

# **Team Radio Drainage Report**

## **Prepared For:**

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# Foreign Report Terror Radio

Prepared for

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Prepared By

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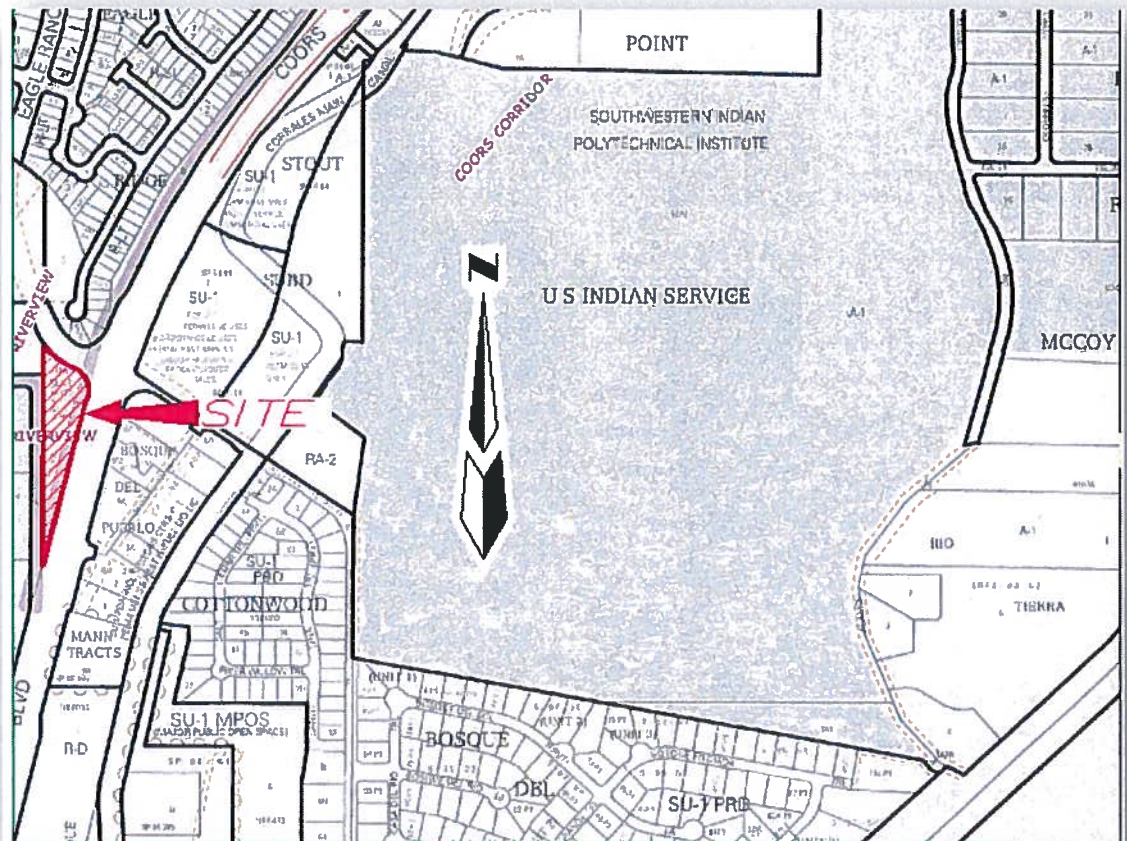


## Vicinity Map & Legal Description

Parcel 12B  
Riverview  
Addition  
containing 2.1483  
acres.

## Floodplain

There are not any special Flood Hazard Zones on or near this site as shown on Flood Insurance Rate Map Number 35001c0116G revised September 26, 2008.



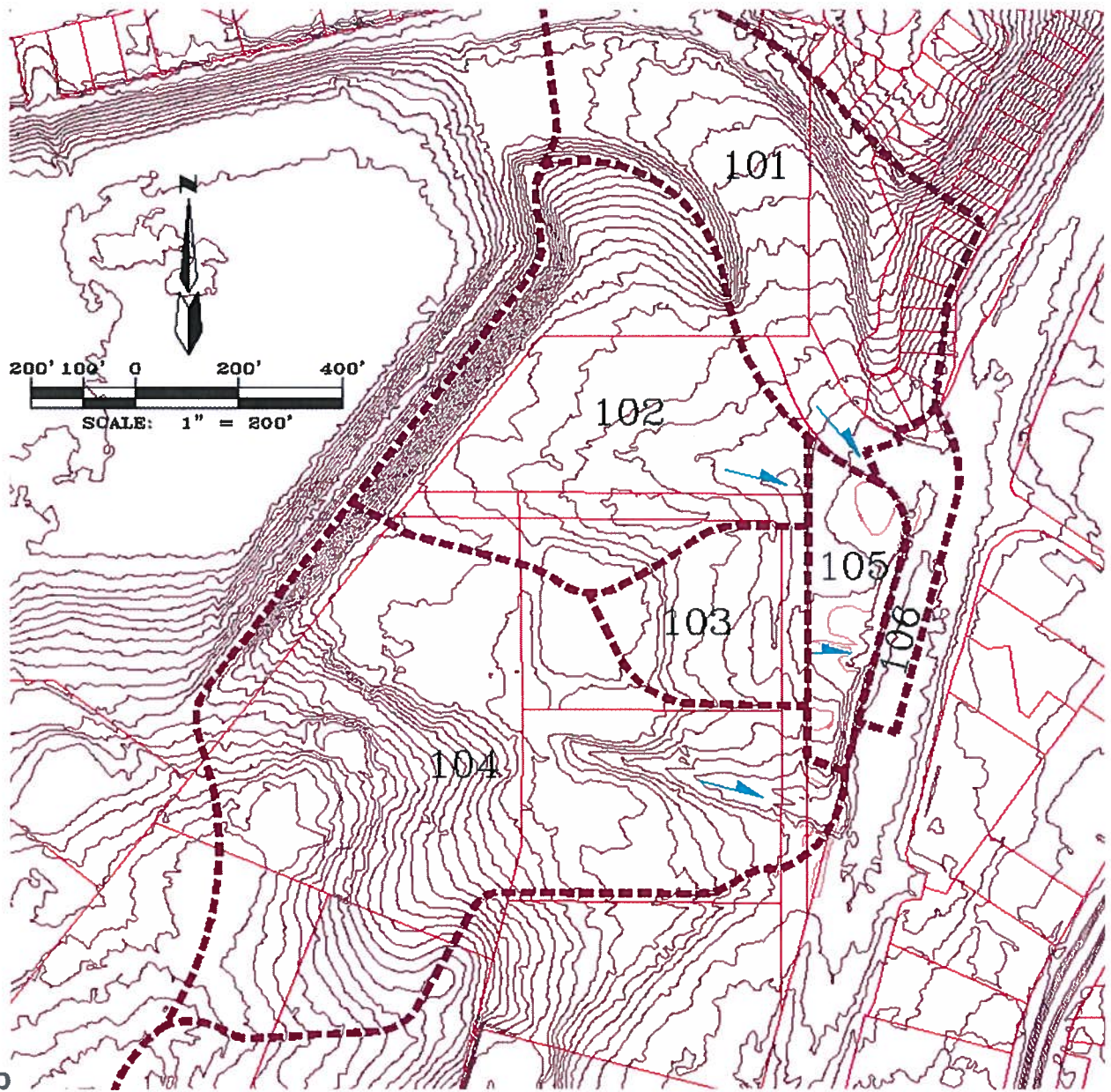
# Stormwater Management Plan

The peak 100 year stormwater runoff rate from this site will be reduced to less than the existing rate and less than the rate established by the *North Coors Drainage Management Plan – Middle Area* (Smith Feb '97) such that the capacity of the downstream double 21" RCPs is not exceeded.

The on-site pond is to be constructed and maintained by the owner of the property and shall be contained in a Public Drainage Easement with an Agreement and Covenant for the private maintenance. The storm pipe that runs thru the site carrying drainage from Eagle Ranch Road and from Coors Blvd. will be constructed by the developer and maintained by the City of Albuquerque. It will outfall into an existing 60" culver under Coors Blvd. which will be extended by this development such that the existing guardrail there will not be needed and will be removed by this project. The 42" RCP will drain the peak 100 year flows from Eagle Ranch Rd. to the on-site pond where the pipe size will be reduced to a 24" RCP that will convey the peak 2 year flow under the pond. Flow rates that exceed the capacity of the 24" RCP will drain into the pond by bubbling up out of grates in the pond bottom.

An additional Public Drainage Easement will be granted by AMAFCA to the City of Albuquerque on the AMAFCA owned property west of the Team Radio site to contain the limits of the pond.





**Basin Map**

## Hydrology

AHYMO S4 is used for the hydrology calculations as contained in the Appendix of the Drainage Report. The input and output results are summarized in the following table.

| HYDROLOGY SUMMARY    |      |         |                  |      |      |       |                           |        |                          |       |                         |       |
|----------------------|------|---------|------------------|------|------|-------|---------------------------|--------|--------------------------|-------|-------------------------|-------|
| AHYMO<br>BASIN<br>ID | AREA |         | Ground Cover (%) |      |      |       | Peak 100-YR Flow<br>(cfs) |        | Peak 10-YR Flow<br>(cfs) |       | Peak 2-YR Flow<br>(cfs) |       |
|                      | (Ac) | (Sq mi) | A                | B    | C    | D     | Increment                 | Total  | Increment                | Total | Increment               | Total |
| 101                  | 8.5  | 0.01328 | 0.0              | 0.0  | 76.0 | 24.0  | 27.49                     | 27.49  | 16.34                    | 16.34 | 8.07                    | 8.07  |
| 102                  | 10.4 | 0.14250 | 50.0             | 16.6 | 16.7 | 16.7  | 23.95                     | 51.44  | 11.19                    | 27.53 | 3.27                    | 11.34 |
| 103                  | 2.2  | 0.00344 | 50.0             | 16.6 | 16.7 | 16.7  | 5.04                      | 56.48  | 2.36                     | 29.89 | 0.69                    | 12.03 |
| 104                  | 16.7 | 0.02609 | 50.0             | 16.6 | 16.7 | 16.7  | 38.57                     | 95.05  | 18.02                    | 47.91 | 5.26                    | 17.29 |
| 105                  | 2.0  | 0.00313 | 0.0              | 0.0  | 20.0 | 80.0  | 7.82                      | 102.87 | 5.08                     | 52.99 | 3.12                    | 20.41 |
| 106                  | 1.3  | 0.00203 | 0.0              | 0.0  | 0.0  | 100.0 | 5.37                      | 108.24 | 3.57                     | 56.56 | 2.30                    | 22.71 |
| Pond                 |      |         |                  |      |      |       | 45.81                     |        | 38.65                    |       | 22.32                   |       |



Precipitation values are from NOAA Atlas 14, Volume 1 Version 5 as contained in the Drainage Report Appendix. The Pond volume calculations were performed using the conic equation with the following results.

| Pond Volume Calculations |               |                |                 |                |                     |                |
|--------------------------|---------------|----------------|-----------------|----------------|---------------------|----------------|
| Elevation                | AMAFCA Parcel |                | Team Radio Site |                | Total On & Off-site |                |
|                          | Area (SF)     | Volume (Ac-Ft) | Area (SF)       | Volume (Ac-Ft) | Area (SF)           | Volume (Ac-Ft) |
| 5002.0                   | 300           | 0.00           |                 | 0.00           |                     | 0.00           |
|                          |               |                |                 |                | 300                 |                |
| 5003.0                   |               | 0.05           |                 | 0.00           |                     | 0.05           |
|                          | 4,700         |                |                 |                | 4,700               |                |
| 5004.0                   |               | 0.21           |                 | 0.14           | 24,232              | 0.35           |
|                          | 9,715         |                | 14,517          |                |                     |                |
| 5004.5                   |               | 0.34           |                 | 0.32           |                     | 0.66           |
|                          | 13,016        |                | 16,430          |                | 29,446              |                |
| 5005.0                   |               | 0.51           |                 | 0.53           |                     | 1.04           |
|                          | 16,317        |                | 21,344          |                | 37,661              |                |
| 5006.0                   |               | 0.95           |                 | 1.23           |                     | 2.18           |
|                          | 22,748        |                | 40,000          |                | 62,748              |                |

The following table summarizes the pond routing results.

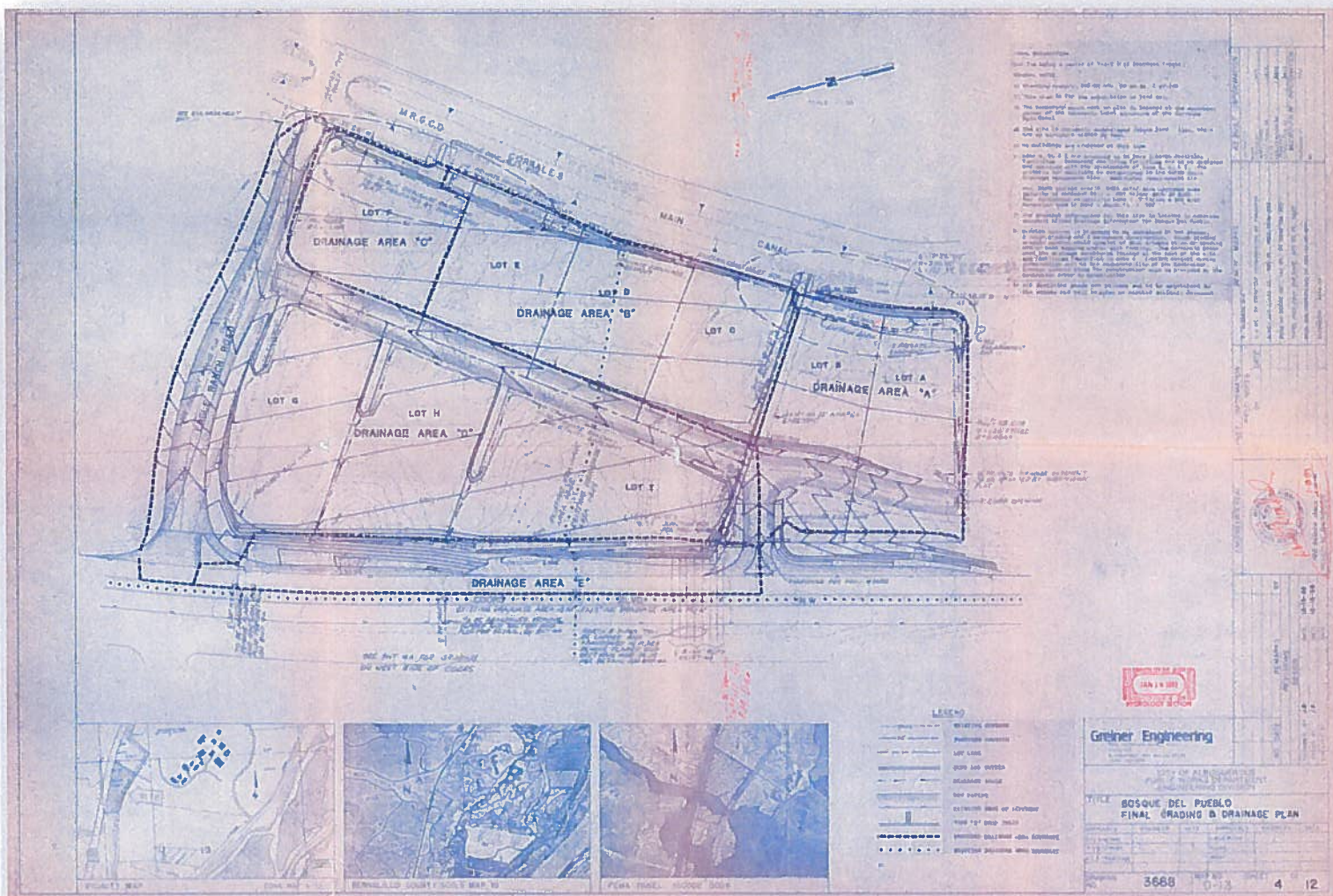
| Team Radio Pond Summary Table |                   |                    |                     |                 |
|-------------------------------|-------------------|--------------------|---------------------|-----------------|
| Event Recurrence Interval     | Peak Inflow (cfs) | Peak Outflow (cfs) | Peak Storage Volume | Peak Stage (ft) |
| 2-YR                          | 22.71             | 22.32              | 0.03                | 5002.03         |
| 10-YR                         | 56.56             | 38.65              | 0.26                | 5003.71         |
| 100-YR                        | 108.24            | 45.81              | 1.09                | 5005.04         |

## Hydraulic Calculations

The outfall control structure is the 325 LF of double 21" RCPs on the east side of Coors Rd. using the "Square Edge with Headwall" entrance condition to simulate the junction box where the existing 60" RCP under Coors is reduced to the double 21" RCPs. The capacity is established by the Hydraflow Express Extension for AutoCAD Civil 3D 2013 software using the lowest flow from the two nomographs for Concrete Pipe Culverts Flowing Full and for Concrete Pipe Culverts with Inlet Control from the Bureau of Public Roads Jan 1963 as contained in the Appendix of the Drainage Report. The flow, velocity, and hydraulic grade elevations of the proposed storm drains are shown on the construction plan profiles.



# Planning History



The Piedras Marcadas Dam was constructed in 1984. Then the *Bosque Del Pueblo Final Grading & Drainage Plan* (Greiner, 1989) shows the plugging of several storm drain culverts under Coors leaving only the two existing 60" RCPs to drain this 41 acre basin, and that plan also shows the two 21" RCPs that were constructed through the downstream property thus limiting the discharge to the Corrales Main Canal to about 45 cfs. Because that is the maximum amount of flow that will fit through the two 21" pipes without overtopping Coors at the north end of this site and Calle Nortena at the south end of this site.



# North Coors Drainage Management Plan

Then the North Coors Drainage Management Plan Middle Area (Smith, 1997)

shows the following 100 Year discharge rates for the same 41 acre basin that drains through the existing two 60"/21" culverts but it planned for the flows to cross Coors Blvd. at three different locations, including 2 culvert to the north that were plugged.





## Summary of North Coors DMP, 1997

| Basin<br>ID  | Area           |              | 100 Yr<br>Flow<br>Rate<br>(cfs) | Discharge<br>per acre<br>(cfs/ac) | Allowable<br>Discharge |
|--------------|----------------|--------------|---------------------------------|-----------------------------------|------------------------|
|              | (Sq Mi)        | (Ac)         |                                 |                                   |                        |
| 12.2W        | 0.00691        | 4.42         | 15.2                            | 3.44                              | 15                     |
| 13.1W        | 0.01020        | 6.53         | 20.67                           | 3.17                              | 8                      |
| 14.1W        | 0.05117        | 32.75        | 66.95                           | 2.04                              | 67                     |
| <b>Total</b> | <b>0.06828</b> | <b>43.70</b> | <b>102.82</b>                   |                                   | <b>90</b>              |

### Survey

The existing conditions as shown on the plans were surveyed by Aldrich Land Surveying revised 6-1-2014.

### Benchmark

NGVD29 ASC Monument "R. Alameda B. No. 2" Elev. = 5058.25

### Soils

Earthwork construction is to be in accordance with the Geotechnical Engineering Services Job No. 1-40102, 101.7 The Team Office Building by GeoTest Inc. February 11, 2014.







\*(s16.67h8.5v0T\*-&l8D

AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4)

INPUT FILE = C:\Users\doug\Desktop\2014-06-27 100 yr peak shave, 6 hr.txt

- Ver. S4.01a, Rel: 01a

RUN DATE (MON/DAY/YR) = 06/27/2014

USER NO. = AHYMO\_Temp\_User:20122010

| COMMAND | HYDROGRAPH IDENTIFICATION | FROM ID NO. | TO ID NO. | AREA (SQ MI) | PEAK DISCHARGE (CFS) | RUNOFF VOLUME (AC-FT) | RUNOFF (INCHES) | TIME TO PEAK (HOURS) | CFS PER ACRE | PAGE = | NOTATION |
|---------|---------------------------|-------------|-----------|--------------|----------------------|-----------------------|-----------------|----------------------|--------------|--------|----------|
|---------|---------------------------|-------------|-----------|--------------|----------------------|-----------------------|-----------------|----------------------|--------------|--------|----------|

START \*S

THE TEAM OFFICE BUILDING 100-YR, 6-HR DEVELOPED CONDITIONS

LOCATION RAINFALL TYPE= 1 NOAA 14

|                 |        |       |    |         |        |       |         |       |       |          |        |
|-----------------|--------|-------|----|---------|--------|-------|---------|-------|-------|----------|--------|
| COMPUTE NM HYD  | 101.00 | -     | 1  | 0.01330 | 27.49  | 0.864 | 1.21796 | 1.530 | 3.230 | RAIN6=   | 2.220  |
| COMPUTE NM HYD  | 102.00 | -     | 2  | 0.01620 | 23.95  | 0.770 | 0.89123 | 1.540 | 2.310 | PER IMP= | 24.00  |
| COMPUTE NM HYD  | 103.00 | -     | 3  | 0.00340 | 5.04   | 0.162 | 0.89123 | 1.540 | 2.316 | PER IMP= | 16.70  |
| COMPUTE NM HYD  | 104.00 | -     | 4  | 0.02610 | 38.57  | 1.241 | 0.89123 | 1.540 | 2.309 | PER IMP= | 16.70  |
| COMPUTE NM HYD  | 105.00 | -     | 5  | 0.00310 | 7.82   | 0.293 | 1.76945 | 1.530 | 3.941 | PER IMP= | 80.00  |
| COMPUTE NM HYD  | 106.00 | -     | 6  | 0.00200 | 5.37   | 0.210 | 1.96641 | 1.520 | 4.192 | PER IMP= | 100.00 |
| ADD HYD         | 200.00 | 1& 2  | 7  | 0.02950 | 51.42  | 1.634 | 1.03851 | 1.530 | 2.723 |          |        |
| ADD HYD         | 201.00 | 7& 3  | 8  | 0.03290 | 56.45  | 1.796 | 1.02329 | 1.530 | 2.681 |          |        |
| ADD HYD         | 202.00 | 8& 4  | 9  | 0.05900 | 94.99  | 3.036 | 0.96486 | 1.530 | 2.516 |          |        |
| ADD HYD         | 203.00 | 9& 5  | 10 | 0.06210 | 102.81 | 3.329 | 1.00502 | 1.530 | 2.587 |          |        |
| ADD HYD         | 204.00 | 10& 6 | 11 | 0.06410 | 108.17 | 3.538 | 1.03501 | 1.530 | 2.637 |          |        |
| ROUTE RESERVOIR | 305.00 | 11    | 12 | 0.06410 | 45.81  | 3.538 | 1.03501 | 1.730 | 1.117 | AC-FT=   | 1.088  |

FINISH

\*(s0p10h4099T\*-&l6D

AHYMO 100-YR Summary



# AHY MO 100-YR Input

```
2014-06-27 100 yr peak shave, 6 hr
START 0.0 HRS PUNCH CODE=0 PRINT LINES=-6
*****
*S THE TEAM OFFICE BUILDING 100-YR, 6-HR DEVELOPED CONDITIONS
LOCATION ALBUQUERQUE
RAINFALL TYPE=1 RAIN QUARTER=0.0 RAIN ONE=1.72
        RAIN SIX=2.22 RAIN DAY=2.52 DT=.01
*****
* Basin 101
*****
COMPUTE NM HYD ID=1 HYD=101 DA=0.0133 SQ MI
                PER A=0 B=0 C=76 D=24
                TP=0.133333 HRS RAIN=-1
PRINT HYD ID=1 CODE=1
*****
* Basin 102
*****
COMPUTE NM HYD ID=2 HYD=102 DA=0.0162 SQ MI
                PER A=50 B=16.6 C=16.7 D=16.7
                TP=0.133333 HRS RAIN=-1
PRINT HYD ID=2 CODE=1
*****
* Basin 103
*****
COMPUTE NM HYD ID=3 HYD=103 DA=0.0034 SQ MI
                PER A=50 B=16.6 C=16.7 D=16.7
                TP=0.133333 HRS RAIN=-1
PRINT HYD ID=3 CODE=1
*****
* Basin 104
*****
COMPUTE NM HYD ID=4 HYD=104 DA=0.0261 SQ MI
                PER A=50 B=16.6 C=16.7 D=16.7
                TP=0.133333 HRS RAIN=-1
PRINT HYD ID=4 CODE=1
*****
* Basin 105
*****
COMPUTE NM HYD ID=5 HYD=105 DA=0.0031 SQ MI
                PER A=0 B=0 C=20 D=80
                TP=0.133333 HRS RAIN=-1
PRINT HYD ID=5 CODE=1
*****
* Basin 106
*****
COMPUTE NM HYD ID=6 HYD=106 DA=0.0020 SQ MI
                PER A=0 B=0 C=0 D=100
                TP=0.133333 HRS RAIN=-1
PRINT HYD ID=6 CODE=1
*****
ADD HYD ID=7 HYD=200 IDS= 1 & 2
ADD HYD ID=8 HYD=201 IDS= 7 & 3
ADD HYD ID=9 HYD=202 IDS= 8 & 4
ADD HYD ID=10 HYD=203 IDS= 9 & 5
ADD HYD ID=11 HYD=204 IDS= 10 & 6
PRINT HYD ID=11 CODE=1
*****
ROUTE RESERVOIR ID=12 HYD=305 INFLOW ID=11 CODE=5
                OUTFLOW (CFS) STORAGE (AC FT) ELEV (FT)
                0 0.00 5500
                33 0.05 5503
                41 0.35 5504
                45.5 0.66 5504.5
```

2014-06-27 100 yr peak shave, 6 hr  
45.8 1.04 5505  
46 2.18 5506

PRINT HYD  
FINISH

ID=12 CODE=1

AHYMO - 100 yr. Out

← (s16.67h8.5v0T←&l8D

        AHYMO PROGRAM (AHYMO-S4)

        RUN DATE (MON/DAY/YR) = 06/27/2014

        START TIME (HR:MIN:SEC) = 14:20:50

        INPUT FILE = C:\Users\doug\Desktop\2014-06-27 100 yr peak shave, 6 hr.txt

        - Version: S4.01a - Rel: 01a

        USER NO.= AHYMO\_Temp\_User:20122010

START                  0.0 HRS  PUNCH CODE=0  PRINT LINES=-6

\*\*\*\*\*

THE TEAM OFFICE BUILDING 100-YR, 6-HR DEVELOPED CONDITIONS  
ALBUQUERQUE  
City of Albuquerque soil infiltration values (LAND FACTORS) used for computations.  
Land Treatment Initial Abstr.(in) Unif. Infilt.(in/hour)  
A 0.65 1.67  
B 0.50 1.25  
C 0.35 0.83  
D 0.10 0.04

RAINFALL TYPE=1 RAIN QUARTER=0.0 RAIN ONE=1.72  
RAIN SIX=2.22 RAIN DAY=2.52 DT=.01

6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1

| DT =   | 0.010000 HOURS | END TIME = | 6.000000 HOURS |
|--------|----------------|------------|----------------|
| 0.0000 | 0.0007         | 0.0013     | 0.0020         |
| 0.0047 | 0.0053         | 0.0060     | 0.0068         |
| 0.0097 | 0.0104         | 0.0112     | 0.0119         |
| 0.0152 | 0.0160         | 0.0169     | 0.0177         |
| 0.0213 | 0.0222         | 0.0232     | 0.0241         |
| 0.0297 | 0.0318         | 0.0339     | 0.0359         |
| 0.0443 | 0.0466         | 0.0489     | 0.0512         |
| 0.0605 | 0.0628         | 0.0653     | 0.0678         |
| 0.0779 | 0.0804         | 0.0829     | 0.0855         |
| 0.0959 | 0.0986         | 0.1012     | 0.1038         |
| 0.1147 | 0.1175         | 0.1202     | 0.1229         |
| 0.1345 | 0.1376         | 0.1406     | 0.1437         |
| 0.1561 | 0.1595         | 0.1629     | 0.1664         |
| 0.1801 | 0.1840         | 0.1890     | 0.1940         |
| 0.2138 | 0.2188         | 0.2238     | 0.2305         |
| 0.2571 | 0.2638         | 0.2705     | 0.2771         |
| 0.3136 | 0.3229         | 0.3322     | 0.3415         |
| 0.3898 | 0.4038         | 0.4178     | 0.4318         |
| 0.4980 | 0.5221         | 0.5463     | 0.5705         |
| 0.6672 | 0.7182         | 0.7826     | 0.8470         |
| 1.1046 | 1.1690         | 1.2239     | 1.2596         |
| 1.4024 | 1.4381         | 1.4738     | 1.5095         |
| 1.5812 | 1.5992         | 1.6171     | 1.6350         |
| 1.6891 | 1.7004         | 1.7117     | 1.7230         |
| 1.7636 | 1.7714         | 1.7792     | 1.7871         |
| 1.8184 | 1.8241         | 1.8299     | 1.8356         |
| 1.8585 | 1.8643         | 1.8691     | 1.8734         |
| 1.8908 | 1.8951         | 1.8995     | 1.9034         |
| 1.9163 | 1.9195         | 1.9228     | 1.9260         |
| 1.9379 | 1.9408         | 1.9436     | 1.9465         |
| 1.9573 | 1.9597         | 1.9621     | 1.9645         |
| 1.9741 | 1.9763         | 1.9785     | 1.9807         |
| 1.9896 | 1.9919         | 1.9940     | 1.9962         |
| 2.0047 | 2.0069         | 2.0090     | 2.0104         |
| 2.0144 | 2.0154         | 2.0164     | 2.0174         |

|        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|
| 2.0213 | 2.0222 | 2.0232 | 2.0242 | 2.0251 | 2.0261 | 2.0270 |
| 2.0279 | 2.0288 | 2.0297 | 2.0306 | 2.0315 | 2.0324 | 2.0333 |
| 2.0342 | 2.0351 | 2.0359 | 2.0368 | 2.0377 | 2.0385 | 2.0394 |
| 2.0403 | 2.0411 | 2.0420 | 2.0428 | 2.0437 | 2.0445 | 2.0454 |
| 2.0462 | 2.0471 | 2.0479 | 2.0487 | 2.0495 | 2.0503 | 2.0511 |
| 2.0519 | 2.0527 | 2.0535 | 2.0543 | 2.0551 | 2.0558 | 2.0566 |
| 2.0574 | 2.0582 | 2.0589 | 2.0597 | 2.0605 | 2.0613 | 2.0620 |
| 2.0628 | 2.0635 | 2.0643 | 2.0650 | 2.0658 | 2.0665 | 2.0673 |
| 2.0680 | 2.0687 | 2.0694 | 2.0701 | 2.0709 | 2.0716 | 2.0723 |
| 2.0730 | 2.0737 | 2.0744 | 2.0751 | 2.0758 | 2.0765 | 2.0772 |
| 2.0779 | 2.0786 | 2.0793 | 2.0800 | 2.0807 | 2.0813 | 2.0820 |
| 2.0827 | 2.0834 | 2.0841 | 2.0847 | 2.0854 | 2.0860 | 2.0867 |
| 2.0873 | 2.0880 | 2.0886 | 2.0893 | 2.0899 | 2.0906 | 2.0912 |
| 2.0919 | 2.0925 | 2.0931 | 2.0938 | 2.0944 | 2.0950 | 2.0957 |
| 2.0963 | 2.0969 | 2.0975 | 2.0982 | 2.0988 | 2.0994 | 2.1000 |
| 2.1006 | 2.1012 | 2.1019 | 2.1025 | 2.1031 | 2.1037 | 2.1043 |
| 2.1049 | 2.1055 | 2.1061 | 2.1067 | 2.1073 | 2.1079 | 2.1085 |
| 2.1091 | 2.1097 | 2.1103 | 2.1109 | 2.1115 | 2.1120 | 2.1126 |
| 2.1132 | 2.1138 | 2.1144 | 2.1150 | 2.1156 | 2.1161 | 2.1167 |
| 2.1173 | 2.1178 | 2.1184 | 2.1190 | 2.1196 | 2.1201 | 2.1207 |
| 2.1213 | 2.1218 | 2.1224 | 2.1229 | 2.1235 | 2.1241 | 2.1246 |
| 2.1252 | 2.1257 | 2.1263 | 2.1268 | 2.1274 | 2.1279 | 2.1285 |
| 2.1290 | 2.1296 | 2.1301 | 2.1307 | 2.1312 | 2.1318 | 2.1323 |
| 2.1328 | 2.1334 | 2.1339 | 2.1345 | 2.1350 | 2.1355 | 2.1361 |
| 2.1366 | 2.1371 | 2.1376 | 2.1382 | 2.1387 | 2.1392 | 2.1397 |
| 2.1403 | 2.1408 | 2.1413 | 2.1418 | 2.1424 | 2.1429 | 2.1434 |
| 2.1439 | 2.1444 | 2.1449 | 2.1454 | 2.1460 | 2.1465 | 2.1470 |
| 2.1475 | 2.1480 | 2.1485 | 2.1490 | 2.1495 | 2.1500 | 2.1505 |
| 2.1510 | 2.1515 | 2.1520 | 2.1525 | 2.1530 | 2.1535 | 2.1540 |
| 2.1545 | 2.1550 | 2.1555 | 2.1560 | 2.1564 | 2.1569 | 2.1574 |
| 2.1579 | 2.1584 | 2.1589 | 2.1594 | 2.1599 | 2.1603 | 2.1608 |
| 2.1613 | 2.1618 | 2.1622 | 2.1627 | 2.1632 | 2.1637 | 2.1642 |
| 2.1646 | 2.1651 | 2.1656 | 2.1660 | 2.1665 | 2.1670 | 2.1675 |
| 2.1679 | 2.1684 | 2.1688 | 2.1693 | 2.1698 | 2.1702 | 2.1707 |
| 2.1712 | 2.1716 | 2.1721 | 2.1725 | 2.1730 | 2.1735 | 2.1739 |
| 2.1744 | 2.1748 | 2.1753 | 2.1757 | 2.1762 | 2.1766 | 2.1771 |
| 2.1775 | 2.1780 | 2.1784 | 2.1789 | 2.1793 | 2.1798 | 2.1802 |
| 2.1807 | 2.1811 | 2.1815 | 2.1820 | 2.1824 | 2.1829 | 2.1833 |
| 2.1837 | 2.1842 | 2.1846 | 2.1851 | 2.1855 | 2.1859 | 2.1864 |
| 2.1868 | 2.1872 | 2.1877 | 2.1881 | 2.1885 | 2.1890 | 2.1894 |
| 2.1898 | 2.1902 | 2.1907 | 2.1911 | 2.1915 | 2.1919 | 2.1924 |
| 2.1928 | 2.1932 | 2.1936 | 2.1940 | 2.1945 | 2.1949 | 2.1953 |
| 2.1957 | 2.1961 | 2.1966 | 2.1970 | 2.1974 | 2.1978 | 2.1982 |
| 2.1986 | 2.1990 | 2.1995 | 2.1999 | 2.2003 | 2.2007 | 2.2011 |
| 2.2015 | 2.2019 | 2.2023 | 2.2027 | 2.2031 | 2.2035 | 2.2039 |
| 2.2043 | 2.2047 | 2.2052 | 2.2056 | 2.2060 | 2.2064 | 2.2068 |
| 2.2072 | 2.2076 | 2.2080 | 2.2084 | 2.2087 | 2.2091 | 2.2095 |
| 2.2099 | 2.2103 | 2.2107 | 2.2111 | 2.2115 | 2.2119 | 2.2123 |
| 2.2127 | 2.2131 | 2.2135 | 2.2139 | 2.2142 | 2.2146 | 2.2150 |
| 2.2154 | 2.2158 | 2.2162 | 2.2166 | 2.2169 | 2.2173 | 2.2177 |
| 2.2181 | 2.2185 | 2.2189 | 2.2192 | 2.2196 | 2.2200 |        |



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Basin 101  
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COMPUTE NM HYD

ID=1 HYD=101 DA=0.0133 SQ MI

PER A=0 B=0 C=76 D=24

TP=0.133333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 12.599 CFS UNIT VOLUME = 0.9990 B = 526.28 P60 = 1.7200  
AREA = 0.003192 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.104201HR TP = 0.133333HR K/TP RATIO = 0.781506 SHAPE CONSTANT, N = 4.597254  
UNIT PEAK = 29.809 CFS UNIT VOLUME = 0.9996 B = 393.20 P60 = 1.7200  
AREA = 0.010108 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.00

RUNOFF VOLUME = 1.21796 INCHES = 0.8639 ACRE-FEET  
PEAK DISCHARGE RATE = 27.49 CFS AT 1.530 HOURS BASIN AREA = 0.0133 SQ. MI.

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Basin 102  
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A-10

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COMPUTE NM HYD

ID=2 HYD=102 DA=0.0162 SQ MI  
PER A=50 B=16.6 C=16.7 D=16.7  
TP=0.133333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 10.678 CFS UNIT VOLUME = 0.9988 B = 526.28 P60 = 1.7200  
AREA = 0.002705 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.148071HR TP = 0.133333HR K/TP RATIO = 1.110535 SHAPE CONSTANT, N = 3.184086  
UNIT PEAK = 30.010 CFS UNIT VOLUME = 0.9995 B = 296.51 P60 = 1.7200  
AREA = 0.013495 SQ MI IA = 0.55996 INCHES INF = 1.41790 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = 0.89123 INCHES = 0.7700 ACRE-FEET  
PEAK DISCHARGE RATE = 23.95 CFS AT 1.540 HOURS BASIN AREA = 0.0162 SQ. MI.

A-11

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Basin 103  
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COMPUTE NM HYD

ID=3 HYD=103 DA=0.0034 SQ MI  
PER A=50 B=16.6 C=16.7 D=16.7  
TP=0.133333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 2.2412 CFS UNIT VOLUME = 0.9945 B = 526.28 P60 = 1.7200  
AREA = 0.000568 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.148071HR TP = 0.133333HR K/TP RATIO = 1.110535 SHAPE CONSTANT, N = 3.184086  
UNIT PEAK = 6.2983 CFS UNIT VOLUME = 0.9976 B = 296.51 P60 = 1.7200  
AREA = 0.002832 SQ MI IA = 0.55996 INCHES INF = 1.41790 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = 0.89123 INCHES = 0.1616 ACRE-FEET  
PEAK DISCHARGE RATE = 5.04 CFS AT 1.540 HOURS BASIN AREA = 0.0034 SQ. MI.

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Basin 104  
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COMPUTE NM HYD

ID=4 HYD=104 DA=0.0261 SQ MI

PER A=50 B=16.6 C=16.7 D=16.7

TP=0.133333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 17.204 CFS UNIT VOLUME = 0.9993 B = 526.28 P60 = 1.7200  
AREA = 0.004359 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.148071HR TP = 0.133333HR K/TP RATIO = 1.110535 SHAPE CONSTANT, N = 3.184086  
UNIT PEAK = 48.349 CFS UNIT VOLUME = 0.9997 B = 296.51 P60 = 1.7200  
AREA = 0.021741 SQ MI IA = 0.55996 INCHES INF = 1.41790 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 104.00

RUNOFF VOLUME = 0.89123 INCHES = 1.2406 ACRE-FEET  
PEAK DISCHARGE RATE = 38.57 CFS AT 1.540 HOURS BASIN AREA = 0.0261 SQ. MI.

A-15

Basin 105

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COMPUTE NM HYD

ID=5 HYD=105 DA=0.0031 SQ MI

PER A=0 B=0 C=20 D=80

TP=0.13333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 9.7887 CFS UNIT VOLUME = 0.9987 B = 526.28 P60 = 1.7200  
AREA = 0.002480 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.104201HR TP = 0.133333HR K/TP RATIO = 0.781506 SHAPE CONSTANT, N = 4.597254  
UNIT PEAK = 1.8284 CFS UNIT VOLUME = 0.9924 B = 393.20 P60 = 1.7200  
AREA = 0.000620 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD

ID=5 CODE=1

PARTIAL HYDROGRAPH 105.00

RUNOFF VOLUME = 1.76945 INCHES = 0.2925 ACRE-FEET  
PEAK DISCHARGE RATE = 7.82 CFS AT 1.530 HOURS BASIN AREA = 0.0031 SQ. MI.

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Basin 106  
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COMPUTE NM HYD

ID=6 HYD=106 DA=0.0020 SQ MI

PER A=0 B=0 C=0 D=100

TP=0.13333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 7.8942 CFS UNIT VOLUME = 0.9984 B = 526.28 P60 = 1.7200  
AREA = 0.002000 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=6 CODE=1

PARTIAL HYDROGRAPH 106.00

RUNOFF VOLUME = 1.96641 INCHES = 0.2097 ACRE-FEET  
PEAK DISCHARGE RATE = 5.37 CFS AT 1.520 HOURS BASIN AREA = 0.0020 SQ. MI.

A-19

A-ZD

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ADD HYD ID=7 HYD=200 IDS= 1 & 2  
ADD HYD ID=8 HYD=201 IDS= 7 & 3  
ADD HYD ID=9 HYD=202 IDS= 8 & 4  
ADD HYD ID=10 HYD=203 IDS= 9 & 5  
ADD HYD ID=11 HYD=204 IDS= 10 & 6  
PRINT HYD ID=11 CODE=1

PARTIAL HYDROGRAPH 204.00

RUNOFF VOLUME = 1.03501 INCHES = 3.5383 ACRE-FEET  
PEAK DISCHARGE RATE = 108.17 CFS AT 1.530 HOURS BASIN AREA = 0.0641 SQ. MI.

A-21

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ROUTE RESERVOIR

ID=12 HYD=305 INFLOW ID=11 CODE=5

| OUTFLOW (CFS) | STORAGE (AC FT) | ELEV (FT) |
|---------------|-----------------|-----------|
| 0             | 0.00            | 5500      |
| 33            | 0.05            | 5503      |
| 41            | 0.35            | 5504      |
| 45.5          | 0.66            | 5504.5    |
| 45.8          | 1.04            | 5505      |
| 46            | 2.18            | 5506      |

| * * * * *     | * * * * *       | * * * * *      | * * * * *         | * * * * *        | * * * * * |
|---------------|-----------------|----------------|-------------------|------------------|-----------|
| TIME<br>(HRS) | INFLOW<br>(CFS) | ELEV<br>(FEET) | VOLUME<br>(AC-FT) | OUTFLOW<br>(CFS) |           |
| 0.00          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.05          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.10          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.15          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.20          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.25          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.30          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.35          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.40          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.45          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.50          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.55          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.60          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.65          | 0.00            | 5500.00        | 0.000             | 0.00             |           |
| 0.70          | 0.04            | 5500.00        | 0.000             | 0.01             |           |
| 0.75          | 0.43            | 5500.02        | 0.000             | 0.26             |           |
| 0.80          | 1.11            | 5500.08        | 0.001             | 0.87             |           |
| 0.85          | 1.66            | 5500.13        | 0.002             | 1.47             |           |
| 0.90          | 2.02            | 5500.17        | 0.003             | 1.89             |           |
| 0.95          | 2.30            | 5500.20        | 0.003             | 2.20             |           |
| 1.00          | 2.65            | 5500.23        | 0.004             | 2.51             |           |
| 1.05          | 3.22            | 5500.27        | 0.005             | 3.00             |           |
| 1.10          | 3.97            | 5500.33        | 0.006             | 3.69             |           |
| 1.15          | 4.84            | 5500.41        | 0.007             | 4.51             |           |
| 1.20          | 6.00            | 5500.50        | 0.008             | 5.56             |           |
| 1.25          | 7.88            | 5500.65        | 0.011             | 7.13             |           |
| 1.30          | 10.96           | 5500.89        | 0.015             | 9.74             |           |
| 1.35          | 17.94           | 5501.36        | 0.023             | 15.01            |           |
| 1.40          | 37.87           | 5502.68        | 0.045             | 29.50            |           |
| 1.45          | 74.27           | 5503.29        | 0.136             | 35.28            |           |
| 1.50          | 102.71          | 5504.00        | 0.351             | 41.02            |           |
| 1.55          | 107.08          | 5504.43        | 0.615             | 44.85            |           |
| 1.60          | 93.29           | 5504.74        | 0.845             | 45.65            |           |
| 1.65          | 73.51           | 5504.95        | 1.001             | 45.77            |           |
| 1.70          | 55.14           | 5505.03        | 1.077             | 45.81            |           |

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|      |       |         |       |       |
|------|-------|---------|-------|-------|
| 1.75 | 40.99 | 5505.04 | 1.085 | 45.81 |
| 1.80 | 30.66 | 5505.00 | 1.042 | 45.80 |
| 1.85 | 23.41 | 5504.90 | 0.964 | 45.74 |
| 1.90 | 18.45 | 5504.76 | 0.861 | 45.66 |
| 1.95 | 15.14 | 5504.61 | 0.741 | 45.56 |
| 2.00 | 12.77 | 5504.42 | 0.611 | 44.79 |
| 2.05 | 10.93 | 5504.21 | 0.479 | 42.87 |
| 2.10 | 9.47  | 5503.99 | 0.348 | 40.94 |
| 2.15 | 8.31  | 5503.57 | 0.222 | 37.59 |
| 2.20 | 7.31  | 5503.19 | 0.106 | 34.48 |
| 2.25 | 6.44  | 5501.22 | 0.020 | 13.46 |
| 2.30 | 5.72  | 5500.58 | 0.010 | 6.39  |
| 2.35 | 5.12  | 5500.49 | 0.008 | 5.36  |
| 2.40 | 4.59  | 5500.44 | 0.007 | 4.79  |
| 2.45 | 3.93  | 5500.38 | 0.006 | 4.18  |
| 2.50 | 3.26  | 5500.32 | 0.005 | 3.50  |
| 2.55 | 2.76  | 5500.27 | 0.004 | 2.94  |
| 2.60 | 2.39  | 5500.23 | 0.004 | 2.52  |
| 2.65 | 2.10  | 5500.20 | 0.003 | 2.20  |
| 2.70 | 1.86  | 5500.18 | 0.003 | 1.95  |
| 2.75 | 1.65  | 5500.16 | 0.003 | 1.73  |

| TIME<br>(HRS) | INFLOW<br>(CFS) | ELEV<br>(FEET) | VOLUME<br>(AC-FT) | OUTFLOW<br>(CFS) |
|---------------|-----------------|----------------|-------------------|------------------|
| 2.80          | 1.48            | 5500.14        | 0.002             | 1.54             |
| 2.85          | 1.33            | 5500.13        | 0.002             | 1.38             |
| 2.90          | 1.19            | 5500.11        | 0.002             | 1.24             |
| 2.95          | 1.08            | 5500.10        | 0.002             | 1.12             |
| 3.00          | 0.98            | 5500.09        | 0.002             | 1.02             |
| 3.05          | 0.89            | 5500.08        | 0.001             | 0.93             |
| 3.10          | 0.82            | 5500.08        | 0.001             | 0.84             |
| 3.15          | 0.75            | 5500.07        | 0.001             | 0.77             |
| 3.20          | 0.69            | 5500.06        | 0.001             | 0.71             |
| 3.25          | 0.64            | 5500.06        | 0.001             | 0.66             |
| 3.30          | 0.60            | 5500.06        | 0.001             | 0.61             |
| 3.35          | 0.56            | 5500.05        | 0.001             | 0.57             |
| 3.40          | 0.52            | 5500.05        | 0.001             | 0.53             |
| 3.45          | 0.49            | 5500.05        | 0.001             | 0.50             |
| 3.50          | 0.46            | 5500.04        | 0.001             | 0.47             |
| 3.55          | 0.44            | 5500.04        | 0.001             | 0.45             |
| 3.60          | 0.42            | 5500.04        | 0.001             | 0.42             |
| 3.65          | 0.40            | 5500.04        | 0.001             | 0.41             |
| 3.70          | 0.38            | 5500.04        | 0.001             | 0.39             |
| 3.75          | 0.37            | 5500.03        | 0.001             | 0.37             |
| 3.80          | 0.36            | 5500.03        | 0.001             | 0.36             |
| 3.85          | 0.35            | 5500.03        | 0.001             | 0.35             |
| 3.90          | 0.34            | 5500.03        | 0.001             | 0.34             |
| 3.95          | 0.33            | 5500.03        | 0.001             | 0.33             |
| 4.00          | 0.32            | 5500.03        | 0.000             | 0.33             |
| 4.05          | 0.32            | 5500.03        | 0.000             | 0.32             |

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| TIME<br>(HRS) | INFLOW<br>(CFS) | ELEV<br>(FEET) | VOLUME<br>(AC-FT) | OUTFLOW<br>(CFS) |
|---------------|-----------------|----------------|-------------------|------------------|
| 4.10          | 0.32            | 5500.03        | 0.000             | 0.32             |
| 4.15          | 0.31            | 5500.03        | 0.000             | 0.31             |
| 4.20          | 0.31            | 5500.03        | 0.000             | 0.31             |
| 4.25          | 0.31            | 5500.03        | 0.000             | 0.31             |
| 4.30          | 0.30            | 5500.03        | 0.000             | 0.30             |
| 4.35          | 0.30            | 5500.03        | 0.000             | 0.30             |
| 4.40          | 0.30            | 5500.03        | 0.000             | 0.30             |
| 4.45          | 0.30            | 5500.03        | 0.000             | 0.30             |
| 4.50          | 0.29            | 5500.03        | 0.000             | 0.29             |
| 4.55          | 0.29            | 5500.03        | 0.000             | 0.29             |
| 4.60          | 0.29            | 5500.03        | 0.000             | 0.29             |
| 4.65          | 0.29            | 5500.03        | 0.000             | 0.29             |
| 4.70          | 0.29            | 5500.03        | 0.000             | 0.29             |
| 4.75          | 0.29            | 5500.03        | 0.000             | 0.29             |
| 4.80          | 0.29            | 5500.03        | 0.000             | 0.29             |
| 4.85          | 0.30            | 5500.03        | 0.000             | 0.29             |
| 4.90          | 0.30            | 5500.03        | 0.000             | 0.30             |
| 4.95          | 0.30            | 5500.03        | 0.000             | 0.30             |
| 5.00          | 0.30            | 5500.03        | 0.000             | 0.30             |
| 5.05          | 0.30            | 5500.03        | 0.000             | 0.30             |
| 5.10          | 0.31            | 5500.03        | 0.000             | 0.31             |
| 5.15          | 0.31            | 5500.03        | 0.000             | 0.31             |
| 5.20          | 0.31            | 5500.03        | 0.000             | 0.31             |
| 5.25          | 0.32            | 5500.03        | 0.000             | 0.31             |
| 5.30          | 0.32            | 5500.03        | 0.000             | 0.32             |
| 5.35          | 0.32            | 5500.03        | 0.000             | 0.32             |
| 5.40          | 0.32            | 5500.03        | 0.000             | 0.32             |
| 5.45          | 0.33            | 5500.03        | 0.000             | 0.32             |
| 5.50          | 0.33            | 5500.03        | 0.000             | 0.33             |
| 5.55          | 0.33            | 5500.03        | 0.001             | 0.33             |
| 5.60          | 0.34            | 5500.03        | 0.001             | 0.33             |
| 5.65          | 0.34            | 5500.03        | 0.001             | 0.34             |
| 5.70          | 0.34            | 5500.03        | 0.001             | 0.34             |
| 5.75          | 0.35            | 5500.03        | 0.001             | 0.35             |
| 5.80          | 0.35            | 5500.03        | 0.001             | 0.35             |
| 5.85          | 0.35            | 5500.03        | 0.001             | 0.35             |
| 5.90          | 0.36            | 5500.03        | 0.001             | 0.35             |
| 5.95          | 0.36            | 5500.03        | 0.001             | 0.36             |
| 6.00          | 0.36            | 5500.03        | 0.001             | 0.36             |
| 6.05          | 0.36            | 5500.03        | 0.001             | 0.36             |
| 6.10          | 0.31            | 5500.03        | 0.001             | 0.33             |
| 6.15          | 0.20            | 5500.02        | 0.000             | 0.24             |
| 6.20          | 0.11            | 5500.01        | 0.000             | 0.14             |
| 6.25          | 0.07            | 5500.01        | 0.000             | 0.09             |
| 6.30          | 0.05            | 5500.01        | 0.000             | 0.06             |
| 6.35          | 0.04            | 5500.00        | 0.000             | 0.04             |
| 6.40          | 0.03            | 5500.00        | 0.000             | 0.03             |

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|      |      |         |       |      |
|------|------|---------|-------|------|
| 6.45 | 0.02 | 5500.00 | 0.000 | 0.03 |
| 6.50 | 0.02 | 5500.00 | 0.000 | 0.02 |
| 6.55 | 0.01 | 5500.00 | 0.000 | 0.02 |
| 6.60 | 0.01 | 5500.00 | 0.000 | 0.01 |
| 6.65 | 0.01 | 5500.00 | 0.000 | 0.01 |
| 6.70 | 0.01 | 5500.00 | 0.000 | 0.01 |
| 6.75 | 0.00 | 5500.00 | 0.000 | 0.01 |
| 6.80 | 0.00 | 5500.00 | 0.000 | 0.00 |

PEAK DISCHARGE = 45.808 CFS - PEAK OCCURS AT HOUR 1.73

MAXIMUM WATER SURFACE ELEVATION = 5505.042

MAXIMUM STORAGE = 1.0883 AC-FT INCREMENTAL TIME= 0.010000HRS

PRINT HYD ID=12 CODE=1

HYDROGRAPH FROM AREA 305.00

RUNOFF VOLUME = 1.03501 INCHES = 3.5383 ACRE-FEET  
 PEAK DISCHARGE RATE = 45.81 CFS AT 1.730 HOURS BASIN AREA = 0.0641 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 14:20:50

← (s0p10h4099T~&l6D

A-25

← (s16.67h8.5v0T←&l8D

AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4)

INPUT FILE = C:\Users\doug\Desktop\2014-06-27 10 yr peak shave, 6 hr.txt      - Ver. S4.01a, Rel: 01a      RUN DATE (MON/DAY/YR) = 06/27/2014  
USER NO. = AHYMO\_Temp\_User:20122010

| COMMAND | HYDROGRAPH IDENTIFICATION | FROM ID NO. | TO ID NO. | AREA (SQ MI) | PEAK DISCHARGE (CFS) | RUNOFF VOLUME (AC-FT) | RUNOFF (INCHES) | TIME TO PEAK (HOURS) | CFS PER ACRE | PAGE = 1 | NOTATION |
|---------|---------------------------|-------------|-----------|--------------|----------------------|-----------------------|-----------------|----------------------|--------------|----------|----------|
|---------|---------------------------|-------------|-----------|--------------|----------------------|-----------------------|-----------------|----------------------|--------------|----------|----------|

START \*S      THE TEAM OFFICE BUILDING 10-YR, 6-HR DEVELOPED CONDITIONS      TIME=      0.00

LOCATION RAINFALL TYPE= 1 NOAA 14

|                 |        |       |    |         |       |       |         |       |       |          |        |
|-----------------|--------|-------|----|---------|-------|-------|---------|-------|-------|----------|--------|
| COMPUTE NM HYD  | 101.00 | -     | 1  | 0.01330 | 16.34 | 0.479 | 0.67485 | 1.530 | 1.920 | RAIN6=   | 1.480  |
| COMPUTE NM HYD  | 102.00 | -     | 2  | 0.01620 | 11.19 | 0.356 | 0.41233 | 1.540 | 1.079 | PER IMP= | 24.00  |
| COMPUTE NM HYD  | 103.00 | -     | 3  | 0.00340 | 2.36  | 0.075 | 0.41233 | 1.540 | 1.083 | PER IMP= | 16.70  |
| COMPUTE NM HYD  | 104.00 | -     | 4  | 0.02610 | 18.02 | 0.574 | 0.41233 | 1.540 | 1.079 | PER IMP= | 16.70  |
| COMPUTE NM HYD  | 105.00 | -     | 5  | 0.00310 | 5.08  | 0.180 | 1.08660 | 1.530 | 2.560 | PER IMP= | 80.00  |
| COMPUTE NM HYD  | 106.00 | -     | 6  | 0.00200 | 3.57  | 0.132 | 1.23366 | 1.520 | 2.788 | PER IMP= | 100.00 |
| ADD HYD         | 200.00 | 1& 2  | 7  | 0.02950 | 27.49 | 0.835 | 0.53067 | 1.540 | 1.456 |          |        |
| ADD HYD         | 201.00 | 7& 3  | 8  | 0.03290 | 29.85 | 0.910 | 0.51843 | 1.540 | 1.418 |          |        |
| ADD HYD         | 202.00 | 8& 4  | 9  | 0.05900 | 47.87 | 1.484 | 0.47149 | 1.540 | 1.268 |          |        |
| ADD HYD         | 203.00 | 9& 5  | 10 | 0.06210 | 52.92 | 1.663 | 0.50219 | 1.540 | 1.331 |          |        |
| ADD HYD         | 204.00 | 10& 6 | 11 | 0.06410 | 56.45 | 1.795 | 0.52501 | 1.540 | 1.376 |          |        |
| ROUTE RESERVOIR | 305.00 | 11    | 12 | 0.06410 | 38.65 | 1.795 | 0.52501 | 1.650 | 0.942 | AC-FT=   | 0.262  |

FINISH

← (s0p10h4099T←&l6D

AHYMO 10-YR Summary

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# AHYMO 10-YR Input

```
2014-06-27 10 yr peak shave, 6 hr
START      0.0 HRS PUNCH CODE=0 PRINT LINES=-6
*****
*S          THE TEAM OFFICE BUILDING 10-YR, 6-HR DEVELOPED CONDITIONS
LOCATION     ALBUQUERQUE
RAINFALL    TYPE=1 RAIN QUARTER=0.0 RAIN ONE=1.15
            RAIN SIX=1.48 RAIN DAY=1.69 DT=.01
*****
*          Basin 101
*****
COMPUTE NM HYD ID=1 HYD=101 DA=0.0133 SQ MI
              PER A=0 B=0 C=76 D=24
              TP=0.133333 HRS RAIN=-1
PRINT HYD    ID=1 CODE=1
*****
*          Basin 102
*****
COMPUTE NM HYD ID=2 HYD=102 DA=0.0162 SQ MI
              PER A=50 B=16.6 C=16.7 D=16.7
              TP=0.133333 HRS RAIN=-1
PRINT HYD    ID=2 CODE=1
*****
*          Basin 103
*****
COMPUTE NM HYD ID=3 HYD=103 DA=0.0034 SQ MI
              PER A=50 B=16.6 C=16.7 D=16.7
              TP=0.133333 HRS RAIN=-1
PRINT HYD    ID=3 CODE=1
*****
*          Basin 104
*****
COMPUTE NM HYD ID=4 HYD=104 DA=0.0261 SQ MI
              PER A=50 B=16.6 C=16.7 D=16.7
              TP=0.133333 HRS RAIN=-1
PRINT HYD    ID=4 CODE=1
*****
*          Basin 105
*****
COMPUTE NM HYD ID=5 HYD=105 DA=0.0031 SQ MI
              PER A=0 B=0 C=20 D=80
              TP=0.133333 HRS RAIN=-1
PRINT HYD    ID=5 CODE=1
*****
*          Basin 106
*****
COMPUTE NM HYD ID=6 HYD=106 DA=0.0020 SQ MI
              PER A=0 B=0 C=0 D=100
              TP=0.133333 HRS RAIN=-1
PRINT HYD    ID=6 CODE=1
*****
ADD HYD      ID=7 HYD=200 IDS= 1 & 2
ADD HYD      ID=8 HYD=201 IDS= 7 & 3
ADD HYD      ID=9 HYD=202 IDS= 8 & 4
ADD HYD      ID=10 HYD=203 IDS= 9 & 5
ADD HYD      ID=11 HYD=204 IDS= 10 & 6
PRINT HYD    ID=11 CODE=1
*****
ROUTE RESERVOIR ID=12 HYD=305 INFLOW ID=11 CODE=5
OUTFLOW (CFS)   STORAGE (AC FT)  ELEV (FT)
0               0.00             5500
33              0.05             5503
41              0.35             5504
45.5            0.66             5504.5
```

2014-06-27 10 yr peak shave, 6 hr

45.8  
46

1.04  
2.18

5505  
5506

PRINT HYD  
FINISH

ID=12 CODE=1

AHYMO 10-YR Output

← (s16.67h8.5v0T←&l8D

          AHYMO PROGRAM (AHYMO-S4)

          RUN DATE (MON/DAY/YR) = 06/27/2014

          START TIME (HR:MIN:SEC) = 16:33:02

          INPUT FILE = C:\Users\doug\Desktop\2014-06-27 10 yr peak shave, 6 hr.txt

          - Version: S4.01a - Rel: 01a

          USER NO.= AHYMO\_Temp\_User:20122010

START          0.0 HRS  PUNCH CODE=0  PRINT LINES=-6

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\*\*\*\*\*THE TEAM OFFICE BUILDING 10-YR, 6-HR DEVELOPED CONDITIONS\*\*\*\*\*

\*S LOCATION  
City of Albuquerque soil infiltration values (LAND FACTORS) used for computations.  
Land Treatment Initial Abstr.(in) Unif. Infilt.(in/hour)  
A 0.65 1.67  
B 0.50 1.25  
C 0.35 0.83  
D 0.10 0.04

RAINFALL TYPE=1 RAIN QUARTER=0.0 RAIN ONE=1.15  
RAIN SIX=1.48 RAIN DAY=1.69 DT=.01

6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1

| DT = 0.010000 HOURS                              | END TIME = 6.000000 HOURS |
|--------------------------------------------------|---------------------------|
| 0.0000 0.0004 0.0009 0.0013 0.0018 0.0022 0.0026 |                           |
| 0.0031 0.0035 0.0040 0.0045 0.0050 0.0054 0.0059 |                           |
| 0.0064 0.0069 0.0074 0.0079 0.0084 0.0090 0.0095 |                           |
| 0.0100 0.0106 0.0111 0.0117 0.0122 0.0128 0.0134 |                           |
| 0.0141 0.0147 0.0153 0.0159 0.0165 0.0171 0.0182 |                           |
| 0.0196 0.0210 0.0223 0.0237 0.0251 0.0265 0.0278 |                           |
| 0.0292 0.0308 0.0323 0.0338 0.0353 0.0369 0.0384 |                           |
| 0.0399 0.0414 0.0431 0.0448 0.0464 0.0481 0.0497 |                           |
| 0.0514 0.0530 0.0547 0.0564 0.0581 0.0598 0.0616 |                           |
| 0.0633 0.0650 0.0668 0.0685 0.0703 0.0721 0.0739 |                           |
| 0.0757 0.0775 0.0793 0.0811 0.0829 0.0848 0.0868 |                           |
| 0.0888 0.0908 0.0928 0.0948 0.0968 0.0988 0.1008 |                           |
| 0.1030 0.1053 0.1075 0.1098 0.1121 0.1143 0.1166 |                           |
| 0.1189 0.1215 0.1248 0.1281 0.1314 0.1348 0.1381 |                           |
| 0.1414 0.1447 0.1481 0.1525 0.1570 0.1614 0.1659 |                           |
| 0.1704 0.1748 0.1793 0.1837 0.1894 0.1956 0.2018 |                           |
| 0.2081 0.2143 0.2206 0.2268 0.2330 0.2403 0.2497 |                           |
| 0.2590 0.2684 0.2778 0.2871 0.2965 0.3059 0.3152 |                           |
| 0.3314 0.3475 0.3637 0.3799 0.3960 0.4122 0.4284 |                           |
| 0.4445 0.4786 0.5217 0.5647 0.6078 0.6509 0.6939 |                           |
| 0.7370 0.7801 0.8167 0.8406 0.8645 0.8883 0.9122 |                           |
| 0.9361 0.9599 0.9838 1.0077 1.0197 1.0317 1.0437 |                           |
| 1.0557 1.0676 1.0796 1.0916 1.1036 1.1127 1.1202 |                           |
| 1.1278 1.1353 1.1429 1.1504 1.1580 1.1655 1.1723 |                           |
| 1.1776 1.1828 1.1880 1.1933 1.1985 1.2037 1.2090 |                           |
| 1.2142 1.2181 1.2219 1.2257 1.2296 1.2334 1.2372 |                           |
| 1.2411 1.2449 1.2481 1.2510 1.2539 1.2568 1.2597 |                           |
| 1.2626 1.2655 1.2684 1.2711 1.2732 1.2753 1.2775 |                           |
| 1.2796 1.2817 1.2838 1.2860 1.2881 1.2900 1.2919 |                           |
| 1.2938 1.2957 1.2976 1.2995 1.3014 1.3033 1.3050 |                           |
| 1.3066 1.3082 1.3098 1.3114 1.3130 1.3146 1.3161 |                           |
| 1.3177 1.3192 1.3206 1.3221 1.3236 1.3250 1.3265 |                           |
| 1.3280 1.3294 1.3309 1.3323 1.3337 1.3351 1.3365 |                           |
| 1.3379 1.3394 1.3408 1.3417 1.3423 1.3430 1.3437 |                           |
| 1.3443 1.3450 1.3456 1.3463 1.3469 1.3476 1.3482 |                           |

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|        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|
| 1.3489 | 1.3495 | 1.3501 | 1.3508 | 1.3514 | 1.3520 | 1.3526 |
| 1.3532 | 1.3538 | 1.3544 | 1.3550 | 1.3556 | 1.3562 | 1.3568 |
| 1.3574 | 1.3579 | 1.3585 | 1.3591 | 1.3597 | 1.3602 | 1.3608 |
| 1.3614 | 1.3620 | 1.3625 | 1.3631 | 1.3636 | 1.3642 | 1.3648 |
| 1.3653 | 1.3659 | 1.3664 | 1.3670 | 1.3675 | 1.3680 | 1.3685 |
| 1.3691 | 1.3696 | 1.3701 | 1.3706 | 1.3712 | 1.3717 | 1.3722 |
| 1.3727 | 1.3732 | 1.3737 | 1.3742 | 1.3747 | 1.3752 | 1.3757 |
| 1.3762 | 1.3767 | 1.3772 | 1.3777 | 1.3782 | 1.3787 | 1.3792 |
| 1.3797 | 1.3802 | 1.3806 | 1.3811 | 1.3816 | 1.3821 | 1.3825 |
| 1.3830 | 1.3835 | 1.3839 | 1.3844 | 1.3849 | 1.3853 | 1.3858 |
| 1.3862 | 1.3867 | 1.3872 | 1.3876 | 1.3881 | 1.3885 | 1.3890 |
| 1.3894 | 1.3899 | 1.3903 | 1.3907 | 1.3912 | 1.3916 | 1.3920 |
| 1.3925 | 1.3929 | 1.3933 | 1.3938 | 1.3942 | 1.3946 | 1.3950 |
| 1.3954 | 1.3959 | 1.3963 | 1.3967 | 1.3971 | 1.3975 | 1.3980 |
| 1.3984 | 1.3988 | 1.3992 | 1.3996 | 1.4000 | 1.4004 | 1.4008 |
| 1.4012 | 1.4016 | 1.4020 | 1.4025 | 1.4029 | 1.4033 | 1.4037 |
| 1.4041 | 1.4045 | 1.4049 | 1.4053 | 1.4056 | 1.4060 | 1.4064 |
| 1.4068 | 1.4072 | 1.4076 | 1.4080 | 1.4084 | 1.4088 | 1.4092 |
| 1.4095 | 1.4099 | 1.4103 | 1.4107 | 1.4111 | 1.4115 | 1.4118 |
| 1.4122 | 1.4126 | 1.4130 | 1.4134 | 1.4137 | 1.4141 | 1.4145 |
| 1.4149 | 1.4152 | 1.4156 | 1.4160 | 1.4163 | 1.4167 | 1.4171 |
| 1.4174 | 1.4178 | 1.4182 | 1.4185 | 1.4189 | 1.4193 | 1.4196 |
| 1.4200 | 1.4204 | 1.4207 | 1.4211 | 1.4214 | 1.4218 | 1.4221 |
| 1.4225 | 1.4229 | 1.4232 | 1.4236 | 1.4239 | 1.4243 | 1.4246 |
| 1.4250 | 1.4253 | 1.4257 | 1.4260 | 1.4264 | 1.4267 | 1.4271 |
| 1.4274 | 1.4277 | 1.4281 | 1.4284 | 1.4288 | 1.4291 | 1.4295 |
| 1.4298 | 1.4301 | 1.4305 | 1.4308 | 1.4311 | 1.4315 | 1.4318 |
| 1.4322 | 1.4325 | 1.4328 | 1.4332 | 1.4335 | 1.4338 | 1.4342 |
| 1.4345 | 1.4348 | 1.4351 | 1.4355 | 1.4358 | 1.4361 | 1.4364 |
| 1.4368 | 1.4371 | 1.4374 | 1.4378 | 1.4381 | 1.4384 | 1.4387 |
| 1.4390 | 1.4394 | 1.4397 | 1.4400 | 1.4403 | 1.4406 | 1.4410 |
| 1.4413 | 1.4416 | 1.4419 | 1.4422 | 1.4425 | 1.4428 | 1.4432 |
| 1.4435 | 1.4438 | 1.4441 | 1.4444 | 1.4447 | 1.4450 | 1.4453 |
| 1.4456 | 1.4459 | 1.4463 | 1.4466 | 1.4469 | 1.4472 | 1.4475 |
| 1.4478 | 1.4481 | 1.4484 | 1.4487 | 1.4490 | 1.4493 | 1.4496 |
| 1.4499 | 1.4502 | 1.4505 | 1.4508 | 1.4511 | 1.4514 | 1.4517 |
| 1.4520 | 1.4523 | 1.4526 | 1.4529 | 1.4532 | 1.4535 | 1.4538 |
| 1.4540 | 1.4543 | 1.4546 | 1.4549 | 1.4552 | 1.4555 | 1.4558 |
| 1.4561 | 1.4564 | 1.4567 | 1.4569 | 1.4572 | 1.4575 | 1.4578 |
| 1.4581 | 1.4584 | 1.4587 | 1.4589 | 1.4592 | 1.4595 | 1.4598 |
| 1.4601 | 1.4604 | 1.4606 | 1.4609 | 1.4612 | 1.4615 | 1.4618 |
| 1.4620 | 1.4623 | 1.4626 | 1.4629 | 1.4632 | 1.4634 | 1.4637 |
| 1.4640 | 1.4643 | 1.4645 | 1.4648 | 1.4651 | 1.4654 | 1.4656 |
| 1.4659 | 1.4662 | 1.4664 | 1.4667 | 1.4670 | 1.4673 | 1.4675 |
| 1.4678 | 1.4681 | 1.4683 | 1.4686 | 1.4689 | 1.4691 | 1.4694 |
| 1.4697 | 1.4699 | 1.4702 | 1.4705 | 1.4707 | 1.4710 | 1.4713 |
| 1.4715 | 1.4718 | 1.4721 | 1.4723 | 1.4726 | 1.4728 | 1.4731 |
| 1.4734 | 1.4736 | 1.4739 | 1.4741 | 1.4744 | 1.4747 | 1.4749 |
| 1.4752 | 1.4754 | 1.4757 | 1.4759 | 1.4762 | 1.4765 | 1.4767 |
| 1.4770 | 1.4772 | 1.4775 | 1.4777 | 1.4780 | 1.4782 | 1.4785 |
| 1.4787 | 1.4790 | 1.4792 | 1.4795 | 1.4797 | 1.4800 |        |



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\*  
\*\*\*\*\*  
Basin 101  
\*\*\*\*\*  
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\*\*\*\*\*

COMPUTE NM HYD

ID=1 HYD=101 DA=0.0133 SQ MI

PER A=0 B=0 C=76 D=24

TP=0.133333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 12.599 CFS UNIT VOLUME = 0.9990 B = 526.28 P60 = 1.1500  
AREA = 0.003192 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.109041HR TP = 0.133333HR K/TP RATIO = 0.817808 SHAPE CONSTANT, N = 4.369438  
UNIT PEAK = 28.739 CFS UNIT VOLUME = 0.9995 B = 379.09 P60 = 1.1500  
AREA = 0.010108 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.00

RUNOFF VOLUME = 0.67485 INCHES = 0.4787 ACRE-FEET  
PEAK DISCHARGE RATE = 16.34 CFS AT 1.530 HOURS BASIN AREA = 0.0133 SQ. MI.

\*\*\*\*\*

Basin 102

\*

\*\*\*\*\*

COMPUTE NM HYD

ID=2 HYD=102 DA=0.0162 SQ MI  
PER A=50 B=16.6 C=16.7 D=16.7  
TP=0.133333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 10.678 CFS UNIT VOLUME = 0.9988 B = 526.28 P60 = 1.1500  
AREA = 0.002705 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.158539HR TP = 0.133333HR K/TP RATIO = 1.189047 SHAPE CONSTANT, N = 2.986136  
UNIT PEAK = 28.409 CFS UNIT VOLUME = 0.9995 B = 280.70 P60 = 1.1500  
AREA = 0.013495 SQ MI IA = 0.55996 INCHES INF = 1.41790 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = 0.41233 INCHES = 0.3563 ACRE-FEET  
PEAK DISCHARGE RATE = 11.19 CFS AT 1.540 HOURS BASIN AREA = 0.0162 SQ. MI.

A-37

\*\*\*\*\*

Basin 103

\*

\*\*\*\*\*

COMPUTE NM HYD

ID=3 HYD=103 DA=0.0034 SQ MI  
PER A=50 B=16.6 C=16.7 D=16.7  
TP=0.133333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 2.2412 CFS UNIT VOLUME = 0.9945 B = 526.28 P60 = 1.1500  
AREA = 0.000568 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.158539HR TP = 0.133333HR K/TP RATIO = 1.189047 SHAPE CONSTANT, N = 2.986136  
UNIT PEAK = 5.9624 CFS UNIT VOLUME = 0.9974 B = 280.70 P60 = 1.1500  
AREA = 0.002832 SQ MI IA = 0.55996 INCHES INF = 1.41790 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = 0.41233 INCHES = 0.0748 ACRE-FEET  
PEAK DISCHARGE RATE = 2.36 CFS AT 1.540 HOURS BASIN AREA = 0.0034 SQ. MI.

Basin 104

A-40

\*\*\*\*\*

COMPUTE NM HYD

ID=4 HYD=104 DA=0.0261 SQ MI

PER A=50 B=16.6 C=16.7 D=16.7

TP=0.133333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 17.204 CFS UNIT VOLUME = 0.9993 B = 526.28 P60 = 1.1500  
AREA = 0.004359 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.158539HR TP = 0.133333HR K/TP RATIO = 1.189047 SHAPE CONSTANT, N = 2.986136  
UNIT PEAK = 45.770 CFS UNIT VOLUME = 0.9997 B = 280.70 P60 = 1.1500  
AREA = 0.021741 SQ MI IA = 0.55996 INCHES INF = 1.41790 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 104.00

RUNOFF VOLUME = 0.41233 INCHES = 0.5740 ACRE-FEET  
PEAK DISCHARGE RATE = 18.02 CFS AT 1.540 HOURS BASIN AREA = 0.0261 SQ. MI.

\*\*\*\*\*  
\*  
\*\*\*\*\*  
Basin 105  
\*\*\*\*\*  
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A-42

\*\*\*\*\*

COMPUTE NM HYD

ID=5 HYD=105 DA=0.0031 SQ MI

PER A=0 B=0 C=20 D=80

TP=0.13333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 9.7887 CFS UNIT VOLUME = 0.9987 B = 526.28 P60 = 1.1500  
AREA = 0.002480 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.109041HR TP = 0.133333HR K/TP RATIO = 0.817808 SHAPE CONSTANT, N = 4.369438  
UNIT PEAK = 1.7628 CFS UNIT VOLUME = 0.9922 B = 379.09 P60 = 1.1500  
AREA = 0.000620 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 105.00

RUNOFF VOLUME = 1.08660 INCHES = 0.1797 ACRE-FEET  
PEAK DISCHARGE RATE = 5.08 CFS AT 1.530 HOURS BASIN AREA = 0.0031 SQ. MI.

\*\*\*\*\*  
\*  
\*\*\*\*\*  
Basin 106  
\*\*\*\*\*

\*\*\*\*\*

COMPUTE NM HYD

ID=6 HYD=106 DA=0.0020 SQ MI

PER A=0 B=0 C=0 D=100

TP=0.13333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 7.8942 CFS UNIT VOLUME = 0.9984 B = 526.28 P60 = 1.1500  
AREA = 0.002000 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=6 CODE=1

PARTIAL HYDROGRAPH 106.00

RUNOFF VOLUME = 1.23366 INCHES = 0.1316 ACRE-FEET  
PEAK DISCHARGE RATE = 3.57 CFS AT 1.520 HOURS BASIN AREA = 0.0020 SQ. MI.

A-45

A-46

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*****
ADD HYD ID=7 HYD=200 IDS= 1 & 2
ADD HYD ID=8 HYD=201 IDS= 7 & 3
ADD HYD ID=9 HYD=202 IDS= 8 & 4
ADD HYD ID=10 HYD=203 IDS= 9 & 5
ADD HYD ID=11 HYD=204 IDS= 10 & 6
PRINT HYD ID=11 CODE=1
*****

```

PARTIAL HYDROGRAPH 204.00

RUNOFF VOLUME = 0.52501 INCHES = 1.7948 ACRE-FEET  
 PEAK DISCHARGE RATE = 56.45 CFS AT 1.540 HOURS BASIN AREA = 0.0641 SQ. MI.

\*\*\*\*\*

ROUTE RESERVOIR

ID=12 HYD=305 INFLOW ID=11 CODE=5

| OUTFLOW (CFS) | STORAGE (AC FT) | ELEV (FT) |
|---------------|-----------------|-----------|
| 0             | 0.00            | 5500      |
| 33            | 0.05            | 5503      |
| 41            | 0.35            | 5504      |
| 45.5          | 0.66            | 5504.5    |
| 45.8          | 1.04            | 5505      |
| 46            | 2.18            | 5506      |

| TIME<br>(HRS) | INFLOW<br>(CFS) | ELEV<br>(FEET) | VOLUME<br>(AC-FT) | OUTFLOW<br>(CFS) |
|---------------|-----------------|----------------|-------------------|------------------|
| 0.00          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.05          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.10          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.15          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.20          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.25          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.30          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.35          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.40          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.45          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.50          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.55          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.60          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.65          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.70          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.75          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.80          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.85          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.90          | 0.10            | 5500.00        | 0.000             | 0.05             |
| 0.95          | 0.55            | 5500.03        | 0.001             | 0.38             |
| 1.00          | 1.16            | 5500.09        | 0.001             | 0.94             |
| 1.05          | 1.77            | 5500.14        | 0.002             | 1.55             |
| 1.10          | 2.38            | 5500.20        | 0.003             | 2.15             |
| 1.15          | 3.01            | 5500.25        | 0.004             | 2.77             |
| 1.20          | 3.78            | 5500.32        | 0.005             | 3.49             |
| 1.25          | 4.77            | 5500.40        | 0.007             | 4.38             |
| 1.30          | 6.15            | 5500.51        | 0.009             | 5.61             |
| 1.35          | 8.76            | 5500.70        | 0.012             | 7.70             |
| 1.40          | 16.51           | 5501.18        | 0.020             | 12.99            |
| 1.45          | 36.03           | 5502.60        | 0.043             | 28.64            |
| 1.50          | 52.85           | 5503.15        | 0.095             | 34.19            |
| 1.55          | 56.02           | 5503.43        | 0.178             | 36.42            |
| 1.60          | 48.57           | 5503.64        | 0.242             | 38.13            |
| 1.65          | 37.74           | 5503.71        | 0.262             | 38.65            |
| 1.70          | 28.03           | 5503.63        | 0.238             | 38.02            |

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|      |       |         |       |       |
|------|-------|---------|-------|-------|
| 1.75 | 20.89 | 5503.45 | 0.184 | 36.58 |
| 1.80 | 15.88 | 5503.21 | 0.112 | 34.66 |
| 1.85 | 12.40 | 5502.15 | 0.036 | 23.70 |
| 1.90 | 9.87  | 5501.03 | 0.017 | 11.38 |
| 1.95 | 8.08  | 5500.79 | 0.013 | 8.74  |
| 2.00 | 6.80  | 5500.66 | 0.011 | 7.26  |
| 2.05 | 5.79  | 5500.56 | 0.009 | 6.15  |
| 2.10 | 4.99  | 5500.48 | 0.008 | 5.28  |
| 2.15 | 4.35  | 5500.42 | 0.007 | 4.58  |
| 2.20 | 3.82  | 5500.36 | 0.006 | 4.01  |
| 2.25 | 3.35  | 5500.32 | 0.005 | 3.52  |
| 2.30 | 2.97  | 5500.28 | 0.005 | 3.11  |
| 2.35 | 2.66  | 5500.25 | 0.004 | 2.77  |
| 2.40 | 2.37  | 5500.23 | 0.004 | 2.48  |
| 2.45 | 2.00  | 5500.19 | 0.003 | 2.14  |
| 2.50 | 1.62  | 5500.16 | 0.003 | 1.75  |
| 2.55 | 1.34  | 5500.13 | 0.002 | 1.43  |
| 2.60 | 1.13  | 5500.11 | 0.002 | 1.21  |
| 2.65 | 0.98  | 5500.09 | 0.002 | 1.04  |
| 2.70 | 0.86  | 5500.08 | 0.001 | 0.90  |
| 2.75 | 0.75  | 5500.07 | 0.001 | 0.79  |

| TIME<br>(HRS) | INFLOW<br>(CFS) | ELEV<br>(FEET) | VOLUME<br>(AC-FT) | OUTFLOW<br>(CFS) |
|---------------|-----------------|----------------|-------------------|------------------|
| 2.80          | 0.66            | 5500.06        | 0.001             | 0.69             |
| 2.85          | 0.58            | 5500.06        | 0.001             | 0.61             |
| 2.90          | 0.51            | 5500.05        | 0.001             | 0.54             |
| 2.95          | 0.45            | 5500.04        | 0.001             | 0.47             |
| 3.00          | 0.40            | 5500.04        | 0.001             | 0.42             |
| 3.05          | 0.36            | 5500.03        | 0.001             | 0.37             |
| 3.10          | 0.32            | 5500.03        | 0.001             | 0.34             |
| 3.15          | 0.29            | 5500.03        | 0.000             | 0.30             |
| 3.20          | 0.26            | 5500.02        | 0.000             | 0.27             |
| 3.25          | 0.24            | 5500.02        | 0.000             | 0.25             |
| 3.30          | 0.22            | 5500.02        | 0.000             | 0.23             |
| 3.35          | 0.20            | 5500.02        | 0.000             | 0.21             |
| 3.40          | 0.18            | 5500.02        | 0.000             | 0.19             |
| 3.45          | 0.17            | 5500.02        | 0.000             | 0.17             |
| 3.50          | 0.16            | 5500.01        | 0.000             | 0.16             |
| 3.55          | 0.15            | 5500.01        | 0.000             | 0.15             |
| 3.60          | 0.14            | 5500.01        | 0.000             | 0.14             |
| 3.65          | 0.13            | 5500.01        | 0.000             | 0.14             |
| 3.70          | 0.13            | 5500.01        | 0.000             | 0.13             |
| 3.75          | 0.12            | 5500.01        | 0.000             | 0.12             |
| 3.80          | 0.12            | 5500.01        | 0.000             | 0.12             |
| 3.85          | 0.12            | 5500.01        | 0.000             | 0.12             |
| 3.90          | 0.11            | 5500.01        | 0.000             | 0.11             |
| 3.95          | 0.11            | 5500.01        | 0.000             | 0.11             |
| 4.00          | 0.11            | 5500.01        | 0.000             | 0.11             |
| 4.05          | 0.11            | 5500.01        | 0.000             | 0.11             |

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| TIME<br>(HRS) | INFLOW<br>(CFS) | ELEV<br>(FEET) | VOLUME<br>(AC-FT) | OUTFLOW<br>(CFS) |
|---------------|-----------------|----------------|-------------------|------------------|
| 4.10          | 0.11            | 5500.01        | 0.000             | 0.11             |
| 4.15          | 0.11            | 5500.01        | 0.000             | 0.11             |
| 4.20          | 0.11            | 5500.01        | 0.000             | 0.11             |
| 4.25          | 0.11            | 5500.01        | 0.000             | 0.11             |
| 4.30          | 0.11            | 5500.01        | 0.000             | 0.11             |
| 4.35          | 0.11            | 5500.01        | 0.000             | 0.11             |
| 4.40          | 0.12            | 5500.01        | 0.000             | 0.12             |
| 4.45          | 0.12            | 5500.01        | 0.000             | 0.12             |
| 4.50          | 0.12            | 5500.01        | 0.000             | 0.12             |
| 4.55          | 0.12            | 5500.01        | 0.000             | 0.12             |
| 4.60          | 0.12            | 5500.01        | 0.000             | 0.12             |
| 4.65          | 0.13            | 5500.01        | 0.000             | 0.13             |
| 4.70          | 0.13            | 5500.01        | 0.000             | 0.13             |
| 4.75          | 0.13            | 5500.01        | 0.000             | 0.13             |
| 4.80          | 0.13            | 5500.01        | 0.000             | 0.13             |
| 4.85          | 0.14            | 5500.01        | 0.000             | 0.13             |
| 4.90          | 0.14            | 5500.01        | 0.000             | 0.14             |
| 4.95          | 0.14            | 5500.01        | 0.000             | 0.14             |
| 5.00          | 0.15            | 5500.01        | 0.000             | 0.14             |
| 5.05          | 0.15            | 5500.01        | 0.000             | 0.15             |
| 5.10          | 0.15            | 5500.01        | 0.000             | 0.15             |
| 5.15          | 0.16            | 5500.01        | 0.000             | 0.16             |
| 5.20          | 0.16            | 5500.01        | 0.000             | 0.16             |
| 5.25          | 0.17            | 5500.01        | 0.000             | 0.16             |
| 5.30          | 0.17            | 5500.02        | 0.000             | 0.17             |
| 5.35          | 0.17            | 5500.02        | 0.000             | 0.17             |
| 5.40          | 0.18            | 5500.02        | 0.000             | 0.18             |
| 5.45          | 0.18            | 5500.02        | 0.000             | 0.18             |
| 5.50          | 0.19            | 5500.02        | 0.000             | 0.19             |
| 5.55          | 0.19            | 5500.02        | 0.000             | 0.19             |
| 5.60          | 0.19            | 5500.02        | 0.000             | 0.19             |
| 5.65          | 0.20            | 5500.02        | 0.000             | 0.20             |
| 5.70          | 0.20            | 5500.02        | 0.000             | 0.20             |
| 5.75          | 0.21            | 5500.02        | 0.000             | 0.21             |
| 5.80          | 0.21            | 5500.02        | 0.000             | 0.21             |
| 5.85          | 0.22            | 5500.02        | 0.000             | 0.22             |
| 5.90          | 0.22            | 5500.02        | 0.000             | 0.22             |
| 5.95          | 0.23            | 5500.02        | 0.000             | 0.22             |
| 6.00          | 0.23            | 5500.02        | 0.000             | 0.23             |
| 6.05          | 0.23            | 5500.02        | 0.000             | 0.23             |
| 6.10          | 0.20            | 5500.02        | 0.000             | 0.21             |
| 6.15          | 0.13            | 5500.01        | 0.000             | 0.15             |
| 6.20          | 0.07            | 5500.01        | 0.000             | 0.09             |
| 6.25          | 0.05            | 5500.00        | 0.000             | 0.06             |
| 6.30          | 0.03            | 5500.00        | 0.000             | 0.04             |
| 6.35          | 0.02            | 5500.00        | 0.000             | 0.03             |
| 6.40          | 0.02            | 5500.00        | 0.000             | 0.02             |

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|      |      |         |       |      |
|------|------|---------|-------|------|
| 6.45 | 0.02 | 5500.00 | 0.000 | 0.02 |
| 6.50 | 0.01 | 5500.00 | 0.000 | 0.01 |
| 6.55 | 0.01 | 5500.00 | 0.000 | 0.01 |
| 6.60 | 0.01 | 5500.00 | 0.000 | 0.01 |
| 6.65 | 0.00 | 5500.00 | 0.000 | 0.01 |
| 6.70 | 0.00 | 5500.00 | 0.000 | 0.00 |

PEAK DISCHARGE = 38.649 CFS - PEAK OCCURS AT HOUR 1.65  
 MAXIMUM WATER SURFACE ELEVATION = 5503.706  
 MAXIMUM STORAGE = 0.2618 AC-FT INCREMENTAL TIME= 0.010000HRS

PRINT HYD ID=12 CODE=1

HYDROGRAPH FROM AREA 305.00

RUNOFF VOLUME = 0.52501 INCHES = 1.7948 ACRE-FEET  
 PEAK DISCHARGE RATE = 38.65 CFS AT 1.650 HOURS BASIN AREA = 0.0641 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 16:33:02

~(s0p10h4099T~&l6D

A-51

← (s16.67h8.5v0T←&l8D

AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4)

INPUT FILE = C:\Users\doug\Desktop\2014-06-27 2 yr peak shave, 6 hr.txt

- Ver. S4.01a, Rel: 01a

RUN DATE (MON/DAY/YR) = 06/27/2014  
USER NO. = AHYMO\_Temp\_User:20122010

| COMMAND | HYDROGRAPH IDENTIFICATION | FROM ID NO. | TO ID NO. | AREA (SQ MI) | PEAK DISCHARGE (CFS) | RUNOFF VOLUME (AC-FT) | RUNOFF (INCHES) | TIME TO PEAK (HOURS) | CFS PER ACRE | PAGE = 1 | NOTATION |
|---------|---------------------------|-------------|-----------|--------------|----------------------|-----------------------|-----------------|----------------------|--------------|----------|----------|
|---------|---------------------------|-------------|-----------|--------------|----------------------|-----------------------|-----------------|----------------------|--------------|----------|----------|

START

\*S

THE TEAM OFFICE BUILDING 2-YR, 6-HR DEVELOPED CONDITIONS  
ALBUQUERQUE

|                 |          |         |         |         |       |       |         |       |                |        |  |
|-----------------|----------|---------|---------|---------|-------|-------|---------|-------|----------------|--------|--|
| LOCATION        | RAINFALL | TYPE= 1 | NOAA 14 |         |       |       |         |       |                |        |  |
| COMPUTE NM HYD  | 101.00   | -       | 1       | 0.01330 | 8.07  | 0.224 | 0.31585 | 1.540 | 0.948 PER IMP= | 0.960  |  |
| COMPUTE NM HYD  | 102.00   | -       | 2       | 0.01620 | 3.27  | 0.112 | 0.12942 | 1.530 | 0.315 PER IMP= | 24.00  |  |
| COMPUTE NM HYD  | 103.00   | -       | 3       | 0.00340 | 0.69  | 0.023 | 0.12942 | 1.530 | 0.317 PER IMP= | 16.70  |  |
| COMPUTE NM HYD  | 104.00   | -       | 4       | 0.02610 | 5.26  | 0.180 | 0.12942 | 1.530 | 0.315 PER IMP= | 16.70  |  |
| COMPUTE NM HYD  | 105.00   | -       | 5       | 0.00310 | 3.12  | 0.103 | 0.62290 | 1.530 | 1.574 PER IMP= | 80.00  |  |
| COMPUTE NM HYD  | 106.00   | -       | 6       | 0.00200 | 2.30  | 0.078 | 0.73256 | 1.520 | 1.799 PER IMP= | 100.00 |  |
| ADD HYD         | 200.00   | 1& 2    | 7       | 0.02950 | 11.33 | 0.336 | 0.21345 | 1.540 | 0.600          |        |  |
| ADD HYD         | 201.00   | 7& 3    | 8       | 0.03290 | 12.02 | 0.359 | 0.20476 | 1.540 | 0.571          |        |  |
| ADD HYD         | 202.00   | 8& 4    | 9       | 0.05900 | 17.28 | 0.539 | 0.17143 | 1.540 | 0.458          |        |  |
| ADD HYD         | 203.00   | 9& 5    | 10      | 0.06210 | 20.38 | 0.642 | 0.19396 | 1.540 | 0.513          |        |  |
| ADD HYD         | 204.00   | 10& 6   | 11      | 0.06410 | 22.68 | 0.721 | 0.21076 | 1.530 | 0.553          |        |  |
| ROUTE RESERVOIR | 305.00   | 11      | 12      | 0.06410 | 22.32 | 0.721 | 0.21076 | 1.550 | 0.544 AC-FT=   | 0.034  |  |

FINISH

← (s0p10h4099T←&l6D

AHYMO 2 YR Summary

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A-53

# AH YMD Z YR Input

```
2014-06-27 2 yr peak shave, 6 hr
START 0.0 HRS PUNCH CODE=0 PRINT LINES=-6
*****
*S THE TEAM OFFICE BUILDING 2-YR, 6-HR DEVELOPED CONDITIONS
LOCATION ALBUQUERQUE
RAINFALL TYPE=1 RAIN QUARTER=0.0 RAIN ONE=0.75
        RAIN SIX=0.96 RAIN DAY=1.09 DT=.01
*****
* Basin 101
*****
COMPUTE NM HYD ID=1 HYD=101 DA=0.0133 SQ MI
                PER A=0 B=0 C=76 D=24
                TP=0.133333 HRS RAIN=-1
PRINT HYD ID=1 CODE=1
*****
* Basin 102
*****
COMPUTE NM HYD ID=2 HYD=102 DA=0.0162 SQ MI
                PER A=50 B=16.6 C=16.7 D=16.7
                TP=0.133333 HRS RAIN=-1
PRINT HYD ID=2 CODE=1
*****
* Basin 103
*****
COMPUTE NM HYD ID=3 HYD=103 DA=0.0034 SQ MI
                PER A=50 B=16.6 C=16.7 D=16.7
                TP=0.133333 HRS RAIN=-1
PRINT HYD ID=3 CODE=1
*****
* Basin 104
*****
COMPUTE NM HYD ID=4 HYD=104 DA=0.0261 SQ MI
                PER A=50 B=16.6 C=16.7 D=16.7
                TP=0.133333 HRS RAIN=-1
PRINT HYD ID=4 CODE=1
*****
* Basin 105
*****
COMPUTE NM HYD ID=5 HYD=105 DA=0.0031 SQ MI
                PER A=0 B=0 C=20 D=80
                TP=0.133333 HRS RAIN=-1
PRINT HYD ID=5 CODE=1
*****
* Basin 106
*****
COMPUTE NM HYD ID=6 HYD=106 DA=0.0020 SQ MI
                PER A=0 B=0 C=0 D=100
                TP=0.133333 HRS RAIN=-1
PRINT HYD ID=6 CODE=1
*****
ADD HYD ID=7 HYD=200 IDS= 1 & 2
ADD HYD ID=8 HYD=201 IDS= 7 & 3
ADD HYD ID=9 HYD=202 IDS= 8 & 4
ADD HYD ID=10 HYD=203 IDS= 9 & 5
ADD HYD ID=11 HYD=204 IDS= 10 & 6
PRINT HYD ID=11 CODE=1
*****
ROUTE RESERVOIR ID=12 HYD=305 INFLOW ID=11 CODE=5
                OUTFLOW (CFS) STORAGE (AC FT) ELEV (FT)
                0 0.00 5500
                33 0.05 5503
                41 0.35 5504
                45.5 0.66 5504.5
```

2014-06-27 2 yr peak shave, 6 hr

45.8  
46

1.04  
2.18

5505  
5506

PRINT HYD  
FINISH

ID=12 CODE=1

# AHYMO 2-YR Output

←(s16.67h8.5v0T←&l8D

          AHYMO PROGRAM (AHYMO-S4)                                  - Version: S4.01a - Rel: 01a  
          RUN DATE (MON/DAY/YR) = 06/27/2014  
          START TIME (HR:MIN:SEC) = 16:51:10          USER NO.= AHYMO\_Temp\_User:20122010  
          INPUT FILE = C:\Users\doug\Desktop\2014-06-27 2 yr peak shave, 6 hr.txt  
  
START          0.0 HRS  PUNCH CODE=0  PRINT LINES=-6

A-56

\*\*\*\*\*

\*S THE TEAM OFFICE BUILDING 2-YR, 6-HR DEVELOPED CONDITIONS  
ALBUQUERQUE

City of Albuquerque soil infiltration values (LAND FACTORS) used for computations.

Land Treatment Initial Abstr.(in) Unif. Infilt.(in/hour)

A 0.65 1.67  
B 0.50 1.25  
C 0.35 0.83  
D 0.10 0.04

RAINFALL

TYPE=1 RAIN QUARTER=0.0 RAIN ONE=0.75  
RAIN SIX=0.96 RAIN DAY=1.09 DT=.01

6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1  
DT = 0.010000 HOURS END TIME = 6.000000 HOURS

|        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|
| 0.0000 | 0.0003 | 0.0006 | 0.0008 | 0.0011 | 0.0014 | 0.0017 |
| 0.0020 | 0.0022 | 0.0025 | 0.0028 | 0.0032 | 0.0035 | 0.0038 |
| 0.0041 | 0.0044 | 0.0047 | 0.0050 | 0.0054 | 0.0057 | 0.0061 |
| 0.0064 | 0.0067 | 0.0071 | 0.0074 | 0.0078 | 0.0082 | 0.0086 |
| 0.0089 | 0.0093 | 0.0097 | 0.0101 | 0.0105 | 0.0109 | 0.0116 |
| 0.0125 | 0.0134 | 0.0142 | 0.0151 | 0.0160 | 0.0168 | 0.0177 |
| 0.0186 | 0.0196 | 0.0205 | 0.0215 | 0.0225 | 0.0235 | 0.0244 |
| 0.0254 | 0.0264 | 0.0274 | 0.0285 | 0.0295 | 0.0306 | 0.0316 |
| 0.0327 | 0.0337 | 0.0348 | 0.0359 | 0.0370 | 0.0381 | 0.0392 |
| 0.0403 | 0.0414 | 0.0425 | 0.0436 | 0.0447 | 0.0458 | 0.0470 |
| 0.0482 | 0.0493 | 0.0505 | 0.0516 | 0.0528 | 0.0539 | 0.0552 |
| 0.0565 | 0.0578 | 0.0590 | 0.0603 | 0.0616 | 0.0629 | 0.0642 |
| 0.0656 | 0.0670 | 0.0684 | 0.0699 | 0.0713 | 0.0728 | 0.0742 |
| 0.0756 | 0.0773 | 0.0795 | 0.0817 | 0.0838 | 0.0860 | 0.0882 |
| 0.0903 | 0.0925 | 0.0947 | 0.0976 | 0.1005 | 0.1034 | 0.1063 |
| 0.1092 | 0.1121 | 0.1150 | 0.1179 | 0.1216 | 0.1257 | 0.1297 |
| 0.1338 | 0.1379 | 0.1419 | 0.1460 | 0.1501 | 0.1548 | 0.1609 |
| 0.1670 | 0.1732 | 0.1793 | 0.1854 | 0.1915 | 0.1976 | 0.2037 |
| 0.2142 | 0.2248 | 0.2353 | 0.2459 | 0.2564 | 0.2669 | 0.2775 |
| 0.2880 | 0.3103 | 0.3383 | 0.3664 | 0.3945 | 0.4226 | 0.4507 |
| 0.4788 | 0.5068 | 0.5308 | 0.5463 | 0.5619 | 0.5775 | 0.5930 |
| 0.6086 | 0.6242 | 0.6397 | 0.6553 | 0.6631 | 0.6709 | 0.6788 |
| 0.6866 | 0.6944 | 0.7022 | 0.7100 | 0.7179 | 0.7238 | 0.7287 |
| 0.7336 | 0.7385 | 0.7435 | 0.7484 | 0.7533 | 0.7582 | 0.7627 |
| 0.7661 | 0.7695 | 0.7729 | 0.7763 | 0.7797 | 0.7832 | 0.7866 |
| 0.7900 | 0.7925 | 0.7950 | 0.7975 | 0.8000 | 0.8025 | 0.8050 |
| 0.8075 | 0.8100 | 0.8121 | 0.8140 | 0.8159 | 0.8178 | 0.8197 |
| 0.8216 | 0.8235 | 0.8253 | 0.8271 | 0.8284 | 0.8298 | 0.8311 |
| 0.8325 | 0.8338 | 0.8352 | 0.8365 | 0.8379 | 0.8391 | 0.8403 |
| 0.8415 | 0.8428 | 0.8440 | 0.8452 | 0.8464 | 0.8476 | 0.8487 |
| 0.8497 | 0.8507 | 0.8517 | 0.8527 | 0.8537 | 0.8547 | 0.8558 |
| 0.8567 | 0.8577 | 0.8586 | 0.8595 | 0.8605 | 0.8614 | 0.8623 |
| 0.8633 | 0.8642 | 0.8651 | 0.8660 | 0.8669 | 0.8678 | 0.8687 |
| 0.8696 | 0.8705 | 0.8714 | 0.8720 | 0.8724 | 0.8728 | 0.8732 |
| 0.8737 | 0.8741 | 0.8745 | 0.8749 | 0.8753 | 0.8757 | 0.8762 |

|        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|
| 0.8766 | 0.8770 | 0.8774 | 0.8778 | 0.8782 | 0.8786 | 0.8790 |
| 0.8793 | 0.8797 | 0.8801 | 0.8805 | 0.8809 | 0.8812 | 0.8816 |
| 0.8820 | 0.8823 | 0.8827 | 0.8831 | 0.8834 | 0.8838 | 0.8842 |
| 0.8845 | 0.8849 | 0.8853 | 0.8856 | 0.8858 | 0.8863 | 0.8867 |
| 0.8870 | 0.8874 | 0.8878 | 0.8881 | 0.8884 | 0.8888 | 0.8891 |
| 0.8894 | 0.8898 | 0.8901 | 0.8904 | 0.8908 | 0.8911 | 0.8914 |
| 0.8917 | 0.8921 | 0.8924 | 0.8927 | 0.8930 | 0.8934 | 0.8937 |
| 0.8940 | 0.8943 | 0.8946 | 0.8949 | 0.8953 | 0.8956 | 0.8959 |
| 0.8962 | 0.8965 | 0.8968 | 0.8971 | 0.8974 | 0.8977 | 0.8980 |
| 0.8983 | 0.8986 | 0.8989 | 0.8992 | 0.8995 | 0.8998 | 0.9001 |
| 0.9004 | 0.9007 | 0.9009 | 0.9012 | 0.9015 | 0.9018 | 0.9021 |
| 0.9024 | 0.9027 | 0.9029 | 0.9032 | 0.9035 | 0.9038 | 0.9041 |
| 0.9043 | 0.9046 | 0.9049 | 0.9051 | 0.9054 | 0.9057 | 0.9060 |
| 0.9062 | 0.9065 | 0.9068 | 0.9070 | 0.9073 | 0.9076 | 0.9078 |
| 0.9081 | 0.9083 | 0.9086 | 0.9089 | 0.9091 | 0.9094 | 0.9096 |
| 0.9099 | 0.9102 | 0.9104 | 0.9107 | 0.9109 | 0.9112 | 0.9114 |
| 0.9117 | 0.9120 | 0.9122 | 0.9125 | 0.9127 | 0.9130 | 0.9132 |
| 0.9135 | 0.9137 | 0.9140 | 0.9142 | 0.9145 | 0.9147 | 0.9149 |
| 0.9152 | 0.9154 | 0.9157 | 0.9159 | 0.9162 | 0.9164 | 0.9167 |
| 0.9169 | 0.9171 | 0.9174 | 0.9176 | 0.9179 | 0.9181 | 0.9183 |
| 0.9186 | 0.9188 | 0.9190 | 0.9193 | 0.9195 | 0.9198 | 0.9200 |
| 0.9202 | 0.9205 | 0.9207 | 0.9209 | 0.9211 | 0.9214 | 0.9216 |
| 0.9218 | 0.9221 | 0.9223 | 0.9225 | 0.9228 | 0.9230 | 0.9232 |
| 0.9234 | 0.9237 | 0.9239 | 0.9241 | 0.9243 | 0.9246 | 0.9248 |
| 0.9250 | 0.9252 | 0.9254 | 0.9257 | 0.9259 | 0.9261 | 0.9263 |
| 0.9266 | 0.9268 | 0.9270 | 0.9272 | 0.9274 | 0.9276 | 0.9279 |
| 0.9281 | 0.9283 | 0.9285 | 0.9287 | 0.9289 | 0.9292 | 0.9294 |
| 0.9296 | 0.9298 | 0.9300 | 0.9302 | 0.9304 | 0.9306 | 0.9308 |
| 0.9311 | 0.9313 | 0.9315 | 0.9317 | 0.9319 | 0.9321 | 0.9323 |
| 0.9325 | 0.9327 | 0.9329 | 0.9331 | 0.9333 | 0.9335 | 0.9337 |
| 0.9340 | 0.9342 | 0.9344 | 0.9346 | 0.9348 | 0.9350 | 0.9352 |
| 0.9354 | 0.9356 | 0.9358 | 0.9360 | 0.9362 | 0.9364 | 0.9366 |
| 0.9368 | 0.9370 | 0.9372 | 0.9374 | 0.9376 | 0.9378 | 0.9380 |
| 0.9382 | 0.9383 | 0.9385 | 0.9387 | 0.9389 | 0.9391 | 0.9393 |
| 0.9395 | 0.9397 | 0.9399 | 0.9401 | 0.9403 | 0.9405 | 0.9407 |
| 0.9409 | 0.9411 | 0.9412 | 0.9414 | 0.9416 | 0.9418 | 0.9420 |
| 0.9422 | 0.9424 | 0.9426 | 0.9428 | 0.9429 | 0.9431 | 0.9433 |
| 0.9435 | 0.9437 | 0.9439 | 0.9441 | 0.9442 | 0.9444 | 0.9446 |
| 0.9448 | 0.9450 | 0.9452 | 0.9453 | 0.9455 | 0.9457 | 0.9459 |
| 0.9461 | 0.9463 | 0.9464 | 0.9466 | 0.9468 | 0.9470 | 0.9472 |
| 0.9473 | 0.9475 | 0.9477 | 0.9479 | 0.9481 | 0.9482 | 0.9484 |
| 0.9486 | 0.9488 | 0.9489 | 0.9491 | 0.9493 | 0.9495 | 0.9496 |
| 0.9498 | 0.9500 | 0.9502 | 0.9503 | 0.9505 | 0.9507 | 0.9509 |
| 0.9510 | 0.9512 | 0.9514 | 0.9516 | 0.9517 | 0.9519 | 0.9521 |
| 0.9522 | 0.9524 | 0.9526 | 0.9528 | 0.9529 | 0.9531 | 0.9533 |
| 0.9534 | 0.9536 | 0.9538 | 0.9539 | 0.9541 | 0.9543 | 0.9544 |
| 0.9546 | 0.9548 | 0.9549 | 0.9551 | 0.9553 | 0.9554 | 0.9556 |
| 0.9558 | 0.9559 | 0.9561 | 0.9563 | 0.9564 | 0.9566 | 0.9568 |
| 0.9569 | 0.9571 | 0.9573 | 0.9574 | 0.9576 | 0.9577 | 0.9579 |
| 0.9581 | 0.9582 | 0.9584 | 0.9586 | 0.9587 | 0.9589 | 0.9590 |
| 0.9592 | 0.9594 | 0.9595 | 0.9597 | 0.9598 | 0.9600 |        |



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Basin 101  
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A-60

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COMPUTE NM HYD

ID=1 HYD=101 DA=0.0133 SQ MI

PER A=0 B=0 C=76 D=24

TP=0.13333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 12.599 CFS UNIT VOLUME = 0.9990 B = 526.28 P60 = .75000  
AREA = 0.003192 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.113034HR TP = 0.133333HR K/TP RATIO = 0.847760 SHAPE CONSTANT, N = 4.199886  
UNIT PEAK = 27.920 CFS UNIT VOLUME = 0.9995 B = 368.28 P60 = .75000  
AREA = 0.010108 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.00

RUNOFF VOLUME = 0.31585 INCHES = 0.2240 ACRE-FEET  
PEAK DISCHARGE RATE = 8.07 CFS AT 1.540 HOURS BASIN AREA = 0.0133 SQ. MI.

A-61

Basin 102

A-62

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COMPUTE NM HYD

ID=2 HYD=102 DA=0.0162 SQ MI

PER A=50 B=16.6 C=16.7 D=16.7

TP=0.133333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 10.678 CFS UNIT VOLUME = 0.9988 B = 526.28 P60 = .75000  
AREA = 0.002705 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.160743HR TP = 0.133333HR K/TP RATIO = 1.205574 SHAPE CONSTANT, N = 2.948524  
UNIT PEAK = 28.096 CFS UNIT VOLUME = 0.9994 B = 277.60 P60 = .75000  
AREA = 0.013495 SQ MI IA = 0.55996 INCHES INF = 1.41790 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = 0.12942 INCHES = 0.1118 ACRE-FEET  
PEAK DISCHARGE RATE = 3.27 CFS AT 1.530 HOURS BASIN AREA = 0.0162 SQ. MI.

A-63

Basin 103

A-64

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COMPUTE NM HYD

ID=3 HYD=103 DA=0.0034 SQ MI

PER A=50 B=16.6 C=16.7 D=16.7

TP=0.133333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 2.2412 CFS UNIT VOLUME = 0.9945 B = 526.28 P60 = .75000  
AREA = 0.000568 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.160743HR TP = 0.133333HR K/TP RATIO = 1.205574 SHAPE CONSTANT, N = 2.948524  
UNIT PEAK = 5.8967 CFS UNIT VOLUME = 0.9974 B = 277.60 P60 = .75000  
AREA = 0.002832 SQ MI IA = 0.55996 INCHES INF = 1.41790 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = 0.12942 INCHES = 0.0235 ACRE-FEET  
PEAK DISCHARGE RATE = 0.69 CFS AT 1.530 HOURS BASIN AREA = 0.0034 SQ. MI.

A-65

Basin 104

A-66

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COMPUTE NM HYD

ID=4 HYD=104 DA=0.0261 SQ MI  
PER A=50 B=16.6 C=16.7 D=16.7  
TP=0.133333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 17.204 CFS UNIT VOLUME = 0.9993 B = 526.28 P60 = .75000  
AREA = 0.004359 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.160743HR TP = 0.133333HR K/TP RATIO = 1.205574 SHAPE CONSTANT, N = 2.948524  
UNIT PEAK = 45.266 CFS UNIT VOLUME = 0.9997 B = 277.60 P60 = .75000  
AREA = 0.021741 SQ MI IA = 0.55996 INCHES INF = 1.41790 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 104.00

RUNOFF VOLUME = 0.12942 INCHES = 0.1802 ACRE-FEET  
PEAK DISCHARGE RATE = 5.26 CFS AT 1.530 HOURS BASIN AREA = 0.0261 SQ. MI.

A-67

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Basin 105  
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A-68

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COMPUTE NM HYD

ID=5 HYD=105 DA=0.0031 SQ MI

PER A=0 B=0 C=20 D=80

TP=0.133333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 9.7887 CFS UNIT VOLUME = 0.9987 B = 526.28 P60 = .75000  
AREA = 0.002480 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

K = 0.113034HR TP = 0.133333HR K/TP RATIO = 0.847760 SHAPE CONSTANT, N = 4.199886  
UNIT PEAK = 1.7125 CFS UNIT VOLUME = 0.9918 B = 368.28 P60 = .75000  
AREA = 0.000620 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 105.00

RUNOFF VOLUME = 0.62290 INCHES = 0.1030 ACRE-FEET  
PEAK DISCHARGE RATE = 3.12 CFS AT 1.530 HOURS BASIN AREA = 0.0031 SQ. MI.

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Basin 106  
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A-70

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COMPUTE NM HYD

ID=6 HYD=106 DA=0.0020 SQ MI

PER A=0 B=0 C=0 D=100

TP=0.13333 HRS RAIN=-1

K = 0.072666HR TP = 0.133333HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428  
UNIT PEAK = 7.8942 CFS UNIT VOLUME = 0.9984 B = 526.28 P60 = .75000  
AREA = 0.002000 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.010000

PRINT HYD ID=6 CODE=1

PARTIAL HYDROGRAPH 106.00

RUNOFF VOLUME = 0.73256 INCHES = 0.0781 ACRE-FEET  
PEAK DISCHARGE RATE = 2.30 CFS AT 1.520 HOURS BASIN AREA = 0.0020 SQ. MI.

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ADD HYD ID=7 HYD=200 IDS= 1 & 2  
ADD HYD ID=8 HYD=201 IDS= 7 & 3  
ADD HYD ID=9 HYD=202 IDS= 8 & 4  
ADD HYD ID=10 HYD=203 IDS= 9 & 5  
ADD HYD ID=11 HYD=204 IDS= 10 & 6  
PRINT HYD ID=11 CODE=1

PARTIAL HYDROGRAPH 204.00

RUNOFF VOLUME = 0.21076 INCHES = 0.7205 ACRE-FEET  
PEAK DISCHARGE RATE = 22.68 CFS AT 1.530 HOURS BASIN AREA = 0.0641 SQ. MI.

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ROUTE RESERVOIR

ID=12 HYD=305 INFLOW ID=11 CODE=5

OUTFLOW (CFS) STORAGE (AC FT) ELEV (FT)  
 0 0.00 5500  
 33 0.05 5503  
 41 0.35 5504  
 45.5 0.66 5504.5  
 45.8 1.04 5505  
 46 2.18 5506

| TIME<br>(HRS) | INFLOW<br>(CFS) | ELEV<br>(FEET) | VOLUME<br>(AC-FT) | OUTFLOW<br>(CFS) |
|---------------|-----------------|----------------|-------------------|------------------|
| 0.00          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.05          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.10          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.15          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.20          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.25          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.30          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.35          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.40          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.45          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.50          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.55          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.60          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.65          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.70          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.75          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.80          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.85          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.90          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 0.95          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 1.00          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 1.05          | 0.00            | 5500.00        | 0.000             | 0.00             |
| 1.10          | 0.21            | 5500.01        | 0.000             | 0.10             |
| 1.15          | 0.91            | 5500.06        | 0.001             | 0.64             |
| 1.20          | 1.83            | 5500.14        | 0.002             | 1.50             |
| 1.25          | 2.71            | 5500.22        | 0.004             | 2.38             |
| 1.30          | 3.71            | 5500.30        | 0.005             | 3.33             |
| 1.35          | 5.12            | 5500.42        | 0.007             | 4.57             |
| 1.40          | 7.80            | 5500.60        | 0.010             | 6.63             |
| 1.45          | 14.63           | 5501.09        | 0.018             | 11.96            |
| 1.50          | 21.35           | 5501.74        | 0.029             | 19.18            |
| 1.55          | 22.45           | 5502.03        | 0.034             | 22.32            |
| 1.60          | 19.24           | 5501.87        | 0.031             | 20.52            |
| 1.65          | 14.79           | 5501.49        | 0.025             | 16.40            |
| 1.70          | 10.99           | 5501.12        | 0.019             | 12.32            |

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| TIME<br>(HRS) | INFLOW<br>(CFS) | ELEV<br>(FEET) | VOLUME<br>(AC-FT) | OUTFLOW<br>(CFS) |
|---------------|-----------------|----------------|-------------------|------------------|
| 1.75          | 8.36            | 5500.84        | 0.014             | 9.28             |
| 1.80          | 6.52            | 5500.65        | 0.011             | 7.16             |
| 1.85          | 5.26            | 5500.52        | 0.009             | 5.70             |
| 1.90          | 4.32            | 5500.42        | 0.007             | 4.65             |
| 1.95          | 3.60            | 5500.35        | 0.006             | 3.86             |
| 2.00          | 3.00            | 5500.29        | 0.005             | 3.21             |
| 2.05          | 2.48            | 5500.24        | 0.004             | 2.66             |
| 2.10          | 2.08            | 5500.20        | 0.003             | 2.22             |
| 2.15          | 1.77            | 5500.17        | 0.003             | 1.88             |
| 2.20          | 1.51            | 5500.15        | 0.002             | 1.60             |
| 2.25          | 1.30            | 5500.12        | 0.002             | 1.37             |
| 2.30          | 1.13            | 5500.11        | 0.002             | 1.19             |
| 2.35          | 0.99            | 5500.09        | 0.002             | 1.04             |
| 2.40          | 0.87            | 5500.08        | 0.001             | 0.92             |
| 2.45          | 0.69            | 5500.07        | 0.001             | 0.76             |
| 2.50          | 0.49            | 5500.05        | 0.001             | 0.56             |
| 2.55          | 0.35            | 5500.04        | 0.001             | 0.40             |
| 2.60          | 0.27            | 5500.03        | 0.000             | 0.30             |
| 2.65          | 0.21            | 5500.02        | 0.000             | 0.23             |
| 2.70          | 0.16            | 5500.02        | 0.000             | 0.18             |
| 2.75          | 0.13            | 5500.01        | 0.000             | 0.14             |

TIME (HRS) INFLOW (CFS) ELEV (FEET) VOLUME (AC-FT) OUTFLOW (CFS)

|      |      |         |       |      |
|------|------|---------|-------|------|
| 2.80 | 0.10 | 5500.01 | 0.000 | 0.11 |
| 2.85 | 0.08 | 5500.01 | 0.000 | 0.09 |
| 2.90 | 0.07 | 5500.01 | 0.000 | 0.07 |
| 2.95 | 0.05 | 5500.01 | 0.000 | 0.06 |
| 3.00 | 0.04 | 5500.00 | 0.000 | 0.05 |
| 3.05 | 0.04 | 5500.00 | 0.000 | 0.04 |
| 3.10 | 0.03 | 5500.00 | 0.000 | 0.03 |
| 3.15 | 0.02 | 5500.00 | 0.000 | 0.03 |
| 3.20 | 0.02 | 5500.00 | 0.000 | 0.02 |
| 3.25 | 0.02 | 5500.00 | 0.000 | 0.02 |
| 3.30 | 0.01 | 5500.00 | 0.000 | 0.02 |
| 3.35 | 0.01 | 5500.00 | 0.000 | 0.01 |
| 3.40 | 0.01 | 5500.00 | 0.000 | 0.01 |
| 3.45 | 0.01 | 5500.00 | 0.000 | 0.01 |
| 3.50 | 0.01 | 5500.00 | 0.000 | 0.01 |
| 3.55 | 0.01 | 5500.00 | 0.000 | 0.01 |
| 3.60 | 0.01 | 5500.00 | 0.000 | 0.01 |
| 3.65 | 0.00 | 5500.00 | 0.000 | 0.00 |

PEAK DISCHARGE = 22.319 CFS - PEAK OCCURS AT HOUR 1.55  
 MAXIMUM WATER SURFACE ELEVATION = 5502.029  
 MAXIMUM STORAGE = 0.0338 AC-FT INCREMENTAL TIME= 0.010000HRS

PRINT HYD ID=12 CODE=1

HYDROGRAPH FROM AREA 305.00

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RUNOFF VOLUME = 0.21076 INCHES = 0.7205 ACRE-FEET  
PEAK DISCHARGE RATE = 22.32 CFS AT 1.550 HOURS BASIN AREA = 0.0641 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 16:51:10

←(s0p10h4099T←&l6D

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A-77



NOAA Atlas 14, Volume 1, Version 5  
 Location name: Albuquerque, New Mexico, US\*  
 Latitude: 35.1752°, Longitude: -106.6749°  
 Elevation: 5017 ft\*  
 \* source: Google Maps



## POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerals](#)

## PF tabular

| PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) <sup>1</sup> |                                     |                        |                        |                        |                        |                        |                        |                        |                        |                        |
|----------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Duration                                                                                                 | Average recurrence interval (years) |                        |                        |                        |                        |                        |                        |                        |                        |                        |
|                                                                                                          | 1                                   | 2                      | 5                      | 10                     | 25                     | 50                     | 100                    | 200                    | 500                    | 1000                   |
| 5-min                                                                                                    | 0.162<br>(0.139-0.191)              | 0.211<br>(0.179-0.247) | 0.284<br>(0.241-0.333) | 0.341<br>(0.289-0.399) | 0.419<br>(0.354-0.491) | 0.481<br>(0.404-0.563) | 0.547<br>(0.456-0.638) | 0.617<br>(0.510-0.719) | 0.711<br>(0.583-0.831) | 0.787<br>(0.640-0.917) |
| 10-min                                                                                                   | 0.247<br>(0.212-0.290)              | 0.321<br>(0.273-0.376) | 0.432<br>(0.367-0.507) | 0.518<br>(0.440-0.607) | 0.638<br>(0.538-0.747) | 0.733<br>(0.616-0.856) | 0.832<br>(0.694-0.971) | 0.938<br>(0.777-1.10)  | 1.08<br>(0.887-1.26)   | 1.20<br>(0.974-1.40)   |
| 15-min                                                                                                   | 0.307<br>(0.262-0.360)              | 0.398<br>(0.338-0.466) | 0.535<br>(0.455-0.628) | 0.643<br>(0.545-0.753) | 0.791<br>(0.667-0.926) | 0.908<br>(0.763-1.06)  | 1.03<br>(0.861-1.20)   | 1.16<br>(0.963-1.36)   | 1.34<br>(1.10-1.57)    | 1.49<br>(1.21-1.73)    |
| 30-min                                                                                                   | 0.413<br>(0.353-0.484)              | 0.536<br>(0.456-0.627) | 0.721<br>(0.612-0.846) | 0.865<br>(0.735-1.01)  | 1.07<br>(0.898-1.25)   | 1.22<br>(1.03-1.43)    | 1.39<br>(1.16-1.62)    | 1.57<br>(1.30-1.83)    | 1.81<br>(1.48-2.11)    | 2.00<br>(1.63-2.33)    |
| 60-min                                                                                                   | 0.511<br>(0.437-0.599)              | 0.663<br>(0.564-0.776) | 0.892<br>(0.758-1.05)  | 1.07<br>(0.909-1.26)   | 1.32<br>(1.11-1.54)    | 1.51<br>(1.27-1.77)    | 1.72<br>(1.43-2.01)    | 1.94<br>(1.61-2.26)    | 2.24<br>(1.83-2.61)    | 2.47<br>(2.01-2.89)    |
| 2-hr                                                                                                     | 0.601<br>(0.510-0.716)              | 0.769<br>(0.652-0.919) | 1.02<br>(0.863-1.22)   | 1.22<br>(1.03-1.45)    | 1.50<br>(1.26-1.78)    | 1.73<br>(1.44-2.04)    | 1.97<br>(1.63-2.33)    | 2.23<br>(1.83-2.62)    | 2.59<br>(2.10-3.04)    | 2.88<br>(2.31-3.39)    |
| 3-hr                                                                                                     | 0.645<br>(0.555-0.766)              | 0.821<br>(0.703-0.975) | 1.08<br>(0.925-1.28)   | 1.29<br>(1.10-1.52)    | 1.57<br>(1.33-1.85)    | 1.80<br>(1.52-2.12)    | 2.05<br>(1.71-2.40)    | 2.31<br>(1.92-2.71)    | 2.68<br>(2.19-3.14)    | 2.98<br>(2.41-3.50)    |
| 6-hr                                                                                                     | 0.746<br>(0.644-0.876)              | 0.942<br>(0.818-1.11)  | 1.22<br>(1.06-1.43)    | 1.44<br>(1.24-1.68)    | 1.74<br>(1.49-2.03)    | 1.97<br>(1.68-2.29)    | 2.22<br>(1.88-2.58)    | 2.47<br>(2.09-2.88)    | 2.84<br>(2.37-3.30)    | 3.13<br>(2.59-3.65)    |
| 12-hr                                                                                                    | 0.827<br>(0.724-0.949)              | 1.05<br>(0.913-1.20)   | 1.33<br>(1.16-1.52)    | 1.55<br>(1.35-1.77)    | 1.85<br>(1.60-2.11)    | 2.08<br>(1.79-2.37)    | 2.33<br>(1.99-2.65)    | 2.58<br>(2.19-2.94)    | 2.92<br>(2.46-3.33)    | 3.19<br>(2.67-3.67)    |
| 24-hr                                                                                                    | 0.935<br>(0.823-1.07)               | 1.17<br>(1.03-1.34)    | 1.47<br>(1.29-1.68)    | 1.70<br>(1.50-1.94)    | 2.02<br>(1.77-2.30)    | 2.27<br>(1.97-2.57)    | 2.52<br>(2.19-2.86)    | 2.78<br>(2.40-3.15)    | 3.12<br>(2.68-3.54)    | 3.39<br>(2.90-3.85)    |
| 2-day                                                                                                    | 0.975<br>(0.864-1.10)               | 1.22<br>(1.08-1.38)    | 1.53<br>(1.36-1.72)    | 1.76<br>(1.56-1.99)    | 2.09<br>(1.84-2.35)    | 2.33<br>(2.05-2.62)    | 2.58<br>(2.26-2.90)    | 2.84<br>(2.47-3.19)    | 3.17<br>(2.75-3.58)    | 3.43<br>(2.97-3.88)    |
| 3-day                                                                                                    | 1.10<br>(0.996-1.22)                | 1.38<br>(1.24-1.52)    | 1.70<br>(1.53-1.88)    | 1.95<br>(1.76-2.16)    | 2.29<br>(2.06-2.53)    | 2.55<br>(2.28-2.81)    | 2.81<br>(2.51-3.10)    | 3.07<br>(2.73-3.39)    | 3.42<br>(3.03-3.78)    | 3.68<br>(3.25-4.08)    |
| 4-day                                                                                                    | 1.23<br>(1.13-1.35)                 | 1.53<br>(1.40-1.67)    | 1.87<br>(1.71-2.04)    | 2.14<br>(1.95-2.32)    | 2.49<br>(2.28-2.71)    | 2.77<br>(2.52-3.01)    | 3.04<br>(2.76-3.30)    | 3.31<br>(3.00-3.59)    | 3.66<br>(3.31-3.98)    | 3.93<br>(3.53-4.28)    |
| 7-day                                                                                                    | 1.40<br>(1.29-1.52)                 | 1.74<br>(1.60-1.89)    | 2.11<br>(1.94-2.29)    | 2.40<br>(2.20-2.59)    | 2.77<br>(2.55-2.99)    | 3.05<br>(2.80-3.29)    | 3.32<br>(3.04-3.58)    | 3.58<br>(3.28-3.86)    | 3.91<br>(3.58-4.23)    | 4.15<br>(3.79-4.49)    |
| 10-day                                                                                                   | 1.54<br>(1.42-1.67)                 | 1.91<br>(1.76-2.07)    | 2.33<br>(2.15-2.52)    | 2.66<br>(2.45-2.87)    | 3.09<br>(2.84-3.32)    | 3.41<br>(3.13-3.67)    | 3.72<br>(3.42-4.01)    | 4.04<br>(3.70-4.35)    | 4.43<br>(4.05-4.78)    | 4.72<br>(4.30-5.09)    |
| 20-day                                                                                                   | 1.91<br>(1.76-2.08)                 | 2.37<br>(2.18-2.58)    | 2.87<br>(2.64-3.11)    | 3.24<br>(2.99-3.51)    | 3.72<br>(3.42-4.02)    | 4.06<br>(3.73-4.38)    | 4.38<br>(4.02-4.73)    | 4.69<br>(4.29-5.05)    | 5.06<br>(4.63-5.45)    | 5.31<br>(4.86-5.73)    |
| 30-day                                                                                                   | 2.28<br>(2.10-2.46)                 | 2.82<br>(2.60-3.05)    | 3.38<br>(3.11-3.65)    | 3.79<br>(3.49-4.08)    | 4.30<br>(3.96-4.62)    | 4.66<br>(4.29-5.00)    | 4.99<br>(4.60-5.36)    | 5.30<br>(4.87-5.69)    | 5.66<br>(5.20-6.07)    | 5.90<br>(5.42-6.33)    |
| 45-day                                                                                                   | 2.78<br>(2.57-3.00)                 | 3.44<br>(3.18-3.71)    | 4.08<br>(3.78-4.40)    | 4.54<br>(4.20-4.88)    | 5.08<br>(4.71-5.45)    | 5.44<br>(5.05-5.83)    | 5.76<br>(5.35-6.16)    | 6.03<br>(5.60-6.44)    | 6.31<br>(5.88-6.73)    | 6.45<br>(6.04-6.88)    |
| 60-day                                                                                                   | 3.20<br>(2.96-3.45)                 | 3.95<br>(3.65-4.26)    | 4.69<br>(4.35-5.05)    | 5.21<br>(4.83-5.61)    | 5.84<br>(5.42-6.27)    | 6.26<br>(5.81-6.72)    | 6.64<br>(6.17-7.13)    | 6.96<br>(6.48-7.47)    | 7.31<br>(6.82-7.84)    | 7.50<br>(7.03-8.05)    |

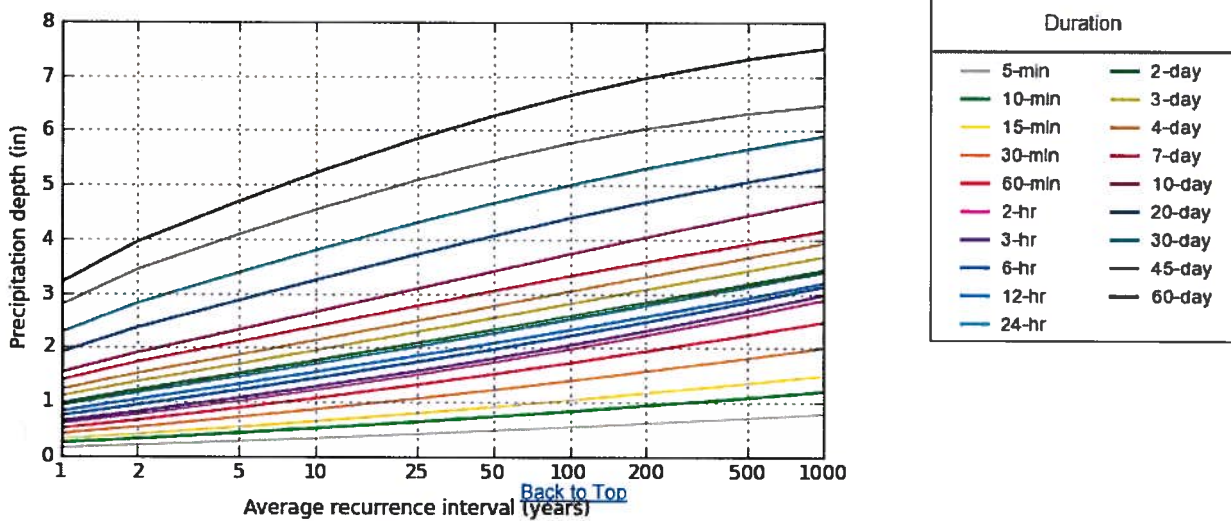
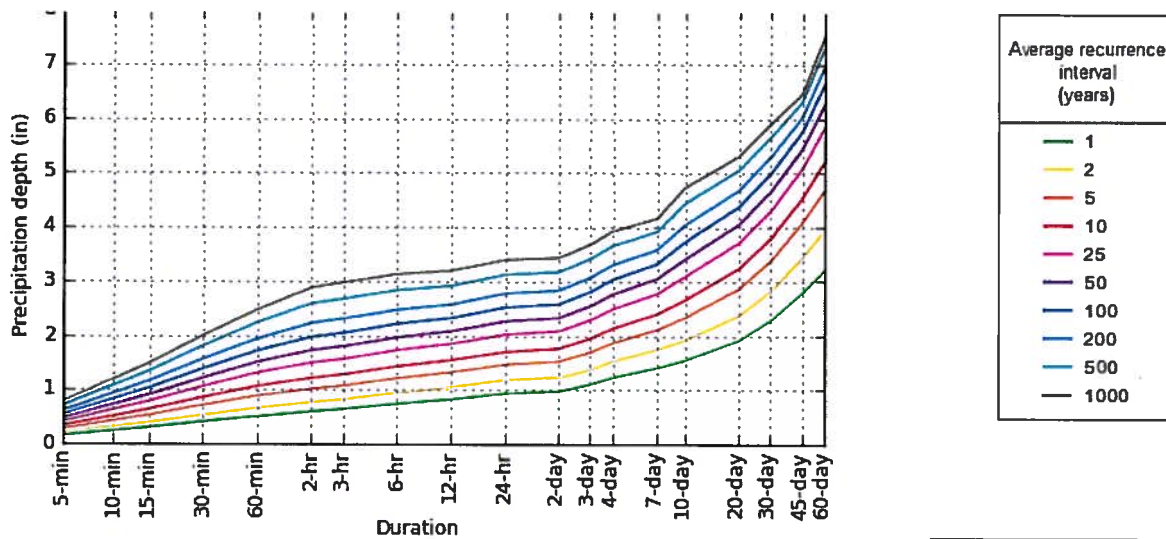
<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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## PF graphical

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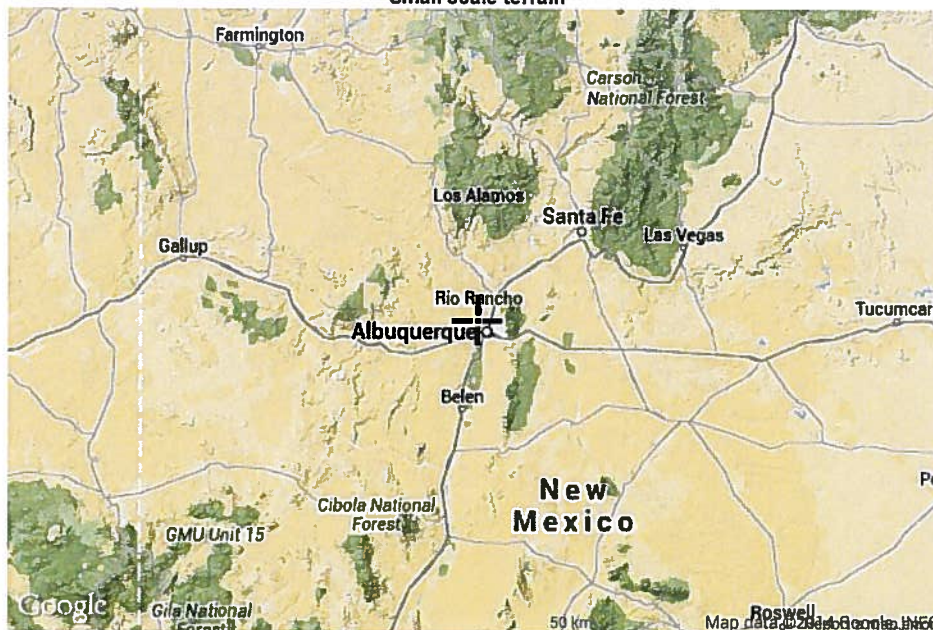
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### Maps & aeriels

NOAA Atlas 14, Volume 1, Version 5

Created (GMT): Tue Apr 22 19:42:02 2014

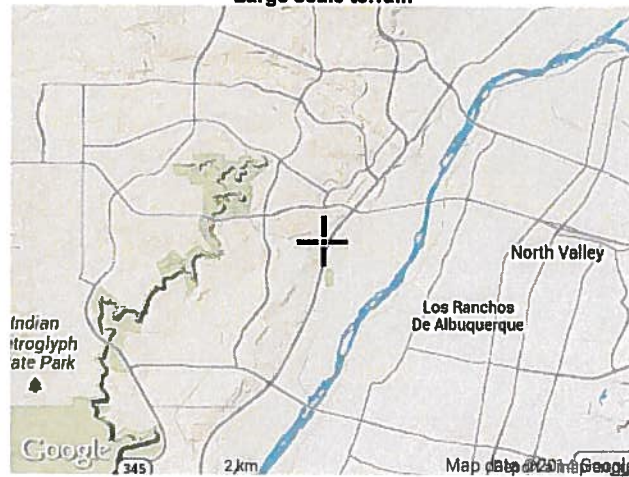
#### Small scale terrain



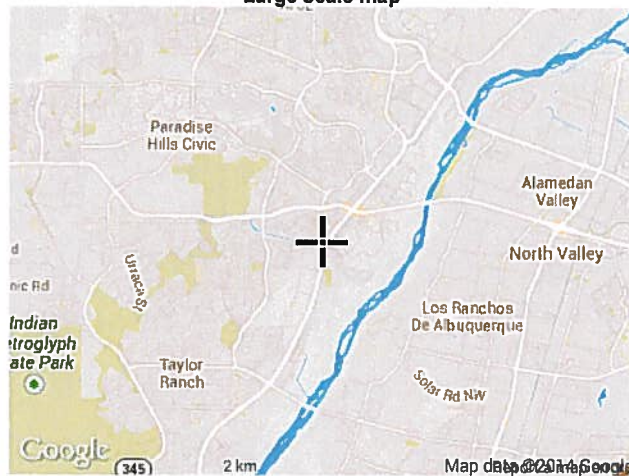
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Large scale terrain



Large scale map



Large scale aerial

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1325 East West Highway  
Silver Spring, MD 20910

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# Culvert Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc.

Thursday, Apr 24 2014

## 2-21 in RCP SD Rating Curve

Invert Elev Dn (ft) = 4995.67  
Pipe Length (ft) = 325.00  
Slope (%) = 1.33  
Invert Elev Up (ft) = 5000.00  
Rise (in) = 21.0  
Shape = Circular  
Span (in) = 21.0  
No. Barrels = 2  
n-Value = 0.013  
Culvert Type = Circular Concrete  
Culvert Entrance = Square edge w/headwall (C)  
Coeff. K,M,c,Y,k = 0.0098, 2, 0.0398, 0.67, 0.5

### Calculations

Qmin (cfs) = 2.00  
Qmax (cfs) = 60.00  
Tailwater Elev (ft) = Crown

### Highlighted

Qtotal (cfs) = 42.00  
Qpipe (cfs) = 40.90  
Qovertop (cfs) = 1.10  
Veloc Dn (ft/s) = 8.50  
Veloc Up (ft/s) = 8.50  
HGL Dn (ft) = 4997.42  
HGL Up (ft) = 5002.84  
Hw Elev (ft) = 5004.04  
Hw/D (ft) = 2.31  
Flow Regime = Inlet Control

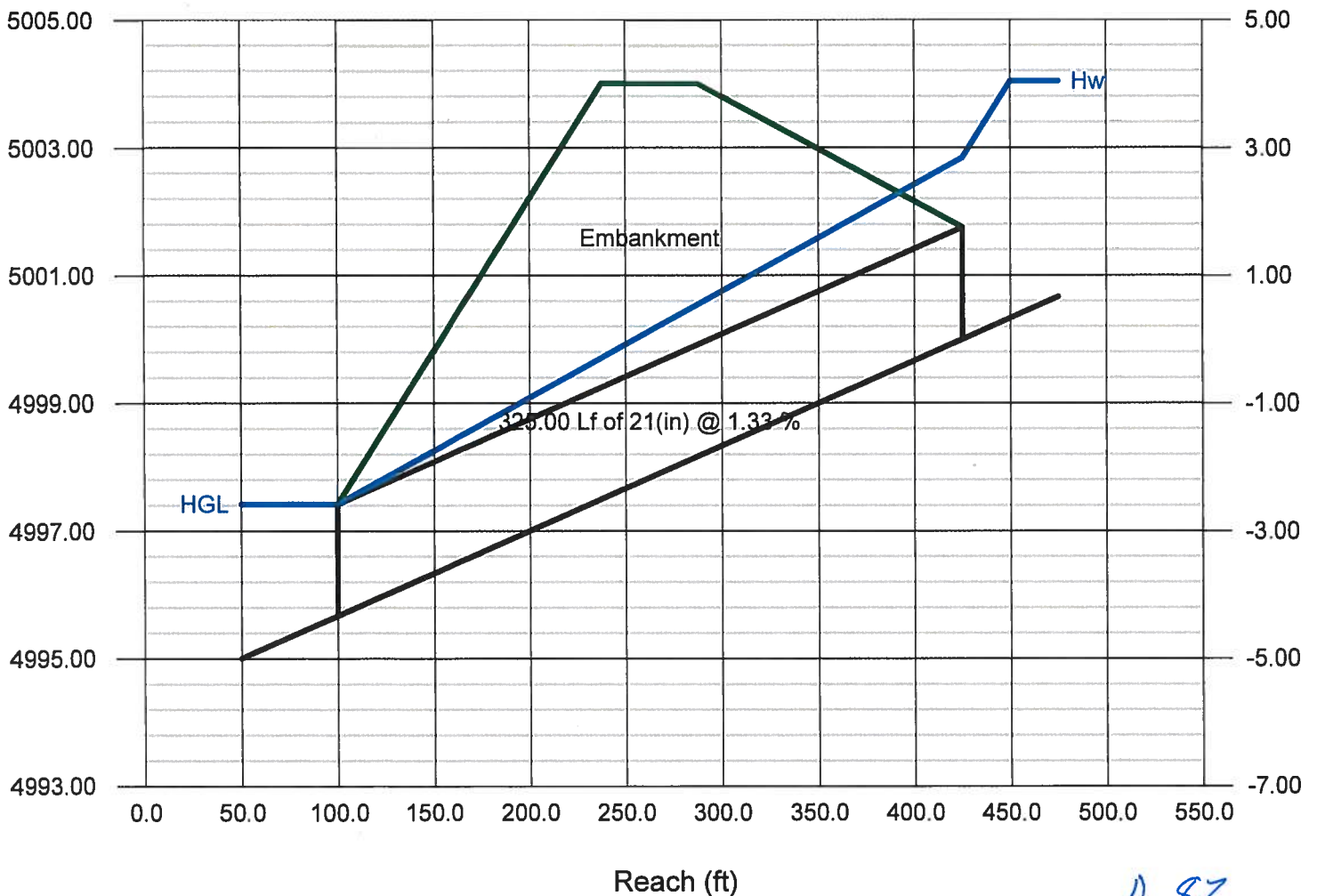
### Embankment

Top Elevation (ft) = 5004.00  
Top Width (ft) = 50.00  
Crest Width (ft) = 50.00

Elev (ft)

Profile

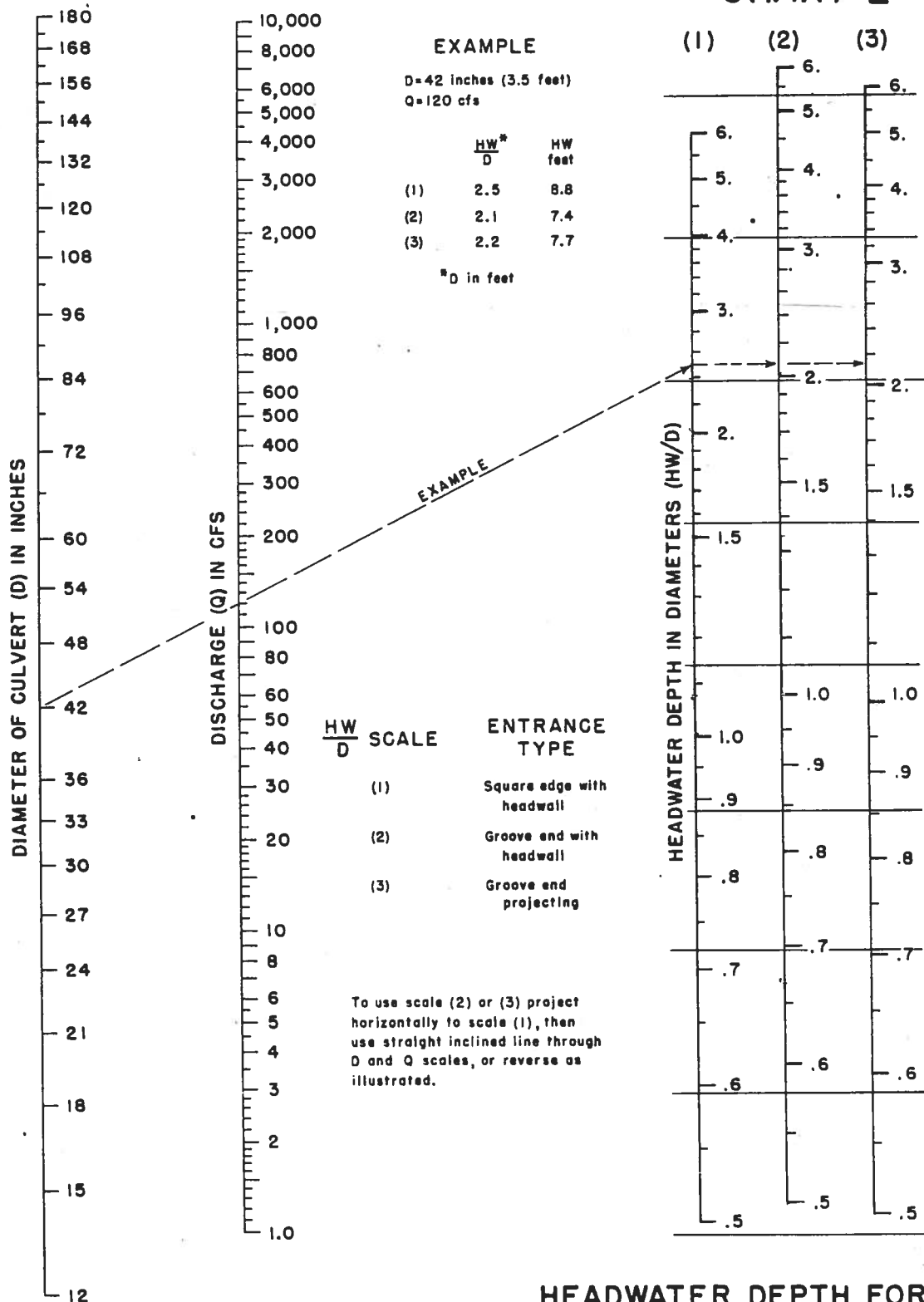
Hw Depth (ft)



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# CHART 2



## HEADWATER DEPTH FOR CONCRETE PIPE CULVERTS WITH INLET CONTROL

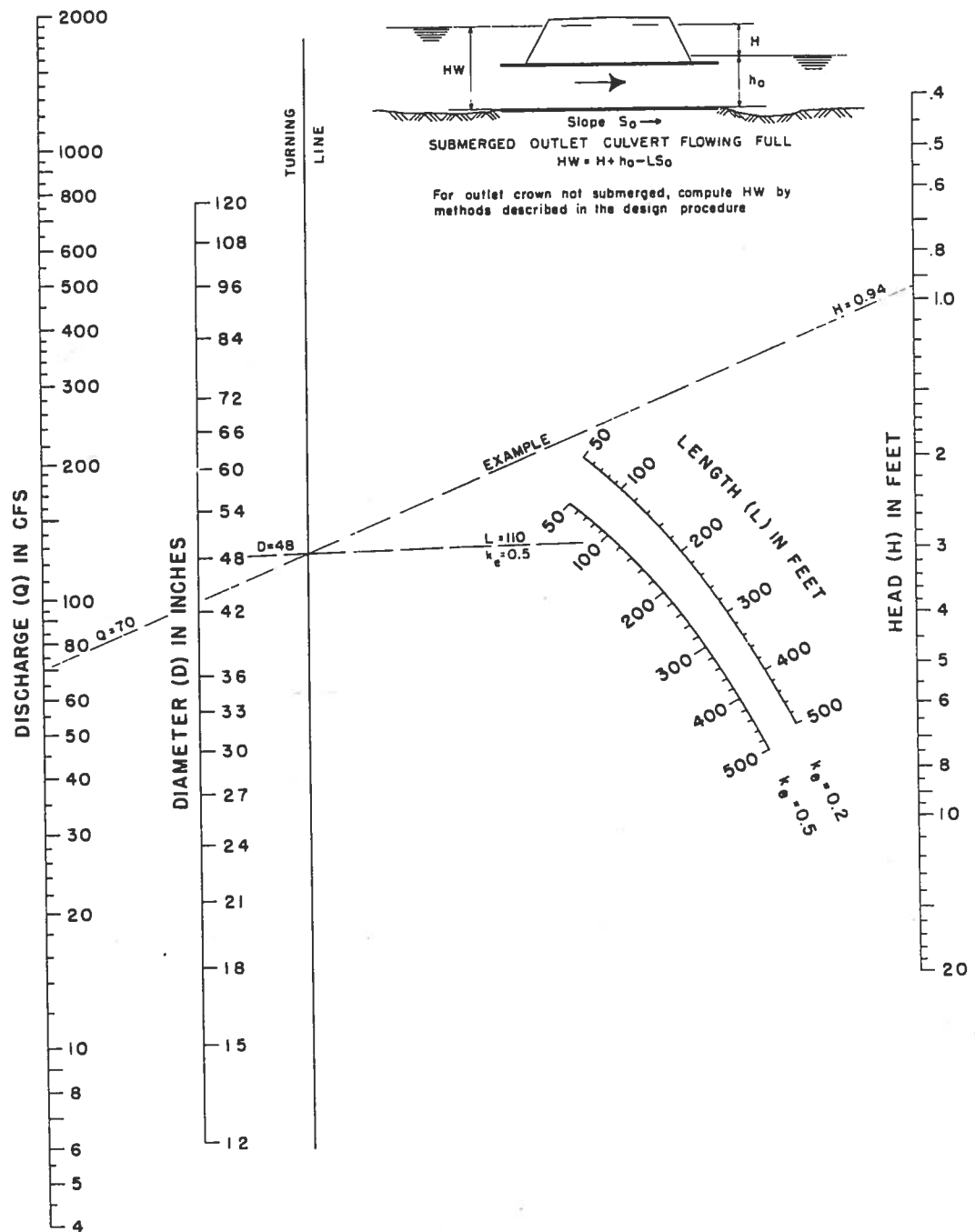
HEADWATER SCALES 2 & 3  
REVISED MAY 1964

BUREAU OF PUBLIC ROADS JAN. 1963

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# CHART 9



HEAD FOR  
CONCRETE PIPE CULVERTS  
FLOWING FULL  
 $n = 0.012$

