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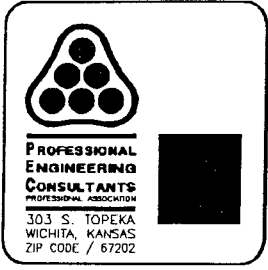
DRAINAGE PLAN
AND
SUPPORTING CALCULATIONS
FOR
STERLING FARMS 3RD ADDITION
AN ADDITION TO WICHITA, KANSAS

PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

APRIL 12, 1993

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MEMO



TO: Michael E. Lindebak, P.E.

455 N. Main, 7th Floor

Wichita, KS 67202

PROJECT NO. 36-93178-2051

PROJECT: Sterling Farms 3rd Addition

Drainage Plan

COPIES TO:

ATTN: Vicky Huang, P.E.

DATE: 4/9/93

Jack Ritchie

FROM: Michael W. Berry, P.E. *MB*

REFERENCE: Drainage Plan Computations

PLEASE ADVISE IMMEDIATELY OF ANY MISCONCEPTIONS OR OMISSIONS YOU BELIEVE TO BE CONTAINED HEREIN.

Attached hereto are the computations for the referenced project.

The publication Interim Drainage and Storm Sewer Policy for Design Criteria and Documentation, City of Wichita, as revised 7/1/87, was used as the guideline for the hydrologic and hydraulic computations. This publication is hereinafter referred to as the "Design Manual."

Manual #1, as referenced herein, refers to Design of Urban Highway Drainage - The State of the Art, by Reitz & Jens, Inc., April 1980. Manual #2 refers to Drainage of Highway Pavements, Hydraulic Engineering Circular #12, by Tye Engineering, Inc., March 1984.

The analysis made herein is based on the available site data which includes 1"=100' topographic map with 2' contours, project plans for various improvements on adjacent lands, and the original Drainage Plans for the Sterling Farms Addition (1988) and Sterling Farms 2nd Addition (1993).

HYDROLOGIC ANALYSIS FOR STORM WATER SEWERS

For storm sewer design, the Rational Method was used for hydrologic analysis in accordance with the Design Manual. Runoff coefficients were estimated based on tables provided in the Manual.

For this development, a uniform assumption of the minimum time of concentration value of 15 minutes was appropriate.

Travel time for flow-through defined channels, pipes, etc., for these basins was estimated on the basis of Manning's Equation.

Michael E. Lindebak, P.E.
Sterling Farms 3rd Addition Drainage Plan
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HYDRAULIC ANALYSIS FOR STORM WATER SEWERS

For each inlet, street flooding and inlet capacity was checked for the minor storm. Conveyance in the street was based on the modified Manning's Equation:

$$Q = 0.56 (Z/n) S^{1/2} d^{8/3} \text{ (Manual \#1)}$$

It was assumed that t_c for street flow was equal to t_c for pipe flow. This is a conservative assumption, as pipe velocities generally exceed gutter velocities.

For local streets, curb-deep flow is tolerable for the minor storm. For collectors, a single eight-foot center line should remain unflooded for the minor storm.

Inlet capacities were determined by the methods presented in Manual #2, using Chart No. 12.

In this analysis, City of Wichita Type 1A inlets and 3/8 in./ft. street cross-slope were assumed to be utilized. Minimum walk grade was assumed as 0.3 feet above the top of curb, except as otherwise noted. Local streets are assumed to have 3-5/8" roll curb and gutter as shown.

All storm sewer systems serve residential streets. Therefore, the design minor storm has a recurrence interval of two years, and the major storm one hundred years. Systems are designed for the minor storm, with major storm overflows directed through pipes at sump locations to the ponds.

To simplify analysis, the following assumptions were made:

1. The time of concentration is identical for both the major and minor storm.
2. The street conveyance was analyzed using only the street width. Depths above the curb up to the walk grade were used, but the conveyance of the parking was neglected. In general, the parking area conveyance is quite small, due to the relatively higher "n" factor.

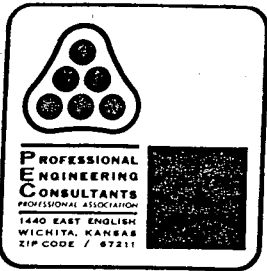
Hydraulic computations for the pipe system were performed using PEC's Storm Program. This program uses Manning's Equation to calculate friction losses in pipes flowing full. Minor losses are computed by momentum principles at each structure. All pipes were assumed to be reinforced concrete with a Manning's "n" factor of 0.013. It is desirable to keep the hydraulic grade line approximately one foot below the top of curb elevations for the minor storm.

HYDRAULIC MODELS FOR DETENTION

The detention basin was analyzed in the report prepared for Sterling Farms 2nd Addition and is reprinted herein in the section entitled "Post Developed Conditions."

DRAINAGE MAP

A 1"=100' scale drainage map is included in a map pocket at the back of the report.



Revised 4/9/93 MMB

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Project Sterling Farms 3rd. Add.

Item Drainage Plan SWS System 5

I HYDROLOGY

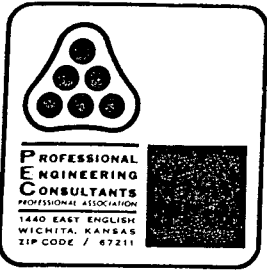
Use Rational Formula $Q = CIA$

Determine "C"

| | <u>Node</u> | <u>Soil Type</u> | <u>Hyd. Group</u> | <u>Land Use</u> | <u>C₂</u> | <u>C₁₀₀</u> |
|----------|-------------|------------------|-------------------|------------------|----------------------|------------------------|
| | 505 | Bb | C | Res; 1/4 Ac. Lot | 0.48 | 0.68 |
| | 504 | Bb | C | Res; 1/4 Ac. Lot | 0.48 | 0.68 |
| | 503 | Bb | C | Res; 1/4 Ac. Lot | 0.48 | 0.68 |
| combined | 502 | Bb | C | Res; 1/4 Ac. Lot | 0.48 | 0.68 |
| | 501 | Bb | C | Res; 1/4 Ac. Lot | 0.48 | 0.68 |
| | 500 | (Headwall) | | | | |

Determine "I"

| | <u>Node</u> | <u>t_c</u> | <u>I₂</u> | <u>I₁₀₀</u> |
|----------|-------------|----------------------|----------------------|------------------------|
| | 505 | 15 | 3.83 | 7.37 |
| | 504 | 15 | 3.83 | 7.37 |
| | 503 | 15 | 3.83 | 7.37 |
| combined | 502 | 15 | 3.83 | 7.37 |
| | 501 | 15 | 3.83 | 7.37 |
| | 500 | (Headwall) | | |



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 Project Sterling Farms 3rd Add.
 Item Drainage Plan System 5

Determine "A"

| | <u>Node</u> | <u>Plan. Units</u> | <u>Area SF</u> | <u>Area Ac</u> |
|----------|-------------|--------------------|----------------|----------------|
| | 505 | 262 | 41,920 | 0.96 |
| | 504 | 449 | 71,840 | 1.65 |
| | 503 | 604 | 96,640 | 2.22 |
| combined | { 502 | 403 | 74,080 | 1.70 |
| | { 501 | 228 | 36,480 | 0.84 |
| | 500 | (Headwall) | | |

Determine "Q₂"

| | <u>Node</u> | <u>C₂</u> | <u>I₂</u> | <u>A</u> | <u>Q₂</u> |
|----------|-------------|----------------------|----------------------|----------|----------------------|
| | 505 | 0.48 | 3.83 | 0.96 | 1.8 |
| | 504 | 0.48 | 3.83 | 1.65 | 3.0 |
| | 503 | 0.48 | 3.83 | 2.22 | 4.1 |
| combined | { 502 | 0.48 | 3.83 | 1.70 | 3.17 |
| | { 501 | 0.48 | 3.83 | 0.84 | 1.5 |
| | 500 | (Headwall) | | | |

4.6
~~5.15~~



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Project Sterling Farms 3rd Add.

Item Drainage Plan System 5

Determine "Q₁₀₀"

| | <u>Node</u> | <u>C₁₀₀</u> | <u>I₁₀₀</u> | <u>A</u> | <u>Q₁₀₀</u> |
|----------|-------------|------------------------|------------------------|----------|------------------------|
| | 505 | 0.68 | 7.37 | 0.96 | 4.8 |
| | 504 | 0.68 | 7.37 | 1.65 | 8.3 |
| | 503 | 0.68 | 7.37 | 2.22 | 11.1 |
| combined | 502 | 0.68 | 7.37 | 1.70 | 8.5 |
| | 501 | 0.68 | 7.37 | 0.84 | 4.2 |
| | 500 | (Headwall) | | | Σ = 36.9 |

12.7

II INLET SIZING

Size for ^{Q₁₀₀} ~~Q₁₀₀~~ at all nodes ~~except 501~~
~~Size for Q₁₀₀ 501-500~~

| <u>Node</u> | <u>Inlet Cond.</u> | <u>Q₁₀₀</u> | <u>Q_{max}*</u> | <u>Q_{intercept}†</u> | <u>Q_{bypass}</u> | <u>t₀</u> | <u>Use</u> |
|----------------|--------------------|------------------------|-------------------------|-------------------------------|---------------------------|----------------------|---------------|
| 505 | Sump | 4.8 | 11 | 4.8 | 0.0 | - | 5' |
| 504 | Sump | 8.3 | 11 | 8.3 | 0.0 | - | 5' |
| 503 | Sump | 11.1 | 11 | 11.1 | 0.0 | - | 5' |
| 502 | Sump | | # | | 0.0 | - | 5' |
| 501 | Sump | 12.7 | 32 | 12.7 | 0.0 | - | 10' |

* See charts & nomographs

† Input Q in "storm" program.

100 j, 1346.5000 506 4 3 3
110 t, Sterling Farms 3rd Addition Drainage Plan
120 t, North System 100 yr
130 t, Professional Engineering Consultants, P.A.
140 t, MWBerry 4/9/93
150 i, 503 0.68 2.22 0.00 0.00 11.10 15.00 1353.30
160 i, 504 0.68 1.65 0.00 0.00 8.30 15.00 1353.00
170 i, 505 0.68 0.96 0.00 0.00 4.80 15.00 1353.00
175 m, 506 1351.0
180 p, 503 504 70.00 18 0.013 90.00 0.00
190 p, 504 505 30.00 24 0.013 0.00 0.00
200 p, 505 506 150.00 24 0.013 0.00 0.00
210 e

Date: 04-09-1993
Time: 13:31:50

Input File: c:\storm\stfarm3z.stm

Sterling Farms 3rd Addition Drainage Plan
North System 100 yr
Professional Engineering Consultants, P.A.
MWBerry 4/9/93

Storm Frequency = 100-Year

* * * H Y D R O L O G Y * * *

| Tributary Area | | | | | | | | | | Hydrology Summation | | | | Conduit Data | | | |
|----------------|-----|------|-------|--------|-------|---------|-------|-------|---------|---------------------|-------|-------|----------|--------------|--------|-------|-------|
| Node to | C | Area | Slope | Length | TC(0) | I(0) | Q(0) | TC | I | Q | Sum Q | Size | Velocity | Length | TT | TT+TC | |
| Node | | (Ac) | (%) | (Ft) | (Min) | (In/Hr) | (CFS) | (Min) | (In/Hr) | (CFS) | (CFS) | | (Ft/Sec) | (Ft) | (Min) | (Min) | |
| 503 | 504 | .68 | 2.22 | .00 | .0 | 15.00 | 7.37 | 11.10 | 15.00 | 7.37 | 11.10 | 11.10 | 18" | 6.28 | 70.00 | .19 | 15.19 |
| 504 | 505 | .68 | 1.65 | .00 | .0 | 15.00 | 7.37 | 8.30 | 15.19 | 7.33 | 8.26 | 19.36 | 24" | 6.16 | 30.00 | .08 | 15.27 |
| 505 | 506 | .68 | .96 | .00 | .0 | 15.00 | 7.37 | 4.80 | 15.27 | 7.32 | 4.77 | 24.13 | 24" | 7.68 | 150.00 | .33 | 15.59 |

Date: 04-09-1993
Time: 13:31:50

Input File: c:\storm\stfarm3z.stm

Sterling Farms 3rd Addition Drainage Plan
North System 100 yr
Professional Engineering Consultants, P.A.
MWBerry 4/9/93

Storm Frequency = 100-Year

* * * HYDRAULICS * * *

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*****
Node      Hyd-Slope  Friction  Bend  Transition  Manhole  Deflection  Junction  Total  Hyd-Gl  Desired  Diff.
          (Ft/Ft)   (Ft)     (Ft)   (Ft)        (Ft)     (Ft)       (Ft)     (Ft)   Elevation Elevation (Ft)
*****
503      .01117     .7816    .0000   .0000       .0000     .0000      .0000    .7816  1350.9260 1353.3000  2.37
504      .00732     .2197    .0000   .0046       .0000     .3063      .6747    1.2054  1350.1440 1353.0000  2.86
505      .01137     1.7060   .0000   .0326       .0000     .0000      .7002    2.4388  1348.9390 1353.0000  4.06
506      .00000     .0000    .0000   .0000       .0000     .0000      .0000    .0000  1346.5000 1351.0000  4.50
*****

```

100 j, 1345.0000 500 4 2 1
110 t, Sterling Farms 3rd Addition Drainage Plan
120 t, South SWS System 100 Yr
130 t, Professional Engineering Consultants, P.A.
140 t, MWBerry, PE 4/9/93
150 i, 501 0.68 2.50 0.00 0.00 12.70 15.00 1353.00
160 m, 500 1350.50
170 p, 501 500 175.00 18 0.013 0.00 0.00
180 e

Date: 04-09-1993
Time: 12:09:10

Input File: c:\storm\stfarm3n.stm

Sterling Farms 3rd Addition Drainage Plan
South SWS System 100 Yr
Professional Engineering Consultants, P.A.
MWBerry, PE 4/9/93

Storm Frequency = 100-Year

* * * H Y D R O L O G Y * * *

| Tributary Area | | | | | | | | | | Hydrology Summation | | | | Conduit Data | | | | |
|----------------|-----|-----------|-----------|-------------|-------------|--------------|------------|----------|-----------|---------------------|-------------|-------|-------------------|--------------|----------|-------------|-------|--|
| Node to Node | C | Area (Ac) | Slope (%) | Length (Ft) | TC(0) (Min) | I(0) (In/Hr) | Q(0) (CFS) | TC (Min) | I (In/Hr) | Q (CFS) | Sum Q (CFS) | Size | Velocity (Ft/Sec) | Length (Ft) | TT (Min) | TT+TC (Min) | | |
| 501 | 500 | .68 | 2.50 | .00 | .0 | 15.00 | 7.37 | 12.70 | 15.00 | 7.37 | 12.70 | 12.70 | 18" | 7.19 | 175.00 | .41 | 15.41 | |

Date: 04-09-1993
Time: 12:09:10

Input File: c:\storm\stfarm3n.stm

Sterling Farms 3rd Addition Drainage Plan
South SWS System 100 Yr
Professional Engineering Consultants, P.A.
MWBerry, PE 4/9/93

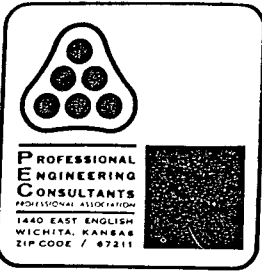
Storm Frequency = 100-Year

* * * H Y D R A U L I C S * * *

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*****
Node      Hyd-Slope  Friction  Bend  Transition  Manhole  Deflection  Junction  Total  Hyd-Gl  Desired  Diff.
          (Ft/Ft)   (Ft)     (Ft)   (Ft)         (Ft)     (Ft)       (Ft)     (Ft)   Elevation Elevation (Ft)
*****
501       .01462     2.5580   .0000   .0000       .0000     .0000      .0000    2.5580 1347.5580 1353.0000  5.44
500       .00000     .0000    .0000   .0000       .0000     .0000      .0000    .0000 1345.0000 1350.5000  5.50
*****

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Revised 4/9/93

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Project Sterling Farms 3rd Add.

Item Drainage Plan System 5

IV STREET FLOW

2-YR

| Node | Q_2 | Distribution | street slope | d | $3\frac{5}{8}$ " Roll CURB d_{max} | Comment |
|----------------------|------------|--------------------------------|----------------|----------------|---|------------|
| 505 | 1.8 | 50% (N) = 0.9 50% (S) = 0.9 | 0.50% 0.40% | 0.19' 0.19' | 0.3' 0.3' | OK OK |
| 504 | 3.0 | 40% (N) = 1.2 60% (W) = 1.8 | 0.5% 0.4% | 0.21' 0.25' | 0.3' 0.3' | OK OK |
| 503 | 4.1 | $\approx 100\%$ (W) = 4.1 | 0.4% | 0.34' | 0.3' | Borderline |
| 502 501 W | 3.1 | $\approx 100\%$ (E) = 3.1 | 0.32% | 0.32' | 0.3' | Borderline |
| 501 E | 1.5 | $\approx 100\%$ (E) = 1.5 | 0.4% | 0.24' | 0.3' | OK |
| 500 | (Headwall) | | | | | |

100-YR

$Q_{street} = Q_{100} - Q_{pipe}$

| Location | Contrib. Areas | Q_{100} | Q_{pipe} | Q_{street} | street slope | Q_{max} | Comment |
|--|--|----------------------------------|---|--------------|--------------|-----------|--------------------------------|
| Approaching Nodes 505 + 504 (N) | 50% 505 = 40% 504 = | 2.4 3.3 <u>5.7</u> | 0.0 | 5.7 | 0.50% | 29 | OK Roll curb 0.3' Wk Gr. |
| Approaching Nodes 504 + 503 (W) | 60% 504 = $\approx 100\%$ 503 = | 5.0 11.1 <u>16.1</u> | 0.0 | 16.1 | 0.4% | 25.6 | OK Roll curb 0.3' Wk Gr |
| Approaching Nodes 502 + 501 (E) | 100% 505 = 100% 504 = 100% 503 = 100% 502 = 100% 501 = | 4.8 8.3 11.1 8.5 4.2 | $\left. \begin{array}{l} \\ \\ \\ \end{array} \right\} \text{combined}$ 8.9 8.9 (502, 505, 504, 503) <u>12.7</u> | | 0.4% | 25.6 | OK Roll curb 0.3' Wk Gr |
| | | 36.9 | | | | | |

Sterling Farms 2nd Addition Drainage Plan
Proposed Conditions Hydrologic Model
PEC File 36-92600-2051 2/11/93

Sterling Farms 2nd Addition is a plat lying in the northeast corner of the Southeast Quarter of Section 5, Township 27 South, Range 1 West. This basin has been studied previously in the Drainage Plan for Sterling Farms Addition submitted Nov 4, 1988 and revised Nov. 29, 1988, and in a letter report dated January 30, 1989 submitted with the design of City of Wichita Storm Water Sewer 383. The latter report contained minor revisions to the original report based on field conditions discovered in the design survey and based on final design of the referenced storm sewer. Changes in the hydrologic model from the latest report are as follows:

1. The off-site drainage areas lying east of Tyler Road have been broken into two subareas:

a. A tract lying in the northwest quarter of Sec. 4 presently owned by the Kastens family. This basin is approximately 40 acres. The design condition is assumed to be cultivated land. At the time of development, it is assumed that detention will be required on this site to reduce the discharge to values at or below those assumed in this report, that is, for an existing cultivated conditions. Please note that in the development of the hydrologic model, it was discovered that the hydrograph peak discharges in the watershed downstream are extremely sensitive to the timing of flood peaks. Any detention provided must take into account the timing of flood peak as well as the reduction in runoff. Computation sheets for hydraulic parameters are included in this section directly behind the typewritten narrative.

b. A tract lying in the west portion of the Southwest Quarter of Section 4, which has been partially developed as Reflection Ridge 3rd Addition (single family residential), Reflection Ridge golf course, and Village Charters. This basin was assumed to be fully developed in accordance with the Drainage Plan document submitted with the platting of Reflection Ridge Addition. There is an existing pond on the No. 5 hole adjacent to Tyler Road. In its present condition, it has no functional outlet due to the lack of a suitable outfall to the west. Development of Sterling Farms 2nd Addition may provide an opportunity to construct an outfall and thereby gain some detention storage in the present lake. In this analysis, however, no detention storage was considered to be available. It should be noted that an enlargement of this lake could serve to provide detention not only for Reflection Ridge, but also possibly for the Kastens property mentioned above if sufficient conveyance along the east side of Tyler Road can be provided.

2. The static pool for Pond No. 1 in Sterling Farms has been assumed to be lowered 0.5 ft to 1346.5. Thus, this pond and the pond immediately downstream operate as a single pond. The culvert between Pond Nos. 1 and 2 has been enlarged to a 3-8' x 3' RCBB.

3. The outlet weir for Pond No. 2 has been changed to 30 ft in length.

As an result of the changes in the model stated above, the following impacts to the Sterling Farms development relative to the original design should be noted:

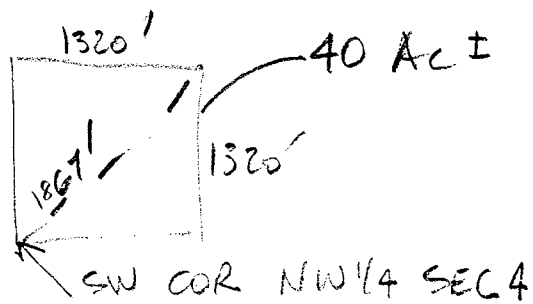
POND #1: The 100-year Design Water Surface (DWS100) dropped from 1350.72 to 1349.86. The 100-year discharge (Q100) from off-site into the pond increased from 197 cfs to 264 cfs.

POND #2: The DWS100 raised from 1348.70 to 1349.86. This does not affect any lots platted to date. The Q100 out of the pond increased from 238 cfs to 332 cfs.

POND #3: The DWS100 raised from 1348.24 to 1348.78, which should be compared to the platted minimum pad elevation of 1350.0 adjacent to this pond. The Q100 into the lake increased from 634 cfs to 720 cfs, and Q100 out increased from 343 cfs to 383 cfs.

POND #4: The DWS100 raised from 1347.77 to 1348.16, which compares to the platted minimum pad elevation adjacent to the lake of 1349.5. The Q100 into the lake increased from 357 cfs to 397 cfs, and the Q100 out increased from 357 cfs to 396 cfs. This discharge is 8.5% more than the original 25-year design discharge of the 2-9' x 3' reinforced concrete box bridge under 21st Street. However, the design headwater is only 0.1 ft higher than that of the original structure. The reader should note that the detention basins provided have reduced the 100-year runoff for fully developed conditions (except the Kastens property) to within 8.5 % of the 25-year discharge for pre-developed conditions.

KASTENS PROPERTY



300' SHEET FLOW
 1500' SHALLOW CONC FLOW
 600' DITCH FLOW

T_1 SHEET FLOW $n = 0.17$ $S = 0.01$

$$T_1 = \frac{0.007 (0.17 \times 300)^{0.8}}{\sqrt{3.5} (0.01)^{0.4}} = 0.55 \text{ HR}$$

$T_2 =$ SHALLOW CONC FLOW

$$V_2 = 16.1345 \sqrt{0.01} = 1.6 \text{ FT/SEC}$$

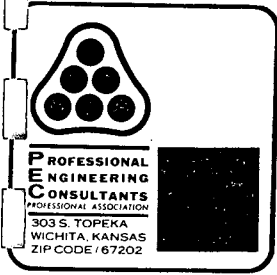
$$T_2 = \frac{1500 \text{ FT}}{1.6 \text{ FT/SEC}} \times \frac{1 \text{ MIN}}{60 \text{ SEC}} = 15.5 \text{ MIN} = 0.26 \text{ HR}$$

$T_3 =$ DITCH FLOW ASSUME $V = 1 \text{ FT/SEC}$

$$T_3 = \frac{600}{1} \times \frac{1}{60} = 10 \text{ MIN} = 0.17 \text{ HR}$$

$$T_c = 0.55 + 0.26 + 0.17 = 0.98 \text{ HR} \text{ SAY } \underline{1 \text{ HR}}$$

$$\text{LAG} = 0.6 T_c = 0.6 \text{ HR}$$



Date 2/10/93 MAB Page of
Project STERLING FARMS 2ND ADDITION
Item OFF-SITE DRAINAGE

KASTENS PROPERTY (NW 1/4 SEC 4)

$DA = 40 \text{ AC} = 0.0625$

SOIL CLASS B 100%

PROPOSED 1/4 AC LOT SINGLE FAM RES CN=75

AVAILABLE FALL = 10'

FLOW LENGTH \approx 2500 FT ^{FUTURE} = AC CURB/GUTTER SYS

$S_{\text{AVG}} = 0.004 \text{ FT/FT}$

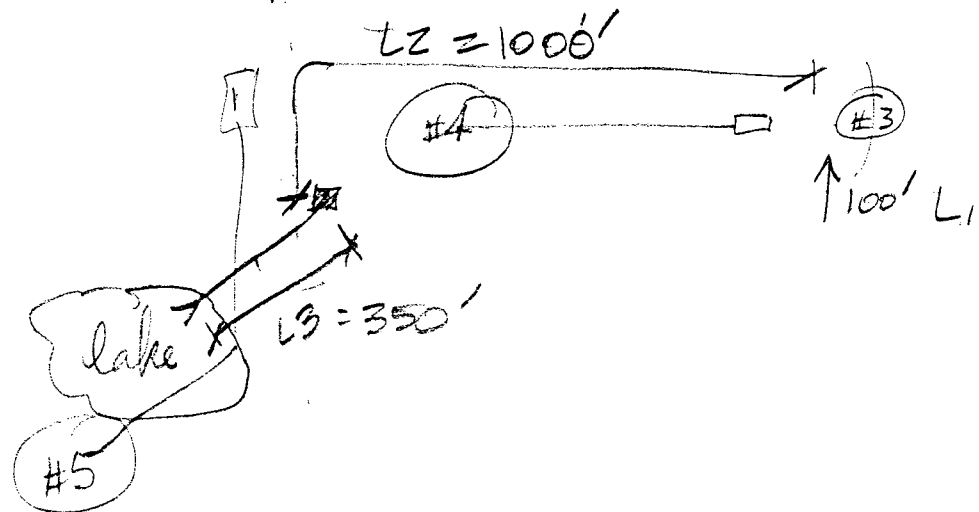
ASSUME 2 FT/SEC GUTTER VELOCITY

$T_c = \frac{2500 \text{ FT}}{2 \text{ FT/SEC}} \frac{\text{MIN}}{60 \text{ SEC}} = 21 \text{ MIN.}$

$\text{LAG} = 0.6 T_c = 0.2 \text{ HR.}$

MWB 2/11/93

REFLECTION RIDGE WEST PORTION



T_1 FOR $L_1 = 100'$ SHEET FLOW

$$T_1 = \frac{0.007 (nd)^{0.8}}{\sqrt{P_2} S^{0.4}} = \frac{0.007 [(0.4)(100)]^{0.8}}{\sqrt{3.5} (0.01)^{0.4}} = 0.45 \text{ hr} = 27 \text{ MIN}$$

T_2 FOR $L_2 = 1000'$ SHALLOW CONC. FLOW

$$V = 16.1345 \sqrt{0.01} = 1.6 \text{ ft/sec}$$

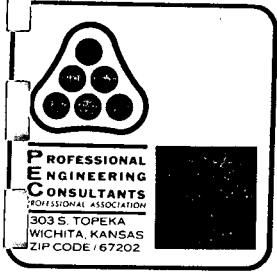
$$T_2 = \frac{1000'}{1.6} \times \frac{1}{60} = 10 \text{ MIN}$$

T_3 FOR PIPE FLOW ASSUME $V = 6 \text{ FT/SEC}$ FROM "STORM" program

$$T_3 = \frac{L_3}{V} = \frac{350'}{6 \text{ FT/SEC}} \times \frac{1}{60} = 1 \text{ MIN}$$

$$T_C = T_1 + T_2 + T_3 = 27 + 10 + 1 = 38 \text{ MIN}$$

$$\text{LAG} = 0.6 T_C = 23 \text{ MIN} = 0.38 \text{ HR} \quad \text{SAY } 0.4 \text{ HR}$$



Date 2/10/93 MJB Page of
 Project STERLING FARMS 2ND ADD'N
 Item OFF-SITE DRAINAGE

REFLECTION RIDGE PROPERTY

INCLUDES NW PORTION VILLAGE CHARTERS

TOTAL AREA = 53 AC = 0.0828

B SOIL

27.7 AC OPEN SPACE GOLF COURSE CN = 58

7.2 AC PATIO HOME 1/8 AC LOT (65% IMP) CN = 85

5.6 AC COMM 85% IMP CN = 92

4.6 + 8.0 = 12.6 AC 1/4 AC RES 38% IMP CN = 75

COMPOSITE

$$CN = \frac{27.7 \times 58 + 7.2 \times 85 + 5.6 \times 92 + 12.6 \times 75}{53} = 69$$

CONSIDER ST/SWS ONLY TO CONTROL.

800 FT STREET @ 2 FT/SEC → 6.7 MIN

500 FT PIPE @ 6 FT/SEC → 1.4 MIN

8.1 MIN

$T_L = 8.1 \text{ MIN}$

$Lag = 0.6 T_L = 0.08 \text{ HR} \Rightarrow \text{USE } 0.1 \text{ HR.}$



Date 2-11-93 MB Page of

Project STERLING FARMS CVD ADD'N

Item POND VOLUMES

POND #1 & POND #2 COMBINED

POND #1 LOWER STATIC POOL = 1346.5

| | <u>ELEV</u> | <u>STAGE</u> | <u>POND #1 AREA, AC</u> | <u>POND #2 AREA, AC</u> | <u>TOTAL Acres</u> |
|-------------|-------------|--------------|-------------------------|-------------------------|--------------------|
| STATIC POOL | 1346.5 | 0 | 0.3 AC | 2.6 AC | 3.8 AC |
| | 1347.5 | 1 | 0.27 AC | | |
| TOP BANK | 1351.5 | 5 | 0.53 AC | 3.4 AC | 3.9 AC |

```

*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
*   FEBRUARY 1981                *
*   REVISED 02 AUG 88            *
*
* RUN DATE 02/11/1993 TIME 22:23:59 *
*
*****

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*****
*
* U.S. ARMY CORPS OF ENGINEERS *
* THE HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET            *
* DAVIS, CALIFORNIA 95616      *
* (916) 551-1748              *
*
*****

```

```

X  X  XXXXXX  XXXXX  X
X  X  X      X  X    XX
X  X  X      X      X
XXXXXX XXXX  X      XXXX X
X  X  X      X      X
X  X  X      X  X    X
X  X  XXXXXX  XXXXX  XXX

```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
 THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
 NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
 DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
 KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

HEC-1 INPUT

PAGE 1

```

LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1         ID    STERLING FARMS 2ND ADDITION DRAINAGE PLAN
2         ID    PEC PROJECT NO 36-92600-2051
3         ID    STAGE STORAGE ANALYSIS --- 100 YR
4         ID    PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
5         ID    COMPUTED BY M.W.BERRY, P.E. 02/11/93
6         ID    FILENAME="A:\MISCHEC1\STERFAR2.HEC"  DISKNAME="MWB01"

*** FREE ***
*** LIST ***

          *DIAGRAM
7         IT    5 11FEB93    600    0 11FEB93    1800
8         IO    0      0
9         IN    30 11FEB93    600

10        KK    KASTENOFF SITE DRAINAGE - SW /4 NW /4 SEC 4 27 1W - CULTIVATED
11        BA    0.0625
12        PB    7.8
13        PC    0.08    0.09    0.10    0.11    0.12    0.133    0.147    0.163    0.181    0.204
14        PC    0.235    0.283    0.663    0.735    0.772    0.799    0.820    0.835    0.850    0.865
15        PC    0.880    0.890    0.900    0.910    0.916    0.925    0.934    0.943    0.952    0.958
16        PC    0.964    0.970    0.976    0.982    0.988    0.994    1.000
17        LS    0      71      0
18        UD    0.60

19        KK    RRWESTOFF SITE DRAINAGE - WEST PORTION OF REFLECTION RIDGE
20        BA    0.0828
21        PB    7.8
22        PC    0.08    0.09    0.10    0.11    0.12    0.133    0.147    0.163    0.181    0.204
23        PC    0.235    0.283    0.663    0.735    0.772    0.799    0.820    0.835    0.850    0.865
24        PC    0.880    0.890    0.900    0.910    0.916    0.925    0.934    0.943    0.952    0.958
25        PC    0.964    0.970    0.976    0.982    0.988    0.994    1.000
26        LS    0      69      0
27        UD    0.40

28        KK    OFFSITE
29        HC    2      0

30        KK    BASIN1
31        BA    0.0047
32        PB    7.8
33        PC    0.08    0.09    0.10    0.11    0.12    0.133    0.147    0.163    0.181    0.204
34        PC    0.235    0.283    0.663    0.735    0.772    0.799    0.820    0.835    0.850    0.865
35        PC    0.880    0.890    0.900    0.910    0.916    0.925    0.934    0.943    0.952    0.958
36        PC    0.964    0.970    0.976    0.982    0.988    0.994    1.000
37        LS    0      79      0
38        UD    0.25

39        KK    BASIN2
40        BA    0.0578
41        PB    7.8
42        PC    0.08    0.09    0.10    0.11    0.12    0.133    0.147    0.163    0.181    0.204
43        PC    0.235    0.283    0.663    0.735    0.772    0.799    0.820    0.835    0.850    0.865
44        PC    0.880    0.890    0.900    0.910    0.916    0.925    0.934    0.943    0.952    0.958
45        PC    0.964    0.970    0.976    0.982    0.988    0.994    1.000
46        LS    0      81      0
47        UD    0.25

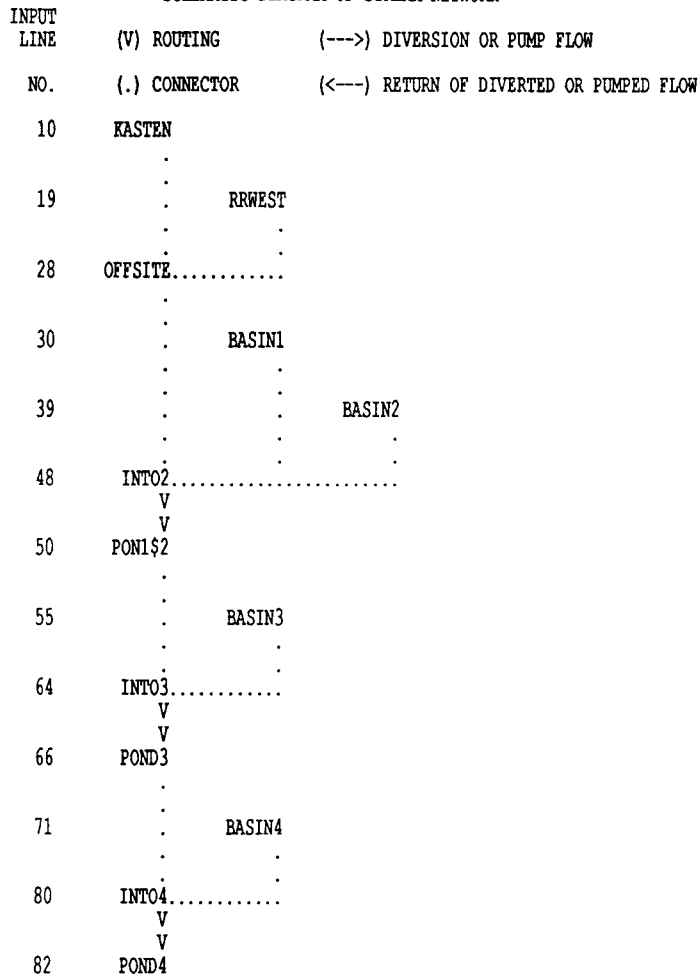
```

HEC-1 INPUT

PAGE 2

| LINE | ID | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|------|--|---|---|---|---|---|---|---|---|---|----|
| 48 | KK INTO2 | | | | | | | | | | |
| 49 | HC 3 | | | | | | | | | | |
| 50 | KK PON1\$2 | | | | | | | | | | |
| | * pond #1 static pool lowered to 1346.5 | | | | | | | | | | |
| | * pond #1 & #2 combined to function together | | | | | | | | | | |
| 51 | RS 1 ELEV 1346.5 | | | | | | | | | | |
| 52 | SA 2.8 3.9 | | | | | | | | | | |
| 53 | SE 1346.5 1351.5 | | | | | | | | | | |
| | * note: cofq=1.8 for submergence correction | | | | | | | | | | |
| 54 | SS 1346.5 30.0 1.8 1.5 | | | | | | | | | | |
| 55 | KK BASIN3 | | | | | | | | | | |
| 56 | BA 0.150 | | | | | | | | | | |
| 57 | PB 7.8 | | | | | | | | | | |
| 58 | PC 0.08 0.09 0.10 0.11 0.12 0.133 0.147 0.163 0.181 0.204 | | | | | | | | | | |
| 59 | PC 0.235 0.283 0.663 0.735 0.772 0.799 0.820 0.835 0.850 0.865 | | | | | | | | | | |
| 60 | PC 0.880 0.890 0.900 0.910 0.916 0.925 0.934 0.943 0.952 0.958 | | | | | | | | | | |
| 61 | PC 0.964 0.970 0.976 0.982 0.988 0.994 1.000 | | | | | | | | | | |
| 62 | LS 0 82 0 | | | | | | | | | | |
| 63 | UD 0.25 | | | | | | | | | | |
| 64 | KK INTO3 | | | | | | | | | | |
| 65 | HC 2 | | | | | | | | | | |
| 66 | KK POND3 | | | | | | | | | | |
| 67 | RS 1 ELEV 1345 | | | | | | | | | | |
| 68 | SV 0 8 16 23 31 35 | | | | | | | | | | |
| 69 | SQ 0 40 220 325 400 440 | | | | | | | | | | |
| 70 | SE 1344.7 1346.0 1347.0 1348.0 1349.0 1349.5 | | | | | | | | | | |
| 71 | KK BASIN4 | | | | | | | | | | |
| 72 | BA 0.0188 | | | | | | | | | | |
| 73 | PB 7.8 | | | | | | | | | | |
| 74 | PC 0.08 0.09 0.10 0.11 0.12 0.133 0.147 0.163 0.181 0.204 | | | | | | | | | | |
| 75 | PC 0.235 0.283 0.663 0.735 0.772 0.799 0.820 0.835 0.850 0.865 | | | | | | | | | | |
| 76 | PC 0.880 0.890 0.900 0.910 0.916 0.925 0.934 0.943 0.952 0.958 | | | | | | | | | | |
| 77 | PC 0.964 0.970 0.976 0.982 0.988 0.994 1.000 | | | | | | | | | | |
| 78 | LS 0 76 0 | | | | | | | | | | |
| 79 | UD 0.25 | | | | | | | | | | |
| 80 | KK INTO4 | | | | | | | | | | |
| 81 | HC 2 | | | | | | | | | | |
| 82 | KK POND4 | | | | | | | | | | |
| 83 | RS 1 ELEV 1344.7 | | | | | | | | | | |
| 84 | SV 0.0 0.6 1.1 1.7 2.3 2.8 | | | | | | | | | | |
| 85 | SQ 0 40 210 350 450 530 | | | | | | | | | | |
| 86 | SE 1344.7 1345.7 1346.7 1347.7 1348.7 1349.7 | | | | | | | | | | |
| 87 | ZZ | | | | | | | | | | |

SCHMATIC DIAGRAM OF STREAM NETWORK



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* FEBRUARY 1981 *
* REVISED 02 AUG 88 *
*
* RUN DATE 02/11/1993 TIME 22:23:59 *
*
*****
```

```
*****
*
* U.S. ARMY CORPS OF ENGINEERS *
* THE HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET *
* DAVIS, CALIFORNIA 95616 *
* (916) 551-1748 *
*
*****
```

```
STERLING FARMS 2ND ADDITION DRAINAGE PLAN
PEC PROJECT NO 36-92600-2051
STAGE STORAGE ANALYSIS --- 100 YR
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
COMPUTED BY M.W.BERRY, P.E. 02/11/93
FILENAME="A:\MISCHEC1\STERFAR2.HEC" DISKNAME="MWB01"
```

```
8 IO      OUTPUT CONTROL VARIABLES
          IPRNT      0 PRINT CONTROL
          IPLOT      0 PLOT CONTROL
          QSCAL      0. HYDROGRAPH PLOT SCALE

IT        HYDROGRAPH TIME DATA
          NMIN       5 MINUTES IN COMPUTATION INTERVAL
          IDATE      11FEB93 STARTING DATE
          ITIME      0600 STARTING TIME
          NQ         145 NUMBER OF HYDROGRAPH ORDINATES
          NDDATE     11FEB93 ENDING DATE
          NDTIME     1800 ENDING TIME
          ICENT      19 CENTURY MARK

          COMPUTATION INTERVAL .08 HOURS
          TOTAL TIME BASE 12.00 HOURS
```

```
ENGLISH UNITS
DRAINAGE AREA      SQUARE MILES
PRECIPITATION DEPTH INCHES
LENGTH, ELEVATION FEET
FLOW               CUBIC FEET PER SECOND
STORAGE VOLUME    ACRE-FEET
SURFACE AREA      ACRES
TEMPERATURE       DEGREES FAHRENHEIT
```

*** ** ** ** **

```
*****
*
* KASTEN * OFF SITE DRAINAGE - SW /4 NW /4 SEC 4 27 1W - CULTIVATED
*
*****
```

```
9 IN      TIME DATA FOR INPUT TIME SERIES
          JXMIN      30 TIME INTERVAL IN MINUTES
          JXDATE     11FEB93 STARTING DATE
          JXTIME     600 STARTING TIME
```

SUBBASIN RUNOFF DATA

```
11 BA     SUBBASIN CHARACTERISTICS
          TAREA      .06 SUBBASIN AREA
```

PRECIPITATION DATA

```
12 PB     STORM      7.80 BASIN TOTAL PRECIPITATION
```

```
13 PI     INCREMENTAL PRECIPITATION PATTERN
          .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
          .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
          .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
          .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
          .00      .00      .00      .00      .01      .01      .01      .01      .01      .01
          .01      .01      .01      .01      .01      .01      .06      .06      .06      .06
```

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .06 | .06 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

17 LS SCS LOSS RATE
 STRL .82 INITIAL ABSTRACTION
 CRVNER 71.00 CURVE NUMBER
 RTIMP .00 PERCENT IMPERVIOUS AREA

18 UD SCS DIMENSIONLESS UNITGRAPH
 TLAG .60 LAG

UNIT HYDROGRAPH
 38 END-OF-PERIOD ORDINATES

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2. | 7. | 14. | 24. | 35. | 43. | 47. | 47. | 45. | 41. |
| 35. | 29. | 22. | 18. | 14. | 12. | 10. | 8. | 6. | 5. |
| 4. | 3. | 3. | 2. | 2. | 1. | 1. | 1. | 1. | 1. |
| 1. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |

HYDROGRAPH AT STATION KASTEN

| DA | MON | HRMN | ORD | RAIN | LOSS | EXCESS | COMP Q | * | DA | MON | HRMN | ORD | RAIN | LOSS | EXCESS | COMP Q |
|----|-----|------|-----|------|------|--------|--------|---|----|-----|------|-----|------|------|--------|--------|
| 11 | FEB | 0600 | 1 | .00 | .00 | .00 | 0. | * | 11 | FEB | 1205 | 74 | .11 | .02 | .09 | 64. |
| 11 | FEB | 0605 | 2 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1210 | 75 | .11 | .02 | .09 | 79. |
| 11 | FEB | 0610 | 3 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1215 | 76 | .11 | .02 | .09 | 93. |
| 11 | FEB | 0615 | 4 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1220 | 77 | .11 | .02 | .09 | 103. |
| 11 | FEB | 0620 | 5 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1225 | 78 | .11 | .02 | .09 | 107. |
| 11 | FEB | 0625 | 6 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1230 | 79 | .11 | .02 | .09 | 106. |
| 11 | FEB | 0630 | 7 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1235 | 80 | .06 | .01 | .05 | 102. |
| 11 | FEB | 0635 | 8 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1240 | 81 | .06 | .01 | .05 | 95. |
| 11 | FEB | 0640 | 9 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1245 | 82 | .06 | .01 | .05 | 86. |
| 11 | FEB | 0645 | 10 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1250 | 83 | .06 | .01 | .05 | 78. |
| 11 | FEB | 0650 | 11 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1255 | 84 | .06 | .01 | .05 | 69. |
| 11 | FEB | 0655 | 12 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1300 | 85 | .06 | .01 | .05 | 61. |
| 11 | FEB | 0700 | 13 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1305 | 86 | .04 | .01 | .03 | 55. |
| 11 | FEB | 0705 | 14 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1310 | 87 | .04 | .01 | .03 | 49. |
| 11 | FEB | 0710 | 15 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1315 | 88 | .04 | .01 | .03 | 44. |
| 11 | FEB | 0715 | 16 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1320 | 89 | .04 | .01 | .03 | 40. |
| 11 | FEB | 0720 | 17 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1325 | 90 | .04 | .01 | .03 | 36. |
| 11 | FEB | 0725 | 18 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1330 | 91 | .04 | .01 | .03 | 33. |
| 11 | FEB | 0730 | 19 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1335 | 92 | .03 | .01 | .03 | 30. |
| 11 | FEB | 0735 | 20 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1340 | 93 | .03 | .01 | .03 | 28. |
| 11 | FEB | 0740 | 21 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1345 | 94 | .03 | .01 | .03 | 25. |
| 11 | FEB | 0745 | 22 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1350 | 95 | .03 | .01 | .03 | 24. |
| 11 | FEB | 0750 | 23 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1355 | 96 | .03 | .01 | .03 | 22. |
| 11 | FEB | 0755 | 24 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1400 | 97 | .03 | .01 | .03 | 21. |
| 11 | FEB | 0800 | 25 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1405 | 98 | .02 | .00 | .02 | 19. |
| 11 | FEB | 0805 | 26 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1410 | 99 | .02 | .00 | .02 | 18. |
| 11 | FEB | 0810 | 27 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1415 | 100 | .02 | .00 | .02 | 17. |
| 11 | FEB | 0815 | 28 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1420 | 101 | .02 | .00 | .02 | 16. |
| 11 | FEB | 0820 | 29 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1425 | 102 | .02 | .00 | .02 | 15. |
| 11 | FEB | 0825 | 30 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1430 | 103 | .02 | .00 | .02 | 14. |
| 11 | FEB | 0830 | 31 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1435 | 104 | .02 | .00 | .02 | 14. |
| 11 | FEB | 0835 | 32 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1440 | 105 | .02 | .00 | .02 | 13. |
| 11 | FEB | 0840 | 33 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1445 | 106 | .02 | .00 | .02 | 12. |
| 11 | FEB | 0845 | 34 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1450 | 107 | .02 | .00 | .02 | 12. |
| 11 | FEB | 0850 | 35 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1455 | 108 | .02 | .00 | .02 | 11. |
| 11 | FEB | 0855 | 36 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1500 | 109 | .02 | .00 | .02 | 11. |
| 11 | FEB | 0900 | 37 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1505 | 110 | .02 | .00 | .02 | 11. |
| 11 | FEB | 0905 | 38 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1510 | 111 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0910 | 39 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1515 | 112 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0915 | 40 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1520 | 113 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0920 | 41 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1525 | 114 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0925 | 42 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1530 | 115 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0930 | 43 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1535 | 116 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0935 | 44 | .03 | .03 | .00 | 0. | * | 11 | FEB | 1540 | 117 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0940 | 45 | .03 | .03 | .00 | 0. | * | 11 | FEB | 1545 | 118 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0945 | 46 | .03 | .03 | .00 | 0. | * | 11 | FEB | 1550 | 119 | .02 | .00 | .02 | 10. |

| | | | | | | | | | | | | |
|-------------|----|-----|-----|-----|-----|---|-------------|-----|-----|-----|-----|-----|
| 11 FEB 0950 | 47 | .03 | .03 | .00 | 0. | * | 11 FEB 1555 | 120 | .02 | .00 | .02 | 10. |
| 11 FEB 0955 | 48 | .03 | .03 | .00 | 0. | * | 11 FEB 1600 | 121 | .02 | .00 | .02 | 10. |
| 11 FEB 1000 | 49 | .03 | .03 | .00 | 0. | * | 11 FEB 1605 | 122 | .02 | .00 | .01 | 10. |
| 11 FEB 1005 | 50 | .04 | .03 | .00 | 0. | * | 11 FEB 1610 | 123 | .02 | .00 | .01 | 10. |
| 11 FEB 1010 | 51 | .04 | .03 | .00 | 0. | * | 11 FEB 1615 | 124 | .02 | .00 | .01 | 9. |
| 11 FEB 1015 | 52 | .04 | .03 | .00 | 0. | * | 11 FEB 1620 | 125 | .02 | .00 | .01 | 9. |
| 11 FEB 1020 | 53 | .04 | .03 | .00 | 0. | * | 11 FEB 1625 | 126 | .02 | .00 | .01 | 9. |
| 11 FEB 1025 | 54 | .04 | .03 | .00 | 0. | * | 11 FEB 1630 | 127 | .02 | .00 | .01 | 9. |
| 11 FEB 1030 | 55 | .04 | .03 | .01 | 1. | * | 11 FEB 1635 | 128 | .02 | .00 | .01 | 9. |
| 11 FEB 1035 | 56 | .05 | .04 | .01 | 1. | * | 11 FEB 1640 | 129 | .02 | .00 | .01 | 8. |
| 11 FEB 1040 | 57 | .05 | .04 | .01 | 1. | * | 11 FEB 1645 | 130 | .02 | .00 | .01 | 8. |
| 11 FEB 1045 | 58 | .05 | .04 | .01 | 1. | * | 11 FEB 1650 | 131 | .02 | .00 | .01 | 8. |
| 11 FEB 1050 | 59 | .05 | .04 | .01 | 1. | * | 11 FEB 1655 | 132 | .02 | .00 | .01 | 7. |
| 11 FEB 1055 | 60 | .05 | .04 | .01 | 2. | * | 11 FEB 1700 | 133 | .02 | .00 | .01 | 7. |
| 11 FEB 1100 | 61 | .05 | .04 | .01 | 2. | * | 11 FEB 1705 | 134 | .02 | .00 | .01 | 7. |
| 11 FEB 1105 | 62 | .07 | .06 | .02 | 2. | * | 11 FEB 1710 | 135 | .02 | .00 | .01 | 7. |
| 11 FEB 1110 | 63 | .07 | .05 | .02 | 3. | * | 11 FEB 1715 | 136 | .02 | .00 | .01 | 7. |
| 11 FEB 1115 | 64 | .07 | .05 | .02 | 3. | * | 11 FEB 1720 | 137 | .02 | .00 | .01 | 7. |
| 11 FEB 1120 | 65 | .07 | .05 | .02 | 4. | * | 11 FEB 1725 | 138 | .02 | .00 | .01 | 7. |
| 11 FEB 1125 | 66 | .07 | .05 | .03 | 5. | * | 11 FEB 1730 | 139 | .02 | .00 | .01 | 7. |
| 11 FEB 1130 | 67 | .07 | .05 | .03 | 5. | * | 11 FEB 1735 | 140 | .01 | .00 | .01 | 7. |
| 11 FEB 1135 | 68 | .59 | .33 | .26 | 7. | * | 11 FEB 1740 | 141 | .01 | .00 | .01 | 7. |
| 11 FEB 1140 | 69 | .59 | .27 | .32 | 10. | * | 11 FEB 1745 | 142 | .01 | .00 | .01 | 6. |
| 11 FEB 1145 | 70 | .59 | .22 | .37 | 14. | * | 11 FEB 1750 | 143 | .01 | .00 | .01 | 6. |
| 11 FEB 1150 | 71 | .59 | .19 | .40 | 22. | * | 11 FEB 1755 | 144 | .01 | .00 | .01 | 6. |
| 11 FEB 1155 | 72 | .59 | .16 | .43 | 33. | * | 11 FEB 1800 | 145 | .01 | .00 | .01 | 6. |
| 11 FEB 1200 | 73 | .59 | .14 | .45 | 48. | * | | | | | | |

TOTAL RAINFALL = 7.80, TOTAL LOSS = 3.39, TOTAL EXCESS = 4.41

| PEAK FLOW + (CFS) | TIME (HR) | MAXIMUM AVERAGE FLOW | | | |
|----------------------|--------------|----------------------|-------|-------|----------|
| | | 6-HR | 24-HR | 72-HR | 12.00-HR |
| + 107. | 6.42 | (CFS) 28. | 14. | 14. | 14. |
| | | (INCHES) 4.168 | 4.308 | 4.308 | 4.308 |
| | | (AC-FT) 14. | 14. | 14. | 14. |

CUMULATIVE AREA = .06 SQ MI

*** **

* *
19 KK * RRWEST * OFF SITE DRAINAGE - WEST PORTION OF REFLECTION RIDGE
* *

9 IN TIME DATA FOR INPUT TIME SERIES
JXMIN 30 TIME INTERVAL IN MINUTES
JXDATE 11FEB93 STARTING DATE
JXTIME 600 STARTING TIME

SUBBASIN RUNOFF DATA

20 BA SUBBASIN CHARACTERISTICS
TAREA .08 SUBBASIN AREA

PRECIPITATION DATA

21 PB STORM 7.80 BASIN TOTAL PRECIPITATION

22 PI INCREMENTAL PRECIPITATION PATTERN

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .06 | .06 | .06 | .06 |
| .06 | .06 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
 .00 .00 .00 .00

26 LS SCS LOSS RATE
 STRTL .90 INITIAL ABSTRACTION
 CRVNER 69.00 CURVE NUMBER
 RTIMP .00 PERCENT IMPERVIOUS AREA

27 UD SCS DIMENSIONLESS UNITGRAPH
 TLAG .40 LAG

UNIT HYDROGRAPH
 26 END-OF-PERIOD ORDINATES

8. 26. 54. 80. 90. 88. 76. 61. 42. 31.
 23. 17. 12. 9. 7. 5. 4. 3. 2. 1.
 1. 1. 1. 0. 0. 0.

HYDROGRAPH AT STATION RRWEST

| DA | MON | HRMN | ORD | RAIN | LOSS | EXCESS | COMP Q | * | DA | MON | HRMN | ORD | RAIN | LOSS | EXCESS | COMP Q |
|----|-----|------|-----|------|------|--------|--------|---|----|-----|------|-----|------|------|--------|--------|
| 11 | FEB | 0600 | 1 | .00 | .00 | .00 | 0. | * | 11 | FEB | 1205 | 74 | .11 | .03 | .08 | 144. |
| 11 | FEB | 0605 | 2 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1210 | 75 | .11 | .03 | .09 | 164. |
| 11 | FEB | 0610 | 3 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1215 | 76 | .11 | .03 | .09 | 169. |
| 11 | FEB | 0615 | 4 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1220 | 77 | .11 | .03 | .09 | 161. |
| 11 | FEB | 0620 | 5 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1225 | 78 | .11 | .02 | .09 | 145. |
| 11 | FEB | 0625 | 6 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1230 | 79 | .11 | .02 | .09 | 126. |
| 11 | FEB | 0630 | 7 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1235 | 80 | .06 | .01 | .05 | 108. |
| 11 | FEB | 0635 | 8 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1240 | 81 | .06 | .01 | .05 | 92. |
| 11 | FEB | 0640 | 9 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1245 | 82 | .06 | .01 | .05 | 80. |
| 11 | FEB | 0645 | 10 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1250 | 83 | .06 | .01 | .05 | 69. |
| 11 | FEB | 0650 | 11 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1255 | 84 | .06 | .01 | .05 | 60. |
| 11 | FEB | 0655 | 12 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1300 | 85 | .06 | .01 | .05 | 53. |
| 11 | FEB | 0700 | 13 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1305 | 86 | .04 | .01 | .03 | 46. |
| 11 | FEB | 0705 | 14 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1310 | 87 | .04 | .01 | .03 | 41. |
| 11 | FEB | 0710 | 15 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1315 | 88 | .04 | .01 | .03 | 37. |
| 11 | FEB | 0715 | 16 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1320 | 89 | .04 | .01 | .03 | 34. |
| 11 | FEB | 0720 | 17 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1325 | 90 | .04 | .01 | .03 | 31. |
| 11 | FEB | 0725 | 18 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1330 | 91 | .04 | .01 | .03 | 29. |
| 11 | FEB | 0730 | 19 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1335 | 92 | .03 | .01 | .03 | 27. |
| 11 | FEB | 0735 | 20 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1340 | 93 | .03 | .01 | .03 | 25. |
| 11 | FEB | 0740 | 21 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1345 | 94 | .03 | .01 | .03 | 24. |
| 11 | FEB | 0745 | 22 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1350 | 95 | .03 | .01 | .03 | 22. |
| 11 | FEB | 0750 | 23 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1355 | 96 | .03 | .01 | .03 | 21. |
| 11 | FEB | 0755 | 24 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1400 | 97 | .03 | .01 | .03 | 20. |
| 11 | FEB | 0800 | 25 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1405 | 98 | .02 | .00 | .02 | 19. |
| 11 | FEB | 0805 | 26 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1410 | 99 | .02 | .00 | .02 | 18. |
| 11 | FEB | 0810 | 27 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1415 | 100 | .02 | .00 | .02 | 18. |
| 11 | FEB | 0815 | 28 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1420 | 101 | .02 | .00 | .02 | 17. |
| 11 | FEB | 0820 | 29 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1425 | 102 | .02 | .00 | .02 | 16. |
| 11 | FEB | 0825 | 30 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1430 | 103 | .02 | .00 | .02 | 15. |
| 11 | FEB | 0830 | 31 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1435 | 104 | .02 | .00 | .02 | 14. |
| 11 | FEB | 0835 | 32 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1440 | 105 | .02 | .00 | .02 | 14. |
| 11 | FEB | 0840 | 33 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1445 | 106 | .02 | .00 | .02 | 13. |
| 11 | FEB | 0845 | 34 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1450 | 107 | .02 | .00 | .02 | 13. |
| 11 | FEB | 0850 | 35 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1455 | 108 | .02 | .00 | .02 | 13. |
| 11 | FEB | 0855 | 36 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1500 | 109 | .02 | .00 | .02 | 13. |
| 11 | FEB | 0900 | 37 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1505 | 110 | .02 | .00 | .02 | 13. |
| 11 | FEB | 0905 | 38 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1510 | 111 | .02 | .00 | .02 | 13. |
| 11 | FEB | 0910 | 39 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1515 | 112 | .02 | .00 | .02 | 12. |
| 11 | FEB | 0915 | 40 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1520 | 113 | .02 | .00 | .02 | 12. |
| 11 | FEB | 0920 | 41 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1525 | 114 | .02 | .00 | .02 | 12. |
| 11 | FEB | 0925 | 42 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1530 | 115 | .02 | .00 | .02 | 12. |
| 11 | FEB | 0930 | 43 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1535 | 116 | .02 | .00 | .02 | 12. |
| 11 | FEB | 0935 | 44 | .03 | .03 | .00 | 0. | * | 11 | FEB | 1540 | 117 | .02 | .00 | .02 | 12. |
| 11 | FEB | 0940 | 45 | .03 | .03 | .00 | 0. | * | 11 | FEB | 1545 | 118 | .02 | .00 | .02 | 12. |
| 11 | FEB | 0945 | 46 | .03 | .03 | .00 | 0. | * | 11 | FEB | 1550 | 119 | .02 | .00 | .02 | 12. |
| 11 | FEB | 0950 | 47 | .03 | .03 | .00 | 0. | * | 11 | FEB | 1555 | 120 | .02 | .00 | .02 | 12. |
| 11 | FEB | 0955 | 48 | .03 | .03 | .00 | 0. | * | 11 | FEB | 1600 | 121 | .02 | .00 | .02 | 12. |
| 11 | FEB | 1000 | 49 | .03 | .03 | .00 | 0. | * | 11 | FEB | 1605 | 122 | .02 | .00 | .01 | 12. |
| 11 | FEB | 1005 | 50 | .04 | .03 | .00 | 0. | * | 11 | FEB | 1610 | 123 | .02 | .00 | .01 | 12. |
| 11 | FEB | 1010 | 51 | .04 | .03 | .00 | 0. | * | 11 | FEB | 1615 | 124 | .02 | .00 | .01 | 12. |

| | | | | | | | | | | | | |
|-------------|----|-----|-----|-----|------|---|-------------|-----|-----|-----|-----|-----|
| 11 FEB 1015 | 52 | .04 | .03 | .00 | 0. | * | 11 FEB 1620 | 125 | .02 | .00 | .01 | 11. |
| 11 FEB 1020 | 53 | .04 | .03 | .00 | 0. | * | 11 FEB 1625 | 126 | .02 | .00 | .01 | 11. |
| 11 FEB 1025 | 54 | .04 | .03 | .00 | 0. | * | 11 FEB 1630 | 127 | .02 | .00 | .01 | 10. |
| 11 FEB 1030 | 55 | .04 | .03 | .00 | 1. | * | 11 FEB 1635 | 128 | .02 | .00 | .01 | 10. |
| 11 FEB 1035 | 56 | .05 | .04 | .01 | 1. | * | 11 FEB 1640 | 129 | .02 | .00 | .01 | 9. |
| 11 FEB 1040 | 57 | .05 | .04 | .01 | 1. | * | 11 FEB 1645 | 130 | .02 | .00 | .01 | 9. |
| 11 FEB 1045 | 58 | .05 | .04 | .01 | 2. | * | 11 FEB 1650 | 131 | .02 | .00 | .01 | 9. |
| 11 FEB 1050 | 59 | .05 | .04 | .01 | 2. | * | 11 FEB 1655 | 132 | .02 | .00 | .01 | 9. |
| 11 FEB 1055 | 60 | .05 | .04 | .01 | 3. | * | 11 FEB 1700 | 133 | .02 | .00 | .01 | 9. |
| 11 FEB 1100 | 61 | .05 | .04 | .01 | 3. | * | 11 FEB 1705 | 134 | .02 | .00 | .01 | 9. |
| 11 FEB 1105 | 62 | .07 | .06 | .02 | 4. | * | 11 FEB 1710 | 135 | .02 | .00 | .01 | 9. |
| 11 FEB 1110 | 63 | .07 | .06 | .02 | 4. | * | 11 FEB 1715 | 136 | .02 | .00 | .01 | 8. |
| 11 FEB 1115 | 64 | .07 | .06 | .02 | 5. | * | 11 FEB 1720 | 137 | .02 | .00 | .01 | 8. |
| 11 FEB 1120 | 65 | .07 | .05 | .02 | 6. | * | 11 FEB 1725 | 138 | .02 | .00 | .01 | 8. |
| 11 FEB 1125 | 66 | .07 | .05 | .02 | 7. | * | 11 FEB 1730 | 139 | .02 | .00 | .01 | 8. |
| 11 FEB 1130 | 67 | .07 | .05 | .02 | 9. | * | 11 FEB 1735 | 140 | .01 | .00 | .01 | 8. |
| 11 FEB 1135 | 68 | .59 | .36 | .23 | 12. | * | 11 FEB 1740 | 141 | .01 | .00 | .01 | 8. |
| 11 FEB 1140 | 69 | .59 | .29 | .30 | 19. | * | 11 FEB 1745 | 142 | .01 | .00 | .01 | 8. |
| 11 FEB 1145 | 70 | .59 | .25 | .34 | 33. | * | 11 FEB 1750 | 143 | .01 | .00 | .01 | 8. |
| 11 FEB 1150 | 71 | .59 | .21 | .38 | 55. | * | 11 FEB 1755 | 144 | .01 | .00 | .01 | 7. |
| 11 FEB 1155 | 72 | .59 | .18 | .41 | 84. | * | 11 FEB 1800 | 145 | .01 | .00 | .01 | 7. |
| 11 FEB 1200 | 73 | .59 | .16 | .43 | 115. | * | | | | | | |

TOTAL RAINFALL = 7.80, TOTAL LOSS = 3.62, TOTAL EXCESS = 4.18

| + (CFS) | TIME (HR) | (CFS) | MAXIMUM AVERAGE FLOW | | | |
|---------|-----------|----------|----------------------|-------|-------|----------|
| | | | 6-HR | 24-HR | 72-HR | 12.00-HR |
| + 169. | 6.25 | | 35. | 18. | 18. | 18. |
| | | (INCHES) | 3.981 | 4.122 | 4.122 | 4.122 |
| | | (AC-FT) | 18. | 18. | 18. | 18. |

CUMULATIVE AREA = .08 SQ MI

*** **

 * *
 28 KK * OFFSITE *
 * *

29 HC HYDROGRAPH COMBINATION
 ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

HYDROGRAPH AT STATION OFFSITE
 SUM OF 2 HYDROGRAPHS

| DA | MON | HRMN | ORD | FLOW | * | DA | MON | HRMN | ORD | FLOW | * | DA | MON | HRMN | ORD | FLOW | * | DA | MON | HRMN | ORD | FLOW | * |
|-------------|-----|------|-----|-------------|----|----|-----|-------------|-----|------|---|-------------|-----|------|-----|------|---|----|-----|------|-----|------|---|
| 11 FEB 0600 | 1 | 0. | * | 11 FEB 0905 | 38 | 0. | * | 11 FEB 1210 | 75 | 243. | * | 11 FEB 1515 | 112 | 23. | | | | | | | | | |
| 11 FEB 0605 | 2 | 0. | * | 11 FEB 0910 | 39 | 0. | * | 11 FEB 1215 | 76 | 262. | * | 11 FEB 1520 | 113 | 23. | | | | | | | | | |
| 11 FEB 0610 | 3 | 0. | * | 11 FEB 0915 | 40 | 0. | * | 11 FEB 1220 | 77 | 264. | * | 11 FEB 1525 | 114 | 22. | | | | | | | | | |
| 11 FEB 0615 | 4 | 0. | * | 11 FEB 0920 | 41 | 0. | * | 11 FEB 1225 | 78 | 252. | * | 11 FEB 1530 | 115 | 22. | | | | | | | | | |
| 11 FEB 0620 | 5 | 0. | * | 11 FEB 0925 | 42 | 0. | * | 11 FEB 1230 | 79 | 232. | * | 11 FEB 1535 | 116 | 22. | | | | | | | | | |
| 11 FEB 0625 | 6 | 0. | * | 11 FEB 0930 | 43 | 0. | * | 11 FEB 1235 | 80 | 209. | * | 11 FEB 1540 | 117 | 22. | | | | | | | | | |
| 11 FEB 0630 | 7 | 0. | * | 11 FEB 0935 | 44 | 0. | * | 11 FEB 1240 | 81 | 186. | * | 11 FEB 1545 | 118 | 22. | | | | | | | | | |
| 11 FEB 0635 | 8 | 0. | * | 11 FEB 0940 | 45 | 0. | * | 11 FEB 1245 | 82 | 166. | * | 11 FEB 1550 | 119 | 22. | | | | | | | | | |
| 11 FEB 0640 | 9 | 0. | * | 11 FEB 0945 | 46 | 0. | * | 11 FEB 1250 | 83 | 147. | * | 11 FEB 1555 | 120 | 22. | | | | | | | | | |
| 11 FEB 0645 | 10 | 0. | * | 11 FEB 0950 | 47 | 0. | * | 11 FEB 1255 | 84 | 129. | * | 11 FEB 1600 | 121 | 22. | | | | | | | | | |
| 11 FEB 0650 | 11 | 0. | * | 11 FEB 0955 | 48 | 0. | * | 11 FEB 1300 | 85 | 114. | * | 11 FEB 1605 | 122 | 22. | | | | | | | | | |
| 11 FEB 0655 | 12 | 0. | * | 11 FEB 1000 | 49 | 0. | * | 11 FEB 1305 | 86 | 101. | * | 11 FEB 1610 | 123 | 22. | | | | | | | | | |
| 11 FEB 0700 | 13 | 0. | * | 11 FEB 1005 | 50 | 0. | * | 11 FEB 1310 | 87 | 91. | * | 11 FEB 1615 | 124 | 21. | | | | | | | | | |
| 11 FEB 0705 | 14 | 0. | * | 11 FEB 1010 | 51 | 0. | * | 11 FEB 1315 | 88 | 82. | * | 11 FEB 1620 | 125 | 21. | | | | | | | | | |
| 11 FEB 0710 | 15 | 0. | * | 11 FEB 1015 | 52 | 0. | * | 11 FEB 1320 | 89 | 74. | * | 11 FEB 1625 | 126 | 20. | | | | | | | | | |
| 11 FEB 0715 | 16 | 0. | * | 11 FEB 1020 | 53 | 1. | * | 11 FEB 1325 | 90 | 67. | * | 11 FEB 1630 | 127 | 19. | | | | | | | | | |
| 11 FEB 0720 | 17 | 0. | * | 11 FEB 1025 | 54 | 1. | * | 11 FEB 1330 | 91 | 62. | * | 11 FEB 1635 | 128 | 18. | | | | | | | | | |

38 UD

SCS DIMENSIONLESS UNITGRAPH
TLAG .25 LAG

WARNING *** TIME INTERVAL IS GREATER THAN .29*LAG

UNIT HYDROGRAPH
17 END-OF-PERIOD ORDINATES

1. 5. 8. 8. 6. 4. 2. 1. 1. 1.
0. 0. 0. 0. 0. 0. 0.

HYDROGRAPH AT STATION BASIN1

| DA | MON | HRMN | ORD | RAIN | LOSS | EXCESS | COMP | Q | * | DA | MON | HRMN | ORD | RAIN | LOSS | EXCESS | COMP | Q |
|----|-----|------|-----|------|------|--------|------|---|---|----|-----|------|-----|------|------|--------|------|---|
| 11 | FEB | 0600 | 1 | .00 | .00 | .00 | 0. | * | | 11 | FEB | 1205 | 74 | .11 | .01 | .10 | 15. | * |
| 11 | FEB | 0605 | 2 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1210 | 75 | .11 | .01 | .10 | 14. | * |
| 11 | FEB | 0610 | 3 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1215 | 76 | .11 | .01 | .10 | 12. | * |
| 11 | FEB | 0615 | 4 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1220 | 77 | .11 | .01 | .10 | 9. | * |
| 11 | FEB | 0620 | 5 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1225 | 78 | .11 | .01 | .10 | 7. | * |
| 11 | FEB | 0625 | 6 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1230 | 79 | .11 | .01 | .10 | 6. | * |
| 11 | FEB | 0630 | 7 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1235 | 80 | .06 | .01 | .05 | 5. | * |
| 11 | FEB | 0635 | 8 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1240 | 81 | .06 | .01 | .05 | 4. | * |
| 11 | FEB | 0640 | 9 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1245 | 82 | .06 | .01 | .05 | 4. | * |
| 11 | FEB | 0645 | 10 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1250 | 83 | .06 | .01 | .05 | 3. | * |
| 11 | FEB | 0650 | 11 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1255 | 84 | .06 | .01 | .05 | 3. | * |
| 11 | FEB | 0655 | 12 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1300 | 85 | .06 | .01 | .05 | 2. | * |
| 11 | FEB | 0700 | 13 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1305 | 86 | .04 | .00 | .04 | 2. | * |
| 11 | FEB | 0705 | 14 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1310 | 87 | .04 | .00 | .04 | 2. | * |
| 11 | FEB | 0710 | 15 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1315 | 88 | .04 | .00 | .04 | 2. | * |
| 11 | FEB | 0715 | 16 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1320 | 89 | .04 | .00 | .04 | 2. | * |
| 11 | FEB | 0720 | 17 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1325 | 90 | .04 | .00 | .04 | 2. | * |
| 11 | FEB | 0725 | 18 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1330 | 91 | .04 | .00 | .04 | 1. | * |
| 11 | FEB | 0730 | 19 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1335 | 92 | .03 | .00 | .03 | 1. | * |
| 11 | FEB | 0735 | 20 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1340 | 93 | .03 | .00 | .03 | 1. | * |
| 11 | FEB | 0740 | 21 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1345 | 94 | .03 | .00 | .03 | 1. | * |
| 11 | FEB | 0745 | 22 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1350 | 95 | .03 | .00 | .03 | 1. | * |
| 11 | FEB | 0750 | 23 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1355 | 96 | .03 | .00 | .03 | 1. | * |
| 11 | FEB | 0755 | 24 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1400 | 97 | .03 | .00 | .03 | 1. | * |
| 11 | FEB | 0800 | 25 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1405 | 98 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0805 | 26 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1410 | 99 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0810 | 27 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1415 | 100 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0815 | 28 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1420 | 101 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0820 | 29 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1425 | 102 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0825 | 30 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1430 | 103 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0830 | 31 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1435 | 104 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0835 | 32 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1440 | 105 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0840 | 33 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1445 | 106 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0845 | 34 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1450 | 107 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0850 | 35 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1455 | 108 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0855 | 36 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1500 | 109 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0900 | 37 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1505 | 110 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0905 | 38 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1510 | 111 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0910 | 39 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1515 | 112 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0915 | 40 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1520 | 113 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0920 | 41 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1525 | 114 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0925 | 42 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1530 | 115 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0930 | 43 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1535 | 116 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0935 | 44 | .03 | .02 | .00 | 0. | * | | 11 | FEB | 1540 | 117 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0940 | 45 | .03 | .02 | .01 | 0. | * | | 11 | FEB | 1545 | 118 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0945 | 46 | .03 | .02 | .01 | 0. | * | | 11 | FEB | 1550 | 119 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0950 | 47 | .03 | .02 | .01 | 0. | * | | 11 | FEB | 1555 | 120 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 0955 | 48 | .03 | .02 | .01 | 0. | * | | 11 | FEB | 1600 | 121 | .02 | .00 | .02 | 1. | * |
| 11 | FEB | 1000 | 49 | .03 | .02 | .01 | 0. | * | | 11 | FEB | 1605 | 122 | .02 | .00 | .01 | 1. | * |
| 11 | FEB | 1005 | 50 | .04 | .03 | .01 | 0. | * | | 11 | FEB | 1610 | 123 | .02 | .00 | .01 | 1. | * |
| 11 | FEB | 1010 | 51 | .04 | .03 | .01 | 0. | * | | 11 | FEB | 1615 | 124 | .02 | .00 | .01 | 1. | * |
| 11 | FEB | 1015 | 52 | .04 | .03 | .01 | 0. | * | | 11 | FEB | 1620 | 125 | .02 | .00 | .01 | 1. | * |
| 11 | FEB | 1020 | 53 | .04 | .02 | .01 | 0. | * | | 11 | FEB | 1625 | 126 | .02 | .00 | .01 | 1. | * |
| 11 | FEB | 1025 | 54 | .04 | .02 | .01 | 0. | * | | 11 | FEB | 1630 | 127 | .02 | .00 | .01 | 1. | * |
| 11 | FEB | 1030 | 55 | .04 | .02 | .01 | 0. | * | | 11 | FEB | 1635 | 128 | .02 | .00 | .01 | 1. | * |
| 11 | FEB | 1035 | 56 | .05 | .03 | .02 | 0. | * | | 11 | FEB | 1640 | 129 | .02 | .00 | .01 | 1. | * |
| 11 | FEB | 1040 | 57 | .05 | .03 | .02 | 0. | * | | 11 | FEB | 1645 | 130 | .02 | .00 | .01 | 1. | * |
| 11 | FEB | 1045 | 58 | .05 | .03 | .02 | 0. | * | | 11 | FEB | 1650 | 131 | .02 | .00 | .01 | 1. | * |
| 11 | FEB | 1050 | 59 | .05 | .03 | .02 | 1. | * | | 11 | FEB | 1655 | 132 | .02 | .00 | .01 | 1. | * |

| | | | | | | | | | | | | |
|-------------|----|-----|-----|-----|-----|---|-------------|-----|-----|-----|-----|----|
| 11 FEB 1055 | 60 | .05 | .03 | .02 | 1. | * | 11 FEB 1700 | 133 | .02 | .00 | .01 | 1. |
| 11 FEB 1100 | 61 | .05 | .03 | .02 | 1. | * | 11 FEB 1705 | 134 | .02 | .00 | .01 | 1. |
| 11 FEB 1105 | 62 | .07 | .04 | .03 | 1. | * | 11 FEB 1710 | 135 | .02 | .00 | .01 | 1. |
| 11 FEB 1110 | 63 | .07 | .04 | .04 | 1. | * | 11 FEB 1715 | 136 | .02 | .00 | .01 | 1. |
| 11 FEB 1115 | 64 | .07 | .04 | .04 | 1. | * | 11 FEB 1720 | 137 | .02 | .00 | .01 | 1. |
| 11 FEB 1120 | 65 | .07 | .04 | .04 | 1. | * | 11 FEB 1725 | 138 | .02 | .00 | .01 | 1. |
| 11 FEB 1125 | 66 | .07 | .03 | .04 | 1. | * | 11 FEB 1730 | 139 | .02 | .00 | .01 | 1. |
| 11 FEB 1130 | 67 | .07 | .03 | .04 | 1. | * | 11 FEB 1735 | 140 | .01 | .00 | .01 | 1. |
| 11 FEB 1135 | 68 | .59 | .23 | .37 | 2. | * | 11 FEB 1740 | 141 | .01 | .00 | .01 | 0. |
| 11 FEB 1140 | 69 | .59 | .17 | .42 | 3. | * | 11 FEB 1745 | 142 | .01 | .00 | .01 | 0. |
| 11 FEB 1145 | 70 | .59 | .14 | .45 | 6. | * | 11 FEB 1750 | 143 | .01 | .00 | .01 | 0. |
| 11 FEB 1150 | 71 | .59 | .11 | .48 | 9. | * | 11 FEB 1755 | 144 | .01 | .00 | .01 | 0. |
| 11 FEB 1155 | 72 | .59 | .09 | .50 | 12. | * | 11 FEB 1800 | 145 | .01 | .00 | .01 | 0. |
| 11 FEB 1200 | 73 | .59 | .08 | .51 | 14. | * | | | | | | |

TOTAL RAINFALL = 7.80, TOTAL LOSS = 2.48, TOTAL EXCESS = 5.32

| PEAK FLOW + (CFS) | TIME (HR) | MAXIMUM AVERAGE FLOW | | | | |
|----------------------|--------------|----------------------|-------|-------|----------|-------|
| | | 6-HR | 24-HR | 72-HR | 12.00-HR | |
| + 15. | 6.08 | 3. | 1. | 1. | 1. | |
| | | (INCHES) | 4.972 | 5.285 | 5.285 | 5.285 |
| | | (AC-FT) | 1. | 1. | 1. | 1. |

CUMULATIVE AREA = .00 SQ MI

*** **

* *
39 KK * BASIN2 *
* *

9 IN TIME DATA FOR INPUT TIME SERIES
JXMIN 30 TIME INTERVAL IN MINUTES
JXDATE 11FEB93 STARTING DATE
JXTIME 600 STARTING TIME

SUBBASIN RUNOFF DATA

40 BA SUBBASIN CHARACTERISTICS
TAREA .06 SUBBASIN AREA

PRECIPITATION DATA

41 PB STORM 7.80 BASIN TOTAL PRECIPITATION

42 PI INCREMENTAL PRECIPITATION PATTERN

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .06 | .06 | .06 | .06 |
| .06 | .06 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

46 LS SCS LOSS RATE
STRTL .47 INITIAL ABSTRACTION
CRVNR 81.00 CURVE NUMBER
RTIME .00 PERCENT IMPERVIOUS AREA

47 UD SCS DIMENSIONLESS UNITGRAPH
TLAG .25 LAG

WARNING *** TIME INTERVAL IS GREATER THAN .29*LAG

UNIT HYDROGRAPH
17 END-OF-PERIOD ORDINATES

17. 58. 92. 92. 72. 43. 27. 17. 11. 7.
4. 3. 2. 1. 1. 0. 0.

HYDROGRAPH AT STATION BASIN2

| DA | MON | HRMN | ORD | RAIN | LOSS | EXCESS | COMP Q | * | DA | MON | HRMN | ORD | RAIN | LOSS | EXCESS | COMP Q |
|----|-----|------|-----|------|------|--------|--------|---|----|-----|------|-----|------|------|--------|--------|
| 11 | FEB | 0600 | 1 | .00 | .00 | .00 | 0. | * | 11 | FEB | 1205 | 74 | .11 | .01 | .10 | 191. |
| 11 | FEB | 0605 | 2 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1210 | 75 | .11 | .01 | .10 | 179. |
| 11 | FEB | 0610 | 3 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1215 | 76 | .11 | .01 | .10 | 149. |
| 11 | FEB | 0615 | 4 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1220 | 77 | .11 | .01 | .10 | 115. |
| 11 | FEB | 0620 | 5 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1225 | 78 | .11 | .01 | .10 | 89. |
| 11 | FEB | 0625 | 6 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1230 | 79 | .11 | .01 | .10 | 73. |
| 11 | FEB | 0630 | 7 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1235 | 80 | .06 | .00 | .05 | 62. |
| 11 | FEB | 0635 | 8 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1240 | 81 | .06 | .00 | .05 | 53. |
| 11 | FEB | 0640 | 9 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1245 | 82 | .06 | .00 | .05 | 44. |
| 11 | FEB | 0645 | 10 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1250 | 83 | .06 | .00 | .05 | 37. |
| 11 | FEB | 0650 | 11 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1255 | 84 | .06 | .00 | .05 | 32. |
| 11 | FEB | 0655 | 12 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1300 | 85 | .06 | .00 | .05 | 29. |
| 11 | FEB | 0700 | 13 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1305 | 86 | .04 | .00 | .04 | 27. |
| 11 | FEB | 0705 | 14 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1310 | 87 | .04 | .00 | .04 | 25. |
| 11 | FEB | 0710 | 15 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1315 | 88 | .04 | .00 | .04 | 22. |
| 11 | FEB | 0715 | 16 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1320 | 89 | .04 | .00 | .04 | 21. |
| 11 | FEB | 0720 | 17 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1325 | 90 | .04 | .00 | .04 | 19. |
| 11 | FEB | 0725 | 18 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1330 | 91 | .04 | .00 | .04 | 19. |
| 11 | FEB | 0730 | 19 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1335 | 92 | .03 | .00 | .03 | 18. |
| 11 | FEB | 0735 | 20 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1340 | 93 | .03 | .00 | .03 | 17. |
| 11 | FEB | 0740 | 21 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1345 | 94 | .03 | .00 | .03 | 16. |
| 11 | FEB | 0745 | 22 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1350 | 95 | .03 | .00 | .03 | 15. |
| 11 | FEB | 0750 | 23 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1355 | 96 | .03 | .00 | .03 | 15. |
| 11 | FEB | 0755 | 24 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1400 | 97 | .03 | .00 | .03 | 14. |
| 11 | FEB | 0800 | 25 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1405 | 98 | .02 | .00 | .02 | 14. |
| 11 | FEB | 0805 | 26 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1410 | 99 | .02 | .00 | .02 | 13. |
| 11 | FEB | 0810 | 27 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1415 | 100 | .02 | .00 | .02 | 12. |
| 11 | FEB | 0815 | 28 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1420 | 101 | .02 | .00 | .02 | 11. |
| 11 | FEB | 0820 | 29 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1425 | 102 | .02 | .00 | .02 | 11. |
| 11 | FEB | 0825 | 30 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1430 | 103 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0830 | 31 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1435 | 104 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0835 | 32 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1440 | 105 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0840 | 33 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1445 | 106 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0845 | 34 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1450 | 107 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0850 | 35 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1455 | 108 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0855 | 36 | .02 | .02 | .00 | 0. | * | 11 | FEB | 1500 | 109 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0900 | 37 | .02 | .02 | .00 | 1. | * | 11 | FEB | 1505 | 110 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0905 | 38 | .02 | .02 | .00 | 1. | * | 11 | FEB | 1510 | 111 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0910 | 39 | .02 | .02 | .00 | 1. | * | 11 | FEB | 1515 | 112 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0915 | 40 | .02 | .02 | .00 | 1. | * | 11 | FEB | 1520 | 113 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0920 | 41 | .02 | .02 | .00 | 1. | * | 11 | FEB | 1525 | 114 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0925 | 42 | .02 | .02 | .00 | 2. | * | 11 | FEB | 1530 | 115 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0930 | 43 | .02 | .02 | .01 | 2. | * | 11 | FEB | 1535 | 116 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0935 | 44 | .03 | .02 | .01 | 2. | * | 11 | FEB | 1540 | 117 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0940 | 45 | .03 | .02 | .01 | 2. | * | 11 | FEB | 1545 | 118 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0945 | 46 | .03 | .02 | .01 | 2. | * | 11 | FEB | 1550 | 119 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0950 | 47 | .03 | .02 | .01 | 3. | * | 11 | FEB | 1555 | 120 | .02 | .00 | .02 | 10. |
| 11 | FEB | 0955 | 48 | .03 | .02 | .01 | 3. | * | 11 | FEB | 1600 | 121 | .02 | .00 | .02 | 10. |
| 11 | FEB | 1000 | 49 | .03 | .02 | .01 | 3. | * | 11 | FEB | 1605 | 122 | .02 | .00 | .01 | 10. |
| 11 | FEB | 1005 | 50 | .04 | .02 | .01 | 3. | * | 11 | FEB | 1610 | 123 | .02 | .00 | .01 | 9. |
| 11 | FEB | 1010 | 51 | .04 | .02 | .01 | 4. | * | 11 | FEB | 1615 | 124 | .02 | .00 | .01 | 9. |
| 11 | FEB | 1015 | 52 | .04 | .02 | .01 | 4. | * | 11 | FEB | 1620 | 125 | .02 | .00 | .01 | 8. |
| 11 | FEB | 1020 | 53 | .04 | .02 | .01 | 5. | * | 11 | FEB | 1625 | 126 | .02 | .00 | .01 | 7. |
| 11 | FEB | 1025 | 54 | .04 | .02 | .01 | 5. | * | 11 | FEB | 1630 | 127 | .02 | .00 | .01 | 7. |
| 11 | FEB | 1030 | 55 | .04 | .02 | .01 | 5. | * | 11 | FEB | 1635 | 128 | .02 | .00 | .01 | 7. |
| 11 | FEB | 1035 | 56 | .05 | .03 | .02 | 6. | * | 11 | FEB | 1640 | 129 | .02 | .00 | .01 | 7. |
| 11 | FEB | 1040 | 57 | .05 | .03 | .02 | 6. | * | 11 | FEB | 1645 | 130 | .02 | .00 | .01 | 7. |
| 11 | FEB | 1045 | 58 | .05 | .03 | .02 | 7. | * | 11 | FEB | 1650 | 131 | .02 | .00 | .01 | 7. |
| 11 | FEB | 1050 | 59 | .05 | .03 | .02 | 8. | * | 11 | FEB | 1655 | 132 | .02 | .00 | .01 | 7. |
| 11 | FEB | 1055 | 60 | .05 | .03 | .02 | 9. | * | 11 | FEB | 1700 | 133 | .02 | .00 | .01 | 7. |
| 11 | FEB | 1100 | 61 | .05 | .02 | .02 | 9. | * | 11 | FEB | 1705 | 134 | .02 | .00 | .01 | 7. |
| 11 | FEB | 1105 | 62 | .07 | .04 | .04 | 10. | * | 11 | FEB | 1710 | 135 | .02 | .00 | .01 | 7. |
| 11 | FEB | 1110 | 63 | .07 | .03 | .04 | 11. | * | 11 | FEB | 1715 | 136 | .02 | .00 | .01 | 7. |

| | | | | | | | | | | | | |
|-------------|----|-----|-----|-----|------|---|-------------|-----|-----|-----|-----|----|
| 11 FEB 1115 | 64 | .07 | .03 | .04 | 13. | * | 11 FEB 1720 | 137 | .02 | .00 | .01 | 7. |
| 11 FEB 1120 | 65 | .07 | .03 | .04 | 15. | * | 11 FEB 1725 | 138 | .02 | .00 | .01 | 7. |
| 11 FEB 1125 | 66 | .07 | .03 | .04 | 16. | * | 11 FEB 1730 | 139 | .02 | .00 | .01 | 7. |
| 11 FEB 1130 | 67 | .07 | .03 | .05 | 17. | * | 11 FEB 1735 | 140 | .01 | .00 | .01 | 6. |
| 11 FEB 1135 | 68 | .59 | .20 | .39 | 24. | * | 11 FEB 1740 | 141 | .01 | .00 | .01 | 6. |
| 11 FEB 1140 | 69 | .59 | .15 | .44 | 46. | * | 11 FEB 1745 | 142 | .01 | .00 | .01 | 6. |
| 11 FEB 1145 | 70 | .59 | .12 | .47 | 82. | * | 11 FEB 1750 | 143 | .01 | .00 | .01 | 5. |
| 11 FEB 1150 | 71 | .59 | .10 | .50 | 121. | * | 11 FEB 1755 | 144 | .01 | .00 | .01 | 5. |
| 11 FEB 1155 | 72 | .59 | .08 | .51 | 155. | * | 11 FEB 1800 | 145 | .01 | .00 | .01 | 4. |
| 11 FEB 1200 | 73 | .59 | .07 | .52 | 180. | * | | | | | | |

TOTAL RAINFALL = 7.80, TOTAL LOSS = 2.25, TOTAL EXCESS = 5.55

| PEAK FLOW (CFS) | TIME (HR) | MAXIMUM AVERAGE FLOW | | | | |
|--------------------|--------------|----------------------|-------|-------|----------|-------|
| | | 6-HR | 24-HR | 72-HR | 12.00-HR | |
| 191. | 6.08 | 32. | 17. | 17. | 17. | |
| | | (INCHES) | 5.165 | 5.516 | 5.516 | 5.516 |
| | | (AC-FT) | 16. | 17. | 17. | 17. |

CUMULATIVE AREA = .06 SQ MI

*** **

* *
48 KK * INTO2 *
* *

49 HC HYDROGRAPH COMBINATION
ICOMP 3 NUMBER OF HYDROGRAPHS TO COMBINE

HYDROGRAPH AT STATION INTO2
SUM OF 3 HYDROGRAPHS

| DA | MON | HRMN | ORD | FLOW | * | DA | MON | HRMN | ORD | FLOW | * | DA | MON | HRMN | ORD | FLOW | * | DA | MON | HRMN | ORD | FLOW | * |
|----|-----|------|-----|------|---|----|-----|------|-----|------|---|----|-----|------|-----|------|---|----|-----|------|-----|------|---|
| 11 | FEB | 0600 | 1 | 0. | * | 11 | FEB | 0905 | 38 | 1. | * | 11 | FEB | 1210 | 75 | 436. | * | 11 | FEB | 1515 | 112 | 33. | * |
| 11 | FEB | 0605 | 2 | 0. | * | 11 | FEB | 0910 | 39 | 1. | * | 11 | FEB | 1215 | 76 | 423. | * | 11 | FEB | 1520 | 113 | 33. | * |
| 11 | FEB | 0610 | 3 | 0. | * | 11 | FEB | 0915 | 40 | 1. | * | 11 | FEB | 1220 | 77 | 388. | * | 11 | FEB | 1525 | 114 | 33. | * |
| 11 | FEB | 0615 | 4 | 0. | * | 11 | FEB | 0920 | 41 | 1. | * | 11 | FEB | 1225 | 78 | 347. | * | 11 | FEB | 1530 | 115 | 33. | * |
| 11 | FEB | 0620 | 5 | 0. | * | 11 | FEB | 0925 | 42 | 2. | * | 11 | FEB | 1230 | 79 | 310. | * | 11 | FEB | 1535 | 116 | 33. | * |
| 11 | FEB | 0625 | 6 | 0. | * | 11 | FEB | 0930 | 43 | 2. | * | 11 | FEB | 1235 | 80 | 276. | * | 11 | FEB | 1540 | 117 | 33. | * |
| 11 | FEB | 0630 | 7 | 0. | * | 11 | FEB | 0935 | 44 | 2. | * | 11 | FEB | 1240 | 81 | 243. | * | 11 | FEB | 1545 | 118 | 33. | * |
| 11 | FEB | 0635 | 8 | 0. | * | 11 | FEB | 0940 | 45 | 2. | * | 11 | FEB | 1245 | 82 | 214. | * | 11 | FEB | 1550 | 119 | 33. | * |
| 11 | FEB | 0640 | 9 | 0. | * | 11 | FEB | 0945 | 46 | 3. | * | 11 | FEB | 1250 | 83 | 187. | * | 11 | FEB | 1555 | 120 | 33. | * |
| 11 | FEB | 0645 | 10 | 0. | * | 11 | FEB | 0950 | 47 | 3. | * | 11 | FEB | 1255 | 84 | 164. | * | 11 | FEB | 1600 | 121 | 33. | * |
| 11 | FEB | 0650 | 11 | 0. | * | 11 | FEB | 0955 | 48 | 3. | * | 11 | FEB | 1300 | 85 | 145. | * | 11 | FEB | 1605 | 122 | 32. | * |
| 11 | FEB | 0655 | 12 | 0. | * | 11 | FEB | 1000 | 49 | 3. | * | 11 | FEB | 1305 | 86 | 130. | * | 11 | FEB | 1610 | 123 | 32. | * |
| 11 | FEB | 0700 | 13 | 0. | * | 11 | FEB | 1005 | 50 | 4. | * | 11 | FEB | 1310 | 87 | 117. | * | 11 | FEB | 1615 | 124 | 31. | * |
| 11 | FEB | 0705 | 14 | 0. | * | 11 | FEB | 1010 | 51 | 4. | * | 11 | FEB | 1315 | 88 | 106. | * | 11 | FEB | 1620 | 125 | 29. | * |
| 11 | FEB | 0710 | 15 | 0. | * | 11 | FEB | 1015 | 52 | 5. | * | 11 | FEB | 1320 | 89 | 96. | * | 11 | FEB | 1625 | 126 | 28. | * |
| 11 | FEB | 0715 | 16 | 0. | * | 11 | FEB | 1020 | 53 | 5. | * | 11 | FEB | 1325 | 90 | 88. | * | 11 | FEB | 1630 | 127 | 27. | * |
| 11 | FEB | 0720 | 17 | 0. | * | 11 | FEB | 1025 | 54 | 6. | * | 11 | FEB | 1330 | 91 | 82. | * | 11 | FEB | 1635 | 128 | 26. | * |
| 11 | FEB | 0725 | 18 | 0. | * | 11 | FEB | 1030 | 55 | 7. | * | 11 | FEB | 1335 | 92 | 76. | * | 11 | FEB | 1640 | 129 | 25. | * |
| 11 | FEB | 0730 | 19 | 0. | * | 11 | FEB | 1035 | 56 | 8. | * | 11 | FEB | 1340 | 93 | 71. | * | 11 | FEB | 1645 | 130 | 24. | * |
| 11 | FEB | 0735 | 20 | 0. | * | 11 | FEB | 1040 | 57 | 9. | * | 11 | FEB | 1345 | 94 | 67. | * | 11 | FEB | 1650 | 131 | 24. | * |
| 11 | FEB | 0740 | 21 | 0. | * | 11 | FEB | 1045 | 58 | 10. | * | 11 | FEB | 1350 | 95 | 63. | * | 11 | FEB | 1655 | 132 | 23. | * |
| 11 | FEB | 0745 | 22 | 0. | * | 11 | FEB | 1050 | 59 | 12. | * | 11 | FEB | 1355 | 96 | 59. | * | 11 | FEB | 1700 | 133 | 23. | * |
| 11 | FEB | 0750 | 23 | 0. | * | 11 | FEB | 1055 | 60 | 13. | * | 11 | FEB | 1400 | 97 | 56. | * | 11 | FEB | 1705 | 134 | 23. | * |
| 11 | FEB | 0755 | 24 | 0. | * | 11 | FEB | 1100 | 61 | 15. | * | 11 | FEB | 1405 | 98 | 53. | * | 11 | FEB | 1710 | 135 | 23. | * |
| 11 | FEB | 0800 | 25 | 0. | * | 11 | FEB | 1105 | 62 | 17. | * | 11 | FEB | 1410 | 99 | 51. | * | 11 | FEB | 1715 | 136 | 22. | * |
| 11 | FEB | 0805 | 26 | 0. | * | 11 | FEB | 1110 | 63 | 19. | * | 11 | FEB | 1415 | 100 | 48. | * | 11 | FEB | 1720 | 137 | 22. | * |
| 11 | FEB | 0810 | 27 | 0. | * | 11 | FEB | 1115 | 64 | 22. | * | 11 | FEB | 1420 | 101 | 45. | * | 11 | FEB | 1725 | 138 | 22. | * |
| 11 | FEB | 0815 | 28 | 0. | * | 11 | FEB | 1120 | 65 | 26. | * | 11 | FEB | 1425 | 102 | 43. | * | 11 | FEB | 1730 | 139 | 22. | * |
| 11 | FEB | 0820 | 29 | 0. | * | 11 | FEB | 1125 | 66 | 29. | * | 11 | FEB | 1430 | 103 | 41. | * | 11 | FEB | 1735 | 140 | 22. | * |

| | | | | | | | | | | | | | | |
|-------------|----|----|---|-------------|----|------|---|-------------|-----|-----|---|-------------|-----|-----|
| 11 FEB 0825 | 30 | 0. | * | 11 FEB 1130 | 67 | 33. | * | 11 FEB 1435 | 104 | 39. | * | 11 FEB 1740 | 141 | 21. |
| 11 FEB 0830 | 31 | 0. | * | 11 FEB 1135 | 68 | 44. | * | 11 FEB 1440 | 105 | 37. | * | 11 FEB 1745 | 142 | 20. |
| 11 FEB 0835 | 32 | 0. | * | 11 FEB 1140 | 69 | 77. | * | 11 FEB 1445 | 106 | 36. | * | 11 FEB 1750 | 143 | 19. |
| 11 FEB 0840 | 33 | 0. | * | 11 FEB 1145 | 70 | 135. | * | 11 FEB 1450 | 107 | 35. | * | 11 FEB 1755 | 144 | 18. |
| 11 FEB 0845 | 34 | 0. | * | 11 FEB 1150 | 71 | 207. | * | 11 FEB 1455 | 108 | 35. | * | 11 FEB 1800 | 145 | 17. |
| 11 FEB 0850 | 35 | 0. | * | 11 FEB 1155 | 72 | 284. | * | 11 FEB 1500 | 109 | 34. | * | | | |
| 11 FEB 0855 | 36 | 0. | * | 11 FEB 1200 | 73 | 357. | * | 11 FEB 1505 | 110 | 34. | * | | | |
| 11 FEB 0900 | 37 | 1. | * | 11 FEB 1205 | 74 | 413. | * | 11 FEB 1510 | 111 | 33. | * | | | |

| PEAK FLOW + (CFS) | TIME (HR) | MAXIMUM AVERAGE FLOW | | | |
|----------------------|--------------|----------------------|-------|-------|----------|
| | | 6-HR | 24-HR | 72-HR | 12.00-HR |
| 436. | 6.17 | 98. | 51. | 51. | 51. |
| | | (INCHES) | 4.370 | 4.592 | 4.592 |
| | | (AC-FT) | 48. | 51. | 51. |
| CUMULATIVE AREA = | | .21 SQ MI | | | |

*** **

* *
50 KK * PONI\$2 *
* *

HYDROGRAPH ROUTING DATA

| | | | |
|-------|-----------------|---------|-----------------------------|
| 51 RS | STORAGE ROUTING | | |
| | NSTPS | 1 | NUMBER OF SUBREACHES |
| | ITYP | ELEV | TYPE OF INITIAL CONDITION |
| | RSVRIC | 1346.50 | INITIAL CONDITION |
| | X | .00 | WORKING R AND D COEFFICIENT |
| 52 SA | AREA | 2.8 | 3.9 |
| 53 SE | ELEVATION | 1346.50 | 1351.50 |
| 54 SS | SPILLWAY | | |
| | CREL | 1346.50 | SPILLWAY CREST ELEVATION |
| | SPWID | 30.00 | SPILLWAY WIDTH |
| | COQW | 1.80 | WEIR COEFFICIENT |
| | EXPW | 1.50 | EXPONENT OF HEAD |

COMPUTED STORAGE-ELEVATION DATA

| | | |
|-----------|---------|---------|
| STORAGE | .00 | 16.67 |
| ELEVATION | 1346.50 | 1351.50 |

COMPUTED OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| OUTFLOW | .00 | .00 | .10 | .83 | 2.80 | 6.63 | 12.94 | 22.36 | 35.51 | 53.00 |
| ELEVATION | 1346.50 | 1346.50 | 1346.52 | 1346.56 | 1346.64 | 1346.75 | 1346.89 | 1347.06 | 1347.26 | 1347.49 |
| OUTFLOW | 75.47 | 103.52 | 137.79 | 178.88 | 227.44 | 284.06 | 349.38 | 424.02 | 508.60 | 603.74 |
| ELEVATION | 1347.75 | 1348.04 | 1348.37 | 1348.72 | 1349.11 | 1349.52 | 1349.97 | 1350.45 | 1350.96 | 1351.50 |

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| STORAGE | .00 | .04 | .17 | .39 | .70 | 1.10 | 1.59 | 2.18 | 2.87 | 3.66 |
| OUTFLOW | .00 | .10 | .83 | 2.80 | 6.63 | 12.94 | 22.36 | 35.51 | 53.00 | 75.47 |
| ELEVATION | 1346.50 | 1346.52 | 1346.56 | 1346.64 | 1346.75 | 1346.89 | 1347.06 | 1347.26 | 1347.49 | 1347.75 |
| STORAGE | 4.57 | 5.59 | 6.73 | 8.01 | 9.43 | 10.99 | 12.71 | 14.60 | 16.67 | |
| OUTFLOW | 103.52 | 137.79 | 178.88 | 227.44 | 284.06 | 349.38 | 424.02 | 508.60 | 603.74 | |
| ELEVATION | 1348.04 | 1348.37 | 1348.72 | 1349.11 | 1349.52 | 1349.97 | 1350.45 | 1350.96 | 1351.50 | |

HYDROGRAPH AT STATION PONI\$2

| DA | MON | HRMN | ORD | OUTFLOW | STORAGE | STAGE | * | DA | MON | HRMN | ORD | OUTFLOW | STORAGE | STAGE | * | DA | MON | HRMN | ORD | OUTFLOW | STORAGE | STAGE | * | DA | MON | HRMN | ORD | OUTFLOW | STORAGE | STAGE | * | | | | | | | | |
|----|-----|------|-----|---------|---------|--------|---|----|-----|------|-----|---------|---------|--------|---|----|-----|------|-----|---------|---------|--------|---|----|-----|------|-----|---------|---------|-------|---|--|--|--|--|--|--|--|--|
| 11 | FEB | 0600 | 1 | 0. | .0 | 1346.5 | * | 11 | FEB | 1005 | 50 | 1. | .2 | 1346.6 | * | 11 | FEB | 1410 | 99 | 72. | 3.5 | 1347.7 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0605 | 2 | 0. | .0 | 1346.5 | * | 11 | FEB | 1010 | 51 | 1. | .2 | 1346.6 | * | 11 | FEB | 1415 | 100 | 68. | 3.4 | 1347.7 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0610 | 3 | 0. | .0 | 1346.5 | * | 11 | FEB | 1015 | 52 | 1. | .2 | 1346.6 | * | 11 | FEB | 1420 | 101 | 64. | 3.3 | 1347.6 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0615 | 4 | 0. | .0 | 1346.5 | * | 11 | FEB | 1020 | 53 | 1. | .2 | 1346.6 | * | 11 | FEB | 1425 | 102 | 61. | 3.1 | 1347.6 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0620 | 5 | 0. | .0 | 1346.5 | * | 11 | FEB | 1025 | 54 | 2. | .3 | 1346.6 | * | 11 | FEB | 1430 | 103 | 57. | 3.0 | 1347.5 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0625 | 6 | 0. | .0 | 1346.5 | * | 11 | FEB | 1030 | 55 | 2. | .3 | 1346.6 | * | 11 | FEB | 1435 | 104 | 54. | 2.9 | 1347.5 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0630 | 7 | 0. | .0 | 1346.5 | * | 11 | FEB | 1035 | 56 | 2. | .3 | 1346.6 | * | 11 | FEB | 1440 | 105 | 51. | 2.8 | 1347.5 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0635 | 8 | 0. | .0 | 1346.5 | * | 11 | FEB | 1040 | 57 | 3. | .4 | 1346.6 | * | 11 | FEB | 1445 | 106 | 49. | 2.7 | 1347.4 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0640 | 9 | 0. | .0 | 1346.5 | * | 11 | FEB | 1045 | 58 | 3. | .4 | 1346.6 | * | 11 | FEB | 1450 | 107 | 47. | 2.6 | 1347.4 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0645 | 10 | 0. | .0 | 1346.5 | * | 11 | FEB | 1050 | 59 | 4. | .5 | 1346.7 | * | 11 | FEB | 1455 | 108 | 45. | 2.6 | 1347.4 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0650 | 11 | 0. | .0 | 1346.5 | * | 11 | FEB | 1055 | 60 | 4. | .5 | 1346.7 | * | 11 | FEB | 1500 | 109 | 43. | 2.5 | 1347.4 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0655 | 12 | 0. | .0 | 1346.5 | * | 11 | FEB | 1100 | 61 | 5. | .6 | 1346.7 | * | 11 | FEB | 1505 | 110 | 42. | 2.4 | 1347.3 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0700 | 13 | 0. | .0 | 1346.5 | * | 11 | FEB | 1105 | 62 | 6. | .7 | 1346.7 | * | 11 | FEB | 1510 | 111 | 40. | 2.4 | 1347.3 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0705 | 14 | 0. | .0 | 1346.5 | * | 11 | FEB | 1110 | 63 | 7. | .7 | 1346.8 | * | 11 | FEB | 1515 | 112 | 39. | 2.3 | 1347.3 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0710 | 15 | 0. | .0 | 1346.5 | * | 11 | FEB | 1115 | 64 | 9. | .8 | 1346.8 | * | 11 | FEB | 1520 | 113 | 38. | 2.3 | 1347.3 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0715 | 16 | 0. | .0 | 1346.5 | * | 11 | FEB | 1120 | 65 | 10. | .9 | 1346.8 | * | 11 | FEB | 1525 | 114 | 37. | 2.3 | 1347.3 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0720 | 17 | 0. | .0 | 1346.5 | * | 11 | FEB | 1125 | 66 | 12. | 1.0 | 1346.9 | * | 11 | FEB | 1530 | 115 | 37. | 2.2 | 1347.3 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0725 | 18 | 0. | .0 | 1346.5 | * | 11 | FEB | 1130 | 67 | 14. | 1.2 | 1346.9 | * | 11 | FEB | 1535 | 116 | 36. | 2.2 | 1347.3 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0730 | 19 | 0. | .0 | 1346.5 | * | 11 | FEB | 1135 | 68 | 17. | 1.3 | 1347.0 | * | 11 | FEB | 1540 | 117 | 36. | 2.2 | 1347.3 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0735 | 20 | 0. | .0 | 1346.5 | * | 11 | FEB | 1140 | 69 | 23. | 1.6 | 1347.1 | * | 11 | FEB | 1545 | 118 | 35. | 2.2 | 1347.3 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0740 | 21 | 0. | .0 | 1346.5 | * | 11 | FEB | 1145 | 70 | 35. | 2.1 | 1347.2 | * | 11 | FEB | 1550 | 119 | 35. | 2.1 | 1347.2 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0745 | 22 | 0. | .0 | 1346.5 | * | 11 | FEB | 1150 | 71 | 57. | 3.0 | 1347.5 | * | 11 | FEB | 1555 | 120 | 34. | 2.1 | 1347.2 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0750 | 23 | 0. | .0 | 1346.5 | * | 11 | FEB | 1155 | 72 | 92. | 4.2 | 1347.9 | * | 11 | FEB | 1600 | 121 | 34. | 2.1 | 1347.2 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0755 | 24 | 0. | .0 | 1346.5 | * | 11 | FEB | 1200 | 73 | 138. | 5.6 | 1348.4 | * | 11 | FEB | 1605 | 122 | 34. | 2.1 | 1347.2 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0800 | 25 | 0. | .0 | 1346.5 | * | 11 | FEB | 1205 | 74 | 193. | 7.1 | 1348.8 | * | 11 | FEB | 1610 | 123 | 34. | 2.1 | 1347.2 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0805 | 26 | 0. | .0 | 1346.5 | * | 11 | FEB | 1210 | 75 | 248. | 8.5 | 1349.3 | * | 11 | FEB | 1615 | 124 | 33. | 2.1 | 1347.2 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0810 | 27 | 0. | .0 | 1346.5 | * | 11 | FEB | 1215 | 76 | 292. | 9.6 | 1349.6 | * | 11 | FEB | 1620 | 125 | 33. | 2.1 | 1347.2 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0815 | 28 | 0. | .0 | 1346.5 | * | 11 | FEB | 1220 | 77 | 320. | 10.3 | 1349.8 | * | 11 | FEB | 1625 | 126 | 32. | 2.0 | 1347.2 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0820 | 29 | 0. | .0 | 1346.5 | * | 11 | FEB | 1225 | 78 | 332. | 10.6 | 1349.9 | * | 11 | FEB | 1630 | 127 | 32. | 2.0 | 1347.2 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0825 | 30 | 0. | .0 | 1346.5 | * | 11 | FEB | 1230 | 79 | 331. | 10.6 | 1349.8 | * | 11 | FEB | 1635 | 128 | 31. | 2.0 | 1347.2 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0830 | 31 | 0. | .0 | 1346.5 | * | 11 | FEB | 1235 | 80 | 322. | 10.3 | 1349.8 | * | 11 | FEB | 1640 | 129 | 30. | 1.9 | 1347.2 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0835 | 32 | 0. | .0 | 1346.5 | * | 11 | FEB | 1240 | 81 | 306. | 10.0 | 1349.7 | * | 11 | FEB | 1645 | 130 | 29. | 1.9 | 1347.2 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0840 | 33 | 0. | .0 | 1346.5 | * | 11 | FEB | 1245 | 82 | 287. | 9.5 | 1349.5 | * | 11 | FEB | 1650 | 131 | 28. | 1.9 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0845 | 34 | 0. | .0 | 1346.5 | * | 11 | FEB | 1250 | 83 | 266. | 9.0 | 1349.4 | * | 11 | FEB | 1655 | 132 | 28. | 1.8 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0850 | 35 | 0. | .0 | 1346.5 | * | 11 | FEB | 1255 | 84 | 244. | 8.4 | 1349.2 | * | 11 | FEB | 1700 | 133 | 27. | 1.8 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0855 | 36 | 0. | .0 | 1346.5 | * | 11 | FEB | 1300 | 85 | 222. | 7.9 | 1349.1 | * | 11 | FEB | 1705 | 134 | 26. | 1.8 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0900 | 37 | 0. | .0 | 1346.5 | * | 11 | FEB | 1305 | 86 | 203. | 7.4 | 1348.9 | * | 11 | FEB | 1710 | 135 | 26. | 1.7 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0905 | 38 | 0. | .0 | 1346.5 | * | 11 | FEB | 1310 | 87 | 184. | 6.9 | 1348.8 | * | 11 | FEB | 1715 | 136 | 25. | 1.7 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0910 | 39 | 0. | .0 | 1346.5 | * | 11 | FEB | 1315 | 88 | 168. | 6.4 | 1348.6 | * | 11 | FEB | 1720 | 137 | 25. | 1.7 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0915 | 40 | 0. | .0 | 1346.5 | * | 11 | FEB | 1320 | 89 | 153. | 6.0 | 1348.5 | * | 11 | FEB | 1725 | 138 | 25. | 1.7 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0920 | 41 | 0. | .0 | 1346.5 | * | 11 | FEB | 1325 | 90 | 140. | 5.6 | 1348.4 | * | 11 | FEB | 1730 | 139 | 24. | 1.7 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0925 | 42 | 0. | .0 | 1346.5 | * | 11 | FEB | 1330 | 91 | 128. | 5.3 | 1348.3 | * | 11 | FEB | 1735 | 140 | 24. | 1.7 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0930 | 43 | 0. | .1 | 1346.5 | * | 11 | FEB | 1335 | 92 | 118. | 5.0 | 1348.2 | * | 11 | FEB | 1740 | 141 | 24. | 1.6 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0935 | 44 | 0. | .1 | 1346.5 | * | 11 | FEB | 1340 | 93 | 109. | 4.7 | 1348.1 | * | 11 | FEB | 1745 | 142 | 23. | 1.6 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0940 | 45 | 0. | .1 | 1346.5 | * | 11 | FEB | 1345 | 94 | 101. | 4.5 | 1348.0 | * | 11 | FEB | 1750 | 143 | 23. | 1.6 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0945 | 46 | 0. | .1 | 1346.5 | * | 11 | FEB | 1350 | 95 | 94. | 4.3 | 1347.9 | * | 11 | FEB | 1755 | 144 | 22. | 1.6 | 1347.1 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0950 | 47 | 0. | .1 | 1346.5 | * | 11 | FEB | 1355 | 96 | 88. | 4.1 | 1347.9 | * | 11 | FEB | 1800 | 145 | 22. | 1.5 | 1347.0 | * | | | | | | | | | | | | | | | | |
| 11 | FEB | 0955 | 48 | 1. | .1 | 1346.5 | * | 11 | FEB | 1400 | 97 | 82. | 3.9 | 1347.8 | * | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | FEB | 1000 | 49 | 1. | .1 | 1346.6 | * | 11 | FEB | 1405 | 98 | 77. | 3.7 | 1347.8 | * | | | | | | | | | | | | | | | | | | | | | | | | |

| PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|-----------|-------|------|----------------------|-------|-------|----------|
| + | (CFS) | (HR) | 6-HR | 24-HR | 72-HR | 12.00-HR |
| + | 332. | 6.42 | 97. | 50. | 50. | 50. |
| | | | (INCHES) | 4.322 | 4.453 | 4.453 |
| | | | (AC-FT) | 48. | 49. | 49. |

| PEAK STORAGE | TIME | | MAXIMUM AVERAGE STORAGE | | | |
|--------------|---------|------|-------------------------|-------|-------|----------|
| + | (AC-FT) | (HR) | 6-HR | 24-HR | 72-HR | 12.00-HR |
| + | 11. | 6.42 | 4. | 2. | 2. | 2. |

| PEAK STAGE | TIME | | MAXIMUM AVERAGE STAGE | | | |
|------------|--------|--|-----------------------|--|--|--|
| + | (FEET) | | | | | |

| | | | | | | | | | | | | |
|-------------|----|-----|-----|-----|------|---|-------------|-----|-----|-----|-----|-----|
| 11 FEB 0715 | 16 | .02 | .02 | .00 | 0. | * | 11 FEB 1320 | 89 | .04 | .00 | .04 | 54. |
| 11 FEB 0720 | 17 | .02 | .02 | .00 | 0. | * | 11 FEB 1325 | 90 | .04 | .00 | .04 | 51. |
| 11 FEB 0725 | 18 | .02 | .02 | .00 | 0. | * | 11 FEB 1330 | 91 | .04 | .00 | .04 | 49. |
| 11 FEB 0730 | 19 | .02 | .02 | .00 | 0. | * | 11 FEB 1335 | 92 | .03 | .00 | .03 | 47. |
| 11 FEB 0735 | 20 | .02 | .02 | .00 | 0. | * | 11 FEB 1340 | 93 | .03 | .00 | .03 | 45. |
| 11 FEB 0740 | 21 | .02 | .02 | .00 | 0. | * | 11 FEB 1345 | 94 | .03 | .00 | .03 | 42. |
| 11 FEB 0745 | 22 | .02 | .02 | .00 | 0. | * | 11 FEB 1350 | 95 | .03 | .00 | .03 | 40. |
| 11 FEB 0750 | 23 | .02 | .02 | .00 | 0. | * | 11 FEB 1355 | 96 | .03 | .00 | .03 | 38. |
| 11 FEB 0755 | 24 | .02 | .02 | .00 | 0. | * | 11 FEB 1400 | 97 | .03 | .00 | .03 | 37. |
| 11 FEB 0800 | 25 | .02 | .02 | .00 | 0. | * | 11 FEB 1405 | 98 | .02 | .00 | .02 | 36. |
| 11 FEB 0805 | 26 | .02 | .02 | .00 | 0. | * | 11 FEB 1410 | 99 | .02 | .00 | .02 | 34. |
| 11 FEB 0810 | 27 | .02 | .02 | .00 | 0. | * | 11 FEB 1415 | 100 | .02 | .00 | .02 | 32. |
| 11 FEB 0815 | 28 | .02 | .02 | .00 | 0. | * | 11 FEB 1420 | 101 | .02 | .00 | .02 | 30. |
| 11 FEB 0820 | 29 | .02 | .02 | .00 | 0. | * | 11 FEB 1425 | 102 | .02 | .00 | .02 | 28. |
| 11 FEB 0825 | 30 | .02 | .02 | .00 | 0. | * | 11 FEB 1430 | 103 | .02 | .00 | .02 | 27. |
| 11 FEB 0830 | 31 | .02 | .02 | .00 | 0. | * | 11 FEB 1435 | 104 | .02 | .00 | .02 | 26. |
| 11 FEB 0835 | 32 | .02 | .02 | .00 | 0. | * | 11 FEB 1440 | 105 | .02 | .00 | .02 | 26. |
| 11 FEB 0840 | 33 | .02 | .02 | .00 | 1. | * | 11 FEB 1445 | 106 | .02 | .00 | .02 | 26. |
| 11 FEB 0845 | 34 | .02 | .02 | .00 | 1. | * | 11 FEB 1450 | 107 | .02 | .00 | .02 | 26. |
| 11 FEB 0850 | 35 | .02 | .02 | .00 | 1. | * | 11 FEB 1455 | 108 | .02 | .00 | .02 | 26. |
| 11 FEB 0855 | 36 | .02 | .02 | .00 | 2. | * | 11 FEB 1500 | 109 | .02 | .00 | .02 | 26. |
| 11 FEB 0900 | 37 | .02 | .02 | .00 | 2. | * | 11 FEB 1505 | 110 | .02 | .00 | .02 | 25. |
| 11 FEB 0905 | 38 | .02 | .02 | .00 | 3. | * | 11 FEB 1510 | 111 | .02 | .00 | .02 | 25. |
| 11 FEB 0910 | 39 | .02 | .02 | .00 | 3. | * | 11 FEB 1515 | 112 | .02 | .00 | .02 | 25. |
| 11 FEB 0915 | 40 | .02 | .02 | .00 | 4. | * | 11 FEB 1520 | 113 | .02 | .00 | .02 | 25. |
| 11 FEB 0920 | 41 | .02 | .02 | .01 | 4. | * | 11 FEB 1525 | 114 | .02 | .00 | .02 | 25. |
| 11 FEB 0925 | 42 | .02 | .02 | .01 | 5. | * | 11 FEB 1530 | 115 | .02 | .00 | .02 | 25. |
| 11 FEB 0930 | 43 | .02 | .02 | .01 | 5. | * | 11 FEB 1535 | 116 | .02 | .00 | .02 | 25. |
| 11 FEB 0935 | 44 | .03 | .02 | .01 | 6. | * | 11 FEB 1540 | 117 | .02 | .00 | .02 | 25. |
| 11 FEB 0940 | 45 | .03 | .02 | .01 | 6. | * | 11 FEB 1545 | 118 | .02 | .00 | .02 | 26. |
| 11 FEB 0945 | 46 | .03 | .02 | .01 | 7. | * | 11 FEB 1550 | 119 | .02 | .00 | .02 | 26. |
| 11 FEB 0950 | 47 | .03 | .02 | .01 | 8. | * | 11 FEB 1555 | 120 | .02 | .00 | .02 | 26. |
| 11 FEB 0955 | 48 | .03 | .02 | .01 | 8. | * | 11 FEB 1600 | 121 | .02 | .00 | .02 | 26. |
| 11 FEB 1000 | 49 | .03 | .02 | .01 | 9. | * | 11 FEB 1605 | 122 | .02 | .00 | .01 | 25. |
| 11 FEB 1005 | 50 | .04 | .02 | .01 | 10. | * | 11 FEB 1610 | 123 | .02 | .00 | .01 | 24. |
| 11 FEB 1010 | 51 | .04 | .02 | .01 | 11. | * | 11 FEB 1615 | 124 | .02 | .00 | .01 | 22. |
| 11 FEB 1015 | 52 | .04 | .02 | .01 | 12. | * | 11 FEB 1620 | 125 | .02 | .00 | .01 | 21. |
| 11 FEB 1020 | 53 | .04 | .02 | .01 | 13. | * | 11 FEB 1625 | 126 | .02 | .00 | .01 | 19. |
| 11 FEB 1025 | 54 | .04 | .02 | .01 | 14. | * | 11 FEB 1630 | 127 | .02 | .00 | .01 | 18. |
| 11 FEB 1030 | 55 | .04 | .02 | .02 | 15. | * | 11 FEB 1635 | 128 | .02 | .00 | .01 | 18. |
| 11 FEB 1035 | 56 | .05 | .03 | .02 | 16. | * | 11 FEB 1640 | 129 | .02 | .00 | .01 | 18. |
| 11 FEB 1040 | 57 | .05 | .03 | .02 | 18. | * | 11 FEB 1645 | 130 | .02 | .00 | .01 | 17. |
| 11 FEB 1045 | 58 | .05 | .03 | .02 | 20. | * | 11 FEB 1650 | 131 | .02 | .00 | .01 | 17. |
| 11 FEB 1050 | 59 | .05 | .02 | .02 | 22. | * | 11 FEB 1655 | 132 | .02 | .00 | .01 | 17. |
| 11 FEB 1055 | 60 | .05 | .02 | .02 | 24. | * | 11 FEB 1700 | 133 | .02 | .00 | .01 | 17. |
| 11 FEB 1100 | 61 | .05 | .02 | .03 | 25. | * | 11 FEB 1705 | 134 | .02 | .00 | .01 | 17. |
| 11 FEB 1105 | 62 | .07 | .03 | .04 | 27. | * | 11 FEB 1710 | 135 | .02 | .00 | .01 | 17. |
| 11 FEB 1110 | 63 | .07 | .03 | .04 | 30. | * | 11 FEB 1715 | 136 | .02 | .00 | .01 | 17. |
| 11 FEB 1115 | 64 | .07 | .03 | .04 | 35. | * | 11 FEB 1720 | 137 | .02 | .00 | .01 | 17. |
| 11 FEB 1120 | 65 | .07 | .03 | .04 | 40. | * | 11 FEB 1725 | 138 | .02 | .00 | .01 | 17. |
| 11 FEB 1125 | 66 | .07 | .03 | .05 | 44. | * | 11 FEB 1730 | 139 | .02 | .00 | .01 | 17. |
| 11 FEB 1130 | 67 | .07 | .03 | .05 | 47. | * | 11 FEB 1735 | 140 | .01 | .00 | .01 | 17. |
| 11 FEB 1135 | 68 | .59 | .18 | .41 | 65. | * | 11 FEB 1740 | 141 | .01 | .00 | .01 | 16. |
| 11 FEB 1140 | 69 | .59 | .14 | .45 | 123. | * | 11 FEB 1745 | 142 | .01 | .00 | .01 | 15. |
| 11 FEB 1145 | 70 | .59 | .11 | .48 | 219. | * | 11 FEB 1750 | 143 | .01 | .00 | .01 | 13. |
| 11 FEB 1150 | 71 | .59 | .09 | .50 | 322. | * | 11 FEB 1755 | 144 | .01 | .00 | .01 | 12. |
| 11 FEB 1155 | 72 | .59 | .07 | .52 | 412. | * | 11 FEB 1800 | 145 | .01 | .00 | .01 | 11. |
| 11 FEB 1200 | 73 | .59 | .06 | .53 | 476. | * | | | | | | |

TOTAL RAINFALL = 7.80, TOTAL LOSS = 2.13, TOTAL EXCESS = 5.67

| PEAK FLOW (CFS) | TIME (HR) | MAXIMUM AVERAGE FLOW | | | | |
|--------------------|--------------|----------------------|-------|-------|----------|-------|
| | | 6-HR | 24-HR | 72-HR | 12.00-HR | |
| 504. | 6.08 | 85. | 45. | 45. | 45. | |
| | | (INCHES) | 5.261 | 5.633 | 5.633 | 5.633 |
| | | (AC-FT) | 42. | 45. | 45. | 45. |

CUMULATIVE AREA = .15 SQ MI

*** **

64 KK * INTO3 *
 * *

65 HC HYDROGRAPH COMBINATION
 ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

HYDROGRAPH AT STATION INTO3
 SUM OF 2 HYDROGRAPHS

| DA | MON | HRMN | ORD | FLOW | * | DA | MON | HRMN | ORD | FLOW | * | DA | MON | HRMN | ORD | FLOW | * | DA | MON | HRMN | ORD | FLOW | * | |
|----|-----|------|-----|------|---|----|-----|------|-----|------|---|----|-----|------|-----|------|---|----|-----|------|-----|------|---|--|
| 11 | FEB | 0600 | 1 | 0. | * | 11 | FEB | 0905 | 38 | 3. | * | 11 | FEB | 1210 | 75 | 720. | * | 11 | FEB | 1515 | 112 | 65. | * | |
| 11 | FEB | 0605 | 2 | 0. | * | 11 | FEB | 0910 | 39 | 3. | * | 11 | FEB | 1215 | 76 | 684. | * | 11 | FEB | 1520 | 113 | 64. | * | |
| 11 | FEB | 0610 | 3 | 0. | * | 11 | FEB | 0915 | 40 | 4. | * | 11 | FEB | 1220 | 77 | 624. | * | 11 | FEB | 1525 | 114 | 63. | * | |
| 11 | FEB | 0615 | 4 | 0. | * | 11 | FEB | 0920 | 41 | 4. | * | 11 | FEB | 1225 | 78 | 565. | * | 11 | FEB | 1530 | 115 | 62. | * | |
| 11 | FEB | 0620 | 5 | 0. | * | 11 | FEB | 0925 | 42 | 5. | * | 11 | FEB | 1230 | 79 | 522. | * | 11 | FEB | 1535 | 116 | 62. | * | |
| 11 | FEB | 0625 | 6 | 0. | * | 11 | FEB | 0930 | 43 | 5. | * | 11 | FEB | 1235 | 80 | 484. | * | 11 | FEB | 1540 | 117 | 61. | * | |
| 11 | FEB | 0630 | 7 | 0. | * | 11 | FEB | 0935 | 44 | 6. | * | 11 | FEB | 1240 | 81 | 444. | * | 11 | FEB | 1545 | 118 | 61. | * | |
| 11 | FEB | 0635 | 8 | 0. | * | 11 | FEB | 0940 | 45 | 7. | * | 11 | FEB | 1245 | 82 | 402. | * | 11 | FEB | 1550 | 119 | 60. | * | |
| 11 | FEB | 0640 | 9 | 0. | * | 11 | FEB | 0945 | 46 | 7. | * | 11 | FEB | 1250 | 83 | 363. | * | 11 | FEB | 1555 | 120 | 60. | * | |
| 11 | FEB | 0645 | 10 | 0. | * | 11 | FEB | 0950 | 47 | 8. | * | 11 | FEB | 1255 | 84 | 328. | * | 11 | FEB | 1600 | 121 | 60. | * | |
| 11 | FEB | 0650 | 11 | 0. | * | 11 | FEB | 0955 | 48 | 9. | * | 11 | FEB | 1300 | 85 | 298. | * | 11 | FEB | 1605 | 122 | 59. | * | |
| 11 | FEB | 0655 | 12 | 0. | * | 11 | FEB | 1000 | 49 | 10. | * | 11 | FEB | 1305 | 86 | 272. | * | 11 | FEB | 1610 | 123 | 58. | * | |
| 11 | FEB | 0700 | 13 | 0. | * | 11 | FEB | 1005 | 50 | 10. | * | 11 | FEB | 1310 | 87 | 248. | * | 11 | FEB | 1615 | 124 | 56. | * | |
| 11 | FEB | 0705 | 14 | 0. | * | 11 | FEB | 1010 | 51 | 11. | * | 11 | FEB | 1315 | 88 | 227. | * | 11 | FEB | 1620 | 125 | 53. | * | |
| 11 | FEB | 0710 | 15 | 0. | * | 11 | FEB | 1015 | 52 | 13. | * | 11 | FEB | 1320 | 89 | 207. | * | 11 | FEB | 1625 | 126 | 51. | * | |
| 11 | FEB | 0715 | 16 | 0. | * | 11 | FEB | 1020 | 53 | 14. | * | 11 | FEB | 1325 | 90 | 190. | * | 11 | FEB | 1630 | 127 | 50. | * | |
| 11 | FEB | 0720 | 17 | 0. | * | 11 | FEB | 1025 | 54 | 16. | * | 11 | FEB | 1330 | 91 | 177. | * | 11 | FEB | 1635 | 128 | 49. | * | |
| 11 | FEB | 0725 | 18 | 0. | * | 11 | FEB | 1030 | 55 | 17. | * | 11 | FEB | 1335 | 92 | 165. | * | 11 | FEB | 1640 | 129 | 48. | * | |
| 11 | FEB | 0730 | 19 | 0. | * | 11 | FEB | 1035 | 56 | 18. | * | 11 | FEB | 1340 | 93 | 154. | * | 11 | FEB | 1645 | 130 | 47. | * | |
| 11 | FEB | 0735 | 20 | 0. | * | 11 | FEB | 1040 | 57 | 20. | * | 11 | FEB | 1345 | 94 | 143. | * | 11 | FEB | 1650 | 131 | 46. | * | |
| 11 | FEB | 0740 | 21 | 0. | * | 11 | FEB | 1045 | 58 | 23. | * | 11 | FEB | 1350 | 95 | 134. | * | 11 | FEB | 1655 | 132 | 45. | * | |
| 11 | FEB | 0745 | 22 | 0. | * | 11 | FEB | 1050 | 59 | 26. | * | 11 | FEB | 1355 | 96 | 126. | * | 11 | FEB | 1700 | 133 | 44. | * | |
| 11 | FEB | 0750 | 23 | 0. | * | 11 | FEB | 1055 | 60 | 28. | * | 11 | FEB | 1400 | 97 | 119. | * | 11 | FEB | 1705 | 134 | 44. | * | |
| 11 | FEB | 0755 | 24 | 0. | * | 11 | FEB | 1100 | 61 | 30. | * | 11 | FEB | 1405 | 98 | 113. | * | 11 | FEB | 1710 | 135 | 43. | * | |
| 11 | FEB | 0800 | 25 | 0. | * | 11 | FEB | 1105 | 62 | 33. | * | 11 | FEB | 1410 | 99 | 107. | * | 11 | FEB | 1715 | 136 | 43. | * | |
| 11 | FEB | 0805 | 26 | 0. | * | 11 | FEB | 1110 | 63 | 38. | * | 11 | FEB | 1415 | 100 | 100. | * | 11 | FEB | 1720 | 137 | 42. | * | |
| 11 | FEB | 0810 | 27 | 0. | * | 11 | FEB | 1115 | 64 | 44. | * | 11 | FEB | 1420 | 101 | 94. | * | 11 | FEB | 1725 | 138 | 42. | * | |
| 11 | FEB | 0815 | 28 | 0. | * | 11 | FEB | 1120 | 65 | 50. | * | 11 | FEB | 1425 | 102 | 89. | * | 11 | FEB | 1730 | 139 | 41. | * | |
| 11 | FEB | 0820 | 29 | 0. | * | 11 | FEB | 1125 | 66 | 56. | * | 11 | FEB | 1430 | 103 | 84. | * | 11 | FEB | 1735 | 140 | 41. | * | |
| 11 | FEB | 0825 | 30 | 0. | * | 11 | FEB | 1130 | 67 | 61. | * | 11 | FEB | 1435 | 104 | 81. | * | 11 | FEB | 1740 | 141 | 40. | * | |
| 11 | FEB | 0830 | 31 | 0. | * | 11 | FEB | 1135 | 68 | 82. | * | 11 | FEB | 1440 | 105 | 78. | * | 11 | FEB | 1745 | 142 | 38. | * | |
| 11 | FEB | 0835 | 32 | 0. | * | 11 | FEB | 1140 | 69 | 146. | * | 11 | FEB | 1445 | 106 | 75. | * | 11 | FEB | 1750 | 143 | 36. | * | |
| 11 | FEB | 0840 | 33 | 1. | * | 11 | FEB | 1145 | 70 | 253. | * | 11 | FEB | 1450 | 107 | 73. | * | 11 | FEB | 1755 | 144 | 34. | * | |
| 11 | FEB | 0845 | 34 | 1. | * | 11 | FEB | 1150 | 71 | 379. | * | 11 | FEB | 1455 | 108 | 71. | * | 11 | FEB | 1800 | 145 | 33. | * | |
| 11 | FEB | 0850 | 35 | 1. | * | 11 | FEB | 1155 | 72 | 504. | * | 11 | FEB | 1500 | 109 | 69. | * | | | | | | | |
| 11 | FEB | 0855 | 36 | 2. | * | 11 | FEB | 1200 | 73 | 614. | * | 11 | FEB | 1505 | 110 | 67. | * | | | | | | | |
| 11 | FEB | 0900 | 37 | 2. | * | 11 | FEB | 1205 | 74 | 697. | * | 11 | FEB | 1510 | 111 | 66. | * | | | | | | | |

| PEAK FLOW | TIME | MAXIMUM AVERAGE FLOW | | | |
|-----------|------|----------------------|-------|-------|----------|
| | | 6-HR | 24-HR | 72-HR | 12.00-HR |
| + (CFS) | (HR) | | | | |
| + 720. | 6.17 | 180. | 95. | 95. | 95. |
| | | (INCHES) | 4.677 | 4.947 | 4.947 |
| | | (AC-FT) | 89. | 94. | 94. |

CUMULATIVE AREA = .36 SQ MI

 * *
 66 KK * POND3 *
 * *

HYDROGRAPH ROUTING DATA

| | | | | | | | |
|-------|-----------------|---------|-----------------------------|---------|---------|---------|---------|
| 67 RS | STORAGE ROUTING | | | | | | |
| | NSTPS | 1 | NUMBER OF SUBREACHES | | | | |
| | ITYP | ELEV | TYPE OF INITIAL CONDITION | | | | |
| | RSVVIC | 1345.00 | INITIAL CONDITION | | | | |
| | X | .00 | WORKING R AND D COEFFICIENT | | | | |
| 68 SV | STORAGE | .0 | 8.0 | 16.0 | 23.0 | 31.0 | 35.0 |
| 69 SQ | DISCHARGE | 0. | 40. | 220. | 325. | 400. | 440. |
| 70 SE | ELEVATION | 1344.70 | 1346.00 | 1347.00 | 1348.00 | 1349.00 | 1349.50 |

HYDROGRAPH AT STATION POND3

| DA | MON | HRMN | ORD | OUTFLOW | STORAGE | STAGE | * | DA | MON | HRMN | ORD | OUTFLOW | STORAGE | STAGE | * | DA | MON | HRMN | ORD | OUTFLOW | STORAGE | STAGE | |
|----|-----|------|-----|---------|---------|--------|---|----|-----|------|-----|---------|---------|--------|---|----|-----|------|-----|---------|---------|--------|--|
| 11 | FEB | 0600 | 1 | 9. | 1.8 | 1345.0 | * | 11 | FEB | 1005 | 50 | 4. | .8 | 1344.8 | * | 11 | FEB | 1410 | 99 | 219. | 15.9 | 1347.0 | |
| 11 | FEB | 0605 | 2 | 9. | 1.8 | 1345.0 | * | 11 | FEB | 1010 | 51 | 4. | .9 | 1344.8 | * | 11 | FEB | 1415 | 100 | 202. | 15.2 | 1346.9 | |
| 11 | FEB | 0610 | 3 | 9. | 1.7 | 1345.0 | * | 11 | FEB | 1015 | 52 | 5. | .9 | 1344.8 | * | 11 | FEB | 1420 | 101 | 187. | 14.5 | 1346.8 | |
| 11 | FEB | 0615 | 4 | 8. | 1.7 | 1345.0 | * | 11 | FEB | 1020 | 53 | 5. | 1.0 | 1344.9 | * | 11 | FEB | 1425 | 102 | 173. | 13.9 | 1346.7 | |
| 11 | FEB | 0620 | 5 | 8. | 1.6 | 1345.0 | * | 11 | FEB | 1025 | 54 | 5. | 1.0 | 1344.9 | * | 11 | FEB | 1430 | 103 | 161. | 13.4 | 1346.7 | |
| 11 | FEB | 0625 | 6 | 8. | 1.6 | 1345.0 | * | 11 | FEB | 1030 | 55 | 6. | 1.1 | 1344.9 | * | 11 | FEB | 1435 | 104 | 150. | 12.9 | 1346.6 | |
| 11 | FEB | 0630 | 7 | 8. | 1.5 | 1344.9 | * | 11 | FEB | 1035 | 56 | 6. | 1.2 | 1344.9 | * | 11 | FEB | 1440 | 105 | 139. | 12.4 | 1346.6 | |
| 11 | FEB | 0635 | 8 | 7. | 1.5 | 1344.9 | * | 11 | FEB | 1040 | 57 | 6. | 1.3 | 1344.9 | * | 11 | FEB | 1445 | 106 | 130. | 12.0 | 1346.5 | |
| 11 | FEB | 0640 | 9 | 7. | 1.4 | 1344.9 | * | 11 | FEB | 1045 | 58 | 7. | 1.4 | 1344.9 | * | 11 | FEB | 1450 | 107 | 122. | 11.7 | 1346.5 | |
| 11 | FEB | 0645 | 10 | 7. | 1.4 | 1344.9 | * | 11 | FEB | 1050 | 59 | 8. | 1.5 | 1344.9 | * | 11 | FEB | 1455 | 108 | 115. | 11.3 | 1346.4 | |
| 11 | FEB | 0650 | 11 | 7. | 1.3 | 1344.9 | * | 11 | FEB | 1055 | 60 | 8. | 1.6 | 1345.0 | * | 11 | FEB | 1500 | 109 | 108. | 11.0 | 1346.4 | |
| 11 | FEB | 0655 | 12 | 6. | 1.3 | 1344.9 | * | 11 | FEB | 1100 | 61 | 9. | 1.8 | 1345.0 | * | 11 | FEB | 1505 | 110 | 103. | 10.8 | 1346.3 | |
| 11 | FEB | 0700 | 13 | 6. | 1.2 | 1344.9 | * | 11 | FEB | 1105 | 62 | 10. | 1.9 | 1345.0 | * | 11 | FEB | 1510 | 111 | 97. | 10.6 | 1346.3 | |
| 11 | FEB | 0705 | 14 | 6. | 1.2 | 1344.9 | * | 11 | FEB | 1110 | 63 | 11. | 2.1 | 1345.0 | * | 11 | FEB | 1515 | 112 | 93. | 10.3 | 1346.3 | |
| 11 | FEB | 0710 | 15 | 6. | 1.1 | 1344.9 | * | 11 | FEB | 1115 | 64 | 12. | 2.3 | 1345.1 | * | 11 | FEB | 1520 | 113 | 89. | 10.2 | 1346.3 | |
| 11 | FEB | 0715 | 16 | 6. | 1.1 | 1344.9 | * | 11 | FEB | 1120 | 65 | 13. | 2.6 | 1345.1 | * | 11 | FEB | 1525 | 114 | 85. | 10.0 | 1346.3 | |
| 11 | FEB | 0720 | 17 | 5. | 1.1 | 1344.9 | * | 11 | FEB | 1125 | 66 | 14. | 2.8 | 1345.2 | * | 11 | FEB | 1530 | 115 | 82. | 9.9 | 1346.2 | |
| 11 | FEB | 0725 | 18 | 5. | 1.0 | 1344.9 | * | 11 | FEB | 1130 | 67 | 16. | 3.1 | 1345.2 | * | 11 | FEB | 1535 | 116 | 79. | 9.7 | 1346.2 | |
| 11 | FEB | 0730 | 19 | 5. | 1.0 | 1344.9 | * | 11 | FEB | 1135 | 68 | 18. | 3.5 | 1345.3 | * | 11 | FEB | 1540 | 117 | 76. | 9.6 | 1346.2 | |
| 11 | FEB | 0735 | 20 | 5. | 1.0 | 1344.9 | * | 11 | FEB | 1140 | 69 | 21. | 4.2 | 1345.4 | * | 11 | FEB | 1545 | 118 | 74. | 9.5 | 1346.2 | |
| 11 | FEB | 0740 | 21 | 5. | .9 | 1344.9 | * | 11 | FEB | 1145 | 70 | 27. | 5.4 | 1345.6 | * | 11 | FEB | 1550 | 119 | 72. | 9.4 | 1346.2 | |
| 11 | FEB | 0745 | 22 | 4. | .9 | 1344.8 | * | 11 | FEB | 1150 | 71 | 37. | 7.3 | 1345.9 | * | 11 | FEB | 1555 | 120 | 70. | 9.4 | 1346.2 | |
| 11 | FEB | 0750 | 23 | 4. | .9 | 1344.8 | * | 11 | FEB | 1155 | 72 | 84. | 10.0 | 1346.2 | * | 11 | FEB | 1600 | 121 | 69. | 9.3 | 1346.2 | |
| 11 | FEB | 0755 | 24 | 4. | .8 | 1344.8 | * | 11 | FEB | 1200 | 73 | 152. | 13.0 | 1346.6 | * | 11 | FEB | 1605 | 122 | 68. | 9.2 | 1346.2 | |
| 11 | FEB | 0800 | 25 | 4. | .8 | 1344.8 | * | 11 | FEB | 1205 | 74 | 223. | 16.2 | 1347.0 | * | 11 | FEB | 1610 | 123 | 66. | 9.2 | 1346.1 | |
| 11 | FEB | 0805 | 26 | 4. | .8 | 1344.8 | * | 11 | FEB | 1210 | 75 | 271. | 19.4 | 1347.5 | * | 11 | FEB | 1615 | 124 | 65. | 9.1 | 1346.1 | |
| 11 | FEB | 0810 | 27 | 4. | .8 | 1344.8 | * | 11 | FEB | 1215 | 76 | 313. | 22.2 | 1347.9 | * | 11 | FEB | 1620 | 125 | 63. | 9.0 | 1346.1 | |
| 11 | FEB | 0815 | 28 | 4. | .7 | 1344.8 | * | 11 | FEB | 1220 | 77 | 339. | 24.5 | 1348.2 | * | 11 | FEB | 1625 | 126 | 62. | 9.0 | 1346.1 | |
| 11 | FEB | 0820 | 29 | 4. | .7 | 1344.8 | * | 11 | FEB | 1225 | 78 | 355. | 26.2 | 1348.4 | * | 11 | FEB | 1630 | 127 | 60. | 8.9 | 1346.1 | |
| 11 | FEB | 0825 | 30 | 3. | .7 | 1344.8 | * | 11 | FEB | 1230 | 79 | 367. | 27.4 | 1348.6 | * | 11 | FEB | 1635 | 128 | 59. | 8.8 | 1346.1 | |
| 11 | FEB | 0830 | 31 | 3. | .7 | 1344.8 | * | 11 | FEB | 1235 | 80 | 375. | 28.4 | 1348.7 | * | 11 | FEB | 1640 | 129 | 57. | 8.8 | 1346.1 | |
| 11 | FEB | 0835 | 32 | 3. | .6 | 1344.8 | * | 11 | FEB | 1240 | 81 | 381. | 29.0 | 1348.7 | * | 11 | FEB | 1645 | 130 | 56. | 8.7 | 1346.1 | |
| 11 | FEB | 0840 | 33 | 3. | .6 | 1344.8 | * | 11 | FEB | 1245 | 82 | 383. | 29.2 | 1348.8 | * | 11 | FEB | 1650 | 131 | 54. | 8.6 | 1346.1 | |
| 11 | FEB | 0845 | 34 | 3. | .6 | 1344.8 | * | 11 | FEB | 1250 | 83 | 383. | 29.2 | 1348.8 | * | 11 | FEB | 1655 | 132 | 53. | 8.6 | 1346.1 | |
| 11 | FEB | 0850 | 35 | 3. | .6 | 1344.8 | * | 11 | FEB | 1255 | 84 | 381. | 29.0 | 1348.7 | * | 11 | FEB | 1700 | 133 | 52. | 8.5 | 1346.1 | |
| 11 | FEB | 0855 | 36 | 3. | .6 | 1344.8 | * | 11 | FEB | 1300 | 85 | 377. | 28.5 | 1348.7 | * | 11 | FEB | 1705 | 134 | 51. | 8.5 | 1346.1 | |
| 11 | FEB | 0900 | 37 | 3. | .6 | 1344.8 | * | 11 | FEB | 1305 | 86 | 371. | 27.9 | 1348.6 | * | 11 | FEB | 1710 | 135 | 50. | 8.4 | 1346.1 | |
| 11 | FEB | 0905 | 38 | 3. | .6 | 1344.8 | * | 11 | FEB | 1310 | 87 | 364. | 27.2 | 1348.5 | * | 11 | FEB | 1715 | 136 | 49. | 8.4 | 1346.0 | |
| 11 | FEB | 0910 | 39 | 3. | .6 | 1344.8 | * | 11 | FEB | 1315 | 88 | 356. | 26.3 | 1348.4 | * | 11 | FEB | 1720 | 137 | 48. | 8.3 | 1346.0 | |
| 11 | FEB | 0915 | 40 | 3. | .6 | 1344.8 | * | 11 | FEB | 1320 | 89 | 347. | 25.4 | 1348.3 | * | 11 | FEB | 1725 | 138 | 47. | 8.3 | 1346.0 | |
| 11 | FEB | 0920 | 41 | 3. | .6 | 1344.8 | * | 11 | FEB | 1325 | 90 | 338. | 24.4 | 1348.2 | * | 11 | FEB | 1730 | 139 | 46. | 8.3 | 1346.0 | |
| 11 | FEB | 0925 | 42 | 3. | .6 | 1344.8 | * | 11 | FEB | 1330 | 91 | 329. | 23.4 | 1348.0 | * | 11 | FEB | 1735 | 140 | 45. | 8.2 | 1346.0 | |
| 11 | FEB | 0930 | 43 | 3. | .6 | 1344.8 | * | 11 | FEB | 1335 | 92 | 315. | 22.3 | 1347.9 | * | 11 | FEB | 1740 | 141 | 45. | 8.2 | 1346.0 | |
| 11 | FEB | 0935 | 44 | 3. | .6 | 1344.8 | * | 11 | FEB | 1340 | 93 | 300. | 21.3 | 1347.8 | * | 11 | FEB | 1745 | 142 | 44. | 8.2 | 1346.0 | |
| 11 | FEB | 0940 | 45 | 3. | .6 | 1344.8 | * | 11 | FEB | 1345 | 94 | 285. | 20.3 | 1347.6 | * | 11 | FEB | 1750 | 143 | 43. | 8.1 | 1346.0 | |
| 11 | FEB | 0945 | 46 | 3. | .7 | 1344.8 | * | 11 | FEB | 1350 | 95 | 271. | 19.4 | 1347.5 | * | 11 | FEB | 1755 | 144 | 42. | 8.1 | 1346.0 | |
| 11 | FEB | 0950 | 47 | 4. | .7 | 1344.8 | * | 11 | FEB | 1355 | 96 | 257. | 18.4 | 1347.3 | * | 11 | FEB | 1800 | 145 | 41. | 8.0 | 1346.0 | |
| 11 | FEB | 0955 | 48 | 4. | .7 | 1344.8 | * | 11 | FEB | 1400 | 97 | 244. | 17.6 | 1347.2 | * | | | | | | | | |
| 11 | FEB | 1000 | 49 | 4. | .8 | 1344.8 | * | 11 | FEB | 1405 | 98 | 231. | 16.7 | 1347.1 | * | | | | | | | | |

| | | | | | |
|-----------|------|----------------------|-------|-------|----------|
| PEAK FLOW | TIME | MAXIMUM AVERAGE FLOW | | | |
| | | 6-HR | 24-HR | 72-HR | 12.00-HR |
| + (CFS) | (HR) | | | | |

| DA | MON | HRMN | ORD | RAIN | LOSS | EXCESS | COMP | Q | * | DA | MON | HRMN | ORD | RAIN | LOSS | EXCESS | COMP | Q |
|----|-----|------|-----|------|------|--------|------|---|---|----|-----|------|-----|------|------|--------|------|-----|
| 11 | FEB | 0600 | 1 | .00 | .00 | .00 | 0. | * | | 11 | FEB | 1205 | 74 | .11 | .02 | .09 | | 56. |
| 11 | FEB | 0605 | 2 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1210 | 75 | .11 | .02 | .10 | | 53. |
| 11 | FEB | 0610 | 3 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1215 | 76 | .11 | .02 | .10 | | 44. |
| 11 | FEB | 0615 | 4 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1220 | 77 | .11 | .02 | .10 | | 35. |
| 11 | FEB | 0620 | 5 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1225 | 78 | .11 | .02 | .10 | | 27. |
| 11 | FEB | 0625 | 6 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1230 | 79 | .11 | .02 | .10 | | 22. |
| 11 | FEB | 0630 | 7 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1235 | 80 | .06 | .01 | .05 | | 19. |
| 11 | FEB | 0635 | 8 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1240 | 81 | .06 | .01 | .05 | | 16. |
| 11 | FEB | 0640 | 9 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1245 | 82 | .06 | .01 | .05 | | 14. |
| 11 | FEB | 0645 | 10 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1250 | 83 | .06 | .01 | .05 | | 11. |
| 11 | FEB | 0650 | 11 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1255 | 84 | .06 | .01 | .05 | | 10. |
| 11 | FEB | 0655 | 12 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1300 | 85 | .06 | .01 | .05 | | 9. |
| 11 | FEB | 0700 | 13 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1305 | 86 | .04 | .01 | .04 | | 8. |
| 11 | FEB | 0705 | 14 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1310 | 87 | .04 | .01 | .04 | | 8. |
| 11 | FEB | 0710 | 15 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1315 | 88 | .04 | .01 | .04 | | 7. |
| 11 | FEB | 0715 | 16 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1320 | 89 | .04 | .01 | .04 | | 6. |
| 11 | FEB | 0720 | 17 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1325 | 90 | .04 | .00 | .04 | | 6. |
| 11 | FEB | 0725 | 18 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1330 | 91 | .04 | .00 | .04 | | 6. |
| 11 | FEB | 0730 | 19 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1335 | 92 | .03 | .00 | .03 | | 6. |
| 11 | FEB | 0735 | 20 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1340 | 93 | .03 | .00 | .03 | | 5. |
| 11 | FEB | 0740 | 21 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1345 | 94 | .03 | .00 | .03 | | 5. |
| 11 | FEB | 0745 | 22 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1350 | 95 | .03 | .00 | .03 | | 5. |
| 11 | FEB | 0750 | 23 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1355 | 96 | .03 | .00 | .03 | | 5. |
| 11 | FEB | 0755 | 24 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1400 | 97 | .03 | .00 | .03 | | 4. |
| 11 | FEB | 0800 | 25 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1405 | 98 | .02 | .00 | .02 | | 4. |
| 11 | FEB | 0805 | 26 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1410 | 99 | .02 | .00 | .02 | | 4. |
| 11 | FEB | 0810 | 27 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1415 | 100 | .02 | .00 | .02 | | 4. |
| 11 | FEB | 0815 | 28 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1420 | 101 | .02 | .00 | .02 | | 4. |
| 11 | FEB | 0820 | 29 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1425 | 102 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0825 | 30 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1430 | 103 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0830 | 31 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1435 | 104 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0835 | 32 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1440 | 105 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0840 | 33 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1445 | 106 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0845 | 34 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1450 | 107 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0850 | 35 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1455 | 108 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0855 | 36 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1500 | 109 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0900 | 37 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1505 | 110 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0905 | 38 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1510 | 111 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0910 | 39 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1515 | 112 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0915 | 40 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1520 | 113 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0920 | 41 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1525 | 114 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0925 | 42 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1530 | 115 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0930 | 43 | .02 | .02 | .00 | 0. | * | | 11 | FEB | 1535 | 116 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0935 | 44 | .03 | .03 | .00 | 0. | * | | 11 | FEB | 1540 | 117 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0940 | 45 | .03 | .02 | .00 | 0. | * | | 11 | FEB | 1545 | 118 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0945 | 46 | .03 | .02 | .00 | 0. | * | | 11 | FEB | 1550 | 119 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0950 | 47 | .03 | .02 | .00 | 0. | * | | 11 | FEB | 1555 | 120 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 0955 | 48 | .03 | .02 | .00 | 0. | * | | 11 | FEB | 1600 | 121 | .02 | .00 | .02 | | 3. |
| 11 | FEB | 1000 | 49 | .03 | .02 | .00 | 0. | * | | 11 | FEB | 1605 | 122 | .02 | .00 | .01 | | 3. |
| 11 | FEB | 1005 | 50 | .04 | .03 | .01 | 1. | * | | 11 | FEB | 1610 | 123 | .02 | .00 | .01 | | 3. |
| 11 | FEB | 1010 | 51 | .04 | .03 | .01 | 1. | * | | 11 | FEB | 1615 | 124 | .02 | .00 | .01 | | 3. |
| 11 | FEB | 1015 | 52 | .04 | .03 | .01 | 1. | * | | 11 | FEB | 1620 | 125 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1020 | 53 | .04 | .03 | .01 | 1. | * | | 11 | FEB | 1625 | 126 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1025 | 54 | .04 | .03 | .01 | 1. | * | | 11 | FEB | 1630 | 127 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1030 | 55 | .04 | .03 | .01 | 1. | * | | 11 | FEB | 1635 | 128 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1035 | 56 | .05 | .03 | .01 | 1. | * | | 11 | FEB | 1640 | 129 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1040 | 57 | .05 | .03 | .01 | 1. | * | | 11 | FEB | 1645 | 130 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1045 | 58 | .05 | .03 | .01 | 1. | * | | 11 | FEB | 1650 | 131 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1050 | 59 | .05 | .03 | .02 | 2. | * | | 11 | FEB | 1655 | 132 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1055 | 60 | .05 | .03 | .02 | 2. | * | | 11 | FEB | 1700 | 133 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1100 | 61 | .05 | .03 | .02 | 2. | * | | 11 | FEB | 1705 | 134 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1105 | 62 | .07 | .05 | .03 | 2. | * | | 11 | FEB | 1710 | 135 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1110 | 63 | .07 | .04 | .03 | 3. | * | | 11 | FEB | 1715 | 136 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1115 | 64 | .07 | .04 | .03 | 3. | * | | 11 | FEB | 1720 | 137 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1120 | 65 | .07 | .04 | .03 | 4. | * | | 11 | FEB | 1725 | 138 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1125 | 66 | .07 | .04 | .03 | 4. | * | | 11 | FEB | 1730 | 139 | .02 | .00 | .01 | | 2. |
| 11 | FEB | 1130 | 67 | .07 | .04 | .04 | 4. | * | | 11 | FEB | 1735 | 140 | .01 | .00 | .01 | | 2. |
| 11 | FEB | 1135 | 68 | .59 | .27 | .32 | 6. | * | | 11 | FEB | 1740 | 141 | .01 | .00 | .01 | | 2. |
| 11 | FEB | 1140 | 69 | .59 | .21 | .38 | 12. | * | | 11 | FEB | 1745 | 142 | .01 | .00 | .01 | | 2. |
| 11 | FEB | 1145 | 70 | .59 | .17 | .42 | 22. | * | | 11 | FEB | 1750 | 143 | .01 | .00 | .01 | | 2. |
| 11 | FEB | 1150 | 71 | .59 | .14 | .45 | 34. | * | | 11 | FEB | 1755 | 144 | .01 | .00 | .01 | | 2. |
| 11 | FEB | 1155 | 72 | .59 | .12 | .47 | 44. | * | | 11 | FEB | 1800 | 145 | .01 | .00 | .01 | | 1. |
| 11 | FEB | 1200 | 73 | .59 | .10 | .49 | 52. | * | | | | | | | | | | |

TOTAL RAINFALL = 7.80, TOTAL LOSS = 2.82, TOTAL EXCESS = 4.98

| PEAK FLOW + (CFS) | TIME (HR) | MAXIMUM AVERAGE FLOW | | | |
|----------------------|--------------|----------------------|-------|-------|----------|
| | | 6-HR | 24-HR | 72-HR | 12.00-HR |
| + 56. | 6.08 | (CFS) 9 | 5. | 5. | 5. |
| | | (INCHES) 4.679 | 4.940 | 4.940 | 4.940 |
| | | (AC-FT) 5. | 5. | 5. | 5. |
| CUMULATIVE AREA = | | .02 SQ MI | | | |

*** **

80 KK *****
* INTO4 *

81 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

HYDROGRAPH AT STATION INTO4
SUM OF 2 HYDROGRAPHS

| DA | MON | HRMN | ORD | FLOW | * | DA | MON | HRMN | ORD | FLOW | * | DA | MON | HRMN | ORD | FLOW | * | DA | MON | HRMN | ORD | FLOW | * |
|----|-----|------|-----|------|---|----|-----|------|-----|------|---|----|-----|------|-----|------|---|----|-----|------|-----|------|---|
| 11 | FEB | 0600 | 1 | 9. | * | 11 | FEB | 0905 | 38 | 3. | * | 11 | FEB | 1210 | 75 | 324. | * | 11 | FEB | 1515 | 112 | 96. | * |
| 11 | FEB | 0605 | 2 | 9. | * | 11 | FEB | 0910 | 39 | 3. | * | 11 | FEB | 1215 | 76 | 358. | * | 11 | FEB | 1520 | 113 | 92. | * |
| 11 | FEB | 0610 | 3 | 9. | * | 11 | FEB | 0915 | 40 | 3. | * | 11 | FEB | 1220 | 77 | 374. | * | 11 | FEB | 1525 | 114 | 88. | * |
| 11 | FEB | 0615 | 4 | 8. | * | 11 | FEB | 0920 | 41 | 3. | * | 11 | FEB | 1225 | 78 | 382. | * | 11 | FEB | 1530 | 115 | 85. | * |
| 11 | FEB | 0620 | 5 | 8. | * | 11 | FEB | 0925 | 42 | 3. | * | 11 | FEB | 1230 | 79 | 389. | * | 11 | FEB | 1535 | 116 | 82. | * |
| 11 | FEB | 0625 | 6 | 8. | * | 11 | FEB | 0930 | 43 | 3. | * | 11 | FEB | 1235 | 80 | 394. | * | 11 | FEB | 1540 | 117 | 79. | * |
| 11 | FEB | 0630 | 7 | 8. | * | 11 | FEB | 0935 | 44 | 3. | * | 11 | FEB | 1240 | 81 | 397. | * | 11 | FEB | 1545 | 118 | 77. | * |
| 11 | FEB | 0635 | 8 | 7. | * | 11 | FEB | 0940 | 45 | 3. | * | 11 | FEB | 1245 | 82 | 397. | * | 11 | FEB | 1550 | 119 | 75. | * |
| 11 | FEB | 0640 | 9 | 7. | * | 11 | FEB | 0945 | 46 | 4. | * | 11 | FEB | 1250 | 83 | 395. | * | 11 | FEB | 1555 | 120 | 74. | * |
| 11 | FEB | 0645 | 10 | 7. | * | 11 | FEB | 0950 | 47 | 4. | * | 11 | FEB | 1255 | 84 | 391. | * | 11 | FEB | 1600 | 121 | 72. | * |
| 11 | FEB | 0650 | 11 | 7. | * | 11 | FEB | 0955 | 48 | 4. | * | 11 | FEB | 1300 | 85 | 386. | * | 11 | FEB | 1605 | 122 | 71. | * |
| 11 | FEB | 0655 | 12 | 6. | * | 11 | FEB | 1000 | 49 | 4. | * | 11 | FEB | 1305 | 86 | 379. | * | 11 | FEB | 1610 | 123 | 69. | * |
| 11 | FEB | 0700 | 13 | 6. | * | 11 | FEB | 1005 | 50 | 5. | * | 11 | FEB | 1310 | 87 | 372. | * | 11 | FEB | 1615 | 124 | 68. | * |
| 11 | FEB | 0705 | 14 | 6. | * | 11 | FEB | 1010 | 51 | 5. | * | 11 | FEB | 1315 | 88 | 363. | * | 11 | FEB | 1620 | 125 | 66. | * |
| 11 | FEB | 0710 | 15 | 6. | * | 11 | FEB | 1015 | 52 | 5. | * | 11 | FEB | 1320 | 89 | 354. | * | 11 | FEB | 1625 | 126 | 64. | * |
| 11 | FEB | 0715 | 16 | 6. | * | 11 | FEB | 1020 | 53 | 6. | * | 11 | FEB | 1325 | 90 | 344. | * | 11 | FEB | 1630 | 127 | 62. | * |
| 11 | FEB | 0720 | 17 | 5. | * | 11 | FEB | 1025 | 54 | 6. | * | 11 | FEB | 1330 | 91 | 334. | * | 11 | FEB | 1635 | 128 | 61. | * |
| 11 | FEB | 0725 | 18 | 5. | * | 11 | FEB | 1030 | 55 | 7. | * | 11 | FEB | 1335 | 92 | 321. | * | 11 | FEB | 1640 | 129 | 59. | * |
| 11 | FEB | 0730 | 19 | 5. | * | 11 | FEB | 1035 | 56 | 7. | * | 11 | FEB | 1340 | 93 | 305. | * | 11 | FEB | 1645 | 130 | 58. | * |
| 11 | FEB | 0735 | 20 | 5. | * | 11 | FEB | 1040 | 57 | 8. | * | 11 | FEB | 1345 | 94 | 290. | * | 11 | FEB | 1650 | 131 | 56. | * |
| 11 | FEB | 0740 | 21 | 5. | * | 11 | FEB | 1045 | 58 | 8. | * | 11 | FEB | 1350 | 95 | 275. | * | 11 | FEB | 1655 | 132 | 55. | * |
| 11 | FEB | 0745 | 22 | 4. | * | 11 | FEB | 1050 | 59 | 9. | * | 11 | FEB | 1355 | 96 | 261. | * | 11 | FEB | 1700 | 133 | 53. | * |
| 11 | FEB | 0750 | 23 | 4. | * | 11 | FEB | 1055 | 60 | 10. | * | 11 | FEB | 1400 | 97 | 248. | * | 11 | FEB | 1705 | 134 | 54. | * |
| 11 | FEB | 0755 | 24 | 4. | * | 11 | FEB | 1100 | 61 | 11. | * | 11 | FEB | 1405 | 98 | 235. | * | 11 | FEB | 1710 | 135 | 52. | * |
| 11 | FEB | 0800 | 25 | 4. | * | 11 | FEB | 1105 | 62 | 12. | * | 11 | FEB | 1410 | 99 | 223. | * | 11 | FEB | 1715 | 136 | 51. | * |
| 11 | FEB | 0805 | 26 | 4. | * | 11 | FEB | 1110 | 63 | 13. | * | 11 | FEB | 1415 | 100 | 206. | * | 11 | FEB | 1720 | 137 | 50. | * |
| 11 | FEB | 0810 | 27 | 4. | * | 11 | FEB | 1115 | 64 | 15. | * | 11 | FEB | 1420 | 101 | 191. | * | 11 | FEB | 1725 | 138 | 49. | * |
| 11 | FEB | 0815 | 28 | 4. | * | 11 | FEB | 1120 | 65 | 16. | * | 11 | FEB | 1425 | 102 | 177. | * | 11 | FEB | 1730 | 139 | 48. | * |
| 11 | FEB | 0820 | 29 | 4. | * | 11 | FEB | 1125 | 66 | 18. | * | 11 | FEB | 1430 | 103 | 164. | * | 11 | FEB | 1735 | 140 | 47. | * |
| 11 | FEB | 0825 | 30 | 3. | * | 11 | FEB | 1130 | 67 | 20. | * | 11 | FEB | 1435 | 104 | 153. | * | 11 | FEB | 1740 | 141 | 47. | * |
| 11 | FEB | 0830 | 31 | 3. | * | 11 | FEB | 1135 | 68 | 24. | * | 11 | FEB | 1440 | 105 | 143. | * | 11 | FEB | 1745 | 142 | 46. | * |
| 11 | FEB | 0835 | 32 | 3. | * | 11 | FEB | 1140 | 69 | 33. | * | 11 | FEB | 1445 | 106 | 133. | * | 11 | FEB | 1750 | 143 | 44. | * |
| 11 | FEB | 0840 | 33 | 3. | * | 11 | FEB | 1145 | 70 | 49. | * | 11 | FEB | 1450 | 107 | 125. | * | 11 | FEB | 1755 | 144 | 43. | * |
| 11 | FEB | 0845 | 34 | 3. | * | 11 | FEB | 1150 | 71 | 70. | * | 11 | FEB | 1455 | 108 | 118. | * | 11 | FEB | 1800 | 145 | 42. | * |
| 11 | FEB | 0850 | 35 | 3. | * | 11 | FEB | 1155 | 72 | 128. | * | 11 | FEB | 1500 | 109 | 111. | * | | | | | | * |
| 11 | FEB | 0855 | 36 | 3. | * | 11 | FEB | 1200 | 73 | 204. | * | 11 | FEB | 1505 | 110 | 106. | * | | | | | | * |
| 11 | FEB | 0900 | 37 | 3. | * | 11 | FEB | 1205 | 74 | 279. | * | 11 | FEB | 1510 | 111 | 100. | * | | | | | | * |

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

| | | | | | | |
|-------------------|------|----------|-----------|-------|-------|----------|
| + (CFS) | (HR) | | 6-HR | 24-HR | 72-HR | 12.00-HR |
| + 397. | 6.75 | (CFS) | 179. | 94. | 94. | 94. |
| | | (INCHES) | 4.425 | 4.639 | 4.639 | 4.639 |
| | | (AC-FT) | 89. | 93. | 93. | 93. |
| CUMULATIVE AREA = | | | .38 SQ MI | | | |

 * *
 82 KK * POND4 *
 * *

HYDROGRAPH ROUTING DATA

| | | | | | | | |
|-------|-----------------|---------|-----------------------------|---------|---------|---------|---------|
| 83 RS | STORAGE ROUTING | | | | | | |
| | NSTPS | 1 | NUMBER OF SUBREACHES | | | | |
| | ITYP | ELEV | TYPE OF INITIAL CONDITION | | | | |
| | RSVRC | 1344.70 | INITIAL CONDITION | | | | |
| | X | .00 | WORKING R AND D COEFFICIENT | | | | |
| 84 SV | STORAGE | .0 | .6 | 1.1 | 1.7 | 2.3 | 2.8 |
| 85 SQ | DISCHARGE | 0. | 40. | 210. | 350. | 450. | 530. |
| 86 SE | ELEVATION | 1344.70 | 1345.70 | 1346.70 | 1347.70 | 1348.70 | 1349.70 |

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 40. TO 210.
 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

HYDROGRAPH AT STATION POND4

| DA | MON | HR | HRM | ORD | OUTFLOW | STORAGE | STAGE | * DA | MON | HRM | ORD | OUTFLOW | STORAGE | STAGE | * DA | MON | HRM | ORD | OUTFLOW | STORAGE | STAGE |
|----|-----|------|-----|-----|---------|---------|-------|------|------|-----|------|---------|---------|-------|------|------|-----|------|---------|---------|-------|
| 11 | FEB | 0600 | 1 | 0. | .0 | 1344.7 | * 11 | FEB | 1005 | 50 | 4. | .1 | 1344.8 | * 11 | FEB | 1410 | 99 | 231. | 1.2 | 1346.8 | |
| 11 | FEB | 0605 | 2 | 3. | .1 | 1344.8 | * 11 | FEB | 1010 | 51 | 4. | .1 | 1344.8 | * 11 | FEB | 1415 | 100 | 216. | 1.1 | 1346.7 | |
| 11 | FEB | 0610 | 3 | 5. | .1 | 1344.8 | * 11 | FEB | 1015 | 52 | 5. | .1 | 1344.8 | * 11 | FEB | 1420 | 101 | 198. | 1.1 | 1346.6 | |
| 11 | FEB | 0615 | 4 | 7. | .1 | 1344.9 | * 11 | FEB | 1020 | 53 | 5. | .1 | 1344.8 | * 11 | FEB | 1425 | 102 | 182. | 1.0 | 1346.5 | |
| 11 | FEB | 0620 | 5 | 7. | .1 | 1344.9 | * 11 | FEB | 1025 | 54 | 5. | .1 | 1344.8 | * 11 | FEB | 1430 | 103 | 169. | 1.0 | 1346.5 | |
| 11 | FEB | 0625 | 6 | 7. | .1 | 1344.9 | * 11 | FEB | 1030 | 55 | 6. | .1 | 1344.8 | * 11 | FEB | 1435 | 104 | 157. | .9 | 1346.4 | |
| 11 | FEB | 0630 | 7 | 8. | .1 | 1344.9 | * 11 | FEB | 1035 | 56 | 6. | .1 | 1344.9 | * 11 | FEB | 1440 | 105 | 147. | .9 | 1346.3 | |
| 11 | FEB | 0635 | 8 | 7. | .1 | 1344.9 | * 11 | FEB | 1040 | 57 | 7. | .1 | 1344.9 | * 11 | FEB | 1445 | 106 | 137. | .9 | 1346.3 | |
| 11 | FEB | 0640 | 9 | 7. | .1 | 1344.9 | * 11 | FEB | 1045 | 58 | 7. | .1 | 1344.9 | * 11 | FEB | 1450 | 107 | 129. | .9 | 1346.2 | |
| 11 | FEB | 0645 | 10 | 7. | .1 | 1344.9 | * 11 | FEB | 1050 | 59 | 8. | .1 | 1344.9 | * 11 | FEB | 1455 | 108 | 121. | .8 | 1346.2 | |
| 11 | FEB | 0650 | 11 | 7. | .1 | 1344.9 | * 11 | FEB | 1055 | 60 | 8. | .1 | 1344.9 | * 11 | FEB | 1500 | 109 | 114. | .8 | 1346.1 | |
| 11 | FEB | 0655 | 12 | 7. | .1 | 1344.9 | * 11 | FEB | 1100 | 61 | 9. | .1 | 1344.9 | * 11 | FEB | 1505 | 110 | 108. | .8 | 1346.1 | |
| 11 | FEB | 0700 | 13 | 7. | .1 | 1344.9 | * 11 | FEB | 1105 | 62 | 10. | .2 | 1345.0 | * 11 | FEB | 1510 | 111 | 103. | .8 | 1346.1 | |
| 11 | FEB | 0705 | 14 | 6. | .1 | 1344.9 | * 11 | FEB | 1110 | 63 | 11. | .2 | 1345.0 | * 11 | FEB | 1515 | 112 | 98. | .8 | 1346.0 | |
| 11 | FEB | 0710 | 15 | 6. | .1 | 1344.9 | * 11 | FEB | 1115 | 64 | 12. | .2 | 1345.0 | * 11 | FEB | 1520 | 113 | 94. | .8 | 1346.0 | |
| 11 | FEB | 0715 | 16 | 6. | .1 | 1344.8 | * 11 | FEB | 1120 | 65 | 13. | .2 | 1345.0 | * 11 | FEB | 1525 | 114 | 90. | .7 | 1346.0 | |
| 11 | FEB | 0720 | 17 | 6. | .1 | 1344.8 | * 11 | FEB | 1125 | 66 | 15. | .2 | 1345.1 | * 11 | FEB | 1530 | 115 | 86. | .7 | 1346.0 | |
| 11 | FEB | 0725 | 18 | 6. | .1 | 1344.8 | * 11 | FEB | 1130 | 67 | 16. | .2 | 1345.1 | * 11 | FEB | 1535 | 116 | 83. | .7 | 1346.0 | |
| 11 | FEB | 0730 | 19 | 5. | .1 | 1344.8 | * 11 | FEB | 1135 | 68 | 18. | .3 | 1345.2 | * 11 | FEB | 1540 | 117 | 81. | .7 | 1345.9 | |
| 11 | FEB | 0735 | 20 | 5. | .1 | 1344.8 | * 11 | FEB | 1140 | 69 | 22. | .3 | 1345.3 | * 11 | FEB | 1545 | 118 | 78. | .7 | 1345.9 | |
| 11 | FEB | 0740 | 21 | 5. | .1 | 1344.8 | * 11 | FEB | 1145 | 70 | 29. | .4 | 1345.4 | * 11 | FEB | 1550 | 119 | 76. | .7 | 1345.9 | |
| 11 | FEB | 0745 | 22 | 5. | .1 | 1344.8 | * 11 | FEB | 1150 | 71 | 42. | .6 | 1345.7 | * 11 | FEB | 1555 | 120 | 74. | .7 | 1345.9 | |
| 11 | FEB | 0750 | 23 | 5. | .1 | 1344.8 | * 11 | FEB | 1155 | 72 | 104. | .8 | 1346.1 | * 11 | FEB | 1600 | 121 | 73. | .7 | 1345.9 | |
| 11 | FEB | 0755 | 24 | 5. | .1 | 1344.8 | * 11 | FEB | 1200 | 73 | 171. | 1.0 | 1346.5 | * 11 | FEB | 1605 | 122 | 71. | .7 | 1345.9 | |
| 11 | FEB | 0800 | 25 | 4. | .1 | 1344.8 | * 11 | FEB | 1205 | 74 | 241. | 1.2 | 1346.9 | * 11 | FEB | 1610 | 123 | 70. | .7 | 1345.9 | |
| 11 | FEB | 0805 | 26 | 4. | .1 | 1344.8 | * 11 | FEB | 1210 | 75 | 295. | 1.5 | 1347.3 | * 11 | FEB | 1615 | 124 | 68. | .7 | 1345.9 | |
| 11 | FEB | 0810 | 27 | 4. | .1 | 1344.8 | * 11 | FEB | 1215 | 76 | 336. | 1.6 | 1347.6 | * 11 | FEB | 1620 | 125 | 67. | .7 | 1345.9 | |
| 11 | FEB | 0815 | 28 | 4. | .1 | 1344.8 | * 11 | FEB | 1220 | 77 | 360. | 1.8 | 1347.8 | * 11 | FEB | 1625 | 126 | 65. | .7 | 1345.8 | |
| 11 | FEB | 0820 | 29 | 4. | .1 | 1344.8 | * 11 | FEB | 1225 | 78 | 373. | 1.8 | 1347.9 | * 11 | FEB | 1630 | 127 | 63. | .7 | 1345.8 | |
| 11 | FEB | 0825 | 30 | 4. | .1 | 1344.8 | * 11 | FEB | 1230 | 79 | 382. | 1.9 | 1348.0 | * 11 | FEB | 1635 | 128 | 62. | .7 | 1345.8 | |
| 11 | FEB | 0830 | 31 | 4. | .1 | 1344.8 | * 11 | FEB | 1235 | 80 | 389. | 1.9 | 1348.1 | * 11 | FEB | 1640 | 129 | 60. | .7 | 1345.8 | |

| | | | | | | | | | | | | | | |
|-------------|----|----|----|--------|---------------|----|------|-----|--------|---------------|-----|-----|----|--------|
| 11 FEB 0835 | 32 | 3. | .1 | 1344.8 | * 11 FEB 1240 | 81 | 394. | 2.0 | 1348.1 | * 11 FEB 1645 | 130 | 58. | .7 | 1345.8 |
| 11 FEB 0840 | 33 | 3. | .0 | 1344.8 | * 11 FEB 1245 | 82 | 396. | 2.0 | 1348.2 | * 11 FEB 1650 | 131 | 57. | .7 | 1345.8 |
| 11 FEB 0845 | 34 | 3. | .0 | 1344.8 | * 11 FEB 1250 | 83 | 396. | 2.0 | 1348.2 | * 11 FEB 1655 | 132 | 56. | .6 | 1345.8 |
| 11 FEB 0850 | 35 | 3. | .0 | 1344.8 | * 11 FEB 1255 | 84 | 394. | 2.0 | 1348.1 | * 11 FEB 1700 | 133 | 54. | .6 | 1345.8 |
| 11 FEB 0855 | 36 | 3. | .0 | 1344.8 | * 11 FEB 1300 | 85 | 390. | 1.9 | 1348.1 | * 11 FEB 1705 | 134 | 53. | .6 | 1345.8 |
| 11 FEB 0900 | 37 | 3. | .0 | 1344.8 | * 11 FEB 1305 | 86 | 384. | 1.9 | 1348.0 | * 11 FEB 1710 | 135 | 52. | .6 | 1345.8 |
| 11 FEB 0905 | 38 | 3. | .0 | 1344.8 | * 11 FEB 1310 | 87 | 378. | 1.9 | 1348.0 | * 11 FEB 1715 | 136 | 51. | .6 | 1345.8 |
| 11 FEB 0910 | 39 | 3. | .0 | 1344.8 | * 11 FEB 1315 | 88 | 370. | 1.8 | 1347.9 | * 11 FEB 1720 | 137 | 50. | .6 | 1345.8 |
| 11 FEB 0915 | 40 | 3. | .0 | 1344.8 | * 11 FEB 1320 | 89 | 362. | 1.8 | 1347.8 | * 11 FEB 1725 | 138 | 49. | .6 | 1345.8 |
| 11 FEB 0920 | 41 | 3. | .0 | 1344.8 | * 11 FEB 1325 | 90 | 352. | 1.7 | 1347.7 | * 11 FEB 1730 | 139 | 48. | .6 | 1345.7 |
| 11 FEB 0925 | 42 | 3. | .0 | 1344.8 | * 11 FEB 1330 | 91 | 341. | 1.7 | 1347.6 | * 11 FEB 1735 | 140 | 48. | .6 | 1345.7 |
| 11 FEB 0930 | 43 | 3. | .0 | 1344.8 | * 11 FEB 1335 | 92 | 329. | 1.6 | 1347.5 | * 11 FEB 1740 | 141 | 47. | .6 | 1345.7 |
| 11 FEB 0935 | 44 | 3. | .0 | 1344.8 | * 11 FEB 1340 | 93 | 315. | 1.5 | 1347.4 | * 11 FEB 1745 | 142 | 46. | .6 | 1345.7 |
| 11 FEB 0940 | 45 | 3. | .0 | 1344.8 | * 11 FEB 1345 | 94 | 299. | 1.5 | 1347.3 | * 11 FEB 1750 | 143 | 45. | .6 | 1345.7 |
| 11 FEB 0945 | 46 | 3. | .0 | 1344.8 | * 11 FEB 1350 | 95 | 284. | 1.4 | 1347.2 | * 11 FEB 1755 | 144 | 44. | .6 | 1345.7 |
| 11 FEB 0950 | 47 | 3. | .1 | 1344.8 | * 11 FEB 1355 | 96 | 270. | 1.4 | 1347.1 | * 11 FEB 1800 | 145 | 42. | .6 | 1345.7 |
| 11 FEB 0955 | 48 | 4. | .1 | 1344.8 | * 11 FEB 1400 | 97 | 256. | 1.3 | 1347.0 | * | | | | |
| 11 FEB 1000 | 49 | 4. | .1 | 1344.8 | * 11 FEB 1405 | 98 | 243. | 1.2 | 1346.9 | * | | | | |

| PEAK FLOW | | MAXIMUM AVERAGE FLOW | | | | | |
|-------------------|-----------|-------------------------|----------|---------|----------|---------|-------|
| (CFS) | TIME (HR) | 6-HR | 24-HR | 72-HR | 12.00-HR | | |
| + | 396. | 6.75 | 179. | 93. | 93. | 93. | |
| | | | (INCHES) | 4.419 | 4.609 | 4.609 | 4.609 |
| | | | (AC-FT) | 89. | 93. | 93. | 93. |
| PEAK STORAGE | | MAXIMUM AVERAGE STORAGE | | | | | |
| (AC-FT) | TIME (HR) | 6-HR | 24-HR | 72-HR | 12.00-HR | | |
| + | 2. | 6.75 | 1. | 1. | 1. | 1. | |
| PEAK STAGE | | MAXIMUM AVERAGE STAGE | | | | | |
| (FEET) | TIME (HR) | 6-HR | 24-HR | 72-HR | 12.00-HR | | |
| + | 1348.16 | 6.75 | 1346.59 | 1345.74 | 1345.74 | 1345.74 | |
| CUMULATIVE AREA = | | .38 SQ MI | | | | | |

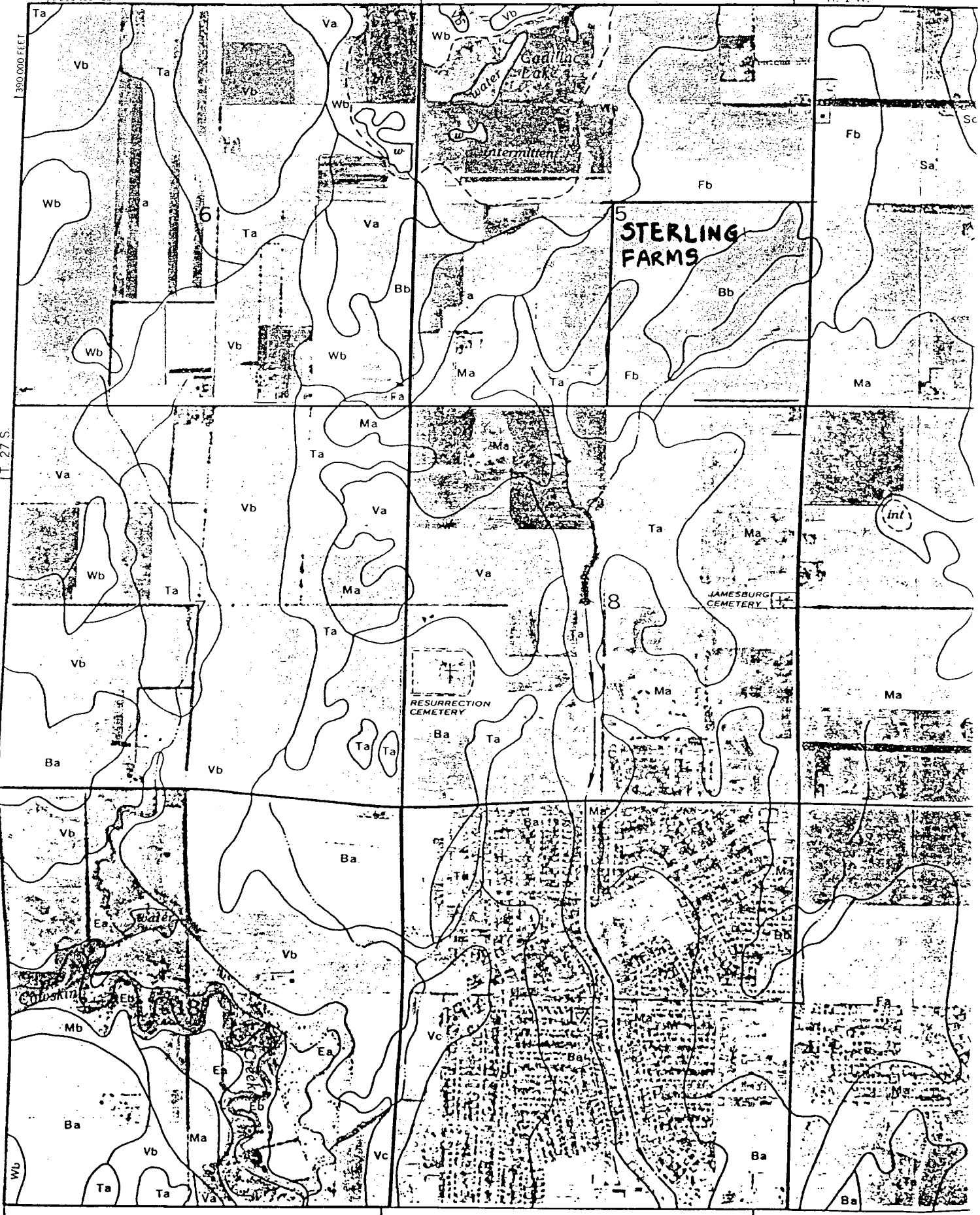
RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|-----------|---------------|-----------|--------------|---------------------------------|---------|---------|------------|---------------|-------------------|
| | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| + | HYDROGRAPH AT | | | | | | | | |
| + | KASTEN | 107. | 6.42 | 28. | 14. | 14. | .06 | | |
| + | HYDROGRAPH AT | | | | | | | | |
| + | RRWEST | 169. | 6.25 | 35. | 18. | 18. | .08 | | |
| + | 2 COMBINED AT | | | | | | | | |
| + | OFFSITE | 264. | 6.33 | 63. | 33. | 33. | .15 | | |
| + | HYDROGRAPH AT | | | | | | | | |
| + | BASIN1 | 15. | 6.08 | 3. | 1. | 1. | .00 | | |
| + | HYDROGRAPH AT | | | | | | | | |
| + | BASIN2 | 191. | 6.08 | 32. | 17. | 17. | .06 | | |
| + | 3 COMBINED AT | | | | | | | | |
| + | INTO2 | 436. | 6.17 | 98. | 51. | 51. | .21 | | |
| + | ROUTED TO | | | | | | | | |
| + | PON1\$2 | 332. | 6.42 | 97. | 50. | 50. | .21 | 1349.86 | 6.42 |
| + | HYDROGRAPH AT | | | | | | | | |
| + | BASIN3 | 504. | 6.08 | 85. | 45. | 45. | .15 | | |
| + | 2 COMBINED AT | | | | | | | | |
| + | INTO3 | 720. | 6.17 | 180. | 95. | 95. | .36 | | |
| + | ROUTED TO | | | | | | | | |
| + | POND3 | 383. | 6.75 | 170. | 89. | 89. | .36 | 1348.78 | 6.75 |
| + | HYDROGRAPH AT | | | | | | | | |
| + | BASIN4 | 56. | 6.08 | 9. | 5. | 5. | .02 | | |
| + | 2 COMBINED AT | | | | | | | | |
| + | INTO4 | 397. | 6.75 | 179. | 94. | 94. | .38 | | |
| + | ROUTED TO | | | | | | | | |
| + | POND4 | 396. | 6.75 | 179. | 93. | 93. | .38 | 1348.16 | 6.75 |

*** NORMAL END OF HEC-1 ***

1:2,295,000 FEET

R. 1 W.



T. 27 S.

(Joins sheet 32)

STERLING FARMS

RESURRECTION CEMETERY

JAMESBURG CEMETERY

Gaillard Lake
Intermittent

1390 000 FEET

EXHIBIT NO. 1

SOIL LEGEND

| <u>SYMBOL</u> | <u>HYDROLOGIC GROUP</u> | <u>NAME</u> |
|---------------|-------------------------|---|
| Aa | B | Albion-Shellabarger sandy loams, 1 to 4 percent slopes |
| Ab | B | Albion and Shellabarger sandy loams, 7 to 15 percent slopes |
| Ba | C | Blanket silt loam, 0 to 1 percent slopes |
| Bb | C | Blanket silt loam, 1 to 3 percent slopes |
| Ca | B | Canadian fine sandy loam |
| Cb | B | Canadian-Waldeck fine sandy loams |
| Cc | D | Carwile fine sandy loam |
| Cd | B | Clark-Ost clay loams, 1 to 4 percent slopes |
| Ce | C | Cline silty clay, 3 to 6 percent slopes |
| Ea | B | Elandco silt loam |
| Eb | B | Elandco silt loam, occasionally flooded |
| Ec | B | Elandco silt loam, frequently flooded |
| Fa | B | Farnum loam, 0 to 1 percent slopes |
| Fb | B | Farnum loam, 1 to 3 percent slopes |
| Fc | B | Farnum loam, sandy substratum, 0 to 1 percent slopes |
| Ga | D | Goessel silty clay, 0 to 1 percent slopes |
| Gb | D | Goessel silty clay, 1 to 2 percent slopes |
| Ia | D | Irwin silty clay loam, 1 to 3 percent slopes |
| Ib | D | Irwin silty clay loam, 3 to 6 percent slopes |
| Ic | D | Irwin silty clay loam, 2 to 6 percent slopes, eroded |
| La | C | Lesho loam |
| Lb | A | Lincoln soils |
| Ma | B | Milan loam, 1 to 3 percent slopes |
| Mb | B | Milan form, 3 to 6 percent slopes |
| Mc | B | Milan clay loam, 2 to 6 percent slopes, eroded |
| Na | B | Naron fine sandy loam |
| Oc | D | Owens clay loam, 1 to 3 percent slopes |
| Od | D | Owens-Rock outcrop complex, 3 to 10 percent slopes |
| Pa | | Pits |
| Pb | D | Plevna fine sandy loam |
| Pc | A | Pratt loamy fine sand, undulating |
| Pd | A | Pratt-Tivoli complex, rolling |
| Ra | D | Renfrow silty clay loam, 1 to 3 percent slopes |
| Rb | D | Renfrow silty clay loam, 3 to 6 percent slopes |
| Rc | D | Renfrow-Owens clay loams, 1 to 4 percent slopes |
| Rd | D | Rosehill silty clay, 1 to 3 percent slopes |
| Sa | B | Shellabarger sandy loam, 1 to 3 percent slopes |
| Sb | B | Shellabarger sandy loam, 3 to 6 percent slopes |
| Sc | B | Shellabarger sandy loam, 3 to 6 percent slopes, eroded |
| Ta | D | Tabler silty clay loam |
| Tb | D | Tabler-Drummond complex |
| Ua | B | Urban land-Canadian complex |
| Ub | B | Urban land-Elandco complex |
| Uc | B | Urban land-Farnum complex, 0 to 3 percent slopes |
| Ud | D | Urban land-Irwin complex, 1 to 3 percent slopes |
| Ue | D | Urban land-Tabler complex |
| Va | B | Vanoss silt loam, 0 to 1 percent slopes |
| Vb | B | Vanoss silt loam, 1 to 3 percent slopes |
| Vc | B | Vanoss silt loam, 3 to 6 percent slopes |
| Vd | B | Vanoss silt loam, 3 to 6 percent slopes, eroded |
| Ve | D | Vernon sandy loam, 1 to 3 percent slopes |
| Vf | D | Vernon sandy loam, 3 to 6 percent slopes |
| Wa | C | Waldeck sandy loam |

ATTACHMENT D

DRAINAGE CRITERIA

CITY OF WICHITA, KANSAS

RECOMMENDED RUNOFF COEFFICIENTS FOR RATIONAL METHOD
AND PERCENT IMPERVIOUS FOR UNIT HYDROGRAPH METHOD

| Land Use or Surface Characteristics | Percent Impervious | Frequency | | | |
|--|-----------------------|-----------|----------|-----------|------------|
| | | <u>2</u> | <u>5</u> | <u>10</u> | <u>100</u> |
| 1. Business: | | | | | |
| Downtown Areas | 95 | 0.84 | 0.85 | 0.87 | 0.91 |
| Neighborhood Areas | 70 | 0.68 | 0.69 | 0.73 | 0.80 |
| 2. Residential: | | | | | |
| <u>Single Family (Soil Group D)</u> | | | | | |
| 1/8 Acre | 50 | 0.57 | 0.61 | 0.66 | 0.79 |
| 1/4 Acre | 38 | 0.50 | 0.54 | 0.62 | 0.76 |
| 1/3 Acre | 30 | 0.46 | 0.50 | 0.59 | 0.73 |
| 1/2 Acre | 25 | 0.42 | 0.48 | 0.56 | 0.72 |
| 3/4 Acre | 22 | 0.42 | 0.46 | 0.55 | 0.71 |
| 1 Acre | 20 | 0.41 | 0.45 | 0.54 | 0.71 |
| <u>Multi-Family (Soil Group D)</u> | | | | | |
| Multi-Unit (detached) | 60 | 0.62 | 0.66 | 0.72 | 0.82 |
| Multi-Unit (attached) | 65 | 0.64 | 0.68 | 0.73 | 0.83 |
| Apartments | 75 | 0.70 | 0.73 | 0.79 | 0.86 |
| <u>Single Family (Soil Group C)</u> | | | | | |
| 1/8 Acre | 50 | 0.55 | 0.58 | 0.64 | 0.73 |
| 1/4 Acre | 38 | 0.48 | 0.51 | 0.57 | 0.68 |
| 1/3 Acre | 30 | 0.43 | 0.46 | 0.53 | 0.65 |
| 1/2 Acre | 25 | 0.40 | 0.43 | 0.50 | 0.63 |
| 3/4 Acre | 22 | 0.39 | 0.42 | 0.49 | 0.62 |
| 1 Acre | 20 | 0.37 | 0.40 | 0.48 | 0.61 |
| <u>Multi-Family (Soil Group C)</u> | | | | | |
| Multi-Unit (detached) | 60 | 0.60 | 0.63 | 0.69 | 0.77 |
| Multi-Unit (attached) | 65 | 0.63 | 0.66 | 0.71 | 0.79 |
| Apartments | 75 | 0.68 | 0.72 | 0.77 | 0.83 |
| <u>Single-Family (Soil Group B)</u> | | | | | |
| 1/8 Acre | 50 | 0.52 | 0.54 | 0.59 | 0.67 |
| 1/4 Acre | 38 | 0.44 | 0.46 | 0.52 | 0.61 |
| 1/3 Acre | 30 | 0.39 | 0.41 | 0.47 | 0.57 |
| 1/2 Acre | 25 | 0.36 | 0.38 | 0.44 | 0.54 |
| 3/4 Acre | 22 | 0.34 | 0.36 | 0.42 | 0.52 |
| 1 Acre | 20 | 0.33 | 0.35 | 0.40 | 0.51 |
| <u>Multi-Family (Soil Group B)</u> | | | | | |
| Multi-Unit (detached) | 60 | 0.58 | 0.60 | 0.65 | 0.72 |
| Multi-Unit (attached) | 65 | 0.61 | 0.64 | 0.68 | 0.75 |
| Apartments | 75 | 0.67 | 0.70 | 0.74 | 0.80 |

| Land Use or Surface Characteristics | Percent Impervious | Frequency | | | |
|---|-----------------------|-----------|----------|-----------|------------|
| | | <u>2</u> | <u>5</u> | <u>10</u> | <u>100</u> |
| <u>Single Family (Soil Group A)</u> | | | | | |
| 1/8 Acre | 50 | 0.47 | 0.50 | 0.54 | 0.60 |
| 1/4 Acre | 38 | 0.39 | 0.41 | 0.45 | 0.52 |
| 1/3 Acre | 30 | 0.33 | 0.35 | 0.39 | 0.47 |
| 1/2 Acre | 25 | 0.30 | 0.31 | 0.35 | 0.44 |
| 3/4 Acre | 22 | 0.28 | 0.29 | 0.33 | 0.42 |
| 1 Acre | 20 | 0.26 | 0.28 | 0.32 | 0.40 |
| <u>Multi-Family (Soil Group A)</u> | | | | | |
| Multi-Unit (detached) | 60 | 0.55 | 0.57 | 0.61 | 0.67 |
| Multi-Unit (attached) | 65 | 0.58 | 0.60 | 0.64 | 0.70 |
| Apartments | 75 | 0.65 | 0.68 | 0.72 | 0.77 |
| 3. Industrial: | | | | | |
| Light Areas | 70 | 0.68 | 0.69 | 0.73 | 0.80 |
| Heavy Areas | 80 | 0.74 | 0.76 | 0.79 | 0.84 |
| 4. Playgrounds: | | | | | |
| | 15 | 0.33 | 0.35 | 0.42 | 0.55 |
| 5. Schools: | | | | | |
| | 40 | 0.49 | 0.51 | 0.56 | 0.66 |
| 6. Railroad Yard Areas: | | | | | |
| | 30 | 0.43 | 0.45 | 0.50 | 0.62 |
| 7. Undeveloped Urban Areas: Offsite Flow Analysis (when land use not defined) | | | | | |
| | 45 | 0.52 | 0.54 | 0.59 | 0.68 |
| 8. Streets: | | | | | |
| Paved | 99 | 0.87 | 0.88 | 0.90 | 0.93 |
| Gravel | 00 | 0.24 | 0.26 | 0.33 | 0.48 |
| 9. Drive, Parking Lots and Walks: | | | | | |
| | 96 | 0.87 | 0.87 | 0.88 | 0.89 |
| 10. Roofs: | | | | | |
| | 90 | 0.80 | 0.85 | 0.90 | 0.93 |
| 11. Urban Lawn Areas (See Note No. 1 below): | | | | | |
| <u>Soil Group A</u> | | | | | |
| Slope less than 1% | 00 | 0.08 | 0.09 | 0.13 | 0.23 |
| Slope 1% to 4% | 00 | 0.12 | 0.13 | 0.17 | 0.27 |
| Slope more than 4% | 00 | 0.16 | 0.17 | 0.21 | 0.31 |
| <u>Soil Group B</u> | | | | | |
| Slope less than 1% | 00 | 0.16 | 0.18 | 0.24 | 0.37 |
| Slope 1% to 4% | 00 | 0.20 | 0.22 | 0.28 | 0.41 |
| Slope more than 4% | 00 | 0.24 | 0.26 | 0.32 | 0.45 |
| <u>Soil Group C</u> | | | | | |
| Slope less than 1% | 00 | 0.24 | 0.27 | 0.35 | 0.51 |
| Slope 1% to 4% | 00 | 0.26 | 0.29 | 0.37 | 0.53 |
| Slope more than 4% | 00 | 0.28 | 0.31 | 0.39 | 0.55 |

| <u>Land Use or Surface Characteristics</u> | <u>Percent Impervious</u> | <u>Frequency</u> | | | |
|--|-------------------------------|------------------|----------|-----------|------------|
| | | <u>2</u> | <u>5</u> | <u>10</u> | <u>100</u> |
| <u>Soil Group D</u> | | | | | |
| Slope less than 1% | 00 | 0.28 | 0.33 | 0.43 | 0.63 |
| Slope 1% to 4% | 00 | 0.30 | 0.35 | 0.45 | 0.65 |
| Slope more than 4% | 00 | 0.32 | 0.37 | 0.47 | 0.67 |

Note No. 1: Coefficients shown in the above table are for pervious open space areas with thick turf which includes pervious areas in parks and cemeteries. Coefficients shown above must be increased 0.02 for use with agricultural pasture areas. Coefficients shown above must be reduced by 0.04 for use with agricultural cultivated areas. Group A soils are well-drained, coarse textured sands with high infiltration rates. Group B soils are moderately well-drained, moderately coarse textured soils with moderate infiltration rates. Group C soils are moderately poor-drained, moderately fine textured soils with slow infiltration rates. Group D soils are poor-drained, fine textured soils with very slow infiltration rates.

GENERAL NOTE: These Rational Formula Coefficients may not be valid for basins 320 acres or larger.

ATTACHMENT A
DRAINAGE CRITERIA MANUAL

CITY OF WICHITA, KANSAS

RAINFALL INTENSITY TABLE FOR SEDGWICK COUNTY, KANSAS

The following tabulation contains rainfall intensity in inches per hour as derived from ESSA Weather Bureau Technical Paper 40 Modified to NWS Hydro-35, 1977 During First Hour

| DURATION IN MINUTES | RETURN PERIODS OF | | | | | | |
|------------------------|-------------------|------|------|-------|-------|-------|--------|
| | 1-YR | 2-YR | 5-YR | 10-YR | 25-YR | 50-YR | 100-YR |
| 5 | 4.18 | 5.57 | 6.53 | 7.41 | 8.52 | 9.48 | 10.32 |
| 6 | 3.99 | 5.32 | 6.25 | 7.09 | 8.16 | 9.09 | 9.89 |
| 7 | 3.81 | 5.09 | 5.99 | 6.81 | 7.84 | 8.74 | 9.50 |
| 8 | 3.66 | 4.89 | 5.75 | 6.55 | 7.55 | 8.42 | 9.15 |
| 9 | 3.52 | 4.70 | 5.54 | 6.31 | 7.28 | 8.13 | 8.83 |
| 10 | 3.39 | 4.52 | 5.34 | 6.09 | 7.04 | 7.86 | 8.54 |
| 11 | 3.27 | 4.36 | 5.16 | 5.89 | 6.81 | 7.61 | 8.27 |
| 12 | 3.18 | 4.21 | 4.99 | 5.71 | 6.60 | 7.38 | 8.02 |
| 13 | 3.05 | 4.08 | 4.84 | 5.53 | 6.41 | 7.17 | 7.79 |
| 14 | 2.96 | 3.95 | 4.69 | 5.37 | 6.23 | 6.97 | 7.57 |
| 15 | 2.87 | 3.83 | 4.56 | 5.22 | 6.06 | 6.78 | 7.37 |
| 16 | 2.78 | 3.72 | 4.43 | 5.08 | 5.90 | 6.60 | 7.18 |
| 17 | 2.71 | 3.61 | 4.31 | 4.95 | 5.75 | 6.44 | 7.00 |
| 18 | 2.63 | 3.51 | 4.20 | 4.83 | 5.61 | 6.29 | 6.84 |
| 19 | 2.56 | 3.42 | 4.10 | 4.71 | 5.47 | 6.14 | 6.68 |
| 20 | 2.50 | 3.33 | 4.00 | 4.60 | 5.35 | 6.00 | 6.53 |
| 21 | 2.44 | 3.25 | 3.90 | 4.50 | 5.23 | 5.87 | 6.39 |
| 22 | 2.38 | 3.17 | 3.81 | 4.40 | 5.12 | 5.75 | 6.26 |
| 23 | 2.32 | 3.10 | 3.73 | 4.31 | 5.01 | 5.63 | 6.13 |
| 24 | 2.27 | 3.03 | 3.65 | 4.22 | 4.91 | 5.52 | 6.01 |
| 25 | 2.22 | 2.96 | 3.57 | 4.13 | 4.81 | 5.41 | 5.90 |
| 26 | 2.20 | 2.90 | 3.50 | 4.05 | 4.72 | 5.31 | 5.79 |
| 27 | 2.16 | 2.84 | 3.43 | 3.98 | 4.63 | 5.21 | 5.69 |
| 28 | 2.14 | 2.78 | 3.37 | 3.90 | 4.55 | 5.12 | 5.59 |
| 29 | 2.11 | 2.72 | 3.30 | 3.83 | 4.47 | 5.03 | 5.49 |
| 30 | 2.08 | 2.67 | 3.24 | 3.76 | 4.39 | 4.94 | 5.40 |
| 31 | 2.05 | 2.62 | 3.19 | 3.70 | 4.32 | 4.86 | 5.32 |
| 32 | 2.02 | 2.57 | 3.10 | 3.63 | 4.25 | 4.79 | 5.22 |
| 33 | 1.99 | 2.52 | 3.05 | 3.57 | 4.18 | 4.71 | 5.14 |
| 34 | 1.96 | 2.48 | 3.01 | 3.51 | 4.11 | 4.63 | 5.07 |
| 35 | 1.93 | 2.44 | 2.98 | 3.46 | 4.05 | 4.56 | 5.00 |
| 36 | 1.91 | 2.39 | 2.93 | 3.41 | 3.99 | 4.50 | 4.93 |
| 37 | 1.89 | 2.35 | 2.88 | 3.36 | 3.93 | 4.43 | 4.86 |
| 38 | 1.87 | 2.32 | 2.84 | 3.31 | 3.87 | 4.37 | 4.79 |
| 39 | 1.85 | 2.28 | 2.80 | 3.26 | 3.82 | 4.31 | 4.73 |
| 40 | 1.83 | 2.24 | 2.76 | 3.22 | 3.76 | 4.25 | 4.66 |
| 41 | 1.81 | 2.21 | 2.72 | 3.17 | 3.71 | 4.19 | 4.60 |
| 42 | 1.79 | 2.18 | 2.68 | 3.13 | 3.66 | 4.13 | 4.54 |
| 43 | 1.77 | 2.14 | 2.64 | 3.09 | 3.61 | 4.08 | 4.49 |
| 44 | 1.75 | 2.11 | 2.61 | 3.05 | 3.57 | 4.03 | 4.43 |
| 45 | 1.73 | 2.08 | 2.57 | 3.01 | 3.52 | 3.98 | 4.38 |

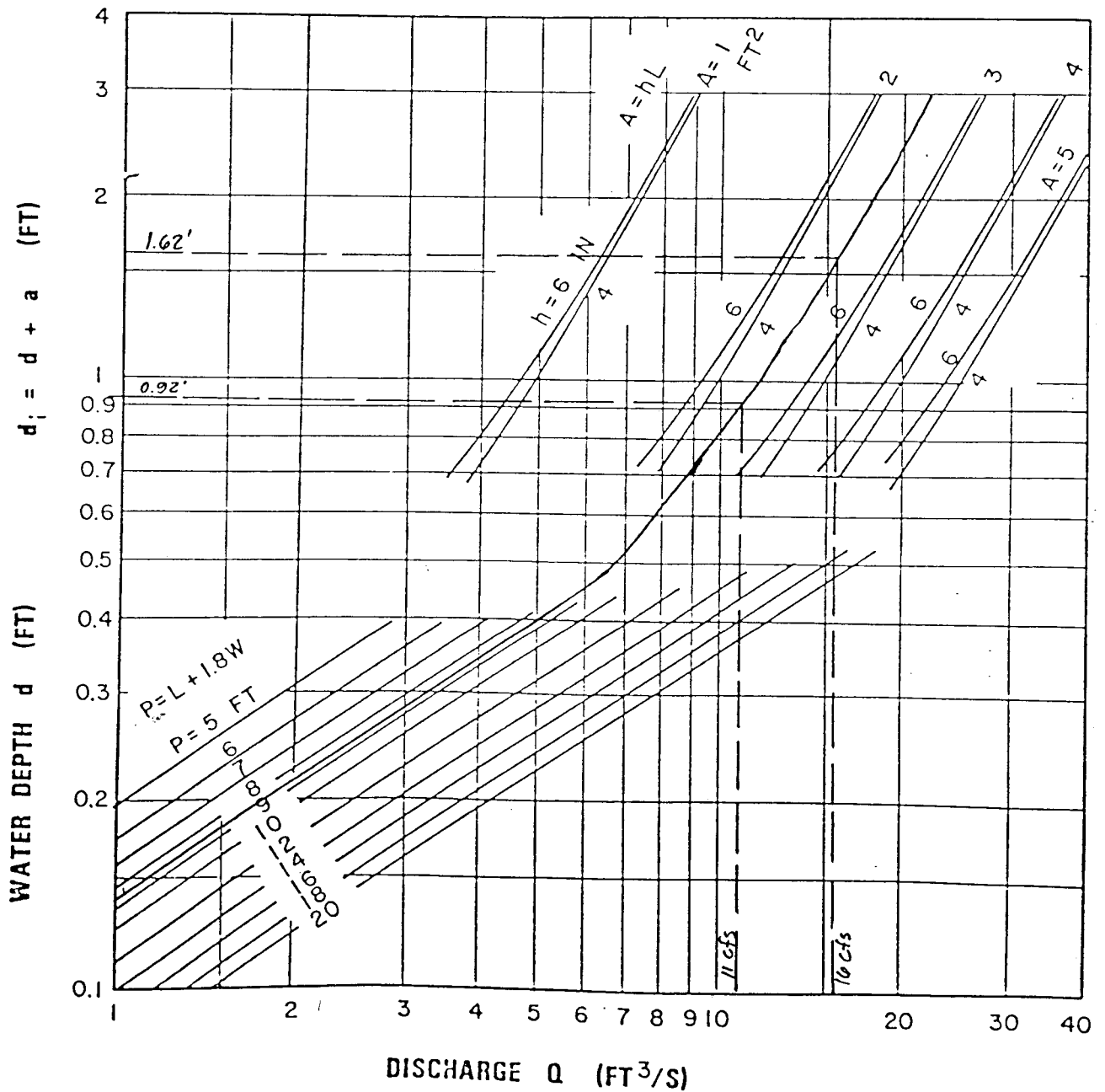
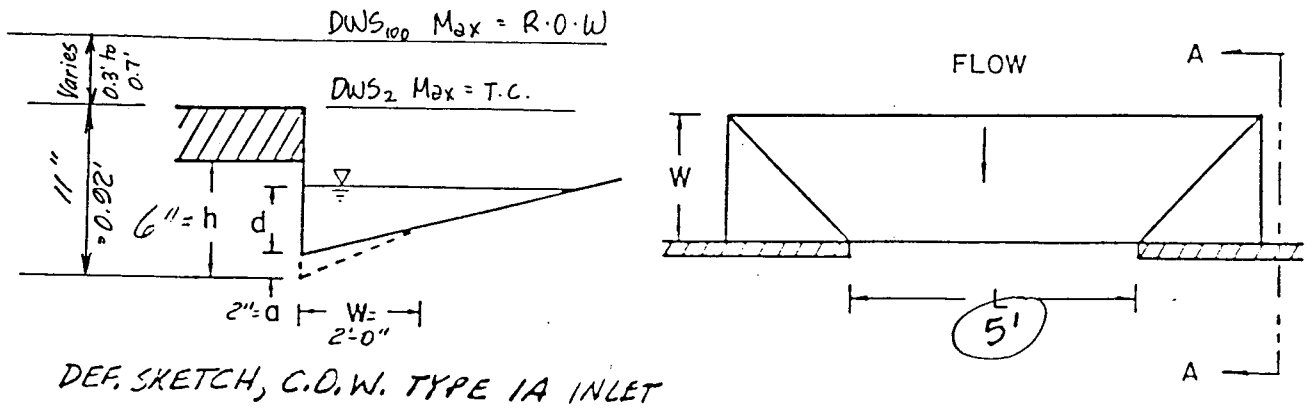


CHART 12. Depressed curb-opening inlet capacity in sump locations.

FROM: HEC-12, DRAINAGE OF HIGHWAY PAVEMENTS, FHWA, MAR., 1974

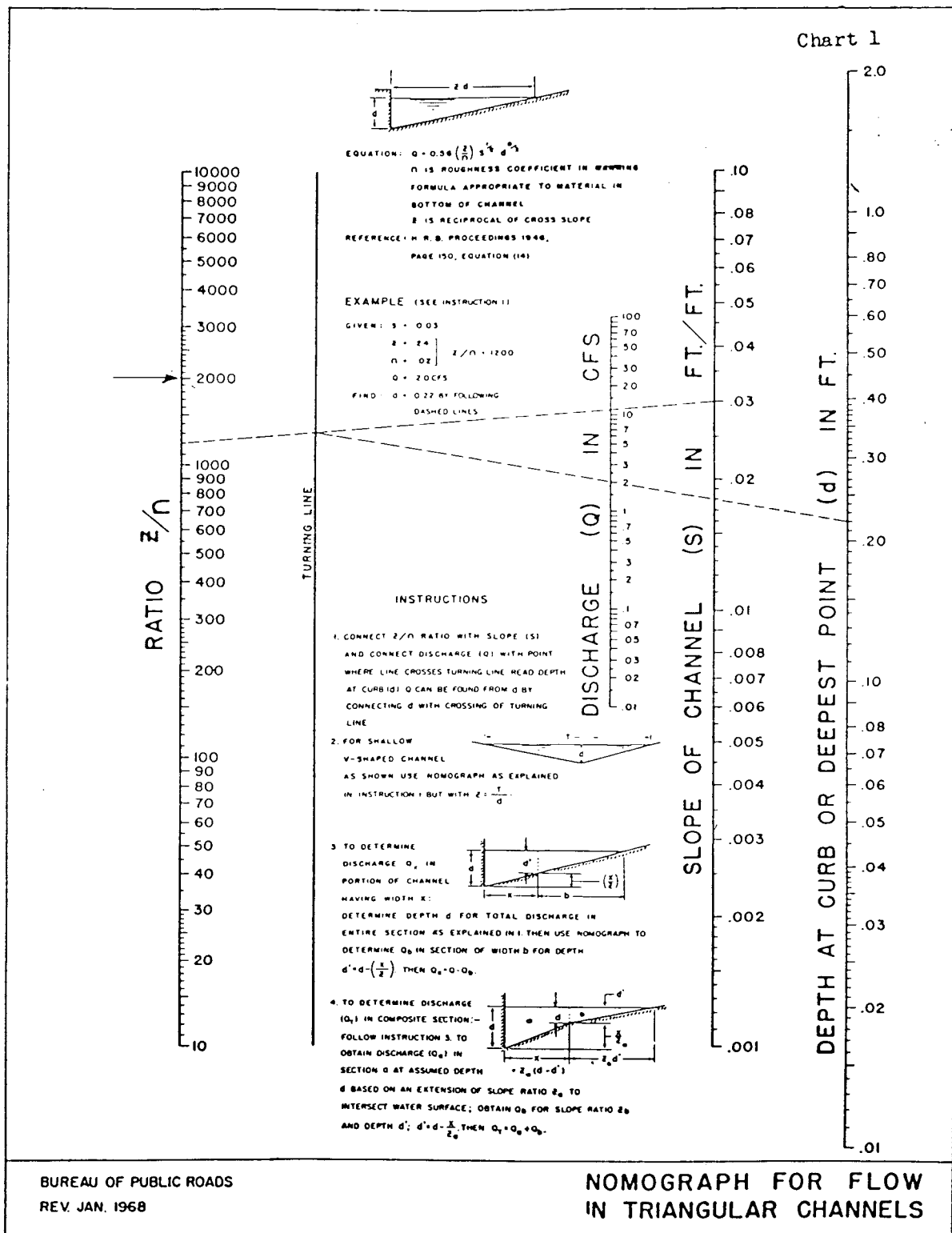
Cross-Slope = $3/8$ "/ft = 0.03125 ft/ft

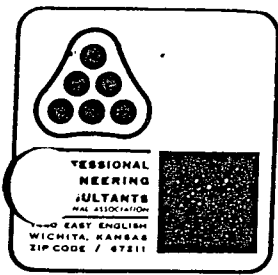
STERLING FARMS

$Z = 1/\text{cross-slope} = 1/0.03125 = 32$

$n = 0.016$

$Z/n = 32/0.016 = 2000$





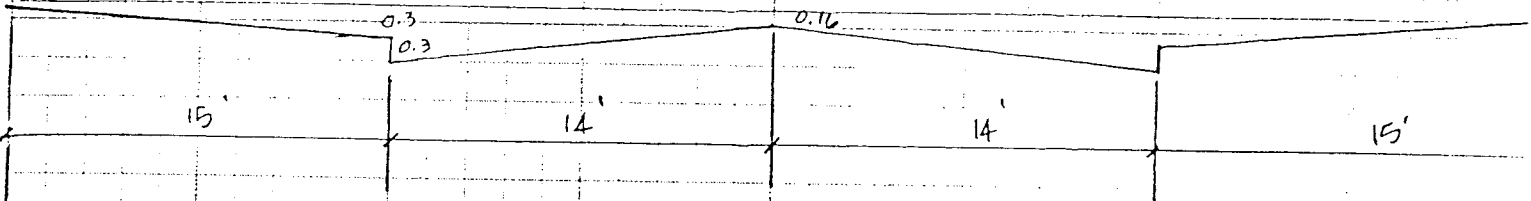
Date Oct. 25, 1988 Page _____ of _____

Project Sterling Farms

Item Drainage Plan

Determine capacities of Roll-curb streets w/
various Walk Grades for 100-year storm analysis
(58' R-O-W)

0.3'
Walk Grade



$$n = \frac{(2 \times 14.5 \times 0.03) + (2 \times 2.8 \times 0.016) + (2 \times 12 \times 0.016)}{58.6}$$

$$= \frac{(0.87) + (0.0728) + (0.384)}{58.6} = \frac{1.3268}{58.6} = 0.0226$$

$$A = (2 \times \frac{1}{2} \times 15 \times 0.3) + (28 \times 0.16) + (2 \times \frac{1}{2} \times 14 \times 0.44)$$

$$= 4.5 + 4.48 + 6.16$$

$$= 15.14 \text{ SF}$$

$$p = 58.6$$

$$R = A/p = 15.14/58.6 = 0.258362 \quad R^{2/3} = 0.40565$$

$$Q = \frac{1.486}{n} A R^{2/3} S^{1/2}$$

$$= \frac{1.486}{0.0226} \times 15.14 \times 0.40565 \times S^{1/2}$$

$$Q = 403.82 \sqrt{S}$$