 40.34  |
| 15.3000  | 38.80   | 37.47  | 36.22  | 35.14  | 34.10  |
| 15.8000  | 33.26   | 32.43  | 31.87  | 31.31  | 31.05  |
| 16.3000  | 30.82   | 30.56  | 30.28  | 29.99  | 29.70  |
| 16.8000  | 29.40   | 29.10  | 28.79  | 28.47  | 28.14  |
| 17.3000  | 27.80   | 27.46  | 27.13  | 26.79  | 26.45  |
| 17.8000  | 26.11   | 25.78  | 25.45  | 25.12  | 24.80  |
| 18.3000  | 24.48   | 24.15  | 23.83  | 23.52  | 23.21  |
| 18.8000  | 22.90   | 22.60  | 22.30  | 21.99  | 21.70  |
| 19.3000  | 21.40   | 21.11  | 20.82  | 20.54  | 20.25  |
| 19.8000  | 19.97   | 19.68  | 19.40  | 19.12  | 18.85  |
| 20.3000  | 18.57   | 18.29  | 18.02  | 17.75  | 17.49  |
| 20.8000  | 17.22   | 16.96  | 16.70  | 16.44  | 16.19  |
| 21.3000  | 15.95   | 15.70  | 15.47  | 15.23  | 15.01  |
| 21.8000  | 14.70   | 14.35  | 14.02  | 13.64  | 13.24  |
| 22.3000  | 12.86   | 12.52  | 12.20  | 11.92  | 11.65  |
| 22.8000  | 11.40   | 11.17  | 10.95  | 10.76  | 10.57  |
| 23.3000  | 10.40   | 10.23  | 10.08  | 9.93   | 9.79   |
| 23.8000  | 9.66  | 9.53   | 9.41   | 9.30   | 9.18   |
| 24.3000  | 9.04  | 8.87   | 8.66   | 8.40   | 8.12   |



MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID PERSIMON.RNQ PERSIMMON

| Return Event | Total Depth in | Rainfall Type   | RNF File | RNF ID |      |
|--------------|----------------|-----------------|----------|--------|------|
| 2            | 3.5000         | Synthetic Curve | SCSTYPES | TypeII | 24hr |
| 15           | 5.2000         | Synthetic Curve | SCSTYPES | TypeII | 24hr |
| 25           | 5.7000         | Synthetic Curve | SCSTYPES | TypeII | 24hr |
| 100          | 7.2000         | Synthetic Curve | SCSTYPES | TypeII | 24hr |

ICPM CALCULATION TOLERANCES

-----  
 Target Convergence= .100 cfs +/-  
 Max. Iterations = 35 loops  
 ICPM Time Step = .1000 hrs  
 Output Time Step = .1000 hrs  
 ICPM Ending Time = 24.0000 hrs  
 -----

MASTER NETWORK SUMMARY  
 SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID               | Type     | Return Event | HYG Vol ac-ft | Trun | Qpeak hrs | Qpeak cfs | Max WSEL ft | Max Pond Storage ac-ft |
|-----------------------|----------|--------------|---------------|------|-----------|-----------|-------------|------------------------|
| BYPASS-DEVELOPED AREA |          | 2            | .220          |      | 12.1000   | 2.27      |             |                        |
| BYPASS-DEVELOPED AREA |          | 15           | .486          |      | 12.1000   | 5.54      |             |                        |
| BYPASS-DEVELOPED AREA |          | 25           | .573          |      | 12.1000   | 6.60      |             |                        |
| BYPASS-DEVELOPED AREA |          | 100          | .850          |      | 12.1000   | 9.94      |             |                        |
| EX LAKE #1            | IN POND  | 2            | 1.301         |      | 12.4000   | 8.80      |             |                        |
| EX LAKE #1            | IN POND  | 15           | 2.975         |      | 12.3000   | 22.78     |             |                        |
| EX LAKE #1            | IN POND  | 25           | 3.530         |      | 12.3000   | 27.46     |             |                        |
| EX LAKE #1            | IN POND  | 100          | 5.308         |      | 12.3000   | 42.35     |             |                        |
| EX LAKE #1            | OUT POND | 2            | 1.301         |      | 13.2000   | 2.94      | 551.51      | .366                   |
| EX LAKE #1            | OUT POND | 15           | 2.975         |      | 13.3000   | 5.34      | 552.02      | 1.146                  |
| EX LAKE #1            | OUT POND | 25           | 3.530         |      | 13.3000   | 5.95      | 552.15      | 1.426                  |
| EX LAKE #1            | OUT POND | 100          | 5.308         |      | 13.5000   | 7.38      | 552.60      | 2.387                  |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 14:20:08

Date: 08-06-2002

Name.... Watershed  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW

MASTER NETWORK SUMMARY  
 SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID  | Type     | Return Event | HYG Vol ac-ft | Trun | Qpeak hrs | Qpeak cfs | Max WSEL ft | Max Pond Storage ac-ft |
|----------|----------|--------------|---------------|------|-----------|-----------|-------------|------------------------|
| EX-64K   | AREA     | 2            | 1.301         |      | 12.4000   | 8.80      |             |                        |
| EX-64K   | AREA     | 15           | 2.975         |      | 12.3000   | 22.78     |             |                        |
| EX-64K   | AREA     | 25           | 3.530         |      | 12.3000   | 27.46     |             |                        |
| EX-64K   | AREA     | 100          | 5.308         |      | 12.3000   | 42.35     |             |                        |
| EX-K40   | AREA     | 2            | .850          |      | 12.3000   | 6.87      |             |                        |
| EX-K40   | AREA     | 15           | 1.814         |      | 12.3000   | 15.61     |             |                        |
| EX-K40   | AREA     | 25           | 2.126         |      | 12.3000   | 18.40     |             |                        |
| EX-K40   | AREA     | 100          | 3.112         |      | 12.3000   | 27.14     |             |                        |
| EX64K-3  | AREA     | 2            | .517          |      | 12.3000   | 3.50      |             |                        |
| EX64K-3  | AREA     | 15           | 1.254         |      | 12.3000   | 10.13     |             |                        |
| EX64K-3  | AREA     | 25           | 1.503         |      | 12.3000   | 12.37     |             |                        |
| EX64K-3  | AREA     | 100          | 2.311         |      | 12.3000   | 19.58     |             |                        |
| J1       | JCT      | 2            | 8.461         |      | 12.9000   | 29.41     |             |                        |
| J1       | JCT      | 15           | 17.347        |      | 12.7000   | 60.10     |             |                        |
| J1       | JCT      | 25           | 20.194        |      | 12.7000   | 69.85     |             |                        |
| J1       | JCT      | 100          | 29.141        |      | 12.7000   | 99.72     |             |                        |
| J2       | JCT      | 2            | 1.817         |      | 12.4000   | 5.44      |             |                        |
| J2       | JCT      | 15           | 4.229         |      | 12.3000   | 13.51     |             |                        |
| J2       | JCT      | 25           | 5.033         |      | 12.3000   | 16.18     |             |                        |
| J2       | JCT      | 100          | 7.619         |      | 12.3000   | 24.61     |             |                        |
| K-B LAKE | POND     | 2            | 15.823        |      | 12.4000   | 79.54     |             |                        |
| K-B LAKE | POND     | 15           | 29.276        |      | 12.4000   | 143.10    |             |                        |
| K-B LAKE | POND     | 25           | 33.473        |      | 12.4000   | 162.47    |             |                        |
| K-B LAKE | POND     | 100          | 46.440        |      | 12.4000   | 221.47    |             |                        |
| K-B LAKE | OUT POND | 2            | 12.824        |      | 14.3000   | 20.21     | 528.55      | 7.246                  |
| K-B LAKE | OUT POND | 15           | 24.970        |      | 13.7000   | 53.02     | 530.17      | 11.837                 |
| K-B LAKE | OUT POND | 25           | 28.784        |      | 13.5000   | 71.81     | 530.42      | 12.569                 |
| K-B LAKE | OUT POND | 100          | 40.734        |      | 13.2000   | 128.78    | 530.98      | 14.137                 |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

MASTER NETWORK SUMMARY  
 SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID      | Type     | Return Event | HYG Vol ac-ft | Trun | Qpeak hrs | Qpeak cfs | Max WSEL ft | Max Pond Storage ac-ft |
|--------------|----------|--------------|---------------|------|-----------|-----------|-------------|------------------------|
| KELLEN-BECK  | AREA     | 2            | 7.653         |      | 12.4000   | 54.56     |             |                        |
| KELLEN-BECK  | AREA     | 15           | 12.437        |      | 12.4000   | 86.91     |             |                        |
| KELLEN-BECK  | AREA     | 25           | 13.859        |      | 12.4000   | 96.35     |             |                        |
| KELLEN-BECK  | AREA     | 100          | 18.148        |      | 12.4000   | 124.54    |             |                        |
| *NET-OUT     | JCT      | 2            | 14.303        |      | 14.4000   | 21.50     |             |                        |
| *NET-OUT     | JCT      | 15           | 27.933        |      | 14.0000   | 54.40     |             |                        |
| *NET-OUT     | JCT      | 25           | 32.157        |      | 13.8000   | 71.87     |             |                        |
| *NET-OUT     | JCT      | 100          | 45.619        |      | 13.4000   | 130.98    |             |                        |
| OFFSITE      | AREA     | 2            | 5.793         |      | 13.0000   | 23.01     |             |                        |
| OFFSITE      | AREA     | 15           | 11.304        |      | 13.0000   | 46.62     |             |                        |
| OFFSITE      | AREA     | 25           | 13.035        |      | 13.0000   | 53.96     |             |                        |
| OFFSITE      | AREA     | 100          | 18.411        |      | 13.0000   | 76.55     |             |                        |
| SOUTH LAKE   | POND     | 2            | 14.433        |      | 14.1000   | 21.49     |             |                        |
| SOUTH LAKE   | POND     | 15           | 27.951        |      | 13.7000   | 55.80     |             |                        |
| SOUTH LAKE   | POND     | 25           | 32.189        |      | 13.5000   | 75.42     |             |                        |
| SOUTH LAKE   | POND     | 100          | 45.441        |      | 13.1000   | 135.90    |             |                        |
| SOUTH LAKE   | OUT POND | 2            | 14.053        |      | 14.4000   | 21.31     | 522.91      | 1.411                  |
| SOUTH LAKE   | OUT POND | 15           | 27.400        |      | 14.0000   | 53.98     | 523.72      | 2.009                  |
| SOUTH LAKE   | OUT POND | 25           | 31.532        |      | 13.8000   | 71.34     | 524.09      | 2.280                  |
| SOUTH LAKE   | OUT POND | 100          | 44.703        |      | 13.4000   | 130.07    | 524.91      | 2.884                  |
| SOUTHERNSIDE | AREA     | 2            | 1.622         |      | 12.2000   | 15.17     |             |                        |
| SOUTHERNSIDE | AREA     | 15           | 3.003         |      | 12.2000   | 28.42     |             |                        |
| SOUTHERNSIDE | AREA     | 25           | 3.429         |      | 12.2000   | 32.44     |             |                        |
| SOUTHERNSIDE | AREA     | 100          | 4.739         |      | 12.2000   | 44.63     |             |                        |

Type.... Tc Calcs  
Name.... 64K

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
tle... 64K - EXISTING TIME OF CONCENTRATION

.....  
TIME OF CONCENTRATION CALCULATOR  
.....

64K - EXISTING TIME OF CONCENTRATION  
-----

Segment #1: Tc: TR-55 Sheet  
Description: SEGMENT 'A'

Mannings n .2400  
Hydraulic Length 300.00 ft  
2yr, 24hr P 3.5000 in  
Slope .043300 ft/ft

Avg.Velocity .21 ft/sec

Segment #1 Time: .4021 hrs  
-----

Segment #2: Tc: SCS Lag  
Description: SEGMENT 'B'

Hydraulic Length 725.00 ft  
unoff CN 67  
Slope .035900 ft/ft

Avg.Velocity .64 ft/sec

Segment #2 Time: .3123 hrs  
-----

=====  
Total Tc: .7144 hrs  
=====



Type.... Tc Calcs  
Name.... 64K-3

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... 64K - EXISTING TIME OF CONCENTRATION

.....  
TIME OF CONCENTRATION CALCULATOR  
.....

64K - EXISTING TIME OF CONCENTRATION  
-----

Segment #1: Tc: TR-55 Sheet  
Description: SEGMENT 'A'

Mannings n .2400  
Hydraulic Length 300.00 ft  
2yr, 24hr P 3.5000 in  
Slope .040000 ft/ft

Avg.Velocity .20 ft/sec

Segment #1 Time: .4151 hrs  
-----

Segment #2: Tc: SCS Lag  
Description: SEGMENT 'B'

Hydraulic Length 600.00 ft  
Runoff CN 64  
Slope .063300 ft/ft

Avg.Velocity .76 ft/sec

Segment #2 Time: .2186 hrs  
-----

=====  
Total Tc: .6337 hrs  
=====

Type.... Tc Calcs  
Name.... AREAV-DEVELOPED

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... SOUTHERNSIDE - DEVELOPED Tc

TIME OF CONCENTRATION CALCULATOR

SOUTHERNSIDE - DEVELOPED Tc

Segment #1: Tc: TR-55 Sheet  
Description: SHEET FLOW GRASS

Mannings n .2400  
Hydraulic Length 300.00 ft  
2yr, 24hr P 3.5000 in  
Slope .020000 ft/ft

Avg.Velocity .15 ft/sec

Segment #1 Time: .5477 hrs

Segment #2: Tc: TR-55 Channel  
Description: STORM SEWER SYSTEM

Flow Area 2.5900 sq.ft  
Wetted Perimeter 4.28 ft  
Hydraulic Radius .61 ft  
Slope .020000 ft/ft  
Mannings n .0130  
Hydraulic Length 245.00 ft

Avg.Velocity 11.60 ft/sec

Segment #2 Time: .0059 hrs

=====  
Total Tc: .5535 hrs  
=====

Type.... Tc Calcs  
Name.... AREAVIDEVELOPED

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... AREA VI - DEVELOPED Tc

.....  
TIME OF CONCENTRATION CALCULATOR  
.....

AREA VI - DEVELOPED Tc  
-----

Segment #1: Tc: TR-55 Sheet  
Description: SHEET FLOW (GRASS)

Mannings n           .2400  
Hydraulic Length    300.00 ft  
2yr, 24hr P         3.5000 in  
Slope                .050000 ft/ft  
  
Avg.Velocity           .22 ft/sec

Segment #1 Time:       .3796 hrs  
-----

Segment #2: Tc: TR-55 Shallow  
Description: GRASS

Hydraulic Length    150.00 ft  
Slope                .050000 ft/ft  
Unpaved  
  
Avg.Velocity           3.61 ft/sec

Segment #2 Time:       .0115 hrs  
-----

=====  
Total Tc:             .3912 hrs  
=====

Type.... Tc Calcs  
Name.... K40

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... K40 - EXISTING TIME OF CONCENTRATION

.....  
TIME OF CONCENTRATION CALCULATOR  
.....

K40 - EXISTING TIME OF CONCENTRATION  
-----

Segment #1: Tc: TR-55 Sheet  
Description: SEGMENT 'A'

Mannings n           .2400  
Hydraulic Length    300.00 ft  
2yr, 24hr P         3.5000 in  
Slope                .050000 ft/ft

Avg.Velocity           .22 ft/sec

Segment #1 Time:       .3796 hrs  
-----

Segment #2: Tc: SCS Lag  
Description: SEGMENT 'B'

Hydraulic Length    665.00 ft  
Runoff CN            71  
Slope                .045000 ft/ft

Avg.Velocity           .79 ft/sec

Segment #2 Time:       .2339 hrs  
-----

=====  
Total Tc:            .6135 hrs  
=====

Type.... Tc Calcs  
Name.... KB-DEVELOPED

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... KB-DEVELOPED Tc

.....  
TIME OF CONCENTRATION CALCULATOR  
.....

KB-DEVELOPED Tc  
-----

Segment #1: Tc: TR-55 Channel  
Description: SEGMENT 'C' (SEWER SYSTEM)

Flow Area            3.1400 sq.ft  
Wetted Perimeter    6.28 ft  
Hydraulic Radius    .50 ft  
Slope                .010000 ft/ft  
Mannings n           .0130  
Hydraulic Length    875.00 ft

Avg.Velocity                7.22 ft/sec

Segment #1 Time:            .0337 hrs  
-----

Segment #2: Tc: TR-55 Sheet  
Description: SEGMENT 'A' (GRASS)

Mannings n            .2400  
Hydraulic Length    300.00 ft  
2yr, 24hr P          3.5000 in  
Slope                .010000 ft/ft

Avg.Velocity                .12 ft/sec

Segment #2 Time:            .7227 hrs  
-----

Segment #3: Tc: TR-55 Shallow  
Description: SEGMENT 'B'

Hydraulic Length    500.00 ft  
Slope                .010000 ft/ft  
Paved

Avg.Velocity                2.03 ft/sec

Segment #3 Time:            .0683 hrs  
-----

Type.... Tc Calcs  
Name.... KB-DEVELOPED

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... KB-DEVELOPED Tc

=====  
Total Tc: .8246 hrs  
=====

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PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Tc Calcs  
Name.... OFFSITE

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... OFFSITE Tc

.....  
TIME OF CONCENTRATION CALCULATOR  
.....

OFFSITE Tc  
-----

Segment #1: Tc: TR-55 Sheet  
Description: SEGMENT 'A'

Mannings n           .2400  
Hydraulic Length    300.00 ft  
2yr, 24hr P         3.5000 in  
Slope                .010000 ft/ft

Avg.Velocity           .12 ft/sec

Segment #1 Time:       .7227 hrs  
-----

Segment #2: Tc: TR-55 Shallow  
Description: SEGMENT 'B'

Hydraulic Length    750.00 ft  
Slope                .005300 ft/ft  
Inpaved

Avg.Velocity           1.17 ft/sec

Segment #2 Time:       .1774 hrs  
-----

Segment #3: Tc: SCS Lag  
Description: SEGMENT 'C'

Hydraulic Length    1650.00 ft  
Runoff CN             77  
Slope                .010000 ft/ft

Avg.Velocity           .53 ft/sec

Segment #3 Time:       .8658 hrs  
-----

=====  
Total Tc:            1.7659 hrs  
=====

Type.... Runoff CN-Area  
Name.... 64K-EXISTING

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... 64K - EXISTING RUNOFF CN

RUNOFF CURVE NUMBER DATA

.....

64K - EXISTING RUNOFF CN

-----

| Soil/Surface Description | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|--------------------------|----|---------------|--------------------------|-----|----------------|
|                          |    |               | %C                       | %UC |                |
| PASTURE (SOIL GROUP 'C') | 74 | 8.250         |                          |     | 74.00          |
| PASTURE (SOIL GROUP 'B') | 61 | 10.110        |                          |     | 61.00          |

COMPOSITE AREA & WEIGHTED CN --->                    18.360                    66.84 (67)

.....

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Type.... Runoff CN-Area  
Name.... 64K-EXISTING-3

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... 64K-BYPASS AREA - EXISTING RUNOFF CN

RUNOFF CURVE NUMBER DATA

.....

64K-BYPASS AREA - EXISTING RUNOFF CN

-----

| Soil/Surface Description | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|--------------------------|----|---------------|--------------------------|-----|----------------|
|                          |    |               | %C                       | %UC |                |
| PASTURE (SOIL GROUP 'C') | 74 | 1.760         |                          |     | 74.00          |
| PASTURE (SOIL GROUP 'B') | 61 | 7.040         |                          |     | 61.00          |

COMPOSITE AREA & WEIGHTED CN --->                    8.800                    63.60 (64)

.....

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Type.... Runoff CN-Area  
Name.... AREAV-DEVELOPED

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
.tle... SOUTHERNSIDE - DEVELOPED RUNOFF CN

RUNOFF CURVE NUMBER DATA

.....

SOUTHERNSIDE - DEVELOPED RUNOFF CN

-----

| Soil/Surface Description | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|--------------------------|----|---------------|--------------------------|-----|----------------|
|                          |    |               | %C                       | %UC |                |
| PAVEMENT/ROOF            | 98 | 5.350         |                          |     | 98.00          |
| GRASS (SOIL TYPE 'B')    | 61 | 4.050         |                          |     | 61.00          |
| GRASS (SOIL TYPE 'C')    | 74 | 1.990         |                          |     | 74.00          |

COMPOSITE AREA & WEIGHTED CN --->            11.390                            80.65 (81)

.....

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Type.... Runoff CN-Area  
Name.... AREAVIDEVELOPED

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
.tle... AREA VI - DEVELOPED RUNOFF CN

RUNOFF CURVE NUMBER DATA

.....

AREA VI - DEVELOPED RUNOFF CN

-----

| Soil/Surface Description | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|--------------------------|----|---------------|--------------------------|-----|----------------|
|                          |    |               | %C                       | %UC |                |
| PAVEMENT/ROOF            | 98 | .520          |                          |     | 98.00          |
| GRASS (SOIL GROUP 'B')   | 61 | 2.050         |                          |     | 61.00          |
| GRASS (SOIL GROUP 'C')   | 74 | .200          |                          |     | 74.00          |

COMPOSITE AREA & WEIGHTED CN --->                    2.770                    68.88 (69)

.....

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PondPack Ver: 7.5 (767)                    Compute Time: 14:20:08                    Date: 08-06-2002

Type.... Runoff CN-Area  
Name.... K40-EXISTING

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... K40 - EXISTING RUNOFF CN

RUNOFF CURVE NUMBER DATA

.....

K40 - EXISTING RUNOFF CN

-----

| Soil/Surface Description | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|--------------------------|----|---------------|--------------------------|-----|----------------|
|                          |    |               | %C                       | %UC |                |
| PASTURE (SOIL GROUP 'C') | 74 | 7.190         |                          |     | 74.00          |
| PASTURE (SOIL GROUP 'B') | 61 | 2.400         |                          |     | 61.00          |

COMPOSITE AREA & WEIGHTED CN --->                    9.590                    70.75 (71)

.....

S/N: 721701406A81    J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767)            Compute Time: 14:20:08    Date: 08-06-2002

Type.... Runoff CN-Area  
Name.... KB-DEVELOPED

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... KELLENBECK - DEVELOPED

RUNOFF CURVE NUMBER DATA

.....

KELLENBECK - DEVELOPED

-----

| Soil/Surface Description     | CN | Area<br>acres | Impervious       |     | Adjusted<br>CN |
|------------------------------|----|---------------|------------------|-----|----------------|
|                              |    |               | Adjustment<br>%C | %UC |                |
| GRASS (SOIL GROUP 'B')       | 61 | 3.480         |                  |     | 61.00          |
| GRASS (SOIL GROUP 'C')       | 74 | 3.480         |                  |     | 74.00          |
| PAVEMENT/ROOF (80% COVERAGE) | 98 | 27.850        |                  |     | 98.00          |

COMPOSITE AREA & WEIGHTED CN --->                    34.810                    91.90 (92)

.....

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Type.... Runoff CN-Area  
Name.... OFFSITE

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... OFFSITE DRAINAGE AREA (BUSCH WILDLIFE PRESERVE)

RUNOFF CURVE NUMBER DATA

.....

OFFSITE DRAINAGE AREA (BUSCH WILDLIFE PRESERVE)

-----

| Soil/Surface Description      | CN | Area<br>acres | Impervious<br>Adjustment |     | Adjusted<br>CN |
|-------------------------------|----|---------------|--------------------------|-----|----------------|
|                               |    |               | %C                       | %UC |                |
| EXISTING WOODS(SOIL GOUP 'D') | 77 | 48.600        |                          |     | 77.00          |

COMPOSITE AREA & WEIGHTED CN --->                    48.600                    77.00 (77)

.....

S/N: 721701406A81    J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767)                    Compute Time: 14:20:08                    Date: 08-06-2002

Type.... SCS Unit Hyd. Summary  
Name.... BYPASS-DEVELOPED Tag: 2  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... AREA VI - DEVELOPED RUNOFF  
Storm... TypeII 24hr Tag: 2

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Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - BYPASS-DEVELOPED 2  
Tc = .3912 hrs  
Drainage Area = 2.770 acres Runoff CN= 69

=====  
Computational Time Increment = .05216 hrs  
Computed Peak Time = 12.1521 hrs  
Computed Peak Flow = 2.36 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 2.27 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

=====  
DRAINAGE AREA

-----  
ID:AREAVIDEVELOPED  
CN = 69  
Area = 2.770 acres  
S = 4.4928 in  
0.2S = .8986 in

Cumulative Runoff

-----  
.9540 in  
.220 ac-ft

HYG Volume... .220 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .39116 hrs (ID: AREAVIDEVELOPED)  
Computational Incr, Tm = .05216 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 8.02 cfs  
Unit peak time Tp = .26078 hrs  
Unit receding limb, Tr = 1.04310 hrs  
Total unit time, Tb = 1.30388 hrs

S/N: 721701406A81 J R GRIMES CONSULTING

ondPack Ver: 7.5 (767) Compute Time: 14:20:08

Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)

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Name.... BYPASS-DEVELOPED Tag: 2  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... AREA VI - DEVELOPED RUNOFF  
 Storm... TypeII 24hr Tag: 2

Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - BYPASS-DEVELOPED 2  
 Tc = .3912 hrs  
 Drainage Area = 2.770 acres Runoff CN= 69  
 Calc.Increment= .05216 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .220 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |      |      |      |      |      |
|----------|------|------|------|------|------|
| 11.3000  | .00  | .00  | .01  | .02  | .07  |
| 11.8000  | .23  | .68  | 1.53 | 2.27 | 2.23 |
| 12.3000  | 1.71 | 1.23 | .93  | .73  | .59  |
| 12.8000  | .49  | .43  | .39  | .35  | .32  |
| 13.3000  | .30  | .29  | .27  | .26  | .25  |
| 13.8000  | .24  | .23  | .22  | .21  | .20  |
| 14.3000  | .19  | .19  | .18  | .18  | .18  |
| 14.8000  | .17  | .17  | .17  | .16  | .16  |
| 15.3000  | .16  | .15  | .15  | .15  | .14  |
| 15.8000  | .14  | .14  | .13  | .13  | .13  |
| 16.3000  | .12  | .12  | .12  | .12  | .12  |
| 16.8000  | .12  | .12  | .12  | .11  | .11  |
| 17.3000  | .11  | .11  | .11  | .11  | .11  |
| 17.8000  | .11  | .10  | .10  | .10  | .10  |
| 18.3000  | .10  | .10  | .10  | .10  | .09  |
| 18.8000  | .09  | .09  | .09  | .09  | .09  |
| 19.3000  | .09  | .09  | .08  | .08  | .08  |
| 19.8000  | .08  | .08  | .08  | .08  | .08  |
| 20.3000  | .07  | .07  | .07  | .07  | .07  |
| 20.8000  | .07  | .07  | .07  | .07  | .07  |
| 21.3000  | .07  | .07  | .07  | .07  | .07  |
| 21.8000  | .07  | .07  | .07  | .07  | .07  |
| 22.3000  | .07  | .07  | .07  | .07  | .07  |
| 22.8000  | .07  | .07  | .07  | .07  | .07  |
| 23.3000  | .07  | .07  | .07  | .07  | .07  |
| 23.8000  | .07  | .07  | .07  | .06  | .05  |
| 24.3000  | .03  | .02  | .01  | .00  | .00  |
| 24.8000  | .00  | .00  |      |      |      |

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PondPack Ver: 7.5 (767)

Compute Time: 14:20:08

Date: 08-06-2002



Type.... SCS Unit Hyd. Summary  
Name.... BYPASS-DEVELOPED Tag: 15  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 15

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Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - BYPASS-DEVELOPED 15  
Tc = .3912 hrs  
Drainage Area = 2.770 acres Runoff CN= 69

=====  
Computational Time Increment = .05216 hrs  
Computed Peak Time = 12.1521 hrs  
Computed Peak Flow = 5.58 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 5.54 cfs  
=====

DRAINAGE AREA

-----  
ID:AREAVIDEVELOPED  
CN = 69  
Area = 2.770 acres  
S = 4.4928 in  
0.2S = .8986 in

Cumulative Runoff

-----  
2.1039 in  
.486 ac-ft

HYG Volume... .486 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .39116 hrs (ID: AREAVIDEVELOPED)  
Computational Incr, Tm = .05216 hrs = 0.20000 Tp  
  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)  
  
Unit peak, qp = 8.02 cfs  
Unit peak time Tp = .26078 hrs  
Unit receding limb, Tr = 1.04310 hrs  
Total unit time, Tb = 1.30388 hrs

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Type.... SCS Unit Hyd. (HYG output)  
 Name.... BYPASS-DEVELOPED Tag: 15  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 15

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 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - BYPASS-DEVELOPED 15  
 Tc = .3912 hrs  
 Drainage Area = 2.770 acres Runoff CN= 69  
 Calc.Increment= .05216 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .486 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |      |      |      |      |      |
|----------|------|------|------|------|------|
| 9.9000   | .00  | .00  | .00  | .01  | .01  |
| 10.4000  | .02  | .03  | .03  | .04  | .05  |
| 10.9000  | .07  | .08  | .10  | .12  | .14  |
| 11.4000  | .18  | .22  | .29  | .50  | 1.03 |
| 11.9000  | 2.20 | 4.12 | 5.54 | 5.18 | 3.85 |
| 12.4000  | 2.70 | 2.00 | 1.54 | 1.22 | 1.01 |
| 12.9000  | .87  | .77  | .70  | .64  | .60  |
| 13.4000  | .57  | .54  | .51  | .48  | .46  |
| 13.9000  | .44  | .42  | .40  | .39  | .37  |
| 14.4000  | .36  | .35  | .35  | .34  | .33  |
| 14.9000  | .33  | .32  | .31  | .31  | .30  |
| 15.4000  | .29  | .29  | .28  | .27  | .27  |
| 15.9000  | .26  | .25  | .25  | .24  | .24  |
| 16.4000  | .23  | .23  | .23  | .22  | .22  |
| 16.9000  | .22  | .22  | .22  | .21  | .21  |
| 17.4000  | .21  | .21  | .20  | .20  | .20  |
| 17.9000  | .20  | .19  | .19  | .19  | .19  |
| 18.4000  | .18  | .18  | .18  | .18  | .17  |
| 18.9000  | .17  | .17  | .17  | .16  | .16  |
| 19.4000  | .16  | .16  | .15  | .15  | .15  |
| 19.9000  | .15  | .14  | .14  | .14  | .14  |
| 20.4000  | .14  | .14  | .14  | .13  | .13  |
| 20.9000  | .13  | .13  | .13  | .13  | .13  |
| 21.4000  | .13  | .13  | .13  | .13  | .13  |
| 21.9000  | .13  | .13  | .13  | .13  | .13  |
| 22.4000  | .13  | .13  | .13  | .13  | .13  |
| 22.9000  | .12  | .12  | .12  | .12  | .12  |
| 23.4000  | .12  | .12  | .12  | .12  | .12  |
| 23.9000  | .12  | .12  | .11  | .09  | .05  |
| 24.4000  | .03  | .02  | .01  | .00  | .00  |
| 24.9000  | .00  | .00  |      |      |      |

Type.... SCS Unit Hyd. Summary  
Name.... BYPASS-DEVELOPED Tag: 25  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 25

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Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - BYPASS-DEVELOPED 25  
Tc = .3912 hrs  
Drainage Area = 2.770 acres Runoff CN= 69

=====  
Computational Time Increment = .05216 hrs  
Computed Peak Time = 12.1521 hrs  
Computed Peak Flow = 6.61 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 6.60 cfs  
=====

DRAINAGE AREA

-----  
ID:AREAVIDEVELOPED  
CN = 69  
Area = 2.770 acres  
S = 4.4928 in  
0.2S = .8986 in

Cumulative Runoff

-----  
2.4805 in  
.573 ac-ft

HYG Volume... .573 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .39116 hrs (ID: AREAVIDEVELOPED)  
Computational Incr, Tm = .05216 hrs = 0.20000 Tp  
  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)  
  
Unit peak, qp = 8.02 cfs  
Unit peak time Tp = .26078 hrs  
Unit receding limb, Tr = 1.04310 hrs  
Total unit time, Tb = 1.30388 hrs

Type... SCS Unit Hyd. (HYG output)  
 Name... BYPASS-DEVELOPED Tag: 25  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 25

Page 4.06  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - BYPASS-DEVELOPED 25  
 Tc = .3912 hrs  
 Drainage Area = 2.770 acres Runoff CN= 69  
 Calc.Increment= .05216 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .573 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |      |      |      |      |
|----------|---|------|------|------|------|
|          | Time on left represents time for first value in each row. |      |      |      |      |
| 9.5000   | .00   | .00  | .00  | .01  | .01  |
| 10.0000  | .02   | .02  | .03  | .04  | .05  |
| 10.5000  | .05   | .07  | .08  | .09  | .11  |
| 11.0000  | .13   | .15  | .17  | .21  | .25  |
| 11.5000  | .30   | .39  | .66  | 1.31 | 2.72 |
| 12.0000  | 4.97  | 6.60 | 6.13 | 4.54 | 3.17 |
| 12.5000  | 2.34  | 1.79 | 1.42 | 1.17 | 1.01 |
| 13.0000  | .89   | .81  | .74  | .69  | .65  |
| 13.5000  | .62   | .58  | .56  | .53  | .51  |
| 14.0000  | .48   | .46  | .44  | .43  | .41  |
| 14.5000  | .40   | .40  | .39  | .38  | .37  |
| 15.0000  | .37   | .36  | .35  | .34  | .34  |
| 15.5000  | .33   | .32  | .31  | .31  | .30  |
| 16.0000  | .29   | .28  | .28  | .27  | .27  |
| 16.5000  | .26   | .26  | .26  | .25  | .25  |
| 17.0000  | .25   | .25  | .24  | .24  | .24  |
| 17.5000  | .23   | .23  | .23  | .23  | .22  |
| 18.0000  | .22   | .22  | .22  | .21  | .21  |
| 18.5000  | .21   | .20  | .20  | .20  | .20  |
| 19.0000  | .19   | .19  | .19  | .18  | .18  |
| 19.5000  | .18   | .18  | .17  | .17  | .17  |
| 20.0000  | .16   | .16  | .16  | .16  | .16  |
| 20.5000  | .16   | .15  | .15  | .15  | .15  |
| 21.0000  | .15   | .15  | .15  | .15  | .15  |
| 21.5000  | .15   | .15  | .15  | .15  | .15  |
| 22.0000  | .15   | .15  | .15  | .15  | .14  |
| 22.5000  | .14   | .14  | .14  | .14  | .14  |
| 23.0000  | .14   | .14  | .14  | .14  | .14  |
| 23.5000  | .14   | .14  | .14  | .14  | .14  |
| 24.0000  | .14   | .13  | .10  | .06  | .03  |
| 24.5000  | .02   | .01  | .00  | .00  | .00  |
| 25.0000  | .00   |      |      |      |      |

Type.... SCS Unit Hyd. Summary  
Name.... BYPASS-DEVELOPED Tag: 100  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 100

Page 4.07  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - BYPASS-DEVELOPED 100  
Tc = .3912 hrs  
Drainage Area = 2.770 acres Runoff CN= 69

=====  
Computational Time Increment = .05216 hrs  
Computed Peak Time = 12.1000 hrs  
Computed Peak Flow = 9.94 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.1000 hrs  
Peak Flow, Interpolated Output = 9.94 cfs  
=====

DRAINAGE AREA

-----  
ID:AREAVIDEVELOPED  
CN = 69  
Area = 2.770 acres  
S = 4.4928 in  
0.2S = .8986 in

Cumulative Runoff

-----  
3.6787 in  
.849 ac-ft

HYG Volume... .850 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .39116 hrs (ID: AREAVIDEVELOPED)  
Computational Incr, Tm = .05216 hrs = 0.20000 Tp  
  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)  
  
Unit peak, qp = 8.02 cfs  
Unit peak time Tp = .26078 hrs  
Unit receding limb, Tr = 1.04310 hrs  
Total unit time, Tb = 1.30388 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... BYPASS-DEVELOPED Tag: 100  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 100

Page 4.08  
 Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - BYPASS-DEVELOPED 100  
 Tc = .3912 hrs  
 Drainage Area = 2.770 acres Runoff CN= 69  
 Calc.Increment= .05216 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .850 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |      |      |      |      |      |
|----------|------|------|------|------|------|
| 8.4000   | .00  | .00  | .01  | .01  | .01  |
| 8.9000   | .02  | .02  | .03  | .04  | .04  |
| 9.4000   | .05  | .05  | .06  | .07  | .07  |
| 9.9000   | .08  | .09  | .10  | .12  | .13  |
| 10.4000  | .14  | .16  | .18  | .20  | .23  |
| 10.9000  | .26  | .29  | .32  | .37  | .42  |
| 11.4000  | .49  | .58  | .73  | 1.17 | 2.22 |
| 11.9000  | 4.39 | 7.70 | 9.94 | 9.09 | 6.67 |
| 12.4000  | 4.62 | 3.38 | 2.57 | 2.03 | 1.66 |
| 12.9000  | 1.43 | 1.26 | 1.14 | 1.04 | .97  |
| 13.4000  | .91  | .86  | .82  | .78  | .74  |
| 13.9000  | .71  | .67  | .64  | .62  | .59  |
| 14.4000  | .58  | .56  | .55  | .54  | .53  |
| 14.9000  | .52  | .51  | .50  | .49  | .48  |
| 15.4000  | .47  | .45  | .44  | .43  | .42  |
| 15.9000  | .41  | .40  | .39  | .38  | .37  |
| 16.4000  | .37  | .36  | .36  | .35  | .35  |
| 16.9000  | .35  | .34  | .34  | .33  | .33  |
| 17.4000  | .33  | .32  | .32  | .32  | .31  |
| 17.9000  | .31  | .30  | .30  | .30  | .29  |
| 18.4000  | .29  | .28  | .28  | .28  | .27  |
| 18.9000  | .27  | .27  | .26  | .26  | .25  |
| 19.4000  | .25  | .25  | .24  | .24  | .23  |
| 19.9000  | .23  | .23  | .22  | .22  | .22  |
| 20.4000  | .21  | .21  | .21  | .21  | .21  |
| 20.9000  | .21  | .21  | .21  | .21  | .21  |
| 21.4000  | .21  | .20  | .20  | .20  | .20  |
| 21.9000  | .20  | .20  | .20  | .20  | .20  |
| 22.4000  | .20  | .20  | .20  | .20  | .19  |
| 22.9000  | .19  | .19  | .19  | .19  | .19  |
| 23.4000  | .19  | .19  | .19  | .19  | .19  |
| 23.9000  | .19  | .18  | .17  | .13  | .08  |
| 24.4000  | .04  | .02  | .01  | .01  | .00  |
| 24.9000  | .00  | .00  |      |      |      |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002  
 Type.... SCS Unit Hyd. Summary Page 4.10

Name.... EX-64K Tag: 2 Event: 2 yr  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... 64K PARCEL  
Storm... TypeII 24hr Tag: 2

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - EX-64K 2  
Tc = .7144 hrs  
Drainage Area = 18.360 acres Runoff CN= 67

=====  
Computational Time Increment = .09526 hrs  
Computed Peak Time = 12.3836 hrs  
Computed Peak Flow = 8.89 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.4000 hrs  
Peak Flow, Interpolated Output = 8.80 cfs  
=====

DRAINAGE AREA

-----  
ID:64K-EXISTING  
CN = 67  
Area = 18.360 acres  
S = 4.9254 in  
0.2S = .9851 in

Cumulative Runoff

-----  
.8501 in  
1.301 ac-ft

HYG Volume... 1.301 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .71444 hrs (ID: 64K)  
Computational Incr, Tm = .09526 hrs = 0.20000 Tp  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 29.12 cfs  
Unit peak time Tp = .47629 hrs  
Unit receding limb, Tr = 1.90517 hrs  
Total unit time, Tb = 2.38146 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... SCS Unit Hyd. (HYG output)  
 Name... EX-64K Tag: 2  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... 64K PARCEL  
 Form... TypeII 24hr Tag: 2

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - EX-64K 2  
 Tc = .7144 hrs  
 Drainage Area = 18.360 acres Runoff CN= 67  
 Calc.Increment= .09526 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.301 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |      |      |      |      |
|----------|---|------|------|------|------|
|          | Time on left represents time for first value in each row. |      |      |      |      |
| 11.5000  | .00   | .01  | .06  | .29  | 1.03 |
| 12.0000  | 2.64  | 5.02 | 7.35 | 8.64 | 8.80 |
| 12.5000  | 8.14  | 7.02 | 5.87 | 4.96 | 4.25 |
| 13.0000  | 3.67  | 3.21 | 2.85 | 2.56 | 2.32 |
| 13.5000  | 2.13  | 1.97 | 1.84 | 1.73 | 1.63 |
| 14.0000  | 1.54  | 1.46 | 1.38 | 1.32 | 1.27 |
| 14.5000  | 1.22  | 1.18 | 1.15 | 1.13 | 1.10 |
| 15.0000  | 1.08  | 1.06 | 1.03 | 1.01 | .99  |
| 15.5000  | .97   | .95  | .93  | .91  | .89  |
| 16.0000  | .87   | .85  | .83  | .82  | .80  |
| 16.5000  | .78   | .77  | .76  | .75  | .74  |
| 17.0000  | .73   | .72  | .72  | .71  | .70  |
| 17.5000  | .69   | .69  | .68  | .67  | .66  |
| 18.0000  | .66   | .65  | .64  | .63  | .63  |
| 18.5000  | .62   | .61  | .60  | .60  | .59  |
| 19.0000  | .58   | .57  | .57  | .56  | .55  |
| 19.5000  | .54   | .53  | .53  | .52  | .51  |
| 20.0000  | .50   | .49  | .49  | .48  | .47  |
| 20.5000  | .47   | .46  | .46  | .46  | .45  |
| 21.0000  | .45   | .45  | .45  | .45  | .45  |
| 21.5000  | .44   | .44  | .44  | .44  | .44  |
| 22.0000  | .44   | .44  | .43  | .43  | .43  |
| 22.5000  | .43   | .43  | .43  | .43  | .42  |
| 23.0000  | .42   | .42  | .42  | .42  | .42  |
| 23.5000  | .42   | .41  | .41  | .41  | .41  |
| 24.0000  | .41   | .40  | .38  | .33  | .27  |
| 24.5000  | .21   | .15  | .11  | .08  | .05  |
| 25.0000  | .04   | .03  | .02  | .01  | .01  |
| 25.5000  | .01   | .00  | .00  | .00  | .00  |
| 26.0000  | .00   |      |      |      |      |



Type... SCS Unit Hyd. Summary  
Name... EX-64K Tag: 15  
File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 15

Page 4.12  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - EX-64K 15  
Tc = .7144 hrs  
Drainage Area = 18.360 acres Runoff CN= 67

=====  
Computational Time Increment = .09526 hrs  
Computed Peak Time = 12.2883 hrs  
Computed Peak Flow = 22.79 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 22.78 cfs  
=====

DRAINAGE AREA

-----  
ID:64K-EXISTING  
CN = 67  
Area = 18.360 acres  
S = 4.9254 in  
0.2S = .9851 in

Cumulative Runoff

-----  
1.9437 in  
2.974 ac-ft

HYG Volume... 2.975 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .71444 hrs (ID: 64K)  
Computational Incr, Tm = .09526 hrs = 0.20000 Tp  
  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)  
  
Unit peak, qp = 29.12 cfs  
Unit peak time Tp = .47629 hrs  
Unit receding limb, Tr = 1.90517 hrs  
Total unit time, Tb = 2.38146 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... EX-64K Tag: 15  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 15

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - EX-64K 15  
 Tc = .7144 hrs  
 Drainage Area = 18.360 acres Runoff CN= 67  
 Calc.Increment= .09526 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 2.975 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 10.3000  | .00   | .00   | .01   | .02   | .04   |
| 10.8000  | .07   | .11   | .17   | .23   | .31   |
| 11.3000  | .41   | .53   | .68   | .91   | 1.38  |
| 11.8000  | 2.47  | 4.95  | 9.39  | 15.26 | 20.42 |
| 12.3000  | 22.78   | 22.34 | 20.06 | 16.87 | 13.82 |
| 12.8000  | 11.46   | 9.64  | 8.20  | 7.06  | 6.17  |
| 13.3000  | 5.47  | 4.92  | 4.47  | 4.10  | 3.80  |
| 13.8000  | 3.54  | 3.32  | 3.12  | 2.94  | 2.78  |
| 14.3000  | 2.64  | 2.53  | 2.44  | 2.36  | 2.29  |
| 14.8000  | 2.24  | 2.18  | 2.13  | 2.09  | 2.04  |
| 15.3000  | 2.00  | 1.96  | 1.92  | 1.88  | 1.84  |
| 15.8000  | 1.79  | 1.75  | 1.71  | 1.67  | 1.63  |
| 16.3000  | 1.59  | 1.56  | 1.53  | 1.50  | 1.48  |
| 16.8000  | 1.46  | 1.44  | 1.42  | 1.40  | 1.39  |
| 17.3000  | 1.37  | 1.36  | 1.34  | 1.33  | 1.31  |
| 17.8000  | 1.30  | 1.28  | 1.27  | 1.25  | 1.24  |
| 18.3000  | 1.22  | 1.21  | 1.19  | 1.18  | 1.16  |
| 18.8000  | 1.15  | 1.13  | 1.11  | 1.10  | 1.08  |
| 19.3000  | 1.07  | 1.05  | 1.04  | 1.02  | 1.01  |
| 19.8000  | .99   | .97   | .96   | .94   | .93   |
| 20.3000  | .91   | .90   | .89   | .88   | .87   |
| 20.8000  | .87   | .86   | .86   | .85   | .85   |
| 21.3000  | .85   | .84   | .84   | .84   | .84   |
| 21.8000  | .83   | .83   | .83   | .82   | .82   |
| 22.3000  | .82   | .82   | .81   | .81   | .81   |
| 22.8000  | .80   | .80   | .80   | .80   | .79   |
| 23.3000  | .79   | .79   | .78   | .78   | .78   |
| 23.8000  | .77   | .77   | .77   | .75   | .71   |
| 24.3000  | .62   | .51   | .39   | .29   | .20   |
| 24.8000  | .14   | .10   | .07   | .05   | .04   |
| 25.3000  | .02   | .02   | .01   | .01   | .01   |
| 25.8000  | .00   | .00   | .00   | .00   | .00   |

Type.... SCS Unit Hyd. Summary  
Name.... EX-64K Tag: 25  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 25

Page 4.14  
Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - EX-64K 25  
Tc = .7144 hrs  
Drainage Area = 18.360 acres Runoff CN= 67

=====  
Computational Time Increment = .09526 hrs  
Computed Peak Time = 12.2883 hrs  
Computed Peak Flow = 27.49 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 27.46 cfs  
=====

DRAINAGE AREA

-----  
ID:64K-EXISTING  
CN = 67  
Area = 18.360 acres  
S = 4.9254 in  
0.2S = .9851 in

Cumulative Runoff

-----  
2.3060 in  
3.528 ac-ft

HYG Volume... 3.530 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .71444 hrs (ID: 64K)  
Computational Incr, Tm = .09526 hrs = 0.20000 Tp  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 29.12 cfs  
Unit peak time Tp = .47629 hrs  
Unit receding limb, Tr = 1.90517 hrs  
Total unit time, Tb = 2.38146 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... EX-64K Tag: 25  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 25

Page 4.15  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - EX-64K 25  
 Tc = .7144 hrs  
 Drainage Area = 18.360 acres Runoff CN= 67  
 Calc.Increment= .09526 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 3.530 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 9.9000   | .00   | .00   | .01   | .02   | .04   |
| 10.4000  | .06   | .09   | .13   | .18   | .24   |
| 10.9000  | .30   | .38   | .47   | .58   | .70   |
| 11.4000  | .86   | 1.06  | 1.36  | 1.96  | 3.33  |
| 11.9000  | 6.38  | 11.75 | 18.74 | 24.79 | 27.46 |
| 12.4000  | 26.79   | 23.95 | 20.07 | 16.39 | 13.55 |
| 12.9000  | 11.37   | 9.64  | 8.28  | 7.22  | 6.39  |
| 13.4000  | 5.73  | 5.20  | 4.77  | 4.41  | 4.11  |
| 13.9000  | 3.85  | 3.61  | 3.40  | 3.21  | 3.05  |
| 14.4000  | 2.92  | 2.82  | 2.72  | 2.65  | 2.58  |
| 14.9000  | 2.52  | 2.46  | 2.41  | 2.36  | 2.31  |
| 15.4000  | 2.26  | 2.21  | 2.16  | 2.11  | 2.06  |
| 15.9000  | 2.02  | 1.97  | 1.92  | 1.87  | 1.83  |
| 16.4000  | 1.79  | 1.75  | 1.72  | 1.70  | 1.67  |
| 16.9000  | 1.65  | 1.63  | 1.61  | 1.59  | 1.57  |
| 17.4000  | 1.56  | 1.54  | 1.52  | 1.50  | 1.49  |
| 17.9000  | 1.47  | 1.45  | 1.44  | 1.42  | 1.40  |
| 18.4000  | 1.38  | 1.37  | 1.35  | 1.33  | 1.31  |
| 18.9000  | 1.29  | 1.28  | 1.26  | 1.24  | 1.22  |
| 19.4000  | 1.21  | 1.19  | 1.17  | 1.15  | 1.13  |
| 19.9000  | 1.11  | 1.10  | 1.08  | 1.06  | 1.04  |
| 20.4000  | 1.03  | 1.02  | 1.01  | 1.00  | .99   |
| 20.9000  | .99   | .98   | .98   | .97   | .97   |
| 21.4000  | .97   | .96   | .96   | .96   | .95   |
| 21.9000  | .95   | .95   | .94   | .94   | .94   |
| 22.4000  | .93   | .93   | .93   | .92   | .92   |
| 22.9000  | .92   | .91   | .91   | .91   | .90   |
| 23.4000  | .90   | .89   | .89   | .89   | .88   |
| 23.9000  | .88   | .88   | .86   | .81   | .71   |
| 24.4000  | .58   | .45   | .33   | .23   | .16   |
| 24.9000  | .12   | .08   | .06   | .04   | .03   |
| 25.4000  | .02   | .01   | .01   | .01   | .00   |
| 25.9000  | .00   | .00   | .00   |       |       |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002  
 Type.... SCS Unit Hyd. Summary Page 4.17

Name... EX-64K Tag: 100 Event: 100 yr  
File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 100

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - EX-64K 100  
Tc = .7144 hrs  
Drainage Area = 18.360 acres Runoff CN= 67

=====  
Computational Time Increment = .09526 hrs  
Computed Peak Time = 12.2883 hrs  
Computed Peak Flow = 42.46 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 42.35 cfs  
=====

DRAINAGE AREA

-----  
ID:64K-EXISTING  
CN = 67  
Area = 18.360 acres  
S = 4.9254 in  
0.2S = .9851 in

Cumulative Runoff

-----  
3.4672 in  
5.305 ac-ft

HYG Volume... 5.308 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .71444 hrs (ID: 64K)  
Computational Incr, Tm = .09526 hrs = 0.20000 Tp  
  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also,  $K = 2/(1+(Tr/Tp))$ )  
Receding/Rising, Tr/Tp = 1.6698 (solved from  $K = .7491$ )  
  
Unit peak, qp = 29.12 cfs  
Unit peak time Tp = .47629 hrs  
Unit receding limb, Tr = 1.90517 hrs  
Total unit time, Tb = 2.38146 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... EX-64K Tag: 100  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 100

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 Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - EX-64K 100  
 Tc = .7144 hrs  
 Drainage Area = 18.360 acres Runoff CN= 67  
 Calc.Increment= .09526 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 5.308 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 8.8000   | .00   | .00   | .01   | .02   | .04   |
| 9.3000   | .06   | .09   | .12   | .15   | .18   |
| 9.8000   | .22   | .26   | .30   | .35   | .41   |
| 10.3000  | .47   | .54   | .62   | .71   | .80   |
| 10.8000  | .92   | 1.04  | 1.19  | 1.35  | 1.54  |
| 11.3000  | 1.77  | 2.05  | 2.39  | 2.92  | 3.95  |
| 11.8000  | 6.24  | 11.14 | 19.45 | 29.97 | 38.78 |
| 12.3000  | 42.35 | 40.89 | 36.23 | 30.14 | 24.46 |
| 12.8000  | 20.10 | 16.77 | 14.14 | 12.08 | 10.48 |
| 13.3000  | 9.23  | 8.25  | 7.46  | 6.82  | 6.29  |
| 13.8000  | 5.84  | 5.46  | 5.12  | 4.80  | 4.53  |
| 14.3000  | 4.30  | 4.12  | 3.97  | 3.83  | 3.72  |
| 14.8000  | 3.62  | 3.54  | 3.45  | 3.38  | 3.30  |
| 15.3000  | 3.23  | 3.16  | 3.09  | 3.02  | 2.96  |
| 15.8000  | 2.89  | 2.82  | 2.75  | 2.68  | 2.62  |
| 16.3000  | 2.55  | 2.50  | 2.45  | 2.40  | 2.36  |
| 16.8000  | 2.33  | 2.30  | 2.27  | 2.24  | 2.22  |
| 17.3000  | 2.19  | 2.17  | 2.14  | 2.12  | 2.09  |
| 17.8000  | 2.07  | 2.04  | 2.02  | 1.99  | 1.97  |
| 18.3000  | 1.94  | 1.92  | 1.89  | 1.87  | 1.84  |
| 18.8000  | 1.82  | 1.80  | 1.77  | 1.74  | 1.72  |
| 19.3000  | 1.69  | 1.67  | 1.64  | 1.62  | 1.59  |
| 19.8000  | 1.57  | 1.54  | 1.52  | 1.49  | 1.47  |
| 20.3000  | 1.44  | 1.42  | 1.41  | 1.39  | 1.38  |
| 20.8000  | 1.37  | 1.36  | 1.36  | 1.35  | 1.35  |
| 21.3000  | 1.34  | 1.33  | 1.33  | 1.32  | 1.32  |
| 21.8000  | 1.31  | 1.31  | 1.30  | 1.30  | 1.29  |
| 22.3000  | 1.29  | 1.29  | 1.28  | 1.28  | 1.27  |
| 22.8000  | 1.27  | 1.26  | 1.26  | 1.25  | 1.25  |
| 23.3000  | 1.24  | 1.24  | 1.23  | 1.23  | 1.22  |
| 23.8000  | 1.22  | 1.21  | 1.21  | 1.18  | 1.11  |
| 24.3000  | .98   | .80   | .62   | .45   | .32   |

Type.... SCS Unit Hyd. Summary  
Name.... EX-K40 Tag: 2  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... EX. K40 SITE  
Storm... TypeII 24hr Tag: 2

Page 4.20  
Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - EX-K40 2  
Tc = .6135 hrs  
Drainage Area = 9.590 acres Runoff CN= 71

=====  
Computational Time Increment = .08180 hrs  
Computed Peak Time = 12.2702 hrs  
Computed Peak Flow = 6.95 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 6.87 cfs  
=====

DRAINAGE AREA

-----  
ID:K40-EXISTING  
CN = 71  
Area = 9.590 acres  
S = 4.0845 in  
0.2S = .8169 in

Cumulative Runoff

-----  
1.0637 in  
.850 ac-ft

HYG Volume... .850 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .61351 hrs (ID: K40)  
Computational Incr, Tm = .08180 hrs = 0.20000 Tp  
  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)  
  
Unit peak, qp = 17.71 cfs  
Unit peak time Tp = .40901 hrs  
Unit receding limb, Tr = 1.63603 hrs  
Total unit time, Tb = 2.04504 hrs

Type... SCS Unit Hyd. (HYG output)  
 Name... EX-K40 Tag: 2  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... EX. K40 SITE  
 Form... TypeII 24hr Tag: 2

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - EX-K40 2  
 Tc = .6135 hrs  
 Drainage Area = 9.590 acres Runoff CN= 71  
 Calc.Increment= .08180 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .850 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |      |      |      |      |      |
|----------|------|------|------|------|------|
| 11.1000  | .00  | .00  | .01  | .03  | .06  |
| 11.6000  | .11  | .23  | .58  | 1.45 | 3.02 |
| 12.1000  | 5.02 | 6.51 | 6.87 | 6.32 | 5.30 |
| 12.6000  | 4.25 | 3.47 | 2.87 | 2.41 | 2.06 |
| 13.1000  | 1.79 | 1.59 | 1.44 | 1.31 | 1.21 |
| 13.6000  | 1.13 | 1.05 | .99  | .93  | .88  |
| 14.1000  | .84  | .81  | .77  | .74  | .72  |
| 14.6000  | .70  | .68  | .67  | .66  | .64  |
| 15.1000  | .63  | .62  | .61  | .59  | .58  |
| 15.6000  | .57  | .56  | .54  | .53  | .52  |
| 16.1000  | .51  | .49  | .48  | .47  | .46  |
| 16.6000  | .46  | .45  | .45  | .44  | .44  |
| 17.1000  | .43  | .43  | .42  | .42  | .41  |
| 17.6000  | .41  | .40  | .40  | .39  | .39  |
| 18.1000  | .39  | .38  | .38  | .37  | .37  |
| 18.6000  | .36  | .36  | .35  | .35  | .34  |
| 19.1000  | .34  | .33  | .33  | .32  | .32  |
| 19.6000  | .32  | .31  | .31  | .30  | .30  |
| 20.1000  | .29  | .29  | .28  | .28  | .28  |
| 20.6000  | .27  | .27  | .27  | .27  | .27  |
| 21.1000  | .27  | .27  | .26  | .26  | .26  |
| 21.6000  | .26  | .26  | .26  | .26  | .26  |
| 22.1000  | .26  | .26  | .26  | .26  | .25  |
| 22.6000  | .25  | .25  | .25  | .25  | .25  |
| 23.1000  | .25  | .25  | .25  | .25  | .25  |
| 23.6000  | .24  | .24  | .24  | .24  | .24  |
| 24.1000  | .23  | .21  | .18  | .14  | .10  |
| 24.6000  | .06  | .04  | .03  | .02  | .01  |
| 25.1000  | .01  | .01  | .00  | .00  | .00  |
| 25.6000  | .00  |      |      |      |      |



Type.... SCS Unit Hyd. Summary  
Name.... EX-K40 Tag: 15  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 15

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Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - EX-K40 15  
Tc = .6135 hrs  
Drainage Area = 9.590 acres Runoff CN= 71

=====  
Computational Time Increment = .08180 hrs  
Computed Peak Time = 12.2702 hrs  
Computed Peak Flow = 15.92 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 15.61 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

=====

DRAINAGE AREA

-----  
ID:K40-EXISTING  
CN = 71  
Area = 9.590 acres  
S = 4.0845 in  
0.2S = .8169 in

Cumulative Runoff

-----  
2.2688 in  
1.813 ac-ft

HYG Volume... 1.814 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .61351 hrs (ID: K40)  
Computational Incr, Tm = .08180 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 17.71 cfs  
Unit peak time Tp = .40901 hrs  
Unit receding limb, Tr = 1.63603 hrs  
Total unit time, Tb = 2.04504 hrs

~/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767) Compute Time: 14:20:08

Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)

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Name.... EX-K40 Tag: 15 Event: 15 yr  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 15

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - EX-K40 15  
 Tc = .6135 hrs  
 Drainage Area = 9.590 acres Runoff CN= 71  
 Calc.Increment= .08180 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.814 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 9.5000   | .00   | .00   | .01   | .01   | .02   |
| 10.0000  | .04   | .05   | .07   | .09   | .11   |
| 10.5000  | .13   | .16   | .19   | .23   | .27   |
| 11.0000  | .32   | .37   | .44   | .52   | .62   |
| 11.5000  | .74   | .93   | 1.32  | 2.34  | 4.53  |
| 12.0000  | 8.17  | 12.44 | 15.31 | 15.61 | 14.00 |
| 12.5000  | 11.50 | 9.08  | 7.30  | 5.96  | 4.93  |
| 13.0000  | 4.15  | 3.58  | 3.15  | 2.82  | 2.55  |
| 13.5000  | 2.34  | 2.17  | 2.02  | 1.89  | 1.77  |
| 14.0000  | 1.68  | 1.60  | 1.53  | 1.46  | 1.41  |
| 14.5000  | 1.36  | 1.32  | 1.29  | 1.26  | 1.23  |
| 15.0000  | 1.20  | 1.18  | 1.15  | 1.13  | 1.11  |
| 15.5000  | 1.08  | 1.06  | 1.03  | 1.01  | .99   |
| 16.0000  | .96   | .94   | .91   | .89   | .87   |
| 16.5000  | .86   | .84   | .83   | .82   | .81   |
| 17.0000  | .80   | .79   | .78   | .78   | .77   |
| 17.5000  | .76   | .75   | .74   | .73   | .72   |
| 18.0000  | .71   | .71   | .70   | .69   | .68   |
| 18.5000  | .67   | .66   | .65   | .64   | .64   |
| 19.0000  | .63   | .62   | .61   | .60   | .59   |
| 19.5000  | .58   | .57   | .56   | .55   | .55   |
| 20.0000  | .54   | .53   | .52   | .51   | .50   |
| 20.5000  | .50   | .50   | .49   | .49   | .49   |
| 21.0000  | .48   | .48   | .48   | .48   | .48   |
| 21.5000  | .48   | .47   | .47   | .47   | .47   |
| 22.0000  | .47   | .47   | .46   | .46   | .46   |
| 22.5000  | .46   | .46   | .46   | .45   | .45   |
| 23.0000  | .45   | .45   | .45   | .45   | .44   |
| 23.5000  | .44   | .44   | .44   | .44   | .43   |
| 24.0000  | .43   | .42   | .38   | .32   | .24   |
| 24.5000  | .17   | .12   | .08   | .05   | .03   |
| 25.0000  | .02   | .02   | .01   | .01   | .00   |
| 25.5000  | .00   | .00   | .00   |       |       |

Type.... SCS Unit Hyd. Summary  
Name.... EX-K40 Tag: 25  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 25

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Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - EX-K40 25  
Tc = .6135 hrs  
Drainage Area = 9.590 acres Runoff CN= 71

=====  
Computational Time Increment = .08180 hrs  
Computed Peak Time = 12.2702 hrs  
Computed Peak Flow = 18.79 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 18.40 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

DRAINAGE AREA

-----  
ID:K40-EXISTING  
CN = 71  
Area = 9.590 acres  
S = 4.0845 in  
0.2S = .8169 in

Cumulative Runoff

-----  
2.6590 in  
2.125 ac-ft

HYG Volume... 2.126 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .61351 hrs (ID: K40)  
Computational Incr, Tm = .08180 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 17.71 cfs  
Unit peak time Tp = .40901 hrs  
Unit receding limb, Tr = 1.63603 hrs  
Total unit time, Tb = 2.04504 hrs

3/N: 721701406A81 J R GRIMES CONSULTING

ondPack Ver: 7.5 (767)

Compute Time: 14:20:08

Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)

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Name.... EX-K40

Tag: 25

Event: 25 yr

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW

Storm... TypeII 24hr Tag: 25

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm

Duration = 24.0000 hrs Rain Depth = 5.7000 in

Rain Dir = C:\HAESTAD\PPKW\RAINFALL\

Rain File -ID = SCSTYPES.RNF - TypeII 24hr

Unit Hyd Type = Default Curvilinear

HYG Dir = J:\0675B\PONDPACK\

HYG File - ID = PERSIMMO.HYG - EX-K40 25

Tc = .6135 hrs

Drainage Area = 9.590 acres Runoff CN= 71

Calc.Increment= .08180 hrs Out.Incr.= .1000 hrs

HYG Volume = 2.126 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 9.0000   | .00   | .00   | .00   | .01   | .02   |
| 9.5000   | .03   | .04   | .05   | .07   | .09   |
| 10.0000  | .10   | .12   | .15   | .17   | .20   |
| 10.5000  | .23   | .27   | .31   | .36   | .41   |
| 11.0000  | .47   | .54   | .62   | .72   | .84   |
| 11.5000  | 1.00  | 1.23  | 1.71  | 2.95  | 5.58  |
| 12.0000  | 9.88  | 14.86 | 18.15 | 18.40 | 16.44 |
| 12.5000  | 13.46   | 10.59 | 8.50  | 6.93  | 5.72  |
| 13.0000  | 4.80  | 4.13  | 3.63  | 3.24  | 2.93  |
| 13.5000  | 2.69  | 2.49  | 2.32  | 2.16  | 2.03  |
| 14.0000  | 1.92  | 1.83  | 1.74  | 1.67  | 1.61  |
| 14.5000  | 1.55  | 1.51  | 1.47  | 1.43  | 1.40  |
| 15.0000  | 1.37  | 1.34  | 1.32  | 1.29  | 1.26  |
| 15.5000  | 1.23  | 1.21  | 1.18  | 1.15  | 1.12  |
| 16.0000  | 1.10  | 1.07  | 1.04  | 1.02  | 1.00  |
| 16.5000  | .98   | .96   | .95   | .94   | .92   |
| 17.0000  | .91   | .90   | .89   | .88   | .87   |
| 17.5000  | .86   | .85   | .84   | .83   | .82   |
| 18.0000  | .81   | .80   | .79   | .78   | .77   |
| 18.5000  | .76   | .75   | .74   | .73   | .72   |
| 19.0000  | .71   | .70   | .69   | .68   | .67   |
| 19.5000  | .66   | .65   | .64   | .63   | .62   |
| 20.0000  | .61   | .60   | .59   | .58   | .57   |
| 20.5000  | .57   | .56   | .56   | .55   | .55   |
| 21.0000  | .55   | .55   | .55   | .54   | .54   |
| 21.5000  | .54   | .54   | .54   | .53   | .53   |
| 22.0000  | .53   | .53   | .53   | .52   | .52   |
| 22.5000  | .52   | .52   | .52   | .51   | .51   |
| 23.0000  | .51   | .51   | .51   | .50   | .50   |
| 23.5000  | .50   | .50   | .50   | .49   | .49   |
| 24.0000  | .49   | .47   | .43   | .36   | .28   |
| 24.5000  | .20   | .13   | .09   | .06   | .04   |
| 25.0000  | .03   | .02   | .01   | .01   | .00   |
| 25.5000  | .00   | .00   | .00   | .00   |       |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 14:20:08

Date: 08-06-2002

Type.... SCS Unit Hyd. Summary

Page 4.28

Name.... EX-K40

Tag: 100

Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - EX-K40 100  
Tc = .6135 hrs  
Drainage Area = 9.590 acres Runoff CN= 71

=====  
Computational Time Increment = .08180 hrs  
Computed Peak Time = 12.2702 hrs  
Computed Peak Flow = 27.79 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 27.14 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%  
=====

DRAINAGE AREA

-----  
ID:K40-EXISTING  
CN = 71  
Area = 9.590 acres  
S = 4.0845 in  
0.2S = .8169 in

Cumulative Runoff

-----  
3.8924 in  
3.111 ac-ft

HYG Volume... 3.112 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .61351 hrs (ID: K40)  
Computational Incr, Tm = .08180 hrs = 0.20000 Tp  
  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)  
  
Unit peak, qp = 17.71 cfs  
Unit peak time Tp = .40901 hrs  
Unit receding limb, Tr = 1.63603 hrs  
Total unit time, Tb = 2.04504 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm

Duration = 24.0000 hrs Rain Depth = 7.2000 in

Rain Dir = C:\HAESTAD\PPKW\RAINFALL\

Rain File -ID = SCSTYPES.RNF - TypeII 24hr

Unit Hyd Type = Default Curvilinear

HYG Dir = J:\0675B\PONDPACK\

HYG File - ID = PERSIMMO.HYG - EX-K40 100

Tc = .6135 hrs

Drainage Area = 9.590 acres Runoff CN= 71

Calc.Increment= .08180 hrs Out.Incr.= .1000 hrs

HYG Volume = 3.112 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 7.9000   | .00   | .00   | .01   | .01   | .02   |
| 8.4000   | .03   | .04   | .06   | .07   | .09   |
| 8.9000   | .11   | .13   | .15   | .17   | .19   |
| 9.4000   | .22   | .24   | .26   | .29   | .31   |
| 9.9000   | .34   | .37   | .40   | .44   | .49   |
| 10.4000  | .54   | .59   | .66   | .73   | .81   |
| 10.9000  | .90   | 1.00  | 1.11  | 1.25  | 1.41  |
| 11.4000  | 1.60  | 1.85  | 2.23  | 3.00  | 4.95  |
| 11.9000  | 8.95  | 15.33 | 22.52 | 27.05 | 27.14 |
| 12.4000  | 24.04 | 19.55 | 15.30 | 12.21 | 9.90  |
| 12.9000  | 8.13  | 6.80  | 5.83  | 5.10  | 4.54  |
| 13.4000  | 4.09  | 3.74  | 3.46  | 3.21  | 2.99  |
| 13.9000  | 2.80  | 2.65  | 2.52  | 2.41  | 2.30  |
| 14.4000  | 2.21  | 2.14  | 2.08  | 2.02  | 1.97  |
| 14.9000  | 1.93  | 1.89  | 1.85  | 1.81  | 1.77  |
| 15.4000  | 1.73  | 1.69  | 1.65  | 1.61  | 1.58  |
| 15.9000  | 1.54  | 1.50  | 1.46  | 1.42  | 1.39  |
| 16.4000  | 1.36  | 1.34  | 1.31  | 1.29  | 1.28  |
| 16.9000  | 1.26  | 1.25  | 1.23  | 1.22  | 1.20  |
| 17.4000  | 1.19  | 1.18  | 1.16  | 1.15  | 1.13  |
| 17.9000  | 1.12  | 1.11  | 1.09  | 1.08  | 1.07  |
| 18.4000  | 1.05  | 1.04  | 1.02  | 1.01  | 1.00  |
| 18.9000  | .98   | .97   | .95   | .94   | .93   |
| 19.4000  | .91   | .90   | .88   | .87   | .86   |
| 19.9000  | .84   | .83   | .81   | .80   | .79   |
| 20.4000  | .78   | .77   | .76   | .76   | .75   |
| 20.9000  | .75   | .75   | .74   | .74   | .74   |
| 21.4000  | .73   | .73   | .73   | .73   | .72   |
| 21.9000  | .72   | .72   | .71   | .71   | .71   |
| 22.4000  | .71   | .70   | .70   | .70   | .70   |
| 22.9000  | .69   | .69   | .69   | .68   | .68   |
| 23.4000  | .68   | .68   | .67   | .67   | .67   |
| 23.9000  | .67   | .66   | .64   | .59   | .49   |
| 24.4000  | .37   | .26   | .18   | .12   | .08   |
| 24.9000  | .05   | .04   | .02   | .02   | .01   |
| 25.4000  | .01   | .00   | .00   | .00   | .00   |

Type.... SCS Unit Hyd. Summary  
Name.... EX64K-3 Tag: 2  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... EX. 64K BYPASSING EX. LAKE  
Storm... TypeII 24hr Tag: 2

Page 4.31  
Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - EX64K-3 2  
Tc = .6337 hrs  
Drainage Area = 8.800 acres Runoff CN= 64

=====  
Computational Time Increment = .08449 hrs  
Computed Peak Time = 12.3351 hrs  
Computed Peak Flow = 3.56 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 3.50 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

-----  
DRAINAGE AREA

ID:64K-EXISTING-3  
CN = 64  
Area = 8.800 acres  
S = 5.6250 in  
0.2S = 1.1250 in

Cumulative Runoff

-----  
.7051 in  
.517 ac-ft

HYG Volume... .517 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .63365 hrs (ID: 64K-3)  
Computational Incr, Tm = .08449 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 15.74 cfs  
Unit peak time Tp = .42244 hrs  
Unit receding limb, Tr = 1.68975 hrs  
Total unit time, Tb = 2.11218 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... EX64K-3 Tag: 2  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... EX. 64K BYPASSING EX. LAKE  
 Storm... TypeII 24hr Tag: 2

Page 4.32  
 Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - EX64K-3 2  
 Tc = .6337 hrs  
 Drainage Area = 8.800 acres Runoff CN= 64  
 Calc.Increment= .08449 hrs Out.Incr.= .1000 hrs  
 HYG Volume = .517 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |      |      |      |      |
|----------|---|------|------|------|------|
|          | Time on left represents time for first value in each row. |      |      |      |      |
| 11.6000  | .00   | .01  | .07  | .35  | 1.05 |
| 12.1000  | 2.13  | 3.07 | 3.50 | 3.42 | 3.01 |
| 12.6000  | 2.50  | 2.09 | 1.77 | 1.52 | 1.32 |
| 13.1000  | 1.17  | 1.05 | .95  | .88  | .81  |
| 13.6000  | .76   | .72  | .68  | .64  | .61  |
| 14.1000  | .58   | .56  | .53  | .51  | .50  |
| 14.6000  | .49   | .47  | .46  | .46  | .45  |
| 15.1000  | .44   | .43  | .42  | .41  | .41  |
| 15.6000  | .40   | .39  | .38  | .37  | .36  |
| 16.1000  | .36   | .35  | .34  | .33  | .33  |
| 16.6000  | .32   | .32  | .31  | .31  | .31  |
| 17.1000  | .31   | .30  | .30  | .30  | .29  |
| 17.6000  | .29   | .29  | .28  | .28  | .28  |
| 18.1000  | .27   | .27  | .27  | .27  | .26  |
| 18.6000  | .26   | .26  | .25  | .25  | .25  |
| 19.1000  | .24   | .24  | .24  | .23  | .23  |
| 19.6000  | .23   | .22  | .22  | .22  | .21  |
| 20.1000  | .21   | .21  | .20  | .20  | .20  |
| 20.6000  | .20   | .20  | .19  | .19  | .19  |
| 21.1000  | .19   | .19  | .19  | .19  | .19  |
| 21.6000  | .19   | .19  | .19  | .19  | .19  |
| 22.1000  | .19   | .19  | .19  | .19  | .18  |
| 22.6000  | .18   | .18  | .18  | .18  | .18  |
| 23.1000  | .18   | .18  | .18  | .18  | .18  |
| 23.6000  | .18   | .18  | .18  | .18  | .18  |
| 24.1000  | .17   | .16  | .13  | .10  | .07  |
| 24.6000  | .05   | .03  | .02  | .02  | .01  |
| 25.1000  | .01   | .00  | .00  | .00  | .00  |
| 25.6000  | .00   |      |      |      |      |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002



Type.... SCS Unit Hyd. Summary  
Name.... EX64K-3 Tag: 15  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 15

Page 4.33  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - EX64K-3 15  
Tc = .6337 hrs  
Drainage Area = 8.800 acres Runoff CN= 64

=====  
Computational Time Increment = .08449 hrs  
Computed Peak Time = 12.2507 hrs  
Computed Peak Flow = 10.18 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 10.13 cfs  
=====

DRAINAGE AREA

-----  
ID:64K-EXISTING-3  
CN = 64  
Area = 8.800 acres  
S = 5.6250 in  
0.2S = 1.1250 in

Cumulative Runoff

-----  
1.7119 in  
1.255 ac-ft

HYG Volume... 1.254 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .63365 hrs (ID: 64K-3)  
Computational Incr, Tm = .08449 hrs = 0.20000 Tp  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 15.74 cfs  
Unit peak time Tp = .42244 hrs  
Unit receding limb, Tr = 1.68975 hrs  
Total unit time, Tb = 2.11218 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... EX64K-3 Tag: 15  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 15

Page 4.34  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - EX64K-3 15  
 Tc = .6337 hrs  
 Drainage Area = 8.800 acres Runoff CN= 64  
 Calc.Increment= .08449 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.254 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |      |      |      |      |
|----------|-------|------|------|------|------|
| 10.8000  | .00   | .00  | .01  | .02  | .04  |
| 11.3000  | .07   | .11  | .17  | .26  | .48  |
| 11.8000  | 1.01  | 2.24 | 4.50 | 7.37 | 9.52 |
| 12.3000  | 10.13 | 9.43 | 7.98 | 6.43 | 5.24 |
| 12.8000  | 4.34  | 3.64 | 3.09 | 2.68 | 2.38 |
| 13.3000  | 2.14  | 1.94 | 1.78 | 1.66 | 1.55 |
| 13.8000  | 1.45  | 1.36 | 1.29 | 1.23 | 1.17 |
| 14.3000  | 1.12  | 1.08 | 1.05 | 1.02 | .99  |
| 14.8000  | .97   | .95  | .93  | .91  | .89  |
| 15.3000  | .87   | .85  | .84  | .82  | .80  |
| 15.8000  | .78   | .76  | .75  | .73  | .71  |
| 16.3000  | .69   | .68  | .67  | .66  | .65  |
| 16.8000  | .64   | .63  | .62  | .62  | .61  |
| 17.3000  | .60   | .60  | .59  | .59  | .58  |
| 17.8000  | .57   | .57  | .56  | .55  | .55  |
| 18.3000  | .54   | .53  | .53  | .52  | .51  |
| 18.8000  | .51   | .50  | .49  | .49  | .48  |
| 19.3000  | .47   | .46  | .46  | .45  | .44  |
| 19.8000  | .44   | .43  | .42  | .42  | .41  |
| 20.3000  | .40   | .40  | .39  | .39  | .39  |
| 20.8000  | .39   | .38  | .38  | .38  | .38  |
| 21.3000  | .38   | .38  | .38  | .37  | .37  |
| 21.8000  | .37   | .37  | .37  | .37  | .37  |
| 22.3000  | .37   | .36  | .36  | .36  | .36  |
| 22.8000  | .36   | .36  | .36  | .36  | .35  |
| 23.3000  | .35   | .35  | .35  | .35  | .35  |
| 23.8000  | .35   | .34  | .34  | .33  | .31  |
| 24.3000  | .26   | .20  | .14  | .10  | .07  |
| 24.8000  | .04   | .03  | .02  | .01  | .01  |
| 25.3000  | .01   | .00  | .00  | .00  | .00  |

Type.... SCS Unit Hyd. Summary  
Name.... EX64K-3 Tag: 25  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 25

Page 4.35  
Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - EX64K-3 25  
Tc = .6337 hrs  
Drainage Area = 8.800 acres Runoff CN= 64

=====  
Computational Time Increment = .08449 hrs  
Computed Peak Time = 12.2507 hrs  
Computed Peak Flow = 12.47 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 12.37 cfs  
=====

DRAINAGE AREA

-----  
ID:64K-EXISTING-3  
CN = 64  
Area = 8.800 acres  
S = 5.6250 in  
0.2S = 1.1250 in

Cumulative Runoff

-----  
2.0520 in  
1.505 ac-ft

HYG Volume... 1.503 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .63365 hrs (ID: 64K-3)  
Computational Incr, Tm = .08449 hrs = 0.20000 Tp  
  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also,  $K = 2/(1+(Tr/Tp))$ )  
Receding/Rising, Tr/Tp = 1.6698 (solved from  $K = .7491$ )  
  
Unit peak, qp = 15.74 cfs  
Unit peak time Tp = .42244 hrs  
Unit receding limb, Tr = 1.68975 hrs  
Total unit time, Tb = 2.11218 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... EX64K-3 Tag: 25  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 25

Page 4.36  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - EX64K-3 25  
 Tc = .6337 hrs  
 Drainage Area = 8.800 acres Runoff CN= 64  
 Calc.Increment= .08449 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.503 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |      |      |       |       |       |
|----------|------|------|-------|-------|-------|
| 10.5000  | .00  | .00  | .01   | .02   | .04   |
| 11.0000  | .06  | .10  | .14   | .19   | .25   |
| 11.5000  | .33  | .46  | .75   | 1.44  | 2.99  |
| 12.0000  | 5.76 | 9.20 | 11.73 | 12.37 | 11.44 |
| 12.5000  | 9.63 | 7.73 | 6.28  | 5.18  | 4.32  |
| 13.0000  | 3.67 | 3.17 | 2.80  | 2.51  | 2.28  |
| 13.5000  | 2.09 | 1.94 | 1.81  | 1.70  | 1.59  |
| 14.0000  | 1.50 | 1.43 | 1.36  | 1.31  | 1.26  |
| 14.5000  | 1.22 | 1.18 | 1.15  | 1.12  | 1.10  |
| 15.0000  | 1.08 | 1.06 | 1.03  | 1.01  | .99   |
| 15.5000  | .97  | .95  | .93   | .91   | .89   |
| 16.0000  | .87  | .84  | .82   | .80   | .79   |
| 16.5000  | .77  | .76  | .75   | .74   | .73   |
| 17.0000  | .72  | .71  | .71   | .70   | .69   |
| 17.5000  | .68  | .68  | .67   | .66   | .65   |
| 18.0000  | .65  | .64  | .63   | .62   | .62   |
| 18.5000  | .61  | .60  | .59   | .58   | .58   |
| 19.0000  | .57  | .56  | .55   | .54   | .54   |
| 19.5000  | .53  | .52  | .51   | .50   | .50   |
| 20.0000  | .49  | .48  | .47   | .46   | .46   |
| 20.5000  | .45  | .45  | .45   | .44   | .44   |
| 21.0000  | .44  | .44  | .44   | .44   | .43   |
| 21.5000  | .43  | .43  | .43   | .43   | .43   |
| 22.0000  | .42  | .42  | .42   | .42   | .42   |
| 22.5000  | .42  | .42  | .41   | .41   | .41   |
| 23.0000  | .41  | .41  | .41   | .41   | .40   |
| 23.5000  | .40  | .40  | .40   | .40   | .40   |
| 24.0000  | .39  | .38  | .35   | .30   | .23   |
| 24.5000  | .17  | .11  | .08   | .05   | .03   |
| 25.0000  | .02  | .02  | .01   | .01   | .00   |
| 25.5000  | .00  | .00  | .00   | .00   |       |

Type.... SCS Unit Hyd. Summary  
Name.... EX64K-3 Tag: 100  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 100

Page 4.37  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - EX64K-3 100  
Tc = .6337 hrs  
Drainage Area = 8.800 acres Runoff CN= 64

=====  
Computational Time Increment = .08449 hrs  
Computed Peak Time = 12.2507 hrs  
Computed Peak Flow = 19.88 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 19.58 cfs  
WARNING: The difference between calculated peak flow  
and interpolated peak flow is greater than 1.50%

=====

DRAINAGE AREA

-----  
ID:64K-EXISTING-3  
CN = 64  
Area = 8.800 acres  
S = 5.6250 in  
0.2S = 1.1250 in

Cumulative Runoff

-----  
3.1543 in  
2.313 ac-ft

HYG Volume... 2.311 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .63365 hrs (ID: 64K-3)  
Computational Incr, Tm = .08449 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 15.74 cfs  
Unit peak time Tp = .42244 hrs  
Unit receding limb, Tr = 1.68975 hrs  
Total unit time, Tb = 2.11218 hrs

/N: 721701406A81 J R GRIMES CONSULTING  
ondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... EX64K-3 Tag: 100  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 100

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - EX64K-3 100  
 Tc = .6337 hrs  
 Drainage Area = 8.800 acres Runoff CN= 64  
 Calc.Increment= .08449 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 2.311 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 9.4000   | .00   | .00   | .00   | .01   | .02   |
| 9.9000   | .03   | .05   | .07   | .09   | .11   |
| 10.4000  | .14   | .17   | .20   | .25   | .29   |
| 10.9000  | .34   | .40   | .47   | .56   | .66   |
| 11.4000  | .78   | .93   | 1.17  | 1.70  | 2.92  |
| 11.9000  | 5.51  | 9.93  | 15.20 | 18.88 | 19.58 |
| 12.4000  | 17.87 | 14.89 | 11.85 | 9.55  | 7.83  |
| 12.9000  | 6.49  | 5.47  | 4.70  | 4.13  | 3.68  |
| 13.4000  | 3.33  | 3.05  | 2.81  | 2.62  | 2.45  |
| 13.9000  | 2.29  | 2.16  | 2.06  | 1.96  | 1.88  |
| 14.4000  | 1.80  | 1.74  | 1.69  | 1.65  | 1.61  |
| 14.9000  | 1.57  | 1.54  | 1.51  | 1.47  | 1.44  |
| 15.4000  | 1.41  | 1.38  | 1.35  | 1.32  | 1.29  |
| 15.9000  | 1.26  | 1.23  | 1.20  | 1.17  | 1.14  |
| 16.4000  | 1.12  | 1.10  | 1.08  | 1.06  | 1.05  |
| 16.9000  | 1.04  | 1.02  | 1.01  | 1.00  | .99   |
| 17.4000  | .98   | .97   | .96   | .95   | .93   |
| 17.9000  | .92   | .91   | .90   | .89   | .88   |
| 18.4000  | .87   | .86   | .85   | .83   | .82   |
| 18.9000  | .81   | .80   | .79   | .78   | .77   |
| 19.4000  | .75   | .74   | .73   | .72   | .71   |
| 19.9000  | .70   | .69   | .67   | .66   | .65   |
| 20.4000  | .64   | .64   | .63   | .63   | .62   |
| 20.9000  | .62   | .62   | .62   | .61   | .61   |
| 21.4000  | .61   | .61   | .60   | .60   | .60   |
| 21.9000  | .60   | .60   | .59   | .59   | .59   |
| 22.4000  | .59   | .58   | .58   | .58   | .58   |
| 22.9000  | .58   | .57   | .57   | .57   | .57   |
| 23.4000  | .56   | .56   | .56   | .56   | .56   |
| 23.9000  | .55   | .55   | .54   | .49   | .42   |
| 24.4000  | .32   | .23   | .16   | .11   | .07   |
| 24.9000  | .05   | .03   | .02   | .01   | .01   |
| 25.4000  | .01   | .00   | .00   | .00   | .00   |

Type.... SCS Unit Hyd. Summary Page 4.40  
 Name.... KELLEN-BECK Tag: 2 Event: 2 yr  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... KELLEN-BECK DEVELOPED PARCEL (MAX. 80% COVERAGE)  
 Storm... TypeII 24hr Tag: 2

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - KELLEN-BECK 2  
 Tc = .8246 hrs  
 Drainage Area = 34.810 acres Runoff CN= 92

=====  
 Computational Time Increment = .10995 hrs  
 Computed Peak Time = 12.3146 hrs  
 Computed Peak Flow = 54.88 cfs  
  
 Time Increment for HYG File = .1000 hrs  
 Peak Time, Interpolated Output = 12.4000 hrs  
 Peak Flow, Interpolated Output = 54.56 cfs  
 =====

DRAINAGE AREA

-----  
 ID:KB-DEVELOPED  
 CN = 92  
 Area = 34.810 acres  
 S = .8696 in  
 0.2S = .1739 in

Cumulative Runoff

-----  
 2.6367 in  
 7.649 ac-ft

HYG Volume... 7.653 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .82464 hrs (ID: KB-DEVELOPED)  
 Computational Incr, Tm = .10995 hrs = 0.20000 Tp  
  
 Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
 K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
 Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)  
  
 Unit peak, qp = 47.83 cfs  
 Unit peak time Tp = .54976 hrs  
 Unit receding limb, Tr = 2.19904 hrs  
 Total unit time, Tb = 2.74880 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... KELLEN-BECK Tag: 2  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... KELLEN-BECK DEVELOPED PARCEL (MAX. 80% COVERAGE)  
 Storm... TypeII 24hr Tag: 2

Page 4.41  
 Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - KELLEN-BECK 2  
 Tc = .8246 hrs  
 Drainage Area = 34.810 acres Runoff CN= 92  
 Calc.Increment= .10995 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 7.653 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 4.3000   | .00   | .00   | .01   | .01   | .02   |
| 4.8000   | .03   | .05   | .06   | .08   | .10   |
| 5.3000   | .12   | .14   | .16   | .19   | .21   |
| 5.8000   | .23   | .26   | .28   | .31   | .33   |
| 6.3000   | .36   | .39   | .41   | .44   | .47   |
| 6.8000   | .50   | .53   | .55   | .58   | .61   |
| 7.3000   | .64   | .67   | .70   | .73   | .76   |
| 7.8000   | .79   | .82   | .85   | .89   | .92   |
| 8.3000   | .95   | .99   | 1.04  | 1.09  | 1.15  |
| 8.8000   | 1.21  | 1.28  | 1.35  | 1.43  | 1.51  |
| 9.3000   | 1.59  | 1.66  | 1.73  | 1.80  | 1.86  |
| 9.8000   | 1.92  | 1.99  | 2.07  | 2.16  | 2.26  |
| 10.3000  | 2.39  | 2.52  | 2.68  | 2.85  | 3.04  |
| 10.8000  | 3.25  | 3.48  | 3.74  | 4.04  | 4.37  |
| 11.3000  | 4.76  | 5.22  | 5.80  | 6.68  | 8.31  |
| 11.8000  | 11.53 | 17.45 | 26.54 | 37.84 | 48.36 |
| 12.3000  | 54.08 | 54.56 | 51.04 | 44.93 | 37.83 |
| 12.8000  | 31.21 | 25.87 | 21.71 | 18.38 | 15.70 |
| 13.3000  | 13.60 | 11.93 | 10.58 | 9.49  | 8.59  |
| 13.8000  | 7.84  | 7.21  | 6.68  | 6.22  | 5.82  |
| 14.3000  | 5.46  | 5.14  | 4.87  | 4.64  | 4.47  |
| 14.8000  | 4.33  | 4.20  | 4.09  | 3.98  | 3.89  |
| 15.3000  | 3.79  | 3.71  | 3.62  | 3.53  | 3.45  |
| 15.8000  | 3.37  | 3.29  | 3.20  | 3.12  | 3.04  |
| 16.3000  | 2.97  | 2.90  | 2.83  | 2.78  | 2.73  |
| 16.8000  | 2.68  | 2.64  | 2.60  | 2.57  | 2.53  |
| 17.3000  | 2.50  | 2.47  | 2.44  | 2.41  | 2.38  |
| 17.8000  | 2.35  | 2.32  | 2.29  | 2.26  | 2.23  |
| 18.3000  | 2.20  | 2.18  | 2.15  | 2.12  | 2.09  |
| 18.8000  | 2.06  | 2.03  | 2.00  | 1.97  | 1.94  |
| 19.3000  | 1.92  | 1.89  | 1.86  | 1.83  | 1.80  |



Type.... SCS Unit Hyd. Summary  
Name.... KELLEN-BECK Tag: 15  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 15

Page 4.43  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - KELLEN-BECK 15  
Tc = .8246 hrs  
Drainage Area = 34.810 acres Runoff CN= 92

=====  
Computational Time Increment = .10995 hrs  
Computed Peak Time = 12.3146 hrs  
Computed Peak Flow = 87.74 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.4000 hrs  
Peak Flow, Interpolated Output = 86.91 cfs  
=====

DRAINAGE AREA

-----  
ID:KB-DEVELOPED  
CN = 92  
Area = 34.810 acres  
S = .8696 in  
0.2S = .1739 in

Cumulative Runoff

-----  
4.2848 in  
12.429 ac-ft

HYG Volume... 12.437 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .82464 hrs (ID: KB-DEVELOPED)  
Computational Incr, Tm = .10995 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 47.83 cfs  
Unit peak time Tp = .54976 hrs  
Unit receding limb, Tr = 2.19904 hrs  
Total unit time, Tb = 2.74880 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... KELLEN-BECK Tag: 15  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 15

Page 4.44  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - KELLEN-BECK 15  
 Tc = .8246 hrs  
 Drainage Area = 34.810 acres Runoff CN= 92  
 Calc.Increment= .10995 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 12.437 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 3.0000   | .00   | .00   | .00   | .01   | .02   |
| 3.5000   | .04   | .06   | .08   | .11   | .14   |
| 4.0000   | .17   | .20   | .24   | .27   | .31   |
| 4.5000   | .34   | .38   | .42   | .46   | .50   |
| 5.0000   | .54   | .58   | .62   | .66   | .70   |
| 5.5000   | .75   | .79   | .83   | .88   | .92   |
| 6.0000   | .97   | 1.02  | 1.06  | 1.11  | 1.16  |
| 6.5000   | 1.20  | 1.25  | 1.30  | 1.35  | 1.40  |
| 7.0000   | 1.44  | 1.49  | 1.54  | 1.59  | 1.64  |
| 7.5000   | 1.69  | 1.74  | 1.79  | 1.84  | 1.89  |
| 8.0000   | 1.94  | 1.99  | 2.05  | 2.11  | 2.17  |
| 8.5000   | 2.25  | 2.34  | 2.44  | 2.56  | 2.68  |
| 9.0000   | 2.81  | 2.95  | 3.08  | 3.22  | 3.35  |
| 9.5000   | 3.46  | 3.57  | 3.67  | 3.77  | 3.87  |
| 10.0000  | 4.00  | 4.15  | 4.32  | 4.53  | 4.76  |
| 10.5000  | 5.02  | 5.31  | 5.63  | 5.98  | 6.38  |
| 11.0000  | 6.81  | 7.29  | 7.85  | 8.49  | 9.25  |
| 11.5000  | 10.21 | 11.67 | 14.34 | 19.60 | 29.15 |
| 12.0000  | 43.65 | 61.49 | 77.86 | 86.53 | 86.91 |
| 12.5000  | 80.98 | 71.06 | 59.66 | 49.11 | 40.61 |
| 13.0000  | 34.00 | 28.73 | 24.47 | 21.15 | 18.52 |
| 13.5000  | 16.40 | 14.68 | 13.27 | 12.10 | 11.11 |
| 14.0000  | 10.28 | 9.57  | 8.94  | 8.38  | 7.89  |
| 14.5000  | 7.46  | 7.11  | 6.85  | 6.62  | 6.43  |
| 15.0000  | 6.26  | 6.10  | 5.95  | 5.80  | 5.67  |
| 15.5000  | 5.53  | 5.40  | 5.28  | 5.15  | 5.02  |
| 16.0000  | 4.90  | 4.77  | 4.65  | 4.53  | 4.42  |
| 16.5000  | 4.33  | 4.24  | 4.16  | 4.09  | 4.03  |
| 17.0000  | 3.97  | 3.92  | 3.86  | 3.81  | 3.77  |
| 17.5000  | 3.72  | 3.67  | 3.63  | 3.58  | 3.54  |
| 18.0000  | 3.49  | 3.45  | 3.40  | 3.36  | 3.31  |
| 18.5000  | 3.27  | 3.23  | 3.18  | 3.14  | 3.09  |

Type.... SCS Unit Hyd. Summary  
Name.... KELLEN-BECK Tag: 25  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 25

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - KELLEN-BECK 25  
Tc = .8246 hrs  
Drainage Area = 34.810 acres Runoff CN= 92

=====  
Computational Time Increment = .10995 hrs  
Computed Peak Time = 12.3146 hrs  
Computed Peak Flow = 97.34 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.4000 hrs  
Peak Flow, Interpolated Output = 96.35 cfs  
=====

DRAINAGE AREA

-----  
ID:KB-DEVELOPED  
CN = 92  
Area = 34.810 acres  
S = .8696 in  
0.2S = .1739 in

Cumulative Runoff

-----  
4.7747 in  
13.851 ac-ft

HYG Volume... 13.859 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .82464 hrs (ID: KB-DEVELOPED)  
Computational Incr, Tm = .10995 hrs = 0.20000 Tp  
  
Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)  
  
Unit peak, qp = 47.83 cfs  
Unit peak time Tp = .54976 hrs  
Unit receding limb, Tr = 2.19904 hrs  
Total unit time, Tb = 2.74880 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... KELLEN-BECK Tag: 25  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Form... TypeII 24hr Tag: 25

Page 4.47  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - KELLEN-BECK 25  
 Tc = .8246 hrs  
 Drainage Area = 34.810 acres Runoff CN= 92  
 Calc.Increment= .10995 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 13.859 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Time on left represents time for first value in each row. |       |       |       |       |
|----------|---|-------|-------|-------|-------|
| 2.8000   | .00   | .00   | .01   | .02   | .03   |
| 3.3000   | .05   | .07   | .10   | .13   | .17   |
| 3.8000   | .21   | .24   | .28   | .32   | .36   |
| 4.3000   | .40   | .44   | .49   | .53   | .57   |
| 4.8000   | .62   | .66   | .71   | .76   | .81   |
| 5.3000   | .85   | .90   | .95   | 1.00  | 1.05  |
| 5.8000   | 1.10  | 1.15  | 1.20  | 1.26  | 1.31  |
| 6.3000   | 1.36  | 1.41  | 1.47  | 1.52  | 1.57  |
| 6.8000   | 1.63  | 1.68  | 1.74  | 1.79  | 1.85  |
| 7.3000   | 1.90  | 1.96  | 2.01  | 2.07  | 2.12  |
| 7.8000   | 2.18  | 2.23  | 2.29  | 2.34  | 2.40  |
| 8.3000   | 2.47  | 2.55  | 2.63  | 2.74  | 2.85  |
| 8.8000   | 2.98  | 3.12  | 3.26  | 3.42  | 3.57  |
| 9.3000   | 3.72  | 3.87  | 4.00  | 4.12  | 4.22  |
| 9.8000   | 4.33  | 4.45  | 4.59  | 4.75  | 4.95  |
| 10.3000  | 5.18  | 5.44  | 5.73  | 6.06  | 6.41  |
| 10.8000  | 6.81  | 7.24  | 7.73  | 8.27  | 8.89  |
| 11.3000  | 9.61  | 10.45 | 11.52 | 13.15 | 16.13 |
| 11.8000  | 21.98   | 32.58 | 48.67 | 68.42 | 86.49 |
| 12.3000  | 96.02   | 96.35 | 89.73 | 78.69 | 66.03 |
| 12.8000  | 54.33   | 44.91 | 37.59 | 31.75 | 27.04 |
| 13.3000  | 23.36   | 20.45 | 18.10 | 16.20 | 14.64 |
| 13.8000  | 13.34   | 12.25 | 11.33 | 10.54 | 9.85  |
| 14.3000  | 9.24  | 8.69  | 8.22  | 7.84  | 7.54  |
| 14.8000  | 7.30  | 7.08  | 6.89  | 6.71  | 6.55  |
| 15.3000  | 6.39  | 6.24  | 6.09  | 5.95  | 5.81  |
| 15.8000  | 5.67  | 5.53  | 5.39  | 5.25  | 5.12  |
| 16.3000  | 4.99  | 4.87  | 4.76  | 4.67  | 4.58  |
| 16.8000  | 4.50  | 4.43  | 4.37  | 4.31  | 4.25  |
| 17.3000  | 4.20  | 4.15  | 4.09  | 4.04  | 3.99  |
| 17.8000  | 3.94  | 3.89  | 3.84  | 3.79  | 3.75  |
| 18.3000  | 3.70  | 3.65  | 3.60  | 3.55  | 3.50  |

Type.... SCS Unit Hyd. Summary  
Name.... KELLEN-BECK Tag: 100  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 100

Page 4.49  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - KELLEN-BECK 100  
Tc = .8246 hrs  
Drainage Area = 34.810 acres Runoff CN= 92

=====  
Computational Time Increment = .10995 hrs  
Computed Peak Time = 12.3146 hrs  
Computed Peak Flow = 125.99 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.4000 hrs  
Peak Flow, Interpolated Output = 124.54 cfs  
=====

DRAINAGE AREA

-----  
ID:KB-DEVELOPED  
CN = 92  
Area = 34.810 acres  
S = .8696 in  
0.2S = .1739 in

Cumulative Runoff

-----  
6.2523 in  
18.137 ac-ft

HYG Volume... 18.148 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .82464 hrs (ID: KB-DEVELOPED)  
Computational Incr, Tm = .10995 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 47.83 cfs  
Unit peak time Tp = .54976 hrs  
Unit receding limb, Tr = 2.19904 hrs  
Total unit time, Tb = 2.74880 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... KELLEN-BECK Tag: 100  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 'form... TypeII 24hr Tag: 100

Page 4.50  
 Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - KELLEN-BECK 100  
 Tc = .8246 hrs  
 Drainage Area = 34.810 acres Runoff CN= 92  
 Calc.Increment= .10995 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 18.148 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|----------|---|--------|--------|--------|--------|
|          | Time on left represents time for first value in each row. |        |        |        |        |
| 2.3000   | .00   | .00    | .01    | .02    | .05    |
| 2.8000   | .07   | .11    | .15    | .20    | .25    |
| 3.3000   | .30   | .36    | .41    | .47    | .53    |
| 3.8000   | .59   | .64    | .70    | .76    | .81    |
| 4.3000   | .87   | .93    | .99    | 1.05   | 1.11   |
| 4.8000   | 1.17  | 1.23   | 1.30   | 1.36   | 1.43   |
| 5.3000   | 1.49  | 1.56   | 1.63   | 1.69   | 1.76   |
| 5.8000   | 1.83  | 1.90   | 1.97   | 2.04   | 2.11   |
| 6.3000   | 2.18  | 2.25   | 2.31   | 2.38   | 2.45   |
| 6.8000   | 2.52  | 2.60   | 2.67   | 2.74   | 2.81   |
| 7.3000   | 2.88  | 2.95   | 3.02   | 3.09   | 3.16   |
| 7.8000   | 3.23  | 3.30   | 3.37   | 3.44   | 3.52   |
| 8.3000   | 3.60  | 3.70   | 3.82   | 3.95   | 4.11   |
| 8.8000   | 4.28  | 4.46   | 4.66   | 4.87   | 5.07   |
| 9.3000   | 5.27  | 5.46   | 5.63   | 5.78   | 5.92   |
| 9.8000   | 6.06  | 6.20   | 6.38   | 6.60   | 6.86   |
| 10.3000  | 7.16  | 7.50   | 7.88   | 8.31   | 8.78   |
| 10.8000  | 9.29  | 9.87   | 10.50  | 11.21  | 12.02  |
| 11.3000  | 12.96   | 14.07  | 15.46  | 17.59  | 21.48  |
| 11.8000  | 29.11   | 42.86  | 63.65  | 89.08  | 112.24 |
| 12.3000  | 124.31  | 124.54 | 115.81 | 101.44 | 85.04  |
| 12.8000  | 69.92   | 57.75  | 48.29  | 40.75  | 34.68  |
| 13.3000  | 29.94   | 26.19  | 23.17  | 20.72  | 18.72  |
| 13.8000  | 17.05   | 15.65  | 14.47  | 13.46  | 12.57  |
| 14.3000  | 11.78   | 11.08  | 10.47  | 9.99   | 9.61   |
| 14.8000  | 9.30  | 9.03   | 8.78   | 8.55   | 8.34   |
| 15.3000  | 8.14  | 7.95   | 7.76   | 7.58   | 7.40   |
| 15.8000  | 7.22  | 7.04   | 6.86   | 6.69   | 6.52   |
| 16.3000  | 6.36  | 6.20   | 6.06   | 5.94   | 5.83   |
| 16.8000  | 5.73  | 5.65   | 5.56   | 5.49   | 5.42   |
| 17.3000  | 5.35  | 5.28   | 5.21   | 5.15   | 5.08   |
| 17.8000  | 5.02  | 4.96   | 4.89   | 4.83   | 4.77   |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 14:20:08

Date: 08-06-2002

Type.... SCS Unit Hyd. Summary  
Name.... OFFSITE Tag: 2  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 2

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Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - OFFSITE 2  
Tc = 1.7659 hrs  
Drainage Area = 48.600 acres Runoff CN= 77

=====  
Computational Time Increment = .23545 hrs  
Computed Peak Time = 12.9497 hrs  
Computed Peak Flow = 23.08 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 13.0000 hrs  
Peak Flow, Interpolated Output = 23.01 cfs  
=====

DRAINAGE AREA

-----  
ID:OFFSITE  
CN = 77  
Area = 48.600 acres  
S = 2.9870 in  
0.2S = .5974 in

Cumulative Runoff

-----  
1.4305 in  
5.794 ac-ft

HYG Volume... 5.793 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = 1.76586 hrs (ID: OFFSITE)  
Computational Incr, Tm = .23545 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 31.18 cfs  
Unit peak time Tp = 1.17724 hrs  
Unit receding limb, Tr = 4.70897 hrs  
Total unit time, Tb = 5.88621 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... OFFSITE Tag: 2  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 2

Page 4.53  
 Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - OFFSITE 2  
 Tc = 1.7659 hrs  
 Drainage Area = 48.600 acres Runoff CN= 77  
 Calc.Increment= .23545 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 5.793 ac-ft

HYDROGRAPH ORDINATES (cfs)

| Time<br>hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|-------------|---|-------|-------|-------|-------|
|             | Time on left represents time for first value in each row. |       |       |       |       |
| 9.9000      | .00   | .00   | .00   | .01   | .01   |
| 10.4000     | .02   | .04   | .05   | .08   | .10   |
| 10.9000     | .14   | .19   | .24   | .31   | .38   |
| 11.4000     | .50   | .61   | .85   | 1.17  | 1.69  |
| 11.9000     | 2.79  | 3.89  | 5.85  | 7.88  | 10.37 |
| 12.4000     | 13.22   | 15.95 | 18.23 | 20.51 | 21.65 |
| 12.9000     | 22.60   | 23.01 | 22.87 | 22.62 | 21.69 |
| 13.4000     | 20.77   | 19.42 | 17.97 | 16.60 | 15.32 |
| 13.9000     | 14.08   | 13.11 | 12.14 | 11.34 | 10.59 |
| 14.4000     | 9.89  | 9.26  | 8.63  | 8.14  | 7.65  |
| 14.9000     | 7.23  | 6.83  | 6.47  | 6.16  | 5.84  |
| 15.4000     | 5.60  | 5.35  | 5.14  | 4.94  | 4.75  |
| 15.9000     | 4.58  | 4.42  | 4.28  | 4.13  | 4.00  |
| 16.4000     | 3.88  | 3.77  | 3.66  | 3.56  | 3.46  |
| 16.9000     | 3.37  | 3.29  | 3.21  | 3.13  | 3.06  |
| 17.4000     | 2.99  | 2.92  | 2.86  | 2.81  | 2.76  |
| 17.9000     | 2.72  | 2.68  | 2.64  | 2.61  | 2.57  |
| 18.4000     | 2.53  | 2.50  | 2.47  | 2.44  | 2.40  |
| 18.9000     | 2.37  | 2.34  | 2.31  | 2.28  | 2.25  |
| 19.4000     | 2.22  | 2.19  | 2.16  | 2.13  | 2.10  |
| 19.9000     | 2.07  | 2.04  | 2.01  | 1.98  | 1.95  |
| 20.4000     | 1.92  | 1.89  | 1.87  | 1.84  | 1.82  |
| 20.9000     | 1.79  | 1.77  | 1.75  | 1.73  | 1.71  |
| 21.4000     | 1.70  | 1.68  | 1.67  | 1.65  | 1.64  |
| 21.9000     | 1.63  | 1.62  | 1.61  | 1.60  | 1.59  |
| 22.4000     | 1.59  | 1.58  | 1.57  | 1.56  | 1.56  |
| 22.9000     | 1.55  | 1.54  | 1.54  | 1.53  | 1.52  |
| 23.4000     | 1.52  | 1.51  | 1.51  | 1.50  | 1.49  |
| 23.9000     | 1.49  | 1.48  | 1.47  | 1.45  | 1.42  |
| 24.4000     | 1.39  | 1.35  | 1.28  | 1.22  | 1.14  |
| 24.9000     | 1.05  | .96   | .87   | .77   | .69   |
| 25.4000     | .60   | .53   | .46   | .40   | .35   |



Type.... SCS Unit Hyd. Summary  
Name.... OFFSITE Tag: 15  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 15

Page 4.55  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - OFFSITE 15  
Tc = 1.7659 hrs  
Drainage Area = 48.600 acres Runoff CN= 77

=====  
Computational Time Increment = .23545 hrs  
Computed Peak Time = 12.9497 hrs  
Computed Peak Flow = 46.92 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 13.0000 hrs  
Peak Flow, Interpolated Output = 46.62 cfs  
=====

DRAINAGE AREA

-----  
ID:OFFSITE  
CN = 77  
Area = 48.600 acres  
S = 2.9870 in  
0.2S = .5974 in

Cumulative Runoff

-----  
2.7912 in  
11.304 ac-ft

HYG Volume... 11.304 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = 1.76586 hrs (ID: OFFSITE)  
Computational Incr, Tm = .23545 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 31.18 cfs  
Unit peak time Tp = 1.17724 hrs  
Unit receding limb, Tr = 4.70897 hrs  
Total unit time, Tb = 5.88621 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... OFFSITE Tag: 15  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 15

Page 4.56  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - OFFSITE 15  
 Tc = 1.7659 hrs  
 Drainage Area = 48.600 acres Runoff CN= 77  
 Calc.Increment= .23545 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 11.304 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 8.0000   | .00   | .00   | .00   | .01   | .01   |
| 8.5000   | .02   | .03   | .04   | .06   | .08   |
| 9.0000   | .11   | .14   | .17   | .21   | .26   |
| 9.5000   | .31   | .36   | .41   | .48   | .54   |
| 10.0000  | .61   | .68   | .76   | .85   | .94   |
| 10.5000  | 1.04  | 1.15  | 1.28  | 1.41  | 1.56  |
| 11.0000  | 1.73  | 1.91  | 2.14  | 2.36  | 2.67  |
| 11.5000  | 2.99  | 3.59  | 4.35  | 5.54  | 7.86  |
| 12.0000  | 10.18   | 14.18 | 18.33 | 23.28 | 28.86 |
| 12.5000  | 34.15   | 38.40 | 42.66 | 44.59 | 46.15 |
| 13.0000  | 46.62   | 46.01 | 45.18 | 43.06 | 40.95 |
| 13.5000  | 38.09   | 35.03 | 32.17 | 29.55 | 26.99 |
| 14.0000  | 25.04   | 23.08 | 21.45 | 19.95 | 18.54 |
| 14.5000  | 17.28   | 16.03 | 15.07 | 14.11 | 13.27 |
| 15.0000  | 12.50   | 11.78 | 11.18 | 10.57 | 10.09 |
| 15.5000  | 9.62  | 9.21  | 8.83  | 8.46  | 8.15  |
| 16.0000  | 7.84  | 7.57  | 7.30  | 7.06  | 6.83  |
| 16.5000  | 6.61  | 6.42  | 6.23  | 6.06  | 5.89  |
| 17.0000  | 5.73  | 5.59  | 5.44  | 5.31  | 5.18  |
| 17.5000  | 5.06  | 4.95  | 4.85  | 4.77  | 4.69  |
| 18.0000  | 4.62  | 4.55  | 4.49  | 4.43  | 4.36  |
| 18.5000  | 4.30  | 4.24  | 4.19  | 4.13  | 4.07  |
| 19.0000  | 4.02  | 3.97  | 3.91  | 3.86  | 3.80  |
| 19.5000  | 3.75  | 3.70  | 3.65  | 3.59  | 3.54  |
| 20.0000  | 3.49  | 3.44  | 3.39  | 3.34  | 3.29  |
| 20.5000  | 3.24  | 3.19  | 3.14  | 3.10  | 3.06  |
| 21.0000  | 3.02  | 2.98  | 2.95  | 2.92  | 2.89  |
| 21.5000  | 2.86  | 2.84  | 2.82  | 2.80  | 2.78  |
| 22.0000  | 2.76  | 2.74  | 2.73  | 2.71  | 2.70  |
| 22.5000  | 2.68  | 2.67  | 2.66  | 2.64  | 2.63  |
| 23.0000  | 2.62  | 2.61  | 2.60  | 2.59  | 2.58  |
| 23.5000  | 2.56  | 2.55  | 2.54  | 2.53  | 2.52  |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 14:20:08

Date: 08-06-2002

Type... SCS Unit Hyd. Summary  
Name... OFFSITE Tag: 25  
File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 25

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Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - OFFSITE 25  
Tc = 1.7659 hrs  
Drainage Area = 48.600 acres Runoff CN= 77

=====  
Computational Time Increment = .23545 hrs  
Computed Peak Time = 12.9497 hrs  
Computed Peak Flow = 54.34 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 13.0000 hrs  
Peak Flow, Interpolated Output = 53.96 cfs  
=====

DRAINAGE AREA

-----  
ID:OFFSITE  
CN = 77  
Area = 48.600 acres  
S = 2.9870 in  
0.2S = .5974 in

Cumulative Runoff

-----  
3.2185 in  
13.035 ac-ft

HYG Volume... 13.035 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = 1.76586 hrs (ID: OFFSITE)  
Computational Incr, Tm = .23545 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 31.18 cfs  
Unit peak time Tp = 1.17724 hrs  
Unit receding limb, Tr = 4.70897 hrs  
Total unit time, Tb = 5.88621 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... OFFSITE Tag: 25  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 25

Page 4.59  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - OFFSITE 25  
 Tc = 1.7659 hrs  
 Drainage Area = 48.600 acres Runoff CN= 77  
 Calc.Increment= .23545 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 13.035 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 7.5000   | .00   | .00   | .00   | .01   | .01   |
| 8.0000   | .02   | .03   | .04   | .06   | .08   |
| 8.5000   | .10   | .12   | .15   | .19   | .23   |
| 9.0000   | .27   | .32   | .38   | .44   | .50   |
| 9.5000   | .57   | .64   | .71   | .79   | .87   |
| 10.0000  | .96   | 1.05  | 1.15  | 1.26  | 1.37  |
| 10.5000  | 1.49  | 1.62  | 1.78  | 1.94  | 2.13  |
| 11.0000  | 2.33  | 2.55  | 2.82  | 3.09  | 3.47  |
| 11.5000  | 3.85  | 4.56  | 5.46  | 6.86  | 9.57  |
| 12.0000  | 12.27   | 16.91 | 21.71 | 27.42 | 33.83 |
| 12.5000  | 39.90   | 44.75 | 49.60 | 51.77 | 53.49 |
| 13.0000  | 53.96   | 53.19 | 52.17 | 49.67 | 47.18 |
| 13.5000  | 43.83   | 40.28 | 36.95 | 33.91 | 30.95 |
| 14.0000  | 28.68   | 26.42 | 24.53 | 22.79 | 21.16 |
| 14.5000  | 19.72   | 18.28 | 17.17 | 16.06 | 15.10 |
| 15.0000  | 14.21   | 13.38 | 12.69 | 11.99 | 11.44 |
| 15.5000  | 10.90   | 10.43 | 9.99  | 9.58  | 9.22  |
| 16.0000  | 8.86  | 8.55  | 8.25  | 7.97  | 7.71  |
| 16.5000  | 7.46  | 7.24  | 7.02  | 6.83  | 6.64  |
| 17.0000  | 6.46  | 6.29  | 6.13  | 5.98  | 5.83  |
| 17.5000  | 5.70  | 5.57  | 5.46  | 5.37  | 5.28  |
| 18.0000  | 5.20  | 5.12  | 5.05  | 4.97  | 4.90  |
| 18.5000  | 4.84  | 4.77  | 4.71  | 4.64  | 4.58  |
| 19.0000  | 4.52  | 4.45  | 4.39  | 4.33  | 4.27  |
| 19.5000  | 4.21  | 4.15  | 4.10  | 4.04  | 3.98  |
| 20.0000  | 3.92  | 3.86  | 3.80  | 3.75  | 3.69  |
| 20.5000  | 3.63  | 3.58  | 3.53  | 3.48  | 3.43  |
| 21.0000  | 3.39  | 3.35  | 3.31  | 3.28  | 3.24  |
| 21.5000  | 3.21  | 3.19  | 3.16  | 3.14  | 3.11  |
| 22.0000  | 3.10  | 3.08  | 3.06  | 3.04  | 3.02  |
| 22.5000  | 3.01  | 2.99  | 2.98  | 2.97  | 2.95  |
| 23.0000  | 2.94  | 2.92  | 2.91  | 2.90  | 2.89  |

Type.... SCS Unit Hyd. Summary  
Name.... OFFSITE Tag: 100  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 100

Page 4.61  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - OFFSITE 100  
Tc = 1.7659 hrs  
Drainage Area = 48.600 acres Runoff CN= 77

=====  
Computational Time Increment = .23545 hrs  
Computed Peak Time = 12.9497 hrs  
Computed Peak Flow = 77.20 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 13.0000 hrs  
Peak Flow, Interpolated Output = 76.55 cfs  
=====

DRAINAGE AREA

-----  
ID:OFFSITE  
CN = 77  
Area = 48.600 acres  
S = 2.9870 in  
0.2S = .5974 in

Cumulative Runoff

-----  
4.5460 in  
18.411 ac-ft

HYG Volume... 18.411 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = 1.76586 hrs (ID: OFFSITE)  
Computational Incr, Tm = .23545 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 31.18 cfs  
Unit peak time Tp = 1.17724 hrs  
Unit receding limb, Tr = 4.70897 hrs  
Total unit time, Tb = 5.88621 hrs

Type... SCS Unit Hyd. (HYG output)  
 Name... OFFSITE Tag: 100  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 torm... TypeII 24hr Tag: 100

Page 4.62  
 Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - OFFSITE 100  
 Tc = 1.7659 hrs  
 Drainage Area = 48.600 acres Runoff CN= 77  
 Calc.Increment= .23545 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 18.411 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 6.3000   | .00   | .00   | .00   | .01   | .01   |
| 6.8000   | .02   | .03   | .04   | .05   | .08   |
| 7.3000   | .10   | .13   | .16   | .19   | .23   |
| 7.8000   | .28   | .32   | .37   | .42   | .48   |
| 8.3000   | .54   | .60   | .66   | .73   | .80   |
| 8.8000   | .88   | .96   | 1.04  | 1.14  | 1.24  |
| 9.3000   | 1.35  | 1.46  | 1.58  | 1.70  | 1.82  |
| 9.8000   | 1.96  | 2.09  | 2.23  | 2.38  | 2.53  |
| 10.3000  | 2.70  | 2.87  | 3.07  | 3.27  | 3.52  |
| 10.8000  | 3.76  | 4.05  | 4.37  | 4.71  | 5.13  |
| 11.3000  | 5.54  | 6.12  | 6.70  | 7.76  | 9.11  |
| 11.8000  | 11.16 | 15.05 | 18.94 | 25.52 | 32.33 |
| 12.3000  | 40.36 | 49.31 | 57.78 | 64.42 | 71.06 |
| 12.8000  | 73.90 | 76.10 | 76.55 | 75.27 | 73.63 |
| 13.3000  | 69.93 | 66.24 | 61.42 | 56.31 | 51.55 |
| 13.8000  | 47.23 | 43.00 | 39.79 | 36.58 | 33.91 |
| 14.3000  | 31.45 | 29.15 | 27.11 | 25.08 | 23.52 |
| 14.8000  | 21.97 | 20.62 | 19.38 | 18.22 | 17.25 |
| 15.3000  | 16.28 | 15.52 | 14.76 | 14.10 | 13.50 |
| 15.8000  | 12.92 | 12.42 | 11.93 | 11.50 | 11.08 |
| 16.3000  | 10.70 | 10.35 | 10.01 | 9.70  | 9.40  |
| 16.8000  | 9.14  | 8.88  | 8.63  | 8.40  | 8.18  |
| 17.3000  | 7.97  | 7.77  | 7.59  | 7.42  | 7.27  |
| 17.8000  | 7.15  | 7.03  | 6.92  | 6.81  | 6.71  |
| 18.3000  | 6.62  | 6.52  | 6.43  | 6.34  | 6.25  |
| 18.8000  | 6.17  | 6.08  | 6.00  | 5.92  | 5.84  |
| 19.3000  | 5.75  | 5.67  | 5.59  | 5.52  | 5.44  |
| 19.8000  | 5.36  | 5.28  | 5.20  | 5.12  | 5.04  |
| 20.3000  | 4.97  | 4.89  | 4.82  | 4.75  | 4.68  |
| 20.8000  | 4.61  | 4.55  | 4.49  | 4.44  | 4.38  |
| 21.3000  | 4.34  | 4.30  | 4.26  | 4.22  | 4.19  |
| 21.8000  | 4.16  | 4.12  | 4.10  | 4.07  | 4.05  |

Type.... SCS Unit Hyd. Summary  
Name.... SOUTHERNSIDE Tag: 2  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... APARTMENTS - DEVELOPED RUNOFF  
form... TypeII 24hr Tag: 2

Page 4.64  
Event: 2 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
Duration = 24.0000 hrs Rain Depth = 3.5000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - SOUTHERNSIDE 2  
Tc = .5535 hrs  
Drainage Area = 11.390 acres Runoff CN= 81

=====  
Computational Time Increment = .07381 hrs  
Computed Peak Time = 12.2516 hrs  
Computed Peak Flow = 15.26 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.2000 hrs  
Peak Flow, Interpolated Output = 15.17 cfs  
=====

DRAINAGE AREA

-----  
ID:AREAV-DEVELOPED  
CN = 81  
Area = 11.390 acres  
S = 2.3457 in  
0.2S = .4691 in

Cumulative Runoff

-----  
1.7086 in  
1.622 ac-ft

HYG Volume... 1.622 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .55354 hrs (ID: AREAV-DEVELOPED)  
Computational Incr, Tm = .07381 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 23.31 cfs  
Unit peak time Tp = .36903 hrs  
Unit receding limb, Tr = 1.47610 hrs  
Total unit time, Tb = 1.84513 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... SCS Unit Hyd. (HYG output)  
 Name.... SOUTHERNSIDE Tag: 2  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... APARTMENTS - DEVELOPED RUNOFF  
 Storm... TypeII 24hr Tag: 2

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm  
 Duration = 24.0000 hrs Rain Depth = 3.5000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - SOUTHERNSIDE 2  
 Tc = .5535 hrs  
 Drainage Area = 11.390 acres Runoff CN= 81  
 Calc.Increment= .07381 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 1.622 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |      |       |  |
|----------|---|-------|-------|------|-------|--|
|          | Output Time increment = .1000 hrs                         |       |       |      |       |  |
|          | Time on left represents time for first value in each row. |       |       |      |       |  |
| 8.7000   | .00   | .00   | .00   | .01  | .02   |  |
| 9.2000   | .02   | .03   | .05   | .06  | .07   |  |
| 9.7000   | .08   | .09   | .10   | .12  | .14   |  |
| 10.2000  | .16   | .18   | .20   | .23  | .26   |  |
| 10.7000  | .30   | .33   | .38   | .43  | .49   |  |
| 11.2000  | .56   | .64   | .74   | .87  | 1.07  |  |
| 11.7000  | 1.56  | 2.64  | 5.08  | 8.99 | 13.19 |  |
| 12.2000  | 15.17   | 14.49 | 12.13 | 9.43 | 7.30  |  |
| 12.7000  | 5.76  | 4.67  | 3.84  | 3.25 | 2.82  |  |
| 13.2000  | 2.50  | 2.25  | 2.06  | 1.90 | 1.76  |  |
| 13.7000  | 1.64  | 1.55  | 1.47  | 1.40 | 1.33  |  |
| 14.2000  | 1.28  | 1.22  | 1.18  | 1.14 | 1.11  |  |
| 14.7000  | 1.08  | 1.06  | 1.04  | 1.02 | 1.00  |  |
| 15.2000  | .97   | .95   | .93   | .91  | .89   |  |
| 15.7000  | .87   | .85   | .83   | .81  | .79   |  |
| 16.2000  | .77   | .75   | .74   | .72  | .71   |  |
| 16.7000  | .70   | .69   | .69   | .68  | .67   |  |
| 17.2000  | .66   | .66   | .65   | .64  | .63   |  |
| 17.7000  | .63   | .62   | .61   | .60  | .60   |  |
| 18.2000  | .59   | .58   | .57   | .57  | .56   |  |
| 18.7000  | .55   | .54   | .54   | .53  | .52   |  |
| 19.2000  | .51   | .50   | .50   | .49  | .48   |  |
| 19.7000  | .47   | .47   | .46   | .45  | .44   |  |
| 20.2000  | .44   | .43   | .42   | .42  | .42   |  |
| 20.7000  | .41   | .41   | .41   | .41  | .41   |  |
| 21.2000  | .41   | .40   | .40   | .40  | .40   |  |
| 21.7000  | .40   | .40   | .40   | .39  | .39   |  |
| 22.2000  | .39   | .39   | .39   | .39  | .39   |  |
| 22.7000  | .38   | .38   | .38   | .38  | .38   |  |
| 23.2000  | .38   | .38   | .37   | .37  | .37   |  |
| 23.7000  | .37   | .37   | .37   | .36  | .35   |  |



Type.... SCS Unit Hyd. Summary  
Name.... SOUTHERNSIDE Tag: 15  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 15

Page 4.67  
Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
Duration = 24.0000 hrs Rain Depth = 5.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - SOUTHERNSIDE 15  
Tc = .5535 hrs  
Drainage Area = 11.390 acres Runoff CN= 81

=====  
Computational Time Increment = .07381 hrs  
Computed Peak Time = 12.1778 hrs  
Computed Peak Flow = 28.46 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.2000 hrs  
Peak Flow, Interpolated Output = 28.42 cfs  
=====

DRAINAGE AREA

-----  
ID:AREAV-DEVELOPED  
CN = 81  
Area = 11.390 acres  
S = 2.3457 in  
0.2S = .4691 in

Cumulative Runoff

-----  
3.1627 in  
3.002 ac-ft

HYG Volume... 3.003 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .55354 hrs (ID: AREAV-DEVELOPED)  
Computational Incr, Tm = .07381 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 23.31 cfs  
Unit peak time Tp = .36903 hrs  
Unit receding limb, Tr = 1.47610 hrs  
Total unit time, Tb = 1.84513 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... SCS Unit Hyd. (HYG output)  
 Name... SOUTHERNSIDE Tag: 15  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Form... TypeII 24hr Tag: 15

Page 4,68  
 Event: 15 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 15 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - SOUTHERNSIDE 15  
 Tc = .5535 hrs  
 Drainage Area = 11.390 acres Runoff CN= 81  
 Calc.Increment= .07381 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 3.003 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 6.7000   | .00   | .00   | .00   | .01   | .02   |
| 7.2000   | .02   | .03   | .04   | .05   | .06   |
| 7.7000   | .07   | .08   | .10   | .11   | .12   |
| 8.2000   | .13   | .14   | .16   | .18   | .19   |
| 8.7000   | .21   | .24   | .26   | .28   | .31   |
| 9.2000   | .33   | .36   | .38   | .41   | .43   |
| 9.7000   | .45   | .48   | .51   | .54   | .58   |
| 10.2000  | .63   | .68   | .73   | .80   | .87   |
| 10.7000  | .94   | 1.03  | 1.13  | 1.24  | 1.37  |
| 11.2000  | 1.52  | 1.70  | 1.92  | 2.18  | 2.61  |
| 11.7000  | 3.62  | 5.85  | 10.58 | 17.83 | 25.28 |
| 12.2000  | 28.42   | 26.73 | 22.10 | 17.03 | 13.07 |
| 12.7000  | 10.24   | 8.22  | 6.72  | 5.64  | 4.88  |
| 13.2000  | 4.30  | 3.85  | 3.51  | 3.22  | 2.98  |
| 13.7000  | 2.78  | 2.62  | 2.48  | 2.36  | 2.25  |
| 14.2000  | 2.15  | 2.06  | 1.98  | 1.92  | 1.86  |
| 14.7000  | 1.82  | 1.78  | 1.74  | 1.70  | 1.66  |
| 15.2000  | 1.63  | 1.59  | 1.56  | 1.52  | 1.49  |
| 15.7000  | 1.45  | 1.42  | 1.38  | 1.35  | 1.31  |
| 16.2000  | 1.28  | 1.25  | 1.22  | 1.20  | 1.18  |
| 16.7000  | 1.17  | 1.15  | 1.14  | 1.12  | 1.11  |
| 17.2000  | 1.10  | 1.09  | 1.07  | 1.06  | 1.05  |
| 17.7000  | 1.04  | 1.02  | 1.01  | 1.00  | .98   |
| 18.2000  | .97   | .96   | .95   | .93   | .92   |
| 18.7000  | .91   | .90   | .88   | .87   | .86   |
| 19.2000  | .84   | .83   | .82   | .81   | .79   |
| 19.7000  | .78   | .77   | .75   | .74   | .73   |
| 20.2000  | .72   | .71   | .70   | .69   | .69   |
| 20.7000  | .68   | .68   | .67   | .67   | .67   |
| 21.2000  | .67   | .66   | .66   | .66   | .66   |
| 21.7000  | .65   | .65   | .65   | .65   | .64   |
| 22.2000  | .64   | .64   | .64   | .63   | .63   |

Type.... SCS Unit Hyd. Summary  
Name.... SOUTHERNSIDE Tag: 25  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 25

Page 4.70  
Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
Duration = 24.0000 hrs Rain Depth = 5.7000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - SOUTHERNSIDE 25  
Tc = .5535 hrs  
Drainage Area = 11.390 acres Runoff CN= 81

=====  
Computational Time Increment = .07381 hrs  
Computed Peak Time = 12.1778 hrs  
Computed Peak Flow = 32.51 cfs

Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.2000 hrs  
Peak Flow, Interpolated Output = 32.44 cfs  
=====

DRAINAGE AREA

-----  
ID:AREAV-DEVELOPED  
CN = 81  
Area = 11.390 acres  
S = 2.3457 in  
0.2S = .4691 in

Cumulative Runoff

-----  
3.6114 in  
3.428 ac-ft

HYG Volume... 3.429 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .55354 hrs (ID: AREAV-DEVELOPED)  
Computational Incr, Tm = .07381 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 23.31 cfs  
Unit peak time Tp = .36903 hrs  
Unit receding limb, Tr = 1.47610 hrs  
Total unit time, Tb = 1.84513 hrs

Type.... SCS Unit Hyd. (HYG output)  
 Name.... SOUTHERNSIDE Tag: 25  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 'torm... TypeII 24hr Tag: 25

Page 4.71  
 Event: 25 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm  
 Duration = 24.0000 hrs Rain Depth = 5.7000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - SOUTHERNSIDE 25  
 Tc = .5535 hrs  
 Drainage Area = 11.390 acres Runoff CN= 81  
 Calc.Increment= .07381 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 3.429 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 6.3000   | .00   | .00   | .01   | .01   | .02   |
| 6.8000   | .03   | .04   | .05   | .06   | .07   |
| 7.3000   | .08   | .10   | .11   | .12   | .13   |
| 7.8000   | .15   | .16   | .17   | .19   | .20   |
| 8.3000   | .22   | .23   | .25   | .28   | .30   |
| 8.8000   | .33   | .36   | .39   | .42   | .45   |
| 9.3000   | .48   | .51   | .53   | .56   | .58   |
| 9.8000   | .61   | .65   | .69   | .73   | .79   |
| 10.3000  | .85   | .92   | .99   | 1.07  | 1.16  |
| 10.8000  | 1.27  | 1.39  | 1.52  | 1.67  | 1.84  |
| 11.3000  | 2.05  | 2.30  | 2.61  | 3.11  | 4.29  |
| 11.8000  | 6.86  | 12.30 | 20.55 | 28.97 | 32.44 |
| 12.3000  | 30.42   | 25.10 | 19.31 | 14.80 | 11.57 |
| 12.8000  | 9.28  | 7.57  | 6.36  | 5.49  | 4.83  |
| 13.3000  | 4.33  | 3.94  | 3.61  | 3.34  | 3.12  |
| 13.8000  | 2.93  | 2.78  | 2.64  | 2.52  | 2.40  |
| 14.3000  | 2.30  | 2.22  | 2.15  | 2.09  | 2.03  |
| 14.8000  | 1.99  | 1.94  | 1.90  | 1.86  | 1.82  |
| 15.3000  | 1.78  | 1.74  | 1.70  | 1.66  | 1.62  |
| 15.8000  | 1.58  | 1.55  | 1.51  | 1.47  | 1.43  |
| 16.3000  | 1.39  | 1.37  | 1.34  | 1.32  | 1.30  |
| 16.8000  | 1.29  | 1.27  | 1.26  | 1.24  | 1.23  |
| 17.3000  | 1.21  | 1.20  | 1.18  | 1.17  | 1.16  |
| 17.8000  | 1.14  | 1.13  | 1.11  | 1.10  | 1.08  |
| 18.3000  | 1.07  | 1.06  | 1.04  | 1.03  | 1.01  |
| 18.8000  | 1.00  | .98   | .97   | .96   | .94   |
| 19.3000  | .93   | .91   | .90   | .88   | .87   |
| 19.8000  | .86   | .84   | .83   | .81   | .80   |
| 20.3000  | .79   | .78   | .77   | .76   | .76   |
| 20.8000  | .76   | .75   | .75   | .75   | .74   |
| 21.3000  | .74   | .74   | .73   | .73   | .73   |
| 21.8000  | .73   | .72   | .72   | .72   | .71   |

Type.... SCS Unit Hyd. Summary  
Name.... SOUTHERNSIDE Tag: 100  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 100

Page 4.73  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.2000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = J:\0675B\PONDPACK\  
HYG File - ID = PERSIMMO.HYG - SOUTHERNSIDE 100  
Tc = .5535 hrs  
Drainage Area = 11.390 acres Runoff CN= 81

=====  
Computational Time Increment = .07381 hrs  
Computed Peak Time = 12.1778 hrs  
Computed Peak Flow = 44.79 cfs  
  
Time Increment for HYG File = .1000 hrs  
Peak Time, Interpolated Output = 12.2000 hrs  
Peak Flow, Interpolated Output = 44.63 cfs  
=====

DRAINAGE AREA

-----  
ID:AREAV-DEVELOPED  
CN = 81  
Area = 11.390 acres  
S = 2.3457 in  
0.2S = .4691 in

Cumulative Runoff

-----  
4.9914 in  
4.738 ac-ft

HYG Volume... 4.739 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .55354 hrs (ID: AREAV-DEVELOPED)  
Computational Incr, Tm = .07381 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 23.31 cfs  
Unit peak time Tp = .36903 hrs  
Unit receding limb, Tr = 1.47610 hrs  
Total unit time, Tb = 1.84513 hrs

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... SCS Unit Hyd. (HYG output)  
 Name... SOUTHERNSIDE Tag: 100  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 torm... TypeII 24hr Tag: 100

Page 4.74  
 Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
 Duration = 24.0000 hrs Rain Depth = 7.2000 in  
 Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
 Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
 Unit Hyd Type = Default Curvilinear  
 HYG Dir = J:\0675B\PONDPACK\  
 HYG File - ID = PERSIMMO.HYG - SOUTHERNSIDE 100  
 Tc = .5535 hrs  
 Drainage Area = 11.390 acres Runoff CN= 81  
 Calc.Increment= .07381 hrs Out.Incr.= .1000 hrs  
 HYG Volume = 4.739 ac-ft

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 5.3000   | .00   | .00   | .01   | .02   | .02   |
| 5.8000   | .04   | .05   | .06   | .08   | .09   |
| 6.3000   | .11   | .12   | .14   | .15   | .17   |
| 6.8000   | .19   | .20   | .22   | .24   | .25   |
| 7.3000   | .27   | .29   | .31   | .33   | .34   |
| 7.8000   | .36   | .38   | .40   | .42   | .44   |
| 8.3000   | .47   | .49   | .53   | .56   | .60   |
| 8.8000   | .64   | .69   | .73   | .78   | .83   |
| 9.3000   | .87   | .92   | .95   | .99   | 1.02  |
| 9.8000   | 1.06  | 1.11  | 1.17  | 1.24  | 1.32  |
| 10.3000  | 1.41  | 1.51  | 1.62  | 1.74  | 1.88  |
| 10.8000  | 2.03  | 2.20  | 2.39  | 2.61  | 2.85  |
| 11.3000  | 3.15  | 3.52  | 3.97  | 4.69  | 6.37  |
| 11.8000  | 10.03   | 17.60 | 28.89 | 40.21 | 44.63 |
| 12.3000  | 41.60   | 34.16 | 26.18 | 20.00 | 15.59 |
| 12.8000  | 12.47   | 10.14 | 8.49  | 7.32  | 6.42  |
| 13.3000  | 5.74  | 5.22  | 4.78  | 4.42  | 4.12  |
| 13.8000  | 3.87  | 3.67  | 3.49  | 3.32  | 3.17  |
| 14.3000  | 3.03  | 2.92  | 2.83  | 2.75  | 2.68  |
| 14.8000  | 2.62  | 2.56  | 2.50  | 2.45  | 2.39  |
| 15.3000  | 2.34  | 2.29  | 2.24  | 2.19  | 2.13  |
| 15.8000  | 2.08  | 2.03  | 1.98  | 1.92  | 1.88  |
| 16.3000  | 1.83  | 1.79  | 1.76  | 1.73  | 1.71  |
| 16.8000  | 1.69  | 1.67  | 1.65  | 1.63  | 1.61  |
| 17.3000  | 1.59  | 1.57  | 1.55  | 1.53  | 1.51  |
| 17.8000  | 1.49  | 1.48  | 1.46  | 1.44  | 1.42  |
| 18.3000  | 1.40  | 1.38  | 1.36  | 1.35  | 1.33  |
| 18.8000  | 1.31  | 1.29  | 1.27  | 1.25  | 1.23  |
| 19.3000  | 1.21  | 1.19  | 1.18  | 1.16  | 1.14  |
| 19.8000  | 1.12  | 1.10  | 1.08  | 1.06  | 1.04  |
| 20.3000  | 1.03  | 1.02  | 1.01  | 1.00  | .99   |
| 20.8000  | .99   | .98   | .98   | .97   | .97   |

Type.... Node: Addition Summary  
 Name.... NET-OUT  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 2

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 Event: 2 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: NET-OUT

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID          HYG tag
-----
LAKE3-ROUTE      SOUTH LAKE      PERSIMMO.HYG  LAKE3-ROUTE    2
BYPASS-DEV-HYD   BYPASS-DEVELOPED  PERSIMMO.HYG  BYPASS-DEVELOPED2
=====

```

INFLOWS TO: NET-OUT

```

-----
HYG file      HYG ID          HYG tag          Volume      Peak Time      Peak Flow
-----
HYG file      HYG ID          HYG tag          ac-ft       hrs            cfs
-----
PERSIMMO.HYG LAKE3-ROUTE    2              14.053      14.4000       21.31
PERSIMMO.HYG BYPASS-DEVELOPED  2              .220        12.1000       2.27
-----

```

TOTAL FLOW INTO: NET-OUT

```

-----
HYG file      HYG ID          HYG tag          Volume      Peak Time      Peak Flow
-----
HYG file      HYG ID          HYG tag          ac-ft       hrs            cfs
-----
PERSIMMO.HYG NET-OUT          2              14.303      14.4000       21.50
-----

```

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... Node: Addition Summary  
 Name... NET-OUT  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 'torm... TypeII 24hr Tag: 2

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 Event: 2 yr

TOTAL NODE INFLOW...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = NET-OUT  
 HYG Tag = 2

-----  
 Peak Discharge = 21.50 cfs  
 Time to Peak = 14.4000 hrs  
 HYG Volume = 14.303 ac-ft  
 -----

| Time<br>hrs   | HYDROGRAPH ORDINATES (cfs)        |       |       |       |       |
|---|-----------------------------------|-------|-------|-------|-------|
|   | Output Time increment = .1000 hrs |       |       |       |       |
| Time on left represents time for first value in each row. |                                   |       |       |       |       |
| 8.0000  | .00                               | .02   | .02   | .02   | .04   |
| 8.5000  | .04                               | .04   | .07   | .07   | .09   |
| 9.0000  | .09                               | .11   | .13   | .15   | .17   |
| 9.5000  | .20                               | .22   | .24   | .26   | .28   |
| 10.0000   | .30                               | .33   | .35   | .37   | .39   |
| 10.5000   | .41                               | .43   | .46   | .50   | .54   |
| 11.0000   | .58                               | .63   | .67   | .73   | .80   |
| 11.5000   | .89                               | 1.01  | 1.21  | 1.58  | 2.43  |
| 12.0000   | 4.18                              | 6.78  | 9.09  | 11.23 | 12.89 |
| 12.5000   | 14.25                             | 15.13 | 15.77 | 16.31 | 16.82 |
| 13.0000   | 17.30                             | 17.75 | 18.24 | 18.70 | 19.16 |
| 13.5000   | 19.56                             | 19.97 | 20.32 | 20.62 | 20.87 |
| 14.0000   | 21.07                             | 21.21 | 21.36 | 21.45 | 21.50 |
| 14.5000   | 21.50                             | 21.49 | 21.43 | 21.36 | 21.26 |
| 15.0000   | 21.13                             | 21.00 | 20.87 | 20.74 | 20.55 |
| 15.5000   | 20.36                             | 20.17 | 19.98 | 19.79 | 19.60 |
| 16.0000   | 19.41                             | 19.22 | 19.03 | 18.79 | 18.57 |
| 16.5000   | 18.32                             | 18.11 | 17.87 | 17.65 | 17.44 |
| 17.0000   | 17.22                             | 17.01 | 16.80 | 16.58 | 16.37 |
| 17.5000   | 16.16                             | 15.95 | 15.75 | 15.54 | 15.33 |
| 18.0000   | 15.13                             | 14.92 | 14.72 | 14.51 | 14.31 |
| 18.5000   | 14.11                             | 13.91 | 13.71 | 13.51 | 13.31 |
| 19.0000   | 13.11                             | 12.96 | 12.76 | 12.57 | 12.42 |
| 19.5000   | 12.23                             | 12.08 | 11.94 | 11.74 | 11.60 |
| 20.0000   | 11.42                             | 11.30 | 11.14 | 10.98 | 10.82 |
| 20.5000   | 10.70                             | 10.54 | 10.42 | 10.26 | 10.14 |
| 21.0000   | 10.03                             | 9.91  | 9.79  | 9.68  | 9.52  |
| 21.5000   | 9.41                              | 9.29  | 9.18  | 9.06  | 8.95  |
| 22.0000   | 8.84                              | 8.72  | 8.61  | 8.50  | 8.38  |
| 22.5000   | 8.27                              | 8.19  | 8.12  | 8.01  | 7.93  |
| 23.0000   | 7.86                              | 7.78  | 7.67  | 7.60  | 7.53  |
| 23.5000   | 7.45                              | 7.38  | 7.31  | 7.24  | 7.16  |
| 24.0000   | 7.09                              | .06   | .05   | .03   | .02   |



Type.... Node: Addition Summary  
 Name.... NET-OUT  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 15

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 Event: 15 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: NET-OUT

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID          HYG tag
-----
LAKE3-ROUTE      SOUTH LAKE        PERSIMMO.HYG  LAKE3-ROUTE     15
BYPASS-DEV-HYD   BYPASS-DEVELOPED PERSIMMO.HYG  BYPASS-DEVELOPED15
=====
  
```

INFLOWS TO: NET-OUT

```

-----
HYG file          HYG ID          HYG tag          Volume          Peak Time        Peak Flow
ac-ft             hrs              cfs
-----
PERSIMMO.HYG LAKE3-ROUTE      15              27.400          14.0000         53.98
PERSIMMO.HYG BYPASS-DEVELOPED 15              .486            12.1000         5.54
  
```

TOTAL FLOW INTO: NET-OUT

```

-----
HYG file          HYG ID          HYG tag          Volume          Peak Time        Peak Flow
ac-ft             hrs              cfs
-----
PERSIMMO.HYG NET-OUT      15              27.933          14.0000         54.40
  
```

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Node: Addition Summary  
 Name.... NET-OUT  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 'form... TypeII 24hr Tag: 15

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 Event: 15 yr

TOTAL NODE INFLOW...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = NET-OUT  
 HYG Tag = 15

-----  
 Peak Discharge = 54.40 cfs  
 Time to Peak = 14.0000 hrs  
 HYG Volume = 27.933 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 6.1000   | .00   | .02   | .02   | .02   | .04   |
| 6.6000   | .04   | .07   | .07   | .09   | .09   |
| 7.1000   | .11   | .13   | .15   | .17   | .20   |
| 7.6000   | .22   | .24   | .26   | .28   | .30   |
| 8.1000   | .33   | .35   | .37   | .39   | .41   |
| 8.6000   | .43   | .46   | .48   | .50   | .52   |
| 9.1000   | .54   | .56   | .61   | .65   | .69   |
| 9.6000   | .74   | .78   | .82   | .86   | .91   |
| 10.1000  | .97   | 1.04  | 1.11  | 1.20  | 1.29  |
| 10.6000  | 1.38  | 1.48  | 1.59  | 1.71  | 1.85  |
| 11.1000  | 2.01  | 2.18  | 2.38  | 2.71  | 3.08  |
| 11.6000  | 3.53  | 4.22  | 5.52  | 8.03  | 12.66 |
| 12.1000  | 18.05   | 22.79 | 26.57 | 29.49 | 31.52 |
| 12.6000  | 32.98   | 34.36 | 35.94 | 37.67 | 39.36 |
| 13.1000  | 41.30   | 43.18 | 45.05 | 47.05 | 49.17 |
| 13.6000  | 50.94   | 52.53 | 53.63 | 54.22 | 54.40 |
| 14.1000  | 54.14   | 53.52 | 52.68 | 51.60 | 50.36 |
| 14.6000  | 49.19   | 48.18 | 47.20 | 46.28 | 45.43 |
| 15.1000  | 44.52   | 43.68 | 42.79 | 41.91 | 41.09 |
| 15.6000  | 40.22   | 39.40 | 38.60 | 37.80 | 36.97 |
| 16.1000  | 36.19   | 35.41 | 34.64 | 33.88 | 33.17 |
| 16.6000  | 32.47   | 31.79 | 31.15 | 30.51 | 29.88 |
| 17.1000  | 29.25   | 28.63 | 28.05 | 27.51 | 26.97 |
| 17.6000  | 26.44   | 25.92 | 25.43 | 24.98 | 24.54 |
| 18.1000  | 24.13   | 23.74 | 23.34 | 22.94 | 22.58 |
| 18.6000  | 22.26   | 21.93 | 21.61 | 21.35 | 21.09 |
| 19.1000  | 20.84   | 20.58 | 20.33 | 20.08 | 19.83 |
| 19.6000  | 19.57   | 19.32 | 19.08 | 18.83 | 18.58 |
| 20.1000  | 18.33   | 18.09 | 17.85 | 17.60 | 17.39 |
| 20.6000  | 17.18   | 16.97 | 16.76 | 16.54 | 16.33 |
| 21.1000  | 16.12   | 15.92 | 15.71 | 15.50 | 15.35 |
| 21.6000  | 15.14   | 14.94 | 14.79 | 14.59 | 14.43 |
| 22.1000  | 14.28   | 14.08 | 13.88 | 13.73 | 13.58 |

Type.... Node: Addition Summary  
 Name.... NET-OUT  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 25

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 Event: 25 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: NET-OUT

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
LAKE3-ROUTE      SOUTH LAKE      PERSIMMO.HYG  LAKE3-ROUTE   25
BYPASS-DEV-HYD   BYPASS-DEVELOPED  PERSIMMO.HYG  BYPASS-DEVELOPED25
=====

```

INFLOWS TO: NET-OUT

| HYG file     | HYG ID           | HYG tag | Volume<br>ac-ft | Peak Time<br>hrs | Peak Flow<br>cfs |
|--------------|------------------|---------|-----------------|------------------|------------------|
| PERSIMMO.HYG | LAKE3-ROUTE      | 25      | 31.532          | 13.8000          | 71.34            |
| PERSIMMO.HYG | BYPASS-DEVELOPED | 25      | .573            | 12.1000          | 6.60             |

TOTAL FLOW INTO: NET-OUT

| HYG file     | HYG ID  | HYG tag | Volume<br>ac-ft | Peak Time<br>hrs | Peak Flow<br>cfs |
|--------------|---------|---------|-----------------|------------------|------------------|
| PERSIMMO.HYG | NET-OUT | 25      | 32.157          | 13.8000          | 71.87            |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Node: Addition Summary  
 Name.... NET-OUT  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Form... TypeII 24hr Tag: 25

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 Event: 25 yr

TOTAL NODE INFLOW...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = NET-OUT  
 HYG Tag = 25

-----  
 Peak Discharge = 71.87 cfs  
 Time to Peak = 13.8000 hrs  
 HYG Volume = 32.157 ac-ft  
 -----

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|-------------|---|-------|-------|-------|-------|
|             | Output Time increment = .1000 hrs                         |       |       |       |       |
|             | Time on left represents time for first value in each row. |       |       |       |       |
|             | -----   | ----- | ----- | ----- | ----- |
| 5.8000      | .00   | .02   | .02   | .04   | .04   |
| 6.3000      | .07   | .07   | .09   | .09   | .11   |
| 6.8000      | .13   | .15   | .17   | .20   | .22   |
| 7.3000      | .24   | .26   | .28   | .30   | .33   |
| 7.8000      | .35   | .37   | .39   | .41   | .43   |
| 8.3000      | .46   | .48   | .50   | .52   | .54   |
| 8.8000      | .56   | .61   | .65   | .69   | .74   |
| 9.3000      | .78   | .82   | .86   | .93   | 1.00  |
| 9.8000      | 1.06  | 1.13  | 1.20  | 1.29  | 1.38  |
| 10.3000     | 1.47  | 1.56  | 1.68  | 1.79  | 1.93  |
| 10.8000     | 2.07  | 2.23  | 2.43  | 2.72  | 3.04  |
| 11.3000     | 3.37  | 3.74  | 4.16  | 4.66  | 5.47  |
| 11.8000     | 6.98  | 10.16 | 15.60 | 22.01 | 27.57 |
| 12.3000     | 31.84   | 35.06 | 37.47 | 39.38 | 41.25 |
| 12.8000     | 43.39   | 45.57 | 48.32 | 52.03 | 56.34 |
| 13.3000     | 60.75   | 64.67 | 67.88 | 70.15 | 71.52 |
| 13.8000     | 71.87   | 71.32 | 70.19 | 68.48 | 66.60 |
| 14.3000     | 64.45   | 62.20 | 60.05 | 57.75 | 55.58 |
| 14.8000     | 53.51   | 51.59 | 49.94 | 48.55 | 47.35 |
| 15.3000     | 46.28   | 45.26 | 44.31 | 43.36 | 42.47 |
| 15.8000     | 41.59   | 40.72 | 39.87 | 39.06 | 38.26 |
| 16.3000     | 37.47   | 36.69 | 35.92 | 35.19 | 34.47 |
| 16.8000     | 33.76   | 33.05 | 32.35 | 31.72 | 31.08 |
| 17.3000     | 30.48   | 29.89 | 29.34 | 28.79 | 28.25 |
| 17.8000     | 27.71   | 27.17 | 26.68 | 26.23 | 25.78 |
| 18.3000     | 25.33   | 24.89 | 24.45 | 24.08 | 23.72 |
| 18.8000     | 23.35   | 23.02 | 22.69 | 22.37 | 22.04 |
| 19.3000     | 21.75   | 21.49 | 21.23 | 20.98 | 20.72 |
| 19.8000     | 20.46   | 20.21 | 19.96 | 19.70 | 19.45 |
| 20.3000     | 19.24   | 19.02 | 18.77 | 18.56 | 18.35 |
| 20.8000     | 18.14   | 17.92 | 17.71 | 17.49 | 17.30 |
| 21.3000     | 17.09   | 16.90 | 16.69 | 16.51 | 16.33 |
| 21.8000     | 16.12   | 15.96 | 15.76 | 15.60 | 15.44 |

Type.... Node: Addition Summary  
 Name.... NET-OUT  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 100

Page 5.32  
 Event: 100 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: NET-OUT

HYG Directory: J:\0675B\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
LAKE3-ROUTE      SOUTH LAKE        PERSIMMO.HYG  LAKE3-ROUTE   100
BYPASS-DEV-HYD   BYPASS-DEVELOPED PERSIMMO.HYG  BYPASS-DEVELOPED100
=====

```

INFLOWS TO: NET-OUT

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag        ac-ft         hrs           cfs
-----
PERSIMMO.HYG LAKE3-ROUTE   100            44.703        13.4000       130.07
PERSIMMO.HYG BYPASS-DEVELOPED 100            .850          12.1000       9.94

```

TOTAL FLOW INTO: NET-OUT

```

----- Volume      Peak Time      Peak Flow
HYG file      HYG ID        HYG tag        ac-ft         hrs           cfs
-----
PERSIMMO.HYG NET-OUT           100            45.619        13.4000       130.98

```

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... Node: Addition Summary  
 Name... NET-OUT  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 100

Page 5.33  
 Event: 100 yr

TOTAL NODE INFLOW...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = NET-OUT  
 HYG Tag = 100

-----  
 Peak Discharge = 130.98 cfs  
 Time to Peak = 13.4000 hrs  
 HYG Volume = 45.619 ac-ft  
 -----

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)                                |        |        |        |        |
|-------------|---|--------|--------|--------|--------|
|             | Output Time increment = .1000 hrs                         |        |        |        |        |
|             | Time on left represents time for first value in each row. |        |        |        |        |
|             | -----   |        |        |        |        |
| 4.9000      | .00   | .02    | .02    | .04    | .04    |
| 5.4000      | .07   | .09    | .09    | .11    | .13    |
| 5.9000      | .15   | .17    | .20    | .22    | .24    |
| 6.4000      | .26   | .28    | .30    | .33    | .35    |
| 6.9000      | .37   | .39    | .41    | .43    | .46    |
| 7.4000      | .50   | .54    | .58    | .63    | .67    |
| 7.9000      | .71   | .76    | .80    | .84    | .88    |
| 8.4000      | .93   | .97    | 1.04   | 1.10   | 1.17   |
| 8.9000      | 1.24  | 1.33   | 1.42   | 1.51   | 1.60   |
| 9.4000      | 1.69  | 1.80   | 1.91   | 2.02   | 2.13   |
| 9.9000      | 2.27  | 2.47   | 2.67   | 2.87   | 3.07   |
| 10.4000     | 3.30  | 3.54   | 3.78   | 4.06   | 4.38   |
| 10.9000     | 4.70  | 5.06   | 5.46   | 5.86   | 6.35   |
| 11.4000     | 6.92  | 7.63   | 8.51   | 9.89   | 12.40  |
| 11.9000     | 17.16   | 25.14  | 34.67  | 42.67  | 48.77  |
| 12.4000     | 53.91   | 58.44  | 64.12  | 73.21  | 84.93  |
| 12.9000     | 97.64   | 111.05 | 120.95 | 127.72 | 130.68 |
| 13.4000     | 130.98  | 129.24 | 126.03 | 121.68 | 116.72 |
| 13.9000     | 111.53  | 106.00 | 100.47 | 95.53  | 90.96  |
| 14.4000     | 86.81   | 82.66  | 78.61  | 74.76  | 71.12  |
| 14.9000     | 67.63   | 64.56  | 61.76  | 59.22  | 56.97  |
| 15.4000     | 54.69   | 52.63  | 50.85  | 49.44  | 48.25  |
| 15.9000     | 47.21   | 46.24  | 45.38  | 44.53  | 43.68  |
| 16.4000     | 42.90   | 42.12  | 41.35  | 40.63  | 39.94  |
| 16.9000     | 39.27   | 38.62  | 37.97  | 37.32  | 36.67  |
| 17.4000     | 36.03   | 35.39  | 34.76  | 34.13  | 33.55  |
| 17.9000     | 33.02   | 32.50  | 31.98  | 31.50  | 31.01  |
| 18.4000     | 30.53   | 30.06  | 29.59  | 29.11  | 28.64  |
| 18.9000     | 28.18   | 27.76  | 27.37  | 26.99  | 26.61  |
| 19.4000     | 26.23   | 25.85  | 25.48  | 25.11  | 24.73  |
| 19.9000     | 24.41   | 24.11  | 23.78  | 23.48  | 23.18  |
| 20.4000     | 22.88   | 22.62  | 22.36  | 22.10  | 21.84  |
| 20.9000     | 21.59   | 21.39  | 21.20  | 21.01  | 20.82  |

Type.... Hydrograph  
 Name.... K-B LAKE       IN    Tag: 2  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr    Tag: 2

Page 6.01  
 Event: 2 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID    = K-B LAKE        IN  
 HYG Tag   = 2

-----  
 Peak Discharge =       79.54 cfs  
 Time to Peak    =       12.4000 hrs  
 HYG Volume      =       15.823 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| .0000    | .00   | .00   | .00   | .00   | .00   |
| .5000    | .00   | .00   | .00   | .00   | .00   |
| 1.0000   | .00   | .00   | .00   | .00   | .00   |
| 1.5000   | .00   | .00   | .00   | .00   | .00   |
| 2.0000   | .00   | .00   | .00   | .00   | .00   |
| 2.5000   | .00   | .00   | .00   | .00   | .00   |
| 3.0000   | .00   | .00   | .00   | .00   | .00   |
| 3.5000   | .00   | .00   | .00   | .00   | .00   |
| 4.0000   | .00   | .00   | .00   | .00   | .00   |
| 4.5000   | .01   | .01   | .02   | .03   | .05   |
| 5.0000   | .06   | .08   | .10   | .12   | .14   |
| 5.5000   | .16   | .19   | .21   | .23   | .26   |
| 6.0000   | .28   | .31   | .33   | .36   | .39   |
| 6.5000   | .41   | .44   | .47   | .50   | .53   |
| 7.0000   | .55   | .58   | .61   | .64   | .67   |
| 7.5000   | .70   | .73   | .76   | .79   | .82   |
| 8.0000   | .85   | .89   | .92   | .95   | .99   |
| 8.5000   | 1.04  | 1.09  | 1.15  | 1.21  | 1.28  |
| 9.0000   | 1.35  | 1.43  | 1.51  | 1.59  | 1.66  |
| 9.5000   | 1.73  | 1.80  | 1.86  | 1.92  | 1.99  |
| 10.0000  | 2.07  | 2.16  | 2.27  | 2.40  | 2.55  |
| 10.5000  | 2.71  | 2.90  | 3.12  | 3.35  | 3.63  |
| 11.0000  | 3.93  | 4.28  | 4.68  | 5.15  | 5.74  |
| 11.5000  | 6.47  | 7.65  | 9.72  | 13.95 | 22.23 |
| 12.0000  | 34.97 | 51.64 | 67.05 | 76.49 | 79.54 |
| 12.5000  | 77.64 | 72.47 | 66.60 | 60.32 | 55.28 |
| 13.0000  | 51.00 | 47.14 | 43.89 | 40.60 | 37.79 |
| 13.5000  | 34.91 | 32.20 | 29.78 | 27.61 | 25.60 |
| 14.0000  | 23.98 | 22.44 | 21.13 | 19.92 | 18.80 |
| 14.5000  | 17.81 | 16.87 | 16.12 | 15.40 | 14.77 |
| 15.0000  | 14.18 | 13.64 | 13.15 | 12.68 | 12.27 |
| 15.5000  | 11.87 | 11.51 | 11.16 | 10.82 | 10.51 |
| 16.0000  | 10.20 | 9.91  | 9.62  | 9.34  | 9.08  |

S/N: 721701406A81    J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767)        Compute Time: 14:20:08        Date: 08-06-2002

Type.... Hydrograph  
 Name.... K-B LAKE       IN    Tag: 15  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr    Tag: 15

Page 6.03  
 Event: 15 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID   = K-B LAKE        IN  
 HYG Tag   = 15

-----  
 Peak Discharge =       143.10 cfs  
 Time to Peak    =       12.4000 hrs  
 HYG Volume     =       29.276 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs |        |        |        |        |        |
|----------|--------|--------|--------|--------|--------|
| .0000    | .00    | .00    | .00    | .00    | .00    |
| .5000    | .00    | .00    | .00    | .00    | .00    |
| 1.0000   | .00    | .00    | .00    | .00    | .00    |
| 1.5000   | .00    | .00    | .00    | .00    | .00    |
| 2.0000   | .00    | .00    | .00    | .00    | .00    |
| 2.5000   | .00    | .00    | .00    | .00    | .00    |
| 3.0000   | .00    | .00    | .00    | .01    | .02    |
| 3.5000   | .04    | .06    | .08    | .11    | .14    |
| 4.0000   | .17    | .20    | .24    | .27    | .31    |
| 4.5000   | .34    | .38    | .42    | .46    | .50    |
| 5.0000   | .54    | .58    | .62    | .66    | .70    |
| 5.5000   | .75    | .79    | .83    | .88    | .92    |
| 6.0000   | .97    | 1.02   | 1.06   | 1.11   | 1.16   |
| 6.5000   | 1.20   | 1.25   | 1.30   | 1.35   | 1.40   |
| 7.0000   | 1.44   | 1.49   | 1.54   | 1.59   | 1.64   |
| 7.5000   | 1.69   | 1.74   | 1.79   | 1.84   | 1.89   |
| 8.0000   | 1.94   | 1.99   | 2.05   | 2.11   | 2.19   |
| 8.5000   | 2.27   | 2.37   | 2.49   | 2.62   | 2.76   |
| 9.0000   | 2.92   | 3.08   | 3.26   | 3.43   | 3.60   |
| 9.5000   | 3.77   | 3.93   | 4.09   | 4.26   | 4.43   |
| 10.0000  | 4.64   | 4.88   | 5.15   | 5.46   | 5.81   |
| 10.5000  | 6.20   | 6.63   | 7.12   | 7.65   | 8.26   |
| 11.0000  | 8.95   | 9.72   | 10.61  | 11.62  | 12.88  |
| 11.5000  | 14.40  | 16.83  | 20.97  | 29.12  | 44.71  |
| 12.0000  | 67.88  | 97.48  | 123.72 | 138.93 | 143.10 |
| 12.5000  | 138.99 | 129.64 | 119.76 | 109.08 | 100.52 |
| 13.0000  | 93.13  | 86.31  | 80.51  | 74.51  | 69.30  |
| 13.5000  | 63.94  | 58.84  | 54.29  | 50.24  | 46.46  |
| 14.0000  | 43.46  | 40.60  | 38.17  | 35.94  | 33.88  |
| 14.5000  | 32.07  | 30.35  | 29.01  | 27.72  | 26.58  |
| 15.0000  | 25.54  | 24.56  | 23.71  | 22.86  | 22.16  |
| 15.5000  | 21.46  | 20.82  | 20.21  | 19.61  | 19.06  |
| 16.0000  | 18.51  | 18.01  | 17.51  | 17.05  | 16.62  |



Type... Hydrograph  
 Name... K-B LAKE IN Tag: 25  
 File... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 25

Page 6.05  
 Event: 25 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = K-B LAKE IN  
 HYG Tag = 25

-----  
 Peak Discharge = 162.47 cfs  
 Time to Peak = 12.4000 hrs  
 HYG Volume = 33.473 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|----------|---|--------|--------|--------|--------|
|          | Time on left represents time for first value in each row. |        |        |        |        |
| .0000    | .00   | .00    | .00    | .00    | .00    |
| .5000    | .00   | .00    | .00    | .00    | .00    |
| 1.0000   | .00   | .00    | .00    | .00    | .00    |
| 1.5000   | .00   | .00    | .00    | .00    | .00    |
| 2.0000   | .00   | .00    | .00    | .00    | .00    |
| 2.5000   | .00   | .00    | .00    | .00    | .00    |
| 3.0000   | .01   | .02    | .03    | .05    | .07    |
| 3.5000   | .10   | .13    | .17    | .21    | .24    |
| 4.0000   | .28   | .32    | .36    | .40    | .44    |
| 4.5000   | .49   | .53    | .57    | .62    | .66    |
| 5.0000   | .71   | .76    | .81    | .85    | .90    |
| 5.5000   | .95   | 1.00   | 1.05   | 1.10   | 1.15   |
| 6.0000   | 1.20  | 1.26   | 1.31   | 1.36   | 1.41   |
| 6.5000   | 1.47  | 1.52   | 1.57   | 1.63   | 1.68   |
| 7.0000   | 1.74  | 1.79   | 1.85   | 1.90   | 1.96   |
| 7.5000   | 2.01  | 2.07   | 2.13   | 2.18   | 2.24   |
| 8.0000   | 2.31  | 2.37   | 2.44   | 2.53   | 2.62   |
| 8.5000   | 2.73  | 2.86   | 3.00   | 3.17   | 3.35   |
| 9.0000   | 3.54  | 3.74   | 3.95   | 4.17   | 4.38   |
| 9.5000   | 4.59  | 4.79   | 4.99   | 5.19   | 5.41   |
| 10.0000  | 5.65  | 5.93   | 6.26   | 6.62   | 7.04   |
| 10.5000  | 7.51  | 8.02   | 8.61   | 9.25   | 9.97   |
| 11.0000  | 10.78   | 11.69  | 12.74  | 13.94  | 15.42  |
| 11.5000  | 17.18   | 19.95  | 24.71  | 34.10  | 51.89  |
| 12.0000  | 78.27   | 111.75 | 141.18 | 158.01 | 162.47 |
| 12.5000  | 157.59  | 146.99 | 135.87 | 123.85 | 114.20 |
| 13.0000  | 105.86  | 98.15  | 91.58  | 84.74  | 78.79  |
| 13.5000  | 72.66   | 66.83  | 61.61  | 56.98  | 52.66  |
| 14.0000  | 49.24   | 45.98  | 43.21  | 40.68  | 38.34  |
| 14.5000  | 36.27   | 34.32  | 32.80  | 31.33  | 30.05  |
| 15.0000  | 28.87   | 27.76  | 26.79  | 25.83  | 25.02  |
| 15.5000  | 24.22   | 23.49  | 22.81  | 22.14  | 21.54  |
| 16.0000  | 20.93   | 20.38  | 19.83  | 19.33  | 18.85  |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... Hydrograph  
 Name... K-B LAKE IN Tag: 100  
 File... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 100

Page 6.07  
 Event: 100 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = K-B LAKE IN  
 HYG Tag = 100

-----  
 Peak Discharge = 221.47 cfs  
 Time to Peak = 12.4000 hrs  
 HYG Volume = 46.440 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |        |        |        |        |        |
|----------|--------|--------|--------|--------|--------|
| .0000    | .00    | .00    | .00    | .00    | .00    |
| .5000    | .00    | .00    | .00    | .00    | .00    |
| 1.0000   | .00    | .00    | .00    | .00    | .00    |
| 1.5000   | .00    | .00    | .00    | .00    | .00    |
| 2.0000   | .00    | .00    | .00    | .00    | .00    |
| 2.5000   | .01    | .02    | .05    | .07    | .11    |
| 3.0000   | .15    | .20    | .25    | .30    | .36    |
| 3.5000   | .41    | .47    | .53    | .59    | .64    |
| 4.0000   | .70    | .76    | .81    | .87    | .93    |
| 4.5000   | .99    | 1.05   | 1.11   | 1.17   | 1.23   |
| 5.0000   | 1.30   | 1.36   | 1.43   | 1.49   | 1.56   |
| 5.5000   | 1.63   | 1.69   | 1.76   | 1.83   | 1.90   |
| 6.0000   | 1.97   | 2.04   | 2.11   | 2.18   | 2.25   |
| 6.5000   | 2.32   | 2.39   | 2.47   | 2.54   | 2.62   |
| 7.0000   | 2.70   | 2.79   | 2.88   | 2.97   | 3.08   |
| 7.5000   | 3.18   | 3.28   | 3.39   | 3.51   | 3.62   |
| 8.0000   | 3.74   | 3.87   | 4.01   | 4.16   | 4.33   |
| 8.5000   | 4.52   | 4.74   | 4.98   | 5.24   | 5.53   |
| 9.0000   | 5.84   | 6.16   | 6.50   | 6.84   | 7.18   |
| 9.5000   | 7.52   | 7.84   | 8.16   | 8.47   | 8.81   |
| 10.0000  | 9.20   | 9.64   | 10.15  | 10.72  | 11.35  |
| 10.5000  | 12.07  | 12.84  | 13.72  | 14.65  | 15.71  |
| 11.0000  | 16.88  | 18.18  | 19.70  | 21.40  | 23.51  |
| 11.5000  | 25.98  | 29.91  | 36.60  | 49.70  | 74.32  |
| 12.0000  | 110.41 | 155.70 | 194.74 | 216.41 | 221.47 |
| 12.5000  | 214.30 | 199.63 | 184.75 | 168.59 | 155.63 |
| 13.0000  | 144.35 | 133.84 | 124.87 | 115.46 | 107.23 |
| 13.5000  | 98.76  | 90.68  | 83.46  | 77.07  | 71.09  |
| 14.0000  | 66.39  | 61.91  | 58.12  | 54.65  | 51.45  |
| 14.5000  | 48.64  | 45.98  | 43.92  | 41.93  | 40.19  |
| 15.0000  | 38.59  | 37.10  | 35.81  | 34.53  | 33.47  |
| 15.5000  | 32.41  | 31.45  | 30.55  | 29.67  | 28.88  |
| 16.0000  | 28.09  | 27.37  | 26.66  | 26.00  | 25.39  |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Hydrograph  
 Name.... K-B LAKE      OUT    Tag: 2  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Form... TypeII 24hr    Tag: 2

Page 6.09  
 Event: 2 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID    = K-B LAKE      OUT  
 HYG Tag   = 2

-----  
 Peak Discharge =        20.21 cfs  
 Time to Peak    =       14.3000 hrs  
 HYG Volume     =       12.824 ac-ft  
 -----

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |       |
|-------------|---|-------|-------|-------|-------|-------|
|             | Output Time increment = .1000 hrs                         |       |       |       |       |       |
|             | Time on left represents time for first value in each row. |       |       |       |       |       |
| .0000       | .00   | .00   | .00   | .00   | .00   | .00   |
| .5000       | .00   | .00   | .00   | .00   | .00   | .00   |
| 1.0000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 1.5000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 2.0000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 2.5000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 3.0000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 3.5000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 4.0000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 4.5000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 5.0000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 5.5000      | .00   | .01   | .01   | .01   | .01   | .01   |
| 6.0000      | .01   | .02   | .02   | .02   | .02   | .02   |
| 6.5000      | .03   | .03   | .03   | .04   | .04   | .04   |
| 7.0000      | .05   | .05   | .06   | .06   | .06   | .06   |
| 7.5000      | .07   | .07   | .08   | .09   | .09   | .09   |
| 8.0000      | .10   | .11   | .11   | .12   | .13   | .13   |
| 8.5000      | .13   | .14   | .15   | .16   | .17   | .17   |
| 9.0000      | .18   | .19   | .20   | .21   | .22   | .22   |
| 9.5000      | .23   | .25   | .26   | .27   | .29   | .29   |
| 10.0000     | .30   | .32   | .33   | .35   | .37   | .37   |
| 10.5000     | .39   | .41   | .43   | .45   | .48   | .48   |
| 11.0000     | .51   | .54   | .57   | .63   | .70   | .70   |
| 11.5000     | .78   | .87   | .99   | 1.15  | 1.40  | 1.40  |
| 12.0000     | 1.85  | 2.61  | 3.75  | 5.24  | 6.95  | 6.95  |
| 12.5000     | 8.71  | 10.40 | 11.94 | 13.29 | 14.47 | 14.47 |
| 13.0000     | 15.49   | 16.38 | 17.15 | 17.81 | 18.37 | 18.37 |
| 13.5000     | 18.85   | 19.23 | 19.53 | 19.77 | 19.95 | 19.95 |
| 14.0000     | 20.07   | 20.16 | 20.20 | 20.21 | 20.18 | 20.18 |
| 14.5000     | 20.13   | 20.06 | 19.97 | 19.86 | 19.73 | 19.73 |
| 15.0000     | 19.60   | 19.45 | 19.29 | 19.12 | 18.95 | 18.95 |
| 15.5000     | 18.77   | 18.58 | 18.39 | 18.20 | 18.00 | 18.00 |
| 16.0000     | 17.80   | 17.60 | 17.39 | 17.18 | 16.98 | 16.98 |

Type... Hydrograph  
 Name... K-B LAKE OUT Tag: 2  
 File... J:\0675B\PONDPACK\PERSIMMO.HYG  
 torm... TypeII 24hr Tag: 2

Page 6.10  
 Event: 2 yr

| HYDROGRAPH ORDINATES (cfs) |   |       |       |       |       |
|----------------------------|---|-------|-------|-------|-------|
| Time<br>hrs                | Output Time increment = .1000 hrs                         |       |       |       |       |
|                            | Time on left represents time for first value in each row. |       |       |       |       |
| 16.5000                    | 16.76   | 16.55 | 16.34 | 16.13 | 15.92 |
| 17.0000                    | 15.70   | 15.50 | 15.29 | 15.09 | 14.88 |
| 17.5000                    | 14.68   | 14.48 | 14.28 | 14.08 | 13.89 |
| 18.0000                    | 13.69   | 13.50 | 13.32 | 13.13 | 12.95 |
| 18.5000                    | 12.77   | 12.60 | 12.42 | 12.25 | 12.08 |
| 19.0000                    | 11.91   | 11.74 | 11.58 | 11.42 | 11.25 |
| 19.5000                    | 11.10   | 10.95 | 10.80 | 10.65 | 10.50 |
| 20.0000                    | 10.35   | 10.21 | 10.07 | 9.93  | 9.79  |
| 20.5000                    | 9.66  | 9.52  | 9.40  | 9.27  | 9.14  |
| 21.0000                    | 9.02  | 8.90  | 8.78  | 8.67  | 8.55  |
| 21.5000                    | 8.44  | 8.33  | 8.22  | 8.11  | 8.01  |
| 22.0000                    | 7.91  | 7.81  | 7.71  | 7.62  | 7.53  |
| 22.5000                    | 7.44  | 7.35  | 7.27  | 7.19  | 7.10  |
| 23.0000                    | 7.02  | 6.94  | 6.87  | 6.80  | 6.72  |
| 23.5000                    | 6.65  | 6.58  | 6.51  | 6.44  | 6.37  |
| 24.0000                    | 6.31  |       |       |       |       |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... Hydrograph  
 Name... K-B LAKE OUT Tag: 15  
 File... J:\0675B\PONDPACK\PERSIMMO.HYG  
 torm... TypeII 24hr Tag: 15

Page 6.11  
 Event: 15 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = K-B LAKE OUT  
 HYG Tag = 15

-----  
 Peak Discharge = 53.02 cfs  
 Time to Peak = 13.7000 hrs  
 HYG Volume = 24.970 ac-ft  
 -----

| HYDROGRAPH ORDINATES (cfs) |   |       |       |       |       |       |
|----------------------------|---|-------|-------|-------|-------|-------|
| Time<br>hrs                | Output Time increment = .1000 hrs                         |       |       |       |       |       |
|                            | Time on left represents time for first value in each row. |       |       |       |       |       |
| .0000                      | .00   | .00   | .00   | .00   | .00   | .00   |
| .5000                      | .00   | .00   | .00   | .00   | .00   | .00   |
| 1.0000                     | .00   | .00   | .00   | .00   | .00   | .00   |
| 1.5000                     | .00   | .00   | .00   | .00   | .00   | .00   |
| 2.0000                     | .00   | .00   | .00   | .00   | .00   | .00   |
| 2.5000                     | .00   | .00   | .00   | .00   | .00   | .00   |
| 3.0000                     | .00   | .00   | .00   | .00   | .00   | .00   |
| 3.5000                     | .00   | .00   | .00   | .00   | .00   | .00   |
| 4.0000                     | .00   | .00   | .01   | .01   | .01   | .01   |
| 4.5000                     | .01   | .01   | .02   | .02   | .03   | .03   |
| 5.0000                     | .03   | .04   | .04   | .04   | .05   | .05   |
| 5.5000                     | .06   | .06   | .07   | .07   | .08   | .08   |
| 6.0000                     | .09   | .10   | .10   | .11   | .12   | .12   |
| 6.5000                     | .13   | .14   | .15   | .16   | .17   | .17   |
| 7.0000                     | .18   | .19   | .20   | .21   | .22   | .22   |
| 7.5000                     | .24   | .25   | .26   | .28   | .29   | .29   |
| 8.0000                     | .30   | .32   | .33   | .35   | .36   | .36   |
| 8.5000                     | .38   | .39   | .41   | .43   | .45   | .45   |
| 9.0000                     | .47   | .49   | .51   | .53   | .56   | .56   |
| 9.5000                     | .59   | .64   | .69   | .74   | .79   | .79   |
| 10.0000                    | .85   | .91   | .97   | 1.03  | 1.10  | 1.10  |
| 10.5000                    | 1.17  | 1.25  | 1.33  | 1.42  | 1.52  | 1.52  |
| 11.0000                    | 1.63  | 1.77  | 1.92  | 2.09  | 2.28  | 2.28  |
| 11.5000                    | 2.49  | 2.73  | 3.04  | 3.50  | 4.20  | 4.20  |
| 12.0000                    | 5.37  | 7.19  | 9.78  | 12.94 | 16.33 | 16.33 |
| 12.5000                    | 19.60   | 23.55 | 28.04 | 32.17 | 35.77 | 35.77 |
| 13.0000                    | 38.85   | 41.45 | 43.60 | 46.04 | 49.19 | 49.19 |
| 13.5000                    | 51.31   | 52.53 | 53.02 | 52.92 | 52.37 | 52.37 |
| 14.0000                    | 51.47   | 50.32 | 48.98 | 47.52 | 45.98 | 45.98 |
| 14.5000                    | 44.64   | 43.96 | 43.22 | 42.46 | 41.67 | 41.67 |
| 15.0000                    | 40.87   | 40.07 | 39.26 | 38.45 | 37.63 | 37.63 |
| 15.5000                    | 36.83   | 36.05 | 35.27 | 34.50 | 33.74 | 33.74 |
| 16.0000                    | 33.01   | 32.29 | 31.58 | 30.87 | 30.19 | 30.19 |

Type.... Hydrograph  
 Name.... K-B LAKE      OUT      Tag: 15  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 torm... TypeII 24hr      Tag: 15

Page 6.12  
 Event: 15 yr

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)   |       |       |       |       |
|-------------|--|-------|-------|-------|-------|
|             | Output Time increment = .1000 hrs<br>Time on left represents time for first value in each row. |       |       |       |       |
| 16.5000     | 29.54  | 28.91 | 28.29 | 27.68 | 27.09 |
| 17.0000     | 26.52  | 26.00 | 25.48 | 24.98 | 24.48 |
| 17.5000     | 24.00  | 23.53 | 23.12 | 22.72 | 22.34 |
| 18.0000     | 21.96  | 21.58 | 21.22 | 20.86 | 20.55 |
| 18.5000     | 20.27  | 20.02 | 19.79 | 19.56 | 19.33 |
| 19.0000     | 19.10  | 18.87 | 18.64 | 18.41 | 18.19 |
| 19.5000     | 17.96  | 17.74 | 17.52 | 17.31 | 17.09 |
| 20.0000     | 16.87  | 16.66 | 16.44 | 16.23 | 16.02 |
| 20.5000     | 15.81  | 15.61 | 15.41 | 15.21 | 15.01 |
| 21.0000     | 14.81  | 14.62 | 14.42 | 14.23 | 14.05 |
| 21.5000     | 13.87  | 13.69 | 13.51 | 13.34 | 13.17 |
| 22.0000     | 13.00  | 12.84 | 12.68 | 12.53 | 12.37 |
| 22.5000     | 12.22  | 12.08 | 11.93 | 11.79 | 11.65 |
| 23.0000     | 11.51  | 11.38 | 11.25 | 11.12 | 11.00 |
| 23.5000     | 10.88  | 10.76 | 10.64 | 10.52 | 10.41 |
| 24.0000     | 10.30  |       |       |       |       |

S/N: 721701406A81      J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767)      Compute Time: 14:20:08      Date: 08-06-2002

Type.... Hydrograph  
 Name.... K-B LAKE      OUT      Tag: 25  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 'form... TypeII 24hr    Tag: 25

Page 6.13  
 Event: 25 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID    = K-B LAKE      OUT  
 HYG Tag   = 25

-----  
 Peak Discharge =        71.81 cfs  
 Time to Peak    =       13.5000 hrs  
 HYG Volume     =       28.784 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| .0000    | .00   | .00   | .00   | .00   | .00   |
| .5000    | .00   | .00   | .00   | .00   | .00   |
| 1.0000   | .00   | .00   | .00   | .00   | .00   |
| 1.5000   | .00   | .00   | .00   | .00   | .00   |
| 2.0000   | .00   | .00   | .00   | .00   | .00   |
| 2.5000   | .00   | .00   | .00   | .00   | .00   |
| 3.0000   | .00   | .00   | .00   | .00   | .00   |
| 3.5000   | .00   | .00   | .00   | .00   | .01   |
| 4.0000   | .01   | .01   | .01   | .02   | .02   |
| 4.5000   | .02   | .03   | .03   | .04   | .04   |
| 5.0000   | .05   | .05   | .06   | .07   | .07   |
| 5.5000   | .08   | .09   | .09   | .10   | .11   |
| 6.0000   | .12   | .13   | .14   | .15   | .16   |
| 6.5000   | .17   | .18   | .19   | .20   | .22   |
| 7.0000   | .23   | .24   | .25   | .27   | .28   |
| 7.5000   | .30   | .31   | .33   | .34   | .36   |
| 8.0000   | .37   | .39   | .41   | .42   | .44   |
| 8.5000   | .46   | .48   | .50   | .52   | .55   |
| 9.0000   | .57   | .60   | .65   | .70   | .76   |
| 9.5000   | .81   | .87   | .93   | .99   | 1.06  |
| 10.0000  | 1.12  | 1.19  | 1.26  | 1.34  | 1.42  |
| 10.5000  | 1.51  | 1.60  | 1.72  | 1.85  | 1.99  |
| 11.0000  | 2.15  | 2.32  | 2.50  | 2.70  | 2.92  |
| 11.5000  | 3.20  | 3.52  | 3.91  | 4.45  | 5.32  |
| 12.0000  | 6.73  | 8.90  | 11.93 | 15.57 | 19.37 |
| 12.5000  | 24.29   | 30.10 | 35.59 | 40.37 | 44.39 |
| 13.0000  | 51.56   | 58.58 | 64.51 | 68.37 | 70.82 |
| 13.5000  | 71.81   | 71.41 | 69.99 | 68.12 | 65.84 |
| 14.0000  | 63.30   | 60.63 | 57.90 | 55.19 | 53.15 |
| 14.5000  | 51.21   | 49.27 | 47.37 | 45.51 | 44.35 |
| 15.0000  | 43.59   | 42.81 | 42.01 | 41.21 | 40.41 |
| 15.5000  | 39.60   | 38.80 | 38.00 | 37.22 | 36.44 |
| 16.0000  | 35.67   | 34.92 | 34.18 | 33.45 | 32.75 |

Type.... Hydrograph  
 Name.... K-B LAKE      OUT      Tag: 25  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 torm... TypeII 24hr      Tag: 25

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

---

| Time<br>hrs |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|
| 16.5000     | 32.07 | 31.39 | 30.73 | 30.08 | 29.47 |
| 17.0000     | 28.87 | 28.29 | 27.73 | 27.16 | 26.62 |
| 17.5000     | 26.13 | 25.65 | 25.17 | 24.70 | 24.25 |
| 18.0000     | 23.81 | 23.39 | 23.02 | 22.66 | 22.31 |
| 18.5000     | 21.95 | 21.61 | 21.27 | 20.94 | 20.63 |
| 19.0000     | 20.37 | 20.12 | 19.91 | 19.69 | 19.47 |
| 19.5000     | 19.25 | 19.04 | 18.83 | 18.61 | 18.40 |
| 20.0000     | 18.18 | 17.97 | 17.76 | 17.54 | 17.33 |
| 20.5000     | 17.12 | 16.92 | 16.71 | 16.50 | 16.30 |
| 21.0000     | 16.10 | 15.90 | 15.70 | 15.51 | 15.32 |
| 21.5000     | 15.14 | 14.95 | 14.77 | 14.59 | 14.41 |
| 22.0000     | 14.24 | 14.07 | 13.90 | 13.74 | 13.58 |
| 22.5000     | 13.42 | 13.26 | 13.11 | 12.96 | 12.81 |
| 23.0000     | 12.67 | 12.53 | 12.39 | 12.25 | 12.12 |
| 23.5000     | 11.99 | 11.86 | 11.73 | 11.60 | 11.49 |
| 24.0000     | 11.37 |       |       |       |       |



Type.... Hydrograph  
 Name.... K-B LAKE      OUT      Tag: 100  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Form... TypeII 24hr    Tag: 100

Page 6.15  
 Event: 100 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID    = K-B LAKE      OUT  
 HYG Tag   = 100

-----  
 Peak Discharge =       128.78 cfs  
 Time to Peak    =       13.2000 hrs  
 HYG Volume     =       40.734 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |        |        |        |        |
|----------|---|--------|--------|--------|--------|
|          | Output Time increment = .1000 hrs                         |        |        |        |        |
|          | Time on left represents time for first value in each row. |        |        |        |        |
| .0000    | .00   | .00    | .00    | .00    | .00    |
| .5000    | .00   | .00    | .00    | .00    | .00    |
| 1.0000   | .00   | .00    | .00    | .00    | .00    |
| 1.5000   | .00   | .00    | .00    | .00    | .00    |
| 2.0000   | .00   | .00    | .00    | .00    | .00    |
| 2.5000   | .00   | .00    | .00    | .00    | .00    |
| 3.0000   | .00   | .00    | .01    | .01    | .01    |
| 3.5000   | .01   | .02    | .02    | .03    | .03    |
| 4.0000   | .04   | .04    | .05    | .05    | .06    |
| 4.5000   | .07   | .08    | .09    | .09    | .10    |
| 5.0000   | .11   | .12    | .13    | .14    | .16    |
| 5.5000   | .17   | .18    | .19    | .21    | .22    |
| 6.0000   | .24   | .25    | .27    | .28    | .30    |
| 6.5000   | .31   | .33    | .35    | .37    | .39    |
| 7.0000   | .41   | .43    | .45    | .47    | .49    |
| 7.5000   | .51   | .53    | .56    | .58    | .62    |
| 8.0000   | .67   | .71    | .76    | .81    | .86    |
| 8.5000   | .92   | .97    | 1.03   | 1.09   | 1.15   |
| 9.0000   | 1.22  | 1.29   | 1.37   | 1.45   | 1.53   |
| 9.5000   | 1.61  | 1.72   | 1.84   | 1.96   | 2.08   |
| 10.0000  | 2.21  | 2.34   | 2.48   | 2.63   | 2.78   |
| 10.5000  | 2.95  | 3.15   | 3.36   | 3.59   | 3.83   |
| 11.0000  | 4.09  | 4.38   | 4.71   | 5.07   | 5.46   |
| 11.5000  | 5.90  | 6.43   | 7.08   | 7.96   | 9.31   |
| 12.0000  | 11.45   | 14.66  | 18.89  | 25.49  | 34.67  |
| 12.5000  | 43.98   | 64.91  | 88.20  | 106.48 | 118.64 |
| 13.0000  | 125.57  | 128.58 | 128.78 | 126.76 | 123.35 |
| 13.5000  | 118.86  | 113.52 | 107.71 | 102.05 | 96.29  |
| 14.0000  | 90.59   | 85.37  | 80.60  | 76.03  | 71.71  |
| 14.5000  | 67.73   | 64.26  | 60.95  | 57.86  | 55.00  |
| 15.0000  | 53.02   | 51.16  | 49.37  | 47.64  | 45.97  |
| 15.5000  | 44.64   | 43.99  | 43.32  | 42.65  | 41.96  |
| 16.0000  | 41.28   | 40.59  | 39.90  | 39.21  | 38.51  |

Type.... Hydrograph  
 Name.... K-B LAKE      OUT      Tag: 100  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 torm... TypeII 24hr      Tag: 100

Page 6.16  
 Event: 100 yr

| HYDROGRAPH ORDINATES (cfs) |   |       |       |       |       |
|----------------------------|---|-------|-------|-------|-------|
| Time<br>hrs                | Output Time increment = .1000 hrs                         |       |       |       |       |
|                            | Time on left represents time for first value in each row. |       |       |       |       |
| 16.5000                    | 37.83   | 37.15 | 36.50 | 35.85 | 35.21 |
| 17.0000                    | 34.58   | 33.96 | 33.37 | 32.79 | 32.22 |
| 17.5000                    | 31.66   | 31.11 | 30.58 | 30.06 | 29.57 |
| 18.0000                    | 29.09   | 28.62 | 28.16 | 27.71 | 27.27 |
| 18.5000                    | 26.84   | 26.44 | 26.05 | 25.67 | 25.30 |
| 19.0000                    | 24.93   | 24.57 | 24.22 | 23.87 | 23.52 |
| 19.5000                    | 23.22   | 22.93 | 22.64 | 22.35 | 22.06 |
| 20.0000                    | 21.78   | 21.49 | 21.21 | 20.93 | 20.67 |
| 20.5000                    | 20.45   | 20.22 | 20.03 | 19.84 | 19.66 |
| 21.0000                    | 19.47   | 19.29 | 19.10 | 18.92 | 18.74 |
| 21.5000                    | 18.56   | 18.39 | 18.21 | 18.03 | 17.86 |
| 22.0000                    | 17.69   | 17.51 | 17.34 | 17.18 | 17.01 |
| 22.5000                    | 16.85   | 16.69 | 16.53 | 16.37 | 16.21 |
| 23.0000                    | 16.05   | 15.90 | 15.75 | 15.60 | 15.45 |
| 23.5000                    | 15.31   | 15.16 | 15.02 | 14.88 | 14.75 |
| 24.0000                    | 14.61   |       |       |       |       |

S/N: 721701406A81      J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767)      Compute Time: 14:20:08      Date: 08-06-2002

Type... Hydrograph  
 Name... KB ROUTE Tag: 2  
 File... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Form... TypeII 24hr Tag: 2

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = KB ROUTE  
 HYG Tag = 2

-----  
 Peak Discharge = 20.21 cfs  
 Time to Peak = 14.3000 hrs  
 HYG Volume = 12.824 ac-ft  
 -----

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|-------------|---|-------|-------|-------|-------|
|             | Output Time increment = .1000 hrs                         |       |       |       |       |
|             | Time on left represents time for first value in each row. |       |       |       |       |
| 5.2000      | .00   | .00   | .00   | .00   | .01   |
| 5.7000      | .01   | .01   | .01   | .01   | .02   |
| 6.2000      | .02   | .02   | .02   | .03   | .03   |
| 6.7000      | .03   | .04   | .04   | .05   | .05   |
| 7.2000      | .06   | .06   | .06   | .07   | .07   |
| 7.7000      | .08   | .09   | .09   | .10   | .11   |
| 8.2000      | .11   | .12   | .13   | .13   | .14   |
| 8.7000      | .15   | .16   | .17   | .18   | .19   |
| 9.2000      | .20   | .21   | .22   | .23   | .25   |
| 9.7000      | .26   | .27   | .29   | .30   | .32   |
| 10.2000     | .33   | .35   | .37   | .39   | .41   |
| 10.7000     | .43   | .45   | .48   | .51   | .54   |
| 11.2000     | .57   | .63   | .70   | .78   | .87   |
| 11.7000     | .99   | 1.15  | 1.40  | 1.85  | 2.61  |
| 12.2000     | 3.75  | 5.24  | 6.95  | 8.71  | 10.40 |
| 12.7000     | 11.94   | 13.29 | 14.47 | 15.49 | 16.38 |
| 13.2000     | 17.15   | 17.81 | 18.37 | 18.85 | 19.23 |
| 13.7000     | 19.53   | 19.77 | 19.95 | 20.07 | 20.16 |
| 14.2000     | 20.20   | 20.21 | 20.18 | 20.13 | 20.06 |
| 14.7000     | 19.97   | 19.86 | 19.73 | 19.60 | 19.45 |
| 15.2000     | 19.29   | 19.12 | 18.95 | 18.77 | 18.58 |
| 15.7000     | 18.39   | 18.20 | 18.00 | 17.80 | 17.60 |
| 16.2000     | 17.39   | 17.18 | 16.98 | 16.76 | 16.55 |
| 16.7000     | 16.34   | 16.13 | 15.92 | 15.70 | 15.50 |
| 17.2000     | 15.29   | 15.09 | 14.88 | 14.68 | 14.48 |
| 17.7000     | 14.28   | 14.08 | 13.89 | 13.69 | 13.50 |
| 18.2000     | 13.32   | 13.13 | 12.95 | 12.77 | 12.60 |
| 18.7000     | 12.42   | 12.25 | 12.08 | 11.91 | 11.74 |
| 19.2000     | 11.58   | 11.42 | 11.25 | 11.10 | 10.95 |
| 19.7000     | 10.80   | 10.65 | 10.50 | 10.35 | 10.21 |
| 20.2000     | 10.07   | 9.93  | 9.79  | 9.66  | 9.52  |
| 20.7000     | 9.40  | 9.27  | 9.14  | 9.02  | 8.90  |
| 21.2000     | 8.78  | 8.67  | 8.55  | 8.44  | 8.33  |

Type... Hydrograph  
 Name... KB ROUTE Tag: 2  
 File... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 2

Page 6.19  
 Event: 2 yr

ICPM HYDROGRAPH...

HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = KB ROUTE  
 HYG Tag = 2

-----  
 Peak Discharge = 20.21 cfs  
 Time to Peak = 14.3000 hrs  
 HYG Volume = 12.824 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 5.2000   | .00   | .00   | .00   | .00   | .01   |
| 5.7000   | .01   | .01   | .01   | .01   | .02   |
| 6.2000   | .02   | .02   | .02   | .03   | .03   |
| 6.7000   | .03   | .04   | .04   | .05   | .05   |
| 7.2000   | .06   | .06   | .06   | .07   | .07   |
| 7.7000   | .08   | .09   | .09   | .10   | .11   |
| 8.2000   | .11   | .12   | .13   | .13   | .14   |
| 8.7000   | .15   | .16   | .17   | .18   | .19   |
| 9.2000   | .20   | .21   | .22   | .23   | .25   |
| 9.7000   | .26   | .27   | .29   | .30   | .32   |
| 10.2000  | .33   | .35   | .37   | .39   | .41   |
| 10.7000  | .43   | .45   | .48   | .51   | .54   |
| 11.2000  | .57   | .63   | .70   | .78   | .87   |
| 11.7000  | .99   | 1.15  | 1.40  | 1.85  | 2.61  |
| 12.2000  | 3.75  | 5.24  | 6.95  | 8.71  | 10.40 |
| 12.7000  | 11.94   | 13.29 | 14.47 | 15.49 | 16.38 |
| 13.2000  | 17.15   | 17.81 | 18.37 | 18.85 | 19.23 |
| 13.7000  | 19.53   | 19.77 | 19.95 | 20.07 | 20.16 |
| 14.2000  | 20.20   | 20.21 | 20.18 | 20.13 | 20.06 |
| 14.7000  | 19.97   | 19.86 | 19.73 | 19.60 | 19.45 |
| 15.2000  | 19.29   | 19.12 | 18.95 | 18.77 | 18.58 |
| 15.7000  | 18.39   | 18.20 | 18.00 | 17.80 | 17.60 |
| 16.2000  | 17.39   | 17.18 | 16.98 | 16.76 | 16.55 |
| 16.7000  | 16.34   | 16.13 | 15.92 | 15.70 | 15.50 |
| 17.2000  | 15.29   | 15.09 | 14.88 | 14.68 | 14.48 |
| 17.7000  | 14.28   | 14.08 | 13.89 | 13.69 | 13.50 |
| 18.2000  | 13.32   | 13.13 | 12.95 | 12.77 | 12.60 |
| 18.7000  | 12.42   | 12.25 | 12.08 | 11.91 | 11.74 |
| 19.2000  | 11.58   | 11.42 | 11.25 | 11.10 | 10.95 |
| 19.7000  | 10.80   | 10.65 | 10.50 | 10.35 | 10.21 |
| 20.2000  | 10.07   | 9.93  | 9.79  | 9.66  | 9.52  |
| 20.7000  | 9.40  | 9.27  | 9.14  | 9.02  | 8.90  |
| 21.2000  | 8.78  | 8.67  | 8.55  | 8.44  | 8.33  |

Type.... Hydrograph  
 Name.... KB ROUTE Tag: 15  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 15

Page 6.21  
 Event: 15 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = KB ROUTE  
 HYG Tag = 15

-----  
 Peak Discharge = 53.02 cfs  
 Time to Peak = 13.7000 hrs  
 HYG Volume = 24.970 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 3.8000   | .00   | .00   | .00   | .00   | .01   |
| 4.3000   | .01   | .01   | .01   | .01   | .02   |
| 4.8000   | .02   | .03   | .03   | .04   | .04   |
| 5.3000   | .04   | .05   | .06   | .06   | .07   |
| 5.8000   | .07   | .08   | .09   | .10   | .10   |
| 6.3000   | .11   | .12   | .13   | .14   | .15   |
| 6.8000   | .16   | .17   | .18   | .19   | .20   |
| 7.3000   | .21   | .22   | .24   | .25   | .26   |
| 7.8000   | .28   | .29   | .30   | .32   | .33   |
| 8.3000   | .35   | .36   | .38   | .39   | .41   |
| 8.8000   | .43   | .45   | .47   | .49   | .51   |
| 9.3000   | .53   | .56   | .59   | .64   | .69   |
| 9.8000   | .74   | .79   | .85   | .91   | .97   |
| 10.3000  | 1.03  | 1.10  | 1.17  | 1.25  | 1.33  |
| 10.8000  | 1.42  | 1.52  | 1.63  | 1.77  | 1.92  |
| 11.3000  | 2.09  | 2.28  | 2.49  | 2.73  | 3.04  |
| 11.8000  | 3.50  | 4.20  | 5.37  | 7.19  | 9.78  |
| 12.3000  | 12.94   | 16.33 | 19.60 | 23.55 | 28.04 |
| 12.8000  | 32.17   | 35.77 | 38.85 | 41.45 | 43.60 |
| 13.3000  | 46.04   | 49.19 | 51.31 | 52.53 | 53.02 |
| 13.8000  | 52.92   | 52.37 | 51.47 | 50.32 | 48.98 |
| 14.3000  | 47.52   | 45.98 | 44.64 | 43.96 | 43.22 |
| 14.8000  | 42.46   | 41.67 | 40.87 | 40.07 | 39.26 |
| 15.3000  | 38.45   | 37.63 | 36.83 | 36.05 | 35.27 |
| 15.8000  | 34.50   | 33.74 | 33.01 | 32.29 | 31.58 |
| 16.3000  | 30.87   | 30.19 | 29.54 | 28.91 | 28.29 |
| 16.8000  | 27.68   | 27.09 | 26.52 | 26.00 | 25.48 |
| 17.3000  | 24.98   | 24.48 | 24.00 | 23.53 | 23.12 |
| 17.8000  | 22.72   | 22.34 | 21.96 | 21.58 | 21.22 |
| 18.3000  | 20.86   | 20.55 | 20.27 | 20.02 | 19.79 |
| 18.8000  | 19.56   | 19.33 | 19.10 | 18.87 | 18.64 |
| 19.3000  | 18.41   | 18.19 | 17.96 | 17.74 | 17.52 |
| 19.8000  | 17.31   | 17.09 | 16.87 | 16.66 | 16.44 |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... Hydrograph  
 Name... KB ROUTE Tag: 15  
 File... J:\0675B\PONDPACK\PERSIMMO.HYG  
 'form... TypeII 24hr Tag: 15

Page 6.23  
 Event: 15 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = KB ROUTE  
 HYG Tag = 15

-----  
 Peak Discharge = 53.02 cfs  
 Time to Peak = 13.7000 hrs  
 HYG Volume = 24.970 ac-ft  
 -----

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)   |       |       |       |       |  |
|-------------|--|-------|-------|-------|-------|--|
|             | Output Time increment = .1000 hrs<br>Time on left represents time for first value in each row. |       |       |       |       |  |
| 3.8000      | .00  | .00   | .00   | .00   | .01   |  |
| 4.3000      | .01  | .01   | .01   | .01   | .02   |  |
| 4.8000      | .02  | .03   | .03   | .04   | .04   |  |
| 5.3000      | .04  | .05   | .06   | .06   | .07   |  |
| 5.8000      | .07  | .08   | .09   | .10   | .10   |  |
| 6.3000      | .11  | .12   | .13   | .14   | .15   |  |
| 6.8000      | .16  | .17   | .18   | .19   | .20   |  |
| 7.3000      | .21  | .22   | .24   | .25   | .26   |  |
| 7.8000      | .28  | .29   | .30   | .32   | .33   |  |
| 8.3000      | .35  | .36   | .38   | .39   | .41   |  |
| 8.8000      | .43  | .45   | .47   | .49   | .51   |  |
| 9.3000      | .53  | .56   | .59   | .64   | .69   |  |
| 9.8000      | .74  | .79   | .85   | .91   | .97   |  |
| 10.3000     | 1.03   | 1.10  | 1.17  | 1.25  | 1.33  |  |
| 10.8000     | 1.42   | 1.52  | 1.63  | 1.77  | 1.92  |  |
| 11.3000     | 2.09   | 2.28  | 2.49  | 2.73  | 3.04  |  |
| 11.8000     | 3.50   | 4.20  | 5.37  | 7.19  | 9.78  |  |
| 12.3000     | 12.94  | 16.33 | 19.60 | 23.55 | 28.04 |  |
| 12.8000     | 32.17  | 35.77 | 38.85 | 41.45 | 43.60 |  |
| 13.3000     | 46.04  | 49.19 | 51.31 | 52.53 | 53.02 |  |
| 13.8000     | 52.92  | 52.37 | 51.47 | 50.32 | 48.98 |  |
| 14.3000     | 47.52  | 45.98 | 44.64 | 43.96 | 43.22 |  |
| 14.8000     | 42.46  | 41.67 | 40.87 | 40.07 | 39.26 |  |
| 15.3000     | 38.45  | 37.63 | 36.83 | 36.05 | 35.27 |  |
| 15.8000     | 34.50  | 33.74 | 33.01 | 32.29 | 31.58 |  |
| 16.3000     | 30.87  | 30.19 | 29.54 | 28.91 | 28.29 |  |
| 16.8000     | 27.68  | 27.09 | 26.52 | 26.00 | 25.48 |  |
| 17.3000     | 24.98  | 24.48 | 24.00 | 23.53 | 23.12 |  |
| 17.8000     | 22.72  | 22.34 | 21.96 | 21.58 | 21.22 |  |
| 18.3000     | 20.86  | 20.55 | 20.27 | 20.02 | 19.79 |  |
| 18.8000     | 19.56  | 19.33 | 19.10 | 18.87 | 18.64 |  |
| 19.3000     | 18.41  | 18.19 | 17.96 | 17.74 | 17.52 |  |
| 19.8000     | 17.31  | 17.09 | 16.87 | 16.66 | 16.44 |  |

Type... Hydrograph  
 Name... KB ROUTE Tag: 25  
 File... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 25

Page 6.25  
 Event: 25 yr

ICPM HYDROGRAPH...

HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = KB ROUTE  
 HYG Tag = 25

-----  
 Peak Discharge = 71.81 cfs  
 Time to Peak = 13.5000 hrs  
 HYG Volume = 28.784 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 3.5000   | .00   | .00   | .00   | .00   | .01   |
| 4.0000   | .01   | .01   | .01   | .02   | .02   |
| 4.5000   | .02   | .03   | .03   | .04   | .04   |
| 5.0000   | .05   | .05   | .06   | .07   | .07   |
| 5.5000   | .08   | .09   | .09   | .10   | .11   |
| 6.0000   | .12   | .13   | .14   | .15   | .16   |
| 6.5000   | .17   | .18   | .19   | .20   | .22   |
| 7.0000   | .23   | .24   | .25   | .27   | .28   |
| 7.5000   | .30   | .31   | .33   | .34   | .36   |
| 8.0000   | .37   | .39   | .41   | .42   | .44   |
| 8.5000   | .46   | .48   | .50   | .52   | .55   |
| 9.0000   | .57   | .60   | .65   | .70   | .76   |
| 9.5000   | .81   | .87   | .93   | .99   | 1.06  |
| 10.0000  | 1.12  | 1.19  | 1.26  | 1.34  | 1.42  |
| 10.5000  | 1.51  | 1.60  | 1.72  | 1.85  | 1.99  |
| 11.0000  | 2.15  | 2.32  | 2.50  | 2.70  | 2.92  |
| 11.5000  | 3.20  | 3.52  | 3.91  | 4.45  | 5.32  |
| 12.0000  | 6.73  | 8.90  | 11.93 | 15.57 | 19.37 |
| 12.5000  | 24.29   | 30.10 | 35.59 | 40.37 | 44.39 |
| 13.0000  | 51.56   | 58.58 | 64.51 | 68.37 | 70.82 |
| 13.5000  | 71.81   | 71.41 | 69.99 | 68.12 | 65.84 |
| 14.0000  | 63.30   | 60.63 | 57.90 | 55.19 | 53.15 |
| 14.5000  | 51.21   | 49.27 | 47.37 | 45.51 | 44.35 |
| 15.0000  | 43.59   | 42.81 | 42.01 | 41.21 | 40.41 |
| 15.5000  | 39.60   | 38.80 | 38.00 | 37.22 | 36.44 |
| 16.0000  | 35.67   | 34.92 | 34.18 | 33.45 | 32.75 |
| 16.5000  | 32.07   | 31.39 | 30.73 | 30.08 | 29.47 |
| 17.0000  | 28.87   | 28.29 | 27.73 | 27.16 | 26.62 |
| 17.5000  | 26.13   | 25.65 | 25.17 | 24.70 | 24.25 |
| 18.0000  | 23.81   | 23.39 | 23.02 | 22.66 | 22.31 |
| 18.5000  | 21.95   | 21.61 | 21.27 | 20.94 | 20.63 |
| 19.0000  | 20.37   | 20.12 | 19.91 | 19.69 | 19.47 |
| 19.5000  | 19.25   | 19.04 | 18.83 | 18.61 | 18.40 |

Type.... Hydrograph  
 Name.... KB ROUTE Tag: 25  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 25

Page 6.27  
 Event: 25 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = KB ROUTE  
 HYG Tag = 25

-----  
 Peak Discharge = 71.81 cfs  
 Time to Peak = 13.5000 hrs  
 HYG Volume = 28.784 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time hrs | Time on left represents time for first value in each row.

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 3.5000   | .00   | .00   | .00   | .00   | .01   |
| 4.0000   | .01   | .01   | .01   | .02   | .02   |
| 4.5000   | .02   | .03   | .03   | .04   | .04   |
| 5.0000   | .05   | .05   | .06   | .07   | .07   |
| 5.5000   | .08   | .09   | .09   | .10   | .11   |
| 6.0000   | .12   | .13   | .14   | .15   | .16   |
| 6.5000   | .17   | .18   | .19   | .20   | .22   |
| 7.0000   | .23   | .24   | .25   | .27   | .28   |
| 7.5000   | .30   | .31   | .33   | .34   | .36   |
| 8.0000   | .37   | .39   | .41   | .42   | .44   |
| 8.5000   | .46   | .48   | .50   | .52   | .55   |
| 9.0000   | .57   | .60   | .65   | .70   | .76   |
| 9.5000   | .81   | .87   | .93   | .99   | 1.06  |
| 10.0000  | 1.12  | 1.19  | 1.26  | 1.34  | 1.42  |
| 10.5000  | 1.51  | 1.60  | 1.72  | 1.85  | 1.99  |
| 11.0000  | 2.15  | 2.32  | 2.50  | 2.70  | 2.92  |
| 11.5000  | 3.20  | 3.52  | 3.91  | 4.45  | 5.32  |
| 12.0000  | 6.73  | 8.90  | 11.93 | 15.57 | 19.37 |
| 12.5000  | 24.29 | 30.10 | 35.59 | 40.37 | 44.39 |
| 13.0000  | 51.56 | 58.58 | 64.51 | 68.37 | 70.82 |
| 13.5000  | 71.81 | 71.41 | 69.99 | 68.12 | 65.84 |
| 14.0000  | 63.30 | 60.63 | 57.90 | 55.19 | 53.15 |
| 14.5000  | 51.21 | 49.27 | 47.37 | 45.51 | 44.35 |
| 15.0000  | 43.59 | 42.81 | 42.01 | 41.21 | 40.41 |
| 15.5000  | 39.60 | 38.80 | 38.00 | 37.22 | 36.44 |
| 16.0000  | 35.67 | 34.92 | 34.18 | 33.45 | 32.75 |
| 16.5000  | 32.07 | 31.39 | 30.73 | 30.08 | 29.47 |
| 17.0000  | 28.87 | 28.29 | 27.73 | 27.16 | 26.62 |
| 17.5000  | 26.13 | 25.65 | 25.17 | 24.70 | 24.25 |
| 18.0000  | 23.81 | 23.39 | 23.02 | 22.66 | 22.31 |
| 18.5000  | 21.95 | 21.61 | 21.27 | 20.94 | 20.63 |
| 19.0000  | 20.37 | 20.12 | 19.91 | 19.69 | 19.47 |
| 19.5000  | 19.25 | 19.04 | 18.83 | 18.61 | 18.40 |



Type... Hydrograph  
 Name... KB ROUTE Tag: 100  
 File... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 100

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = KB ROUTE  
 HYG Tag = 100

-----  
 Peak Discharge = 128.78 cfs  
 Time to Peak = 13.2000 hrs  
 HYG Volume = 40.734 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|----------|---|--------|--------|--------|--------|
|          | Time on left represents time for first value in each row. |        |        |        |        |
| 2.9000   | .00   | .00    | .00    | .01    | .01    |
| 3.4000   | .01   | .01    | .02    | .02    | .03    |
| 3.9000   | .03   | .04    | .04    | .05    | .05    |
| 4.4000   | .06   | .07    | .08    | .09    | .09    |
| 4.9000   | .10   | .11    | .12    | .13    | .14    |
| 5.4000   | .16   | .17    | .18    | .19    | .21    |
| 5.9000   | .22   | .24    | .25    | .27    | .28    |
| 6.4000   | .30   | .31    | .33    | .35    | .37    |
| 6.9000   | .39   | .41    | .43    | .45    | .47    |
| 7.4000   | .49   | .51    | .53    | .56    | .58    |
| 7.9000   | .62   | .67    | .71    | .76    | .81    |
| 8.4000   | .86   | .92    | .97    | 1.03   | 1.09   |
| 8.9000   | 1.15  | 1.22   | 1.29   | 1.37   | 1.45   |
| 9.4000   | 1.53  | 1.61   | 1.72   | 1.84   | 1.96   |
| 9.9000   | 2.08  | 2.21   | 2.34   | 2.48   | 2.63   |
| 10.4000  | 2.78  | 2.95   | 3.15   | 3.36   | 3.59   |
| 10.9000  | 3.83  | 4.09   | 4.38   | 4.71   | 5.07   |
| 11.4000  | 5.46  | 5.90   | 6.43   | 7.08   | 7.96   |
| 11.9000  | 9.31  | 11.45  | 14.66  | 18.89  | 25.49  |
| 12.4000  | 34.67   | 43.98  | 64.91  | 88.20  | 106.48 |
| 12.9000  | 118.64  | 125.57 | 128.58 | 128.78 | 126.76 |
| 13.4000  | 123.35  | 118.86 | 113.52 | 107.71 | 102.05 |
| 13.9000  | 96.29   | 90.59  | 85.37  | 80.60  | 76.03  |
| 14.4000  | 71.71   | 67.73  | 64.26  | 60.95  | 57.86  |
| 14.9000  | 55.00   | 53.02  | 51.16  | 49.37  | 47.64  |
| 15.4000  | 45.97   | 44.64  | 43.99  | 43.32  | 42.65  |
| 15.9000  | 41.96   | 41.28  | 40.59  | 39.90  | 39.21  |
| 16.4000  | 38.51   | 37.83  | 37.15  | 36.50  | 35.85  |
| 16.9000  | 35.21   | 34.58  | 33.96  | 33.37  | 32.79  |
| 17.4000  | 32.22   | 31.66  | 31.11  | 30.58  | 30.06  |
| 17.9000  | 29.57   | 29.09  | 28.62  | 28.16  | 27.71  |
| 18.4000  | 27.27   | 26.84  | 26.44  | 26.05  | 25.67  |
| 18.9000  | 25.30   | 24.93  | 24.57  | 24.22  | 23.87  |

Type.... Hydrograph  
 Name.... KB ROUTE Tag: 100  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 100

Page 6.31  
 Event: 100 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = KB ROUTE  
 HYG Tag = 100

-----  
 Peak Discharge = 128.78 cfs  
 Time to Peak = 13.2000 hrs  
 HYG Volume = 40.734 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time<br>hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|-------------|---|--------|--------|--------|--------|
|             | Time on left represents time for first value in each row. |        |        |        |        |
| 2.9000      | .00   | .00    | .00    | .01    | .01    |
| 3.4000      | .01   | .01    | .02    | .02    | .03    |
| 3.9000      | .03   | .04    | .04    | .05    | .05    |
| 4.4000      | .06   | .07    | .08    | .09    | .09    |
| 4.9000      | .10   | .11    | .12    | .13    | .14    |
| 5.4000      | .16   | .17    | .18    | .19    | .21    |
| 5.9000      | .22   | .24    | .25    | .27    | .28    |
| 6.4000      | .30   | .31    | .33    | .35    | .37    |
| 6.9000      | .39   | .41    | .43    | .45    | .47    |
| 7.4000      | .49   | .51    | .53    | .56    | .58    |
| 7.9000      | .62   | .67    | .71    | .76    | .81    |
| 8.4000      | .86   | .92    | .97    | 1.03   | 1.09   |
| 8.9000      | 1.15  | 1.22   | 1.29   | 1.37   | 1.45   |
| 9.4000      | 1.53  | 1.61   | 1.72   | 1.84   | 1.96   |
| 9.9000      | 2.08  | 2.21   | 2.34   | 2.48   | 2.63   |
| 10.4000     | 2.78  | 2.95   | 3.15   | 3.36   | 3.59   |
| 10.9000     | 3.83  | 4.09   | 4.38   | 4.71   | 5.07   |
| 11.4000     | 5.46  | 5.90   | 6.43   | 7.08   | 7.96   |
| 11.9000     | 9.31  | 11.45  | 14.66  | 18.89  | 25.49  |
| 12.4000     | 34.67   | 43.98  | 64.91  | 88.20  | 106.48 |
| 12.9000     | 118.64  | 125.57 | 128.58 | 128.78 | 126.76 |
| 13.4000     | 123.35  | 118.86 | 113.52 | 107.71 | 102.05 |
| 13.9000     | 96.29   | 90.59  | 85.37  | 80.60  | 76.03  |
| 14.4000     | 71.71   | 67.73  | 64.26  | 60.95  | 57.86  |
| 14.9000     | 55.00   | 53.02  | 51.16  | 49.37  | 47.64  |
| 15.4000     | 45.97   | 44.64  | 43.99  | 43.32  | 42.65  |
| 15.9000     | 41.96   | 41.28  | 40.59  | 39.90  | 39.21  |
| 16.4000     | 38.51   | 37.83  | 37.15  | 36.50  | 35.85  |
| 16.9000     | 35.21   | 34.58  | 33.96  | 33.37  | 32.79  |
| 17.4000     | 32.22   | 31.66  | 31.11  | 30.58  | 30.06  |
| 17.9000     | 29.57   | 29.09  | 28.62  | 28.16  | 27.71  |
| 18.4000     | 27.27   | 26.84  | 26.44  | 26.05  | 25.67  |
| 18.9000     | 25.30   | 24.93  | 24.57  | 24.22  | 23.87  |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Hydrograph  
 Name.... SOUTH LAKE IN Tag: 2  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Form... TypeII 24hr Tag: 2

Page 6.33  
 Event: 2 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = SOUTH LAKE IN  
 HYG Tag = 2

-----  
 Peak Discharge = 21.49 cfs  
 Time to Peak = 14.1000 hrs  
 HYG Volume = 14.433 ac-ft  
 -----

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|-------------|---|-------|-------|-------|-------|
|             | Output Time increment = .1000 hrs                         |       |       |       |       |
|             | Time on left represents time for first value in each row. |       |       |       |       |
| .0000       | .00   | .00   | .00   | .00   | .00   |
| .5000       | .00   | .00   | .00   | .00   | .00   |
| 1.0000      | .00   | .00   | .00   | .00   | .00   |
| 1.5000      | .00   | .00   | .00   | .00   | .00   |
| 2.0000      | .00   | .00   | .00   | .00   | .00   |
| 2.5000      | .00   | .00   | .00   | .00   | .00   |
| 3.0000      | .00   | .00   | .00   | .00   | .00   |
| 3.5000      | .00   | .00   | .00   | .00   | .00   |
| 4.0000      | .00   | .00   | .00   | .00   | .00   |
| 4.5000      | .00   | .00   | .00   | .00   | .00   |
| 5.0000      | .00   | .00   | .00   | .00   | .00   |
| 5.5000      | .00   | .01   | .01   | .01   | .01   |
| 6.0000      | .01   | .02   | .02   | .02   | .02   |
| 6.5000      | .03   | .03   | .03   | .04   | .04   |
| 7.0000      | .05   | .05   | .06   | .06   | .06   |
| 7.5000      | .07   | .07   | .08   | .09   | .09   |
| 8.0000      | .10   | .11   | .11   | .12   | .13   |
| 8.5000      | .13   | .14   | .15   | .16   | .17   |
| 9.0000      | .19   | .20   | .22   | .24   | .27   |
| 9.5000      | .29   | .31   | .34   | .37   | .39   |
| 10.0000     | .42   | .46   | .49   | .53   | .57   |
| 10.5000     | .62   | .67   | .73   | .79   | .86   |
| 11.0000     | .94   | 1.03  | 1.13  | 1.27  | 1.44  |
| 11.5000     | 1.65  | 1.95  | 2.54  | 3.79  | 6.48  |
| 12.0000     | 10.84   | 15.80 | 18.92 | 19.73 | 19.08 |
| 12.5000     | 18.14   | 17.70 | 17.70 | 17.96 | 18.31 |
| 13.0000     | 18.74   | 19.21 | 19.65 | 20.06 | 20.43 |
| 13.5000     | 20.74   | 20.99 | 21.18 | 21.32 | 21.42 |
| 14.0000     | 21.47   | 21.49 | 21.47 | 21.43 | 21.36 |
| 14.5000     | 21.27   | 21.17 | 21.05 | 20.92 | 20.77 |
| 15.0000     | 20.61   | 20.44 | 20.26 | 20.08 | 19.88 |
| 15.5000     | 19.68   | 19.47 | 19.26 | 19.05 | 18.83 |
| 16.0000     | 18.61   | 18.38 | 18.16 | 17.93 | 17.71 |

Type.... Hydrograph  
 Name.... SOUTH LAKE IN Tag: 2  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 torm... TypeII 24hr Tag: 2

Page 6.34  
 Event: 2 yr

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

---

| Time<br>hrs |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|
| 16.5000     | 17.49 | 17.27 | 17.04 | 16.82 | 16.60 |
| 17.0000     | 16.38 | 16.17 | 15.95 | 15.74 | 15.53 |
| 17.5000     | 15.32 | 15.11 | 14.91 | 14.70 | 14.50 |
| 18.0000     | 14.30 | 14.10 | 13.91 | 13.71 | 13.52 |
| 18.5000     | 13.34 | 13.15 | 12.97 | 12.79 | 12.61 |
| 19.0000     | 12.44 | 12.26 | 12.09 | 11.92 | 11.75 |
| 19.5000     | 11.59 | 11.43 | 11.27 | 11.11 | 10.96 |
| 20.0000     | 10.80 | 10.65 | 10.50 | 10.36 | 10.22 |
| 20.5000     | 10.08 | 9.94  | 9.81  | 9.68  | 9.55  |
| 21.0000     | 9.43  | 9.30  | 9.19  | 9.07  | 8.95  |
| 21.5000     | 8.84  | 8.73  | 8.62  | 8.51  | 8.41  |
| 22.0000     | 8.30  | 8.20  | 8.10  | 8.01  | 7.92  |
| 22.5000     | 7.83  | 7.74  | 7.65  | 7.57  | 7.49  |
| 23.0000     | 7.40  | 7.32  | 7.25  | 7.17  | 7.10  |
| 23.5000     | 7.02  | 6.95  | 6.88  | 6.80  | 6.74  |
| 24.0000     | 6.67  |       |       |       |       |

S/N: 721701406A81 J R GRIMES CONSULTING  
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Type.... Hydrograph  
 Name.... SOUTH LAKE IN Tag: 15  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Form... TypeII 24hr Tag: 15

Page 6.35  
 Event: 15 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = SOUTH LAKE IN  
 HYG Tag = 15  
 -----  
 Peak Discharge = 55.80 cfs  
 Time to Peak = 13.7000 hrs  
 HYG Volume = 27.951 ac-ft  
 -----

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|-------------|---|-------|-------|-------|-------|
|             | Output Time increment = .1000 hrs                         |       |       |       |       |
|             | Time on left represents time for first value in each row. |       |       |       |       |
| .0000       | .00   | .00   | .00   | .00   | .00   |
| .5000       | .00   | .00   | .00   | .00   | .00   |
| 1.0000      | .00   | .00   | .00   | .00   | .00   |
| 1.5000      | .00   | .00   | .00   | .00   | .00   |
| 2.0000      | .00   | .00   | .00   | .00   | .00   |
| 2.5000      | .00   | .00   | .00   | .00   | .00   |
| 3.0000      | .00   | .00   | .00   | .00   | .00   |
| 3.5000      | .00   | .00   | .00   | .00   | .00   |
| 4.0000      | .00   | .00   | .01   | .01   | .01   |
| 4.5000      | .01   | .01   | .02   | .02   | .03   |
| 5.0000      | .03   | .04   | .04   | .04   | .05   |
| 5.5000      | .06   | .06   | .07   | .07   | .08   |
| 6.0000      | .09   | .10   | .10   | .11   | .12   |
| 6.5000      | .13   | .14   | .15   | .16   | .17   |
| 7.0000      | .19   | .21   | .23   | .25   | .27   |
| 7.5000      | .29   | .31   | .34   | .36   | .38   |
| 8.0000      | .41   | .44   | .46   | .49   | .52   |
| 8.5000      | .55   | .59   | .62   | .66   | .70   |
| 9.0000      | .75   | .80   | .85   | .90   | .94   |
| 9.5000      | 1.00  | 1.07  | 1.14  | 1.22  | 1.30  |
| 10.0000     | 1.39  | 1.49  | 1.59  | 1.71  | 1.83  |
| 10.5000     | 1.97  | 2.12  | 2.28  | 2.46  | 2.65  |
| 11.0000     | 2.87  | 3.14  | 3.44  | 3.79  | 4.20  |
| 11.5000     | 4.67  | 5.34  | 6.66  | 9.35  | 14.78 |
| 12.0000     | 23.20   | 32.47 | 38.20 | 39.67 | 38.43 |
| 12.5000     | 36.63   | 36.61 | 38.28 | 40.39 | 42.49 |
| 13.0000     | 44.50   | 46.33 | 47.89 | 49.90 | 52.70 |
| 13.5000     | 54.54   | 55.51 | 55.80 | 55.54 | 54.85 |
| 14.0000     | 53.83   | 52.57 | 51.12 | 49.58 | 47.96 |
| 14.5000     | 46.56   | 45.82 | 45.04 | 44.23 | 43.41 |
| 15.0000     | 42.58   | 41.73 | 40.89 | 40.04 | 39.19 |
| 15.5000     | 38.36   | 37.54 | 36.72 | 35.92 | 35.12 |
| 16.0000     | 34.36   | 33.60 | 32.86 | 32.12 | 31.41 |

Type.... Hydrograph  
 Name.... SOUTH LAKE IN Tag: 15  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 'torm... TypeII 24hr Tag: 15

Page 6.36  
 Event: 15 yr

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

---

| Time<br>hrs |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|
| 16.5000     | 30.74 | 30.09 | 29.45 | 28.83 | 28.23 |
| 17.0000     | 27.65 | 27.11 | 26.58 | 26.06 | 25.56 |
| 17.5000     | 25.06 | 24.58 | 24.16 | 23.75 | 23.35 |
| 18.0000     | 22.96 | 22.57 | 22.19 | 21.82 | 21.50 |
| 18.5000     | 21.20 | 20.94 | 20.70 | 20.45 | 20.21 |
| 19.0000     | 19.97 | 19.73 | 19.49 | 19.24 | 19.01 |
| 19.5000     | 18.77 | 18.54 | 18.30 | 18.07 | 17.85 |
| 20.0000     | 17.62 | 17.39 | 17.16 | 16.94 | 16.72 |
| 20.5000     | 16.50 | 16.29 | 16.09 | 15.88 | 15.68 |
| 21.0000     | 15.48 | 15.29 | 15.09 | 14.90 | 14.71 |
| 21.5000     | 14.53 | 14.34 | 14.17 | 13.99 | 13.82 |
| 22.0000     | 13.65 | 13.48 | 13.32 | 13.16 | 13.01 |
| 22.5000     | 12.86 | 12.71 | 12.56 | 12.41 | 12.27 |
| 23.0000     | 12.13 | 12.00 | 11.87 | 11.73 | 11.61 |
| 23.5000     | 11.48 | 11.36 | 11.24 | 11.12 | 11.01 |
| 24.0000     | 10.90 |       |       |       |       |

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 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Hydrograph  
 Name.... SOUTH LAKE IN Tag: 25  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Form... TypeII 24hr Tag: 25

Page 6.37  
 Event: 25 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = SOUTH LAKE IN  
 HYG Tag = 25  
 -----  
 Peak Discharge = 75.42 cfs  
 Time to Peak = 13.5000 hrs  
 HYG Volume = 32.189 ac-ft  
 -----

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|-------------|---|-------|-------|-------|-------|
|             | Output Time increment = .1000 hrs                         |       |       |       |       |
|             | Time on left represents time for first value in each row. |       |       |       |       |
| .0000       | .00   | .00   | .00   | .00   | .00   |
| .5000       | .00   | .00   | .00   | .00   | .00   |
| 1.0000      | .00   | .00   | .00   | .00   | .00   |
| 1.5000      | .00   | .00   | .00   | .00   | .00   |
| 2.0000      | .00   | .00   | .00   | .00   | .00   |
| 2.5000      | .00   | .00   | .00   | .00   | .00   |
| 3.0000      | .00   | .00   | .00   | .00   | .00   |
| 3.5000      | .00   | .00   | .00   | .00   | .01   |
| 4.0000      | .01   | .01   | .01   | .02   | .02   |
| 4.5000      | .02   | .03   | .03   | .04   | .04   |
| 5.0000      | .05   | .05   | .06   | .07   | .07   |
| 5.5000      | .08   | .09   | .09   | .10   | .11   |
| 6.0000      | .12   | .13   | .14   | .15   | .16   |
| 6.5000      | .18   | .19   | .21   | .23   | .26   |
| 7.0000      | .28   | .30   | .33   | .35   | .38   |
| 7.5000      | .41   | .43   | .46   | .49   | .52   |
| 8.0000      | .55   | .58   | .61   | .64   | .68   |
| 8.5000      | .72   | .76   | .80   | .85   | .90   |
| 9.0000      | .96   | 1.02  | 1.10  | 1.18  | 1.26  |
| 9.5000      | 1.34  | 1.43  | 1.51  | 1.60  | 1.70  |
| 10.0000     | 1.81  | 1.92  | 2.05  | 2.19  | 2.34  |
| 10.5000     | 2.50  | 2.67  | 2.88  | 3.12  | 3.38  |
| 11.0000     | 3.66  | 3.98  | 4.34  | 4.74  | 5.22  |
| 11.5000     | 5.81  | 6.63  | 8.20  | 11.31 | 17.62 |
| 12.0000     | 27.28   | 37.87 | 44.37 | 45.99 | 44.47 |
| 12.5000     | 43.60   | 44.90 | 47.17 | 49.65 | 51.96 |
| 13.0000     | 57.91   | 64.07 | 69.34 | 72.70 | 74.75 |
| 13.5000     | 75.42   | 74.75 | 73.11 | 71.06 | 68.63 |
| 14.0000     | 65.95   | 63.15 | 60.30 | 57.49 | 55.36 |
| 14.5000     | 53.36   | 51.35 | 49.40 | 47.49 | 46.30 |
| 15.0000     | 45.49   | 44.67 | 43.83 | 42.99 | 42.15 |
| 15.5000     | 41.30   | 40.46 | 39.63 | 38.80 | 37.99 |
| 16.0000     | 37.18   | 36.38 | 35.61 | 34.85 | 34.12 |

Type.... Hydrograph  
 Name.... SOUTH LAKE IN Tag: 25  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 'torm... TypeII 24hr Tag: 25

Page 6.38  
 Event: 25 yr

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

---

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 16.5000  | 33.41 | 32.71 | 32.03 | 31.36 | 30.74 |
| 17.0000  | 30.13 | 29.53 | 28.95 | 28.38 | 27.82 |
| 17.5000  | 27.31 | 26.82 | 26.32 | 25.85 | 25.38 |
| 18.0000  | 24.92 | 24.49 | 24.11 | 23.73 | 23.36 |
| 18.5000  | 23.00 | 22.64 | 22.28 | 21.94 | 21.62 |
| 19.0000  | 21.34 | 21.08 | 20.85 | 20.62 | 20.39 |
| 19.5000  | 20.15 | 19.92 | 19.70 | 19.47 | 19.24 |
| 20.0000  | 19.01 | 18.78 | 18.56 | 18.33 | 18.11 |
| 20.5000  | 17.89 | 17.68 | 17.47 | 17.26 | 17.05 |
| 21.0000  | 16.85 | 16.65 | 16.45 | 16.25 | 16.06 |
| 21.5000  | 15.87 | 15.68 | 15.50 | 15.31 | 15.13 |
| 22.0000  | 14.96 | 14.78 | 14.62 | 14.45 | 14.28 |
| 22.5000  | 14.12 | 13.96 | 13.81 | 13.66 | 13.51 |
| 23.0000  | 13.36 | 13.22 | 13.07 | 12.93 | 12.80 |
| 23.5000  | 12.66 | 12.53 | 12.40 | 12.27 | 12.15 |
| 24.0000  | 12.03 |       |       |       |       |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002



Type.... Hydrograph  
 Name.... SOUTH LAKE IN Tag: 100  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 'form... TypeII 24hr Tag: 100

Page 6.39  
 Event: 100 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = SOUTH LAKE IN  
 HYG Tag = 100  
 -----  
 Peak Discharge = 135.90 cfs  
 Time to Peak = 13.1000 hrs  
 HYG Volume = 45.441 ac-ft  
 -----

| HYDROGRAPH ORDINATES (cfs) |   |        |        |        |        |        |
|----------------------------|---|--------|--------|--------|--------|--------|
| Time<br>hrs                | Output Time increment = .1000 hrs                         |        |        |        |        |        |
|                            | Time on left represents time for first value in each row. |        |        |        |        |        |
| .0000                      | .00   | .00    | .00    | .00    | .00    | .00    |
| .5000                      | .00   | .00    | .00    | .00    | .00    | .00    |
| 1.0000                     | .00   | .00    | .00    | .00    | .00    | .00    |
| 1.5000                     | .00   | .00    | .00    | .00    | .00    | .00    |
| 2.0000                     | .00   | .00    | .00    | .00    | .00    | .00    |
| 2.5000                     | .00   | .00    | .00    | .00    | .00    | .00    |
| 3.0000                     | .00   | .00    | .01    | .01    | .01    | .01    |
| 3.5000                     | .01   | .02    | .02    | .03    | .03    | .03    |
| 4.0000                     | .04   | .04    | .05    | .05    | .06    | .06    |
| 4.5000                     | .07   | .08    | .09    | .09    | .10    | .10    |
| 5.0000                     | .11   | .12    | .13    | .15    | .16    | .16    |
| 5.5000                     | .18   | .20    | .22    | .24    | .27    | .27    |
| 6.0000                     | .30   | .33    | .36    | .39    | .42    | .42    |
| 6.5000                     | .45   | .49    | .52    | .55    | .59    | .59    |
| 7.0000                     | .63   | .66    | .70    | .74    | .78    | .78    |
| 7.5000                     | .82   | .86    | .90    | .94    | 1.01   | 1.01   |
| 8.0000                     | 1.07  | 1.14   | 1.20   | 1.28   | 1.36   | 1.36   |
| 8.5000                     | 1.44  | 1.53   | 1.63   | 1.73   | 1.84   | 1.84   |
| 9.0000                     | 1.96  | 2.08   | 2.20   | 2.32   | 2.45   | 2.45   |
| 9.5000                     | 2.57  | 2.71   | 2.86   | 3.02   | 3.19   | 3.19   |
| 10.0000                    | 3.38  | 3.58   | 3.80   | 4.04   | 4.29   | 4.29   |
| 10.5000                    | 4.57  | 4.89   | 5.24   | 5.62   | 6.03   | 6.03   |
| 11.0000                    | 6.48  | 6.98   | 7.56   | 8.22   | 8.99   | 8.99   |
| 11.5000                    | 9.87  | 11.12  | 13.45  | 17.98  | 26.91  | 26.91  |
| 12.0000                    | 40.34   | 54.86  | 63.52  | 67.09  | 68.83  | 68.83  |
| 12.5000                    | 70.16   | 84.91  | 103.79 | 118.94 | 128.78 | 128.78 |
| 13.0000                    | 134.06  | 135.90 | 135.20 | 132.50 | 128.56 | 128.56 |
| 13.5000                    | 123.64  | 117.94 | 111.82 | 105.92 | 99.96  | 99.96  |
| 14.0000                    | 94.08   | 88.68  | 83.76  | 79.06  | 74.63  | 74.63  |
| 14.5000                    | 70.55   | 67.00  | 63.63  | 60.48  | 57.56  | 57.56  |
| 15.0000                    | 55.52   | 53.61  | 51.76  | 49.98  | 48.26  | 48.26  |
| 15.5000                    | 46.87   | 46.17  | 45.46  | 44.73  | 43.99  | 43.99  |
| 16.0000                    | 43.25   | 42.51  | 41.77  | 41.04  | 40.31  | 40.31  |

Type.... Hydrograph  
 Name.... SOUTH LAKE IN Tag: 100  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 100

Page 6.40  
 Event: 100 yr

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

---

| Time hrs |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|
| 16.5000  | 39.59 | 38.89 | 38.21 | 37.54 | 36.88 |
| 17.0000  | 36.23 | 35.59 | 34.97 | 34.38 | 33.79 |
| 17.5000  | 33.21 | 32.65 | 32.09 | 31.55 | 31.04 |
| 18.0000  | 30.55 | 30.06 | 29.58 | 29.11 | 28.65 |
| 18.5000  | 28.20 | 27.78 | 27.38 | 26.98 | 26.59 |
| 19.0000  | 26.20 | 25.82 | 25.45 | 25.08 | 24.72 |
| 19.5000  | 24.40 | 24.09 | 23.78 | 23.47 | 23.16 |
| 20.0000  | 22.86 | 22.55 | 22.25 | 21.96 | 21.68 |
| 20.5000  | 21.45 | 21.22 | 21.02 | 20.83 | 20.64 |
| 21.0000  | 20.45 | 20.26 | 20.07 | 19.89 | 19.71 |
| 21.5000  | 19.52 | 19.34 | 19.16 | 18.98 | 18.80 |
| 22.0000  | 18.63 | 18.45 | 18.28 | 18.10 | 17.93 |
| 22.5000  | 17.77 | 17.60 | 17.44 | 17.28 | 17.12 |
| 23.0000  | 16.96 | 16.80 | 16.64 | 16.49 | 16.34 |
| 23.5000  | 16.19 | 16.04 | 15.90 | 15.76 | 15.62 |
| 24.0000  | 15.48 |       |       |       |       |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... Hydrograph  
 Name... SOUTH LAKE OUT Tag: 2  
 File... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 2

Page 6.41  
 Event: 2 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = SOUTH LAKE OUT  
 HYG Tag = 2

-----  
 Peak Discharge = 21.31 cfs  
 Time to Peak = 14.4000 hrs  
 HYG Volume = 14.053 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| .0000    | .00   | .00   | .00   | .00   | .00   |
| .5000    | .00   | .00   | .00   | .00   | .00   |
| 1.0000   | .00   | .00   | .00   | .00   | .00   |
| 1.5000   | .00   | .00   | .00   | .00   | .00   |
| 2.0000   | .00   | .00   | .00   | .00   | .00   |
| 2.5000   | .00   | .00   | .00   | .00   | .00   |
| 3.0000   | .00   | .00   | .00   | .00   | .00   |
| 3.5000   | .00   | .00   | .00   | .00   | .00   |
| 4.0000   | .00   | .00   | .00   | .00   | .00   |
| 4.5000   | .00   | .00   | .00   | .00   | .00   |
| 5.0000   | .00   | .00   | .00   | .00   | .00   |
| 5.5000   | .00   | .00   | .00   | .00   | .00   |
| 6.0000   | .00   | .00   | .00   | .00   | .00   |
| 6.5000   | .00   | .00   | .00   | .00   | .00   |
| 7.0000   | .00   | .00   | .00   | .00   | .00   |
| 7.5000   | .00   | .00   | .00   | .00   | .00   |
| 8.0000   | .00   | .02   | .02   | .02   | .04   |
| 8.5000   | .04   | .04   | .07   | .07   | .09   |
| 9.0000   | .09   | .11   | .13   | .15   | .17   |
| 9.5000   | .20   | .22   | .24   | .26   | .28   |
| 10.0000  | .30   | .33   | .35   | .37   | .39   |
| 10.5000  | .41   | .43   | .46   | .50   | .54   |
| 11.0000  | .58   | .63   | .67   | .73   | .80   |
| 11.5000  | .88   | .99   | 1.14  | 1.35  | 1.75  |
| 12.0000  | 2.65  | 4.51  | 6.85  | 9.52  | 11.66 |
| 12.5000  | 13.32   | 14.40 | 15.18 | 15.81 | 16.39 |
| 13.0000  | 16.92   | 17.39 | 17.92 | 18.39 | 18.87 |
| 13.5000  | 19.29   | 19.71 | 20.07 | 20.38 | 20.64 |
| 14.0000  | 20.85   | 21.00 | 21.16 | 21.26 | 21.31 |
| 14.5000  | 21.31   | 21.31 | 21.25 | 21.19 | 21.09 |
| 15.0000  | 20.96   | 20.84 | 20.71 | 20.58 | 20.40 |
| 15.5000  | 20.21   | 20.02 | 19.83 | 19.65 | 19.46 |
| 16.0000  | 19.27   | 19.09 | 18.91 | 18.66 | 18.45 |

Type.... Hydrograph  
 Name.... SOUTH LAKE OUT Tag: 2  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 \torm... TypeII 24hr Tag: 2

Page 6.42  
 Event: 2 yr

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

---

| Time<br>hrs |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|
| 16.5000     | 18.20 | 17.99 | 17.75 | 17.54 | 17.32 |
| 17.0000     | 17.11 | 16.89 | 16.68 | 16.47 | 16.26 |
| 17.5000     | 16.05 | 15.85 | 15.64 | 15.43 | 15.23 |
| 18.0000     | 15.02 | 14.82 | 14.62 | 14.42 | 14.21 |
| 18.5000     | 14.01 | 13.81 | 13.61 | 13.42 | 13.22 |
| 19.0000     | 13.02 | 12.87 | 12.68 | 12.48 | 12.34 |
| 19.5000     | 12.14 | 12.00 | 11.85 | 11.66 | 11.52 |
| 20.0000     | 11.35 | 11.23 | 11.06 | 10.90 | 10.74 |
| 20.5000     | 10.62 | 10.46 | 10.35 | 10.19 | 10.07 |
| 21.0000     | 9.95  | 9.84  | 9.72  | 9.60  | 9.45  |
| 21.5000     | 9.33  | 9.22  | 9.11  | 8.99  | 8.88  |
| 22.0000     | 8.77  | 8.65  | 8.54  | 8.43  | 8.31  |
| 22.5000     | 8.20  | 8.12  | 8.05  | 7.94  | 7.87  |
| 23.0000     | 7.79  | 7.72  | 7.61  | 7.53  | 7.46  |
| 23.5000     | 7.39  | 7.31  | 7.24  | 7.17  | 7.10  |
| 24.0000     | 7.02  |       |       |       |       |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Hydrograph  
 Name.... SOUTH LAKE OUT Tag: 15  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 'torm... TypeII 24hr Tag: 15

Page 6.43  
 Event: 15 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = SOUTH LAKE OUT  
 HYG Tag = 15

-----  
 Peak Discharge = 53.98 cfs  
 Time to Peak = 14.0000 hrs  
 HYG Volume = 27.400 ac-ft  
 -----

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |       |
|-------------|---|-------|-------|-------|-------|-------|
|             | Output Time increment = .1000 hrs                         |       |       |       |       |       |
|             | Time on left represents time for first value in each row. |       |       |       |       |       |
| .0000       | .00   | .00   | .00   | .00   | .00   | .00   |
| .5000       | .00   | .00   | .00   | .00   | .00   | .00   |
| 1.0000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 1.5000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 2.0000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 2.5000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 3.0000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 3.5000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 4.0000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 4.5000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 5.0000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 5.5000      | .00   | .00   | .00   | .00   | .00   | .00   |
| 6.0000      | .00   | .00   | .02   | .02   | .02   | .02   |
| 6.5000      | .04   | .04   | .07   | .07   | .07   | .09   |
| 7.0000      | .09   | .11   | .13   | .15   | .17   | .17   |
| 7.5000      | .20   | .22   | .24   | .26   | .28   | .28   |
| 8.0000      | .30   | .33   | .35   | .37   | .39   | .39   |
| 8.5000      | .41   | .43   | .46   | .48   | .50   | .50   |
| 9.0000      | .52   | .54   | .56   | .61   | .65   | .65   |
| 9.5000      | .69   | .74   | .78   | .82   | .86   | .86   |
| 10.0000     | .91   | .97   | 1.03  | 1.10  | 1.18  | 1.18  |
| 10.5000     | 1.27  | 1.35  | 1.43  | 1.54  | 1.64  | 1.64  |
| 11.0000     | 1.77  | 1.92  | 2.06  | 2.23  | 2.53  | 2.53  |
| 11.5000     | 2.87  | 3.24  | 3.72  | 4.49  | 5.83  | 5.83  |
| 12.0000     | 8.54  | 12.52 | 17.61 | 22.72 | 26.79 | 26.79 |
| 12.5000     | 29.52   | 31.45 | 33.13 | 34.93 | 36.80 | 36.80 |
| 13.0000     | 38.59   | 40.60 | 42.54 | 44.45 | 46.48 | 46.48 |
| 13.5000     | 48.64   | 50.43 | 52.04 | 53.17 | 53.78 | 53.78 |
| 14.0000     | 53.98   | 53.74 | 53.14 | 52.30 | 51.24 | 51.24 |
| 14.5000     | 50.01   | 48.85 | 47.84 | 46.87 | 45.96 | 45.96 |
| 15.0000     | 45.11   | 44.21 | 43.37 | 42.49 | 41.62 | 41.62 |
| 15.5000     | 40.80   | 39.94 | 39.13 | 38.33 | 37.54 | 37.54 |
| 16.0000     | 36.71   | 35.94 | 35.17 | 34.41 | 33.65 | 33.65 |

Type.... Hydrograph  
 Name.... SOUTH LAKE OUT Tag: 15  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 15

Page 6.44  
 Event: 15 yr

| Time<br>hrs   | HYDROGRAPH ORDINATES (cfs)        |       |       |       |       |
|---|-----------------------------------|-------|-------|-------|-------|
|   | Output Time increment = .1000 hrs |       |       |       |       |
| Time on left represents time for first value in each row. |                                   |       |       |       |       |
| 16.5000   | 32.94                             | 32.24 | 31.56 | 30.92 | 30.29 |
| 17.0000   | 29.66                             | 29.03 | 28.41 | 27.84 | 27.30 |
| 17.5000   | 26.77                             | 26.24 | 25.72 | 25.23 | 24.79 |
| 18.0000   | 24.35                             | 23.94 | 23.55 | 23.15 | 22.76 |
| 18.5000   | 22.40                             | 22.08 | 21.76 | 21.43 | 21.18 |
| 19.0000   | 20.93                             | 20.67 | 20.42 | 20.17 | 19.92 |
| 19.5000   | 19.67                             | 19.42 | 19.17 | 18.93 | 18.68 |
| 20.0000   | 18.44                             | 18.19 | 17.95 | 17.71 | 17.47 |
| 20.5000   | 17.26                             | 17.04 | 16.83 | 16.62 | 16.41 |
| 21.0000   | 16.20                             | 15.99 | 15.78 | 15.58 | 15.37 |
| 21.5000   | 15.22                             | 15.01 | 14.81 | 14.66 | 14.46 |
| 22.0000   | 14.30                             | 14.15 | 13.95 | 13.75 | 13.60 |
| 22.5000   | 13.45                             | 13.31 | 13.16 | 13.01 | 12.86 |
| 23.0000   | 12.71                             | 12.57 | 12.42 | 12.28 | 12.14 |
| 23.5000   | 11.99                             | 11.85 | 11.70 | 11.56 | 11.41 |
| 24.0000   | 11.29                             |       |       |       |       |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Hydrograph  
 Name.... SOUTH LAKE OUT Tag: 25  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 25

Page 6.45  
 Event: 25 yr

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = SOUTH LAKE OUT  
 HYG Tag = 25

-----  
 Peak Discharge = 71.34 cfs  
 Time to Peak = 13.8000 hrs  
 HYG Volume = 31.532 ac-ft  
 -----

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)   |       |       |       |       |       |
|-------------|--|-------|-------|-------|-------|-------|
|             | Output Time increment = .1000 hrs<br>Time on left represents time for first value in each row. |       |       |       |       |       |
| .0000       | .00  | .00   | .00   | .00   | .00   | .00   |
| .5000       | .00  | .00   | .00   | .00   | .00   | .00   |
| 1.0000      | .00  | .00   | .00   | .00   | .00   | .00   |
| 1.5000      | .00  | .00   | .00   | .00   | .00   | .00   |
| 2.0000      | .00  | .00   | .00   | .00   | .00   | .00   |
| 2.5000      | .00  | .00   | .00   | .00   | .00   | .00   |
| 3.0000      | .00  | .00   | .00   | .00   | .00   | .00   |
| 3.5000      | .00  | .00   | .00   | .00   | .00   | .00   |
| 4.0000      | .00  | .00   | .00   | .00   | .00   | .00   |
| 4.5000      | .00  | .00   | .00   | .00   | .00   | .00   |
| 5.0000      | .00  | .00   | .00   | .00   | .00   | .00   |
| 5.5000      | .00  | .00   | .00   | .00   | .00   | .02   |
| 6.0000      | .02  | .04   | .04   | .07   | .07   | .07   |
| 6.5000      | .09  | .09   | .11   | .13   | .15   | .15   |
| 7.0000      | .17  | .20   | .22   | .24   | .26   | .26   |
| 7.5000      | .28  | .30   | .33   | .35   | .37   | .37   |
| 8.0000      | .39  | .41   | .43   | .46   | .48   | .48   |
| 8.5000      | .50  | .52   | .54   | .56   | .61   | .61   |
| 9.0000      | .65  | .69   | .74   | .78   | .82   | .82   |
| 9.5000      | .86  | .93   | .99   | 1.05  | 1.12  | 1.12  |
| 10.0000     | 1.18   | 1.27  | 1.35  | 1.43  | 1.52  | 1.52  |
| 10.5000     | 1.62   | 1.73  | 1.85  | 1.98  | 2.12  | 2.12  |
| 11.0000     | 2.31   | 2.57  | 2.87  | 3.16  | 3.49  | 3.49  |
| 11.5000     | 3.86   | 4.26  | 4.81  | 5.68  | 7.44  | 7.44  |
| 12.0000     | 10.63  | 15.42 | 21.45 | 27.30 | 31.89 | 31.89 |
| 12.5000     | 35.13  | 37.59 | 39.83 | 42.22 | 44.56 | 44.56 |
| 13.0000     | 47.43  | 51.22 | 55.60 | 60.06 | 64.02 | 64.02 |
| 13.5000     | 67.26  | 69.56 | 70.97 | 71.34 | 70.82 | 70.82 |
| 14.0000     | 69.71  | 68.01 | 66.16 | 64.02 | 61.78 | 61.78 |
| 14.5000     | 59.65  | 57.35 | 55.19 | 53.13 | 51.22 | 51.22 |
| 15.0000     | 49.58  | 48.19 | 47.00 | 45.93 | 44.92 | 44.92 |
| 15.5000     | 43.98  | 43.04 | 42.16 | 41.29 | 40.42 | 40.42 |
| 16.0000     | 39.58  | 38.78 | 37.99 | 37.20 | 36.42 | 36.42 |

Type.... Hydrograph  
 Name.... SOUTH LAKE OUT Tag: 25  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Storm... TypeII 24hr Tag: 25

Page 6.46  
 Event: 25 yr

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

---

| Time<br>hrs |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|
| 16.5000     | 35.65 | 34.93 | 34.21 | 33.50 | 32.80 |
| 17.0000     | 32.10 | 31.47 | 30.83 | 30.24 | 29.65 |
| 17.5000     | 29.10 | 28.56 | 28.02 | 27.48 | 26.95 |
| 18.0000     | 26.46 | 26.01 | 25.56 | 25.12 | 24.68 |
| 18.5000     | 24.24 | 23.88 | 23.51 | 23.15 | 22.82 |
| 19.0000     | 22.50 | 22.18 | 21.86 | 21.57 | 21.31 |
| 19.5000     | 21.05 | 20.80 | 20.55 | 20.29 | 20.04 |
| 20.0000     | 19.79 | 19.54 | 19.30 | 19.08 | 18.86 |
| 20.5000     | 18.62 | 18.41 | 18.19 | 17.98 | 17.77 |
| 21.0000     | 17.56 | 17.34 | 17.15 | 16.94 | 16.75 |
| 21.5000     | 16.54 | 16.36 | 16.18 | 15.97 | 15.82 |
| 22.0000     | 15.61 | 15.45 | 15.30 | 15.09 | 14.94 |
| 22.5000     | 14.79 | 14.64 | 14.44 | 14.29 | 14.13 |
| 23.0000     | 13.98 | 13.78 | 13.63 | 13.49 | 13.34 |
| 23.5000     | 13.19 | 13.04 | 12.89 | 12.75 | 12.60 |
| 24.0000     | 12.46 |       |       |       |       |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002



Type.... Hydrograph  
 Name.... SOUTH LAKE OUT Tag: 100  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 Form... TypeII 24hr Tag: 100

ICPM HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = SOUTH LAKE OUT  
 HYG Tag = 100

-----  
 Peak Discharge = 130.07 cfs  
 Time to Peak = 13.4000 hrs  
 HYG Volume = 44.703 ac-ft  
 -----

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)   |        |        |        |        |     |
|-------------|--|--------|--------|--------|--------|-----|
|             | Output Time increment = .1000 hrs<br>Time on left represents time for first value in each row. |        |        |        |        |     |
| .0000       | .00  | .00    | .00    | .00    | .00    | .00 |
| .5000       | .00  | .00    | .00    | .00    | .00    | .00 |
| 1.0000      | .00  | .00    | .00    | .00    | .00    | .00 |
| 1.5000      | .00  | .00    | .00    | .00    | .00    | .00 |
| 2.0000      | .00  | .00    | .00    | .00    | .00    | .00 |
| 2.5000      | .00  | .00    | .00    | .00    | .00    | .00 |
| 3.0000      | .00  | .00    | .00    | .00    | .00    | .00 |
| 3.5000      | .00  | .00    | .00    | .00    | .00    | .00 |
| 4.0000      | .00  | .00    | .00    | .00    | .00    | .00 |
| 4.5000      | .00  | .00    | .00    | .00    | .00    | .00 |
| 5.0000      | .02  | .02    | .04    | .04    | .07    |     |
| 5.5000      | .09  | .09    | .11    | .13    | .15    |     |
| 6.0000      | .17  | .20    | .22    | .24    | .26    |     |
| 6.5000      | .28  | .30    | .33    | .35    | .37    |     |
| 7.0000      | .39  | .41    | .43    | .46    | .50    |     |
| 7.5000      | .54  | .58    | .63    | .67    | .71    |     |
| 8.0000      | .76  | .80    | .84    | .88    | .93    |     |
| 8.5000      | .97  | 1.03   | 1.10   | 1.16   | 1.22   |     |
| 9.0000      | 1.31   | 1.39   | 1.48   | 1.56   | 1.64   |     |
| 9.5000      | 1.75   | 1.85   | 1.96   | 2.06   | 2.18   |     |
| 10.0000     | 2.38   | 2.56   | 2.75   | 2.94   | 3.16   |     |
| 10.5000     | 3.38   | 3.60   | 3.86   | 4.15   | 4.44   |     |
| 11.0000     | 4.77   | 5.13   | 5.49   | 5.92   | 6.42   |     |
| 11.5000     | 7.06   | 7.78   | 8.72   | 10.18  | 12.77  |     |
| 12.0000     | 17.45  | 24.73  | 33.58  | 42.11  | 49.29  |     |
| 12.5000     | 55.06  | 61.55  | 71.18  | 83.27  | 96.22  |     |
| 13.0000     | 109.79   | 119.82 | 126.68 | 129.72 | 130.07 |     |
| 13.5000     | 128.37   | 125.21 | 120.90 | 115.98 | 110.83 |     |
| 14.0000     | 105.32   | 99.83  | 94.91  | 90.37  | 86.23  |     |
| 14.5000     | 82.10  | 78.06  | 74.22  | 70.59  | 67.11  |     |
| 15.0000     | 64.05  | 61.26  | 58.74  | 56.49  | 54.22  |     |
| 15.5000     | 52.18  | 50.41  | 49.01  | 47.83  | 46.80  |     |
| 16.0000     | 45.84  | 44.99  | 44.14  | 43.31  | 42.53  |     |

Type.... Hydrograph  
 Name.... SOUTH LAKE OUT Tag: 100  
 File.... J:\0675B\PONDPACK\PERSIMMO.HYG  
 itorm... TypeII 24hr Tag: 100

Page 6.48  
 Event: 100 yr

| HYDROGRAPH ORDINATES (cfs) |   |       |       |       |       |  |
|----------------------------|---|-------|-------|-------|-------|--|
| Time<br>hrs                | Output Time increment = .1000 hrs                         |       |       |       |       |  |
|                            | Time on left represents time for first value in each row. |       |       |       |       |  |
| 16.5000                    | 41.76   | 40.99 | 40.28 | 39.59 | 38.93 |  |
| 17.0000                    | 38.28   | 37.63 | 36.98 | 36.34 | 35.70 |  |
| 17.5000                    | 35.07   | 34.44 | 33.82 | 33.24 | 32.72 |  |
| 18.0000                    | 32.19   | 31.68 | 31.20 | 30.72 | 30.25 |  |
| 18.5000                    | 29.77   | 29.30 | 28.84 | 28.37 | 27.91 |  |
| 19.0000                    | 27.49   | 27.11 | 26.73 | 26.35 | 25.98 |  |
| 19.5000                    | 25.61   | 25.24 | 24.87 | 24.50 | 24.18 |  |
| 20.0000                    | 23.88   | 23.56 | 23.26 | 22.96 | 22.67 |  |
| 20.5000                    | 22.41   | 22.15 | 21.89 | 21.63 | 21.38 |  |
| 21.0000                    | 21.19   | 20.99 | 20.80 | 20.61 | 20.43 |  |
| 21.5000                    | 20.24   | 20.05 | 19.86 | 19.68 | 19.49 |  |
| 22.0000                    | 19.30   | 19.12 | 18.94 | 18.75 | 18.57 |  |
| 22.5000                    | 18.39   | 18.20 | 18.02 | 17.84 | 17.66 |  |
| 23.0000                    | 17.48   | 17.32 | 17.16 | 17.00 | 16.84 |  |
| 23.5000                    | 16.69   | 16.53 | 16.37 | 16.22 | 16.06 |  |
| 24.0000                    | 15.91   |       |       |       |       |  |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Time-Elev  
 Name.... EX LAKE #1 OUT Tag: 2  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 {torm... TypeII 24hr Tag: 2

Page 7.01  
 Event: 2 yr

TIME vs. ELEVATION (ft)

| Time<br>hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|-------------|---|--------|--------|--------|--------|
|             | Time on left represents time for first value in each row. |        |        |        |        |
| 11.5000     | 550.40  | 550.40 | 550.42 | 550.52 | 550.65 |
| 12.0000     | 550.80  | 550.93 | 551.07 | 551.20 | 551.29 |
| 12.5000     | 551.37  | 551.42 | 551.45 | 551.48 | 551.49 |
| 13.0000     | 551.50  | 551.51 | 551.51 | 551.50 | 551.50 |
| 13.5000     | 551.49  | 551.49 | 551.48 | 551.47 | 551.46 |
| 14.0000     | 551.45  | 551.44 | 551.43 | 551.42 | 551.41 |
| 14.5000     | 551.40  | 551.39 | 551.37 | 551.36 | 551.34 |
| 15.0000     | 551.33  | 551.31 | 551.30 | 551.29 | 551.28 |
| 15.5000     | 551.26  | 551.25 | 551.24 | 551.23 | 551.22 |
| 16.0000     | 551.21  | 551.20 | 551.18 | 551.17 | 551.15 |
| 16.5000     | 551.14  | 551.12 | 551.11 | 551.10 | 551.09 |
| 17.0000     | 551.08  | 551.07 | 551.06 | 551.05 | 551.04 |
| 17.5000     | 551.03  | 551.02 | 551.02 | 551.01 | 551.00 |
| 18.0000     | 550.99  | 550.98 | 550.97 | 550.96 | 550.95 |
| 18.5000     | 550.94  | 550.93 | 550.93 | 550.92 | 550.91 |
| 19.0000     | 550.91  | 550.90 | 550.89 | 550.89 | 550.88 |
| 19.5000     | 550.88  | 550.87 | 550.87 | 550.87 | 550.86 |
| 20.0000     | 550.86  | 550.85 | 550.85 | 550.84 | 550.84 |
| 20.5000     | 550.84  | 550.83 | 550.83 | 550.83 | 550.83 |
| 21.0000     | 550.82  | 550.82 | 550.82 | 550.82 | 550.81 |
| 21.5000     | 550.81  | 550.81 | 550.81 | 550.81 | 550.81 |
| 22.0000     | 550.80  | 550.80 | 550.80 | 550.80 | 550.80 |
| 22.5000     | 550.80  | 550.80 | 550.79 | 550.79 | 550.79 |
| 23.0000     | 550.79  | 550.79 | 550.79 | 550.78 | 550.78 |
| 23.5000     | 550.78  | 550.78 | 550.78 | 550.78 | 550.78 |
| 24.0000     | 550.78  | 550.78 | 550.77 | 550.77 | 550.76 |
| 24.5000     | 550.74  | 550.73 | 550.71 | 550.69 | 550.67 |
| 25.0000     | 550.65  | 550.63 | 550.62 | 550.60 | 550.55 |
| 25.5000     | 550.50  | 550.47 | 550.45 | 550.43 | 550.42 |
| 26.0000     | 550.41  | 550.41 | 550.41 | 550.40 |        |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... Time-Elev  
 Name... EX LAKE #1 OUT Tag: 15  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 15

Page 7.02  
 Event: 15 yr

TIME vs. ELEVATION (ft)

| Time hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|----------|---|--------|--------|--------|--------|
|          | Time on left represents time for first value in each row. |        |        |        |        |
| 10.3000  | 550.40  | 550.40 | 550.40 | 550.41 | 550.43 |
| 10.8000  | 550.45  | 550.49 | 550.55 | 550.60 | 550.62 |
| 11.3000  | 550.64  | 550.67 | 550.70 | 550.75 | 550.81 |
| 11.8000  | 550.87  | 550.98 | 551.12 | 551.28 | 551.45 |
| 12.3000  | 551.61  | 551.72 | 551.82 | 551.88 | 551.93 |
| 12.8000  | 551.96  | 551.99 | 552.00 | 552.01 | 552.02 |
| 13.3000  | 552.02  | 552.02 | 552.02 | 552.01 | 552.01 |
| 13.8000  | 552.00  | 551.99 | 551.98 | 551.97 | 551.96 |
| 14.3000  | 551.95  | 551.94 | 551.93 | 551.92 | 551.91 |
| 14.8000  | 551.90  | 551.89 | 551.87 | 551.86 | 551.85 |
| 15.3000  | 551.84  | 551.83 | 551.82 | 551.81 | 551.79 |
| 15.8000  | 551.78  | 551.76 | 551.75 | 551.74 | 551.72 |
| 16.3000  | 551.71  | 551.70 | 551.68 | 551.67 | 551.66 |
| 16.8000  | 551.64  | 551.63 | 551.62 | 551.61 | 551.59 |
| 17.3000  | 551.58  | 551.56 | 551.54 | 551.53 | 551.52 |
| 17.8000  | 551.50  | 551.49 | 551.48 | 551.46 | 551.45 |
| 18.3000  | 551.44  | 551.43 | 551.42 | 551.40 | 551.39 |
| 18.8000  | 551.37  | 551.36 | 551.35 | 551.33 | 551.32 |
| 19.3000  | 551.31  | 551.29 | 551.28 | 551.27 | 551.26 |
| 19.8000  | 551.25  | 551.24 | 551.23 | 551.22 | 551.21 |
| 20.3000  | 551.20  | 551.18 | 551.17 | 551.15 | 551.14 |
| 20.8000  | 551.13  | 551.12 | 551.11 | 551.10 | 551.09 |
| 21.3000  | 551.08  | 551.07 | 551.06 | 551.06 | 551.05 |
| 21.8000  | 551.04  | 551.04 | 551.03 | 551.03 | 551.02 |
| 22.3000  | 551.02  | 551.01 | 551.01 | 551.01 | 551.00 |
| 22.8000  | 551.00  | 550.99 | 550.98 | 550.98 | 550.97 |
| 23.3000  | 550.97  | 550.96 | 550.96 | 550.96 | 550.95 |
| 23.8000  | 550.95  | 550.95 | 550.94 | 550.94 | 550.94 |
| 24.3000  | 550.93  | 550.92 | 550.91 | 550.90 | 550.88 |
| 24.8000  | 550.86  | 550.84 | 550.82 | 550.80 | 550.77 |
| 25.3000  | 550.73  | 550.70 | 550.67 | 550.65 | 550.63 |
| 25.8000  | 550.61  | 550.60 | 550.53 | 550.49 | 550.45 |
| 26.3000  | 550.43  | 550.42 | 550.41 | 550.41 | 550.41 |
| 26.8000  | 550.40  |        |        |        |        |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Time-Elev  
 Name.... EX LAKE #1 OUT Tag: 25  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 25

TIME vs. ELEVATION (ft)

| Time hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|----------|---|--------|--------|--------|--------|
|          | Time on left represents time for first value in each row. |        |        |        |        |
| 9.9000   | 550.40  | 550.40 | 550.40 | 550.41 | 550.42 |
| 10.4000  | 550.44  | 550.48 | 550.52 | 550.57 | 550.61 |
| 10.9000  | 550.62  | 550.64 | 550.66 | 550.69 | 550.73 |
| 11.4000  | 550.77  | 550.81 | 550.84 | 550.88 | 550.96 |
| 11.9000  | 551.06  | 551.21 | 551.37 | 551.54 | 551.70 |
| 12.4000  | 551.83  | 551.92 | 552.00 | 552.05 | 552.08 |
| 12.9000  | 552.11  | 552.13 | 552.14 | 552.15 | 552.15 |
| 13.4000  | 552.15  | 552.15 | 552.15 | 552.14 | 552.14 |
| 13.9000  | 552.13  | 552.12 | 552.11 | 552.10 | 552.09 |
| 14.4000  | 552.08  | 552.07 | 552.06 | 552.05 | 552.04 |
| 14.9000  | 552.03  | 552.01 | 552.00 | 551.99 | 551.98 |
| 15.4000  | 551.96  | 551.95 | 551.94 | 551.93 | 551.91 |
| 15.9000  | 551.90  | 551.89 | 551.88 | 551.86 | 551.85 |
| 16.4000  | 551.84  | 551.83 | 551.82 | 551.80 | 551.79 |
| 16.9000  | 551.77  | 551.76 | 551.74 | 551.73 | 551.72 |
| 17.4000  | 551.70  | 551.69 | 551.67 | 551.66 | 551.65 |
| 17.9000  | 551.64  | 551.62 | 551.61 | 551.60 | 551.58 |
| 18.4000  | 551.57  | 551.55 | 551.54 | 551.52 | 551.51 |
| 18.9000  | 551.50  | 551.48 | 551.47 | 551.46 | 551.45 |
| 19.4000  | 551.43  | 551.42 | 551.41 | 551.40 | 551.38 |
| 19.9000  | 551.37  | 551.35 | 551.34 | 551.32 | 551.31 |
| 20.4000  | 551.30  | 551.29 | 551.27 | 551.26 | 551.25 |
| 20.9000  | 551.24  | 551.23 | 551.22 | 551.21 | 551.20 |
| 21.4000  | 551.19  | 551.18 | 551.16 | 551.15 | 551.14 |
| 21.9000  | 551.13  | 551.12 | 551.11 | 551.10 | 551.10 |
| 22.4000  | 551.09  | 551.08 | 551.08 | 551.07 | 551.06 |
| 22.9000  | 551.06  | 551.05 | 551.05 | 551.04 | 551.04 |
| 23.4000  | 551.03  | 551.03 | 551.03 | 551.02 | 551.02 |
| 23.9000  | 551.02  | 551.01 | 551.01 | 551.01 | 551.00 |
| 24.4000  | 550.99  | 550.97 | 550.95 | 550.93 | 550.91 |
| 24.9000  | 550.89  | 550.86 | 550.84 | 550.82 | 550.80 |
| 25.4000  | 550.77  | 550.73 | 550.70 | 550.67 | 550.65 |
| 25.9000  | 550.63  | 550.61 | 550.58 | 550.52 | 550.48 |
| 26.4000  | 550.45  | 550.43 | 550.42 | 550.41 | 550.41 |
| 26.9000  | 550.41  |        |        |        |        |

Type.... Time-Elev  
 Name.... EX LAKE #1 OUT Tag: 100  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 100

TIME vs. ELEVATION (ft)

| Time hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|----------|---|--------|--------|--------|--------|
|          | Time on left represents time for first value in each row. |        |        |        |        |
| 8.8000   | 550.40  | 550.40 | 550.40 | 550.41 | 550.43 |
| 9.3000   | 550.45  | 550.48 | 550.51 | 550.55 | 550.60 |
| 9.8000   | 550.61  | 550.62 | 550.63 | 550.65 | 550.67 |
| 10.3000  | 550.69  | 550.71 | 550.74 | 550.77 | 550.80 |
| 10.8000  | 550.82  | 550.84 | 550.86 | 550.88 | 550.91 |
| 11.3000  | 550.95  | 550.99 | 551.02 | 551.05 | 551.10 |
| 11.8000  | 551.17  | 551.27 | 551.42 | 551.60 | 551.79 |
| 12.3000  | 551.95  | 552.10 | 552.23 | 552.33 | 552.41 |
| 12.8000  | 552.47  | 552.51 | 552.54 | 552.56 | 552.58 |
| 13.3000  | 552.59  | 552.59 | 552.60 | 552.59 | 552.59 |
| 13.8000  | 552.59  | 552.58 | 552.57 | 552.56 | 552.55 |
| 14.3000  | 552.54  | 552.53 | 552.52 | 552.51 | 552.50 |
| 14.8000  | 552.48  | 552.47 | 552.46 | 552.44 | 552.43 |
| 15.3000  | 552.42  | 552.40 | 552.39 | 552.37 | 552.36 |
| 15.8000  | 552.34  | 552.33 | 552.31 | 552.30 | 552.29 |
| 16.3000  | 552.27  | 552.26 | 552.24 | 552.23 | 552.21 |
| 16.8000  | 552.20  | 552.18 | 552.17 | 552.15 | 552.14 |
| 17.3000  | 552.12  | 552.11 | 552.09 | 552.08 | 552.07 |
| 17.8000  | 552.05  | 552.04 | 552.03 | 552.01 | 552.00 |
| 18.3000  | 551.99  | 551.97 | 551.96 | 551.94 | 551.93 |
| 18.8000  | 551.92  | 551.90 | 551.89 | 551.87 | 551.86 |
| 19.3000  | 551.85  | 551.84 | 551.82 | 551.81 | 551.80 |
| 19.8000  | 551.78  | 551.77 | 551.75 | 551.74 | 551.72 |
| 20.3000  | 551.71  | 551.69 | 551.68 | 551.66 | 551.65 |
| 20.8000  | 551.64  | 551.62 | 551.61 | 551.60 | 551.58 |
| 21.3000  | 551.57  | 551.55 | 551.54 | 551.52 | 551.51 |
| 21.8000  | 551.49  | 551.48 | 551.47 | 551.46 | 551.45 |
| 22.3000  | 551.43  | 551.42 | 551.41 | 551.40 | 551.39 |
| 22.8000  | 551.37  | 551.36 | 551.35 | 551.34 | 551.32 |
| 23.3000  | 551.31  | 551.30 | 551.29 | 551.28 | 551.27 |
| 23.8000  | 551.26  | 551.26 | 551.25 | 551.24 | 551.23 |
| 24.3000  | 551.22  | 551.21 | 551.20 | 551.18 | 551.15 |
| 24.8000  | 551.13  | 551.10 | 551.08 | 551.06 | 551.04 |
| 25.3000  | 551.01  | 550.99 | 550.95 | 550.92 | 550.89 |
| 25.8000  | 550.87  | 550.84 | 550.82 | 550.80 | 550.76 |
| 26.3000  | 550.72  | 550.69 | 550.66 | 550.64 | 550.62 |
| 26.8000  | 550.61  | 550.56 | 550.50 | 550.46 | 550.44 |
| 27.3000  | 550.43  | 550.42 | 550.41 | 550.41 | 550.40 |

Type... Time-Elev  
 Name... K-B LAKE Tag: 2  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 2

TIME vs. ELEVATION (ft)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |        |        |        |        |        |
|----------|--------|--------|--------|--------|--------|
| .0000    | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| .5000    | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 1.0000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 1.5000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 2.0000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 2.5000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 3.0000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 3.5000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 4.0000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 4.5000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 5.0000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 5.5000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 6.0000   | 526.00 | 526.01 | 526.01 | 526.01 | 526.01 |
| 6.5000   | 526.01 | 526.01 | 526.01 | 526.01 | 526.01 |
| 7.0000   | 526.02 | 526.02 | 526.02 | 526.02 | 526.02 |
| 7.5000   | 526.02 | 526.03 | 526.03 | 526.03 | 526.03 |
| 8.0000   | 526.03 | 526.04 | 526.04 | 526.04 | 526.04 |
| 8.5000   | 526.05 | 526.05 | 526.05 | 526.05 | 526.06 |
| 9.0000   | 526.06 | 526.06 | 526.07 | 526.07 | 526.08 |
| 9.5000   | 526.08 | 526.08 | 526.09 | 526.09 | 526.10 |
| 10.0000  | 526.10 | 526.11 | 526.11 | 526.12 | 526.13 |
| 10.5000  | 526.13 | 526.14 | 526.15 | 526.16 | 526.16 |
| 11.0000  | 526.17 | 526.18 | 526.20 | 526.21 | 526.22 |
| 11.5000  | 526.24 | 526.26 | 526.28 | 526.31 | 526.36 |
| 12.0000  | 526.44 | 526.55 | 526.71 | 526.91 | 527.11 |
| 12.5000  | 527.31 | 527.50 | 527.67 | 527.81 | 527.94 |
| 13.0000  | 528.05 | 528.14 | 528.22 | 528.29 | 528.35 |
| 13.5000  | 528.40 | 528.44 | 528.48 | 528.50 | 528.52 |
| 14.0000  | 528.54 | 528.54 | 528.55 | 528.55 | 528.55 |
| 14.5000  | 528.54 | 528.53 | 528.52 | 528.51 | 528.50 |
| 15.0000  | 528.48 | 528.47 | 528.45 | 528.43 | 528.41 |
| 15.5000  | 528.39 | 528.37 | 528.35 | 528.33 | 528.31 |
| 16.0000  | 528.29 | 528.27 | 528.25 | 528.22 | 528.20 |
| 16.5000  | 528.18 | 528.16 | 528.14 | 528.11 | 528.09 |
| 17.0000  | 528.07 | 528.05 | 528.02 | 528.00 | 527.98 |
| 17.5000  | 527.96 | 527.94 | 527.92 | 527.90 | 527.87 |
| 18.0000  | 527.85 | 527.83 | 527.81 | 527.79 | 527.77 |
| 18.5000  | 527.76 | 527.74 | 527.72 | 527.70 | 527.68 |
| 19.0000  | 527.66 | 527.65 | 527.63 | 527.61 | 527.59 |
| 19.5000  | 527.58 | 527.56 | 527.54 | 527.53 | 527.51 |
| 20.0000  | 527.49 | 527.48 | 527.46 | 527.45 | 527.43 |
| 20.5000  | 527.42 | 527.40 | 527.39 | 527.38 | 527.36 |
| 21.0000  | 527.35 | 527.33 | 527.32 | 527.31 | 527.29 |
| 21.5000  | 527.28 | 527.27 | 527.26 | 527.25 | 527.23 |
| 22.0000  | 527.22 | 527.21 | 527.20 | 527.19 | 527.18 |

TIME vs. ELEVATION (ft)

Output Time increment = .1000 hrs  
Time on left represents time for first value in each row.

| Time hrs |        |        |        |        |        |
|----------|--------|--------|--------|--------|--------|
| .0000    | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| .5000    | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 1.0000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 1.5000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 2.0000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 2.5000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 3.0000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 3.5000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 4.0000   | 526.00 | 526.00 | 526.00 | 526.00 | 526.00 |
| 4.5000   | 526.00 | 526.01 | 526.01 | 526.01 | 526.01 |
| 5.0000   | 526.01 | 526.01 | 526.01 | 526.02 | 526.02 |
| 5.5000   | 526.02 | 526.02 | 526.02 | 526.03 | 526.03 |
| 6.0000   | 526.03 | 526.03 | 526.04 | 526.04 | 526.04 |
| 6.5000   | 526.04 | 526.05 | 526.05 | 526.05 | 526.06 |
| 7.0000   | 526.06 | 526.07 | 526.07 | 526.07 | 526.08 |
| 7.5000   | 526.08 | 526.09 | 526.09 | 526.09 | 526.10 |
| 8.0000   | 526.10 | 526.11 | 526.11 | 526.12 | 526.12 |
| 8.5000   | 526.13 | 526.13 | 526.14 | 526.15 | 526.15 |
| 9.0000   | 526.16 | 526.17 | 526.18 | 526.18 | 526.19 |
| 9.5000   | 526.20 | 526.21 | 526.22 | 526.23 | 526.24 |
| 10.0000  | 526.25 | 526.26 | 526.27 | 526.29 | 526.30 |
| 10.5000  | 526.31 | 526.33 | 526.35 | 526.36 | 526.38 |
| 11.0000  | 526.40 | 526.42 | 526.45 | 526.47 | 526.50 |
| 11.5000  | 526.53 | 526.57 | 526.62 | 526.68 | 526.77 |
| 12.0000  | 526.92 | 527.14 | 527.43 | 527.77 | 528.13 |
| 12.5000  | 528.48 | 528.80 | 529.08 | 529.32 | 529.52 |
| 13.0000  | 529.68 | 529.82 | 529.94 | 530.02 | 530.09 |
| 13.5000  | 530.13 | 530.16 | 530.17 | 530.16 | 530.15 |
| 14.0000  | 530.13 | 530.11 | 530.08 | 530.05 | 530.02 |
| 14.5000  | 529.99 | 529.95 | 529.92 | 529.87 | 529.83 |
| 15.0000  | 529.79 | 529.75 | 529.70 | 529.66 | 529.62 |
| 15.5000  | 529.57 | 529.53 | 529.49 | 529.45 | 529.41 |
| 16.0000  | 529.36 | 529.32 | 529.28 | 529.25 | 529.21 |
| 16.5000  | 529.17 | 529.13 | 529.10 | 529.06 | 529.03 |
| 17.0000  | 528.99 | 528.96 | 528.93 | 528.89 | 528.86 |
| 17.5000  | 528.83 | 528.80 | 528.77 | 528.74 | 528.72 |
| 18.0000  | 528.69 | 528.66 | 528.63 | 528.61 | 528.58 |
| 18.5000  | 528.56 | 528.53 | 528.50 | 528.48 | 528.46 |
| 19.0000  | 528.43 | 528.41 | 528.38 | 528.36 | 528.33 |
| 19.5000  | 528.31 | 528.28 | 528.26 | 528.24 | 528.22 |
| 20.0000  | 528.19 | 528.17 | 528.15 | 528.12 | 528.10 |
| 20.5000  | 528.08 | 528.06 | 528.04 | 528.01 | 527.99 |
| 21.0000  | 527.97 | 527.95 | 527.93 | 527.91 | 527.89 |
| 21.5000  | 527.87 | 527.85 | 527.83 | 527.82 | 527.80 |
| 22.0000  | 527.78 | 527.76 | 527.75 | 527.73 | 527.71 |



## TIME vs. ELEVATION (ft)

| Time<br>hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|-------------|---|--------|--------|--------|--------|
|             | Time on left represents time for first value in each row. |        |        |        |        |
| .0000       | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| .5000       | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 1.0000      | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 1.5000      | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 2.0000      | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 2.5000      | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 3.0000      | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 3.5000      | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 4.0000      | 526.00  | 526.00 | 526.00 | 526.01 | 526.01 |
| 4.5000      | 526.01  | 526.01 | 526.01 | 526.01 | 526.01 |
| 5.0000      | 526.02  | 526.02 | 526.02 | 526.02 | 526.02 |
| 5.5000      | 526.03  | 526.03 | 526.03 | 526.04 | 526.04 |
| 6.0000      | 526.04  | 526.04 | 526.05 | 526.05 | 526.05 |
| 6.5000      | 526.06  | 526.06 | 526.07 | 526.07 | 526.07 |
| 7.0000      | 526.08  | 526.08 | 526.09 | 526.09 | 526.10 |
| 7.5000      | 526.10  | 526.11 | 526.11 | 526.12 | 526.12 |
| 8.0000      | 526.13  | 526.13 | 526.14 | 526.15 | 526.15 |
| 8.5000      | 526.16  | 526.16 | 526.17 | 526.18 | 526.19 |
| 9.0000      | 526.20  | 526.20 | 526.21 | 526.22 | 526.23 |
| 9.5000      | 526.24  | 526.26 | 526.27 | 526.28 | 526.29 |
| 10.0000     | 526.30  | 526.32 | 526.33 | 526.35 | 526.36 |
| 10.5000     | 526.38  | 526.40 | 526.42 | 526.44 | 526.46 |
| 11.0000     | 526.48  | 526.51 | 526.54 | 526.57 | 526.60 |
| 11.5000     | 526.64  | 526.68 | 526.74 | 526.81 | 526.92 |
| 12.0000     | 527.09  | 527.33 | 527.67 | 528.05 | 528.46 |
| 12.5000     | 528.85  | 529.20 | 529.51 | 529.76 | 529.98 |
| 13.0000     | 530.14  | 530.25 | 530.33 | 530.38 | 530.41 |
| 13.5000     | 530.42  | 530.42 | 530.40 | 530.38 | 530.35 |
| 14.0000     | 530.32  | 530.28 | 530.24 | 530.21 | 530.17 |
| 14.5000     | 530.13  | 530.09 | 530.05 | 530.01 | 529.98 |
| 15.0000     | 529.93  | 529.89 | 529.85 | 529.81 | 529.77 |
| 15.5000     | 529.72  | 529.68 | 529.64 | 529.59 | 529.55 |
| 16.0000     | 529.51  | 529.47 | 529.43 | 529.39 | 529.35 |
| 16.5000     | 529.31  | 529.27 | 529.24 | 529.20 | 529.17 |
| 17.0000     | 529.13  | 529.10 | 529.06 | 529.03 | 529.00 |
| 17.5000     | 528.97  | 528.94 | 528.91 | 528.88 | 528.85 |
| 18.0000     | 528.82  | 528.79 | 528.77 | 528.74 | 528.71 |
| 18.5000     | 528.69  | 528.66 | 528.64 | 528.61 | 528.59 |
| 19.0000     | 528.57  | 528.54 | 528.52 | 528.49 | 528.47 |
| 19.5000     | 528.45  | 528.42 | 528.40 | 528.38 | 528.35 |
| 20.0000     | 528.33  | 528.31 | 528.29 | 528.26 | 528.24 |
| 20.5000     | 528.22  | 528.20 | 528.17 | 528.15 | 528.13 |
| 21.0000     | 528.11  | 528.09 | 528.07 | 528.05 | 528.03 |
| 21.5000     | 528.01  | 527.99 | 527.97 | 527.95 | 527.93 |
| 22.0000     | 527.91  | 527.89 | 527.88 | 527.86 | 527.84 |

TIME vs. ELEVATION (ft)

| Time hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|----------|---|--------|--------|--------|--------|
|          | Time on left represents time for first value in each row. |        |        |        |        |
| .0000    | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| .5000    | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 1.0000   | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 1.5000   | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 2.0000   | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 2.5000   | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 3.0000   | 526.00  | 526.00 | 526.00 | 526.00 | 526.00 |
| 3.5000   | 526.00  | 526.01 | 526.01 | 526.01 | 526.01 |
| 4.0000   | 526.01  | 526.01 | 526.02 | 526.02 | 526.02 |
| 4.5000   | 526.02  | 526.03 | 526.03 | 526.03 | 526.04 |
| 5.0000   | 526.04  | 526.04 | 526.05 | 526.05 | 526.05 |
| 5.5000   | 526.06  | 526.06 | 526.07 | 526.07 | 526.08 |
| 6.0000   | 526.08  | 526.09 | 526.09 | 526.10 | 526.10 |
| 6.5000   | 526.11  | 526.11 | 526.12 | 526.13 | 526.13 |
| 7.0000   | 526.14  | 526.15 | 526.15 | 526.16 | 526.17 |
| 7.5000   | 526.17  | 526.18 | 526.19 | 526.20 | 526.21 |
| 8.0000   | 526.22  | 526.23 | 526.23 | 526.24 | 526.25 |
| 8.5000   | 526.26  | 526.27 | 526.29 | 526.30 | 526.31 |
| 9.0000   | 526.32  | 526.34 | 526.35 | 526.37 | 526.38 |
| 9.5000   | 526.40  | 526.42 | 526.43 | 526.45 | 526.47 |
| 10.0000  | 526.49  | 526.51 | 526.53 | 526.56 | 526.58 |
| 10.5000  | 526.61  | 526.63 | 526.66 | 526.69 | 526.73 |
| 11.0000  | 526.76  | 526.80 | 526.84 | 526.88 | 526.93 |
| 11.5000  | 526.99  | 527.05 | 527.13 | 527.23 | 527.38 |
| 12.0000  | 527.61  | 527.96 | 528.41 | 528.93 | 529.46 |
| 12.5000  | 529.96  | 530.34 | 530.60 | 530.78 | 530.89 |
| 13.0000  | 530.95  | 530.97 | 530.98 | 530.96 | 530.93 |
| 13.5000  | 530.89  | 530.84 | 530.79 | 530.74 | 530.68 |
| 14.0000  | 530.63  | 530.57 | 530.52 | 530.47 | 530.42 |
| 14.5000  | 530.37  | 530.33 | 530.28 | 530.24 | 530.20 |
| 15.0000  | 530.17  | 530.13 | 530.09 | 530.06 | 530.02 |
| 15.5000  | 529.99  | 529.96 | 529.92 | 529.88 | 529.85 |
| 16.0000  | 529.81  | 529.77 | 529.74 | 529.70 | 529.66 |
| 16.5000  | 529.63  | 529.59 | 529.56 | 529.52 | 529.49 |
| 17.0000  | 529.45  | 529.42 | 529.38 | 529.35 | 529.32 |
| 17.5000  | 529.29  | 529.26 | 529.23 | 529.20 | 529.17 |
| 18.0000  | 529.14  | 529.12 | 529.09 | 529.06 | 529.04 |
| 18.5000  | 529.01  | 528.99 | 528.96 | 528.94 | 528.91 |
| 19.0000  | 528.89  | 528.87 | 528.85 | 528.82 | 528.80 |
| 19.5000  | 528.78  | 528.76 | 528.74 | 528.72 | 528.70 |
| 20.0000  | 528.67  | 528.65 | 528.63 | 528.61 | 528.59 |
| 20.5000  | 528.57  | 528.55 | 528.53 | 528.51 | 528.49 |
| 21.0000  | 528.47  | 528.45 | 528.43 | 528.41 | 528.39 |
| 21.5000  | 528.37  | 528.35 | 528.33 | 528.32 | 528.30 |
| 22.0000  | 528.28  | 528.26 | 528.24 | 528.22 | 528.21 |

Type.... Time-Elev  
 Name.... SOUTH LAKE Tag: 2  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 2

TIME vs. ELEVATION (ft)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |        |        |        |        |        |
|----------|--------|--------|--------|--------|--------|
| .0000    | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| .5000    | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 1.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 1.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 2.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 2.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 3.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 3.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 4.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 4.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 5.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 5.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 6.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 6.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 7.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 7.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 8.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 8.5000   | 522.00 | 522.00 | 522.01 | 522.01 | 522.01 |
| 9.0000   | 522.01 | 522.01 | 522.01 | 522.01 | 522.02 |
| 9.5000   | 522.02 | 522.02 | 522.02 | 522.02 | 522.03 |
| 10.0000  | 522.03 | 522.03 | 522.03 | 522.03 | 522.04 |
| 10.5000  | 522.04 | 522.04 | 522.04 | 522.04 | 522.05 |
| 11.0000  | 522.05 | 522.06 | 522.06 | 522.07 | 522.07 |
| 11.5000  | 522.08 | 522.09 | 522.10 | 522.12 | 522.16 |
| 12.0000  | 522.22 | 522.31 | 522.42 | 522.53 | 522.61 |
| 12.5000  | 522.66 | 522.70 | 522.72 | 522.74 | 522.76 |
| 13.0000  | 522.78 | 522.80 | 522.81 | 522.83 | 522.84 |
| 13.5000  | 522.85 | 522.87 | 522.88 | 522.88 | 522.89 |
| 14.0000  | 522.90 | 522.90 | 522.91 | 522.91 | 522.91 |
| 14.5000  | 522.91 | 522.91 | 522.91 | 522.91 | 522.91 |
| 15.0000  | 522.90 | 522.90 | 522.89 | 522.89 | 522.89 |
| 15.5000  | 522.88 | 522.87 | 522.87 | 522.86 | 522.86 |
| 16.0000  | 522.85 | 522.85 | 522.84 | 522.83 | 522.83 |
| 16.5000  | 522.82 | 522.81 | 522.81 | 522.80 | 522.79 |
| 17.0000  | 522.79 | 522.78 | 522.77 | 522.77 | 522.76 |
| 17.5000  | 522.75 | 522.75 | 522.74 | 522.73 | 522.73 |
| 18.0000  | 522.72 | 522.71 | 522.71 | 522.70 | 522.69 |
| 18.5000  | 522.69 | 522.68 | 522.67 | 522.67 | 522.66 |
| 19.0000  | 522.65 | 522.65 | 522.64 | 522.63 | 522.63 |
| 19.5000  | 522.62 | 522.62 | 522.61 | 522.61 | 522.60 |
| 20.0000  | 522.60 | 522.59 | 522.59 | 522.58 | 522.57 |
| 20.5000  | 522.57 | 522.56 | 522.56 | 522.55 | 522.55 |
| 21.0000  | 522.54 | 522.54 | 522.53 | 522.53 | 522.52 |
| 21.5000  | 522.52 | 522.51 | 522.51 | 522.51 | 522.50 |
| 22.0000  | 522.50 | 522.49 | 522.49 | 522.48 | 522.48 |

TIME vs. ELEVATION (ft)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |        |        |        |        |        |
|----------|--------|--------|--------|--------|--------|
| .0000    | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| .5000    | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 1.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 1.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 2.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 2.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 3.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 3.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 4.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 4.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 5.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 5.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 6.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 6.5000   | 522.00 | 522.00 | 522.01 | 522.01 | 522.01 |
| 7.0000   | 522.01 | 522.01 | 522.01 | 522.01 | 522.02 |
| 7.5000   | 522.02 | 522.02 | 522.02 | 522.02 | 522.03 |
| 8.0000   | 522.03 | 522.03 | 522.03 | 522.03 | 522.04 |
| 8.5000   | 522.04 | 522.04 | 522.04 | 522.04 | 522.04 |
| 9.0000   | 522.05 | 522.05 | 522.05 | 522.05 | 522.06 |
| 9.5000   | 522.06 | 522.07 | 522.07 | 522.07 | 522.08 |
| 10.0000  | 522.08 | 522.09 | 522.09 | 522.10 | 522.11 |
| 10.5000  | 522.11 | 522.12 | 522.13 | 522.14 | 522.15 |
| 11.0000  | 522.16 | 522.17 | 522.19 | 522.20 | 522.22 |
| 11.5000  | 522.23 | 522.25 | 522.27 | 522.31 | 522.38 |
| 12.0000  | 522.49 | 522.64 | 522.80 | 522.95 | 523.07 |
| 12.5000  | 523.14 | 523.19 | 523.23 | 523.28 | 523.32 |
| 13.0000  | 523.37 | 523.42 | 523.46 | 523.51 | 523.56 |
| 13.5000  | 523.61 | 523.65 | 523.68 | 523.71 | 523.72 |
| 14.0000  | 523.72 | 523.72 | 523.71 | 523.69 | 523.66 |
| 14.5000  | 523.64 | 523.61 | 523.59 | 523.56 | 523.54 |
| 15.0000  | 523.52 | 523.50 | 523.48 | 523.46 | 523.44 |
| 15.5000  | 523.42 | 523.40 | 523.38 | 523.36 | 523.34 |
| 16.0000  | 523.32 | 523.30 | 523.28 | 523.27 | 523.25 |
| 16.5000  | 523.23 | 523.21 | 523.19 | 523.18 | 523.16 |
| 17.0000  | 523.14 | 523.13 | 523.11 | 523.09 | 523.08 |
| 17.5000  | 523.07 | 523.05 | 523.04 | 523.02 | 523.01 |
| 18.0000  | 523.00 | 522.99 | 522.98 | 522.97 | 522.95 |
| 18.5000  | 522.94 | 522.93 | 522.93 | 522.92 | 522.91 |
| 19.0000  | 522.90 | 522.89 | 522.89 | 522.88 | 522.87 |
| 19.5000  | 522.86 | 522.86 | 522.85 | 522.84 | 522.84 |
| 20.0000  | 522.83 | 522.82 | 522.81 | 522.81 | 522.80 |
| 20.5000  | 522.79 | 522.79 | 522.78 | 522.77 | 522.76 |
| 21.0000  | 522.76 | 522.75 | 522.74 | 522.74 | 522.73 |
| 21.5000  | 522.73 | 522.72 | 522.71 | 522.71 | 522.70 |
| 22.0000  | 522.70 | 522.69 | 522.68 | 522.68 | 522.67 |

Type... Time-Elev  
 Name... SOUTH LAKE Tag: 25  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 25

TIME vs. ELEVATION (ft)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |        |        |        |        |        |
|----------|--------|--------|--------|--------|--------|
| .0000    | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| .5000    | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 1.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 1.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 2.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 2.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 3.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 3.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 4.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 4.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 5.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 5.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 6.0000   | 522.00 | 522.00 | 522.00 | 522.01 | 522.01 |
| 6.5000   | 522.01 | 522.01 | 522.01 | 522.01 | 522.01 |
| 7.0000   | 522.02 | 522.02 | 522.02 | 522.02 | 522.02 |
| 7.5000   | 522.03 | 522.03 | 522.03 | 522.03 | 522.03 |
| 8.0000   | 522.04 | 522.04 | 522.04 | 522.04 | 522.04 |
| 8.5000   | 522.04 | 522.05 | 522.05 | 522.05 | 522.05 |
| 9.0000   | 522.06 | 522.06 | 522.07 | 522.07 | 522.07 |
| 9.5000   | 522.08 | 522.08 | 522.09 | 522.09 | 522.10 |
| 10.0000  | 522.11 | 522.11 | 522.12 | 522.13 | 522.14 |
| 10.5000  | 522.15 | 522.16 | 522.17 | 522.18 | 522.19 |
| 11.0000  | 522.20 | 522.22 | 522.23 | 522.25 | 522.26 |
| 11.5000  | 522.28 | 522.30 | 522.33 | 522.37 | 522.45 |
| 12.0000  | 522.57 | 522.73 | 522.92 | 523.08 | 523.20 |
| 12.5000  | 523.28 | 523.34 | 523.40 | 523.46 | 523.51 |
| 13.0000  | 523.58 | 523.66 | 523.76 | 523.86 | 523.94 |
| 13.5000  | 524.01 | 524.05 | 524.08 | 524.09 | 524.08 |
| 14.0000  | 524.06 | 524.02 | 523.98 | 523.94 | 523.89 |
| 14.5000  | 523.85 | 523.80 | 523.75 | 523.71 | 523.66 |
| 15.0000  | 523.63 | 523.60 | 523.57 | 523.54 | 523.52 |
| 15.5000  | 523.50 | 523.48 | 523.45 | 523.43 | 523.41 |
| 16.0000  | 523.39 | 523.37 | 523.35 | 523.33 | 523.32 |
| 16.5000  | 523.30 | 523.28 | 523.26 | 523.24 | 523.23 |
| 17.0000  | 523.21 | 523.19 | 523.17 | 523.16 | 523.14 |
| 17.5000  | 523.13 | 523.11 | 523.10 | 523.09 | 523.07 |
| 18.0000  | 523.06 | 523.05 | 523.03 | 523.02 | 523.01 |
| 18.5000  | 523.00 | 522.99 | 522.98 | 522.97 | 522.96 |
| 19.0000  | 522.95 | 522.94 | 522.93 | 522.92 | 522.91 |
| 19.5000  | 522.90 | 522.90 | 522.89 | 522.88 | 522.87 |
| 20.0000  | 522.87 | 522.86 | 522.85 | 522.85 | 522.84 |
| 20.5000  | 522.83 | 522.83 | 522.82 | 522.81 | 522.81 |
| 21.0000  | 522.80 | 522.80 | 522.79 | 522.78 | 522.78 |
| 21.5000  | 522.77 | 522.76 | 522.76 | 522.75 | 522.74 |
| 22.0000  | 522.74 | 522.73 | 522.73 | 522.72 | 522.72 |

Type.... Time-Elev  
 Name.... SOUTH LAKE Tag: 100  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 100

TIME vs. ELEVATION (ft)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |        |        |        |        |        |
|----------|--------|--------|--------|--------|--------|
| .0000    | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| .5000    | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 1.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 1.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 2.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 2.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 3.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 3.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 4.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 4.5000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.00 |
| 5.0000   | 522.00 | 522.00 | 522.00 | 522.00 | 522.01 |
| 5.5000   | 522.01 | 522.01 | 522.01 | 522.01 | 522.01 |
| 6.0000   | 522.02 | 522.02 | 522.02 | 522.02 | 522.02 |
| 6.5000   | 522.03 | 522.03 | 522.03 | 522.03 | 522.03 |
| 7.0000   | 522.04 | 522.04 | 522.04 | 522.04 | 522.04 |
| 7.5000   | 522.05 | 522.05 | 522.06 | 522.06 | 522.06 |
| 8.0000   | 522.07 | 522.07 | 522.08 | 522.08 | 522.08 |
| 8.5000   | 522.09 | 522.09 | 522.10 | 522.10 | 522.11 |
| 9.0000   | 522.12 | 522.13 | 522.13 | 522.14 | 522.15 |
| 9.5000   | 522.16 | 522.17 | 522.18 | 522.19 | 522.20 |
| 10.0000  | 522.21 | 522.22 | 522.23 | 522.24 | 522.25 |
| 10.5000  | 522.26 | 522.27 | 522.28 | 522.30 | 522.31 |
| 11.0000  | 522.33 | 522.34 | 522.36 | 522.38 | 522.41 |
| 11.5000  | 522.43 | 522.46 | 522.50 | 522.55 | 522.64 |
| 12.0000  | 522.80 | 523.01 | 523.24 | 523.45 | 523.62 |
| 12.5000  | 523.75 | 523.89 | 524.09 | 524.33 | 524.56 |
| 13.0000  | 524.71 | 524.82 | 524.88 | 524.91 | 524.91 |
| 13.5000  | 524.89 | 524.87 | 524.83 | 524.78 | 524.72 |
| 14.0000  | 524.66 | 524.61 | 524.54 | 524.47 | 524.39 |
| 14.5000  | 524.31 | 524.23 | 524.15 | 524.08 | 524.00 |
| 15.0000  | 523.94 | 523.88 | 523.83 | 523.78 | 523.73 |
| 15.5000  | 523.68 | 523.64 | 523.61 | 523.59 | 523.56 |
| 16.0000  | 523.54 | 523.52 | 523.50 | 523.48 | 523.46 |
| 16.5000  | 523.45 | 523.43 | 523.41 | 523.39 | 523.38 |
| 17.0000  | 523.36 | 523.35 | 523.33 | 523.31 | 523.30 |
| 17.5000  | 523.28 | 523.27 | 523.25 | 523.24 | 523.22 |
| 18.0000  | 523.21 | 523.20 | 523.18 | 523.17 | 523.16 |
| 18.5000  | 523.15 | 523.13 | 523.12 | 523.11 | 523.10 |
| 19.0000  | 523.09 | 523.08 | 523.06 | 523.05 | 523.04 |
| 19.5000  | 523.03 | 523.02 | 523.02 | 523.01 | 523.00 |
| 20.0000  | 522.99 | 522.98 | 522.97 | 522.96 | 522.95 |
| 20.5000  | 522.94 | 522.94 | 522.93 | 522.92 | 522.91 |
| 21.0000  | 522.91 | 522.90 | 522.90 | 522.89 | 522.89 |
| 21.5000  | 522.88 | 522.88 | 522.87 | 522.86 | 522.86 |
| 22.0000  | 522.85 | 522.85 | 522.84 | 522.84 | 522.83 |

Type.... Vol: Planimeter  
Name.... EX-LAKE

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... EX. 64K LAKE VOLUME

POND VOLUME CALCULATIONS

Planimeter scale: 1.00 ft/in

| Elevation<br>(ft) | Planimeter<br>(sq.in) | Area<br>(acres) | A1+A2+sqr(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume Sum<br>(ac-ft) |
|-------------------|-----------------------|-----------------|-----------------------------|-------------------|-----------------------|
| 550.40            | .000                  | .0000           | .0000                       | .000              | .000                  |
| 552.00            | 90440.000             | 2.0762          | 2.0762                      | 1.107             | 1.107                 |
| 554.00            | 112120.000            | 2.5739          | 6.9619                      | 4.641             | 5.749                 |
| 555.00            | 116870.000            | 2.6830          | 7.8848                      | 2.628             | 8.377                 |

POND VOLUME EQUATIONS

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

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

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

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Vol: Planimeter  
Name.... K-B LAKE

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... KB LAKE VOLUME

POND VOLUME CALCULATIONS

Planimeter scale: 1.00 ft/in

| Elevation<br>(ft) | Planimeter<br>(sq.in) | Area<br>(acres) | A1+A2+sqr(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume Sum<br>(ac-ft) |
|-------------------|-----------------------|-----------------|-----------------------------|-------------------|-----------------------|
| 526.00            | 108965.000            | 2.5015          | .0000                       | .000              | .000                  |
| 532.00            | 139190.000            | 3.1954          | 8.5241                      | 17.048            | 17.048                |

POND VOLUME EQUATIONS

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

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

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

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Type.... Vol: Planimeter  
Name.... Southlake

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... Southlake

POND VOLUME CALCULATIONS

Planimeter scale: 1.00 ft/in

| Elevation<br>(ft) | Planimeter<br>(sq.in) | Area<br>(acres) | A1+A2+sqr(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume Sum<br>(ac-ft) |
|-------------------|-----------------------|-----------------|-----------------------------|-------------------|-----------------------|
| 521.00            | 26920.000             | .6180           | .0000                       | .000              | .000                  |
| 525.00            | 37645.000             | .8642           | 2.2130                      | 2.951             | 2.951                 |
| 526.00            | 40410.000             | .9277           | 2.6873                      | .896              | 3.846                 |

POND VOLUME EQUATIONS

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

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

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

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Type.... Outlet Input Data  
Name.... EX-ROUTE

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... EX. 64K LAKE OUTLET

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 550.40 ft  
Increment = .20 ft  
Max. Elev.= 555.00 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  |
|----------------------|-----|---------|---------|---------|
| Culvert-Circular     | 01  | ---> TW | 550.400 | 555.000 |
| TW SETUP, DS Channel |     |         |         |         |

S/N: 721701406A81 J R GRIMES CONSULTING  
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Type... Outlet Input Data  
Name... EX-ROUTE

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File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... EX. 64K LAKE OUTLET

OUTLET STRUCTURE INPUT DATA

Structure ID = 01  
Structure Type = Culvert-Circular

-----  
No. Barrels = 1  
Barrel Diameter = 1.2500 ft  
Upstream Invert = 550.40 ft  
Dnstream Invert = 534.00 ft  
Horiz. Length = 127.00 ft  
Barrel Length = 128.05 ft  
Barrel Slope = .12913 ft/ft

OUTLET CONTROL DATA...

Mannings n = .0130  
Ke = .5000 (forward entrance loss)  
Kb = .023225 (per ft of full flow)  
Kr = .5000 (reverse entrance loss)  
HW Convergence = .001 +/- ft

INLET CONTROL DATA...

Equation form = 1  
Inlet Control K = .0098  
Inlet Control M = 2.0000  
Inlet Control c = .03980  
Inlet Control Y = .6700  
T1 ratio (HW/D) = 1.096  
T2 ratio (HW/D) = 1.242  
Slope Factor = -.500

Use unsubmerged inlet control Form 1 equ. below T1 elev.  
Use submerged inlet control Form 1 equ. above T2 elev.

In transition zone between unsubmerged and submerged inlet control,  
interpolate between flows at T1 & T2...

At T1 Elev = 551.77 ft ---> Flow = 4.80 cfs  
At T2 Elev = 551.95 ft ---> Flow = 5.49 cfs

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Type.... Outlet Input Data  
Name.... EX-ROUTE

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File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... EX. 64K LAKE OUTLET

OUTLET STRUCTURE INPUT DATA

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

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Composite Rating Curve  
Name.... EX-ROUTE

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File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... EX. 64K LAKE OUTLET

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

| WS Elev, Total Q |       | Converge     |       | Notes                   |
|------------------|-------|--------------|-------|-------------------------|
| Elev.            | Q     | TW Elev      | Error | Contributing Structures |
| ft               | cfs   | ft           | +/-ft |                         |
| 550.40           | .00   | Free Outfall |       | None contributing       |
| 550.60           | .12   | Free Outfall |       | 01                      |
| 550.80           | .46   | Free Outfall |       | 01                      |
| 551.00           | .98   | Free Outfall |       | 01                      |
| 551.20           | 1.66  | Free Outfall |       | 01                      |
| 551.40           | 2.46  | Free Outfall |       | 01                      |
| 551.60           | 3.36  | Free Outfall |       | 01                      |
| 551.80           | 4.30  | Free Outfall |       | 01                      |
| 552.00           | 5.25  | Free Outfall |       | 01                      |
| 552.20           | 6.17  | Free Outfall |       | 01                      |
| 552.40           | 6.86  | Free Outfall |       | 01                      |
| 552.60           | 7.39  | Free Outfall |       | 01                      |
| 552.80           | 7.89  | Free Outfall |       | 01                      |
| 553.00           | 8.35  | Free Outfall |       | 01                      |
| 553.20           | 8.79  | Free Outfall |       | 01                      |
| 553.40           | 9.21  | Free Outfall |       | 01                      |
| 553.60           | 9.61  | Free Outfall |       | 01                      |
| 553.80           | 10.00 | Free Outfall |       | 01                      |
| 554.00           | 10.37 | Free Outfall |       | 01                      |
| 554.20           | 10.73 | Free Outfall |       | 01                      |
| 554.40           | 11.08 | Free Outfall |       | 01                      |
| 554.60           | 11.41 | Free Outfall |       | 01                      |
| 554.80           | 11.74 | Free Outfall |       | 01                      |
| 555.00           | 12.06 | Free Outfall |       | 01                      |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 14:20:08

Date: 08-06-2002

Type.... Outlet Input Data  
Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... LAKE #3 OUTLET CONTROL STRUCTURE

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 526.00 ft  
Increment = .20 ft  
Max. Elev.= 532.00 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            | 30   | <---> | TW      | 530.000 | 532.000 |
| Weir-Rectangular     |      | ---   | TW      | 528.550 | 532.000 |
| Weir-Rectangular     | LW   | <---> | TW      | 526.000 | 532.000 |
| TW SETUP, DS Channel |      |       |         |         |         |

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Outlet Input Data  
Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... LAKE #3 OUTLET CONTROL STRUCTURE

OUTLET STRUCTURE INPUT DATA

Structure ID = 30  
Structure Type = Inlet Box  
-----  
# of Openings = 1  
Invert Elev. = 530.00 ft  
Orifice Area = 50.2600 sq.ft  
Orifice Coeff. = .600  
Weir Length = 20.63 ft  
Weir Coeff. = 3.330  
K, Submerged = .000  
K, Reverse = 1.000  
Kb,Barrel = .000000 (per ft of full flow)  
Barrel Length = .00 ft  
Mannings n = .0000

Structure ID =  
Structure Type = Weir-Rectangular  
-----  
# of Openings = 1  
Crest Elev. = 528.55 ft  
Weir Length = 2.50 ft  
Weir Coeff. = 3.330000

Weir TW effects (Use adjustment equation)

Structure ID = LW  
Structure Type = Weir-Rectangular  
-----  
# of Openings = 1  
Crest Elev. = 526.00 ft  
Weir Length = 2.00 ft  
Weir Coeff. = 3.330000

Weir TW effects (Use adjustment equation)

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 526.00           | .00      | 521.00        | .000           | LW                      |
| 526.20           | .58      | 521.00        | .000           | LW                      |
| 526.40           | 1.62     | 521.00        | .000           | LW                      |
| 526.60           | 2.91     | 521.00        | .000           | LW                      |
| 526.80           | 4.38     | 521.00        | .000           | LW                      |
| 527.00           | 5.99     | 521.00        | .000           | LW                      |
| 527.20           | 7.70     | 521.00        | .000           | LW                      |
| 527.40           | 9.49     | 521.00        | .000           | LW                      |
| 527.60           | 11.32    | 521.00        | .000           | LW                      |
| 527.80           | 13.19    | 521.00        | .000           | LW                      |
| 528.00           | 15.07    | 521.00        | .000           | LW                      |
| 528.20           | 16.95    | 521.00        | .000           | LW                      |
| 528.40           | 18.82    | 521.00        | .000           | LW                      |
| 528.55           | 20.20    | 521.00        | .000           | LW                      |
| 528.60           | 20.75    | 521.00        | .000           | LW                      |
| 28.80            | 23.49    | 521.00        | .000           | LW                      |
| 529.00           | 26.65    | 521.00        | .000           | LW                      |
| 529.20           | 30.06    | 521.00        | .000           | LW                      |
| 529.40           | 33.64    | 521.00        | .000           | LW                      |
| 529.60           | 37.32    | 521.00        | .000           | LW                      |
| 529.80           | 41.06    | 521.00        | .000           | LW                      |
| 530.00           | 44.82    | 521.00        | .000           | 30 + +LW                |
| 530.20           | 54.71    | 521.00        | .000           | 30 + +LW                |
| 530.40           | 69.65    | 521.00        | .000           | 30 + +LW                |
| 530.60           | 87.84    | 521.00        | .000           | 30 + +LW                |
| 530.80           | 108.61   | 521.00        | .000           | 30 + +LW                |
| 531.00           | 131.60   | 521.00        | .000           | 30 + +LW                |
| 531.20           | 156.51   | 521.00        | .000           | 30 + +LW                |
| 531.40           | 183.17   | 521.00        | .000           | 30 + +LW                |
| 531.60           | 211.39   | 521.00        | .000           | 30 + +LW                |
| 531.80           | 241.07   | 521.00        | .000           | 30 + +LW                |
| 532.00           | 272.08   | 521.00        | .000           | 30 + +LW                |



Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |        | Notes   |          |                         |
|------------------|--------|---------|----------|-------------------------|
| Elev.            | Q      | TW Elev | Converge |                         |
| ft               | cfs    | ft      | Error    | Contributing Structures |
|                  |        |         | +/-ft    |                         |
| 526.00           | .00    | 521.20  | .000     | LW                      |
| 526.20           | .58    | 521.20  | .000     | LW                      |
| 526.40           | 1.62   | 521.20  | .000     | LW                      |
| 526.60           | 2.91   | 521.20  | .000     | LW                      |
| 526.80           | 4.38   | 521.20  | .000     | LW                      |
| 527.00           | 5.99   | 521.20  | .000     | LW                      |
| 527.20           | 7.70   | 521.20  | .000     | LW                      |
| 527.40           | 9.49   | 521.20  | .000     | LW                      |
| 527.60           | 11.32  | 521.20  | .000     | LW                      |
| 527.80           | 13.19  | 521.20  | .000     | LW                      |
| 528.00           | 15.07  | 521.20  | .000     | LW                      |
| 528.20           | 16.95  | 521.20  | .000     | LW                      |
| 528.40           | 18.82  | 521.20  | .000     | LW                      |
| 28.55            | 20.20  | 521.20  | .000     | LW                      |
| 528.60           | 20.75  | 521.20  | .000     | LW                      |
| 528.80           | 23.49  | 521.20  | .000     | LW                      |
| 529.00           | 26.65  | 521.20  | .000     | LW                      |
| 529.20           | 30.06  | 521.20  | .000     | LW                      |
| 529.40           | 33.64  | 521.20  | .000     | LW                      |
| 529.60           | 37.32  | 521.20  | .000     | LW                      |
| 529.80           | 41.06  | 521.20  | .000     | LW                      |
| 530.00           | 44.82  | 521.20  | .000     | 30 + +LW                |
| 530.20           | 54.71  | 521.20  | .000     | 30 + +LW                |
| 530.40           | 69.65  | 521.20  | .000     | 30 + +LW                |
| 530.60           | 87.84  | 521.20  | .000     | 30 + +LW                |
| 530.80           | 108.61 | 521.20  | .000     | 30 + +LW                |
| 531.00           | 131.60 | 521.20  | .000     | 30 + +LW                |
| 531.20           | 156.51 | 521.20  | .000     | 30 + +LW                |
| 531.40           | 183.17 | 521.20  | .000     | 30 + +LW                |
| 531.60           | 211.39 | 521.20  | .000     | 30 + +LW                |
| 531.80           | 241.07 | 521.20  | .000     | 30 + +LW                |
| 532.00           | 272.08 | 521.20  | .000     | 30 + +LW                |

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 PondPack Ver: 7.5 (767)    Compute Time: 14:20:08    Date: 08-06-2002

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 526.00           | .00      | 521.40        | .000           | LW                      |
| 526.20           | .58      | 521.40        | .000           | LW                      |
| 526.40           | 1.62     | 521.40        | .000           | LW                      |
| 526.60           | 2.91     | 521.40        | .000           | LW                      |
| 526.80           | 4.38     | 521.40        | .000           | LW                      |
| 527.00           | 5.99     | 521.40        | .000           | LW                      |
| 527.20           | 7.70     | 521.40        | .000           | LW                      |
| 527.40           | 9.49     | 521.40        | .000           | LW                      |
| 527.60           | 11.32    | 521.40        | .000           | LW                      |
| 527.80           | 13.19    | 521.40        | .000           | LW                      |
| 528.00           | 15.07    | 521.40        | .000           | LW                      |
| 528.20           | 16.95    | 521.40        | .000           | LW                      |
| 528.40           | 18.82    | 521.40        | .000           | LW                      |
| 528.55           | 20.20    | 521.40        | .000           | LW                      |
| 528.60           | 20.75    | 521.40        | .000           | LW                      |
| 528.80           | 23.49    | 521.40        | .000           | LW                      |
| 529.00           | 26.65    | 521.40        | .000           | LW                      |
| 529.20           | 30.06    | 521.40        | .000           | LW                      |
| 529.40           | 33.64    | 521.40        | .000           | LW                      |
| 529.60           | 37.32    | 521.40        | .000           | LW                      |
| 529.80           | 41.06    | 521.40        | .000           | LW                      |
| 530.00           | 44.82    | 521.40        | .000           | 30 + +LW                |
| 530.20           | 54.71    | 521.40        | .000           | 30 + +LW                |
| 530.40           | 69.65    | 521.40        | .000           | 30 + +LW                |
| 530.60           | 87.84    | 521.40        | .000           | 30 + +LW                |
| 530.80           | 108.61   | 521.40        | .000           | 30 + +LW                |
| 531.00           | 131.60   | 521.40        | .000           | 30 + +LW                |
| 531.20           | 156.51   | 521.40        | .000           | 30 + +LW                |
| 531.40           | 183.17   | 521.40        | .000           | 30 + +LW                |
| 531.60           | 211.39   | 521.40        | .000           | 30 + +LW                |
| 531.80           | 241.07   | 521.40        | .000           | 30 + +LW                |
| 532.00           | 272.08   | 521.40        | .000           | 30 + +LW                |

S/N: 721701406A81    J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767)    Compute Time: 14:20:08    Date: 08-06-2002

Type... Composite Rating Curve  
 Name... KB-OUTLET

File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |        | Notes   |                |                         |
|------------------|--------|---------|----------------|-------------------------|
| Elev.            | Q      | TW Elev | Converge Error | Contributing Structures |
| ft               | cfs    | ft      | +/-ft          |                         |
| 526.00           | .00    | 521.60  | .000           | LW                      |
| 526.20           | .58    | 521.60  | .000           | LW                      |
| 526.40           | 1.62   | 521.60  | .000           | LW                      |
| 526.60           | 2.91   | 521.60  | .000           | LW                      |
| 526.80           | 4.38   | 521.60  | .000           | LW                      |
| 527.00           | 5.99   | 521.60  | .000           | LW                      |
| 527.20           | 7.70   | 521.60  | .000           | LW                      |
| 527.40           | 9.49   | 521.60  | .000           | LW                      |
| 527.60           | 11.32  | 521.60  | .000           | LW                      |
| 527.80           | 13.19  | 521.60  | .000           | LW                      |
| 528.00           | 15.07  | 521.60  | .000           | LW                      |
| 528.20           | 16.95  | 521.60  | .000           | LW                      |
| 528.40           | 18.82  | 521.60  | .000           | LW                      |
| 528.55           | 20.20  | 521.60  | .000           | LW                      |
| 528.60           | 20.75  | 521.60  | .000           | LW                      |
| 528.80           | 23.49  | 521.60  | .000           | LW                      |
| 529.00           | 26.65  | 521.60  | .000           | LW                      |
| 529.20           | 30.06  | 521.60  | .000           | LW                      |
| 529.40           | 33.64  | 521.60  | .000           | LW                      |
| 529.60           | 37.32  | 521.60  | .000           | LW                      |
| 529.80           | 41.06  | 521.60  | .000           | LW                      |
| 530.00           | 44.82  | 521.60  | .000           | 30 + +LW                |
| 530.20           | 54.71  | 521.60  | .000           | 30 + +LW                |
| 530.40           | 69.65  | 521.60  | .000           | 30 + +LW                |
| 530.60           | 87.84  | 521.60  | .000           | 30 + +LW                |
| 530.80           | 108.61 | 521.60  | .000           | 30 + +LW                |
| 531.00           | 131.60 | 521.60  | .000           | 30 + +LW                |
| 531.20           | 156.51 | 521.60  | .000           | 30 + +LW                |
| 531.40           | 183.17 | 521.60  | .000           | 30 + +LW                |
| 531.60           | 211.39 | 521.60  | .000           | 30 + +LW                |
| 531.80           | 241.07 | 521.60  | .000           | 30 + +LW                |
| 532.00           | 272.08 | 521.60  | .000           | 30 + +LW                |

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |        | Converge |       | Notes                   |
|------------------|--------|----------|-------|-------------------------|
| Elev.            | Q      | TW Elev  | Error | Contributing Structures |
| ft               | cfs    | ft       | +/-ft |                         |
| 526.00           | .00    | 521.80   | .000  | LW                      |
| 526.20           | .58    | 521.80   | .000  | LW                      |
| 526.40           | 1.62   | 521.80   | .000  | LW                      |
| 526.60           | 2.91   | 521.80   | .000  | LW                      |
| 526.80           | 4.38   | 521.80   | .000  | LW                      |
| 527.00           | 5.99   | 521.80   | .000  | LW                      |
| 527.20           | 7.70   | 521.80   | .000  | LW                      |
| 527.40           | 9.49   | 521.80   | .000  | LW                      |
| 527.60           | 11.32  | 521.80   | .000  | LW                      |
| 527.80           | 13.19  | 521.80   | .000  | LW                      |
| 528.00           | 15.07  | 521.80   | .000  | LW                      |
| 528.20           | 16.95  | 521.80   | .000  | LW                      |
| 528.40           | 18.82  | 521.80   | .000  | LW                      |
| 28.55            | 20.20  | 521.80   | .000  | LW                      |
| 528.60           | 20.75  | 521.80   | .000  | LW                      |
| 528.80           | 23.49  | 521.80   | .000  | LW                      |
| 529.00           | 26.65  | 521.80   | .000  | LW                      |
| 529.20           | 30.06  | 521.80   | .000  | LW                      |
| 529.40           | 33.64  | 521.80   | .000  | LW                      |
| 529.60           | 37.32  | 521.80   | .000  | LW                      |
| 529.80           | 41.06  | 521.80   | .000  | LW                      |
| 530.00           | 44.82  | 521.80   | .000  | 30 + +LW                |
| 530.20           | 54.71  | 521.80   | .000  | 30 + +LW                |
| 530.40           | 69.65  | 521.80   | .000  | 30 + +LW                |
| 530.60           | 87.84  | 521.80   | .000  | 30 + +LW                |
| 530.80           | 108.61 | 521.80   | .000  | 30 + +LW                |
| 531.00           | 131.60 | 521.80   | .000  | 30 + +LW                |
| 531.20           | 156.51 | 521.80   | .000  | 30 + +LW                |
| 531.40           | 183.17 | 521.80   | .000  | 30 + +LW                |
| 531.60           | 211.39 | 521.80   | .000  | 30 + +LW                |
| 531.80           | 241.07 | 521.80   | .000  | 30 + +LW                |
| 532.00           | 272.08 | 521.80   | .000  | 30 + +LW                |

S/N: 721701406A81    J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767)    Compute Time: 14:20:08    Date: 08-06-2002

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |        | Notes   |          |                         |
|------------------|--------|---------|----------|-------------------------|
| Elev.            | Q      | TW Elev | Converge |                         |
| ft               | cfs    | ft      | Error    | Contributing Structures |
|                  |        |         | +/-ft    |                         |
| 526.00           | .00    | 522.00  | .000     | LW                      |
| 526.20           | .58    | 522.00  | .000     | LW                      |
| 526.40           | 1.62   | 522.00  | .000     | LW                      |
| 526.60           | 2.91   | 522.00  | .000     | LW                      |
| 526.80           | 4.38   | 522.00  | .000     | LW                      |
| 527.00           | 5.99   | 522.00  | .000     | LW                      |
| 527.20           | 7.70   | 522.00  | .000     | LW                      |
| 527.40           | 9.49   | 522.00  | .000     | LW                      |
| 527.60           | 11.32  | 522.00  | .000     | LW                      |
| 527.80           | 13.19  | 522.00  | .000     | LW                      |
| 528.00           | 15.07  | 522.00  | .000     | LW                      |
| 528.20           | 16.95  | 522.00  | .000     | LW                      |
| 528.40           | 18.82  | 522.00  | .000     | LW                      |
| 28.55            | 20.20  | 522.00  | .000     | LW                      |
| 528.60           | 20.75  | 522.00  | .000     | LW                      |
| 528.80           | 23.49  | 522.00  | .000     | LW                      |
| 529.00           | 26.65  | 522.00  | .000     | LW                      |
| 529.20           | 30.06  | 522.00  | .000     | LW                      |
| 529.40           | 33.64  | 522.00  | .000     | LW                      |
| 529.60           | 37.32  | 522.00  | .000     | LW                      |
| 529.80           | 41.06  | 522.00  | .000     | LW                      |
| 530.00           | 44.82  | 522.00  | .000     | 30 + +LW                |
| 530.20           | 54.71  | 522.00  | .000     | 30 + +LW                |
| 530.40           | 69.65  | 522.00  | .000     | 30 + +LW                |
| 530.60           | 87.84  | 522.00  | .000     | 30 + +LW                |
| 530.80           | 108.61 | 522.00  | .000     | 30 + +LW                |
| 531.00           | 131.60 | 522.00  | .000     | 30 + +LW                |
| 531.20           | 156.51 | 522.00  | .000     | 30 + +LW                |
| 531.40           | 183.17 | 522.00  | .000     | 30 + +LW                |
| 531.60           | 211.39 | 522.00  | .000     | 30 + +LW                |
| 531.80           | 241.07 | 522.00  | .000     | 30 + +LW                |
| 532.00           | 272.08 | 522.00  | .000     | 30 + +LW                |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... Composite Rating Curve  
 Name... KB-OUTLET

File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 526.00           | .00      | 522.20        | .000           | LW                      |
| 526.20           | .58      | 522.20        | .000           | LW                      |
| 526.40           | 1.62     | 522.20        | .000           | LW                      |
| 526.60           | 2.91     | 522.20        | .000           | LW                      |
| 526.80           | 4.38     | 522.20        | .000           | LW                      |
| 527.00           | 5.99     | 522.20        | .000           | LW                      |
| 527.20           | 7.70     | 522.20        | .000           | LW                      |
| 527.40           | 9.49     | 522.20        | .000           | LW                      |
| 527.60           | 11.32    | 522.20        | .000           | LW                      |
| 527.80           | 13.19    | 522.20        | .000           | LW                      |
| 528.00           | 15.07    | 522.20        | .000           | LW                      |
| 528.20           | 16.95    | 522.20        | .000           | LW                      |
| 528.40           | 18.82    | 522.20        | .000           | LW                      |
| 28.55            | 20.20    | 522.20        | .000           | LW                      |
| 528.60           | 20.75    | 522.20        | .000           | LW                      |
| 528.80           | 23.49    | 522.20        | .000           | LW                      |
| 529.00           | 26.65    | 522.20        | .000           | LW                      |
| 529.20           | 30.06    | 522.20        | .000           | LW                      |
| 529.40           | 33.64    | 522.20        | .000           | LW                      |
| 529.60           | 37.32    | 522.20        | .000           | LW                      |
| 529.80           | 41.06    | 522.20        | .000           | LW                      |
| 530.00           | 44.82    | 522.20        | .000           | 30 + +LW                |
| 530.20           | 54.71    | 522.20        | .000           | 30 + +LW                |
| 530.40           | 69.65    | 522.20        | .000           | 30 + +LW                |
| 530.60           | 87.84    | 522.20        | .000           | 30 + +LW                |
| 530.80           | 108.61   | 522.20        | .000           | 30 + +LW                |
| 531.00           | 131.60   | 522.20        | .000           | 30 + +LW                |
| 531.20           | 156.51   | 522.20        | .000           | 30 + +LW                |
| 531.40           | 183.17   | 522.20        | .000           | 30 + +LW                |
| 531.60           | 211.39   | 522.20        | .000           | 30 + +LW                |
| 531.80           | 241.07   | 522.20        | .000           | 30 + +LW                |
| 532.00           | 272.08   | 522.20        | .000           | 30 + +LW                |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Composite Rating Curve  
Name.... KB-OUTLET

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File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |        | Converge |       | Notes                   |
|------------------|--------|----------|-------|-------------------------|
| Elev.            | Q      | TW Elev  | Error | Contributing Structures |
| ft               | cfs    | ft       | +/-ft |                         |
| 526.00           | .00    | 522.40   | .000  | LW                      |
| 526.20           | .58    | 522.40   | .000  | LW                      |
| 526.40           | 1.62   | 522.40   | .000  | LW                      |
| 526.60           | 2.91   | 522.40   | .000  | LW                      |
| 526.80           | 4.38   | 522.40   | .000  | LW                      |
| 527.00           | 5.99   | 522.40   | .000  | LW                      |
| 527.20           | 7.70   | 522.40   | .000  | LW                      |
| 527.40           | 9.49   | 522.40   | .000  | LW                      |
| 527.60           | 11.32  | 522.40   | .000  | LW                      |
| 527.80           | 13.19  | 522.40   | .000  | LW                      |
| 528.00           | 15.07  | 522.40   | .000  | LW                      |
| 528.20           | 16.95  | 522.40   | .000  | LW                      |
| 528.40           | 18.82  | 522.40   | .000  | LW                      |
| 528.55           | 20.20  | 522.40   | .000  | LW                      |
| 528.60           | 20.75  | 522.40   | .000  | LW                      |
| 528.80           | 23.49  | 522.40   | .000  | LW                      |
| 529.00           | 26.65  | 522.40   | .000  | LW                      |
| 529.20           | 30.06  | 522.40   | .000  | LW                      |
| 529.40           | 33.64  | 522.40   | .000  | LW                      |
| 529.60           | 37.32  | 522.40   | .000  | LW                      |
| 529.80           | 41.06  | 522.40   | .000  | LW                      |
| 530.00           | 44.82  | 522.40   | .000  | 30 + +LW                |
| 530.20           | 54.71  | 522.40   | .000  | 30 + +LW                |
| 530.40           | 69.65  | 522.40   | .000  | 30 + +LW                |
| 530.60           | 87.84  | 522.40   | .000  | 30 + +LW                |
| 530.80           | 108.61 | 522.40   | .000  | 30 + +LW                |
| 531.00           | 131.60 | 522.40   | .000  | 30 + +LW                |
| 531.20           | 156.51 | 522.40   | .000  | 30 + +LW                |
| 531.40           | 183.17 | 522.40   | .000  | 30 + +LW                |
| 531.60           | 211.39 | 522.40   | .000  | 30 + +LW                |
| 531.80           | 241.07 | 522.40   | .000  | 30 + +LW                |
| 532.00           | 272.08 | 522.40   | .000  | 30 + +LW                |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 14:20:08

Date: 08-06-2002

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 526.00           | .00      | 522.60        | .000           | LW                      |
| 526.20           | .58      | 522.60        | .000           | LW                      |
| 526.40           | 1.62     | 522.60        | .000           | LW                      |
| 526.60           | 2.91     | 522.60        | .000           | LW                      |
| 526.80           | 4.38     | 522.60        | .000           | LW                      |
| 527.00           | 5.99     | 522.60        | .000           | LW                      |
| 527.20           | 7.70     | 522.60        | .000           | LW                      |
| 527.40           | 9.49     | 522.60        | .000           | LW                      |
| 527.60           | 11.32    | 522.60        | .000           | LW                      |
| 527.80           | 13.19    | 522.60        | .000           | LW                      |
| 528.00           | 15.07    | 522.60        | .000           | LW                      |
| 528.20           | 16.95    | 522.60        | .000           | LW                      |
| 528.40           | 18.82    | 522.60        | .000           | LW                      |
| 528.55           | 20.20    | 522.60        | .000           | LW                      |
| 528.60           | 20.75    | 522.60        | .000           | LW                      |
| 528.80           | 23.49    | 522.60        | .000           | LW                      |
| 529.00           | 26.65    | 522.60        | .000           | LW                      |
| 529.20           | 30.06    | 522.60        | .000           | LW                      |
| 529.40           | 33.64    | 522.60        | .000           | LW                      |
| 529.60           | 37.32    | 522.60        | .000           | LW                      |
| 529.80           | 41.06    | 522.60        | .000           | LW                      |
| 530.00           | 44.82    | 522.60        | .000           | 30 + +LW                |
| 530.20           | 54.71    | 522.60        | .000           | 30 + +LW                |
| 530.40           | 69.65    | 522.60        | .000           | 30 + +LW                |
| 530.60           | 87.84    | 522.60        | .000           | 30 + +LW                |
| 530.80           | 108.61   | 522.60        | .000           | 30 + +LW                |
| 531.00           | 131.60   | 522.60        | .000           | 30 + +LW                |
| 531.20           | 156.51   | 522.60        | .000           | 30 + +LW                |
| 531.40           | 183.17   | 522.60        | .000           | 30 + +LW                |
| 531.60           | 211.39   | 522.60        | .000           | 30 + +LW                |
| 531.80           | 241.07   | 522.60        | .000           | 30 + +LW                |
| 532.00           | 272.08   | 522.60        | .000           | 30 + +LW                |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002



Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 526.00           | .00      | 522.80        | .000           | LW                      |
| 526.20           | .58      | 522.80        | .000           | LW                      |
| 526.40           | 1.62     | 522.80        | .000           | LW                      |
| 526.60           | 2.91     | 522.80        | .000           | LW                      |
| 526.80           | 4.38     | 522.80        | .000           | LW                      |
| 527.00           | 5.99     | 522.80        | .000           | LW                      |
| 527.20           | 7.70     | 522.80        | .000           | LW                      |
| 527.40           | 9.49     | 522.80        | .000           | LW                      |
| 527.60           | 11.32    | 522.80        | .000           | LW                      |
| 527.80           | 13.19    | 522.80        | .000           | LW                      |
| 528.00           | 15.07    | 522.80        | .000           | LW                      |
| 528.20           | 16.95    | 522.80        | .000           | LW                      |
| 528.40           | 18.82    | 522.80        | .000           | LW                      |
| 528.55           | 20.20    | 522.80        | .000           | LW                      |
| 528.60           | 20.75    | 522.80        | .000           | LW                      |
| 528.80           | 23.49    | 522.80        | .000           | LW                      |
| 529.00           | 26.65    | 522.80        | .000           | LW                      |
| 529.20           | 30.06    | 522.80        | .000           | LW                      |
| 529.40           | 33.64    | 522.80        | .000           | LW                      |
| 529.60           | 37.32    | 522.80        | .000           | LW                      |
| 529.80           | 41.06    | 522.80        | .000           | LW                      |
| 530.00           | 44.82    | 522.80        | .000           | 30 + +LW                |
| 530.20           | 54.71    | 522.80        | .000           | 30 + +LW                |
| 530.40           | 69.65    | 522.80        | .000           | 30 + +LW                |
| 530.60           | 87.84    | 522.80        | .000           | 30 + +LW                |
| 530.80           | 108.61   | 522.80        | .000           | 30 + +LW                |
| 531.00           | 131.60   | 522.80        | .000           | 30 + +LW                |
| 531.20           | 156.51   | 522.80        | .000           | 30 + +LW                |
| 531.40           | 183.17   | 522.80        | .000           | 30 + +LW                |
| 531.60           | 211.39   | 522.80        | .000           | 30 + +LW                |
| 531.80           | 241.07   | 522.80        | .000           | 30 + +LW                |
| 532.00           | 272.08   | 522.80        | .000           | 30 + +LW                |

S/N: 721701406A81      J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767)      Compute Time: 14:20:08      Date: 08-06-2002

Type.... Composite Rating Curve  
Name.... KB-OUTLET

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File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 526.00           | .00      | 523.00        | .000           | LW                      |
| 526.20           | .58      | 523.00        | .000           | LW                      |
| 526.40           | 1.62     | 523.00        | .000           | LW                      |
| 526.60           | 2.91     | 523.00        | .000           | LW                      |
| 526.80           | 4.38     | 523.00        | .000           | LW                      |
| 527.00           | 5.99     | 523.00        | .000           | LW                      |
| 527.20           | 7.70     | 523.00        | .000           | LW                      |
| 527.40           | 9.49     | 523.00        | .000           | LW                      |
| 527.60           | 11.32    | 523.00        | .000           | LW                      |
| 527.80           | 13.19    | 523.00        | .000           | LW                      |
| 528.00           | 15.07    | 523.00        | .000           | LW                      |
| 528.20           | 16.95    | 523.00        | .000           | LW                      |
| 528.40           | 18.82    | 523.00        | .000           | LW                      |
| 528.55           | 20.20    | 523.00        | .000           | LW                      |
| 528.60           | 20.75    | 523.00        | .000           | LW                      |
| 528.80           | 23.49    | 523.00        | .000           | LW                      |
| 529.00           | 26.65    | 523.00        | .000           | LW                      |
| 529.20           | 30.06    | 523.00        | .000           | LW                      |
| 529.40           | 33.64    | 523.00        | .000           | LW                      |
| 529.60           | 37.32    | 523.00        | .000           | LW                      |
| 529.80           | 41.06    | 523.00        | .000           | LW                      |
| 530.00           | 44.82    | 523.00        | .000           | 30 + +LW                |
| 530.20           | 54.71    | 523.00        | .000           | 30 + +LW                |
| 530.40           | 69.65    | 523.00        | .000           | 30 + +LW                |
| 530.60           | 87.84    | 523.00        | .000           | 30 + +LW                |
| 530.80           | 108.61   | 523.00        | .000           | 30 + +LW                |
| 531.00           | 131.60   | 523.00        | .000           | 30 + +LW                |
| 531.20           | 156.51   | 523.00        | .000           | 30 + +LW                |
| 531.40           | 183.17   | 523.00        | .000           | 30 + +LW                |
| 531.60           | 211.39   | 523.00        | .000           | 30 + +LW                |
| 531.80           | 241.07   | 523.00        | .000           | 30 + +LW                |
| 532.00           | 272.08   | 523.00        | .000           | 30 + +LW                |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 14:20:08

Date: 08-06-2002

Type... Composite Rating Curve  
Name... KB-OUTLET

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File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |        | Converge |       | Notes                   |
|------------------|--------|----------|-------|-------------------------|
| Elev.            | Q      | TW Elev  | Error | Contributing Structures |
| ft               | cfs    | ft       | +/-ft |                         |
| 526.00           | .00    | 523.20   | .000  | LW                      |
| 526.20           | .58    | 523.20   | .000  | LW                      |
| 526.40           | 1.62   | 523.20   | .000  | LW                      |
| 526.60           | 2.91   | 523.20   | .000  | LW                      |
| 526.80           | 4.38   | 523.20   | .000  | LW                      |
| 527.00           | 5.99   | 523.20   | .000  | LW                      |
| 527.20           | 7.70   | 523.20   | .000  | LW                      |
| 527.40           | 9.49   | 523.20   | .000  | LW                      |
| 527.60           | 11.32  | 523.20   | .000  | LW                      |
| 527.80           | 13.19  | 523.20   | .000  | LW                      |
| 528.00           | 15.07  | 523.20   | .000  | LW                      |
| 528.20           | 16.95  | 523.20   | .000  | LW                      |
| 528.40           | 18.82  | 523.20   | .000  | LW                      |
| 528.55           | 20.20  | 523.20   | .000  | LW                      |
| 528.60           | 20.75  | 523.20   | .000  | LW                      |
| 528.80           | 23.49  | 523.20   | .000  | LW                      |
| 529.00           | 26.65  | 523.20   | .000  | LW                      |
| 529.20           | 30.06  | 523.20   | .000  | LW                      |
| 529.40           | 33.64  | 523.20   | .000  | LW                      |
| 529.60           | 37.32  | 523.20   | .000  | LW                      |
| 529.80           | 41.06  | 523.20   | .000  | LW                      |
| 530.00           | 44.82  | 523.20   | .000  | 30 + +LW                |
| 530.20           | 54.71  | 523.20   | .000  | 30 + +LW                |
| 530.40           | 69.65  | 523.20   | .000  | 30 + +LW                |
| 530.60           | 87.84  | 523.20   | .000  | 30 + +LW                |
| 530.80           | 108.61 | 523.20   | .000  | 30 + +LW                |
| 531.00           | 131.60 | 523.20   | .000  | 30 + +LW                |
| 531.20           | 156.51 | 523.20   | .000  | 30 + +LW                |
| 531.40           | 183.17 | 523.20   | .000  | 30 + +LW                |
| 531.60           | 211.39 | 523.20   | .000  | 30 + +LW                |
| 531.80           | 241.07 | 523.20   | .000  | 30 + +LW                |
| 532.00           | 272.08 | 523.20   | .000  | 30 + +LW                |

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |        | Notes   |          |                         |
|------------------|--------|---------|----------|-------------------------|
| Elev.            | Q      | TW Elev | Converge |                         |
| ft               | cfs    | ft      | Error    | Contributing Structures |
|                  |        |         | +/-ft    |                         |
| 526.00           | .00    | 523.40  | .000     | LW                      |
| 526.20           | .58    | 523.40  | .000     | LW                      |
| 526.40           | 1.62   | 523.40  | .000     | LW                      |
| 526.60           | 2.91   | 523.40  | .000     | LW                      |
| 526.80           | 4.38   | 523.40  | .000     | LW                      |
| 527.00           | 5.99   | 523.40  | .000     | LW                      |
| 527.20           | 7.70   | 523.40  | .000     | LW                      |
| 527.40           | 9.49   | 523.40  | .000     | LW                      |
| 527.60           | 11.32  | 523.40  | .000     | LW                      |
| 527.80           | 13.19  | 523.40  | .000     | LW                      |
| 528.00           | 15.07  | 523.40  | .000     | LW                      |
| 528.20           | 16.95  | 523.40  | .000     | LW                      |
| 528.40           | 18.82  | 523.40  | .000     | LW                      |
| 528.55           | 20.20  | 523.40  | .000     | LW                      |
| 528.60           | 20.75  | 523.40  | .000     | LW                      |
| 528.80           | 23.49  | 523.40  | .000     | LW                      |
| 529.00           | 26.65  | 523.40  | .000     | LW                      |
| 529.20           | 30.06  | 523.40  | .000     | LW                      |
| 529.40           | 33.64  | 523.40  | .000     | LW                      |
| 529.60           | 37.32  | 523.40  | .000     | LW                      |
| 529.80           | 41.06  | 523.40  | .000     | LW                      |
| 530.00           | 44.82  | 523.40  | .000     | 30 + +LW                |
| 530.20           | 54.71  | 523.40  | .000     | 30 + +LW                |
| 530.40           | 69.65  | 523.40  | .000     | 30 + +LW                |
| 530.60           | 87.84  | 523.40  | .000     | 30 + +LW                |
| 530.80           | 108.61 | 523.40  | .000     | 30 + +LW                |
| 531.00           | 131.60 | 523.40  | .000     | 30 + +LW                |
| 531.20           | 156.51 | 523.40  | .000     | 30 + +LW                |
| 531.40           | 183.17 | 523.40  | .000     | 30 + +LW                |
| 531.60           | 211.39 | 523.40  | .000     | 30 + +LW                |
| 531.80           | 241.07 | 523.40  | .000     | 30 + +LW                |
| 532.00           | 272.08 | 523.40  | .000     | 30 + +LW                |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                |                         | Notes |
|------------------|----------|---------------|----------------|-------------------------|-------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |       |
| 526.00           | .00      | 523.60        | .000           | LW                      |       |
| 526.20           | .58      | 523.60        | .000           | LW                      |       |
| 526.40           | 1.62     | 523.60        | .000           | LW                      |       |
| 526.60           | 2.91     | 523.60        | .000           | LW                      |       |
| 526.80           | 4.38     | 523.60        | .000           | LW                      |       |
| 527.00           | 5.99     | 523.60        | .000           | LW                      |       |
| 527.20           | 7.70     | 523.60        | .000           | LW                      |       |
| 527.40           | 9.49     | 523.60        | .000           | LW                      |       |
| 527.60           | 11.32    | 523.60        | .000           | LW                      |       |
| 527.80           | 13.19    | 523.60        | .000           | LW                      |       |
| 528.00           | 15.07    | 523.60        | .000           | LW                      |       |
| 528.20           | 16.95    | 523.60        | .000           | LW                      |       |
| 528.40           | 18.82    | 523.60        | .000           | LW                      |       |
| 528.55           | 20.20    | 523.60        | .000           | LW                      |       |
| 528.60           | 20.75    | 523.60        | .000           | LW                      |       |
| 528.80           | 23.49    | 523.60        | .000           | LW                      |       |
| 529.00           | 26.65    | 523.60        | .000           | LW                      |       |
| 529.20           | 30.06    | 523.60        | .000           | LW                      |       |
| 529.40           | 33.64    | 523.60        | .000           | LW                      |       |
| 529.60           | 37.32    | 523.60        | .000           | LW                      |       |
| 529.80           | 41.06    | 523.60        | .000           | LW                      |       |
| 530.00           | 44.82    | 523.60        | .000           | 30 +                    | +LW   |
| 530.20           | 54.71    | 523.60        | .000           | 30 +                    | +LW   |
| 530.40           | 69.65    | 523.60        | .000           | 30 +                    | +LW   |
| 530.60           | 87.84    | 523.60        | .000           | 30 +                    | +LW   |
| 530.80           | 108.61   | 523.60        | .000           | 30 +                    | +LW   |
| 531.00           | 131.60   | 523.60        | .000           | 30 +                    | +LW   |
| 531.20           | 156.51   | 523.60        | .000           | 30 +                    | +LW   |
| 531.40           | 183.17   | 523.60        | .000           | 30 +                    | +LW   |
| 531.60           | 211.39   | 523.60        | .000           | 30 +                    | +LW   |
| 531.80           | 241.07   | 523.60        | .000           | 30 +                    | +LW   |
| 532.00           | 272.08   | 523.60        | .000           | 30 +                    | +LW   |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                |                         | Notes |
|------------------|----------|---------------|----------------|-------------------------|-------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |       |
| 526.00           | .00      | 523.80        | .000           | LW                      |       |
| 526.20           | .58      | 523.80        | .000           | LW                      |       |
| 526.40           | 1.62     | 523.80        | .000           | LW                      |       |
| 526.60           | 2.91     | 523.80        | .000           | LW                      |       |
| 526.80           | 4.38     | 523.80        | .000           | LW                      |       |
| 527.00           | 5.99     | 523.80        | .000           | LW                      |       |
| 527.20           | 7.70     | 523.80        | .000           | LW                      |       |
| 527.40           | 9.49     | 523.80        | .000           | LW                      |       |
| 527.60           | 11.32    | 523.80        | .000           | LW                      |       |
| 527.80           | 13.19    | 523.80        | .000           | LW                      |       |
| 528.00           | 15.07    | 523.80        | .000           | LW                      |       |
| 528.20           | 16.95    | 523.80        | .000           | LW                      |       |
| 528.40           | 18.82    | 523.80        | .000           | LW                      |       |
| 528.55           | 20.20    | 523.80        | .000           | LW                      |       |
| 528.60           | 20.75    | 523.80        | .000           | LW                      |       |
| 528.80           | 23.49    | 523.80        | .000           | LW                      |       |
| 529.00           | 26.65    | 523.80        | .000           | LW                      |       |
| 529.20           | 30.06    | 523.80        | .000           | LW                      |       |
| 529.40           | 33.64    | 523.80        | .000           | LW                      |       |
| 529.60           | 37.32    | 523.80        | .000           | LW                      |       |
| 529.80           | 41.06    | 523.80        | .000           | LW                      |       |
| 530.00           | 44.82    | 523.80        | .000           | 30 +                    | +LW   |
| 530.20           | 54.71    | 523.80        | .000           | 30 +                    | +LW   |
| 530.40           | 69.65    | 523.80        | .000           | 30 +                    | +LW   |
| 530.60           | 87.84    | 523.80        | .000           | 30 +                    | +LW   |
| 530.80           | 108.61   | 523.80        | .000           | 30 +                    | +LW   |
| 531.00           | 131.60   | 523.80        | .000           | 30 +                    | +LW   |
| 531.20           | 156.51   | 523.80        | .000           | 30 +                    | +LW   |
| 531.40           | 183.17   | 523.80        | .000           | 30 +                    | +LW   |
| 531.60           | 211.39   | 523.80        | .000           | 30 +                    | +LW   |
| 531.80           | 241.07   | 523.80        | .000           | 30 +                    | +LW   |
| 532.00           | 272.08   | 523.80        | .000           | 30 +                    | +LW   |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW

Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 526.00           | .00      | 524.00        | .000           | LW                      |
| 526.20           | .58      | 524.00        | .000           | LW                      |
| 526.40           | 1.62     | 524.00        | .000           | LW                      |
| 526.60           | 2.91     | 524.00        | .000           | LW                      |
| 526.80           | 4.38     | 524.00        | .000           | LW                      |
| 527.00           | 5.99     | 524.00        | .000           | LW                      |
| 527.20           | 7.70     | 524.00        | .000           | LW                      |
| 527.40           | 9.49     | 524.00        | .000           | LW                      |
| 527.60           | 11.32    | 524.00        | .000           | LW                      |
| 527.80           | 13.19    | 524.00        | .000           | LW                      |
| 528.00           | 15.07    | 524.00        | .000           | LW                      |
| 528.20           | 16.95    | 524.00        | .000           | LW                      |
| 528.40           | 18.82    | 524.00        | .000           | LW                      |
| 528.55           | 20.20    | 524.00        | .000           | LW                      |
| 528.60           | 20.75    | 524.00        | .000           | LW                      |
| 528.80           | 23.49    | 524.00        | .000           | LW                      |
| 529.00           | 26.65    | 524.00        | .000           | LW                      |
| 529.20           | 30.06    | 524.00        | .000           | LW                      |
| 529.40           | 33.64    | 524.00        | .000           | LW                      |
| 529.60           | 37.32    | 524.00        | .000           | LW                      |
| 529.80           | 41.06    | 524.00        | .000           | LW                      |
| 530.00           | 44.82    | 524.00        | .000           | 30 + +LW                |
| 530.20           | 54.71    | 524.00        | .000           | 30 + +LW                |
| 530.40           | 69.65    | 524.00        | .000           | 30 + +LW                |
| 530.60           | 87.84    | 524.00        | .000           | 30 + +LW                |
| 530.80           | 108.61   | 524.00        | .000           | 30 + +LW                |
| 531.00           | 131.60   | 524.00        | .000           | 30 + +LW                |
| 531.20           | 156.51   | 524.00        | .000           | 30 + +LW                |
| 531.40           | 183.17   | 524.00        | .000           | 30 + +LW                |
| 531.60           | 211.39   | 524.00        | .000           | 30 + +LW                |
| 531.80           | 241.07   | 524.00        | .000           | 30 + +LW                |
| 532.00           | 272.08   | 524.00        | .000           | 30 + +LW                |

S/N: 721701406A81

J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 14:20:08

Date: 08-06-2002

Type.... Composite Rating Curve  
Name.... KB-OUTLET

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File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |        | Converge |       | Notes                   |
|------------------|--------|----------|-------|-------------------------|
| Elev.            | Q      | TW Elev  | Error | Contributing Structures |
| ft               | cfs    | ft       | +/-ft |                         |
| 526.00           | .00    | 524.20   | .000  | LW                      |
| 526.20           | .58    | 524.20   | .000  | LW                      |
| 526.40           | 1.62   | 524.20   | .000  | LW                      |
| 526.60           | 2.91   | 524.20   | .000  | LW                      |
| 526.80           | 4.38   | 524.20   | .000  | LW                      |
| 527.00           | 5.99   | 524.20   | .000  | LW                      |
| 527.20           | 7.70   | 524.20   | .000  | LW                      |
| 527.40           | 9.49   | 524.20   | .000  | LW                      |
| 527.60           | 11.32  | 524.20   | .000  | LW                      |
| 527.80           | 13.19  | 524.20   | .000  | LW                      |
| 528.00           | 15.07  | 524.20   | .000  | LW                      |
| 528.20           | 16.95  | 524.20   | .000  | LW                      |
| 528.40           | 18.82  | 524.20   | .000  | LW                      |
| 528.55           | 20.20  | 524.20   | .000  | LW                      |
| 528.60           | 20.75  | 524.20   | .000  | LW                      |
| 528.80           | 23.49  | 524.20   | .000  | LW                      |
| 529.00           | 26.65  | 524.20   | .000  | LW                      |
| 529.20           | 30.06  | 524.20   | .000  | LW                      |
| 529.40           | 33.64  | 524.20   | .000  | LW                      |
| 529.60           | 37.32  | 524.20   | .000  | LW                      |
| 529.80           | 41.06  | 524.20   | .000  | LW                      |
| 530.00           | 44.82  | 524.20   | .000  | 30 + +LW                |
| 530.20           | 54.71  | 524.20   | .000  | 30 + +LW                |
| 530.40           | 69.65  | 524.20   | .000  | 30 + +LW                |
| 530.60           | 87.84  | 524.20   | .000  | 30 + +LW                |
| 530.80           | 108.61 | 524.20   | .000  | 30 + +LW                |
| 531.00           | 131.60 | 524.20   | .000  | 30 + +LW                |
| 531.20           | 156.51 | 524.20   | .000  | 30 + +LW                |
| 531.40           | 183.17 | 524.20   | .000  | 30 + +LW                |
| 531.60           | 211.39 | 524.20   | .000  | 30 + +LW                |
| 531.80           | 241.07 | 524.20   | .000  | 30 + +LW                |
| 532.00           | 272.08 | 524.20   | .000  | 30 + +LW                |

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002



Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                |                         | Notes |
|------------------|----------|---------------|----------------|-------------------------|-------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |       |
| 526.00           | .00      | 524.40        | .000           | LW                      |       |
| 526.20           | .58      | 524.40        | .000           | LW                      |       |
| 526.40           | 1.62     | 524.40        | .000           | LW                      |       |
| 526.60           | 2.91     | 524.40        | .000           | LW                      |       |
| 526.80           | 4.38     | 524.40        | .000           | LW                      |       |
| 527.00           | 5.99     | 524.40        | .000           | LW                      |       |
| 527.20           | 7.70     | 524.40        | .000           | LW                      |       |
| 527.40           | 9.49     | 524.40        | .000           | LW                      |       |
| 527.60           | 11.32    | 524.40        | .000           | LW                      |       |
| 527.80           | 13.19    | 524.40        | .000           | LW                      |       |
| 528.00           | 15.07    | 524.40        | .000           | LW                      |       |
| 528.20           | 16.95    | 524.40        | .000           | LW                      |       |
| 528.40           | 18.82    | 524.40        | .000           | LW                      |       |
| 528.55           | 20.20    | 524.40        | .000           | LW                      |       |
| 528.60           | 20.75    | 524.40        | .000           | LW                      |       |
| 528.80           | 23.49    | 524.40        | .000           | LW                      |       |
| 529.00           | 26.65    | 524.40        | .000           | LW                      |       |
| 529.20           | 30.06    | 524.40        | .000           | LW                      |       |
| 529.40           | 33.64    | 524.40        | .000           | LW                      |       |
| 529.60           | 37.32    | 524.40        | .000           | LW                      |       |
| 529.80           | 41.06    | 524.40        | .000           | LW                      |       |
| 530.00           | 44.82    | 524.40        | .000           | 30 +                    | +LW   |
| 530.20           | 54.71    | 524.40        | .000           | 30 +                    | +LW   |
| 530.40           | 69.65    | 524.40        | .000           | 30 +                    | +LW   |
| 530.60           | 87.84    | 524.40        | .000           | 30 +                    | +LW   |
| 530.80           | 108.61   | 524.40        | .000           | 30 +                    | +LW   |
| 531.00           | 131.60   | 524.40        | .000           | 30 +                    | +LW   |
| 531.20           | 156.51   | 524.40        | .000           | 30 +                    | +LW   |
| 531.40           | 183.17   | 524.40        | .000           | 30 +                    | +LW   |
| 531.60           | 211.39   | 524.40        | .000           | 30 +                    | +LW   |
| 531.80           | 241.07   | 524.40        | .000           | 30 +                    | +LW   |
| 532.00           | 272.08   | 524.40        | .000           | 30 +                    | +LW   |

S/N: 721701406A81      J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767)      Compute Time: 14:20:08      Date: 08-06-2002

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                |                         | Notes |
|------------------|----------|---------------|----------------|-------------------------|-------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |       |
| 526.00           | .00      | 524.60        | .000           | LW                      |       |
| 526.20           | .58      | 524.60        | .000           | LW                      |       |
| 526.40           | 1.62     | 524.60        | .000           | LW                      |       |
| 526.60           | 2.91     | 524.60        | .000           | LW                      |       |
| 526.80           | 4.38     | 524.60        | .000           | LW                      |       |
| 527.00           | 5.99     | 524.60        | .000           | LW                      |       |
| 527.20           | 7.70     | 524.60        | .000           | LW                      |       |
| 527.40           | 9.49     | 524.60        | .000           | LW                      |       |
| 527.60           | 11.32    | 524.60        | .000           | LW                      |       |
| 527.80           | 13.19    | 524.60        | .000           | LW                      |       |
| 528.00           | 15.07    | 524.60        | .000           | LW                      |       |
| 528.20           | 16.95    | 524.60        | .000           | LW                      |       |
| 528.40           | 18.82    | 524.60        | .000           | LW                      |       |
| 528.55           | 20.20    | 524.60        | .000           | LW                      |       |
| 528.60           | 20.75    | 524.60        | .000           | LW                      |       |
| 528.80           | 23.49    | 524.60        | .000           | LW                      |       |
| 529.00           | 26.65    | 524.60        | .000           | LW                      |       |
| 529.20           | 30.06    | 524.60        | .000           | LW                      |       |
| 529.40           | 33.64    | 524.60        | .000           | LW                      |       |
| 529.60           | 37.32    | 524.60        | .000           | LW                      |       |
| 529.80           | 41.06    | 524.60        | .000           | LW                      |       |
| 530.00           | 44.82    | 524.60        | .000           | 30 +                    | +LW   |
| 530.20           | 54.71    | 524.60        | .000           | 30 +                    | +LW   |
| 530.40           | 69.65    | 524.60        | .000           | 30 +                    | +LW   |
| 530.60           | 87.84    | 524.60        | .000           | 30 +                    | +LW   |
| 530.80           | 108.61   | 524.60        | .000           | 30 +                    | +LW   |
| 531.00           | 131.60   | 524.60        | .000           | 30 +                    | +LW   |
| 531.20           | 156.51   | 524.60        | .000           | 30 +                    | +LW   |
| 531.40           | 183.17   | 524.60        | .000           | 30 +                    | +LW   |
| 531.60           | 211.39   | 524.60        | .000           | 30 +                    | +LW   |
| 531.80           | 241.07   | 524.60        | .000           | 30 +                    | +LW   |
| 532.00           | 272.08   | 524.60        | .000           | 30 +                    | +LW   |

S/N: 721701406A81      J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767)      Compute Time: 14:20:08      Date: 08-06-2002

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 526.00           | .00      | 524.80        | .000           | LW                      |
| 526.20           | .58      | 524.80        | .000           | LW                      |
| 526.40           | 1.62     | 524.80        | .000           | LW                      |
| 526.60           | 2.91     | 524.80        | .000           | LW                      |
| 526.80           | 4.38     | 524.80        | .000           | LW                      |
| 527.00           | 5.99     | 524.80        | .000           | LW                      |
| 527.20           | 7.70     | 524.80        | .000           | LW                      |
| 527.40           | 9.49     | 524.80        | .000           | LW                      |
| 527.60           | 11.32    | 524.80        | .000           | LW                      |
| 527.80           | 13.19    | 524.80        | .000           | LW                      |
| 528.00           | 15.07    | 524.80        | .000           | LW                      |
| 528.20           | 16.95    | 524.80        | .000           | LW                      |
| 528.40           | 18.82    | 524.80        | .000           | LW                      |
| 528.55           | 20.20    | 524.80        | .000           | LW                      |
| 528.60           | 20.75    | 524.80        | .000           | LW                      |
| 528.80           | 23.49    | 524.80        | .000           | LW                      |
| 529.00           | 26.65    | 524.80        | .000           | LW                      |
| 529.20           | 30.06    | 524.80        | .000           | LW                      |
| 529.40           | 33.64    | 524.80        | .000           | LW                      |
| 529.60           | 37.32    | 524.80        | .000           | LW                      |
| 529.80           | 41.06    | 524.80        | .000           | LW                      |
| 530.00           | 44.82    | 524.80        | .000           | 30 + +LW                |
| 530.20           | 54.71    | 524.80        | .000           | 30 + +LW                |
| 530.40           | 69.65    | 524.80        | .000           | 30 + +LW                |
| 530.60           | 87.84    | 524.80        | .000           | 30 + +LW                |
| 530.80           | 108.61   | 524.80        | .000           | 30 + +LW                |
| 531.00           | 131.60   | 524.80        | .000           | 30 + +LW                |
| 531.20           | 156.51   | 524.80        | .000           | 30 + +LW                |
| 531.40           | 183.17   | 524.80        | .000           | 30 + +LW                |
| 531.60           | 211.39   | 524.80        | .000           | 30 + +LW                |
| 531.80           | 241.07   | 524.80        | .000           | 30 + +LW                |
| 532.00           | 272.08   | 524.80        | .000           | 30 + +LW                |

S/N: 721701406A81      J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767)      Compute Time: 14:20:08      Date: 08-06-2002

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |        | Notes   |          |                         |
|------------------|--------|---------|----------|-------------------------|
| Elev.            | Q      | TW Elev | Converge |                         |
| ft               | cfs    | ft      | Error    | Contributing Structures |
|                  |        |         | +/-ft    |                         |
| 526.00           | .00    | 525.00  | .000     | LW                      |
| 526.20           | .58    | 525.00  | .000     | LW                      |
| 526.40           | 1.62   | 525.00  | .000     | LW                      |
| 526.60           | 2.91   | 525.00  | .000     | LW                      |
| 526.80           | 4.38   | 525.00  | .000     | LW                      |
| 527.00           | 5.99   | 525.00  | .000     | LW                      |
| 527.20           | 7.70   | 525.00  | .000     | LW                      |
| 527.40           | 9.49   | 525.00  | .000     | LW                      |
| 527.60           | 11.32  | 525.00  | .000     | LW                      |
| 527.80           | 13.19  | 525.00  | .000     | LW                      |
| 528.00           | 15.07  | 525.00  | .000     | LW                      |
| 528.20           | 16.95  | 525.00  | .000     | LW                      |
| 528.40           | 18.82  | 525.00  | .000     | LW                      |
| 528.55           | 20.20  | 525.00  | .000     | LW                      |
| 528.60           | 20.75  | 525.00  | .000     | LW                      |
| 528.80           | 23.49  | 525.00  | .000     | LW                      |
| 529.00           | 26.65  | 525.00  | .000     | LW                      |
| 529.20           | 30.06  | 525.00  | .000     | LW                      |
| 529.40           | 33.64  | 525.00  | .000     | LW                      |
| 529.60           | 37.32  | 525.00  | .000     | LW                      |
| 529.80           | 41.06  | 525.00  | .000     | LW                      |
| 530.00           | 44.82  | 525.00  | .000     | 30 + +LW                |
| 530.20           | 54.71  | 525.00  | .000     | 30 + +LW                |
| 530.40           | 69.65  | 525.00  | .000     | 30 + +LW                |
| 530.60           | 87.84  | 525.00  | .000     | 30 + +LW                |
| 530.80           | 108.61 | 525.00  | .000     | 30 + +LW                |
| 531.00           | 131.60 | 525.00  | .000     | 30 + +LW                |
| 531.20           | 156.51 | 525.00  | .000     | 30 + +LW                |
| 531.40           | 183.17 | 525.00  | .000     | 30 + +LW                |
| 531.60           | 211.39 | 525.00  | .000     | 30 + +LW                |
| 531.80           | 241.07 | 525.00  | .000     | 30 + +LW                |
| 532.00           | 272.08 | 525.00  | .000     | 30 + +LW                |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 526.00           | .00      | 525.20        | .000           | LW                      |
| 526.20           | .58      | 525.20        | .000           | LW                      |
| 526.40           | 1.62     | 525.20        | .000           | LW                      |
| 526.60           | 2.91     | 525.20        | .000           | LW                      |
| 526.80           | 4.38     | 525.20        | .000           | LW                      |
| 527.00           | 5.99     | 525.20        | .000           | LW                      |
| 527.20           | 7.70     | 525.20        | .000           | LW                      |
| 527.40           | 9.49     | 525.20        | .000           | LW                      |
| 527.60           | 11.32    | 525.20        | .000           | LW                      |
| 527.80           | 13.19    | 525.20        | .000           | LW                      |
| 528.00           | 15.07    | 525.20        | .000           | LW                      |
| 528.20           | 16.95    | 525.20        | .000           | LW                      |
| 528.40           | 18.82    | 525.20        | .000           | LW                      |
| 528.55           | 20.20    | 525.20        | .000           | LW                      |
| 528.60           | 20.75    | 525.20        | .000           | LW                      |
| 528.80           | 23.49    | 525.20        | .000           | LW                      |
| 529.00           | 26.65    | 525.20        | .000           | LW                      |
| 529.20           | 30.06    | 525.20        | .000           | LW                      |
| 529.40           | 33.64    | 525.20        | .000           | LW                      |
| 529.60           | 37.32    | 525.20        | .000           | LW                      |
| 529.80           | 41.06    | 525.20        | .000           | LW                      |
| 530.00           | 44.82    | 525.20        | .000           | 30 + +LW                |
| 530.20           | 54.71    | 525.20        | .000           | 30 + +LW                |
| 530.40           | 69.65    | 525.20        | .000           | 30 + +LW                |
| 530.60           | 87.84    | 525.20        | .000           | 30 + +LW                |
| 530.80           | 108.61   | 525.20        | .000           | 30 + +LW                |
| 531.00           | 131.60   | 525.20        | .000           | 30 + +LW                |
| 531.20           | 156.51   | 525.20        | .000           | 30 + +LW                |
| 531.40           | 183.17   | 525.20        | .000           | 30 + +LW                |
| 531.60           | 211.39   | 525.20        | .000           | 30 + +LW                |
| 531.80           | 241.07   | 525.20        | .000           | 30 + +LW                |
| 532.00           | 272.08   | 525.20        | .000           | 30 + +LW                |

S/N: 721701406A81      J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767)      Compute Time: 14:20:08      Date: 08-06-2002

Type.... Composite Rating Curve  
Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 526.00           | .00      | 525.40        | .000           | LW                      |
| 526.20           | .58      | 525.40        | .000           | LW                      |
| 526.40           | 1.62     | 525.40        | .000           | LW                      |
| 526.60           | 2.91     | 525.40        | .000           | LW                      |
| 526.80           | 4.38     | 525.40        | .000           | LW                      |
| 527.00           | 5.99     | 525.40        | .000           | LW                      |
| 527.20           | 7.70     | 525.40        | .000           | LW                      |
| 527.40           | 9.49     | 525.40        | .000           | LW                      |
| 527.60           | 11.32    | 525.40        | .000           | LW                      |
| 527.80           | 13.19    | 525.40        | .000           | LW                      |
| 528.00           | 15.07    | 525.40        | .000           | LW                      |
| 528.20           | 16.95    | 525.40        | .000           | LW                      |
| 528.40           | 18.82    | 525.40        | .000           | LW                      |
| 528.55           | 20.20    | 525.40        | .000           | LW                      |
| 528.60           | 20.75    | 525.40        | .000           | LW                      |
| 528.80           | 23.49    | 525.40        | .000           | LW                      |
| 529.00           | 26.65    | 525.40        | .000           | LW                      |
| 529.20           | 30.06    | 525.40        | .000           | LW                      |
| 529.40           | 33.64    | 525.40        | .000           | LW                      |
| 529.60           | 37.32    | 525.40        | .000           | LW                      |
| 529.80           | 41.06    | 525.40        | .000           | LW                      |
| 530.00           | 44.82    | 525.40        | .000           | 30 + +LW                |
| 530.20           | 54.71    | 525.40        | .000           | 30 + +LW                |
| 530.40           | 69.65    | 525.40        | .000           | 30 + +LW                |
| 530.60           | 87.84    | 525.40        | .000           | 30 + +LW                |
| 530.80           | 108.61   | 525.40        | .000           | 30 + +LW                |
| 531.00           | 131.60   | 525.40        | .000           | 30 + +LW                |
| 531.20           | 156.51   | 525.40        | .000           | 30 + +LW                |
| 531.40           | 183.17   | 525.40        | .000           | 30 + +LW                |
| 531.60           | 211.39   | 525.40        | .000           | 30 + +LW                |
| 531.80           | 241.07   | 525.40        | .000           | 30 + +LW                |
| 532.00           | 272.08   | 525.40        | .000           | 30 + +LW                |

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                | Notes                   |
|------------------|----------|---------------|----------------|-------------------------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |
| 526.00           | .00      | 525.60        | .000           | LW                      |
| 526.20           | .58      | 525.60        | .000           | LW                      |
| 526.40           | 1.62     | 525.60        | .000           | LW                      |
| 526.60           | 2.91     | 525.60        | .000           | LW                      |
| 526.80           | 4.38     | 525.60        | .000           | LW                      |
| 527.00           | 5.99     | 525.60        | .000           | LW                      |
| 527.20           | 7.70     | 525.60        | .000           | LW                      |
| 527.40           | 9.49     | 525.60        | .000           | LW                      |
| 527.60           | 11.32    | 525.60        | .000           | LW                      |
| 527.80           | 13.19    | 525.60        | .000           | LW                      |
| 528.00           | 15.07    | 525.60        | .000           | LW                      |
| 528.20           | 16.95    | 525.60        | .000           | LW                      |
| 528.40           | 18.82    | 525.60        | .000           | LW                      |
| 528.55           | 20.20    | 525.60        | .000           | LW                      |
| 528.60           | 20.75    | 525.60        | .000           | LW                      |
| 528.80           | 23.49    | 525.60        | .000           | LW                      |
| 529.00           | 26.65    | 525.60        | .000           | LW                      |
| 529.20           | 30.06    | 525.60        | .000           | LW                      |
| 529.40           | 33.64    | 525.60        | .000           | LW                      |
| 529.60           | 37.32    | 525.60        | .000           | LW                      |
| 529.80           | 41.06    | 525.60        | .000           | LW                      |
| 530.00           | 44.82    | 525.60        | .000           | 30 + +LW                |
| 530.20           | 54.71    | 525.60        | .000           | 30 + +LW                |
| 530.40           | 69.65    | 525.60        | .000           | 30 + +LW                |
| 530.60           | 87.84    | 525.60        | .000           | 30 + +LW                |
| 530.80           | 108.61   | 525.60        | .000           | 30 + +LW                |
| 531.00           | 131.60   | 525.60        | .000           | 30 + +LW                |
| 531.20           | 156.51   | 525.60        | .000           | 30 + +LW                |
| 531.40           | 183.17   | 525.60        | .000           | 30 + +LW                |
| 531.60           | 211.39   | 525.60        | .000           | 30 + +LW                |
| 531.80           | 241.07   | 525.60        | .000           | 30 + +LW                |
| 532.00           | 272.08   | 525.60        | .000           | 30 + +LW                |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                |                         | Notes |
|------------------|----------|---------------|----------------|-------------------------|-------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |       |
| 526.00           | .00      | 525.80        | .000           | LW                      |       |
| 526.20           | .58      | 525.80        | .000           | LW                      |       |
| 526.40           | 1.62     | 525.80        | .000           | LW                      |       |
| 526.60           | 2.91     | 525.80        | .000           | LW                      |       |
| 526.80           | 4.38     | 525.80        | .000           | LW                      |       |
| 527.00           | 5.99     | 525.80        | .000           | LW                      |       |
| 527.20           | 7.70     | 525.80        | .000           | LW                      |       |
| 527.40           | 9.49     | 525.80        | .000           | LW                      |       |
| 527.60           | 11.32    | 525.80        | .000           | LW                      |       |
| 527.80           | 13.19    | 525.80        | .000           | LW                      |       |
| 528.00           | 15.07    | 525.80        | .000           | LW                      |       |
| 528.20           | 16.95    | 525.80        | .000           | LW                      |       |
| 528.40           | 18.82    | 525.80        | .000           | LW                      |       |
| 528.55           | 20.20    | 525.80        | .000           | LW                      |       |
| 528.60           | 20.75    | 525.80        | .000           | LW                      |       |
| 528.80           | 23.49    | 525.80        | .000           | LW                      |       |
| 529.00           | 26.65    | 525.80        | .000           | LW                      |       |
| 529.20           | 30.06    | 525.80        | .000           | LW                      |       |
| 529.40           | 33.64    | 525.80        | .000           | LW                      |       |
| 529.60           | 37.32    | 525.80        | .000           | LW                      |       |
| 529.80           | 41.06    | 525.80        | .000           | LW                      |       |
| 530.00           | 44.82    | 525.80        | .000           | 30 +                    | +LW   |
| 530.20           | 54.71    | 525.80        | .000           | 30 +                    | +LW   |
| 530.40           | 69.65    | 525.80        | .000           | 30 +                    | +LW   |
| 530.60           | 87.84    | 525.80        | .000           | 30 +                    | +LW   |
| 530.80           | 108.61   | 525.80        | .000           | 30 +                    | +LW   |
| 531.00           | 131.60   | 525.80        | .000           | 30 +                    | +LW   |
| 531.20           | 156.51   | 525.80        | .000           | 30 +                    | +LW   |
| 531.40           | 183.17   | 525.80        | .000           | 30 +                    | +LW   |
| 531.60           | 211.39   | 525.80        | .000           | 30 +                    | +LW   |
| 531.80           | 241.07   | 525.80        | .000           | 30 +                    | +LW   |
| 532.00           | 272.08   | 525.80        | .000           | 30 +                    | +LW   |

S/N: 721701406A81    J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767)    Compute Time: 14:20:08    Date: 08-06-2002



Type.... Composite Rating Curve  
 Name.... KB-OUTLET

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... LAKE #3 OUTLET CONTROL STRUCTURE

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

CUMULATIVE HGL CONVERGENCE ERROR .000 (+/- ft)

| WS Elev, Total Q |          | Converge      |                |                         | Notes |
|------------------|----------|---------------|----------------|-------------------------|-------|
| Elev.<br>ft      | Q<br>cfs | TW Elev<br>ft | Error<br>+/-ft | Contributing Structures |       |
| 526.00           | .00      | 526.00        | .000           | LW                      |       |
| 526.20           | .58      | 526.00        | .000           | LW                      |       |
| 526.40           | 1.62     | 526.00        | .000           | LW                      |       |
| 526.60           | 2.91     | 526.00        | .000           | LW                      |       |
| 526.80           | 4.38     | 526.00        | .000           | LW                      |       |
| 527.00           | 5.99     | 526.00        | .000           | LW                      |       |
| 527.20           | 7.70     | 526.00        | .000           | LW                      |       |
| 527.40           | 9.49     | 526.00        | .000           | LW                      |       |
| 527.60           | 11.32    | 526.00        | .000           | LW                      |       |
| 527.80           | 13.19    | 526.00        | .000           | LW                      |       |
| 528.00           | 15.07    | 526.00        | .000           | LW                      |       |
| 528.20           | 16.95    | 526.00        | .000           | LW                      |       |
| 528.40           | 18.82    | 526.00        | .000           | LW                      |       |
| 528.55           | 20.20    | 526.00        | .000           | LW                      |       |
| 528.60           | 20.75    | 526.00        | .000           | LW                      |       |
| 528.80           | 23.49    | 526.00        | .000           | LW                      |       |
| 529.00           | 26.65    | 526.00        | .000           | LW                      |       |
| 529.20           | 30.06    | 526.00        | .000           | LW                      |       |
| 529.40           | 33.64    | 526.00        | .000           | LW                      |       |
| 529.60           | 37.32    | 526.00        | .000           | LW                      |       |
| 529.80           | 41.06    | 526.00        | .000           | LW                      |       |
| 530.00           | 44.82    | 526.00        | .000           | 30 +                    | +LW   |
| 530.20           | 54.71    | 526.00        | .000           | 30 +                    | +LW   |
| 530.40           | 69.65    | 526.00        | .000           | 30 +                    | +LW   |
| 530.60           | 87.84    | 526.00        | .000           | 30 +                    | +LW   |
| 530.80           | 108.61   | 526.00        | .000           | 30 +                    | +LW   |
| 531.00           | 131.60   | 526.00        | .000           | 30 +                    | +LW   |
| 531.20           | 156.51   | 526.00        | .000           | 30 +                    | +LW   |
| 531.40           | 183.17   | 526.00        | .000           | 30 +                    | +LW   |
| 531.60           | 211.39   | 526.00        | .000           | 30 +                    | +LW   |
| 531.80           | 241.07   | 526.00        | .000           | 30 +                    | +LW   |
| 532.00           | 272.08   | 526.00        | .000           | 30 +                    | +LW   |

S/N: 721701406A81      J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767)      Compute Time: 14:20:08      Date: 08-06-2002

Type... Outlet Input Data  
Name... SOUTHLAKE-ROUTE-2

File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... SOUTHLAKE OUTLET CONTROL STRUCTURE

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 521.00 ft  
Increment = .20 ft  
Max. Elev.= 526.00 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            | 30   | ---> | TW      | 524.500 | 526.000 |
| Weir-Rectangular     | LW   | ---> | TW      | 522.000 | 526.000 |
| TW SETUP, DS Channel |      |      |         |         |         |

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... Outlet Input Data  
Name... SOUTHLAKE-ROUTE-2

File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... SOUTHLAKE OUTLET CONTROL STRUCTURE

OUTLET STRUCTURE INPUT DATA

Structure ID = 30  
Structure Type = Inlet Box  
-----  
# of Openings = 1  
Invert Elev. = 524.50 ft  
Orifice Area = 50.2600 sq.ft  
Orifice Coeff. = .600  
Weir Length = 17.63 ft  
Weir Coeff. = 3.330  
K, Submerged = .000  
K, Reverse = 1.000  
Kb, Barrel = .000000 (per ft of full flow)  
Barrel Length = .00 ft  
Mannings n = .0000

Structure ID = LW  
Structure Type = Weir-Rectangular  
-----

# of Openings = 1  
Crest Elev. = 522.00 ft  
Weir Length = 7.50 ft  
Weir Coeff. = 3.330000

Weir TW effects (Use adjustment equation)

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

FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...  
Maximum Iterations= 10  
Min. TW tolerance = .01 ft  
Max. TW tolerance = .01 ft  
Min. HW tolerance = .01 ft  
Max. HW tolerance = .01 ft  
Min. Q tolerance = 100.00 cfs  
Max. Q tolerance = 100.00 cfs

Type.... Individual Outlet Curves  
 Name.... SOUTHLAKE-ROUTE-2

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... SOUTHLAKE OUTLET CONTROL STRUCTURE

RATING TABLE FOR ONE OUTLET TYPE

Structure ID = 30 (Inlet Box)  
 -----  
 Upstream ID = (Pond Water Surface)  
 DNstream ID = TW (Pond Outfall)

| WS Elev, Device Q |        | Tail Water   |          | Notes                     |
|-------------------|--------|--------------|----------|---------------------------|
| WS Elev.          | Q      | TW Elev      | Converge | Computation Messages      |
| ft                | cfs    | ft           | +/-ft    |                           |
| 521.00            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 521.20            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 521.40            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 521.60            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 521.80            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 522.00            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 522.20            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 522.40            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 522.60            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 522.80            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 523.00            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 523.20            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 523.40            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 523.60            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 523.80            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 524.00            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 524.20            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 524.40            | .00    | Free Outfall |          | HW & TW < Inv.El.=524.500 |
| 524.50            | .00    | Free Outfall |          | Weir: H =.00              |
| 524.60            | 1.86   | Free Outfall |          | Weir: H =.10              |
| 524.80            | 9.65   | Free Outfall |          | Weir: H =.30              |
| 525.00            | 20.76  | Free Outfall |          | Weir: H =.50              |
| 525.20            | 34.38  | Free Outfall |          | Weir: H =.70              |
| 525.40            | 50.13  | Free Outfall |          | Weir: H =.90              |
| 525.60            | 67.73  | Free Outfall |          | Weir: H =1.10             |
| 525.80            | 87.02  | Free Outfall |          | Weir: H =1.30             |
| 526.00            | 107.85 | Free Outfall |          | Weir: H =1.50             |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Individual Outlet Curves  
 Name.... SOUTHLAKE-ROUTE-2

File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Title... SOUTHLAKE OUTLET CONTROL STRUCTURE

RATING TABLE FOR ONE OUTLET TYPE

Structure ID = LW (Weir-Rectangular)

Upstream ID = (Pond Water Surface)

DNstream ID = TW (Pond Outfall)

| WS Elev,Device Q |        | Tail Water   |          | Notes                          |
|------------------|--------|--------------|----------|--------------------------------|
| WS Elev.         | Q      | TW Elev      | Converge | Computation Messages           |
| ft               | cfs    | ft           | +/-ft    |                                |
| 521.00           | .00    | Free Outfall |          | HW & TW below Inv.El.=522.000  |
| 521.20           | .00    | Free Outfall |          | HW & TW below Inv.El.=522.000  |
| 521.40           | .00    | Free Outfall |          | HW & TW below Inv.El.=522.000  |
| 521.60           | .00    | Free Outfall |          | HW & TW below Inv.El.=522.000  |
| 521.80           | .00    | Free Outfall |          | HW & TW below Inv.El.=522.000  |
| 522.00           | .00    | Free Outfall |          | H=.00; Htw=.00; Qfree=.00;     |
| 522.20           | 2.22   | Free Outfall |          | H=.20; Htw=.00; Qfree=2.22;    |
| 522.40           | 6.25   | Free Outfall |          | H=.40; Htw=.00; Qfree=6.25;    |
| 522.60           | 11.42  | Free Outfall |          | H=.60; Htw=.00; Qfree=11.42;   |
| 522.80           | 17.49  | Free Outfall |          | H=.80; Htw=.00; Qfree=17.49;   |
| 523.00           | 24.31  | Free Outfall |          | H=1.00; Htw=.00; Qfree=24.31;  |
| 523.20           | 31.78  | Free Outfall |          | H=1.20; Htw=.00; Qfree=31.78;  |
| 523.40           | 39.83  | Free Outfall |          | H=1.40; Htw=.00; Qfree=39.83;  |
| 523.60           | 48.39  | Free Outfall |          | H=1.60; Htw=.00; Qfree=48.39;  |
| 523.80           | 57.42  | Free Outfall |          | H=1.80; Htw=.00; Qfree=57.42;  |
| 524.00           | 66.87  | Free Outfall |          | H=2.00; Htw=.00; Qfree=66.87;  |
| 524.20           | 76.72  | Free Outfall |          | H=2.20; Htw=.00; Qfree=76.72;  |
| 524.40           | 86.92  | Free Outfall |          | H=2.40; Htw=.00; Qfree=86.92;  |
| 524.50           | 92.14  | Free Outfall |          | H=2.50; Htw=.00; Qfree=92.14;  |
| 524.60           | 97.44  | Free Outfall |          | H=2.60; Htw=.00; Qfree=97.44;  |
| 524.80           | 108.28 | Free Outfall |          | H=2.80; Htw=.00; Qfree=108.28; |
| 525.00           | 119.39 | Free Outfall |          | H=3.00; Htw=.00; Qfree=119.39; |
| 525.20           | 130.77 | Free Outfall |          | H=3.20; Htw=.00; Qfree=130.77; |
| 525.40           | 142.38 | Free Outfall |          | H=3.40; Htw=.00; Qfree=142.38; |
| 525.60           | 154.21 | Free Outfall |          | H=3.60; Htw=.00; Qfree=154.21; |
| 525.80           | 166.26 | Free Outfall |          | H=3.80; Htw=.00; Qfree=166.26; |
| 526.00           | 178.49 | Free Outfall |          | H=4.00; Htw=.00; Qfree=178.49; |

S/N: 721701406A81 J R GRIMES CONSULTING  
 PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Composite Rating Curve  
Name.... SOUTHLAKE-ROUTE-2

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File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Title... SOUTHLAKE OUTLET CONTROL STRUCTURE

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

| WS Elev, Total Q |        | Converge     |       | Notes                   |
|------------------|--------|--------------|-------|-------------------------|
| Elev.            | Q      | TW Elev      | Error | Contributing Structures |
| ft               | cfs    | ft           | +/-ft |                         |
| 521.00           | .00    | Free Outfall |       | None contributing       |
| 521.20           | .00    | Free Outfall |       | None contributing       |
| 521.40           | .00    | Free Outfall |       | None contributing       |
| 521.60           | .00    | Free Outfall |       | None contributing       |
| 521.80           | .00    | Free Outfall |       | None contributing       |
| 522.00           | .00    | Free Outfall |       | LW                      |
| 522.20           | 2.22   | Free Outfall |       | LW                      |
| 522.40           | 6.25   | Free Outfall |       | LW                      |
| 522.60           | 11.42  | Free Outfall |       | LW                      |
| 522.80           | 17.49  | Free Outfall |       | LW                      |
| 523.00           | 24.31  | Free Outfall |       | LW                      |
| 523.20           | 31.78  | Free Outfall |       | LW                      |
| 523.40           | 39.83  | Free Outfall |       | LW                      |
| 523.60           | 48.39  | Free Outfall |       | LW                      |
| 523.80           | 57.42  | Free Outfall |       | LW                      |
| 524.00           | 66.87  | Free Outfall |       | LW                      |
| 524.20           | 76.72  | Free Outfall |       | LW                      |
| 524.40           | 86.92  | Free Outfall |       | LW                      |
| 524.50           | 92.14  | Free Outfall |       | 30 +LW                  |
| 524.60           | 99.30  | Free Outfall |       | 30 +LW                  |
| 524.80           | 117.92 | Free Outfall |       | 30 +LW                  |
| 525.00           | 140.15 | Free Outfall |       | 30 +LW                  |
| 525.20           | 165.15 | Free Outfall |       | 30 +LW                  |
| 525.40           | 192.51 | Free Outfall |       | 30 +LW                  |
| 525.60           | 221.94 | Free Outfall |       | 30 +LW                  |
| 525.80           | 253.27 | Free Outfall |       | 30 +LW                  |
| 526.00           | 286.34 | Free Outfall |       | 30 +LW                  |

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 14:20:08

Date: 08-06-2002

LEVEL POOL ROUTING DATA

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = PERSIMMO.HYG - EX LAKE #1 IN 2  
 Outflow HYG file = PERSIMMO.HYG - EX LAKE #1 OUT 2

Pond Node Data = EX LAKE #1  
 Pond Volume Data = EX-LAKE  
 Pond Outlet Data = EX-ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 550.40 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout = .00 cfs  
 Time Increment = .1000 hrs

| Elevation<br>ft | Outflow<br>cfs | Storage<br>ac-ft | Area<br>acres | Infilt.<br>cfs | Q Total<br>cfs | 2S/t + O<br>cfs |
|-----------------|----------------|------------------|---------------|----------------|----------------|-----------------|
| 550.40          | .00            | .000             | .0000         | .00            | .00            | .00             |
| 550.60          | .12            | .002             | .0324         | .00            | .12            | .64             |
| 550.80          | .46            | .017             | .1298         | .00            | .46            | 4.64            |
| 551.00          | .98            | .058             | .2920         | .00            | .98            | 15.11           |
| 551.20          | 1.66           | .138             | .5191         | .00            | 1.66           | 35.15           |
| 551.40          | 2.46           | .270             | .8110         | .00            | 2.46           | 67.89           |
| 551.60          | 3.36           | .467             | 1.1679        | .00            | 3.36           | 116.42          |
| 551.80          | 4.30           | .742             | 1.5897        | .00            | 4.30           | 183.83          |
| 552.00          | 5.25           | 1.107            | 2.0762        | .00            | 5.25           | 273.22          |
| 552.20          | 6.17           | 1.527            | 2.1236        | .00            | 6.17           | 375.78          |
| 552.40          | 6.86           | 1.957            | 2.1715        | .00            | 6.86           | 480.41          |
| 552.60          | 7.39           | 2.396            | 2.2199        | .00            | 7.39           | 587.22          |
| 552.80          | 7.89           | 2.845            | 2.2689        | .00            | 7.89           | 696.35          |
| 553.00          | 8.35           | 3.303            | 2.3184        | .00            | 8.35           | 807.80          |
| 553.20          | 8.79           | 3.772            | 2.3684        | .00            | 8.79           | 921.66          |
| 553.40          | 9.21           | 4.251            | 2.4190        | .00            | 9.21           | 1037.95         |
| 553.60          | 9.61           | 4.740            | 2.4701        | .00            | 9.61           | 1156.67         |
| 553.80          | 10.00          | 5.239            | 2.5218        | .00            | 10.00          | 1277.86         |
| 554.00          | 10.37          | 5.749            | 2.5739        | .00            | 10.37          | 1401.52         |
| 554.20          | 10.73          | 6.266            | 2.5956        | .00            | 10.73          | 1526.99         |
| 554.40          | 11.08          | 6.787            | 2.6173        | .00            | 11.08          | 1653.49         |
| 554.60          | 11.41          | 7.312            | 2.6391        | .00            | 11.41          | 1781.04         |
| 554.80          | 11.74          | 7.843            | 2.6610        | .00            | 11.74          | 1909.63         |
| 555.00          | 12.06          | 8.377            | 2.6830        | .00            | 12.06          | 2039.24         |

Type... Pond Routing Summary  
Name... EX LAKE #1 OUT Tag: 2  
File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
storm... TypeII 24hr Tag: 2

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Event: 2 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = PERSIMMO.HYG - EX LAKE #1 IN 2  
Outflow HYG file = PERSIMMO.HYG - EX LAKE #1 OUT 2

Pond Node Data = EX LAKE #1  
Pond Volume Data = EX-LAKE  
Pond Outlet Data = EX-ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 550.40 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 8.80 cfs at 12.4000 hrs  
Peak Outflow = 2.94 cfs at 13.2000 hrs  
-----  
Peak Elevation = 551.51 ft  
Peak Storage = .366 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 1.301  
- Infiltration = .000  
- HYG Vol OUT = 1.301  
- Retained Vol = .000  
-----  
Unrouted Vol = -.000 ac-ft (.003% of Inflow Volume)



Type.... Detention Time  
Name.... EX LAKE #1 OUT Tag: 2  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 2

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Event: 2 yr

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = PERSIMMO.HYG - EX LAKE #1 IN 2  
Outflow HYG file = PERSIMMO.HYG - EX LAKE #1 OUT 2

Pond Node Data = EX LAKE #1  
Pond Volume Data = EX-LAKE  
Pond Outlet Data = EX-ROUTE

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.2000 hrs  
Tp, Total Inflow = 12.4000 hrs  
Peak to Peak = .8000 hrs  
  
Qout+Infilt. Centroid = 16.1567 hrs  
Inflow Centroid = 15.0841 hrs  
Centroid to Centroid = 1.0726 hrs  
  
Weighted Avg. Plug Time = 1.1013 hrs  
Max.Plug Vol. Plug Time = .8805 hrs  
Max.Inflow Plug Volume = .072 ac-ft (From 12.3000 to 12.4000 hrs)  
-----

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... Pond Routed HYG (total out)  
 Name... EX LAKE #1 OUT Tag: 2  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 storm... TypeII 24hr Tag: 2

Page 11.05  
 Event: 2 yr

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = EX LAKE #1 OUT  
 HYG Tag = 2

-----  
 Peak Discharge = 2.94 cfs  
 Time to Peak = 13.2000 hrs  
 HYG Volume = 1.301 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |      |      |      |      |
|----------|---|------|------|------|------|
|          | Time on left represents time for first value in each row. |      |      |      |      |
| 11.5000  | .00   | .00  | .01  | .07  | .19  |
| 12.0000  | .47   | .80  | 1.22 | 1.68 | 2.02 |
| 12.5000  | 2.34  | 2.56 | 2.71 | 2.81 | 2.87 |
| 13.0000  | 2.91  | 2.93 | 2.94 | 2.93 | 2.91 |
| 13.5000  | 2.88  | 2.85 | 2.82 | 2.78 | 2.74 |
| 14.0000  | 2.70  | 2.65 | 2.61 | 2.56 | 2.51 |
| 14.5000  | 2.47  | 2.41 | 2.35 | 2.29 | 2.23 |
| 15.0000  | 2.17  | 2.12 | 2.07 | 2.01 | 1.96 |
| 15.5000  | 1.92  | 1.87 | 1.82 | 1.78 | 1.74 |
| 16.0000  | 1.70  | 1.65 | 1.60 | 1.55 | 1.50 |
| 16.5000  | 1.45  | 1.40 | 1.36 | 1.32 | 1.28 |
| 17.0000  | 1.24  | 1.21 | 1.18 | 1.14 | 1.11 |
| 17.5000  | 1.09  | 1.06 | 1.03 | 1.01 | .99  |
| 18.0000  | .96   | .93  | .90  | .87  | .85  |
| 18.5000  | .83   | .80  | .79  | .77  | .75  |
| 19.0000  | .73   | .72  | .70  | .69  | .68  |
| 19.5000  | .66   | .65  | .64  | .63  | .62  |
| 20.0000  | .60   | .59  | .58  | .57  | .56  |
| 20.5000  | .55   | .55  | .54  | .53  | .52  |
| 21.0000  | .51   | .51  | .50  | .50  | .49  |
| 21.5000  | .49   | .48  | .48  | .47  | .47  |
| 22.0000  | .47   | .46  | .46  | .46  | .46  |
| 22.5000  | .45   | .45  | .45  | .44  | .44  |
| 23.0000  | .44   | .43  | .43  | .43  | .43  |
| 23.5000  | .43   | .42  | .42  | .42  | .42  |
| 24.0000  | .42   | .42  | .41  | .40  | .38  |
| 24.5000  | .36   | .33  | .30  | .26  | .23  |
| 25.0000  | .20   | .17  | .14  | .12  | .09  |
| 25.5000  | .06   | .04  | .03  | .02  | .01  |
| 26.0000  | .01   | .01  | .00  | .00  |      |

Type.... Pond Routing Summary  
Name.... EX LAKE #1 OUT Tag: 15  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 15

Page 11.06  
Event: 15 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = PERSIMMO.HYG - EX LAKE #1 IN 15  
Outflow HYG file = PERSIMMO.HYG - EX LAKE #1 OUT 15

Pond Node Data = EX LAKE #1  
Pond Volume Data = EX-LAKE  
Pond Outlet Data = EX-ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 550.40 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 22.78 cfs at 12.3000 hrs  
Peak Outflow = 5.34 cfs at 13.3000 hrs  
-----

Peak Elevation = 552.02 ft  
Peak Storage = 1.146 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 2.975  
- Infiltration = .000  
- HYG Vol OUT = 2.975  
- Retained Vol = .000  
-----  
Unrouted Vol = -.000 ac-ft (.001% of Inflow Volume)

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PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Detention Time  
Name.... EX LAKE #1 OUT Tag: 15  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 15

Page 11.07  
Event: 15 yr

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = PERSIMMO.HYG - EX LAKE #1 IN 15  
Outflow HYG file = PERSIMMO.HYG - EX LAKE #1 OUT 15

Pond Node Data = EX LAKE #1  
Pond Volume Data = EX-LAKE  
Pond Outlet Data = EX-ROUTE

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.3000 hrs  
Tp, Total Inflow = 12.3000 hrs  
Peak to Peak = 1.0000 hrs  
  
Qout+Infilt. Centroid = 16.4677 hrs  
Inflow Centroid = 14.6381 hrs  
Centroid to Centroid = 1.8296 hrs  
  
Weighted Avg. Plug Time = 1.8851 hrs  
Max.Plug Vol. Plug Time = 1.4957 hrs  
Max.Inflow Plug Volume = .186 ac-ft (From 12.3000 to 12.4000 hrs)  
-----

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... Pond Routed HYG (total out)  
 Name... EX LAKE #1 OUT Tag: 15  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 15

Page 11.08  
 Event: 15 yr

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = EX LAKE #1 OUT  
 HYG Tag = 15

-----  
 Peak Discharge = 5.34 cfs  
 Time to Peak = 13.3000 hrs  
 HYG Volume = 2.975 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs |      |      |      |      |      |
|----------|------|------|------|------|------|
| 10.3000  | .00  | .00  | .00  | .01  | .02  |
| 10.8000  | .03  | .05  | .09  | .12  | .15  |
| 11.3000  | .18  | .23  | .29  | .38  | .49  |
| 11.8000  | .63  | .94  | 1.37 | 1.99 | 2.69 |
| 12.3000  | 3.38 | 3.92 | 4.38 | 4.68 | 4.91 |
| 12.8000  | 5.07 | 5.19 | 5.26 | 5.31 | 5.33 |
| 13.3000  | 5.34 | 5.34 | 5.33 | 5.31 | 5.28 |
| 13.8000  | 5.25 | 5.21 | 5.17 | 5.13 | 5.08 |
| 14.3000  | 5.03 | 4.98 | 4.92 | 4.87 | 4.81 |
| 14.8000  | 4.76 | 4.71 | 4.65 | 4.60 | 4.54 |
| 15.3000  | 4.49 | 4.44 | 4.38 | 4.33 | 4.27 |
| 15.8000  | 4.20 | 4.13 | 4.07 | 4.00 | 3.93 |
| 16.3000  | 3.87 | 3.81 | 3.74 | 3.68 | 3.62 |
| 16.8000  | 3.56 | 3.50 | 3.44 | 3.38 | 3.32 |
| 17.3000  | 3.25 | 3.18 | 3.11 | 3.05 | 2.98 |
| 17.8000  | 2.92 | 2.86 | 2.80 | 2.74 | 2.69 |
| 18.3000  | 2.63 | 2.58 | 2.53 | 2.48 | 2.42 |
| 18.8000  | 2.36 | 2.30 | 2.24 | 2.19 | 2.13 |
| 19.3000  | 2.08 | 2.03 | 1.98 | 1.94 | 1.89 |
| 19.8000  | 1.85 | 1.80 | 1.76 | 1.72 | 1.68 |
| 20.3000  | 1.64 | 1.59 | 1.55 | 1.50 | 1.46 |
| 20.8000  | 1.42 | 1.38 | 1.35 | 1.31 | 1.28 |
| 21.3000  | 1.25 | 1.23 | 1.20 | 1.18 | 1.15 |
| 21.8000  | 1.13 | 1.11 | 1.09 | 1.07 | 1.06 |
| 22.3000  | 1.04 | 1.03 | 1.01 | 1.00 | .98  |
| 22.8000  | .97  | .95  | .94  | .92  | .91  |
| 23.3000  | .90  | .89  | .88  | .87  | .86  |
| 23.8000  | .85  | .84  | .84  | .83  | .82  |
| 24.3000  | .80  | .78  | .75  | .71  | .66  |
| 24.8000  | .61  | .56  | .51  | .47  | .41  |
| 25.3000  | .34  | .29  | .24  | .20  | .17  |
| 25.8000  | .14  | .12  | .08  | .05  | .03  |
| 26.3000  | .02  | .01  | .01  | .01  | .00  |
| 26.8000  | .00  |      |      |      |      |

Type.... Pond Routing Summary  
Name.... EX LAKE #1 OUT Tag: 25  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
storm... TypeII 24hr Tag: 25

Page 11.10  
Event: 25 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = PERSIMMO.HYG - EX LAKE #1 IN 25  
Outflow HYG file = PERSIMMO.HYG - EX LAKE #1 OUT 25

Pond Node Data = EX LAKE #1  
Pond Volume Data = EX-LAKE  
Pond Outlet Data = EX-ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 550.40 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 27.46 cfs at 12.3000 hrs  
Peak Outflow = 5.95 cfs at 13.3000 hrs  
-----

Peak Elevation = 552.15 ft  
Peak Storage = 1.426 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 3.530  
- Infiltration = .000  
- HYG Vol OUT = 3.530  
- Retained Vol = .000  
-----

Unrouted Vol = -.000 ac-ft (.002% of Inflow Volume)

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Detention Time  
Name.... EX LAKE #1 OUT Tag: 25  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 25

Page 11.11  
Event: 25 yr

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = PERSIMMO.HYG - EX LAKE #1 IN 25  
Outflow HYG file = PERSIMMO.HYG - EX LAKE #1 OUT 25

Pond Node Data = EX LAKE #1  
Pond Volume Data = EX-LAKE  
Pond Outlet Data = EX-ROUTE

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.4000 hrs  
Tp, Total Inflow = 12.3000 hrs  
Peak to Peak = 1.1000 hrs

Qout+Infilt. Centroid = 16.6020 hrs  
Inflow Centroid = 14.5532 hrs  
Centroid to Centroid = 2.0488 hrs

Weighted Avg. Plug Time = 2.1116 hrs  
Max.Plug Vol. Plug Time = 1.6730 hrs  
Max.Inflow Plug Volume = .224 ac-ft (From 12.3000 to 12.4000 hrs)

-----  
S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Pond Routed HYG (total out)  
 Name.... EX LAKE #1 OUT Tag: 25  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 25

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 Event: 25 yr

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = EX LAKE #1 OUT  
 HYG Tag = 25

-----  
 Peak Discharge = 5.95 cfs  
 Time to Peak = 13.3000 hrs  
 HYG Volume = 3.530 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs  
 Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs |      |      |      |      |
|----------|-----------------------------------|------|------|------|------|
| 9.9000   | .00                               | .00  | .00  | .01  | .01  |
| 10.4000  | .03                               | .04  | .07  | .10  | .13  |
| 10.9000  | .15                               | .18  | .22  | .28  | .34  |
| 11.4000  | .41                               | .49  | .56  | .67  | .87  |
| 11.9000  | 1.17                              | 1.69 | 2.36 | 3.10 | 3.81 |
| 12.4000  | 4.42                              | 4.87 | 5.23 | 5.47 | 5.64 |
| 12.9000  | 5.76                              | 5.85 | 5.90 | 5.94 | 5.95 |
| 13.4000  | 5.95                              | 5.94 | 5.93 | 5.90 | 5.87 |
| 13.9000  | 5.84                              | 5.80 | 5.76 | 5.72 | 5.67 |
| 14.4000  | 5.62                              | 5.57 | 5.52 | 5.47 | 5.42 |
| 14.9000  | 5.37                              | 5.32 | 5.27 | 5.21 | 5.15 |
| 15.4000  | 5.08                              | 5.02 | 4.96 | 4.90 | 4.84 |
| 15.9000  | 4.78                              | 4.72 | 4.66 | 4.61 | 4.55 |
| 16.4000  | 4.49                              | 4.43 | 4.37 | 4.32 | 4.25 |
| 16.9000  | 4.18                              | 4.10 | 4.04 | 3.97 | 3.90 |
| 17.4000  | 3.84                              | 3.77 | 3.71 | 3.65 | 3.59 |
| 17.9000  | 3.53                              | 3.47 | 3.41 | 3.36 | 3.29 |
| 18.4000  | 3.22                              | 3.15 | 3.08 | 3.02 | 2.96 |
| 18.9000  | 2.89                              | 2.83 | 2.78 | 2.72 | 2.67 |
| 19.4000  | 2.61                              | 2.56 | 2.51 | 2.46 | 2.39 |
| 19.9000  | 2.33                              | 2.27 | 2.21 | 2.16 | 2.10 |
| 20.4000  | 2.05                              | 2.00 | 1.95 | 1.90 | 1.86 |
| 20.9000  | 1.82                              | 1.78 | 1.74 | 1.70 | 1.66 |
| 21.4000  | 1.62                              | 1.57 | 1.53 | 1.49 | 1.46 |
| 21.9000  | 1.42                              | 1.39 | 1.36 | 1.33 | 1.31 |
| 22.4000  | 1.28                              | 1.26 | 1.23 | 1.21 | 1.19 |
| 22.9000  | 1.18                              | 1.16 | 1.14 | 1.12 | 1.11 |
| 23.4000  | 1.10                              | 1.08 | 1.07 | 1.06 | 1.05 |
| 23.9000  | 1.03                              | 1.02 | 1.01 | 1.00 | .99  |
| 24.4000  | .95                               | .91  | .86  | .80  | .74  |
| 24.9000  | .68                               | .62  | .57  | .51  | .47  |
| 25.4000  | .40                               | .33  | .28  | .23  | .19  |
| 25.9000  | .16                               | .13  | .11  | .07  | .04  |
| 26.4000  | .03                               | .02  | .01  | .01  | .00  |
| 26.9000  | .00                               |      |      |      |      |



Type.... Pond Routing Summary  
Name.... EX LAKE #1 OUT Tag: 100  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 100

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Event: 100 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = PERSIMMO.HYG - EX LAKE #1 IN 100  
Outflow HYG file = PERSIMMO.HYG - EX LAKE #1 OUT 100

Pond Node Data = EX LAKE #1  
Pond Volume Data = EX-LAKE  
Pond Outlet Data = EX-ROUTE

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 550.40 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .1000 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 42.35 cfs at 12.3000 hrs  
Peak Outflow = 7.38 cfs at 13.5000 hrs  
-----  
Peak Elevation = 552.60 ft  
Peak Storage = 2.387 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 5.308  
- Infiltration = .000  
- HYG Vol OUT = 5.308  
- Retained Vol = .000  
-----  
Unrouted Vol = -.000 ac-ft (.001% of Inflow Volume)

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Type.... Detention Time  
Name.... EX LAKE #1 OUT Tag: 100  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 100

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Event: 100 yr

DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = PERSIMMO.HYG - EX LAKE #1 IN 100  
Outflow HYG file = PERSIMMO.HYG - EX LAKE #1 OUT 100

Pond Node Data = EX LAKE #1  
Pond Volume Data = EX-LAKE  
Pond Outlet Data = EX-ROUTE

No Infiltration

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.5000 hrs  
Tp, Total Inflow = 12.3000 hrs  
Peak to Peak = 1.2000 hrs

Qout+Infilt. Centroid = 17.0798 hrs  
Inflow Centroid = 14.3554 hrs  
Centroid to Centroid = 2.7243 hrs

Weighted Avg. Plug Time = 2.8093 hrs  
Max.Plug Vol. Plug Time = 2.2352 hrs  
Max.Inflow Plug Volume = .344 ac-ft (From 12.3000 to 12.4000 hrs)  
-----

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... Pond Routed HYG (total out)  
 Name.... EX LAKE #1 OUT Tag: 100  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 100

POND ROUTED TOTAL OUTFLOW HYG...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = EX LAKE #1 OUT  
 HYG Tag = 100

-----  
 Peak Discharge = 7.38 cfs  
 Time to Peak = 13.5000 hrs  
 HYG Volume = 5.308 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |      |      |      |      |
|----------|---|------|------|------|------|
|          | Time on left represents time for first value in each row. |      |      |      |      |
| 8.8000   | .00   | .00  | .00  | .01  | .01  |
| 9.3000   | .03   | .04  | .06  | .09  | .12  |
| 9.8000   | .13   | .15  | .17  | .20  | .23  |
| 10.3000  | .27   | .31  | .35  | .40  | .46  |
| 10.8000  | .50   | .55  | .61  | .67  | .75  |
| 11.3000  | .84   | .95  | 1.04 | 1.15 | 1.31 |
| 11.8000  | 1.56  | 1.94 | 2.56 | 3.38 | 4.24 |
| 12.3000  | 5.03  | 5.72 | 6.27 | 6.63 | 6.89 |
| 12.8000  | 7.04  | 7.16 | 7.24 | 7.30 | 7.34 |
| 13.3000  | 7.36  | 7.37 | 7.38 | 7.38 | 7.37 |
| 13.8000  | 7.36  | 7.34 | 7.32 | 7.30 | 7.27 |
| 14.3000  | 7.24  | 7.21 | 7.18 | 7.15 | 7.11 |
| 14.8000  | 7.08  | 7.04 | 7.01 | 6.97 | 6.94 |
| 15.3000  | 6.90  | 6.86 | 6.82 | 6.77 | 6.72 |
| 15.8000  | 6.67  | 6.62 | 6.57 | 6.52 | 6.47 |
| 16.3000  | 6.41  | 6.36 | 6.31 | 6.26 | 6.21 |
| 16.8000  | 6.15  | 6.08 | 6.02 | 5.95 | 5.88 |
| 17.3000  | 5.82  | 5.75 | 5.69 | 5.62 | 5.56 |
| 17.8000  | 5.50  | 5.44 | 5.38 | 5.32 | 5.26 |
| 18.3000  | 5.19  | 5.12 | 5.05 | 4.98 | 4.91 |
| 18.8000  | 4.85  | 4.78 | 4.72 | 4.66 | 4.59 |
| 19.3000  | 4.53  | 4.47 | 4.41 | 4.35 | 4.29 |
| 19.8000  | 4.22  | 4.14 | 4.07 | 4.00 | 3.93 |
| 20.3000  | 3.86  | 3.79 | 3.72 | 3.66 | 3.60 |
| 20.8000  | 3.53  | 3.47 | 3.41 | 3.36 | 3.28 |
| 21.3000  | 3.21  | 3.14 | 3.07 | 3.01 | 2.95 |
| 21.8000  | 2.89  | 2.83 | 2.77 | 2.72 | 2.67 |
| 22.3000  | 2.61  | 2.57 | 2.52 | 2.47 | 2.42 |
| 22.8000  | 2.36  | 2.31 | 2.25 | 2.21 | 2.16 |
| 23.3000  | 2.11  | 2.07 | 2.03 | 1.99 | 1.95 |
| 23.8000  | 1.92  | 1.88 | 1.85 | 1.82 | 1.78 |
| 24.3000  | 1.75  | 1.71 | 1.66 | 1.58 | 1.50 |
| 24.8000  | 1.42  | 1.33 | 1.25 | 1.17 | 1.10 |
| 25.3000  | 1.03  | .95  | .86  | .77  | .70  |
| 25.8000  | .63   | .57  | .51  | .46  | .38  |
| 26.3000  | .32   | .26  | .22  | .18  | .15  |
| 26.8000  | .13   | .09  | .06  | .04  | .02  |
| 27.3000  | .01   | .01  | .01  | .00  | .00  |

Type.... ICPM Node Routing Summary  
 Name.... K-B LAKE Tag: 2  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 2

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 Event: 2 yr

ICPM POND ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = K-B LAKE IN 2  
 Outflow HYG file = K-B LAKE OUT 2

Pond Node Data = K-B LAKE  
 Pond Volume Data = K-B LAKE  
 Pond Outlet Data = KB-OUTLET

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 526.00 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs

CALCULATION TOLERANCES

Target Convergence= .100 cfs +/-  
 Max. Iterations = 35 loops  
 ICPM Time Step = .1000 hrs  
 Output Time Step = .1000 hrs  
 ICPM Ending Time = 24.0000 hrs

MAXIMUM STORAGE

| Tp, hrs | Elev, ft | Vol, ac-ft |
|---------|----------|------------|
| 14.3000 | 528.55   | 7.246      |

FORWARD FLOW PEAKS

| Tp, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

REVERSE FLOW PEAKS

| Tp, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

|                  |         |       |       |     |
|------------------|---------|-------|-------|-----|
| Pond Inflow..... | 12.4000 | 79.54 | .0000 | .00 |
| Pond Outflow.... | 14.3000 | 20.21 | .0000 | .00 |

TOTAL VOLUME IN

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

TOTAL VOLUME OUT

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

|                  |        |         |        |         |
|------------------|--------|---------|--------|---------|
| Pond Inflow..... | 15.823 | Forward | .000   | Reverse |
| Pond Outflow.... | .000   | Reverse | 12.824 | Forward |

MASS BALANCE (ac-ft)

|                    |            |                                       |
|--------------------|------------|---------------------------------------|
| + Initial Vol..... | .000       |                                       |
| + Total Vol IN.... | 15.823     |                                       |
| - Total Vol OUT... | 12.824     |                                       |
| - Ending Pond Vol. | 2.945      | <-- (At 24.0000 hrs Elev.= 527.04 ft) |
| Difference.....    | .054 ac-ft | (.344% of Inflow Volume)              |

Type.... Detention Time  
Name.... K-B LAKE Tag: 2  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 2

Page 11.25  
Event: 2 yr

ICPM POND DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = K-B LAKE IN 2  
Outflow HYG file = K-B LAKE OUT 2

Pond Node Data = K-B LAKE  
Pond Volume Data = K-B LAKE  
Pond Outlet Data = KB-OUTLET

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 526.00 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
-----

CALCULATION TOLERANCES

-----  
Target Convergence= .100 cfs +/-  
Max. Iterations = 35 loops  
ICPM Time Step = .1000 hrs  
Output Time Step = .1000 hrs  
ICPM Ending Time = 24.0000 hrs  
-----

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 14.3000 hrs  
Tp, Total Inflow = 12.4000 hrs  
Peak to Peak = 1.9000 hrs

Qout+Infilt. Centroid = 17.0620 hrs  
Inflow Centroid = 14.4440 hrs  
Centroid to Centroid = 2.6180 hrs

Weighted Avg. Plug Time = 3.9887 hrs  
Max.Plug Vol. Plug Time = 2.5542 hrs  
Max.Inflow Plug Volume = .649 ac-ft (From 12.4000 to 12.5000 hrs)

-----  
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Type.... ICPM Node Routing Summary  
 Name.... K-B LAKE Tag: 15  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 15

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 Event: 15 yr

ICPM POND ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = K-B LAKE IN 15  
 Outflow HYG file = K-B LAKE OUT 15

Pond Node Data = K-B LAKE  
 Pond Volume Data = K-B LAKE  
 Pond Outlet Data = KB-OUTLET

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 526.00 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 -----

CALCULATION TOLERANCES

-----  
 Target Convergence= .100 cfs +/-  
 Max. Iterations = 35 loops  
 ICPM Time Step = .1000 hrs  
 Output Time Step = .1000 hrs  
 ICPM Ending Time = 24.0000 hrs  
 -----

MAXIMUM STORAGE

| -----   | -----    | -----      |
|---------|----------|------------|
| Tp, hrs | Elev, ft | Vol, ac-ft |
| 13.7000 | 530.17   | 11.837     |

FORWARD FLOW PEAKS

| -----   | -----   |
|---------|---------|
| Tp, hrs | Qp, cfs |

REVERSE FLOW PEAKS

| -----   | -----   |
|---------|---------|
| Tp, hrs | Qp, cfs |

|                   |         |        |       |     |
|-------------------|---------|--------|-------|-----|
| Pond Inflow.....  | 12.4000 | 143.10 | .0000 | .00 |
| Pond Outflow..... | 13.7000 | 53.02  | .0000 | .00 |

TOTAL VOLUME IN

| -----      | -----     | ----- |
|------------|-----------|-------|
| Vol, ac-ft | Direction |       |

TOTAL VOLUME OUT

| -----      | -----     | ----- |
|------------|-----------|-------|
| Vol, ac-ft | Direction |       |

|                   |        |         |        |         |
|-------------------|--------|---------|--------|---------|
| Pond Inflow.....  | 29.276 | Forward | .000   | Reverse |
| Pond Outflow..... | .000   | Reverse | 24.970 | Forward |

MASS BALANCE (ac-ft)

-----  
 + Initial Vol..... .000  
 + Total Vol IN.... 29.276  
 - Total Vol OUT... 24.970  
 - Ending Pond Vol. 4.230 <-- (At 24.0000 hrs Elev.= 527.49 ft)  
 -----  
 Difference..... .076 ac-ft (.260% of Inflow Volume)

Type.... Detention Time  
Name.... K-B LAKE Tag: 15  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 15

Page 11.27  
Event: 15 yr

ICPM POND DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = K-B LAKE IN 15  
Outflow HYG file = K-B LAKE OUT 15

Pond Node Data = K-B LAKE  
Pond Volume Data = K-B LAKE  
Pond Outlet Data = KB-OUTLET

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 526.00 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
-----

CALCULATION TOLERANCES

-----  
Target Convergence= .100 cfs +/-  
Max. Iterations = 35 loops  
ICPM Time Step = .1000 hrs  
Output Time Step = .1000 hrs  
ICPM Ending Time = 24.0000 hrs  
-----

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.7000 hrs  
Tp, Total Inflow = 12.4000 hrs  
Peak to Peak = 1.3000 hrs

Qout+Infilt. Centroid = 16.5413 hrs  
Inflow Centroid = 14.3258 hrs  
Centroid to Centroid = 2.2154 hrs

Weighted Avg. Plug Time = 3.3536 hrs  
Max.Plug Vol. Plug Time = 1.9812 hrs  
Max.Inflow Plug Volume = 1.166 ac-ft (From 12.4000 to 12.5000 hrs)  
-----

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PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... ICPM Node Routing Summary  
 Name... K-B LAKE Tag: 25  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 25

Page 11.28  
 Event: 25 yr

ICPM POND ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = K-B LAKE IN 25  
 Outflow HYG file = K-B LAKE OUT 25

Pond Node Data = K-B LAKE  
 Pond Volume Data = K-B LAKE  
 Pond Outlet Data = KB-OUTLET

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 526.00 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs

CALCULATION TOLERANCES

Target Convergence = .100 cfs +/-  
 Max. Iterations = 35 loops  
 ICPM Time Step = .1000 hrs  
 Output Time Step = .1000 hrs  
 ICPM Ending Time = 24.0000 hrs

MAXIMUM STORAGE

| TP, hrs | Elev, ft | Vol, ac-ft |
|---------|----------|------------|
| 13.5000 | 530.42   | 12.569     |

FORWARD FLOW PEAKS

| TP, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

REVERSE FLOW PEAKS

| TP, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

|                  |         |        |       |     |
|------------------|---------|--------|-------|-----|
| Pond Inflow..... | 12.4000 | 162.47 | .0000 | .00 |
| Pond Outflow.... | 13.5000 | 71.81  | .0000 | .00 |

TOTAL VOLUME IN

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

TOTAL VOLUME OUT

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

|                  |        |         |        |         |
|------------------|--------|---------|--------|---------|
| Pond Inflow..... | 33.473 | Forward | .000   | Reverse |
| Pond Outflow.... | .000   | Reverse | 28.784 | Forward |

MASS BALANCE (ac-ft)

|                    |            |                                       |
|--------------------|------------|---------------------------------------|
| + Initial Vol..... | .000       |                                       |
| + Total Vol IN.... | 33.473     |                                       |
| - Total Vol OUT... | 28.784     |                                       |
| - Ending Pond Vol. | 4.560      | <-- (At 24.0000 hrs Elev.= 527.60 ft) |
| Difference.....    | .129 ac-ft | (.386% of Inflow Volume)              |



Type.... Detention Time  
Name.... K-B LAKE Tag: 25  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 25

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Event: 25 yr

ICPM POND DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = K-B LAKE IN 25  
Outflow HYG file = K-B LAKE OUT 25

Pond Node Data = K-B LAKE  
Pond Volume Data = K-B LAKE  
Pond Outlet Data = KB-OUTLET

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 526.00 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
-----

CALCULATION TOLERANCES

-----  
Target Convergence= .100 cfs +/-  
Max. Iterations = 35 loops  
ICPM Time Step = .1000 hrs  
Output Time Step = .1000 hrs  
ICPM Ending Time = 24.0000 hrs  
-----

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.5000 hrs  
Tp, Total Inflow = 12.4000 hrs  
Peak to Peak = 1.1000 hrs

Qout+Infilt. Centroid = 16.3515 hrs  
Inflow Centroid = 14.3053 hrs  
Centroid to Centroid = 2.0462 hrs

Weighted Avg. Plug Time = 3.1549 hrs  
Max.Plug Vol. Plug Time = 1.5740 hrs  
Max.Inflow Plug Volume = 1.324 ac-ft (From 12.3000 to 12.4000 hrs)  
-----

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... ICPM Node Routing Summary  
 Name... K-B LAKE Tag: 100  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 100

Page 11.30  
 Event: 100 yr

ICPM POND ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = K-B LAKE IN 100  
 Outflow HYG file = K-B LAKE OUT 100

Pond Node Data = K-B LAKE  
 Pond Volume Data = K-B LAKE  
 Pond Outlet Data = KB-OUTLET

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 526.00 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs

CALCULATION TOLERANCES

Target Convergence= .100 cfs +/-  
 Max. Iterations = 35 loops  
 ICPM Time Step = .1000 hrs  
 Output Time Step = .1000 hrs  
 ICPM Ending Time = 24.0000 hrs

MAXIMUM STORAGE

| Tp, hrs | Elev, ft | Vol, ac-ft |
|---------|----------|------------|
| 13.2000 | 530.98   | 14.137     |

FORWARD FLOW PEAKS

| Tp, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

REVERSE FLOW PEAKS

| Tp, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

|                  |         |        |       |     |
|------------------|---------|--------|-------|-----|
| Pond Inflow..... | 12.4000 | 221.47 | .0000 | .00 |
| Pond Outflow.... | 13.2000 | 128.78 | .0000 | .00 |

TOTAL VOLUME IN

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

TOTAL VOLUME OUT

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

|                  |        |         |        |         |
|------------------|--------|---------|--------|---------|
| Pond Inflow..... | 46.440 | Forward | .000   | Reverse |
| Pond Outflow.... | .000   | Reverse | 40.734 | Forward |

MASS BALANCE (ac-ft)

|                    |            |                                       |
|--------------------|------------|---------------------------------------|
| + Initial Vol..... | .000       |                                       |
| + Total Vol IN.... | 46.440     |                                       |
| - Total Vol OUT... | 40.734     |                                       |
| - Ending Pond Vol. | 5.544      | <-- (At 24.0000 hrs Elev.= 527.95 ft) |
| Difference.....    | .162 ac-ft | (.349% of Inflow Volume)              |

Type... Detention Time  
Name... K-B LAKE Tag: 100  
File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 100

Page 11.31  
Event: 100 yr

ICPM POND DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = K-B LAKE IN 100  
Outflow HYG file = K-B LAKE OUT 100

Pond Node Data = K-B LAKE  
Pond Volume Data = K-B LAKE  
Pond Outlet Data = KB-OUTLET

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 526.00 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
-----

CALCULATION TOLERANCES

-----  
Target Convergence= .100 cfs +/-  
Max. Iterations = 35 loops  
ICPM Time Step = .1000 hrs  
Output Time Step = .1000 hrs  
ICPM Ending Time = 24.0000 hrs  
-----

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.2000 hrs  
Tp, Total Inflow = 12.4000 hrs  
Peak to Peak = .8000 hrs

Qout+Infilt. Centroid = 15.8848 hrs  
Inflow Centroid = 14.2619 hrs  
Centroid to Centroid = 1.6230 hrs

Weighted Avg. Plug Time = 2.6480 hrs  
Max.Plug Vol. Plug Time = 1.1702 hrs  
Max.Inflow Plug Volume = 1.809 ac-ft (From 12.3000 to 12.4000 hrs)  
-----

S/N: 721701406A81 J R GRIMES CONSULTING

PondPack Ver: 7.5 (767)

Compute Time: 14:20:08

Date: 08-06-2002

Type.... Diverted Hydrograph  
 Name.... LAKE3-ROUTE  
 File.... J:\0675B\PONDPACK\  
 Storm... TypeII 24hr Tag: 2

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 Event: 2 yr

DIVERTED HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = LAKE3-ROUTE  
 HYG Tag = 2

-----  
 Peak Discharge = 21.31 cfs  
 Time to Peak = 14.4000 hrs  
 HYG Volume = 14.053 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 8.0000   | .00   | .02   | .02   | .02   | .04   |
| 8.5000   | .04   | .04   | .07   | .07   | .09   |
| 9.0000   | .09   | .11   | .13   | .15   | .17   |
| 9.5000   | .20   | .22   | .24   | .26   | .28   |
| 10.0000  | .30   | .33   | .35   | .37   | .39   |
| 10.5000  | .41   | .43   | .46   | .50   | .54   |
| 11.0000  | .58   | .63   | .67   | .73   | .80   |
| 11.5000  | .88   | .99   | 1.14  | 1.35  | 1.75  |
| 12.0000  | 2.65  | 4.51  | 6.85  | 9.52  | 11.66 |
| 12.5000  | 13.32   | 14.40 | 15.18 | 15.81 | 16.39 |
| 13.0000  | 16.92   | 17.39 | 17.92 | 18.39 | 18.87 |
| 13.5000  | 19.29   | 19.71 | 20.07 | 20.38 | 20.64 |
| 14.0000  | 20.85   | 21.00 | 21.16 | 21.26 | 21.31 |
| 14.5000  | 21.31   | 21.31 | 21.25 | 21.19 | 21.09 |
| 15.0000  | 20.96   | 20.84 | 20.71 | 20.58 | 20.40 |
| 15.5000  | 20.21   | 20.02 | 19.83 | 19.65 | 19.46 |
| 16.0000  | 19.27   | 19.09 | 18.91 | 18.66 | 18.45 |
| 16.5000  | 18.20   | 17.99 | 17.75 | 17.54 | 17.32 |
| 17.0000  | 17.11   | 16.89 | 16.68 | 16.47 | 16.26 |
| 17.5000  | 16.05   | 15.85 | 15.64 | 15.43 | 15.23 |
| 18.0000  | 15.02   | 14.82 | 14.62 | 14.42 | 14.21 |
| 18.5000  | 14.01   | 13.81 | 13.61 | 13.42 | 13.22 |
| 19.0000  | 13.02   | 12.87 | 12.68 | 12.48 | 12.34 |
| 19.5000  | 12.14   | 12.00 | 11.85 | 11.66 | 11.52 |
| 20.0000  | 11.35   | 11.23 | 11.06 | 10.90 | 10.74 |
| 20.5000  | 10.62   | 10.46 | 10.35 | 10.19 | 10.07 |
| 21.0000  | 9.95  | 9.84  | 9.72  | 9.60  | 9.45  |
| 21.5000  | 9.33  | 9.22  | 9.11  | 8.99  | 8.88  |
| 22.0000  | 8.77  | 8.65  | 8.54  | 8.43  | 8.31  |
| 22.5000  | 8.20  | 8.12  | 8.05  | 7.94  | 7.87  |
| 23.0000  | 7.79  | 7.72  | 7.61  | 7.53  | 7.46  |
| 23.5000  | 7.39  | 7.31  | 7.24  | 7.17  | 7.10  |
| 24.0000  | 7.02  |       |       |       |       |

Type.... Diverted Hydrograph  
 Name.... LAKE3-ROUTE  
 File.... J:\0675B\PONDPACK\  
 Storm... TypeII 24hr Tag: 15

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 Event: 15 yr

DIVERTED HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = LAKE3-ROUTE  
 HYG Tag = 15

-----  
 Peak Discharge = 53.98 cfs  
 Time to Peak = 14.0000 hrs  
 HYG Volume = 27.400 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | HYDROGRAPH ORDINATES (cfs)                                |       |       |       |       |       |
|----------|---|-------|-------|-------|-------|-------|
|          | Output Time increment = .1000 hrs                         |       |       |       |       |       |
|          | Time on left represents time for first value in each row. |       |       |       |       |       |
| 6.1000   | .00   | .02   | .02   | .02   | .04   | .04   |
| 6.6000   | .04   | .07   | .07   | .09   | .09   | .09   |
| 7.1000   | .11   | .13   | .15   | .17   | .20   | .20   |
| 7.6000   | .22   | .24   | .26   | .28   | .30   | .30   |
| 8.1000   | .33   | .35   | .37   | .39   | .41   | .41   |
| 8.6000   | .43   | .46   | .48   | .50   | .52   | .52   |
| 9.1000   | .54   | .56   | .61   | .65   | .69   | .69   |
| 9.6000   | .74   | .78   | .82   | .86   | .91   | .91   |
| 10.1000  | .97   | 1.03  | 1.10  | 1.18  | 1.27  | 1.27  |
| 10.6000  | 1.35  | 1.43  | 1.54  | 1.64  | 1.77  | 1.77  |
| 11.1000  | 1.92  | 2.06  | 2.23  | 2.53  | 2.87  | 2.87  |
| 11.6000  | 3.24  | 3.72  | 4.49  | 5.83  | 8.54  | 8.54  |
| 12.1000  | 12.52   | 17.61 | 22.72 | 26.79 | 29.52 | 29.52 |
| 12.6000  | 31.45   | 33.13 | 34.93 | 36.80 | 38.59 | 38.59 |
| 13.1000  | 40.60   | 42.54 | 44.45 | 46.48 | 48.64 | 48.64 |
| 13.6000  | 50.43   | 52.04 | 53.17 | 53.78 | 53.98 | 53.98 |
| 14.1000  | 53.74   | 53.14 | 52.30 | 51.24 | 50.01 | 50.01 |
| 14.6000  | 48.85   | 47.84 | 46.87 | 45.96 | 45.11 | 45.11 |
| 15.1000  | 44.21   | 43.37 | 42.49 | 41.62 | 40.80 | 40.80 |
| 15.6000  | 39.94   | 39.13 | 38.33 | 37.54 | 36.71 | 36.71 |
| 16.1000  | 35.94   | 35.17 | 34.41 | 33.65 | 32.94 | 32.94 |
| 16.6000  | 32.24   | 31.56 | 30.92 | 30.29 | 29.66 | 29.66 |
| 17.1000  | 29.03   | 28.41 | 27.84 | 27.30 | 26.77 | 26.77 |
| 17.6000  | 26.24   | 25.72 | 25.23 | 24.79 | 24.35 | 24.35 |
| 18.1000  | 23.94   | 23.55 | 23.15 | 22.76 | 22.40 | 22.40 |
| 18.6000  | 22.08   | 21.76 | 21.43 | 21.18 | 20.93 | 20.93 |
| 19.1000  | 20.67   | 20.42 | 20.17 | 19.92 | 19.67 | 19.67 |
| 19.6000  | 19.42   | 19.17 | 18.93 | 18.68 | 18.44 | 18.44 |
| 20.1000  | 18.19   | 17.95 | 17.71 | 17.47 | 17.26 | 17.26 |
| 20.6000  | 17.04   | 16.83 | 16.62 | 16.41 | 16.20 | 16.20 |
| 21.1000  | 15.99   | 15.78 | 15.58 | 15.37 | 15.22 | 15.22 |
| 21.6000  | 15.01   | 14.81 | 14.66 | 14.46 | 14.30 | 14.30 |
| 22.1000  | 14.15   | 13.95 | 13.75 | 13.60 | 13.45 | 13.45 |

Type.... Diverted Hydrograph  
Name.... LAKE3-ROUTE  
File.... J:\0675B\PONDPACK\  
storm... TypeII 24hr Tag: 15

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Event: 15 yr

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

---

| Time<br>hrs |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|
| 22.6000     | 13.31 | 13.16 | 13.01 | 12.86 | 12.71 |
| 23.1000     | 12.57 | 12.42 | 12.28 | 12.14 | 11.99 |
| 23.6000     | 11.85 | 11.70 | 11.56 | 11.41 | 11.29 |

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Type.... Diverted Hydrograph  
 Name.... LAKE3-ROUTE  
 File.... J:\0675B\PONDPACK\  
 Storm... TypeII 24hr Tag: 25

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 Event: 25 yr

DIVERTED HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = LAKE3-ROUTE  
 HYG Tag = 25

-----  
 Peak Discharge = 71.34 cfs  
 Time to Peak = 13.8000 hrs  
 HYG Volume = 31.532 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |       |       |       |       |
|----------|---|-------|-------|-------|-------|
|          | Time on left represents time for first value in each row. |       |       |       |       |
| 5.8000   | .00   | .02   | .02   | .04   | .04   |
| 6.3000   | .07   | .07   | .09   | .09   | .11   |
| 6.8000   | .13   | .15   | .17   | .20   | .22   |
| 7.3000   | .24   | .26   | .28   | .30   | .33   |
| 7.8000   | .35   | .37   | .39   | .41   | .43   |
| 8.3000   | .46   | .48   | .50   | .52   | .54   |
| 8.8000   | .56   | .61   | .65   | .69   | .74   |
| 9.3000   | .78   | .82   | .86   | .93   | .99   |
| 9.8000   | 1.05  | 1.12  | 1.18  | 1.27  | 1.35  |
| 10.3000  | 1.43  | 1.52  | 1.62  | 1.73  | 1.85  |
| 10.8000  | 1.98  | 2.12  | 2.31  | 2.57  | 2.87  |
| 11.3000  | 3.16  | 3.49  | 3.86  | 4.26  | 4.81  |
| 11.8000  | 5.68  | 7.44  | 10.63 | 15.42 | 21.45 |
| 12.3000  | 27.30   | 31.89 | 35.13 | 37.59 | 39.83 |
| 12.8000  | 42.22   | 44.56 | 47.43 | 51.22 | 55.60 |
| 13.3000  | 60.06   | 64.02 | 67.26 | 69.56 | 70.97 |
| 13.8000  | 71.34   | 70.82 | 69.71 | 68.01 | 66.16 |
| 14.3000  | 64.02   | 61.78 | 59.65 | 57.35 | 55.19 |
| 14.8000  | 53.13   | 51.22 | 49.58 | 48.19 | 47.00 |
| 15.3000  | 45.93   | 44.92 | 43.98 | 43.04 | 42.16 |
| 15.8000  | 41.29   | 40.42 | 39.58 | 38.78 | 37.99 |
| 16.3000  | 37.20   | 36.42 | 35.65 | 34.93 | 34.21 |
| 16.8000  | 33.50   | 32.80 | 32.10 | 31.47 | 30.83 |
| 17.3000  | 30.24   | 29.65 | 29.10 | 28.56 | 28.02 |
| 17.8000  | 27.48   | 26.95 | 26.46 | 26.01 | 25.56 |
| 18.3000  | 25.12   | 24.68 | 24.24 | 23.88 | 23.51 |
| 18.8000  | 23.15   | 22.82 | 22.50 | 22.18 | 21.86 |
| 19.3000  | 21.57   | 21.31 | 21.05 | 20.80 | 20.55 |
| 19.8000  | 20.29   | 20.04 | 19.79 | 19.54 | 19.30 |
| 20.3000  | 19.08   | 18.86 | 18.62 | 18.41 | 18.19 |
| 20.8000  | 17.98   | 17.77 | 17.56 | 17.34 | 17.15 |
| 21.3000  | 16.94   | 16.75 | 16.54 | 16.36 | 16.18 |
| 21.8000  | 15.97   | 15.82 | 15.61 | 15.45 | 15.30 |

Type.... Diverted Hydrograph  
Name.... LAKE3-ROUTE  
File.... J:\0675B\PONDPACK\  
Storm... TypeII 24hr Tag: 25

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Event: 25 yr

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

---

| Time<br>hrs |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|
| 22.3000     | 15.09 | 14.94 | 14.79 | 14.64 | 14.44 |
| 22.8000     | 14.29 | 14.13 | 13.98 | 13.78 | 13.63 |
| 23.3000     | 13.49 | 13.34 | 13.19 | 13.04 | 12.89 |
| 23.8000     | 12.75 | 12.60 | 12.46 |       |       |

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PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002



Type.... Diverted Hydrograph  
 Name.... LAKE3-ROUTE  
 File.... J:\0675B\PONDPACK\  
 Storm... TypeII 24hr Tag: 100

DIVERTED HYDROGRAPH...  
 HYG file = J:\0675B\PONDPACK\PERSIMMO.HYG  
 HYG ID = LAKE3-ROUTE  
 HYG Tag = 100

-----  
 Peak Discharge = 130.07 cfs  
 Time to Peak = 13.4000 hrs  
 HYG Volume = 44.703 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .1000 hrs

Time on left represents time for first value in each row.

| Time hrs | Output Time increment = .1000 hrs                         |        |        |        |        |
|----------|---|--------|--------|--------|--------|
|          | Time on left represents time for first value in each row. |        |        |        |        |
| 4.9000   | .00   | .02    | .02    | .04    | .04    |
| 5.4000   | .07   | .09    | .09    | .11    | .13    |
| 5.9000   | .15   | .17    | .20    | .22    | .24    |
| 6.4000   | .26   | .28    | .30    | .33    | .35    |
| 6.9000   | .37   | .39    | .41    | .43    | .46    |
| 7.4000   | .50   | .54    | .58    | .63    | .67    |
| 7.9000   | .71   | .76    | .80    | .84    | .88    |
| 8.4000   | .93   | .97    | 1.03   | 1.10   | 1.16   |
| 8.9000   | 1.22  | 1.31   | 1.39   | 1.48   | 1.56   |
| 9.4000   | 1.64  | 1.75   | 1.85   | 1.96   | 2.06   |
| 9.9000   | 2.18  | 2.38   | 2.56   | 2.75   | 2.94   |
| 10.4000  | 3.16  | 3.38   | 3.60   | 3.86   | 4.15   |
| 10.9000  | 4.44  | 4.77   | 5.13   | 5.49   | 5.92   |
| 11.4000  | 6.42  | 7.06   | 7.78   | 8.72   | 10.18  |
| 11.9000  | 12.77   | 17.45  | 24.73  | 33.58  | 42.11  |
| 12.4000  | 49.29   | 55.06  | 61.55  | 71.18  | 83.27  |
| 12.9000  | 96.22   | 109.79 | 119.82 | 126.68 | 129.72 |
| 13.4000  | 130.07  | 128.37 | 125.21 | 120.90 | 115.98 |
| 13.9000  | 110.83  | 105.32 | 99.83  | 94.91  | 90.37  |
| 14.4000  | 86.23   | 82.10  | 78.06  | 74.22  | 70.59  |
| 14.9000  | 67.11   | 64.05  | 61.26  | 58.74  | 56.49  |
| 15.4000  | 54.22   | 52.18  | 50.41  | 49.01  | 47.83  |
| 15.9000  | 46.80   | 45.84  | 44.99  | 44.14  | 43.31  |
| 16.4000  | 42.53   | 41.76  | 40.99  | 40.28  | 39.59  |
| 16.9000  | 38.93   | 38.28  | 37.63  | 36.98  | 36.34  |
| 17.4000  | 35.70   | 35.07  | 34.44  | 33.82  | 33.24  |
| 17.9000  | 32.72   | 32.19  | 31.68  | 31.20  | 30.72  |
| 18.4000  | 30.25   | 29.77  | 29.30  | 28.84  | 28.37  |
| 18.9000  | 27.91   | 27.49  | 27.11  | 26.73  | 26.35  |
| 19.4000  | 25.98   | 25.61  | 25.24  | 24.87  | 24.50  |
| 19.9000  | 24.18   | 23.88  | 23.56  | 23.26  | 22.96  |
| 20.4000  | 22.67   | 22.41  | 22.15  | 21.89  | 21.63  |
| 20.9000  | 21.38   | 21.19  | 20.99  | 20.80  | 20.61  |

Type.... Diverted Hydrograph  
Name.... LAKE3-ROUTE  
File.... J:\0675B\PONDPACK\  
Storm... TypeII 24hr Tag: 100

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Event: 100 yr

| Time<br>hrs | HYDROGRAPH ORDINATES (cfs)   |       |       |       |       |
|-------------|--|-------|-------|-------|-------|
|             | Output Time increment = .1000 hrs<br>Time on left represents time for first value in each row. |       |       |       |       |
| 21.4000     | 20.43  | 20.24 | 20.05 | 19.86 | 19.68 |
| 21.9000     | 19.49  | 19.30 | 19.12 | 18.94 | 18.75 |
| 22.4000     | 18.57  | 18.39 | 18.20 | 18.02 | 17.84 |
| 22.9000     | 17.66  | 17.48 | 17.32 | 17.16 | 17.00 |
| 23.4000     | 16.84  | 16.69 | 16.53 | 16.37 | 16.22 |
| 23.9000     | 16.06  | 15.91 |       |       |       |

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PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... ICPM Node Routing Summary  
 Name.... SOUTH LAKE Tag: 2  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 2

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 Event: 2 yr

ICPM POND ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = SOUTH LAKE IN 2  
 Outflow HYG file = SOUTH LAKE OUT 2

Pond Node Data = SOUTH LAKE  
 Pond Volume Data = LAKE#3  
 Pond Outlet Data = LAKE3-ROUTE-2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 522.00 ft  
 Starting Volume = .738 ac-ft  
 Starting Outflow = .00 cfs

CALCULATION TOLERANCES

Target Convergence= .100 cfs +/-  
 Max. Iterations = 35 loops  
 ICPM Time Step = .1000 hrs  
 Output Time Step = .1000 hrs  
 ICPM Ending Time = 24.0000 hrs

MAXIMUM STORAGE

| TP, hrs | Elev, ft | Vol, ac-ft |
|---------|----------|------------|
| 14.4000 | 522.91   | 1.411      |

FORWARD FLOW PEAKS

| TP, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

REVERSE FLOW PEAKS

| TP, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

|                  |         |       |       |     |
|------------------|---------|-------|-------|-----|
| Pond Inflow..... | 14.1000 | 21.49 | .0000 | .00 |
| Pond Outflow.... | 14.4000 | 21.31 | .0000 | .00 |

TOTAL VOLUME IN

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

TOTAL VOLUME OUT

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

|                  |        |         |        |         |
|------------------|--------|---------|--------|---------|
| Pond Inflow..... | 14.433 | Forward | .000   | Reverse |
| Pond Outflow.... | .000   | Reverse | 14.053 | Forward |

MASS BALANCE (ac-ft)

|                    |            |                                       |
|--------------------|------------|---------------------------------------|
| + Initial Vol..... | .738       |                                       |
| + Total Vol IN.... | 14.433     |                                       |
| - Total Vol OUT... | 14.053     |                                       |
| - Ending Pond Vol. | 1.055      | <-- (At 24.0000 hrs Elev.= 522.43 ft) |
| Difference.....    | .062 ac-ft | (.431% of Inflow Volume)              |

Type.... Detention Time  
Name.... SOUTH LAKE Tag: 2  
File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 2

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Event: 2 yr

ICPM POND DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = SOUTH LAKE IN 2  
Outflow HYG file = SOUTH LAKE OUT 2

Pond Node Data = SOUTH LAKE  
Pond Volume Data = LAKE#3  
Pond Outlet Data = LAKE3-ROUTE-2

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 522.00 ft  
Starting Volume = .738 ac-ft  
Starting Outflow = .00 cfs  
-----

CALCULATION TOLERANCES

-----  
Target Convergence= .100 cfs +/-  
Max. Iterations = 35 loops  
ICPM Time Step = .1000 hrs  
Output Time Step = .1000 hrs  
ICPM Ending Time = 24.0000 hrs  
-----

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 14.4000 hrs  
Tp, Total Inflow = 14.1000 hrs  
Peak to Peak = .3000 hrs

Qout+Infilt. Centroid = 17.0593 hrs  
Inflow Centroid = 16.7352 hrs  
Centroid to Centroid = .3241 hrs

Weighted Avg. Plug Time = .5064 hrs  
Max.Plug Vol. Plug Time = .4547 hrs  
Max.Inflow Plug Volume = .178 ac-ft (From 14.0000 to 14.1000 hrs)  
-----

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... ICPM Node Routing Summary  
 Name.... SOUTH LAKE Tag: 15  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 15

Page 11.41  
 Event: 15 yr

ICPM POND ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = SOUTH LAKE IN 15  
 Outflow HYG file = SOUTH LAKE OUT 15

Pond Node Data = SOUTH LAKE  
 Pond Volume Data = LAKE#3  
 Pond Outlet Data = LAKE3-ROUTE-2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 522.00 ft  
 Starting Volume = .738 ac-ft  
 Starting Outflow = .00 cfs

CALCULATION TOLERANCES

Target Convergence= .100 cfs +/-  
 Max. Iterations = 35 loops  
 ICPM Time Step = .1000 hrs  
 Output Time Step = .1000 hrs  
 ICPM Ending Time = 24.0000 hrs

MAXIMUM STORAGE

| TP, hrs | Elev, ft | Vol, ac-ft |
|---------|----------|------------|
| 14.0000 | 523.72   | 2.009      |

FORWARD FLOW PEAKS

| TP, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

REVERSE FLOW PEAKS

| TP, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

|                  |         |       |       |     |
|------------------|---------|-------|-------|-----|
| Pond Inflow..... | 13.7000 | 55.80 | .0000 | .00 |
| Pond Outflow.... | 14.0000 | 53.98 | .0000 | .00 |

TOTAL VOLUME IN

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

TOTAL VOLUME OUT

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

|                  |        |         |        |         |
|------------------|--------|---------|--------|---------|
| Pond Inflow..... | 27.951 | Forward | .000   | Reverse |
| Pond Outflow.... | .000   | Reverse | 27.400 | Forward |

MASS BALANCE (ac-ft)

|                    |            |                                       |
|--------------------|------------|---------------------------------------|
| + Initial Vol..... | .738       |                                       |
| + Total Vol IN.... | 27.951     |                                       |
| - Total Vol OUT... | 27.400     |                                       |
| - Ending Pond Vol. | 1.177      | <-- (At 24.0000 hrs Elev.= 522.60 ft) |
| Difference.....    | .112 ac-ft | (.401% of Inflow Volume)              |

Type... Detention Time  
Name... SOUTH LAKE Tag: 15  
File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 15

Page 11.42  
Event: 15 yr

ICPM POND DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = SOUTH LAKE IN 15  
Outflow HYG file = SOUTH LAKE OUT 15

Pond Node Data = SOUTH LAKE  
Pond Volume Data = LAKE#3  
Pond Outlet Data = LAKE3-ROUTE-2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 522.00 ft  
Starting Volume = .738 ac-ft  
Starting Outflow = .00 cfs

CALCULATION TOLERANCES

Target Convergence= .100 cfs +/-  
Max. Iterations = 35 loops  
ICPM Time Step = .1000 hrs  
Output Time Step = .1000 hrs  
ICPM Ending Time = 24.0000 hrs

APPROXIMATE DETENTION TIME

Tp, Outflow + Infilt. = 14.0000 hrs  
Tp, Total Inflow = 13.7000 hrs  
Peak to Peak = .3000 hrs

Qout+Infilt. Centroid = 16.5442 hrs  
Inflow Centroid = 16.2536 hrs  
Centroid to Centroid = .2906 hrs

Weighted Avg. Plug Time = .4375 hrs  
Max.Plug Vol. Plug Time = .3703 hrs  
Max.Inflow Plug Volume = .460 ac-ft (From 13.7000 to 13.8000 hrs)

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type... ICPM Node Routing Summary  
 Name... SOUTH LAKE Tag: 25  
 File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 25

Page 11.43  
 Event: 25 yr

ICPM POND ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = SOUTH LAKE IN 25  
 Outflow HYG file = SOUTH LAKE OUT 25

Pond Node Data = SOUTH LAKE  
 Pond Volume Data = LAKE#3  
 Pond Outlet Data = LAKE3-ROUTE-2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 522.00 ft  
 Starting Volume = .738 ac-ft  
 Starting Outflow = .00 cfs

CALCULATION TOLERANCES

Target Convergence= .100 cfs +/-  
 Max. Iterations = 35 loops  
 ICPM Time Step = .1000 hrs  
 Output Time Step = .1000 hrs  
 ICPM Ending Time = 24.0000 hrs

MAXIMUM STORAGE

| Tp, hrs | Elev, ft | Vol, ac-ft |
|---------|----------|------------|
| 13.8000 | 524.09   | 2.280      |

FORWARD FLOW PEAKS

| Tp, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

REVERSE FLOW PEAKS

| Tp, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

|                  |         |       |       |     |
|------------------|---------|-------|-------|-----|
| Pond Inflow..... | 13.5000 | 75.42 | .0000 | .00 |
| Pond Outflow.... | 13.8000 | 71.34 | .0000 | .00 |

TOTAL VOLUME IN

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

TOTAL VOLUME OUT

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

|                  |        |         |        |         |
|------------------|--------|---------|--------|---------|
| Pond Inflow..... | 32.189 | Forward | .000   | Reverse |
| Pond Outflow.... | .000   | Reverse | 31.532 | Forward |

MASS BALANCE (ac-ft)

|                    |        |                                       |
|--------------------|--------|---------------------------------------|
| + Initial Vol..... | .738   |                                       |
| + Total Vol IN.... | 32.189 |                                       |
| - Total Vol OUT... | 31.532 |                                       |
| - Ending Pond Vol. | 1.205  | <-- (At 24.0000 hrs Elev.= 522.63 ft) |

Difference..... .189 ac-ft (.587% of Inflow Volume)

WARNING: Mass balance for routing volumes vary by more than .5%





Type... Detention Time  
Name... SOUTH LAKE Tag: 25  
File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
Storm... TypeII 24hr Tag: 25

Page 11.44  
Event: 25 yr

ICPM POND DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = SOUTH LAKE IN 25  
Outflow HYG file = SOUTH LAKE OUT 25

Pond Node Data = SOUTH LAKE  
Pond Volume Data = LAKE#3  
Pond Outlet Data = LAKE3-ROUTE-2

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 522.00 ft  
Starting Volume = .738 ac-ft  
Starting Outflow = .00 cfs  
-----

CALCULATION TOLERANCES

-----  
Target Convergence= .100 cfs +/-  
Max. Iterations = 35 loops  
ICPM Time Step = .1000 hrs  
Output Time Step = .1000 hrs  
ICPM Ending Time = 24.0000 hrs  
-----

APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.8000 hrs  
Tp, Total Inflow = 13.5000 hrs  
Peak to Peak = .3000 hrs

Qout+Infilt. Centroid = 16.3676 hrs  
Inflow Centroid = 16.0798 hrs  
Centroid to Centroid = .2878 hrs

Weighted Avg. Plug Time = .4438 hrs  
Max.Plug Vol. Plug Time = .3564 hrs  
Max.Inflow Plug Volume = .621 ac-ft (From 13.5000 to 13.6000 hrs)  
-----

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002

Type.... ICPM Node Routing Summary  
 Name.... SOUTH LAKE Tag: 100  
 File.... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
 Storm... TypeII 24hr Tag: 100

Page 11.45  
 Event: 100 yr

ICPM POND ROUTING SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
 Inflow HYG file = SOUTH LAKE IN 100  
 Outflow HYG file = SOUTH LAKE OUT 100

Pond Node Data = SOUTH LAKE  
 Pond Volume Data = LAKE#3  
 Pond Outlet Data = LAKE3-ROUTE-2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 522.00 ft  
 Starting Volume = .738 ac-ft  
 Starting Outflow = .00 cfs

CALCULATION TOLERANCES

Target Convergence= .100 cfs +/-  
 Max. Iterations = 35 loops  
 ICPM Time Step = .1000 hrs  
 Output Time Step = .1000 hrs  
 ICPM Ending Time = 24.0000 hrs

MAXIMUM STORAGE

| TP, hrs | Elev, ft | Vol, ac-ft |
|---------|----------|------------|
| 13.4000 | 524.91   | 2.884      |

FORWARD FLOW PEAKS

| TP, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

REVERSE FLOW PEAKS

| TP, hrs | Qp, cfs |
|---------|---------|
|---------|---------|

|                  |         |        |       |     |
|------------------|---------|--------|-------|-----|
| Pond Inflow..... | 13.1000 | 135.90 | .0000 | .00 |
| Pond Outflow.... | 13.4000 | 130.07 | .0000 | .00 |

TOTAL VOLUME IN

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

TOTAL VOLUME OUT

| Vol, ac-ft | Direction |
|------------|-----------|
|------------|-----------|

|                  |        |         |        |         |
|------------------|--------|---------|--------|---------|
| Pond Inflow..... | 45.441 | Forward | .000   | Reverse |
| Pond Outflow.... | .000   | Reverse | 44.703 | Forward |

MASS BALANCE (ac-ft)

|                    |            |                                       |
|--------------------|------------|---------------------------------------|
| + Initial Vol..... | .738       |                                       |
| + Total Vol IN.... | 45.441     |                                       |
| - Total Vol OUT... | 44.703     |                                       |
| - Ending Pond Vol. | 1.289      | <-- (At 24.0000 hrs Elev.= 522.75 ft) |
| Difference.....    | .186 ac-ft | (.410% of Inflow Volume)              |

Type... Detention Time  
Name... SOUTH LAKE Tag: 100  
File... J:\0675B\PONDPACK\DEVELOPED2-REV-2.PPW  
storm... TypeII 24hr Tag: 100

Page 11.46  
Event: 100 yr

ICPM POND DETENTION TIMES SUMMARY

HYG Dir = J:\0675B\PONDPACK\  
Inflow HYG file = SOUTH LAKE IN 100  
Outflow HYG file = SOUTH LAKE OUT 100

Pond Node Data = SOUTH LAKE  
Pond Volume Data = LAKE#3  
Pond Outlet Data = LAKE3-ROUTE-2

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 522.00 ft  
Starting Volume = .738 ac-ft  
Starting Outflow = .00 cfs  
-----

CALCULATION TOLERANCES

-----  
Target Convergence= .100 cfs +/-  
Max. Iterations = 35 loops  
ICPM Time Step = .1000 hrs  
Output Time Step = .1000 hrs  
ICPM Ending Time = 24.0000 hrs  
-----

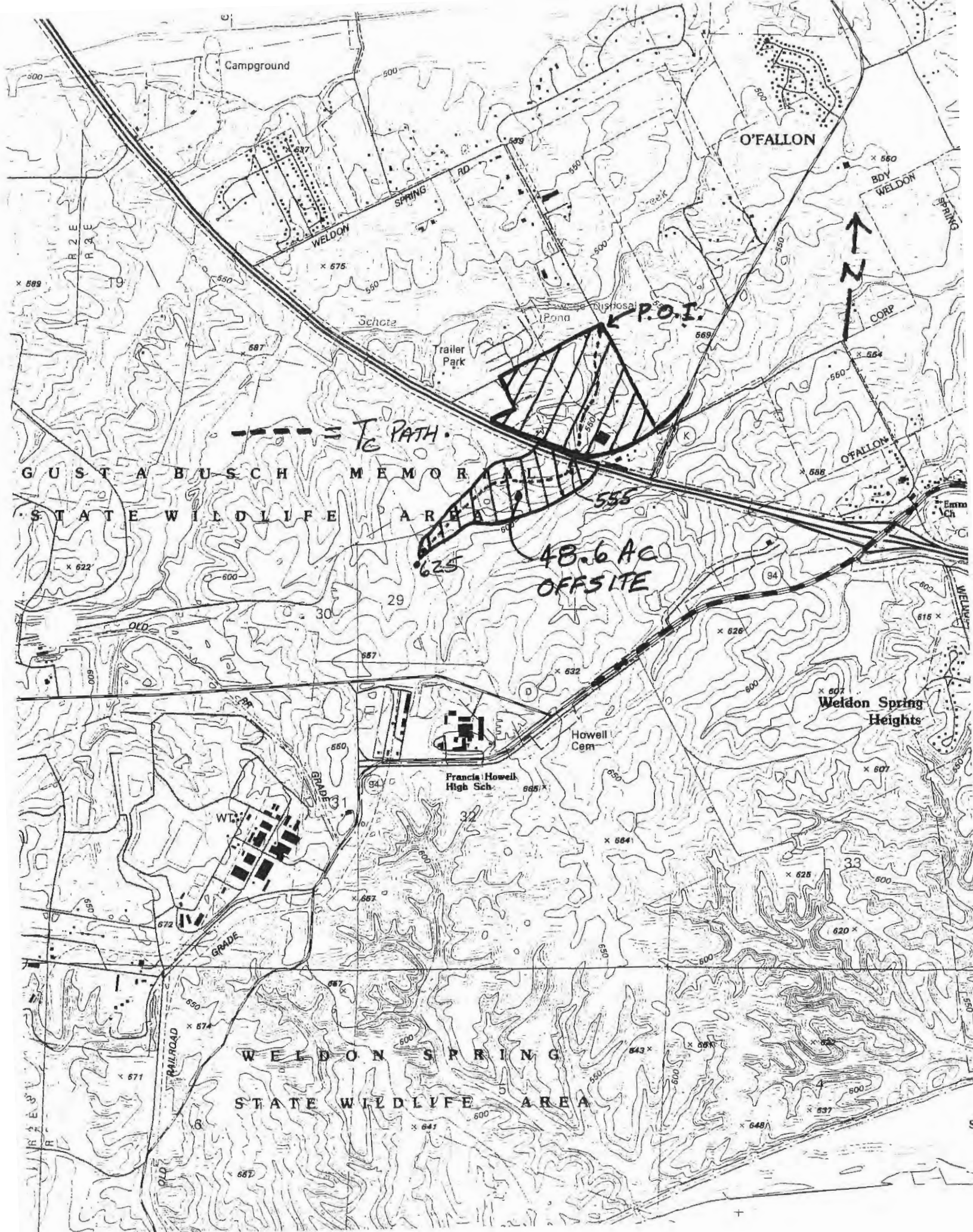
APPROXIMATE DETENTION TIME

-----  
Tp, Outflow + Infilt. = 13.4000 hrs  
Tp, Total Inflow = 13.1000 hrs  
Peak to Peak = .3000 hrs

Qout+Infilt. Centroid = 15.9159 hrs  
Inflow Centroid = 15.6515 hrs  
Centroid to Centroid = .2644 hrs

Weighted Avg. Plug Time = .3961 hrs  
Max.Plug Vol. Plug Time = .2989 hrs  
Max.Inflow Plug Volume = 1.120 ac-ft (From 13.1000 to 13.2000 hrs)  
-----

S/N: 721701406A81 J R GRIMES CONSULTING  
PondPack Ver: 7.5 (767) Compute Time: 14:20:08 Date: 08-06-2002



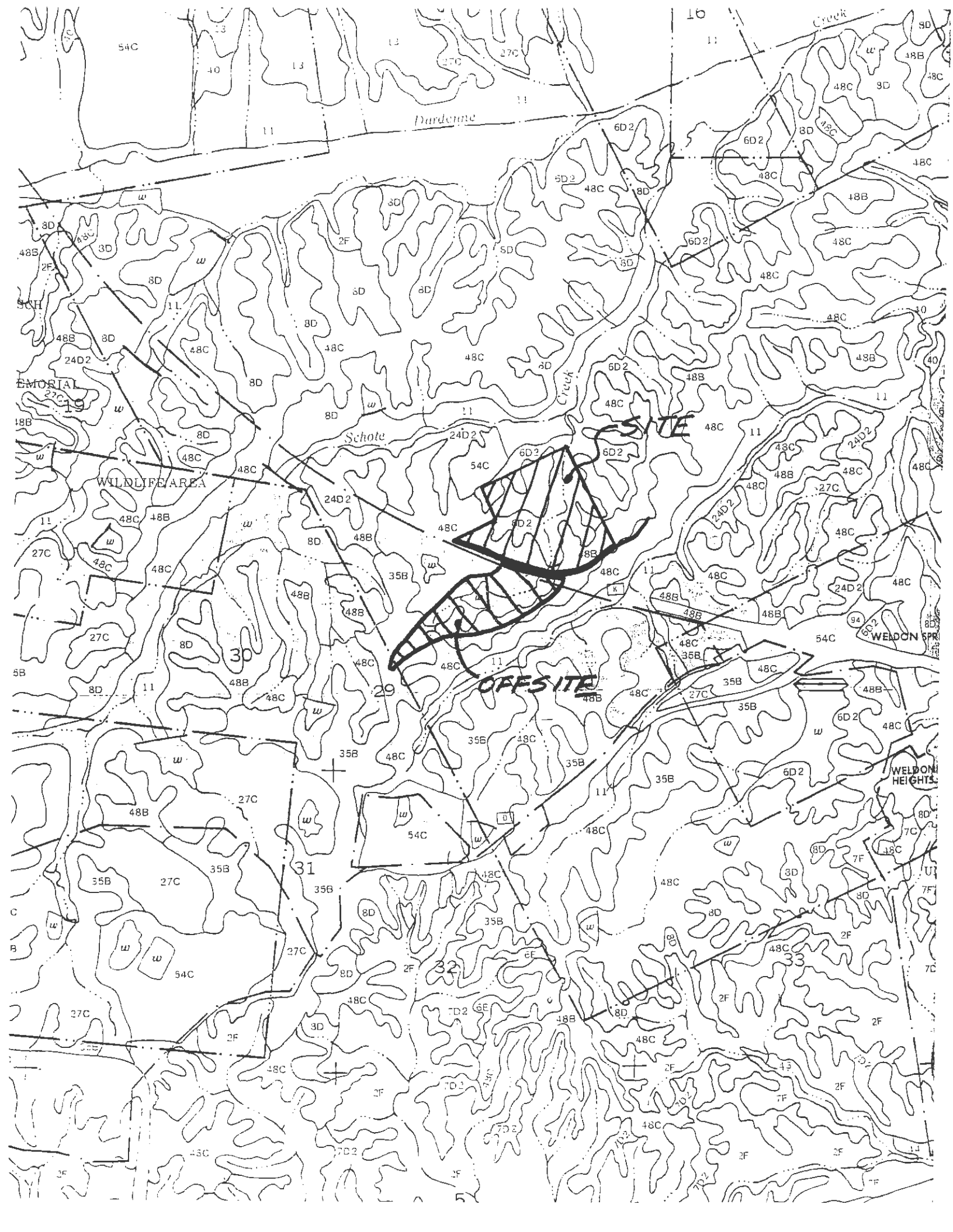


TABLE 17.--SOIL / WATER FEATURES--Continued

| Soil name and map symbol          | Hydro-logic group | Flooding    |                |         | High water table |          |         | Bedrock |          | Potential frost action | Risk of corrosion |           |
|-----------------------------------|-------------------|-------------|----------------|---------|------------------|----------|---------|---------|----------|------------------------|-------------------|-----------|
|                                   |                   | Frequency   | Duration       | Months  | Depth            | Kind     | Months  | Depth   | Hardness |                        | Uncoated steel    | Concrete  |
|                                   |                   |             |                |         |                  |          |         |         |          |                        |                   |           |
| 31C-----<br>Hatton                | C                 | None-----   | ---            | ---     | 1.5-3.0          | Perched  | Oct-Apr | >60     | ---      | High-----              | High-----         | Moderate. |
| 34E-----<br>Lindley               | C                 | None-----   | ---            | ---     | >6.0             | ---      | ---     | >60     | ---      | Moderate               | Moderate          | Moderate. |
| <i>OFFSITE</i> 35B-----<br>Mexico | <b>D</b>          | None-----   | ---            | ---     | 1.0-2.0          | Perched  | Nov-Apr | >60     | ---      | Moderate               | High-----         | Moderate. |
| 37-----<br>Marion                 | D                 | None-----   | ---            | ---     | 1.0-2.0          | Perched  | Nov-May | >60     | ---      | Moderate               | High-----         | High.     |
| 40-----<br>Westerville            | C                 | Rare-----   | ---            | ---     | 1.0-3.0          | Apparent | Nov-Apr | >60     | ---      | High-----              | ---               | ---       |
| 41-----<br>Freeburg               | C                 | Rare-----   | ---            | ---     | 1.5-3.0          | Perched  | Nov-May | >60     | ---      | High-----              | Moderate          | High.     |
| 43-----<br>Cedargap               | B                 | Occasional  | Very brief     | Nov-Mar | >6.0             | ---      | ---     | >60     | ---      | Moderate               | Low-----          | Low.      |
| 44-----<br>Sensabaugh             | B                 | Occasional  | Very brief     | Jan-Apr | 4.0-6.0          | Apparent | Jan-Apr | >60     | ---      | ---                    | Low-----          | Low.      |
| 48A, 48B, 48C-----<br>Weller      | <b>C</b>          | None-----   | ---            | ---     | 2.0-4.0          | Apparent | Nov-Jul | >60     | ---      | High-----              | High-----         | High.     |
| 54C*, 54D*:<br>Harvester          | B                 | None-----   | ---            | ---     | >6.0             | ---      | ---     | >60     | ---      | High-----              | Low-----          | Low.      |
| Urban land.                       |                   |             |                |         |                  |          |         |         |          |                        |                   |           |
| 62-----<br>EJinburg               | C                 | None-----   | ---            | ---     | +1.5-2.0         | Apparent | Mar-Jun | >60     | ---      | High-----              | High-----         | Moderate. |
| 63B-----<br>Herrick               | B                 | None-----   | ---            | ---     | 1.0-3.0          | Apparent | Mar-Jun | >60     | ---      | High-----              | High-----         | High.     |
| 67E-----<br>Menfro                | B                 | None-----   | ---            | ---     | >6.0             | ---      | ---     | >60     | ---      | High-----              | Low-----          | Moderate. |
| 70-----<br>Booker                 | D                 | Frequent--- | Brief to long. | Apr-Jul | +1.5-1.0         | Perched  | Nov-May | >60     | ---      | Moderate               | High-----         | Moderate. |
| 71-----<br>Waldron                | D                 | Rare-----   | Brief-----     | Mar-Jun | 1.0-3.0          | Perched  | Nov-May | >60     | ---      | High-----              | High-----         | Low.      |
| 72-----<br>Blake                  | B                 | Rare-----   | Very brief     | Feb-Nov | 2.0-4.0          | Apparent | Nov-Jul | >60     | ---      | High-----              | High-----         | Low.      |
| 73-----<br>Haynie                 | B                 | Rare-----   | Very brief     | Feb-Nov | >6.0             | ---      | ---     | >60     | ---      | High-----              | Low-----          | Low.      |

See footnote at end of table.

TABLE 17.--SOIL AND WATER FEATURES

["Flooding" and "water table" and terms such as "rare," "brief," "apparent," and "perched" are explained in the text. The symbol > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

| Soil name and map symbol                 | Hydro-logic group | Flooding   |            |         | High water table |          |         | Bedrock |          | Potential frost action | Risk of corrosion |           |
|--|-------------------|------------|------------|---------|------------------|----------|---------|---------|----------|------------------------|-------------------|-----------|
|  |                   | Frequency  | Duration   | Months  | Depth            | Kind     | Months  | Depth   | Hardness |                        | Uncoated steel    | Concrete  |
|  |                   |            |            |         | Ft               |          |         | In      |          |                        |                   |           |
| 2D, 2F-----<br>Goss                      | B                 | None-----  | ---        | ---     | >6.0             | ---      | ---     | >60     | ---      | Moderate               | Moderate          | Moderate. |
| 3-----<br>Twomile                        | C/D               | Rare-----  | ---        | ---     | 1.0-2.0          | Perched  | Nov-May | >60     | ---      | High-----              | High-----         | High.     |
| 4D*:<br>Menfro-----                      | B                 | None-----  | ---        | ---     | >6.0             | ---      | ---     | >60     | ---      | High-----              | Low-----          | Moderate. |
| Goss-----                                | B                 | None-----  | ---        | ---     | >6.0             | ---      | ---     | >60     | ---      | Moderate               | Moderate          | Moderate. |
| 6C, 6D2, 6E-----<br>Crider               | B                 | None-----  | ---        | ---     | >6.0             | ---      | ---     | >60     | ---      | ---                    | Moderate          | Moderate. |
| 7B, 7C, 7D2, 7E2,<br>7F-----<br>Menfro   | B                 | None-----  | ---        | ---     | >6.0             | ---      | ---     | >60     | ---      | High-----              | Low-----          | Moderate. |
| 8C, 8D, 8E2-----<br>Winfield             | B                 | None-----  | ---        | ---     | 2.5-4.0          | Perched  | Nov-Apr | >60     | ---      | High-----              | Moderate          | Moderate. |
| 9E-----<br>Holstein                      | B                 | None-----  | ---        | ---     | >6.0             | ---      | ---     | >60     | ---      | Moderate               | Moderate          | Moderate. |
| 10F*:<br>Gasconade-----<br>Rock outcrop. | D                 | None-----  | ---        | ---     | >6.0             | ---      | ---     | 10-20   | Hard     | Moderate               | High-----         | Low.      |
| 11-----<br>Dockery                       | C                 | Occasional | Brief----- | Nov-Jun | 1.0-3.0          | Apparent | Nov-Apr | >60     | ---      | High-----              | Moderate          | Low.      |
| 12-----<br>Kennebec                      | B                 | Occasional | Brief----- | Feb-Nov | 3.0-5.0          | Apparent | Nov-Jul | >60     | ---      | High-----              | Moderate          | Low.      |
| 13-----<br>Auxvasse                      | D                 | Rare-----  | ---        | ---     | 1.0-2.0          | Perched  | Nov-May | >60     | ---      | Moderate               | High-----         | High.     |
| 22F*:<br>Gateway-----                    | C                 | None-----  | ---        | ---     | >6.0             | ---      | ---     | 20-40   | Hard     | Moderate               | High-----         | Moderate. |
| Gasconade-----                           | D                 | None-----  | ---        | ---     | >6.0             | ---      | ---     | 10-20   | Hard     | Moderate               | High-----         | Low.      |
| Crider-----                              | B                 | None-----  | ---        | ---     | >6.0             | ---      | ---     | >60     | ---      | ---                    | Moderate          | Moderate. |
| 24D2-----<br>Keswick                     | D                 | None-----  | ---        | ---     | 1.0-3.0          | Perched  | Nov-Jul | >60     | ---      | High-----              | High-----         | Moderate. |
| 27C-----<br>Armster                      | C                 | None-----  | ---        | ---     | 2.5-4.0          | Perched  | Nov-Mar | >60     | ---      | Moderate               | High-----         | Moderate. |

See footnote at end of table.

SUBMITTED: 12-30-97 FILENAME: RUSTIQU

| UPP STR | LOWR STR | UPPER FL LN | LOWER FL LN | UPPER ST EL | LOWER ST EL | STR GRADE | TRL CAP | DR AREA | ET   | Q     | IC    | TURSH ANGLE | TURN RADIUS | DEF ANGLE | REMARKS    | REMARKS |
|---------|----------|-------------|-------------|-------------|-------------|-----------|---------|---------|------|-------|-------|-------------|-------------|-----------|------------|---------|
| AI 6    | 461      | 67 24       | 572.58      | 576.80      | 575.90      | 4-6       | 12.00   | 2.24    | 3.54 | 9.28  | 8.28  | 0           | 0           | 0         |            | .013 1  |
| AI 1    | 461      | 347 30      | 571.53      | 575.56      | 577.54      | L.P.      | 0.00    | 1.80    | 3.54 | 6.37  | 14.65 | 23          | 0           | 0         |            | .013 2  |
| AI 2    | 461      | 115 36      | 570.60      | 577.54      | 0.00        | -5        | 2.47    | 0.02    | 3.54 | 0.28  | 14.93 | 0           | 0           | 0         |            | .013 3  |
| AI 3    | 461      | 45 18       | 572.06      | 575.92      | 0.00        | L.P.      | 0.00    | 1.80    | 3.54 | 6.58  | 6.58  | 0           | 0           | 0         |            | .013 4  |
| AI 4    | 461      | 37 36       | 569.88      | 574.00      | 6.00        |           | 0.00    | 0.47    | 1.70 | 28.68 | 28.68 | 0           | 0           | 0         | DET. BASIN | .013 5  |

TOTAL AREA = 6.56 AC  
TO BASIN

SUBMITTED: 12-30-97 FILENAME: RUSTIQU

| UPP STR | LOWR STR | UPPER DEPTH | LOWER DEPTH | UPPER HY EL | LOWER HY EL | STR GRADE | TRL CAP | DR AREA | ET   | Q     | IC   | TURSH ANGLE | TURN RADIUS | DEF ANGLE | REMARKS | REMARKS |       |       |       |   |
|---------|----------|-------------|-------------|-------------|-------------|-----------|---------|---------|------|-------|------|-------------|-------------|-----------|---------|---------|-------|-------|-------|---|
| AI 5    | 461      | 21          | 572.60      | 2.15        | 574.53      | 48120     | 0.12    | 2.41    | 0.41 | 7.15  | 0.00 | 2.00        | 1-3         | 57.00     | 2.34    | 3.51    | 8.28  | 8.75  | 27.52 |   |
| AI 6    | 461      | 38          | 572.39      | 1.14        | 574.53      | 513.42    | 0.14    | 2.43    | 0.41 | 0.10  | 0.10 | L.P.        | 0.20        | 0.20      | 1.60    | 3.51    | 6.37  | 14.65 | 15.57 |   |
| AI 7    | 461      | 615         | 572.51      | 3.12        | 573.52      | 573.76    | 0.16    | 2.47    | 0.07 | -0.04 | 3.00 | .5          | 2.41        | 0.08      | 3.54    | 0.28    | 14.93 | 21.55 | 3     |   |
| AI 8    | 461      | 18          | 572.06      | 1.68        | 574.24      | 573.76    | 0.0320  | 3.19    | 1.73 | 0.22  | 0.25 | 0.05        | L.P.        | 0.03      | 5.16    | 3.51    | 5.58  | 6.58  | 1.11  |   |
| AI 9    | 461      | 37          | 569.88      | 1.17        | 573.21      | 572.60    | 0.0220  | 6.97    | 5.23 | 0.21  | 0.30 | 0.10        | 0.10        | 0.30      | 2.41    | 1.10    | 25.83 | 28.68 | 43.80 | 5 |

SUBMITTED: 12-30-97 FILENAME: RUSTIQU

| UPP STR | LOWR STR | UPPER DEPTH | LOWER DEPTH | UPPER HY EL | LOWER HY EL | STR GRADE | TRL CAP | DR AREA | ET   | Q    | IC   | TURSH ANGLE | TURN RADIUS | DEF ANGLE | REMARKS | REMARKS |       |       |       |   |
|---------|----------|-------------|-------------|-------------|-------------|-----------|---------|---------|------|------|------|-------------|-------------|-----------|---------|---------|-------|-------|-------|---|
| AI 10   | 461      | 31          | 569.88      | 1.20        | 572.06      | 572.60    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 0.00      | 0.47    | 1.70    | 28.68 | 28.68 | 43.80 | 5 |

SUBMITTED: 12-30-97 FILENAME: RUSTIQU

| UPP STR | LOWR STR | UPPER DEPTH | LOWER DEPTH | UPPER HY EL | LOWER HY EL | STR GRADE | TRL CAP | DR AREA | ET   | Q    | IC   | TURSH ANGLE | TURN RADIUS | DEF ANGLE | REMARKS | REMARKS |       |       |       |   |
|---------|----------|-------------|-------------|-------------|-------------|-----------|---------|---------|------|------|------|-------------|-------------|-----------|---------|---------|-------|-------|-------|---|
| AI 11   | 461      | 31          | 569.88      | 1.20        | 572.06      | 572.60    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | 0.00        | 0.00        | 0.00      | 0.47    | 1.70    | 28.68 | 28.68 | 43.80 | 5 |



| ELEVATION | AREA  | VOLUME | CUM. VOLUME |
|-----------|-------|--------|-------------|
| 570.00    | 0     |        |             |
| 571.00    | 4069  | 2009   | 2009        |
| 572.00    | 11484 | 771    | 2780        |
| 574.00    | 14798 | 26282  | 29062       |
| 576.00    | 18453 | 33251  | 62313       |

\*\*\*\*\*  
 \*  
 \* RECTANGULAR ORIFICE \*  
 \* 8 in W X 8 in H ELEV= 570 \*  
 \*  
 \* Outlet Pipe = 36.86 ft = 36 in pipe \*  
 \* UFL= 569.99 LFL= 569.8 n= .013 \*  
 \*  
 \* Overflow Structure = Box Structure \*  
 \* PERIMETER= 10 ft/SILL ELEV= 574 \*  
 \*  
 \*\*\*\*\*

154R

| MIN | INFLOW CF/min | STORAGE  | OUTFLOW | NET DET. | ELEVATION |
|-----|---------------|----------|---------|----------|-----------|
| 1   | 296.80        | 296.80   | 0.00    | 296.80   | 570.00    |
| 2   | 593.60        | 890.40   | 4.36    | 886.04   | 570.00    |
| 3   | 890.40        | 1776.44  | 22.50   | 1753.94  | 570.00    |
| 4   | 1187.20       | 2941.14  | 57.55   | 2883.59  | 571.00    |
| 5   | 1484.00       | 4367.59  | 68.09   | 4299.50  | 571.00    |
| 6   | 1780.80       | 6080.30  | 74.96   | 6005.34  | 571.00    |
| 7   | 1780.80       | 7786.14  | 82.43   | 7703.66  | 571.00    |
| 8   | 1780.80       | 9494.48  | 89.33   | 9395.13  | 571.00    |
| 9   | 1780.80       | 11175.93 | 95.68   | 11080.25 | 572.00    |
| 10  | 1780.80       | 12851.05 | 99.80   | 12751.25 | 572.00    |
| 11  | 1780.80       | 14542.05 | 103.20  | 14438.85 | 572.00    |
| 12  | 1780.80       | 16219.65 | 106.48  | 16113.17 | 572.00    |
| 13  | 1780.80       | 17893.97 | 109.66  | 17784.31 | 572.00    |
| 14  | 1780.80       | 19565.11 | 112.74  | 19452.37 | 572.00    |
| 15  | 1780.80       | 21233.17 | 115.74  | 21117.43 | 572.00    |
| 16  | 1780.80       | 22898.23 | 119.65  | 22779.58 | 572.00    |
| 17  | 1780.80       | 24560.38 | 121.49  | 24438.89 | 572.00    |
| 18  | 1780.80       | 26219.69 | 124.26  | 26095.43 | 572.00    |
| 19  | 1780.80       | 27876.23 | 126.97  | 27749.26 | 572.00    |
| 20  | 1780.80       | 29530.06 | 129.61  | 29400.45 | 572.00    |
| 21  | 1484.00       | 30884.45 | 132.20  | 30752.25 | 572.00    |
| 22  | 1187.20       | 31939.45 | 134.29  | 31608.17 | 572.00    |
| 23  | 890.40        | 32696.57 | 135.88  | 32559.69 | 572.00    |
| 24  | 593.60        | 33153.29 | 137.02  | 33016.27 | 572.00    |
| 25  | 296.80        | 33313.07 | 137.70  | 33173.37 | 572.00    |
| 26  | 0.00          | 33175.97 |         | 33037.44 | 572.00    |
| 27  | 0.00          | 33037.44 |         | 32899.71 | 572.00    |

tc 26

137.73  
 137.85

\*\*\*\*\*  
 \*  
 \* RECTANGULAR ORIFICE \*  
 \* 6 in W X 6 in H ELEV= 570 \*  
 \* \*  
 \* Outlet Pipe - 36.86 ft - 36 in pipe \*  
 \* UFL= 569.99 LFL= 569.8 n= .013 \*  
 \* \*  
 \* Overflow Structure - Box Structure \*  
 \* PERIMETER= 10 ft/SILL ELEV= 574 \*  
 \* \*  
 \*\*\*\*\*

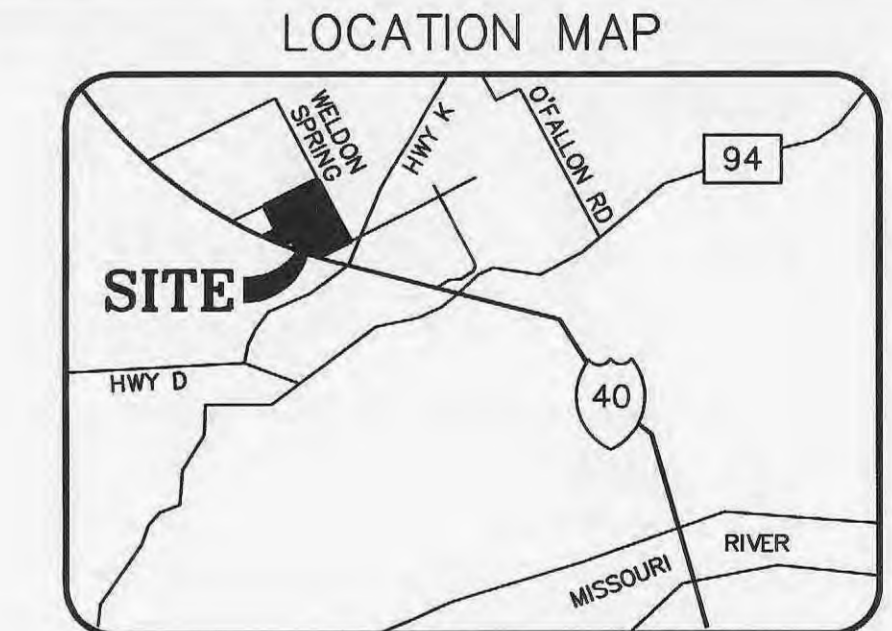
RUSTIQUE INTERPRISES 1-13-99 SUBMITTAL DATE: 1-8-98

| MIN | INFLOW (c/min) | STORAGE  | OUTFLOW | NET DET. | ELEV   |
|-----|----------------|----------|---------|----------|--------|
| 1   | 165.56         | 165.56   | 0.00    | 165.56   | 570.00 |
| 2   | 331.11         | 496.67   | 1.02    | 484.85   | 570.00 |
| 3   | 496.67         | 991.52   | 5.39    | 982.13   | 570.00 |
| 4   | 662.22         | 1644.35  | 26.26   | 1618.09  | 570.00 |
| 5   | 827.78         | 2445.87  | 54.32   | 2391.55  | 571.00 |
| 6   | 993.33         | 3384.88  | 65.54   | 3319.35  | 571.00 |
| 7   | 1158.89        | 4478.24  | 70.28   | 4407.96  | 571.00 |
| 8   | 1324.44        | 5732.40  | 75.46   | 5656.95  | 571.00 |
| 9   | 1490.00        | 7146.95  | 81.00   | 7065.95  | 571.00 |
| 10  | 1490.00        | 8655.95  | 86.82   | 8469.13  | 571.00 |
| 11  | 1490.00        | 9959.13  | 92.26   | 9866.87  | 572.00 |
| 12  | 1490.00        | 11356.87 | 97.26   | 11259.60 | 572.00 |
| 13  | 1490.00        | 12749.60 | 100.17  | 12649.43 | 572.00 |
| 14  | 1490.00        | 14139.43 | 102.98  | 14036.45 | 572.00 |
| 15  | 1490.00        | 15526.45 | 105.70  | 15420.75 | 572.00 |
| 16  | 1490.00        | 16910.75 | 108.36  | 16802.39 | 572.00 |
| 17  | 1490.00        | 18292.39 | 110.94  | 18181.45 | 572.00 |
| 18  | 1490.00        | 19671.45 | 113.46  | 19557.99 | 572.00 |
| 19  | 1490.00        | 21047.99 | 115.93  | 20932.07 | 572.00 |
| 20  | 1490.00        | 22422.07 | 118.33  | 22303.74 | 572.00 |
| 21  | 1324.44        | 23628.19 | 120.69  | 23507.50 | 571.00 |
| 22  | 1158.89        | 24666.39 | 122.72  | 24543.67 | 570.00 |
| 23  | 993.33         | 25537.01 | 124.44  | 25412.57 | 570.00 |
| 24  | 827.78         | 26240.35 | 125.86  | 26114.49 | 570.00 |
| 25  | 662.22         | 26776.71 | 127.00  | 26649.71 | 570.00 |
| 26  | 496.67         | 27146.38 | 127.86  | 27018.52 | 570.00 |
| 27  | 331.11         | 27349.53 | 128.45  | 27221.18 | 570.00 |
| 28  | 165.56         | 27386.74 | 128.77  | 27257.96 | 570.00 |
| 29  | 0.00           | 27257.96 | 128.63  | 27129.13 | 570.00 |
| 30  | 0.00           | 27129.13 | 128.63  | 27000.51 | 570.00 |

tc 29

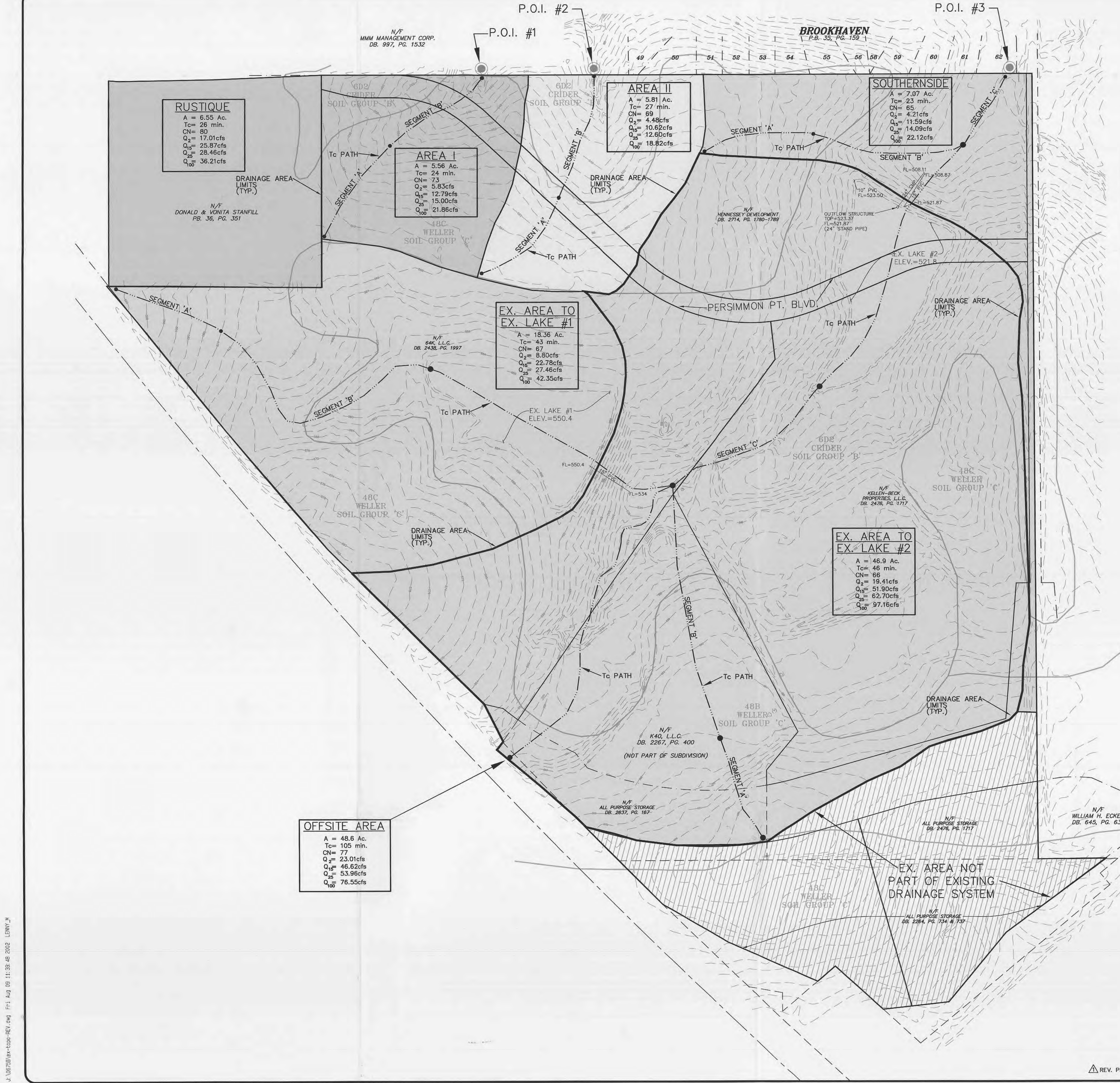
128.83

PEAK OUTFLOW= [REDACTED] AT 29 MINUTES  
 W/ DETENTION



| POINT OF INTEREST (P.O.I.) | CONTRIBUTING AREAS   | EXISTING DISCHARGE  | DEVELOPED* DISCHARGE  |
|----------------------------|--|---|---|
| P.O.I. #1                  | RUSTIQUE, AREA I   | 2YR.=23.08cfs<br>15YR.=39.03cfs<br>25YR.=43.87cfs<br>100YR.=58.58cfs  | 2YR.=22.06cfs<br>15YR.=28.88cfs<br>25YR.=31.83cfs<br>100YR.=43.53cfs  |
| P.O.I. #2                  | AREA II  | 2YR.=4.48cfs<br>15YR.=10.62cfs<br>25YR.=12.60cfs<br>100YR.=18.82cfs   | 2YR.=3.14cfs<br>15YR.=6.06cfs<br>25YR.=6.95cfs<br>100YR.=9.67cfs      |
| P.O.I. #3                  | SOUTHERNSIDE<br>EX. AREA TO EX. LAKE #1<br>EX. AREA TO EX. LAKE #2 | 2YR.=22.32cfs<br>15YR.=57.54cfs<br>25YR.=73.09cfs<br>100YR.=122.00cfs | 2YR.=21.50cfs<br>15YR.=54.40cfs<br>25YR.=71.87cfs<br>100YR.=124.54cfs |

\* DEVELOPED DISCHARGE ROUTED THROUGH DETENTION FOR P.O.I.'s 1 & 3  
NO DETENTION REQUIRED AT P.O.I. #2.



**RUSTIQUE**  
A = 6.55 Ac.  
Tc = 26 min.  
CN = 80  
Q<sub>2</sub> = 17.01cfs  
Q<sub>15</sub> = 25.87cfs  
Q<sub>25</sub> = 28.46cfs  
Q<sub>100</sub> = 36.21cfs

**AREA I**  
A = 5.56 Ac.  
Tc = 24 min.  
CN = 73  
Q<sub>2</sub> = 5.83cfs  
Q<sub>15</sub> = 12.79cfs  
Q<sub>25</sub> = 15.00cfs  
Q<sub>100</sub> = 21.86cfs

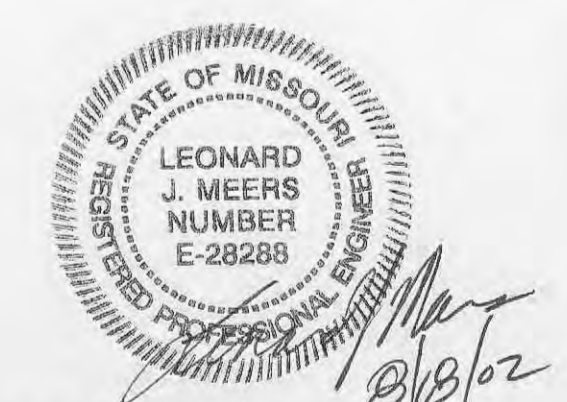
**AREA II**  
A = 5.81 Ac.  
Tc = 27 min.  
CN = 69  
Q<sub>2</sub> = 4.48cfs  
Q<sub>15</sub> = 10.62cfs  
Q<sub>25</sub> = 12.60cfs  
Q<sub>100</sub> = 18.82cfs

**SOUTHERNSIDE**  
A = 7.07 Ac.  
Tc = 23 min.  
CN = 65  
Q<sub>2</sub> = 4.21cfs  
Q<sub>15</sub> = 11.59cfs  
Q<sub>25</sub> = 14.09cfs  
Q<sub>100</sub> = 22.12cfs

**EX. AREA TO EX. LAKE #1**  
A = 18.36 Ac.  
Tc = 43 min.  
CN = 67  
Q<sub>2</sub> = 8.80cfs  
Q<sub>15</sub> = 22.78cfs  
Q<sub>25</sub> = 27.46cfs  
Q<sub>100</sub> = 42.35cfs

**EX. AREA TO EX. LAKE #2**  
A = 46.9 Ac.  
Tc = 46 min.  
CN = 66  
Q<sub>2</sub> = 19.41cfs  
Q<sub>15</sub> = 51.90cfs  
Q<sub>25</sub> = 62.70cfs  
Q<sub>100</sub> = 97.16cfs

**OFFSITE AREA**  
A = 48.6 Ac.  
Tc = 105 min.  
CN = 77  
Q<sub>2</sub> = 23.01cfs  
Q<sub>15</sub> = 46.62cfs  
Q<sub>25</sub> = 53.96cfs  
Q<sub>100</sub> = 76.55cfs

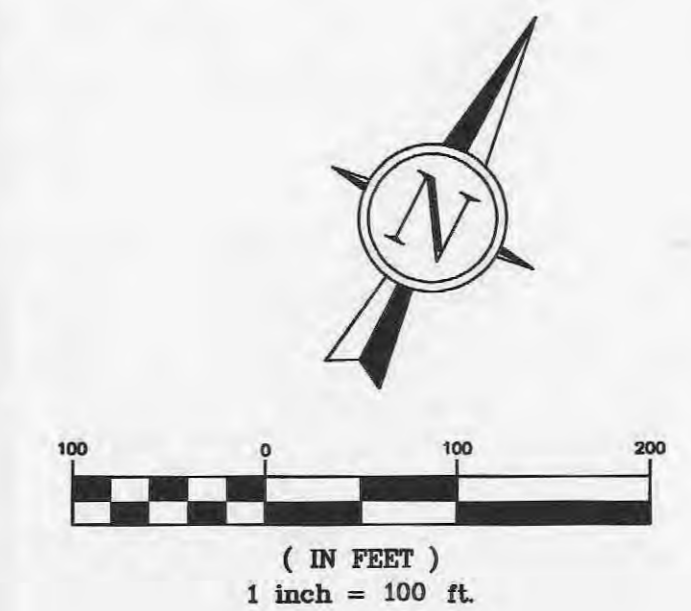
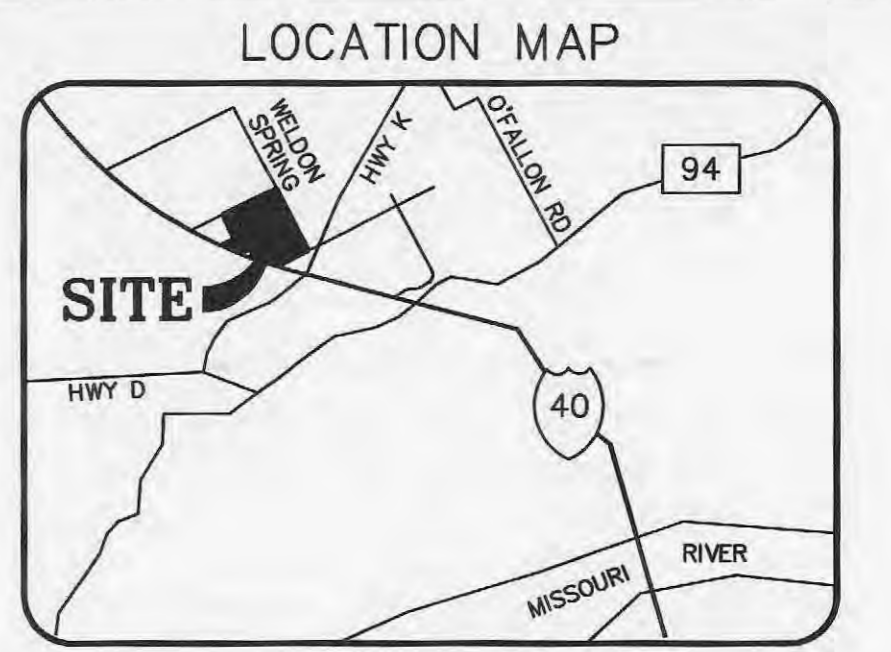
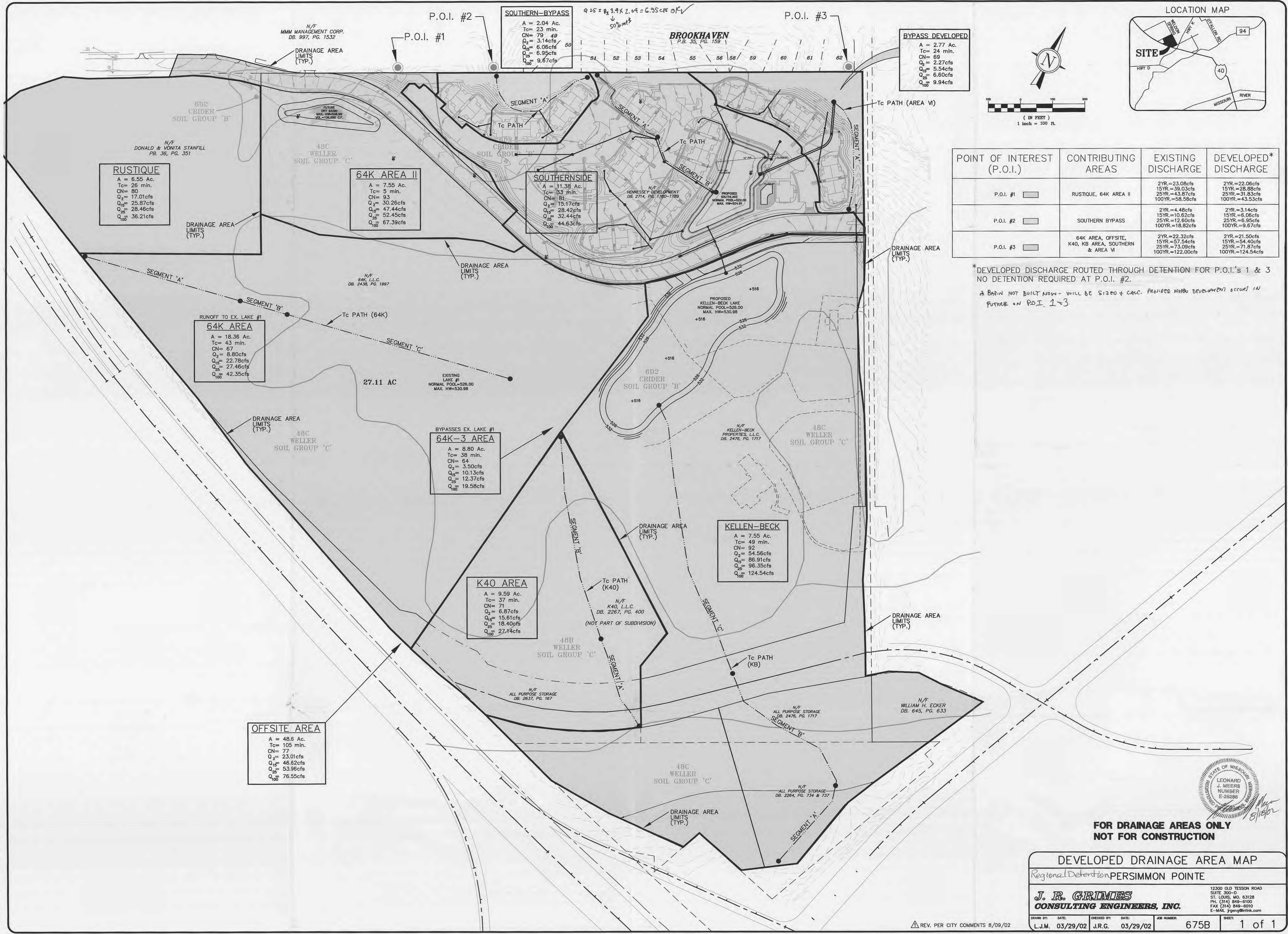


**FOR DRAINAGE AREAS ONLY  
NOT FOR CONSTRUCTION**

**EXISTING DRAINAGE AREA MAP**  
Regional Detention PERSIMMON POINTE

**J. R. GRIMES CONSULTING ENGINEERS, INC.**  
12300 OLD TESSON ROAD  
SUITE 300-D  
ST. LOUIS, MO. 63128  
PH. (314) 848-6100  
FAX (314) 848-6010  
E-MAIL jrgeng@mlnk.com

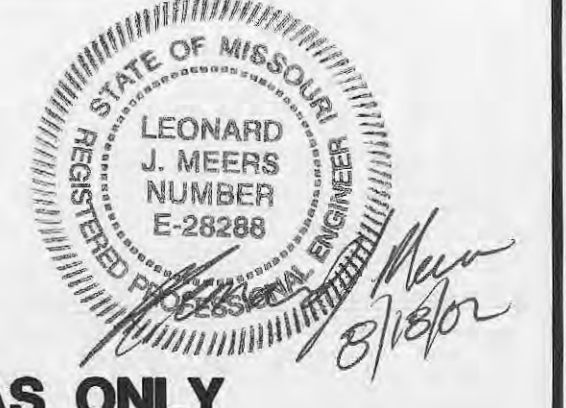
DRAWN BY: DATE: CHECKED BY: DATE: JOB NUMBER: SHEET: 1 of 1  
L.J.M. 03/29/02 J.R.G. 03/29/02 675B



| POINT OF INTEREST (P.O.I.) | CONTRIBUTING AREAS                                  | EXISTING DISCHARGE  | DEVELOPED* DISCHARGE  |
|----------------------------|---|---|---|
| P.O.I. #1                  | RUSTIQUE, 64K AREA II                               | 2YR.=23.08cfs<br>15YR.=39.03cfs<br>25YR.=43.87cfs<br>100YR.=58.58cfs  | 2YR.=22.06cfs<br>15YR.=28.88cfs<br>25YR.=31.83cfs<br>100YR.=43.53cfs  |
| P.O.I. #2                  | SOUTHERN BYPASS                                     | 2YR.=4.48cfs<br>15YR.=10.82cfs<br>25YR.=12.60cfs<br>100YR.=18.82cfs   | 2YR.=3.14cfs<br>15YR.=6.06cfs<br>25YR.=6.95cfs<br>100YR.=9.67cfs      |
| P.O.I. #3                  | 64K AREA, OFFSITE, K40, KB AREA, SOUTHERN & AREA VI | 2YR.=22.32cfs<br>15YR.=57.54cfs<br>25YR.=73.09cfs<br>100YR.=122.00cfs | 2YR.=21.50cfs<br>15YR.=54.40cfs<br>25YR.=71.87cfs<br>100YR.=124.54cfs |

\* DEVELOPED DISCHARGE ROUTED THROUGH DETENTION FOR P.O.I.'s 1 & 3 NO DETENTION REQUIRED AT P.O.I. #2.  
 \* BASIN NOT BUILT NOW - WILL BE 5200 ± C.A.C. PROVIDED WHEN DEVELOPMENT OCCURS IN FUTURE ON P.O.I. 1-3

J:\08789\08789-1\08789-REV 3.dwg F:\ Aug 09 11:40:01 2002 LERRY.M



**FOR DRAINAGE AREAS ONLY  
NOT FOR CONSTRUCTION**

**DEVELOPED DRAINAGE AREA MAP**  
Regional Detention PERSIMMON POINTE

**J. R. GRIMES**  
CONSULTING ENGINEERS, INC.

12300 OLD TESSON ROAD  
SUITE 300-D  
ST. LOUIS, MO. 63128  
PH. (314) 849-8100  
FAX (314) 849-8010  
E-MAIL: jrg@jrginc.com

|                  |                |                    |                |                  |               |
|------------------|----------------|--------------------|----------------|------------------|---------------|
| DRAWN BY: L.J.M. | DATE: 03/29/02 | CHECKED BY: J.R.G. | DATE: 03/29/02 | JOB NUMBER: 675B | SHEET: 1 of 1 |
|------------------|----------------|--------------------|----------------|------------------|---------------|

REV. PER CITY COMMENTS 8/09/02