

CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director



Mayor Timothy M. Keller

February 27, 2019

Yolanda Padilla Moyer, PE
Bohannon Huston, Inc.
7500 Jefferson St NE
Albuquerque, NM 87109

**RE: Valle Prado Subdivision, Units 4 and 5
Tr 6, The Trails Unit 3A
Drainage Report Stamp Date: 2/15/19
Grading Plan Stamp Date: 2/15/19
Hydrology File: C09D011**

Dear Ms. Padilla Moyer,

PO Box 1293

Based on the submittal received on 2/15/19 the above-referenced Drainage Report and Grading Plan cannot be approved for Preliminary Plat, Grading Permit or Work Order until the following are corrected:

Albuquerque

NM 87103

www.cabq.gov

1. The Basin B and Basin C delineations are not supported by the grading plan in the vicinity of Sandmark Rd/Two Rock Rd intersection; remove the valley gutter and add supplemental spot elevations and quarter points to show the flows in the Two Rock half street will turn south and go down Sandmark instead of continuing on Two Rock.
2. Provide written and signed permission from the owner of Tract OS-2 for the grading on their property (along the north side of Valle Prado Unit 5). If the retaining wall behind lots 10-16, Unit 5 will encroach, you should get this permission as well.
3. The interim ponds on OS-2 should be named on the infrastructure list for Unit 4, along with drainage covenants and drainage easements. Delineate the areas draining to them and size for the 100-yr, 10day storm volume. Basin delineations are missing and the areas don't appear to reflect the entire area draining to the ponds; another interim pond seems necessary just north of the South Sky/Two Rock intersection.
4. Along all external boundaries, provide sections showing any proposed retaining walls, the property line, and existing and proposed grades. In accordance with DPM Ch.22, section 5 part B, grading and wall construction near the property line may not endanger adjacent property or constrain its use. Ensure that the retaining walls (including footers) do not encroach on neighboring property or public ROW. If a revocable permit is pursued it should be discussed prior to Preliminary Plat, so it can be included as an infrastructure list item.

CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director



Mayor Timothy M. Keller

5. This project requires an ESC Plan, submitted to the Stormwater Quality Engineer (Curtis Cherne PE, ccherne@cabq.gov or 924-3420). We have old ESC Plans for Units 1-3, but nothing for Units 4-5.
6. Show the storm drain on the new subbasin exhibit (layer may be turned off or missing).
7. For Information. Prior to Unit 4 ROFG, a temporary drainage easement on the temporary ponds will be needed, unless the upstream road portions have been built.

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana M. Peterson
Senior Engineer, Planning Dept.
Development Review Services

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

Project Title: _____ **Building Permit #:** _____ **Hydrology File #:** _____

DRB#: _____ **EPC#:** _____ **Work Order#:** _____

Legal Description: _____

City Address: _____

Applicant: _____ **Contact:** _____

Address: _____

Phone#: _____ **Fax#:** _____ **E-mail:** _____

Owner: _____ **Contact:** _____

Address: _____

Phone#: _____ **Fax#:** _____ **E-mail:** _____

TYPE OF SUBMITTAL: _____ PLAT (93 # OF LOTS) _____ RESIDENCE _____ DRB SITE _____ ADMIN SITE

IS THIS A RESUBMITTAL?: _____ Yes _____ No

DEPARTMENT: _____ TRAFFIC/ TRANSPORTATION _____ HYDROLOGY/ DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

- _____ ENGINEER/ARCHITECT CERTIFICATION
- _____ PAD CERTIFICATION
- _____ CONCEPTUAL G & D PLAN
- _____ GRADING PLAN
- _____ DRAINAGE MASTER PLAN
- _____ DRAINAGE REPORT
- _____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
- _____ ELEVATION CERTIFICATE
- _____ CLOMR/LOMR
- _____ TRAFFIC CIRCULATION LAYOUT (TCL)
- _____ TRAFFIC IMPACT STUDY (TIS)
- _____ OTHER (SPECIFY) _____
- _____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- _____ BUILDING PERMIT APPROVAL
- _____ CERTIFICATE OF OCCUPANCY
- _____ PRELIMINARY PLAT APPROVAL
- _____ SITE PLAN FOR SUB'D APPROVAL
- _____ SITE PLAN FOR BLDG. PERMIT APPROVAL
- _____ FINAL PLAT APPROVAL
- _____ SIA/ RELEASE OF FINANCIAL GUARANTEE
- _____ FOUNDATION PERMIT APPROVAL
- _____ GRADING PERMIT APPROVAL
- _____ SO-19 APPROVAL
- _____ PAVING PERMIT APPROVAL
- _____ GRADING/ PAD CERTIFICATION
- _____ WORK ORDER APPROVAL
- _____ CLOMR/LOMR
- _____ FLOODPLAIN DEVELOPMENT PERMIT
- _____ OTHER (SPECIFY) _____

DATE SUBMITTED: _____ **By:** _____

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

February 15, 2019

Mr. Dana Peterson, P.E.
Senior Engineer
City of Albuquerque
Planning Department
600 2nd Street NW
Albuquerque, NM 87103

Re: **Valle Prado Subdivision, Units 4 and 5**
Tr 6, The Trails Unit 3A
Drainage Report Stamp Date: 1/18/19
Grading Plan Stamp Date: 1/18/19
Hydrology File: C09D011

Dear Mr. Peterson:

Enclosed are responses to the comments provided on June 19, 2018. Responses are listed in red below.

Based on the submittal received on 1/18/19 the above-referenced Drainage Report and Grading Plan cannot be approved until the following are corrected:

1. The proposed subbasin map and drainage analysis should reflect Valle Prado Unit 3 conditions. This unit revised some of the basins in 2015 (Drainage Report for Valle Prado Unit 3, BHI, March 2015, Hydrology File: C09D011A) and has since been built out and accepted. **Basin Map has been updated to include Unit 3**
2. The Basin B and Basin C delineations are not supported by the grading plan in the vicinity of Sandmark Rd/Two Rock Rd intersection and South Sky St/Two Rock Rd intersection. Either revise the basin delineations and drainage analysis to match the grading plan or visa-versa. The locations of valley gutter and waterblocks will likely need to be adjusted. **Basin boundaries have been revised.**
3. Please increase the density of existing and proposed contour labels along the external boundaries. The slope indicators appear to be reversed along the 4:1 tie-in slope. **Additional labels have been added**
4. Provide written and signed permission from the owner of Tract OS-2 for the grading on their property (along the north side of Valle Prado Unit 5). If the retaining wall behind lots 10-16, Unit 5 will encroach, you should get this permission as well. **Permission will be obtained for grading and wall encroachment within OS-2**
5. How will Lot 16, Unit 5 convey flows from Tract OS-2 to the public road? Provide a detail or section. How will this property be protected from offsite flows and does it need a cross lot drainage easement or separate tract for the runoff? **Grading has been revised. OS-2 will not drain onto Lot 16. There is a sliver of area south of OS-2 which is not a part of Lot 16 but will be dedicated as an OS tract.**

Engineering ▲

Spatial Data ▲

Advanced Technologies ▲

6. For Information. Prior to Unit 4 ROFG, a temporary drainage easement on the temporary ponds will be needed, unless the upstream road portions have been built. **Noted. I believe a temporary maintenance agreement was discussed.**

7. Identify internal retaining walls to be constructed by the developer (prior to Pad Cert) and those to be deferred to homebuilder. Any wall retaining 2 feet or more will need to be constructed by the developer (i.e prior to Pad Cert); less than 2 feet retained can be deferred to homebuilder. **Any retaining walls have been added and shown with appropriate line style indication in Legend.**

8. Along all external boundaries, provide sections showing any proposed retaining walls, the property line, and existing and proposed grades. Include diversion channels and berms if present. In accordance with DPM Ch.22, section 5 part B, grading and wall construction near the property line may not endanger adjacent property or constrain its use. Ensure that the retaining walls (including footers) do not encroach on neighboring property or public ROW. **Cross-sections have been added. Detail indicates that footer will no encroach in to adjacent proper. A revocable permit may still be pursued.**

9. Also provide sections for the walls along Woodmont Ave, Sandmark Rd, and Redbloom Rd. If any of these footers encroach, a revocable permit will be required. **Cross-sections have been added. Detail indicates that footer will no encroach in to adjacent proper. A revocable permit may still be pursued.**

10. This project requires an ESC Plan, submitted to the Stormwater Quality Engineer (Curtis Cherne PE, ccherne@cabq.gov or 924-3420). We have old ESC Plans for Units 1-3, but nothing for Units 4-5. **ESC Plans will be submitted.**

11. Include a typical lot grading detail on the Grading Plan presumably showing that all of the backyards that drain to the streets via sideyard swales. **A typical lot grading detail has been added.**

12. Show the storm drain on the new subbasin exhibit. **Storm drain has been added.**

13. Provide street capacity calculations for Woodmont, anticipating the final buildout. **Woodmont street capacity calculation has been added which reflects full buildout.**

Revised Addendum #1 to the approved Report is enclosed mentioned above is enclosed. Please feel free to contact me at 823-1000 with questions or comments.

Sincerely,



Yolanda Padilla Moyer, P.E.
Senior Project Manager
Community Development and Planning

YPM/cc
Enclosures

cc: Scott J. Steffen, PLDG

AMENDMENT No. 1

DRAINAGE MANAGEMENT PLAN

FOR

VALLE PRADO @

THE TRAILS 3A

JANUARY 2019

Prepared for:

PV Trails Albuquerque, LLC

4350 La Jolla Drive, Suite 110

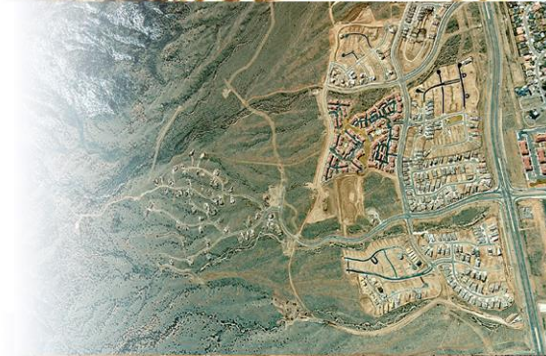
San Diego, CA 92122

Bohannon  **Huston**

Engineering

Spatial Data

Advanced Technologies



**AMENDMENT NO. 1
DRAINAGE MANAGEMENT PLAN
FOR
VALLE PRADO @ THE TRAILS 3A**

FEBRUARY 15, 2019

Prepared for:

PV Trails Albuquerque, LLC
4350 La Jolla Drive, Suite 110
San Diego CA 92122

Prepared by:

**BOHANNAN HUSTON, INC.
COURTYARD I
7500 JEFFERSON STREET NE
ALBUQUERQUE, NM 87109**

Prepared by:

Yolanda Padilla Moyer, P.E.
Senior Project Manager

Date

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APPENDIX D: ORIGINAL DMP APPROVAL LETTER
APPENDIX E: FIRST FLUSH
APPENDIX F: BASIN LAND TREATMENTS
APPENDIX G: TEMPORARY POND CALCULATIONS

EXHIBITS

EXHIBIT A: ORIGINAL FULLY DEVELOPED BASIN MAP
EXHIBIT B: PROPOSED BASIN MAP
EXHIBIT C: PHASE 4 GRADING PLAN
EXHIBIT D: PHASE 5 GRADING PLAN

I. PURPOSE

This report will serve as Amendment No. 1 to the Drainage Management Plan for Valle Prado @ the Trails Unit 3A, June 2014, which was originally prepared for Woodmont Paseo, LLC. The owners of the property have changed at is now owned by PV Trail Albuquerque LLC and this amendment is submitted on their behalf. The original DMP stated above provides drainage analysis to support proposed site-specific drainage infrastructure for Valle Prado Unit 1 and 2 and The Trail Unit 3A. In this report the future phases 4 and 5 were anticipated and included as future basins, Future Basins 1, 2 and 3. See enclosed Exhibit A for this original Basin Map from the original DMP. With the proposed development of Phases 4 and 5, the lotting plan has changed slightly with a decrease of lots in some basins and an increase in others. This amendment provides some additional calculation to show that the subdivision is below the allowable 100-yr 6yr storm event approved in the Master DMP. Included are the original AHYMO calculations (Appendix A) to show the original %D and runoff to be 58% and 19.93cfs, 54% and 13.54cfs and 55% and 10.79cfs. A new proposed Basin Map is provided for Phases 4 and 5 with the Basins renamed as a Basins A, B, and C (formerly named Future Basins 1, 2, and 3 respectively). The AHYMO files are also included for with the updated land treatment types due to the lot changes with the %D and runoff being 55.8% and 19.47cfs, 53.5% and 13.68cfs and 63% and 11.30cfs respectively. The total increase is flow is 0.19cfs from 44.26cfs to 44.45 cfs which is negligible. Also included in Appendix C are the street hydraulic calculations.

Two temporary retention ponds will need to be placed Northwest of Basins A, B, and C in order to mitigate offsite flows until Future Pond A5 is built. Interim Basin 1 is the offsite basin that will reach the Southwest Temporary pond, which has a flowrate 9.2cfs requiring a retention volume of 6083 CF. Interim Basin 2 is the offsite basin that will reach the Northeast Temporary pond, which has a flowrate of 5.0cfs requiring a retention volume of 1924 CF. The land treatments for these basins can be found in Appendix F. Both the Southwest and Northeast Temporary ponds will have enough capacity to retain all the offsite flow that is conveyed to them. The Southwest Temporary pond is designed to retain 6403 CF, while the Northeast Temporary pond is designed to retain 2130 CFS, as illustrated in Appendix G.

In regard to first flush requirements, Pond E, shown in Exhibit A, was designed to accommodate 0.9ac-ft of first flush discharge. The first flush pond was designed to accommodate all phases including the future phases. Per, the original DMP on page 3,

excerpt provided in Appendix E, the first flush was calculation using 0.44' which could have been 0.34' as required at the time. The report indicates that the required volumes was 1.3 acft at the 0.44' but if the 0.34', which was the requirement at the time, was used the required volume would have been 1.0 ac ft. For reference, I have also included the certification for Pond E in Appendix E. Grading Plans for Phase 4 and 5 are included as Exhibits C & D.

In conclusion, as stated above there is little to no impact on the downstream improvements as the runoff is consistent with the original DMP and approval (the approval letter is provided in Appendix D.

APPENDICES

APPENDIX A: ORIGINAL AHYMO INPUT AND OUT FILES

APPENDIX B: NEW AHYMO INPUT AND OUT FILES

APPENDIX C: ROADWAY HYDAULICS

APPENDIX D: ORIGINAL DMP APPROVAL LETTER

APPENDIX E: FIRST FLUSH

APPENDIX A
ORIGINAL AHYMO INPUT AND OUT FILES

```

DEV_COND.hym
*S TIERRA VISTA UNIT 3A SUBDIVISION DRAINAGE BASIN (D) PROPOSED
*S 100 YEAR - 24 HOUR STORM
*S
* CREATED JUNE 20, 2014
*
*CONVERT TO NMHYMO
START TIME=0.0 HR PUNCH CODE=0
*****
LOCATION NM
*****
*100 YEAR - 24 HOUR
RAINFALL TYPE=2 RAIN QUARTER=0
RAIN ONE=1.84 IN RAIN SIX=2.20 IN
RAIN DAY=2.66 IN DT=0.10 HRS

*S
*S *****
*S *COMPUTE ONSITE BASINS*
*S *****
*S
*S
*S COMPUTE BASIN 1 *****
*
COMPUTE NM HYD ID=1 HYD=1 AREA=0.005 PER A=0 PER B=24
PER C=24 PER D=52 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=1 CODE=1
*
*S COMPUTE BASIN 2 *****
COMPUTE NM HYD ID=2 HYD=2 AREA=0.004513 PER A=0 PER B=26
PER C=26 PER D=48 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=2 CODE=1
*
*S COMPUTE BASIN 3 *****
COMPUTE NM HYD ID=3 HYD=3 AREA=0.006875 PER A=0 PER B=31
PER C=31 PER D=38 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=3 CODE=1
*
*S COMPUTE BASIN 4 *****
COMPUTE NM HYD ID=4 HYD=4 AREA=0.003594 PER A=0 PER B=26
PER C=26 PER D=48 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=4 CODE=1
*
*S COMPUTE BASIN 5 *****
COMPUTE NM HYD ID=5 HYD=5 AREA=0.001875 PER A=0 PER B=31.5
PER C=31.5 PER D=37 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=5 CODE=1
*
*S COMPUTE FUTURE BASIN 1 *****
COMPUTE NM HYD ID=6 HYD=FB.1 AREA=0.010781 PER A=0 PER B=21
PER C=21 PER D=58 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=6 CODE=1
*
*S COMPUTE FUTURE BASIN 2 *****
COMPUTE NM HYD ID=7 HYD=FB.2 AREA=0.0075 PER A=0 PER B=23
PER C=23 PER D=54 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=7 CODE=1
*
*S COMPUTE FUTURE BASIN 3 *****
COMPUTE NM HYD ID=8 HYD=FB.3 AREA=0.005938 PER A=0 PER B=22.5
PER C=22.5 PER D=55 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=8 CODE=1
*
*S COMPUTE FUTURE BASIN 4 *****
COMPUTE NM HYD ID=9 HYD=FB.4 AREA=0.004844 PER A=0 PER B=29.5
PER C=29.5 PER D=41 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=9 CODE=1
*
*S COMPUTE OFFSITE BASIN 2 *****
COMPUTE NM HYD ID=10 HYD=OFF.2 AREA=0.000938 PER A=80 PER B=20
PER C=0 PER D=0 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=10 CODE=1
*
*S COMPUTE OFFSITE BASIN 3 *****
COMPUTE NM HYD ID=11 HYD=OFF.3 AREA=0.001094 PER A=76 PER B=24
PER C=0 PER D=0 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=11 CODE=1
*
*S COMPUTE OFFSITE BASIN 4 *****
COMPUTE NM HYD ID=12 HYD=OFF.4 AREA=0.001406 PER A=80 PER B=20
PER C=0 PER D=0 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=12 CODE=1
*
*S COMPUTE OFFSITE BASIN 5 *****
COMPUTE NM HYD ID=13 HYD=OFF.5 AREA=0.003281 PER A=95 PER B=5
PER C=0 PER D=0 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=13 CODE=1
*
*S COMPUTE OFFSITE BASIN WELL *****
COMPUTE NM HYD ID=14 HYD=OFF.WELL AREA=0.001563 PER A=0 PER B=40
PER C=40 PER D=20 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=14 CODE=1
*
*S
*
*S ADD BASINS 1 AND 2 TO CREATE TEMP A *****
ADD HYD ID=15 HYD=TEMP.A ID I=1 II=2
PRINT HYD ID=15 CODE=0
*
*S ADD BASINS TEMP A AND 3 TO CREATE TEMP 1.B*****
ADD HYD ID=16 HYD=TEMP.B ID I=15 II=3
PRINT HYD ID=16 CODE=0
*
*S ADD BASINS TEMP B AND 5 TO CREATE TEMP C*****
ADD HYD ID=17 HYD=TEMP.C ID I=16 II=5
PRINT HYD ID=17 CODE=0
*
*S ADD BASINS TEMP C AND FUTURE BASIN 1 TO CREATE TEMP D*****

```

DEV_COND.OUT

AHYMO PROGRAM (AHYMO_97) - - Version: 1997.02c
 RUN DATE (MON/DAY/YR) = 06/23/2014
 START TIME (HR:MIN:SEC) = 14:30:46 USER NO.= AHYMO-S-9702c1BohanHu-AH
 INPUT FILE = DEV_Cond.HYM

*S TIERRA VISTA UNIT 3A SUBDIVISION DRAINAGE BASIN (D) PROPOSED
 *S 100 YEAR - 24 HOUR STORM
 *S
 *S CREATED JUNE 20, 2014
 *

*CONVERT TO NMHYMO

START TIME=0.0 HR PUNCH CODE=0

LOCATION NM
 Soil infiltration values (LAND FACTORS) for this location are not available.
 The following default values were used.
 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

*

*100 YEAR - 24 HOUR

RAINFALL TYPE=2 RAIN QUARTER=0
 RAIN ONE=1.84 IN RAIN SIX=2.20 IN
 RAIN DAY=2.66 IN DT=0.10 HRS

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
 DT = .100000 HOURS END TIME = 24.000000 HOURS

.0000	.0060	.0124	.0193	.0266	.0347	.0435
.0532	.0640	.0764	.0908	.1071	.1906	.4476
.9796	1.3314	1.5028	1.6393	1.7527	1.8488	1.9308
1.9485	1.9639	1.9776	1.9899	2.0013	2.0117	2.0215
2.0306	2.0393	2.0475	2.0553	2.0627	2.0698	2.0766
2.0832	2.0895	2.0956	2.1015	2.1072	2.1128	2.1182
2.1234	2.1285	2.1335	2.1383	2.1431	2.1477	2.1522
2.1566	2.1610	2.1652	2.1694	2.1734	2.1774	2.1814
2.1852	2.1890	2.1927	2.1964	2.2000	2.2039	2.2078
2.2117	2.2155	2.2193	2.2231	2.2268	2.2305	2.2342
2.2379	2.2416	2.2452	2.2488	2.2524	2.2559	2.2595
2.2630	2.2665	2.2700	2.2734	2.2768	2.2802	2.2836
2.2870	2.2903	2.2937	2.2970	2.3002	2.3035	2.3068
2.3100	2.3132	2.3164	2.3196	2.3227	2.3259	2.3290
2.3321	2.3352	2.3383	2.3413	2.3444	2.3474	2.3504
2.3534	2.3563	2.3593	2.3622	2.3652	2.3681	2.3710
2.3739	2.3767	2.3796	2.3824	2.3853	2.3881	2.3909
2.3937	2.3965	2.3992	2.4020	2.4047	2.4074	2.4101
2.4128	2.4155	2.4182	2.4208	2.4235	2.4261	2.4287
2.4314	2.4340	2.4365	2.4391	2.4417	2.4442	2.4468
2.4493	2.4518	2.4543	2.4568	2.4593	2.4618	2.4643
2.4667	2.4692	2.4716	2.4740	2.4765	2.4789	2.4813
2.4837	2.4860	2.4884	2.4908	2.4931	2.4955	2.4978
2.5001	2.5024	2.5047	2.5070	2.5093	2.5116	2.5139
2.5161	2.5184	2.5206	2.5229	2.5251	2.5273	2.5295
2.5317	2.5339	2.5361	2.5383	2.5404	2.5426	2.5448
2.5469	2.5490	2.5512	2.5533	2.5554	2.5575	2.5596
2.5617	2.5638	2.5659	2.5680	2.5700	2.5721	2.5741
2.5762	2.5782	2.5803	2.5823	2.5843	2.5863	2.5883
2.5903	2.5923	2.5943	2.5963	2.5982	2.6002	2.6022
2.6041	2.6061	2.6080	2.6099	2.6119	2.6138	2.6157
2.6176	2.6195	2.6214	2.6233	2.6252	2.6271	2.6290
2.6308	2.6327	2.6346	2.6364	2.6383	2.6401	2.6419
2.6438	2.6456	2.6474	2.6492	2.6510	2.6528	2.6546
2.6564	2.6582	2.6600				

*S

*S

*S

*S

*S

*S

*S

*S COMPUTE BASIN 1 *****

COMPUTE NM HYD ID=1 HYD=1 AREA=0.005 PER A=0 PER B=24
 PER C=24 PER D=52 TP=-0.1715 RAINFALL=-1

K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 7.9785 CFS UNIT VOLUME = 1.005 B = 526.28 P60 = 1.8400
 AREA = .002600 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989068
 UNIT PEAK = 4.9601 CFS UNIT VOLUME = 1.002 B = 354.44 P60 = 1.8400
 AREA = .002400 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=1 CODE=1

OUTFLOW HYDROGRAPH REACH 1.00

RUNOFF VOLUME = 1.64591 INCHES = .4389 ACRE-FEET
 PEAK DISCHARGE RATE = 8.92 CFS AT 1.500 HOURS BASIN AREA = .0050 SQ. MI.

*

*S COMPUTE BASIN 2 *****

COMPUTE NM HYD ID=2 HYD=2 AREA=0.004513 PER A=0 PER B=26
 PER C=26 PER D=48 TP=-0.1715 RAINFALL=-1

K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 6.6475 CFS UNIT VOLUME = 1.004 B = 526.28 P60 = 1.8400

```

                                DEV_COND.OUT
AREA = .002166 SQ MI    IA = .10000 INCHES    INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR    TP = .171500HR    K/TP RATIO = .889153    SHAPE CONSTANT, N = 3.989068
UNIT PEAK = 4.8501 CFS    UNIT VOLUME = 1.002    B = 354.44    P60 = 1.8400
AREA = .002347 SQ MI    IA = .42500 INCHES    INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD                                ID=2    CODE=1

                                OUTFLOW HYDROGRAPH REACH    2.00

RUNOFF VOLUME = 1.58072 INCHES    = .3805 ACRE-FEET
PEAK DISCHARGE RATE = 7.86 CFS    AT 1.500 HOURS    BASIN AREA = .0045 SQ. MI.

*
*S COMPUTE BASIN 3 *****
COMPUTE NM HYD    ID=3 HYD=3    AREA=0.006875    PER A=0 PER B=31
                                PER C=31 PER D=38    TP=-0.1715    RAINFALL=-1

K = .093468HR    TP = .171500HR    K/TP RATIO = .545000    SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 8.0169 CFS    UNIT VOLUME = 1.005    B = 526.28    P60 = 1.8400
AREA = .002613 SQ MI    IA = .10000 INCHES    INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR    TP = .171500HR    K/TP RATIO = .889153    SHAPE CONSTANT, N = 3.989068
UNIT PEAK = 8.8093 CFS    UNIT VOLUME = 1.003    B = 354.44    P60 = 1.8400
AREA = .004263 SQ MI    IA = .42500 INCHES    INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD                                ID=3    CODE=1

                                OUTFLOW HYDROGRAPH REACH    3.00

RUNOFF VOLUME = 1.41777 INCHES    = .5198 ACRE-FEET
PEAK DISCHARGE RATE = 11.22 CFS    AT 1.500 HOURS    BASIN AREA = .0069 SQ. MI.

*
*S COMPUTE BASIN 4 *****
COMPUTE NM HYD    ID=4 HYD=4    AREA=0.003594    PER A=0 PER B=26
                                PER C=26 PER D=48    TP=-0.1715    RAINFALL=-1

K = .093468HR    TP = .171500HR    K/TP RATIO = .545000    SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.2938 CFS    UNIT VOLUME = 1.004    B = 526.28    P60 = 1.8400
AREA = .001725 SQ MI    IA = .10000 INCHES    INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR    TP = .171500HR    K/TP RATIO = .889153    SHAPE CONSTANT, N = 3.989068
UNIT PEAK = 3.8624 CFS    UNIT VOLUME = 1.001    B = 354.44    P60 = 1.8400
AREA = .001869 SQ MI    IA = .42500 INCHES    INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD                                ID=4    CODE=1

                                OUTFLOW HYDROGRAPH REACH    4.00

RUNOFF VOLUME = 1.58072 INCHES    = .3030 ACRE-FEET
PEAK DISCHARGE RATE = 6.26 CFS    AT 1.500 HOURS    BASIN AREA = .0036 SQ. MI.

*
*S COMPUTE BASIN 5 *****
COMPUTE NM HYD    ID=5 HYD=5    AREA=0.001875    PER A=0 PER B=31.5
                                PER C=31.5 PER D=37    TP=-0.1715    RAINFALL=-1

K = .093468HR    TP = .171500HR    K/TP RATIO = .545000    SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.1289 CFS    UNIT VOLUME = 1.001    B = 526.28    P60 = 1.8400
AREA = .000694 SQ MI    IA = .10000 INCHES    INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR    TP = .171500HR    K/TP RATIO = .889153    SHAPE CONSTANT, N = 3.989068
UNIT PEAK = 2.4413 CFS    UNIT VOLUME = .9998    B = 354.44    P60 = 1.8400
AREA = .001181 SQ MI    IA = .42500 INCHES    INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD                                ID=5    CODE=1

                                OUTFLOW HYDROGRAPH REACH    5.00

RUNOFF VOLUME = 1.40148 INCHES    = .1401 ACRE-FEET
PEAK DISCHARGE RATE = 3.05 CFS    AT 1.500 HOURS    BASIN AREA = .0019 SQ. MI.

*
*S COMPUTE FUTURE BASIN 1 *****
COMPUTE NM HYD    ID=6 HYD=FB.1    AREA=0.010781    PER A=0 PER B=21
                                PER C=21 PER D=58    TP=-0.1715    RAINFALL=-1

K = .093468HR    TP = .171500HR    K/TP RATIO = .545000    SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 19.188 CFS    UNIT VOLUME = 1.005    B = 526.28    P60 = 1.8400
AREA = .006253 SQ MI    IA = .10000 INCHES    INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR    TP = .171500HR    K/TP RATIO = .889153    SHAPE CONSTANT, N = 3.989068
UNIT PEAK = 9.3581 CFS    UNIT VOLUME = 1.003    B = 354.44    P60 = 1.8400
AREA = .004528 SQ MI    IA = .42500 INCHES    INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

```

DEV_COND.OUT

PRINT HYD ID=6 CODE=1

HYDROGRAPH FROM AREA FB.1

RUNOFF VOLUME = 1.74368 INCHES = 1.0026 ACRE-FEET
 PEAK DISCHARGE RATE = 19.93 CFS AT 1.500 HOURS BASIN AREA = .0108 SQ. MI.

*
 *S COMPUTE FUTURE BASIN 2 *****
 COMPUTE NM HYD ID=7 HYD=FB.2 AREA=0.0075 PER A=0 PER B=23
 PER C=23 PER D=54 TP=-0.1715 RAINFALL=-1

K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 12.428 CFS UNIT VOLUME = 1.005 B = 526.28 P60 = 1.8400
 AREA = .004050 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989068
 UNIT PEAK = 7.1301 CFS UNIT VOLUME = 1.002 B = 354.44 P60 = 1.8400
 AREA = .003450 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=7 CODE=1

HYDROGRAPH FROM AREA FB.2

RUNOFF VOLUME = 1.67850 INCHES = .6714 ACRE-FEET
 PEAK DISCHARGE RATE = 13.54 CFS AT 1.500 HOURS BASIN AREA = .0075 SQ. MI.

*
 *S COMPUTE FUTURE BASIN 3 *****
 COMPUTE NM HYD ID=8 HYD=FB.3 AREA=0.005938 PER A=0 PER B=22.5
 PER C=22.5 PER D=55 TP=-0.1715 RAINFALL=-1

K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 10.022 CFS UNIT VOLUME = 1.005 B = 526.28 P60 = 1.8400
 AREA = .003266 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989068
 UNIT PEAK = 5.5224 CFS UNIT VOLUME = 1.002 B = 354.44 P60 = 1.8400
 AREA = .002672 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=8 CODE=1

HYDROGRAPH FROM AREA FB.3

RUNOFF VOLUME = 1.69479 INCHES = .5367 ACRE-FEET
 PEAK DISCHARGE RATE = 10.79 CFS AT 1.500 HOURS BASIN AREA = .0059 SQ. MI.

*
 *S COMPUTE FUTURE BASIN 4 *****
 COMPUTE NM HYD ID=9 HYD=FB.4 AREA=0.004844 PER A=0 PER B=29.5
 PER C=29.5 PER D=41 TP=-0.1715 RAINFALL=-1

K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 6.0945 CFS UNIT VOLUME = 1.004 B = 526.28 P60 = 1.8400
 AREA = .001986 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989068
 UNIT PEAK = 5.9066 CFS UNIT VOLUME = 1.002 B = 354.44 P60 = 1.8400
 AREA = .002858 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=9 CODE=1

HYDROGRAPH FROM AREA FB.4

RUNOFF VOLUME = 1.46666 INCHES = .3789 ACRE-FEET
 PEAK DISCHARGE RATE = 8.07 CFS AT 1.500 HOURS BASIN AREA = .0048 SQ. MI.

*
 *S COMPUTE OFFSITE BASIN 2 *****
 COMPUTE NM HYD ID=10 HYD=OFF.2 AREA=0.000938 PER A=80 PER B=20
 PER C=0 PER D=0 TP=-0.1715 RAINFALL=-1

K = .203093HR TP = .171500HR K/TP RATIO = 1.184216 SHAPE CONSTANT, N = 2.997519
 UNIT PEAK = 1.5403 CFS UNIT VOLUME = .9852 B = 281.62 P60 = 1.8400
 AREA = .000938 SQ MI IA = .62000 INCHES INF = 1.58600 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=10 CODE=1

HYDROGRAPH FROM AREA OFF.2

RUNOFF VOLUME = .45840 INCHES = .0229 ACRE-FEET
 PEAK DISCHARGE RATE = .62 CFS AT 1.500 HOURS BASIN AREA = .0009 SQ. MI.

*

DEV_COND.OUT
*S COMPUTE OFFSITE BASIN 3 *****
COMPUTE NM HYD ID=11 HYD=OFF.3 AREA=0.001094 PER A=76 PER B=24
PER C=0 PER D=0 TP=-0.1715 RAINFALL=-1
K = .201399HR TP = .171500HR K/TP RATIO = 1.174338 SHAPE CONSTANT, N = 3.020870
UNIT PEAK = 1.8086 CFS UNIT VOLUME = .9871 B = 283.52 P60 = 1.8400
AREA = .001094 SQ MI IA = .61400 INCHES INF = 1.56920 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=11 CODE=1

HYDROGRAPH FROM AREA OFF.3

RUNOFF VOLUME = .46712 INCHES = .0273 ACRE-FEET
PEAK DISCHARGE RATE = .74 CFS AT 1.500 HOURS BASIN AREA = .0011 SQ. MI.

*

*S COMPUTE OFFSITE BASIN 4 *****
COMPUTE NM HYD ID=12 HYD=OFF.4 AREA=0.001406 PER A=80 PER B=20
PER C=0 PER D=0 TP=-0.1715 RAINFALL=-1
K = .203093HR TP = .171500HR K/TP RATIO = 1.184216 SHAPE CONSTANT, N = 2.997519
UNIT PEAK = 2.3088 CFS UNIT VOLUME = .9875 B = 281.62 P60 = 1.8400
AREA = .001406 SQ MI IA = .62000 INCHES INF = 1.58600 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=12 CODE=1

HYDROGRAPH FROM AREA OFF.4

RUNOFF VOLUME = .45840 INCHES = .0344 ACRE-FEET
PEAK DISCHARGE RATE = .93 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

*

*S COMPUTE OFFSITE BASIN 5 *****
COMPUTE NM HYD ID=13 HYD=OFF.5 AREA=0.003281 PER A=95 PER B=5
PER C=0 PER D=0 TP=-0.1715 RAINFALL=-1
K = .209446HR TP = .171500HR K/TP RATIO = 1.221261 SHAPE CONSTANT, N = 2.914129
UNIT PEAK = 5.2562 CFS UNIT VOLUME = .9902 B = 274.74 P60 = 1.8400
AREA = .003281 SQ MI IA = .64250 INCHES INF = 1.64900 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=13 CODE=1

HYDROGRAPH FROM AREA OFF.5

RUNOFF VOLUME = .42601 INCHES = .0745 ACRE-FEET
PEAK DISCHARGE RATE = 1.99 CFS AT 1.500 HOURS BASIN AREA = .0033 SQ. MI.

*

*S COMPUTE OFFSITE BASIN WELL *****
COMPUTE NM HYD ID=14 HYD=OFF.WELL AREA=0.001563 PER A=0 PER B=40
PER C=40 PER D=20 TP=-0.1715 RAINFALL=-1
K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = .95926 CFS UNIT VOLUME = .9965 B = 526.28 P60 = 1.8400
AREA = .000313 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989068
UNIT PEAK = 2.5842 CFS UNIT VOLUME = .9998 B = 354.44 P60 = 1.8400
AREA = .001250 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=14 CODE=1

HYDROGRAPH FROM AREA OFF.WELL

RUNOFF VOLUME = 1.12446 INCHES = .0937 ACRE-FEET
PEAK DISCHARGE RATE = 2.26 CFS AT 1.500 HOURS BASIN AREA = .0016 SQ. MI.

*

*S

*S ADD BASINS 1 AND 2 TO CREATE TEMP A *****
ADD HYD ID=15 HYD=TEMP.A ID I=1 II=2
PRINT HYD ID=15 CODE=0

HYDROGRAPH FROM AREA TEMP.A

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.1	10.000	.1	15.000	.1	20.000	.1
.100	.0	5.100	.1	10.100	.1	15.100	.1	20.100	.1
.200	.0	5.200	.1	10.200	.1	15.200	.1	20.200	.1
.300	.0	5.300	.1	10.300	.1	15.300	.1	20.300	.1
.400	.0	5.400	.1	10.400	.1	15.400	.1	20.400	.1
.500	.0	5.500	.1	10.500	.1	15.500	.1	20.500	.1
.600	.0	5.600	.1	10.600	.1	15.600	.1	20.600	.1
.700	.0	5.700	.1	10.700	.1	15.700	.1	20.700	.1
.800	.0	5.800	.1	10.800	.1	15.800	.1	20.800	.1
.900	.0	5.900	.1	10.900	.1	15.900	.1	20.900	.1
1.000	.0	6.000	.1	11.000	.1	16.000	.1	21.000	.1
1.100	.0	6.100	.1	11.100	.1	16.100	.1	21.100	.1
1.200	.6	6.200	.1	11.200	.1	16.200	.1	21.200	.1

DEV_COND.OUT

2.16	0.047	1
3.06	0.222	2
3.75	0.466	3
4.33	0.751	4
4.84	1.081	5

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	.00	.000	.00
.50	.00	.00	.000	.00
1.00	.00	.00	.000	.00
1.50	3.77	.41	.019	.88
2.00	13.87	2.49	.342	3.40
2.50	9.71	3.78	.689	4.20
3.00	5.22	4.18	.809	4.42
3.50	2.80	4.11	.787	4.39
4.00	1.50	3.80	.695	4.22
4.50	1.13	3.39	.579	3.98
5.00	.92	2.98	.461	3.74
5.50	.75	2.52	.348	3.42
6.00	.61	2.08	.241	3.11
6.50	.49	1.55	.144	2.66
7.00	.40	1.08	.061	2.23
7.50	.33	.34	.016	.73
8.00	.26	.16	.008	.35
8.50	.22	.12	.005	.25
9.00	.17	.09	.004	.20
9.50	.14	.07	.003	.16
10.00	.12	.06	.003	.13
10.50	.09	.05	.002	.11
11.00	.08	.04	.002	.09
11.50	.06	.03	.002	.07
12.00	.05	.03	.001	.06
12.50	.04	.02	.001	.05
13.00	.03	.02	.001	.04
13.50	.03	.01	.001	.03
14.00	.02	.01	.001	.02
14.50	.02	.01	.000	.02
15.00	.01	.01	.000	.02
15.50	.01	.01	.000	.01
16.00	.01	.00	.000	.01
16.50	.01	.00	.000	.01
17.00	.01	.00	.000	.01
17.50	.01	.00	.000	.01
18.00	.00	.00	.000	.00

PEAK DISCHARGE = 4.426 CFS - PEAK OCCURS AT HOUR 3.10
 MAXIMUM WATER SURFACE ELEVATION = 4.188
 MAXIMUM STORAGE = .8131 AC-FT INCREMENTAL TIME= .100000HRS

*
 *
 * PRINT HYD ID=26 CODE=10
 *
 *
 * COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.011
 DIA=2.0 N=0.013

RATING CURVE PIPE SECTION 1.0			
WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.10	.06	.12	.89
.21	.17	.54	1.22
.31	.31	1.26	1.45
.42	.47	2.26	1.62
.52	.65	3.53	1.76
.63	.84	5.03	1.85
.73	1.04	6.74	1.93
.83	1.24	8.62	1.97
.94	1.45	10.63	2.00
1.04	1.66	12.72	2.00
1.15	1.86	14.85	2.00
1.25	2.07	16.96	2.00
1.35	2.27	19.01	2.00
1.46	2.46	20.93	2.00
1.56	2.63	22.65	2.00
1.67	2.80	24.08	2.00
1.77	2.94	25.10	2.00
1.88	3.06	25.52	2.00
2.00	3.14	25.52	2.00

ROUTE MCUNGE ID=27 HYD=RTE.OFFPOND2 INFLOW ID=26
 DT=0.0 L=900 NS=0 SLOPE=0.011
 MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

INFLOW END= 185 TABLE PTS= 19
 DT= .100000 QMED= 2.21 CKMED= 6.2379
 WIDTH MED= 1.62 NREACH= 1 DX= 900.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.170	.0	2.50	.94	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.10	.1	.1	.125	.9	3.28	1.99	1.312	.004	.996	.136	-.133	.0	.999	.021	-.021
.21	.2	.5	.080	1.2	4.53	3.11	1.810	.010	.993	.291	-.284	.3	.994	.203	-.197
.31	.3	1.3	.062	1.5	5.73	4.00	2.292	.015	.991	.395	-.386	.9	.992	.347	-.339
.42	.5	2.3	.053	1.6	6.75	4.76	2.698	.021	.989	.462	-.451	1.7	.990	.431	-.421
.52	.7	3.5	.046	1.8	7.61	5.42	3.044	.027	.987	.509	-.496	2.9	.988	.488	-.475
.63	.8	5.0	.042	1.9	8.34	6.00	3.338	.033	.985	.542	-.527	4.3	.986	.527	-.513
.73	1.0	6.7	.038	1.9	8.96	6.50	3.585	.039	.983	.567	-.550	5.9	.984	.556	-.540
.83	1.2	8.6	.036	2.0	9.47	6.95	3.788	.047	.981	.586	-.567	7.7	.982	.578	-.560
.94	1.4	10.6	.034	2.0	9.87	7.34	3.947	.055	.978	.600	-.578	9.6	.980	.594	-.574
1.04	1.7	12.7	.033	2.0	10.14	7.68	4.057	.063	.975	.609	-.585	11.7	.977	.606	-.583
1.15	1.9	14.8	.031	2.0	10.21	7.97	4.083	.073	.972	.612	-.584	13.8	.974	.612	-.586
1.25	2.1	17.0	.030	2.0	10.02	8.21	4.007	.086	.966	.607	-.574	15.9	.969	.611	-.580
1.35	2.3	19.0	.030	2.0	9.54	8.39	3.817	.101	.959	.593	-.552	18.0	.963	.602	-.565
1.46	2.5	20.9	.029	2.0	8.75	8.52	3.499	.121	.948	.567	-.515	20.0	.954	.583	-.537
1.56	2.6	22.7	.029	2.0	7.57	8.60	3.027	.151	.928	.521	-.449	21.8	.940	.549	-.488
1.67	2.8	24.1	.029	2.0	5.89	8.60	2.357	.206	.884	.439	-.323	23.4	.912	.489	-.401
1.77	2.9	25.1	.029	2.0	3.45	8.53	1.381	.367	.733	.272	-.005	24.6	.842	.378	-.220

DEV_COND.OUT
 1.88 3.1 25.5 .030 2.0 1.97 8.34 .787 .655 .463 .181 .356 25.3 .480 .181 .339
 MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 1 TIMES. AVERAGE NUMBER ITERATIONS = 1.1024
 Equations solved using the Ponce correction to C2
 *
 PRINT HYD ID=27 CODE=0

HYDROGRAPH FROM AREA RTE.OFFPOND2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.800	4.3	7.600	.7	11.400	.1	15.200	.0
.100	.0	3.900	4.3	7.700	.6	11.500	.1	15.300	.0
.200	.0	4.000	4.2	7.800	.5	11.600	.1	15.400	.0
.300	.0	4.100	4.2	7.900	.4	11.700	.1	15.500	.0
.400	.0	4.200	4.1	8.000	.4	11.800	.1	15.600	.0
.500	.0	4.300	4.1	8.100	.3	11.900	.1	15.700	.0
.600	.0	4.400	4.0	8.200	.3	12.000	.1	15.800	.0
.700	.0	4.500	4.0	8.300	.3	12.100	.1	15.900	.0
.800	.0	4.600	3.9	8.400	.3	12.200	.1	16.000	.0
.900	.0	4.700	3.9	8.500	.3	12.300	.1	16.100	.0
1.000	.0	4.800	3.9	8.600	.2	12.400	.0	16.200	.0
1.100	.0	4.900	3.8	8.700	.2	12.500	.0	16.300	.0
1.200	.0	5.000	3.8	8.800	.2	12.600	.0	16.400	.0
1.300	.0	5.100	3.7	8.900	.2	12.700	.0	16.500	.0
1.400	.0	5.200	3.6	9.000	.2	12.800	.0	16.600	.0
1.500	.4	5.300	3.6	9.100	.2	12.900	.0	16.700	.0
1.600	1.6	5.400	3.5	9.200	.2	13.000	.0	16.800	.0
1.700	2.6	5.500	3.4	9.300	.2	13.100	.0	16.900	.0
1.800	2.6	5.600	3.4	9.400	.2	13.200	.0	17.000	.0
1.900	3.1	5.700	3.3	9.500	.2	13.300	.0	17.100	.0
2.000	3.3	5.800	3.3	9.600	.2	13.400	.0	17.200	.0
2.100	3.6	5.900	3.2	9.700	.2	13.500	.0	17.300	.0
2.200	3.8	6.000	3.1	9.800	.1	13.600	.0	17.400	.0
2.300	3.9	6.100	3.1	9.900	.1	13.700	.0	17.500	.0
2.400	4.1	6.200	3.0	10.000	.1	13.800	.0	17.600	.0
2.500	4.2	6.300	2.9	10.100	.1	13.900	.0	17.700	.0
2.600	4.3	6.400	2.8	10.200	.1	14.000	.0	17.800	.0
2.700	4.3	6.500	2.7	10.300	.1	14.100	.0	17.900	.0
2.800	4.4	6.600	2.6	10.400	.1	14.200	.0	18.000	.0
2.900	4.4	6.700	2.5	10.500	.1	14.300	.0	18.100	.0
3.000	4.4	6.800	2.4	10.600	.1	14.400	.0	18.200	.0
3.100	4.4	6.900	2.3	10.700	.1	14.500	.0	18.300	.0
3.200	4.4	7.000	2.3	10.800	.1	14.600	.0	18.400	.0
3.300	4.4	7.100	2.2	10.900	.1	14.700	.0	18.500	.0
3.400	4.4	7.200	1.9	11.000	.1	14.800	.0	18.600	.0
3.500	4.4	7.300	1.3	11.100	.1	14.900	.0	18.700	.0
3.600	4.4	7.400	1.0	11.200	.1	15.000	.0	18.800	.0
3.700	4.3	7.500	.8	11.300	.1	15.100	.0		

RUNOFF VOLUME = .41538 INCHES = 1.7834 ACRE-FEET
 PEAK DISCHARGE RATE = 4.43 CFS AT 3.200 HOURS BASIN AREA = .0805 SQ. MI.

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 *
 COMPUTE NM HYD ID=28 HYD NO=BASIN.B DA=.01998 SQ MI
 %A=0 %B=34.0 %C=34.0 %D=32.0
 TP=-.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 25.299 CFS UNIT VOLUME = 1.030 B = 526.28 P60 = 1.8400
 AREA = .006394 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
 UNIT PEAK = 36.207 CFS UNIT VOLUME = 1.007 B = 354.44 P60 = 1.8400
 AREA = .013586 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=28 CODE=10

HYDROGRAPH FROM AREA BASIN.B

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.1	10.000	.1	15.000	.1	20.000	.1
1.000	.0	6.000	.1	11.000	.1	16.000	.1	21.000	.1
2.000	5.8	7.000	.2	12.000	.1	17.000	.1	22.000	.1
3.000	.3	8.000	.1	13.000	.1	18.000	.1	23.000	.1
4.000	.1	9.000	.1	14.000	.1	19.000	.1	24.000	.1

RUNOFF VOLUME = 1.32000 INCHES = 1.4066 ACRE-FEET
 PEAK DISCHARGE RATE = 34.80 CFS AT 1.500 HOURS BASIN AREA = .0200 SQ. MI.

*
 *
 ROUTE RESERVOIR ID=29 HYD=POND.B INFLOW ID=28 CODE=5
 OUTFLOW STORAGE DEPTH
 0 0 5515
 1.71 0.06 5516
 2.42 0.24 5517
 2.96 0.55 5518
 3.42 0.99 5519
 3.82 1.67 5520

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5515.00	.000	.00
.50	.00	5515.00	.000	.00
1.00	.00	5515.00	.000	.00
1.50	34.80	5517.54	.407	2.71
2.00	5.83	5518.84	.918	3.34
2.50	.93	5518.75	.880	3.31
3.00	.31	5518.50	.769	3.19
3.50	.17	5518.23	.649	3.06

DEV_COND.OUT

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4.00      .13  5517.94      .531      2.93
4.50      .12  5517.58      .419      2.73
5.00      .13  5517.24      .315      2.55
5.50      .14  5516.88      .219      2.34
6.00      .15  5516.42      .136      2.01
6.50      .16  5516.03      .065      1.73
7.00      .15  5515.40      .024      .68
7.50      .15  5515.18      .011      .31
8.00      .14  5515.11      .007      .20
8.50      .14  5515.09      .006      .16
9.00      .14  5515.08      .005      .14
9.50      .13  5515.08      .005      .14
10.00     .13  5515.08      .005      .13
10.50     .12  5515.07      .004      .13
11.00     .12  5515.07      .004      .12
11.50     .12  5515.07      .004      .12
12.00     .12  5515.07      .004      .12
12.50     .11  5515.07      .004      .11
13.00     .11  5515.07      .004      .11
13.50     .11  5515.06      .004      .11
14.00     .10  5515.06      .004      .11
14.50     .10  5515.06      .004      .10
15.00     .10  5515.06      .004      .10
15.50     .10  5515.06      .004      .10
16.00     .10  5515.06      .003      .10
16.50     .09  5515.06      .003      .10
17.00     .09  5515.06      .003      .09
17.50     .09  5515.05      .003      .09
18.00     .09  5515.05      .003      .09
18.50     .09  5515.05      .003      .09
19.00     .09  5515.05      .003      .09
19.50     .08  5515.05      .003      .09
20.00     .08  5515.05      .003      .08
20.50     .08  5515.05      .003      .08
21.00     .08  5515.05      .003      .08
21.50     .08  5515.05      .003      .08
22.00     .08  5515.05      .003      .08
22.50     .08  5515.05      .003      .08
23.00     .07  5515.04      .003      .08
23.50     .07  5515.04      .003      .08
24.00     .07  5515.04      .003      .07
24.50     .00  5515.02      .001      .03
25.00     .00  5515.01      .000      .01
25.50     .00  5515.00      .000      .00
PEAK DISCHARGE = 3.357 CFS - PEAK OCCURS AT HOUR 2.10
MAXIMUM WATER SURFACE ELEVATION = 5518.863
MAXIMUM STORAGE = .9296 AC-FT INCREMENTAL TIME= .100000HRS

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PRINT HYD

ID=29 CODE=10

HYDROGRAPH FROM AREA POND.B

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	2.0	12.000	.1	18.000	.1	24.000	.1
1.000	.0	7.000	.7	13.000	.1	19.000	.1	25.000	.0
2.000	3.3	8.000	.2	14.000	.1	20.000	.1	26.000	.0
3.000	3.2	9.000	.1	15.000	.1	21.000	.1		
4.000	2.9	10.000	.1	16.000	.1	22.000	.1		
5.000	2.6	11.000	.1	17.000	.1	23.000	.1		

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RUNOFF VOLUME = 1.31999 INCHES = 1.4066 ACRE-FEET
PEAK DISCHARGE RATE = 3.36 CFS AT 2.100 HOURS BASIN AREA = .0200 SQ. MI.

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COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.03
DIA=2.0 N=0.013

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RATING CURVE PIPE SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.10	.06	.21	.89
.21	.17	.89	1.22
.31	.31	2.07	1.45
.42	.47	3.73	1.62
.52	.65	5.82	1.76
.63	.84	8.31	1.85
.73	1.04	11.13	1.93
.83	1.24	14.24	1.97
.94	1.45	17.55	2.00
1.04	1.66	21.00	2.00
1.15	1.86	24.52	2.00
1.25	2.07	28.02	2.00
1.35	2.27	31.40	2.00
1.46	2.46	34.57	2.00
1.56	2.63	37.41	2.00
1.67	2.80	39.77	2.00
1.77	2.94	41.46	2.00
1.88	3.06	42.15	2.00
2.00	3.14	42.15	2.00

```

ROUTE MCUNGE ID=30 HYD=RTE.PONDB INFLOW ID=29
DT=0.0 L=1180 NS=0 SLOPE=0.03
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

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INFLOW END= 261
DT= .100000
WIDTH MED= 1.38
TABLE PTS= 19
QMED= 1.68
CKMED= 8.4416
NREACH= 1
DX= 1180.00

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DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.135	.0	3.28	1.55	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.10	.1	.2	.100	.9	5.42	3.29	1.652	.001	.999	.246	-.245	.0	.999	.065	-.065
.21	.2	.9	.064	1.2	7.47	5.14	2.280	.003	.998	.391	-.389	.5	.999	.309	-.307
.31	.3	2.1	.050	1.5	9.46	6.61	2.887	.004	.998	.486	-.484	1.4	.998	.442	-.440
.42	.5	3.7	.042	1.6	11.14	7.86	3.398	.006	.997	.546	-.543	2.9	.998	.519	-.516

DEV_COND.OUT
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = 48.422 CFS UNIT VOLUME = 1.007 B = 354.44 P60 = 1.8400
AREA = .018170 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=32 CODE=10

HYDROGRAPH FROM AREA BASINE1.1

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.2	10.000	.2	15.000	.1	20.000	.1
1.000	.0	6.000	.2	11.000	.2	16.000	.1	21.000	.1
2.000	8.3	7.000	.2	12.000	.2	17.000	.1	22.000	.1
3.000	.4	8.000	.2	13.000	.2	18.000	.1	23.000	.1
4.000	.2	9.000	.2	14.000	.2	19.000	.1	24.000	.1

RUNOFF VOLUME = 1.35259 INCHES = 1.9860 ACRE-FEET
PEAK DISCHARGE RATE = 48.45 CFS AT 1.500 HOURS BASIN AREA = .0275 SQ. MI.

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*
ADD HYD ID=33 HYD=OFF.E11 ID I=32 II=31
PRINT HYD ID=33 CODE=10

HYDROGRAPH FROM AREA OFF.E11

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	5.4	12.000	.3	18.000	.2	24.000	.2
1.000	.0	7.000	3.2	13.000	.3	19.000	.2	25.000	.0
2.000	14.9	8.000	.8	14.000	.3	20.000	.2	26.000	.0
3.000	8.1	9.000	.5	15.000	.3	21.000	.2		
4.000	7.4	10.000	.5	16.000	.3	22.000	.2		
5.000	6.5	11.000	.4	17.000	.2	23.000	.2		

RUNOFF VOLUME = .75812 INCHES = 5.1758 ACRE-FEET
PEAK DISCHARGE RATE = 51.42 CFS AT 1.500 HOURS BASIN AREA = .1280 SQ. MI.

*
*
COMPUTE NM HYD ID=34 HYD NO=BASINE1.2 DA=.00588 SQ MI
%A=0.0 %B=33.0 %C=33.0 %D=34.0
TP=-0.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 7.9108 CFS UNIT VOLUME = 1.029 B = 526.28 P60 = 1.8400
AREA = .001999 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = 10.342 CFS UNIT VOLUME = 1.006 B = 354.44 P60 = 1.8400
AREA = .003881 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=34 CODE=10

HYDROGRAPH FROM AREA BASINE1.2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
2.000	1.8	7.000	.0	12.000	.0	17.000	.0	22.000	.0
3.000	.1	8.000	.0	13.000	.0	18.000	.0	23.000	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0

RUNOFF VOLUME = 1.35259 INCHES = .4242 ACRE-FEET
PEAK DISCHARGE RATE = 10.36 CFS AT 1.500 HOURS BASIN AREA = .0059 SQ. MI.

*
*
COMPUTE NM HYD ID=35 HYD NO=BASIN.E2 DA=.01348 SQ MI
%A=0.0 %B=18.0 %C=18.0 %D=64.0
TP=-.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 34.137 CFS UNIT VOLUME = 1.030 B = 526.28 P60 = 1.8400
AREA = .008627 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = 12.933 CFS UNIT VOLUME = 1.006 B = 354.44 P60 = 1.8400
AREA = .004853 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=35 CODE=10

HYDROGRAPH FROM AREA BASIN.E2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.2	10.000	.2	15.000	.1	20.000	.1
1.000	.0	6.000	.2	11.000	.2	16.000	.1	21.000	.1
2.000	6.1	7.000	.2	12.000	.2	17.000	.1	22.000	.1
3.000	.3	8.000	.2	13.000	.1	18.000	.1	23.000	.1
4.000	.2	9.000	.2	14.000	.1	19.000	.1	24.000	.1

RUNOFF VOLUME = 1.84145 INCHES = 1.3239 ACRE-FEET
PEAK DISCHARGE RATE = 27.42 CFS AT 1.500 HOURS BASIN AREA = .0135 SQ. MI.


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DEV_COND.OUT
2.300      2.4      7.300      .3      12.300      .2      17.300      .2      22.300      .1
2.400      1.8      7.400      .2      12.400      .2      17.400      .2      22.400      .1
2.500      1.4      7.500      .2      12.500      .2      17.500      .2      22.500      .1
2.600      1.1      7.600      .2      12.600      .2      17.600      .2      22.600      .1
2.700      .9      7.700      .2      12.700      .2      17.700      .2      22.700      .1
2.800      .7      7.800      .2      12.800      .2      17.800      .2      22.800      .1
2.900      .6      7.900      .2      12.900      .2      17.900      .2      22.900      .1
3.000      .5      8.000      .2      13.000      .2      18.000      .1      23.000      .1
3.100      .4      8.100      .2      13.100      .2      18.100      .1      23.100      .1
3.200      .4      8.200      .2      13.200      .2      18.200      .2      23.200      .1
3.300      .3      8.300      .2      13.300      .2      18.300      .1      23.300      .1
3.400      .3      8.400      .2      13.400      .2      18.400      .1      23.400      .1
3.500      .3      8.500      .2      13.500      .2      18.500      .1      23.500      .1
3.600      .3      8.600      .2      13.600      .2      18.600      .1      23.600      .1
3.700      .2      8.700      .2      13.700      .2      18.700      .1      23.700      .1
3.800      .2      8.800      .2      13.800      .2      18.800      .1      23.800      .1
3.900      .2      8.900      .2      13.900      .2      18.900      .1      23.900      .1
4.000      .2      9.000      .2      14.000      .2      19.000      .1      24.000      .1
4.100      .2      9.100      .2      14.100      .2      19.100      .1      24.100      .1
4.200      .2      9.200      .2      14.200      .2      19.200      .1      24.200      .1
4.300      .2      9.300      .2      14.300      .2      19.300      .1      24.300      .0
4.400      .2      9.400      .2      14.400      .2      19.400      .1      24.400      .0
4.500      .2      9.500      .2      14.500      .2      19.500      .1      24.500      .0
4.600      .2      9.600      .2      14.600      .2      19.600      .1      24.600      .0
4.700      .2      9.700      .2      14.700      .2      19.700      .1      24.700      .0
4.800      .2      9.800      .2      14.800      .2      19.800      .1      24.800      .0
4.900      .2      9.900      .2      14.900      .2      19.900      .1      24.900      .0

RUNOFF VOLUME = 1.63074 INCHES = 1.6838 ACRE-FEET
PEAK DISCHARGE RATE = 31.30 CFS AT 1.600 HOURS BASIN AREA = .0194 SQ. MI.

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*
COMPUTE NM HYD ID=38 HYD NO=BASIN.E4 DA=.00577 SQ MI
%A=0.0 %B=5.0 %C=5.0 %D=90.0
TP=-0.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 20.548 CFS UNIT VOLUME = 1.030 B = 526.28 P60 = 1.8400
AREA = .005193 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = 1.5377 CFS UNIT VOLUME = .9989 B = 354.44 P60 = 1.8400
AREA = .000577 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=38 CODE=10

HYDROGRAPH FROM AREA BASIN.E4

TIME FLOW TIME FLOW TIME FLOW TIME FLOW TIME FLOW
HRS CFS HRS CFS HRS CFS HRS CFS HRS CFS
.000 .0 5.000 .1 10.000 .1 15.000 .1 20.000 .1
1.000 .0 6.000 .1 11.000 .1 16.000 .1 21.000 .1
2.000 3.4 7.000 .1 12.000 .1 17.000 .1 22.000 .1
3.000 .2 8.000 .1 13.000 .1 18.000 .1 23.000 .1
4.000 .1 9.000 .1 14.000 .1 19.000 .1 24.000 .1

RUNOFF VOLUME = 2.26513 INCHES = .6971 ACRE-FEET
PEAK DISCHARGE RATE = 13.11 CFS AT 1.500 HOURS BASIN AREA = .0058 SQ. MI.

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*
ADD HYD ID=39 HYD=AP1 ID I=38 II=33
PRINT HYD ID=39 CODE=10

HYDROGRAPH FROM AREA AP1

TIME FLOW TIME FLOW TIME FLOW TIME FLOW TIME FLOW
HRS CFS HRS CFS HRS CFS HRS CFS HRS CFS
.000 .0 6.000 5.5 12.000 .4 18.000 .3 24.000 .2
1.000 .0 7.000 3.4 13.000 .4 19.000 .3 25.000 .0
2.000 18.3 8.000 .9 14.000 .4 20.000 .3 26.000 .0
3.000 8.2 9.000 .7 15.000 .3 21.000 .3
4.000 7.5 10.000 .6 16.000 .3 22.000 .3
5.000 6.6 11.000 .5 17.000 .3 23.000 .2

RUNOFF VOLUME = .82312 INCHES = 5.8729 ACRE-FEET
PEAK DISCHARGE RATE = 64.53 CFS AT 1.500 HOURS BASIN AREA = .1338 SQ. MI.

*
*
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.026
DIA=4.0 N=0.013

RATING CURVE PIPE SECTION 1.0
WATER FLOW FLOW MAX
SURFACE AREA RATE
ELEV SQ FT CFS FT
.00 .00 .00 .00
.21 .25 1.21 1.78
.42 .69 5.27 2.44
.63 1.25 12.26 2.91
.83 1.90 22.05 3.25
1.04 2.60 34.43 3.51
1.25 3.36 49.13 3.71
1.46 4.15 65.82 3.85
1.67 4.96 84.15 3.94
1.88 5.79 103.74 3.99
2.08 6.62 124.15 4.00
2.29 7.45 144.94 4.00
2.50 8.27 165.61 4.00
2.71 9.06 185.62 4.00
2.92 9.82 204.35 4.00

```




```

*
COMPUTE NM HYD      ID=44  HYD NO=BASIN.OFF6  DA=.0014 SQ MI
                     %A=0.0  %B=0  %C=100.0  %D=0
                     TP=-0.133 HR  RAIN=-1

K = .105291HR      TP = .133000HR      K/TP RATIO = .791661      SHAPE CONSTANT, N = 4.531123
UNIT PEAK = 4.0963 CFS      UNIT VOLUME = 1.011      B = 389.14      P60 = 1.8400
AREA = .001400 SQ MI      IA = .35000 INCHES      INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD          ID=44  CODE=10

```

DEV_COND.OUT

HYDROGRAPH FROM AREA BASIN.OFF6

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.000	.0	2.000	.3	3.000	.0		

RUNOFF VOLUME = .96928 INCHES = .0724 ACRE-FEET
 PEAK DISCHARGE RATE = 2.33 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

*

ADD HYD
PRINT HYDID=45 HYD=POND ID I=43 II=44
ID=45 CODE=10

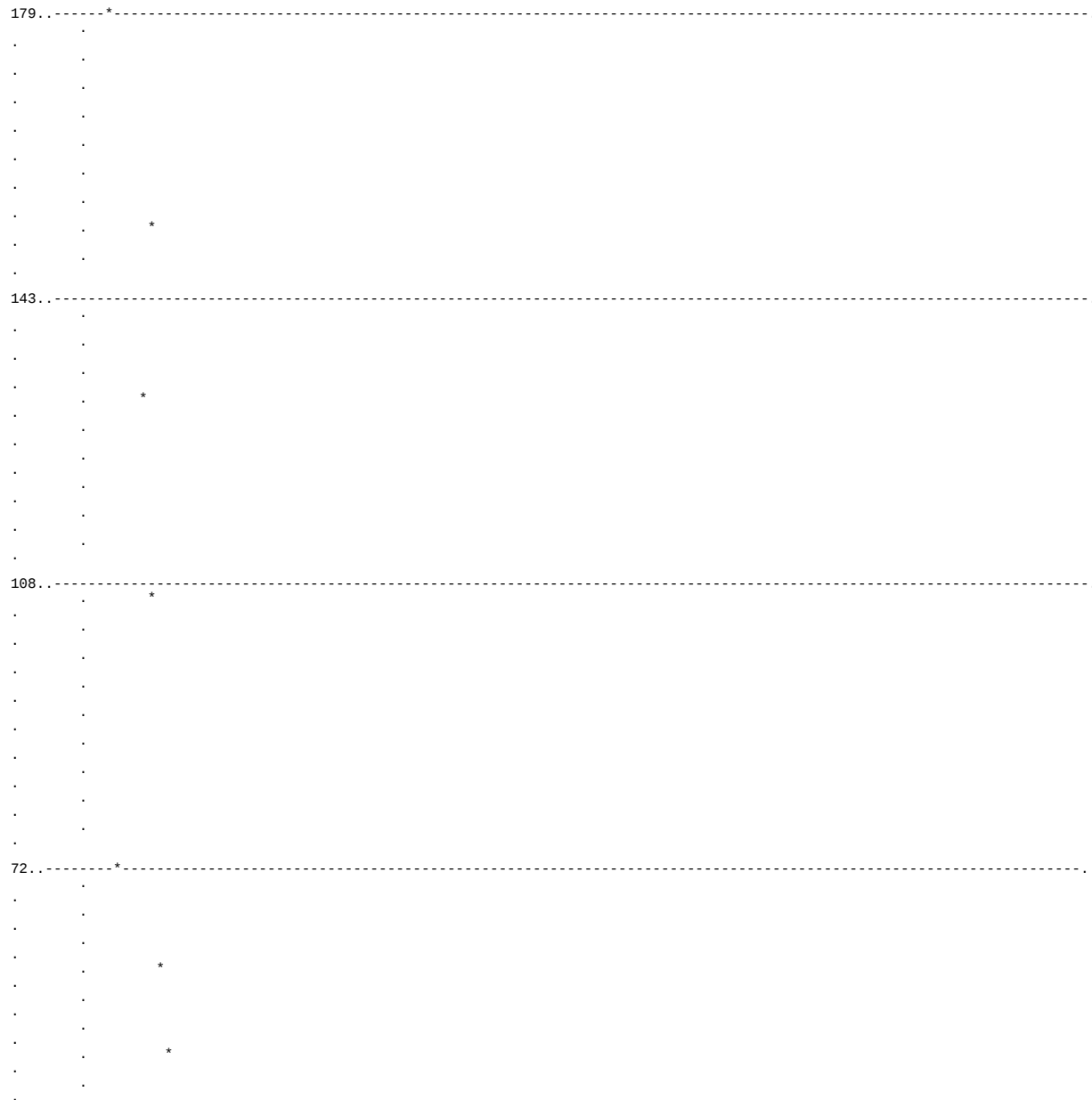
HYDROGRAPH FROM AREA POND

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	6.3	12.000	1.0	18.000	.8	24.000	.6
1.000	.0	7.000	4.1	13.000	1.0	19.000	.7	25.000	.0
2.000	46.9	8.000	1.6	14.000	.9	20.000	.7	26.000	.0
3.000	10.1	9.000	1.3	15.000	.9	21.000	.7		
4.000	8.2	10.000	1.2	16.000	.8	22.000	.7		
5.000	7.3	11.000	1.1	17.000	.8	23.000	.6		

RUNOFF VOLUME = 1.05957 INCHES = 11.5488 ACRE-FEET
 PEAK DISCHARGE RATE = 179.27 CFS AT 1.500 HOURS BASIN AREA = .2044 SQ. MI.

PLOT HYD
FLOW RATE (CFS)

ID=45



```

*
ROUTE RESERVOIR      ID=46 HYD=POND.E  INFLOW  ID=45 CODE=5
                        OUTFLOW      STORAGE  DEPTH
                        0            0.04      5444
                        0.01          0.23      5444.5
                        0.02          0.43      5445
                        0.03          0.66      5445.5
                        0.04          0.91      5446
                        0.5           1.20      5446.5
                        1.3           1.52      5447
                        2.2           1.88      5447.5
                        3.3           2.26      5448
                        6.7           2.68      5448.5
                        8.7           3.12      5449
                        10.8          3.60      5449.5
                        13.1          4.10      5450
                        15.5          4.65      5450.5
                        18.0          5.22      5451
                        20.7          5.82      5451.5
                        23.5          6.44      5452

```

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5444.00	.040	.00
1.50	.00	5444.00	.040	.00
1.00	.00	5444.00	.040	.00
1.50	179.27	5447.88	2.172	3.04
2.00	46.93	5451.38	5.675	20.05
2.50	14.45	5451.52	5.848	20.83
3.00	10.09	5451.24	5.506	19.21
3.50	8.79	5450.62	5.130	17.69
4.00	8.15	5450.44	4.784	16.09
4.50	7.65	5450.44	4.473	14.73
5.00	7.26	5450.09	4.198	13.53
5.50	6.81	5449.85	3.953	12.42
6.00	6.26	5449.63	3.730	11.40
6.50	5.60	5449.42	3.525	10.47
7.00	4.13	5449.20	3.312	9.54
7.50	2.24	5448.94	3.071	8.48
8.00	1.64	5448.66	2.822	7.35
8.50	1.45	5448.41	2.605	6.09
9.00	1.35	5448.21	2.440	4.75
9.50	1.27	5448.07	2.318	3.77
10.00	1.21	5447.96	2.228	3.21
10.50	1.15	5447.85	2.149	2.98
11.00	1.11	5447.76	2.077	2.77
11.50	1.06	5447.67	2.011	2.58
12.00	1.03	5447.59	1.951	2.41
12.50	.99	5447.52	1.897	2.25
13.00	.96	5447.45	1.847	2.12
13.50	.93	5447.39	1.801	2.00
14.00	.91	5447.33	1.759	1.90
14.50	.89	5447.28	1.719	1.80
15.00	.86	5447.23	1.683	1.71
15.50	.84	5447.18	1.650	1.62
16.00	.83	5447.14	1.618	1.55
16.50	.81	5447.10	1.590	1.47
17.00	.79	5447.06	1.563	1.41
17.50	.77	5447.03	1.538	1.35
18.00	.75	5446.99	1.516	1.29
18.50	.74	5446.96	1.494	1.24
19.00	.73	5446.93	1.475	1.19
19.50	.71	5446.90	1.456	1.14
20.00	.70	5446.87	1.439	1.10
20.50	.69	5446.85	1.423	1.06
21.00	.68	5446.83	1.409	1.02
21.50	.67	5446.80	1.395	.99
22.00	.66	5446.78	1.382	.96
22.50	.64	5446.77	1.370	.93
23.00	.63	5446.75	1.359	.90
23.50	.62	5446.73	1.349	.87
24.00	.62	5446.72	1.339	.85
24.50	.07	5446.68	1.316	.79
25.00	.01	5446.64	1.286	.72
25.50	.00	5446.59	1.259	.65
26.00	.00	5446.55	1.233	.58
26.50	.00	5446.52	1.210	.53
27.00	.00	5446.48	1.190	.48

DEV_COND.OUT

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
27.50	.00	5446.45	1.170	.45
28.00	.00	5446.42	1.152	.42
28.50	.00	5446.39	1.135	.40
29.00	.00	5446.36	1.119	.37
29.50	.00	5446.34	1.105	.35
30.00	.00	5446.31	1.091	.33
30.50	.00	5446.29	1.078	.31
31.00	.00	5446.27	1.065	.29
31.50	.00	5446.25	1.054	.27
32.00	.00	5446.23	1.043	.25
32.50	.00	5446.21	1.033	.24
33.00	.00	5446.20	1.024	.22
33.50	.00	5446.18	1.015	.21
34.00	.00	5446.17	1.007	.19
34.50	.00	5446.15	.999	.18
35.00	.00	5446.14	.992	.17
35.50	.00	5446.13	.985	.16
36.00	.00	5446.12	.979	.15
36.50	.00	5446.11	.973	.14
37.00	.00	5446.10	.967	.13
37.50	.00	5446.09	.962	.12
38.00	.00	5446.08	.957	.11
38.50	.00	5446.07	.952	.11
39.00	.00	5446.07	.948	.10
39.50	.00	5446.06	.944	.09
40.00	.00	5446.05	.940	.09
40.50	.00	5446.05	.937	.08
41.00	.00	5446.04	.933	.08
41.50	.00	5446.04	.930	.07
42.00	.00	5446.03	.927	.07
42.50	.00	5446.03	.925	.06
43.00	.00	5446.02	.922	.06
43.50	.00	5446.02	.920	.06
44.00	.00	5446.01	.918	.05
44.50	.00	5446.01	.916	.05
45.00	.00	5446.01	.914	.05
45.50	.00	5446.00	.912	.04
46.00	.00	5446.00	.910	.04
46.50	.00	5446.00	.908	.04
47.00	.00	5445.99	.907	.04
47.50	.00	5445.99	.905	.04
48.00	.00	5445.99	.903	.04
48.50	.00	5445.98	.902	.04
49.00	.00	5445.98	.900	.04
49.50	.00	5445.98	.899	.04
50.00	.00	5445.97	.897	.04
50.50	.00	5445.97	.895	.04
51.00	.00	5445.97	.894	.04
51.50	.00	5445.96	.892	.04
52.00	.00	5445.96	.890	.04
52.50	.00	5445.96	.889	.04
53.00	.00	5445.95	.887	.04
53.50	.00	5445.95	.886	.04
54.00	.00	5445.95	.884	.04
54.50	.00	5445.94	.882	.04
55.00	.00	5445.94	.881	.04
55.50	.00	5445.94	.879	.04

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
56.00	.00	5445.94	.878	.04
56.50	.00	5445.93	.876	.04
57.00	.00	5445.93	.874	.04
57.50	.00	5445.93	.873	.04
58.00	.00	5445.92	.871	.04
58.50	.00	5445.92	.870	.04
59.00	.00	5445.92	.868	.04
59.50	.00	5445.91	.866	.04

PEAK DISCHARGE = 21.160 CFS - PEAK OCCURS AT HOUR 2.30
 MAXIMUM WATER SURFACE ELEVATION = 5451.582
 MAXIMUM STORAGE = 5.9219 AC-FT INCREMENTAL TIME= .100000HRS

*
 PRINT HYD ID=46 CODE=10

HYDROGRAPH FROM AREA POND.E

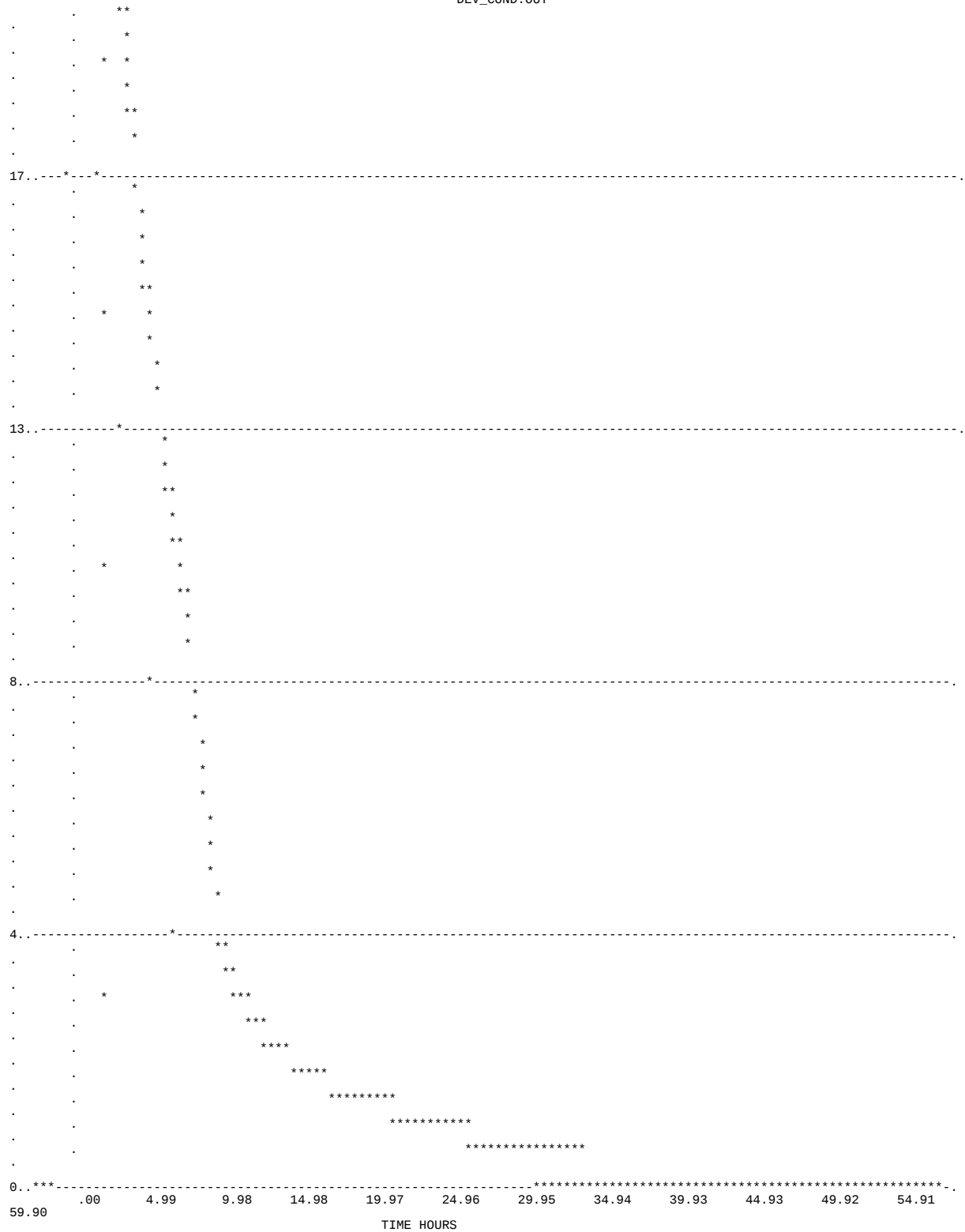
TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	12.000	2.4	24.000	.8	36.000	.1	48.000	.0
1.000	.0	13.000	2.1	25.000	.7	37.000	.1	49.000	.0
2.000	20.0	14.000	1.9	26.000	.6	38.000	.1	50.000	.0
3.000	19.3	15.000	1.7	27.000	.5	39.000	.1	51.000	.0
4.000	16.1	16.000	1.5	28.000	.4	40.000	.1	52.000	.0
5.000	13.5	17.000	1.4	29.000	.4	41.000	.1	53.000	.0
6.000	11.4	18.000	1.3	30.000	.3	42.000	.1	54.000	.0
7.000	9.5	19.000	1.2	31.000	.3	43.000	.1	55.000	.0
8.000	7.3	20.000	1.1	32.000	.3	44.000	.1	56.000	.0
9.000	4.8	21.000	1.0	33.000	.2	45.000	.0	57.000	.0
10.000	3.2	22.000	1.0	34.000	.2	46.000	.0	58.000	.0
11.000	2.8	23.000	.9	35.000	.2	47.000	.0	59.000	.0

RUNOFF VOLUME = .98388 INCHES = 10.7238 ACRE-FEET
 PEAK DISCHARGE RATE = 21.16 CFS AT 2.300 HOURS BASIN AREA = .2044 SQ. MI.

PLOT HYD ID=46
 FLOW RATE (CFS)

21. *
 **
 *
 **

DEV_COND.OUT



*
 COMPUTE NM HYD ID=47 HYD NO=BASIN.E6 DA=.00488 SQ MI
 %A=0.0 %B=5.0 %C=5.0 %D=90.0
 TP=-0.133 HR RAIN=-1
 K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 17.379 CFS UNIT VOLUME = 1.030 B = 526.28 P60 = 1.8400
 AREA = .004392 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000
 K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
 Page 24

DEV_COND.OUT
UNIT PEAK = 1.3005 CFS UNIT VOLUME = .9989 B = 354.44 P60 = 1.8400
AREA = .000488 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=47 CODE=10

HYDROGRAPH FROM AREA BASIN.E6

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.1	10.000	.1	15.000	.1	20.000	.1
1.000	.0	6.000	.1	11.000	.1	16.000	.1	21.000	.1
2.000	2.9	7.000	.1	12.000	.1	17.000	.1	22.000	.1
3.000	.1	8.000	.1	13.000	.1	18.000	.1	23.000	.1
4.000	.1	9.000	.1	14.000	.1	19.000	.1	24.000	.1

RUNOFF VOLUME = 2.26512 INCHES = .5895 ACRE-FEET
PEAK DISCHARGE RATE = 11.09 CFS AT 1.500 HOURS BASIN AREA = .0049 SQ. MI.

*
ADD HYD ID=48 HYD=TOTALE ID I=46 II=47
PRINT HYD ID=46 CODE=10

HYDROGRAPH FROM AREA POND.E

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	12.000	2.4	24.000	.8	36.000	.1	48.000	.0
1.000	.0	13.000	2.1	25.000	.7	37.000	.1	49.000	.0
2.000	20.0	14.000	1.9	26.000	.6	38.000	.1	50.000	.0
3.000	19.3	15.000	1.7	27.000	.5	39.000	.1	51.000	.0
4.000	16.1	16.000	1.5	28.000	.4	40.000	.1	52.000	.0
5.000	13.5	17.000	1.4	29.000	.4	41.000	.1	53.000	.0
6.000	11.4	18.000	1.3	30.000	.3	42.000	.1	54.000	.0
7.000	9.5	19.000	1.2	31.000	.3	43.000	.1	55.000	.0
8.000	7.3	20.000	1.1	32.000	.3	44.000	.1	56.000	.0
9.000	4.8	21.000	1.0	33.000	.2	45.000	.0	57.000	.0
10.000	3.2	22.000	1.0	34.000	.2	46.000	.0	58.000	.0
11.000	2.8	23.000	.9	35.000	.2	47.000	.0	59.000	.0

RUNOFF VOLUME = .98388 INCHES = 10.7238 ACRE-FEET
PEAK DISCHARGE RATE = 21.16 CFS AT 2.300 HOURS BASIN AREA = .2044 SQ. MI.

*
*
FINISH
NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 14:30:47

```

ADD HYD          ID=18 HYD=TEMP.D ID I=17 II=6
PRINT HYD        ID=18 CODE=0
*
*S ADD BASINS TEMP D AND FUTURE BASIN 2 TO CREATE TEMP E*****
ADD HYD          ID=19 HYD=TEMP.E ID I=18 II=7
PRINT HYD        ID=19 CODE=0
*
*S ADD BASINS TEMP E AND FUTURE BASIN 3 TO CREATE TEMP F*****
ADD HYD          ID=20 HYD=TEMP.F ID I=19 II=8
PRINT HYD        ID=20 CODE=0
*
*S ADD BASINS TEMP F AND OFFSITE BASIN 3 TO CREATE TEMP G*****
ADD HYD          ID=21 HYD=TEMP.G ID I=20 II=11
PRINT HYD        ID=21 CODE=0
*
*S ADD BASINS TEMP G AND OFFSITE BASIN 4 TO CREATE TEMP H*****
ADD HYD          ID=22 HYD=TEMP.H ID I=21 II=12
PRINT HYD        ID=22 CODE=0
*
*S ADD BASINS TEMP H AND OFFSITE BASIN WELL TO CREATE TEMP I*****
ADD HYD          ID=23 HYD=TEMP.1 ID I=22 II=14
PRINT HYD        ID=23 CODE=0
*
*S ADD BASINS TEMP I AND OFFSITE BASIN 5 TO CREATE TEMP J*****
ADD HYD          ID=24 HYD=TEMP.J ID I=23 II=13
PRINT HYD        ID=24 CODE=0
*
*S TEMP BASIN J REPLACES BASIN E3 AND E5 FROM THE DMP AHYMO FILE*****

```

```

COMPUTE NM HYD   ID=25 HYD NO=OFFSITE2 DA=.0805 SQ MI
                  %A=100 %B=0.0 %C=0.0 %D=0.0
                  TP=-.66 HR RAIN=-1
PRINT HYD        ID=25 CODE=10
*

```

```

ROUTE RESERVOIR ID=26 HYD=OFFPOND2 INFLOW ID=25 CODE=5
                  OUTFLOW STORAGE DEPTH
                  0 0 0
                  2.16 0.047 1
                  3.06 0.222 2
                  3.75 0.466 3
                  4.33 0.751 4
                  4.84 1.081 5
*

```

```

PRINT HYD        ID=26 CODE=10
*

```

```

COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.011
                  DIA=2.0 N=0.013
ROUTE MCUNGE     ID=27 HYD=RTE.OFFPOND2 INFLOW ID=26
                  DT=0.0 L=900 NS=0 SLOPE=0.011
                  MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*

```

```

PRINT HYD        ID=27 CODE=0
*

```

```

COMPUTE NM HYD   ID=28 HYD NO=BASIN.B DA=.01998 SQ MI
                  %A=0 %B=34.0 %C=34.0 %D=32.0
                  TP=-.133 HR RAIN=-1
PRINT HYD        ID=28 CODE=10
*

```

```

ROUTE RESERVOIR ID=29 HYD=POND.B INFLOW ID=28 CODE=5
                  OUTFLOW STORAGE DEPTH
                  0 0 5515
                  1.71 0.06 5516
                  2.42 0.24 5517
                  2.96 0.55 5518
                  3.42 0.99 5519
                  3.82 1.67 5520
*

```

```

PRINT HYD        ID=29 CODE=10
*

```

```

COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.03
                  DIA=2.0 N=0.013
ROUTE MCUNGE     ID=30 HYD=RTE.PONDB INFLOW ID=29
                  DT=0.0 L=1180 NS=0 SLOPE=0.03
                  MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*

```

```

PRINT HYD        ID=30 CODE=0
*

```

```

ADD HYD          ID=31 HYD=OFF.B ID I=30 II=27
PRINT HYD        ID=31 CODE=10
*

```

```

COMPUTE NM HYD   ID=32 HYD NO=BASIN1.1 DA=.02753 SQ MI
                  %A=0.0 %B=33.0 %C=33.0 %D=34.0
                  TP=-0.133 HR RAIN=-1
PRINT HYD        ID=32 CODE=10
*

```

```

ADD HYD          ID=33 HYD=OFF.E11 ID I=32 II=31
PRINT HYD        ID=33 CODE=10
*

```

```

COMPUTE NM HYD   ID=34 HYD NO=BASIN1.2 DA=.00588 SQ MI
                  %A=0.0 %B=33.0 %C=33.0 %D=34.0
                  TP=-0.133 HR RAIN=-1
PRINT HYD        ID=34 CODE=10
*

```

```

COMPUTE NM HYD   ID=35 HYD NO=BASIN.E2 DA=.01348 SQ MI
                  %A=0.0 %B=18.0 %C=18.0 %D=64.0
                  TP=-.133 HR RAIN=-1
PRINT HYD        ID=35 CODE=10

```

```

*
*
ADD HYD          ID=36 HYD=E2.E12 ID I=34 II=35
PRINT HYD        ID=36 CODE=10
*
*
COMPUTE RATING CURVE CID=1 VS N0=1 CODE=-1 SLP=0.002
                    DIA=3.0 N=0.013
ROUTE MCUNGE     ID=37 HYD=RTE.E12 INFLOW ID=36
                    DT=0.0 L=800 NS=0 SLOPE=0.01
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD        ID=37 CODE=0
*
*
COMPUTE NM HYD   ID=38 HYD N0=BASIN.E4 DA=.00577 SQ MI
                    %A=0.0 %B=5.0 %C=5.0 %D=90.0
                    TP=-0.133 HR RAIN=-1
PRINT HYD        ID=38 CODE=10
*
*
ADD HYD          ID=39 HYD=AP1 ID I=38 II=33
PRINT HYD        ID=39 CODE=10
*
*
COMPUTE RATING CURVE CID=1 VS N0=1 CODE=-1 SLP=0.026
                    DIA=4.0 N=0.013
ROUTE MCUNGE     ID=40 HYD=RTE.E1E4 INFLOW ID=39
                    DT=0.0 L=400 NS=0 SLOPE=0.026
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD        ID=40 CODE=0
*
*
ADD HYD          ID=41 HYD=AP2 ID I=37 II=40
PRINT HYD        ID=41 CODE=10
*
*
COMPUTE RATING CURVE CID=1 VS N0=1 CODE=-1 SLP=0.026
                    DIA=4.0 N=0.013
ROUTE MCUNGE     ID=42 HYD=RTE.E1E4 INFLOW ID=41
                    DT=0.0 L=600 NS=0 SLOPE=0.026
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD        ID=42 CODE=0
*
*
ADD HYD          ID=43 HYD=AP3 ID I=42 II=24
PRINT HYD        ID=43 CODE=10
PLOT HYD         ID=43
*
COMPUTE NM HYD   ID=44 HYD N0=BASIN.OFF6 DA=.0014 SQ MI
                    %A=0.0 %B=0 %C=100.0 %D=0
                    TP=-0.133 HR RAIN=-1
PRINT HYD        ID=44 CODE=10
*
*
ADD HYD          ID=45 HYD=POND ID I=43 II=44
PRINT HYD        ID=45 CODE=10
PLOT HYD         ID=45
*
*
ROUTE RESERVOIR  ID=46 HYD=POND.E INFLOW ID=45 CODE=5
                    OUTFLOW      STORAGE DEPTH
                    0 0.04 5444
                    0.01 0.23 5444.5
                    0.02 0.43 5445
                    0.03 0.66 5445.5
                    0.04 0.91 5446
                    0.5 1.20 5446.5
                    1.3 1.52 5447
                    2.2 1.88 5447.5
                    3.3 2.26 5448
                    6.7 2.68 5448.5
                    8.7 3.12 5449
                    10.8 3.60 5449.5
                    13.1 4.10 5450
                    15.5 4.65 5450.5
                    18.0 5.22 5451
                    20.7 5.82 5451.5
                    23.5 6.44 5452
*
PRINT HYD        ID=46 CODE=10
PLOT HYD         ID=46
*
COMPUTE NM HYD   ID=47 HYD N0=BASIN.E6 DA=.00488 SQ MI
                    %A=0.0 %B=5.0 %C=5.0 %D=90.0
                    TP=-0.133 HR RAIN=-1
PRINT HYD        ID=47 CODE=10
*
*
ADD HYD          ID=48 HYD=TOTALE ID I=46 II=47
PRINT HYD        ID=46 CODE=10
*
*
FINISH

```


APPENDIX B
NEW AHYMO INPUT AND OUT FILES

*S TIERRA VISTA UNIT 3A SUBDIVISION DRAINAGE BASIN (D) PROPOSED
*S 100 YEAR - 6 HOUR STORM
*S
* CREATED JUNE 20, 2014
*
*

*CONVERT TO NMHYMO
START TIME=0.0 HR PUNCH CODE=0

LOCATION NM

*

*

*100 YEAR - 6 HOUR
RAINFALL TYPE=1 RAIN QUARTER=0
RAIN ONE=1.84 IN RAIN SIX=2.20 IN
RAIN DAY=2.66 IN DT=0.10 HRS

*S
*S *****
*S *COMPUTE ONSITE BASINS*
*S *****
*S
*S
*S

*S COMPUTE BASIN 1 *****
*

COMPUTE NM HYD ID=1 HYD=1 AREA=0.005 PER A=0 PER B=24
PER C=24 PER D=52 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=1 CODE=1
*

*S COMPUTE BASIN 2 *****

COMPUTE NM HYD ID=2 HYD=2 AREA=0.004513 PER A=0 PER B=26
PER C=26 PER D=48 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=2 CODE=1
*

*S COMPUTE BASIN 3 *****

COMPUTE NM HYD ID=3 HYD=3 AREA=0.006875 PER A=0 PER B=31
PER C=31 PER D=38 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=3 CODE=1
*

*S COMPUTE BASIN 4 *****

COMPUTE NM HYD ID=4 HYD=4 AREA=0.003594 PER A=0 PER B=26
PER C=26 PER D=48 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=4 CODE=1
*

*S COMPUTE BASIN 5 *****

COMPUTE NM HYD ID=5 HYD=5 AREA=0.001875 PER A=0 PER B=31.5
PER C=31.5 PER D=37 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=5 CODE=1
*

*S COMPUTE BASIN A *****

COMPUTE NM HYD ID=6 HYD=FB.1 AREA=0.01067 PER A=0 PER B=22.1
PER C=22.1 PER D=55.8 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=6 CODE=1
*

*S COMPUTE BASIN B *****

COMPUTE NM HYD ID=7 HYD=FB.2 AREA=0.0076 PER A=0 PER B=23.2
PER C=23.2 PER D=53.5 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=7 CODE=1
*

*S COMPUTE BASIN C *****

COMPUTE NM HYD ID=8 HYD=FB.3 AREA=0.005938 PER A=0 PER B=18.5
PER C=18.5 PER D=63 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=8 CODE=1
*

*S COMPUTE FUTURE BASIN 4 *****

COMPUTE NM HYD ID=9 HYD=FB.4 AREA=0.004844 PER A=0 PER B=29.5
PER C=29.5 PER D=41 TP=-0.1715 RAINFALL=-1
PRINT HYD ID=9 CODE=1

```

*
*S COMPUTE OFFSITE BASIN 2 *****
COMPUTE NM HYD      ID=10 HYD=OFF.2  AREA=0.000938  PER A=80 PER B=20
                    PER C=0 PER D=0  TP=-0.1715  RAINFALL=-1
PRINT HYD           ID=10  CODE=1
*
*S COMPUTE OFFSITE BASIN 3 *****
COMPUTE NM HYD      ID=11 HYD=OFF.3  AREA=0.001094  PER A=76 PER B=24
                    PER C=0 PER D=0  TP=-0.1715  RAINFALL=-1
PRINT HYD           ID=11  CODE=1
*
*S COMPUTE OFFSITE BASIN 4 *****
COMPUTE NM HYD      ID=12 HYD=OFF.4  AREA=0.001406  PER A=80 PER B=20
                    PER C=0 PER D=0  TP=-0.1715  RAINFALL=-1
PRINT HYD           ID=12  CODE=1
*
*S COMPUTE OFFSITE BASIN 5 *****
COMPUTE NM HYD      ID=13 HYD=OFF.5  AREA=0.003281  PER A=95 PER B=5
                    PER C=0 PER D=0  TP=-0.1715  RAINFALL=-1
PRINT HYD           ID=13  CODE=1
*
*S COMPUTE OFFSITE BASIN WELL *****
COMPUTE NM HYD      ID=14 HYD=OFF.WELL AREA=0.001563  PER A=0 PER B=40
                    PER C=40 PER D=20  TP=-0.1715  RAINFALL=-1
PRINT HYD           ID=14  CODE=1
*
*S
*
*S ADD BASINS 1 AND 2 TO CREATE TEMP A *****
ADD HYD             ID=15 HYD=TEMP.A ID I=1 II=2
PRINT HYD           ID=15 CODE=0
*
*S ADD BASINS TEMP A AND 3 TO CREATE TEMP 1.B*****
ADD HYD             ID=16 HYD=TEMP.B ID I=15 II=3
PRINT HYD           ID=16 CODE=0
*
*S ADD BASINS TEMP B AND 5 TO CREATE TEMP C*****
ADD HYD             ID=17 HYD=TEMP.C ID I=16 II=5
PRINT HYD           ID=17 CODE=0
*
*S ADD BASINS TEMP C AND BASIN A TO CREATE TEMP D*****
ADD HYD             ID=18 HYD=TEMP.D ID I=17 II=6
PRINT HYD           ID=18 CODE=0
*
*S ADD BASINS TEMP D AND BASIN B TO CREATE TEMP E*****
ADD HYD             ID=19 HYD=TEMP.E ID I=18 II=7
PRINT HYD           ID=19 CODE=0
*
*S ADD BASINS TEMP E AND BASIN C TO CREATE TEMP F*****
ADD HYD             ID=20 HYD=TEMP.F ID I=19 II=8
PRINT HYD           ID=20 CODE=0
*
*S ADD BASINS TEMP F AND OFFSITE BASIN 3 TO CREATE TEMP G*****
ADD HYD             ID=21 HYD=TEMP.G ID I=20 II=11
PRINT HYD           ID=21 CODE=0
*
*S ADD BASINS TEMP G AND OFFSITE BASIN 4 TO CREATE TEMP H*****
ADD HYD             ID=22 HYD=TEMP.H ID I=21 II=12
PRINT HYD           ID=22 CODE=0
*
*S ADD BASINS TEMP H AND OFFSITE BASIN WELL TO CREATE TEMP I*****
ADD HYD             ID=23 HYD=TEMP.1 ID I=22 II=14
PRINT HYD           ID=23 CODE=0
*
*S ADD BASINS TEMP I AND OFFSITE BASIN 5 TO CREATE TEMP J*****
ADD HYD             ID=24 HYD=TEMP.J ID I=23 II=13
PRINT HYD           ID=24 CODE=0
*
*S TEMP BASIN J REPLACES BASIN E3 AND E5 FROM THE DMP AHYMO FILE*****

```

```

COMPUTE NM HYD      ID=25  HYD NO=OFFSITE2  DA=.0805 SQ MI
                     %A=100  %B=0.0  %C=0.0 %D=0.0
                     TP=-.66 HR  RAIN=-1
PRINT HYD           ID=25 CODE=10
*
*
ROUTE RESERVOIR      ID=26 HYD=OFFPOND2  INFLOW ID=25 CODE=5
                     OUTFLOW      STORAGE DEPTH
                     0      0      0
                     2.16  0.047      1
                     3.06  0.222      2
                     3.75  0.466      3
                     4.33  0.751      4
                     4.84  1.081      5
*
*
PRINT HYD           ID=26 CODE=10
*
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1  SLP=0.011
                     DIA=2.0  N=0.013
ROUTE MCUNGE         ID=27 HYD=RTE.OFFPOND2 INFLOW ID=26
                     DT=0.0  L=900 NS=0  SLOPE=0.011
                     MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD           ID=27 CODE=0
*
*
COMPUTE NM HYD      ID=28  HYD NO=BASIN.B  DA=.01998 SQ MI
                     %A=0  %B=34.0  %C=34.0 %D=32.0
                     TP=-.133 HR  RAIN=-1
PRINT HYD           ID=28 CODE=10
*
*
ROUTE RESERVOIR      ID=29 HYD=POND.B  INFLOW ID=28 CODE=5
                     OUTFLOW      STORAGE DEPTH
                     0      0      5515
                     1.71  0.06      5516
                     2.42  0.24      5517
                     2.96  0.55      5518
                     3.42  0.99      5519
                     3.82  1.67      5520
*
*
PRINT HYD           ID=29 CODE=10
*
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1  SLP=0.03
                     DIA=2.0  N=0.013
ROUTE MCUNGE         ID=30 HYD=RTE.PONDB INFLOW ID=29
                     DT=0.0  L=1180 NS=0  SLOPE=0.03
                     MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD           ID=30 CODE=0
*
*
ADD HYD              ID=31 HYD=OFF.B ID I=30 II=27
PRINT HYD           ID=31 CODE=10
*
*
COMPUTE NM HYD      ID=32  HYD NO=BASINE1.1  DA=.02753 SQ MI
                     %A=0.0  %B=33.0  %C=33.0 %D=34.0
                     TP=-0.133 HR  RAIN=-1
PRINT HYD           ID=32 CODE=10
*
*
ADD HYD              ID=33 HYD=OFF.E11 ID I=32 II=31
PRINT HYD           ID=33 CODE=10
*

```

```

*
COMPUTE NM HYD      ID=34  HYD NO=BASINE1.2  DA=.00588 SQ MI
                    %A=0.0  %B=33.0  %C=33.0  %D=34.0
                    TP=-0.133 HR  RAIN=-1
PRINT HYD           ID=34  CODE=10
*
*
COMPUTE NM HYD      ID=35  HYD NO=BASIN.E2  DA=.01348 SQ MI
                    %A=0.0  %B=18.0  %C=18.0  %D=64.0
                    TP=-.133 HR  RAIN=-1
PRINT HYD           ID=35  CODE=10
*
*
ADD HYD             ID=36  HYD=E2.E12  ID I=34  II=35
PRINT HYD           ID=36  CODE=10
*
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1  SLP=0.002
                    DIA=3.0  N=0.013
ROUTE MCUNGE        ID=37  HYD=RTE.E12  INFLOW ID=36
                    DT=0.0  L=800  NS=0  SLOPE=0.01
                    MATCODE=0  REGCODE=0  CCODE=0  MM CODE=0
*
PRINT HYD           ID=37  CODE=0
*
*
COMPUTE NM HYD      ID=38  HYD NO=BASIN.E4  DA=.00577 SQ MI
                    %A=0.0  %B=5.0  %C=5.0  %D=90.0
                    TP=-0.133 HR  RAIN=-1
PRINT HYD           ID=38  CODE=10
*
*
ADD HYD             ID=39  HYD=AP1  ID I=38  II=33
PRINT HYD           ID=39  CODE=10
*
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1  SLP=0.026
                    DIA=4.0  N=0.013
ROUTE MCUNGE        ID=40  HYD=RTE.E1E4  INFLOW ID=39
                    DT=0.0  L=400  NS=0  SLOPE=0.026
                    MATCODE=0  REGCODE=0  CCODE=0  MM CODE=0
*
PRINT HYD           ID=40  CODE=0
*
*
ADD HYD             ID=41  HYD=AP2  ID I=37  II=40
PRINT HYD           ID=41  CODE=10
*
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1  SLP=0.026
                    DIA=4.0  N=0.013
ROUTE MCUNGE        ID=42  HYD=RTE.E1E4  INFLOW ID=41
                    DT=0.0  L=600  NS=0  SLOPE=0.026
                    MATCODE=0  REGCODE=0  CCODE=0  MM CODE=0
*
PRINT HYD           ID=42  CODE=0
*
ADD HYD             ID=43  HYD=AP3  ID I=42  II=24
PRINT HYD           ID=43  CODE=10
PLOT HYD            ID=43
*
COMPUTE NM HYD      ID=44  HYD NO=BASIN.OFF6  DA=.0014 SQ MI
                    %A=0.0  %B=0  %C=100.0  %D=0
                    TP=-0.133 HR  RAIN=-1
PRINT HYD           ID=44  CODE=10
*
ADD HYD             ID=45  HYD=POND  ID I=43  II=44
PRINT HYD           ID=45  CODE=10
PLOT HYD            ID=45
*
*

```

```

ROUTE RESERVOIR          ID=46 HYD=POND.E  INFLOW ID=45 CODE=5
OUTFLOW          STORAGE DEPTH
0          0.04          5444
0.01 0.23          5444.5
0.02 0.43          5445
0.03 0.66          5445.5
0.04 0.91          5446
0.5 1.20          5446.5
1.3 1.52          5447
2.2 1.88          5447.5
3.3 2.26          5448
6.7 2.68          5448.5
8.7 3.12          5449
10.8 3.60          5449.5
13.1 4.10          5450
15.5 4.65          5450.5
18.0 5.22          5451
20.7 5.82          5451.5
23.5 6.44          5452

*
PRINT HYD          ID=46 CODE=10
PLOT HYD          ID=46
*
COMPUTE NM HYD      ID=47  HYD NO=BASIN.E6  DA=.00488 SQ MI
                   %A=0.0  %B=5.0  %C=5.0  %D=90.0
                   TP=-0.133 HR  RAIN=-1
PRINT HYD          ID=47 CODE=10
*
ADD HYD            ID=48 HYD=TOTALE ID I=46 II=47
PRINT HYD          ID=46 CODE=10
*
*
FINISH

```

AHYMO PROGRAM (AHYMO 97) - - Version: 1997.02c
RUN DATE (MON/DAY/YR) = 01/14/2019
START TIME (HR:MIN:SEC) = 16:13:42 USER NO.= AHYMO-S-9702c1BohanHu-AH
INPUT FILE = DEV_COND.HYM

*S TIERRA VISTA UNIT 3A SUBDIVISION DRAINAGE BASIN (D) PROPOSED
*S 100 YEAR - 6 HOUR STORM

*S
* CREATED JUNE 20, 2014

*
*
*CONVERT TO NMHYMO

START TIME=0.0 HR PUNCH CODE=0

LOCATION

NM

Soil infiltration values (LAND FACTORS) for this location are not available.
The following default values were used.

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

*

*

*100 YEAR - 6 HOUR

RAINFALL

TYPE=1 RAIN QUARTER=0

RAIN ONE=1.84 IN RAIN SIX=2.20 IN

RAIN DAY=2.66 IN DT=0.10 HRS

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40

HR.

DT =	.100000	HOURS	END TIME =	6.000000	HOURS	
.0000	.0060	.0124	.0193	.0266	.0347	.0435
.0532	.0640	.0764	.0908	.1071	.1906	.4476
.9796	1.3314	1.5028	1.6393	1.7527	1.8488	1.9308
1.9485	1.9639	1.9776	1.9899	2.0013	2.0117	2.0215
2.0306	2.0393	2.0475	2.0553	2.0627	2.0698	2.0766
2.0832	2.0895	2.0956	2.1015	2.1072	2.1128	2.1182
2.1234	2.1285	2.1335	2.1383	2.1431	2.1477	2.1522
2.1566	2.1610	2.1652	2.1694	2.1734	2.1774	2.1814
2.1852	2.1890	2.1927	2.1964	2.2000		

*S

*S

*S

COMPUTE ONSITE BASINS

*S

*S

*S

*S

*S

*S COMPUTE BASIN 1 *****

*

COMPUTE NM HYD ID=1 HYD=1 AREA=0.005 PER A=0 PER B=24

PER C=24 PER D=52 TP=-0.1715 RAINFALL=-1

K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
7.106420
UNIT PEAK = 7.9785 CFS UNIT VOLUME = 1.005 B = 526.28 P60 =
1.8400
AREA = .002600 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
3.989068
UNIT PEAK = 4.9601 CFS UNIT VOLUME = 1.002 B = 354.44 P60 =
1.8400

AREA = .002400 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=1 CODE=1

OUTFLOW HYDROGRAPH REACH 1.00

RUNOFF VOLUME = 1.40680 INCHES = .3751 ACRE-FEET
PEAK DISCHARGE RATE = 8.92 CFS AT 1.500 HOURS BASIN AREA = .0050 SQ. MI.

*
*S COMPUTE BASIN 2 *****
COMPUTE NM HYD ID=2 HYD=2 AREA=0.004513 PER A=0 PER B=26
PER C=26 PER D=48 TP=-0.1715 RAINFALL=-1

7.106420 K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 6.6475 CFS UNIT VOLUME = 1.004 B = 526.28 P60 =
AREA = .002166 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

3.989068 K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 4.8501 CFS UNIT VOLUME = 1.002 B = 354.44 P60 =
AREA = .002347 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=2 CODE=1

OUTFLOW HYDROGRAPH REACH 2.00

RUNOFF VOLUME = 1.36001 INCHES = .3273 ACRE-FEET
PEAK DISCHARGE RATE = 7.86 CFS AT 1.500 HOURS BASIN AREA = .0045 SQ. MI.

*
*S COMPUTE BASIN 3 *****
COMPUTE NM HYD ID=3 HYD=3 AREA=0.006875 PER A=0 PER B=31
PER C=31 PER D=38 TP=-0.1715 RAINFALL=-1

7.106420 K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 8.0169 CFS UNIT VOLUME = 1.005 B = 526.28 P60 =
AREA = .002613 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

3.989068 K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 8.8093 CFS UNIT VOLUME = 1.003 B = 354.44 P60 =
AREA = .004263 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=3 CODE=1

OUTFLOW HYDROGRAPH REACH 3.00

RUNOFF VOLUME = 1.24304 INCHES = .4558 ACRE-FEET
PEAK DISCHARGE RATE = 11.22 CFS AT 1.500 HOURS BASIN AREA = .0069 SQ. MI.

*
*S COMPUTE BASIN 4 *****
COMPUTE NM HYD ID=4 HYD=4 AREA=0.003594 PER A=0 PER B=26
PER C=26 PER D=48 TP=-0.1715 RAINFALL=-1

K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
7.106420
UNIT PEAK = 5.2938 CFS UNIT VOLUME = 1.004 B = 526.28 P60 =
1.8400
AREA = .001725 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
3.989068
UNIT PEAK = 3.8624 CFS UNIT VOLUME = 1.001 B = 354.44 P60 =
1.8400
AREA = .001869 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=4 CODE=1

OUTFLOW HYDROGRAPH REACH 4.00

RUNOFF VOLUME = 1.36001 INCHES = .2607 ACRE-FEET
PEAK DISCHARGE RATE = 6.26 CFS AT 1.500 HOURS BASIN AREA = .0036 SQ. MI.

*
*S COMPUTE BASIN 5 *****
COMPUTE NM HYD ID=5 HYD=5 AREA=0.001875 PER A=0 PER B=31.5
PER C=31.5 PER D=37 TP=-0.1715 RAINFALL=-1

K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
7.106420
UNIT PEAK = 2.1289 CFS UNIT VOLUME = 1.001 B = 526.28 P60 =
1.8400
AREA = .000694 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
3.989068
UNIT PEAK = 2.4413 CFS UNIT VOLUME = .9998 B = 354.44 P60 =
1.8400
AREA = .001181 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=5 CODE=1

OUTFLOW HYDROGRAPH REACH 5.00

RUNOFF VOLUME = 1.23134 INCHES = .1231 ACRE-FEET
PEAK DISCHARGE RATE = 3.05 CFS AT 1.500 HOURS BASIN AREA = .0019 SQ. MI.

*
*S COMPUTE BASIN A *****
COMPUTE NM HYD ID=6 HYD=FB.1 AREA=0.01067 PER A=0 PER B=22.1
PER C=22.1 PER D=55.8 TP=-0.1715 RAINFALL=-1

K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
7.106420
UNIT PEAK = 18.270 CFS UNIT VOLUME = 1.005 B = 526.28 P60 =
1.8400

AREA = .005954 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

3.989068 K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 9.7469 CFS UNIT VOLUME = 1.003 B = 354.44 P60 =

AREA = .004716 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=6 CODE=1

HYDROGRAPH FROM AREA FB.1

RUNOFF VOLUME = 1.45125 INCHES = .8259 ACRE-FEET
PEAK DISCHARGE RATE = 19.47 CFS AT 1.500 HOURS BASIN AREA = .0107 SQ. MI.

*
*S COMPUTE BASIN B *****
COMPUTE NM HYD ID=7 HYD=FB.2 AREA=0.0076 PER A=0 PER B=23.2

PER C=23.2 PER D=53.5 TP=-0.1715 RAINFALL=-1

*****WARNING***** SUM OF TREATMENT TYPES DOES NOT EQUAL 100 PERCENT OR TOTAL AREA

7.106420 K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 12.490 CFS UNIT VOLUME = 1.005 B = 526.28 P60 =

AREA = .004070 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

3.989068 K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 7.2953 CFS UNIT VOLUME = 1.003 B = 354.44 P60 =

AREA = .003530 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=7 CODE=1

HYDROGRAPH FROM AREA FB.2

RUNOFF VOLUME = 1.42497 INCHES = .5776 ACRE-FEET
PEAK DISCHARGE RATE = 13.68 CFS AT 1.500 HOURS BASIN AREA = .0076 SQ. MI.

*
*S COMPUTE BASIN C *****
COMPUTE NM HYD ID=8 HYD=FB.3 AREA=0.005938 PER A=0 PER B=18.5

PER C=18.5 PER D=63 TP=-0.1715 RAINFALL=-1

7.106420 K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 11.480 CFS UNIT VOLUME = 1.005 B = 526.28 P60 =

AREA = .003741 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

3.989068 K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 4.5407 CFS UNIT VOLUME = 1.001 B = 354.44 P60 =

AREA = .002197 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD

ID=8 CODE=1

HYDROGRAPH FROM AREA FB.3

RUNOFF VOLUME = 1.53547 INCHES = .4863 ACRE-FEET
PEAK DISCHARGE RATE = 11.30 CFS AT 1.500 HOURS BASIN AREA = .0059 SQ. MI.

*

*S COMPUTE FUTURE BASIN 4 *****

COMPUTE NM HYD ID=9 HYD=FB.4 AREA=0.004844 PER A=0 PER B=29.5
PER C=29.5 PER D=41 TP=-0.1715 RAINFALL=-1

7.106420 K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 6.0945 CFS UNIT VOLUME = 1.004 B = 526.28 P60 =
AREA = .001986 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

3.989068 K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 5.9066 CFS UNIT VOLUME = 1.002 B = 354.44 P60 =
AREA = .002858 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD

ID=9 CODE=1

HYDROGRAPH FROM AREA FB.4

RUNOFF VOLUME = 1.27813 INCHES = .3302 ACRE-FEET
PEAK DISCHARGE RATE = 8.07 CFS AT 1.500 HOURS BASIN AREA = .0048 SQ. MI.

*

*S COMPUTE OFFSITE BASIN 2 *****

COMPUTE NM HYD ID=10 HYD=OFF.2 AREA=0.000938 PER A=80 PER B=20
PER C=0 PER D=0 TP=-0.1715 RAINFALL=-1

2.997519 K = .203093HR TP = .171500HR K/TP RATIO = 1.184216 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 1.5403 CFS UNIT VOLUME = .9852 B = 281.62 P60 =
AREA = .000938 SQ MI IA = .62000 INCHES INF = 1.58600 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD

ID=10 CODE=1

HYDROGRAPH FROM AREA OFF.2

RUNOFF VOLUME = .45840 INCHES = .0229 ACRE-FEET
PEAK DISCHARGE RATE = .62 CFS AT 1.500 HOURS BASIN AREA = .0009 SQ. MI.

*

*S COMPUTE OFFSITE BASIN 3 *****
COMPUTE NM HYD ID=11 HYD=OFF.3 AREA=0.001094 PER A=76 PER B=24
PER C=0 PER D=0 TP=-0.1715 RAINFALL=-1

K = .201399HR TP = .171500HR K/TP RATIO = 1.174338 SHAPE CONSTANT, N =
3.020870
UNIT PEAK = 1.8086 CFS UNIT VOLUME = .9871 B = 283.52 P60 =
1.8400
AREA = .001094 SQ MI IA = .61400 INCHES INF = 1.56920 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=11 CODE=1

HYDROGRAPH FROM AREA OFF.3

RUNOFF VOLUME = .46712 INCHES = .0273 ACRE-FEET
PEAK DISCHARGE RATE = .74 CFS AT 1.500 HOURS BASIN AREA = .0011 SQ. MI.

*

*S COMPUTE OFFSITE BASIN 4 *****
COMPUTE NM HYD ID=12 HYD=OFF.4 AREA=0.001406 PER A=80 PER B=20
PER C=0 PER D=0 TP=-0.1715 RAINFALL=-1

K = .203093HR TP = .171500HR K/TP RATIO = 1.184216 SHAPE CONSTANT, N =
2.997519
UNIT PEAK = 2.3088 CFS UNIT VOLUME = .9875 B = 281.62 P60 =
1.8400
AREA = .001406 SQ MI IA = .62000 INCHES INF = 1.58600 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=12 CODE=1

HYDROGRAPH FROM AREA OFF.4

RUNOFF VOLUME = .45840 INCHES = .0344 ACRE-FEET
PEAK DISCHARGE RATE = .93 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

*

*S COMPUTE OFFSITE BASIN 5 *****
COMPUTE NM HYD ID=13 HYD=OFF.5 AREA=0.003281 PER A=95 PER B=5
PER C=0 PER D=0 TP=-0.1715 RAINFALL=-1

K = .209446HR TP = .171500HR K/TP RATIO = 1.221261 SHAPE CONSTANT, N =
2.914129
UNIT PEAK = 5.2562 CFS UNIT VOLUME = .9902 B = 274.74 P60 =
1.8400
AREA = .003281 SQ MI IA = .64250 INCHES INF = 1.64900 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=13 CODE=1

HYDROGRAPH FROM AREA OFF.5

RUNOFF VOLUME = .42601 INCHES = .0745 ACRE-FEET
PEAK DISCHARGE RATE = 1.99 CFS AT 1.500 HOURS BASIN AREA = .0033 SQ. MI.

*

*S COMPUTE OFFSITE BASIN WELL *****
 COMPUTE NM HYD ID=14 HYD=OFF.WELL AREA=0.001563 PER A=0 PER B=40
 PER C=40 PER D=20 TP=-0.1715 RAINFALL=-1

K = .093468HR TP = .171500HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
 7.106420
 UNIT PEAK = .95926 CFS UNIT VOLUME = .9965 B = 526.28 P60 =
 1.8400
 AREA = .000313 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .152490HR TP = .171500HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
 3.989068
 UNIT PEAK = 2.5842 CFS UNIT VOLUME = .9998 B = 354.44 P60 =
 1.8400
 AREA = .001250 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=14 CODE=1

HYDROGRAPH FROM AREA OFF.WELL

RUNOFF VOLUME = 1.03249 INCHES = .0861 ACRE-FEET
 PEAK DISCHARGE RATE = 2.26 CFS AT 1.500 HOURS BASIN AREA = .0016 SQ. MI.

*
 *S
 *

*S ADD BASINS 1 AND 2 TO CREATE TEMP A *****
 ADD HYD ID=15 HYD=TEMP.A ID I=1 II=2
 PRINT HYD ID=15 CODE=0

HYDROGRAPH FROM AREA TEMP.A

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	HRS	CFS					
	.000	.0	1.400	10.5	2.800	.4	4.200
.1	5.600	.1					
	.100	.0	1.500	16.8	2.900	.3	4.300
.1	5.700	.1					
	.200	.0	1.600	14.4	3.000	.3	4.400
.1	5.800	.1					
	.300	.0	1.700	9.8	3.100	.2	4.500
.1	5.900	.1					
	.400	.0	1.800	6.9	3.200	.2	4.600
.1	6.000	.1					
	.500	.0	1.900	5.2	3.300	.2	4.700
.1	6.100	.1					
	.600	.0	2.000	4.2	3.400	.2	4.800
.1	6.200	.0					
	.700	.0	2.100	3.1	3.500	.1	4.900
.1	6.300	.0					
	.800	.0	2.200	1.9	3.600	.1	5.000
.1	6.400	.0					
	.900	.0	2.300	1.3	3.700	.1	5.100
.1	6.500	.0					
	1.000	.0	2.400	1.0	3.800	.1	5.200
.1	6.600	.0					
	1.100	.0	2.500	.8	3.900	.1	5.300
.1	6.700	.0					
	1.200	.6	2.600	.6	4.000	.1	5.400
.1	6.800	.0					
	1.300	2.9	2.700	.5	4.100	.1	5.500
.1	6.900	.0					

RUNOFF VOLUME = 1.38453 INCHES = .7025 ACRE-FEET
 PEAK DISCHARGE RATE = 16.78 CFS AT 1.500 HOURS BASIN AREA = .0095 SQ. MI.

*
 *S ADD BASINS TEMP A AND 3 TO CREATE TEMP 1.B*****
 ADD HYD ID=16 HYD=TEMP.B ID I=15 II=3
 PRINT HYD ID=16 CODE=0

HYDROGRAPH FROM AREA TEMP.B

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.1	.000	.0	1.400	17.3	2.800	.7	4.200
.1	.100	.0	1.500	28.0	2.900	.5	4.300
.1	.200	.0	1.600	24.1	3.000	.5	4.400
.1	.300	.0	1.700	16.3	3.100	.4	4.500
.1	.400	.0	1.800	11.5	3.200	.3	4.600
.1	.500	.0	1.900	8.5	3.300	.3	4.700
.1	.600	.0	2.000	6.7	3.400	.2	4.800
.1	.700	.0	2.100	4.9	3.500	.2	4.900
.1	.800	.0	2.200	3.0	3.600	.2	5.000
.1	.900	.0	2.300	2.1	3.700	.2	5.100
.1	1.000	.0	2.400	1.6	3.800	.2	5.200
.2	1.100	.1	2.500	1.3	3.900	.2	5.300
.2	1.200	1.0	2.600	1.0	4.000	.2	5.400
.2	1.300	4.6	2.700	.8	4.100	.1	5.500
.2	1.400	.0					

RUNOFF VOLUME = 1.32516 INCHES = 1.1582 ACRE-FEET
 PEAK DISCHARGE RATE = 28.00 CFS AT 1.500 HOURS BASIN AREA = .0164 SQ. MI.

*
 *S ADD BASINS TEMP B AND 5 TO CREATE TEMP C*****
 ADD HYD ID=17 HYD=TEMP.C ID I=16 II=5
 PRINT HYD ID=17 CODE=0

HYDROGRAPH FROM AREA TEMP.C

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.2	.000	.0	1.400	19.2	2.800	.7	4.200
.2	.100	.0	1.500	31.1	2.900	.6	4.300
.2	.200	.0	1.600	26.7	3.000	.5	4.400
.2	.300	.0	1.700	18.1	3.100	.4	4.500
.2	.400	.2					

	.400	.0	1.800	12.7	3.200	.4	4.600
.2	6.000	.2					
	.500	.0	1.900	9.4	3.300	.3	4.700
.2	6.100	.1					
	.600	.0	2.000	7.4	3.400	.3	4.800
.2	6.200	.1					
	.700	.0	2.100	5.5	3.500	.2	4.900
.2	6.300	.0					
	.800	.0	2.200	3.3	3.600	.2	5.000
.2	6.400	.0					
	.900	.0	2.300	2.3	3.700	.2	5.100
.2	6.500	.0					
	1.000	.0	2.400	1.8	3.800	.2	5.200
.2	6.600	.0					
	1.100	.1	2.500	1.4	3.900	.2	5.300
.2	6.700	.0					
	1.200	1.1	2.600	1.1	4.000	.2	5.400
.2	6.800	.0					
	1.300	5.0	2.700	.9	4.100	.2	5.500
.2	6.900	.0					

RUNOFF VOLUME = 1.31551 INCHES = 1.2813 ACRE-FEET
 PEAK DISCHARGE RATE = 31.05 CFS AT 1.500 HOURS BASIN AREA = .0183 SQ. MI.

*

*S ADD BASINS TEMP C AND BASIN A TO CREATE TEMP D*****
 ADD HYD ID=18 HYD=TEMP.D ID I=17 II=6
 PRINT HYD ID=18 CODE=0

HYDROGRAPH FROM AREA TEMP.D

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	TIME						
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	HRS	CFS					
	.000	.0	1.500	50.5	3.000	.8	4.500
.3	6.000	.3					
	.100	.0	1.600	43.3	3.100	.7	4.600
.3	6.100	.3					
	.200	.0	1.700	29.4	3.200	.6	4.700
.3	6.200	.1					
	.300	.0	1.800	20.8	3.300	.5	4.800
.3	6.300	.1					
	.400	.0	1.900	15.6	3.400	.5	4.900
.3	6.400	.0					
	.500	.0	2.000	12.4	3.500	.4	5.000
.3	6.500	.0					
	.600	.0	2.100	9.1	3.600	.4	5.100
.3	6.600	.0					
	.700	.0	2.200	5.6	3.700	.4	5.200
.3	6.700	.0					
	.800	.0	2.300	3.8	3.800	.3	5.300
.3	6.800	.0					
	.900	.0	2.400	3.0	3.900	.3	5.400
.3	6.900	.0					
	1.000	.0	2.500	2.3	4.000	.3	5.500
.3	7.000	.0					
	1.100	.1	2.600	1.9	4.100	.3	5.600
.3	7.100	.0					
	1.200	1.8	2.700	1.5	4.200	.3	5.700
.3							
	1.300	8.7	2.800	1.2	4.300	.3	5.800
.3							
	1.400	31.5	2.900	1.0	4.400	.3	5.900
.3							

RUNOFF VOLUME = 1.36555 INCHES = 2.1072 ACRE-FEET
 PEAK DISCHARGE RATE = 50.52 CFS AT 1.500 HOURS BASIN AREA = .0289 SQ. MI.

*

*S ADD BASINS TEMP D AND BASIN B TO CREATE TEMP E*****
 ADD HYD ID=19 HYD=TEMP.E ID I=18 II=7
 PRINT HYD ID=19 CODE=0

HYDROGRAPH FROM AREA TEMP.E

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	.000	.0	1.500	64.2	3.000	1.1	4.500
.3	6.000	.4	1.600	55.0	3.100	.9	4.600
.3	.100	.0	1.700	37.3	3.200	.8	4.700
.4	6.100	.3	1.800	26.5	3.300	.7	4.800
.4	.200	.0	1.900	19.9	3.400	.6	4.900
.4	6.200	.1	2.000	15.8	3.500	.5	5.000
.4	.300	.0	2.100	11.7	3.600	.5	5.100
.4	6.300	.1	2.200	7.1	3.700	.5	5.200
.4	.400	.0	2.300	4.9	3.800	.4	5.300
.4	6.400	.0	2.400	3.8	3.900	.4	5.400
.4	.500	.0	2.500	3.0	4.000	.4	5.500
.4	6.500	.0	2.600	2.4	4.100	.4	5.600
.4	.600	.0	2.700	1.9	4.200	.4	5.700
.4	6.600	.0	2.800	1.5	4.300	.4	5.800
.4	.700	.0	2.900	1.3	4.400	.3	5.900
.4	6.700	.0					
.4	.800	.0					
.4	6.800	.0					
.4	.900	.0					
.4	6.900	.0					
.4	1.000	.0					
.4	7.000	.0					
.4	1.100	.1					
.4	7.100	.0					
.4	1.200	2.4					
.4	1.300	11.2					
.4	1.400	40.2					

RUNOFF VOLUME = 1.37791 INCHES = 2.6847 ACRE-FEET
 PEAK DISCHARGE RATE = 64.20 CFS AT 1.500 HOURS BASIN AREA = .0365 SQ. MI.

*

*S ADD BASINS TEMP E AND BASIN C TO CREATE TEMP F*****
 ADD HYD ID=20 HYD=TEMP.F ID I=19 II=8
 PRINT HYD ID=20 CODE=0

HYDROGRAPH FROM AREA TEMP.F

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	HRS	CFS					
	.000	.0	1.500	75.5	3.000	1.3	4.500
.4	6.000	.5					
	.100	.0	1.600	64.6	3.100	1.1	4.600
.4	6.100	.4					
	.200	.0	1.700	43.9	3.200	.9	4.700
.4	6.200	.2					
	.300	.0	1.800	31.2	3.300	.8	4.800
.4	6.300	.1					
	.400	.0	1.900	23.6	3.400	.7	4.900
.4	6.400	.1					
	.500	.0	2.000	18.9	3.500	.6	5.000
.4	6.500	.0					
	.600	.0	2.100	13.9	3.600	.6	5.100
.4	6.600	.0					
	.700	.0	2.200	8.4	3.700	.5	5.200
.4	6.700	.0					
	.800	.0	2.300	5.8	3.800	.5	5.300
.5	6.800	.0					
	.900	.0	2.400	4.4	3.900	.5	5.400
.5	6.900	.0					
	1.000	.0	2.500	3.5	4.000	.5	5.500
.5	7.000	.0					
	1.100	.2	2.600	2.8	4.100	.4	5.600
.5	7.100	.0					
	1.200	2.8	2.700	2.2	4.200	.4	5.700
.5							
	1.300	13.4	2.800	1.8	4.300	.4	5.800
.5							
	1.400	47.4	2.900	1.5	4.400	.4	5.900
.5							

RUNOFF VOLUME = 1.39993 INCHES = 3.1710 ACRE-FEET
 PEAK DISCHARGE RATE = 75.51 CFS AT 1.500 HOURS BASIN AREA = .0425 SQ. MI.

*

*S ADD BASINS TEMP F AND OFFSITE BASIN 3 TO CREATE TEMP G*****
 ADD HYD ID=21 HYD=TEMP.G ID I=20 II=11
 PRINT HYD ID=21 CODE=0

HYDROGRAPH FROM AREA TEMP.G

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.4	.000	.0	1.500	76.2	3.000	1.3	4.500
.4	.100	.0	1.600	65.3	3.100	1.1	4.600
.4	.200	.0	1.700	44.3	3.200	.9	4.700
.4	.300	.0	1.800	31.5	3.300	.8	4.800
.4	.400	.0	1.900	23.8	3.400	.7	4.900
.4	.500	.0	2.000	19.0	3.500	.6	5.000
.4	.600	.0	2.100	14.0	3.600	.6	5.100
.4	.700	.0	2.200	8.5	3.700	.5	5.200
.4	.800	.0	2.300	5.9	3.800	.5	5.300
.5	.900	.0	2.400	4.5	3.900	.5	5.400
.5	1.000	.0	2.500	3.5	4.000	.5	5.500
.5	1.100	.2	2.600	2.8	4.100	.4	5.600
.5	1.200	2.8	2.700	2.3	4.200	.4	5.700
.5	1.300	13.4	2.800	1.8	4.300	.4	5.800
.5	1.400	47.8	2.900	1.5	4.400	.4	5.900

RUNOFF VOLUME = 1.37650 INCHES = 3.1982 ACRE-FEET
 PEAK DISCHARGE RATE = 76.25 CFS AT 1.500 HOURS BASIN AREA = .0436 SQ. MI.

*

*S ADD BASINS TEMP G AND OFFSITE BASIN 4 TO CREATE TEMP H*****
 ADD HYD ID=22 HYD=TEMP.H ID I=21 II=12
 PRINT HYD ID=22 CODE=0

HYDROGRAPH FROM AREA TEMP.H

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.4	.000	.0	1.500	77.2	3.000	1.3	4.500
.4	.100	.0	1.600	66.1	3.100	1.1	4.600
.4	.200	.0	1.700	44.9	3.200	.9	4.700
.4	.300	.0	1.800	31.9	3.300	.8	4.800
.4	.400	.0	1.900	24.0	3.400	.7	4.900
.4	.500	.0	2.000	19.1	3.500	.7	5.000
.4	.600	.0	2.100	14.1	3.600	.6	5.100
.4	.700	.0	2.200	8.6	3.700	.6	5.200
.4	.800	.0	2.300	5.9	3.800	.5	5.300
.5	.900	.0	2.400	4.5	3.900	.5	5.400
.5	1.000	.0	2.500	3.6	4.000	.5	5.500
.5	1.100	.2	2.600	2.9	4.100	.4	5.600
.5	1.200	2.8	2.700	2.3	4.200	.4	5.700
.5	1.300	13.4	2.800	1.9	4.300	.4	5.800
.5	1.400	48.3	2.900	1.5	4.400	.4	5.900

RUNOFF VOLUME = 1.34780 INCHES = 3.2326 ACRE-FEET
 PEAK DISCHARGE RATE = 77.18 CFS AT 1.500 HOURS BASIN AREA = .0450 SQ. MI.

*

*S ADD BASINS TEMP H AND OFFSITE BASIN WELL TO CREATE TEMP I*****
 ADD HYD ID=23 HYD=TEMP.1 ID I=22 II=14
 PRINT HYD ID=23 CODE=0

HYDROGRAPH FROM AREA TEMP.1

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.4	.000	.0	1.500	79.4	3.000	1.3	4.500
.4	.100	.0	1.600	68.1	3.100	1.1	4.600
.4	.200	.0	1.700	46.3	3.200	1.0	4.700
.4	.300	.0	1.800	32.8	3.300	.8	4.800
.4	.400	.0	1.900	24.6	3.400	.7	4.900
.4	.500	.0	2.000	19.5	3.500	.7	5.000
.4	.600	.0	2.100	14.4	3.600	.6	5.100
.4	.700	.0	2.200	8.8	3.700	.6	5.200
.5	.800	.0	2.300	6.1	3.800	.5	5.300
.5	.900	.0	2.400	4.7	3.900	.5	5.400
.5	1.000	.0	2.500	3.7	4.000	.5	5.500
.5	1.100	.2	2.600	2.9	4.100	.4	5.600
.5	1.200	2.9	2.700	2.4	4.200	.4	5.700
.5	1.300	13.6	2.800	1.9	4.300	.4	5.800
.5	1.400	49.5	2.900	1.6	4.400	.4	5.900

RUNOFF VOLUME = 1.33720 INCHES = 3.3187 ACRE-FEET
 PEAK DISCHARGE RATE = 79.43 CFS AT 1.500 HOURS BASIN AREA = .0465 SQ. MI.

*

*S ADD BASINS TEMP I AND OFFSITE BASIN 5 TO CREATE TEMP J*****
 ADD HYD ID=24 HYD=TEMP.J ID I=23 II=13
 PRINT HYD ID=24 CODE=0

HYDROGRAPH FROM AREA TEMP.J

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.4	.000	.0	1.500	81.4	3.000	1.4	4.500
.4	.100	.0	1.600	70.0	3.100	1.2	4.600
.4	.200	.0	1.700	47.5	3.200	1.0	4.700
.4	.300	.0	1.800	33.5	3.300	.9	4.800
.4	.400	.0	1.900	25.1	3.400	.8	4.900
.4	.500	.0	2.000	19.8	3.500	.7	5.000
.4	.600	.0	2.100	14.6	3.600	.6	5.100
.4	.700	.0	2.200	8.9	3.700	.6	5.200
.5	.800	.0	2.300	6.2	3.800	.5	5.300
.5	.900	.0	2.400	4.8	3.900	.5	5.400
.5	1.000	.0	2.500	3.8	4.000	.5	5.500
.5	1.100	.2	2.600	3.0	4.100	.5	5.600
.5	1.200	2.9	2.700	2.4	4.200	.4	5.700
.5	1.300	13.6	2.800	2.0	4.300	.4	5.800
.5	1.400	50.5	2.900	1.6	4.400	.4	5.900

RUNOFF VOLUME = 1.27719 INCHES = 3.3932 ACRE-FEET
 PEAK DISCHARGE RATE = 81.42 CFS AT 1.500 HOURS BASIN AREA = .0498 SQ. MI.

*

*S TEMP BASIN J REPLACES BASIN E3 AND E5 FROM THE DMP AHYMO FILE*****

COMPUTE NM HYD ID=25 HYD NO=OFFSITE2 DA=.0805 SQ MI
 %A=100 %B=0.0 %C=0.0 %D=0.0
 TP=-.66 HR RAIN=-1

K = .803590HR TP = .660000HR K/TP RATIO = 1.217560 SHAPE CONSTANT, N =
 2.922175
 UNIT PEAK = 33.592 CFS UNIT VOLUME = .9995 B = 275.41 P60 =
 1.8400
 AREA = .080500 SQ MI IA = .65000 INCHES INF = 1.67000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=25 CODE=10

HYDROGRAPH FROM AREA OFFSITE2

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
	.000	.0	4.000	1.5	8.000	.3	12.000
.1	16.000	.0					
	1.000	.0	5.000	.9	9.000	.2	13.000
.0	17.000	.0					
	2.000	13.9	6.000	.6	10.000	.1	14.000
.0	18.000	.0					
	3.000	5.2	7.000	.4	11.000	.1	15.000
.0							

RUNOFF VOLUME = .41534 INCHES = 1.7832 ACRE-FEET
 PEAK DISCHARGE RATE = 13.87 CFS AT 2.000 HOURS BASIN AREA = .0805 SQ. MI.

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 *

ROUTE RESERVOIR ID=26 HYD=OFFPOND2 INFLOW ID=25 CODE=5

OUTFLOW	STORAGE	DEPTH
0	0	0
2.16	0.047	1
3.06	0.222	2
3.75	0.466	3
4.33	0.751	4
4.84	1.081	5

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	.00	.000	.00
.50	.00	.00	.000	.00
1.00	.00	.00	.000	.00
1.50	3.77	.41	.019	.88
2.00	13.87	2.49	.342	3.40
2.50	9.71	3.78	.689	4.20
3.00	5.22	4.18	.809	4.42
3.50	2.80	4.11	.787	4.39
4.00	1.50	3.80	.695	4.22
4.50	1.13	3.39	.579	3.98
5.00	.92	2.98	.461	3.74
5.50	.75	2.52	.348	3.42
6.00	.61	2.08	.241	3.11
6.50	.49	1.55	.144	2.66
7.00	.40	1.08	.061	2.23
7.50	.33	.34	.016	.73

8.00	.26	.16	.008	.35
8.50	.22	.12	.005	.25
9.00	.17	.09	.004	.20
9.50	.14	.07	.003	.16
10.00	.12	.06	.003	.13
10.50	.09	.05	.002	.11
11.00	.08	.04	.002	.09
11.50	.06	.03	.002	.07
12.00	.05	.03	.001	.06
12.50	.04	.02	.001	.05
13.00	.03	.02	.001	.04
13.50	.03	.01	.001	.03
14.00	.02	.01	.001	.02
14.50	.02	.01	.000	.02
15.00	.01	.01	.000	.02
15.50	.01	.01	.000	.01
16.00	.01	.00	.000	.01
16.50	.01	.00	.000	.01
17.00	.01	.00	.000	.01
17.50	.01	.00	.000	.01
18.00	.00	.00	.000	.00

PEAK DISCHARGE = 4.426 CFS - PEAK OCCURS AT HOUR 3.10
 MAXIMUM WATER SURFACE ELEVATION = 4.188
 MAXIMUM STORAGE = .8131 AC-FT INCREMENTAL TIME= .100000HRS

*
 *
 PRINT HYD ID=26 CODE=10
 *
 *
 COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.011
 DIA=2.0 N=0.013

RATING CURVE PIPE SECTION 1.0			
WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.10	.06	.12	.89
.21	.17	.54	1.22
.31	.31	1.26	1.45
.42	.47	2.26	1.62
.52	.65	3.53	1.76
.63	.84	5.03	1.85
.73	1.04	6.74	1.93
.83	1.24	8.62	1.97
.94	1.45	10.63	2.00
1.04	1.66	12.72	2.00
1.15	1.86	14.85	2.00
1.25	2.07	16.96	2.00
1.35	2.27	19.01	2.00
1.46	2.46	20.93	2.00
1.56	2.63	22.65	2.00
1.67	2.80	24.08	2.00
1.77	2.94	25.10	2.00
1.88	3.06	25.52	2.00
2.00	3.14	25.52	2.00

ROUTE MCUNGE ID=27 HYD=RTE.OFFPOND2 INFLOW ID=26
 DT=0.0 L=900 NS=0 SLOPE=0.011
 MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

INFLOW END= 185		TABLE PTS= 19											
DT= .100000		QMED= 2.21		CKMED= 6.2379									
WIDTH MED= 1.62		NREACH= 1		DX= 900.00									

Q-M	DEPTH C1-M (FT)	AREA C2-M (SQ FT)	Q C3-M (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3
(CFS)												
.000	.00	.0	.0	.170	.0	2.50	.94	1.000	.000	1.000	.000	
	.0	1.000	.000	.000								

	.10	.1	.1	.125	.9	3.28	1.99	1.312	.004	.996	.136	-
.133	.0	.999	.021	-.021								
	.21	.2	.5	.080	1.2	4.53	3.11	1.810	.010	.993	.291	-
.284	.3	.994	.203	-.197								
	.31	.3	1.3	.062	1.5	5.73	4.00	2.292	.015	.991	.395	-
.386	.9	.992	.347	-.339								
	.42	.5	2.3	.053	1.6	6.75	4.76	2.698	.021	.989	.462	-
.451	1.7	.990	.431	-.421								
	.52	.7	3.5	.046	1.8	7.61	5.42	3.044	.027	.987	.509	-
.496	2.9	.988	.488	-.475								
	.63	.8	5.0	.042	1.9	8.34	6.00	3.338	.033	.985	.542	-
.527	4.3	.986	.527	-.513								
	.73	1.0	6.7	.038	1.9	8.96	6.50	3.585	.039	.983	.567	-
.550	5.9	.984	.556	-.540								
	.83	1.2	8.6	.036	2.0	9.47	6.95	3.788	.047	.981	.586	-
.567	7.7	.982	.578	-.560								
	.94	1.4	10.6	.034	2.0	9.87	7.34	3.947	.055	.978	.600	-
.578	9.6	.980	.594	-.574								
	1.04	1.7	12.7	.033	2.0	10.14	7.68	4.057	.063	.975	.609	-
.585	11.7	.977	.606	-.583								
	1.15	1.9	14.8	.031	2.0	10.21	7.97	4.083	.073	.972	.612	-
.584	13.8	.974	.612	-.586								
	1.25	2.1	17.0	.030	2.0	10.02	8.21	4.007	.086	.966	.607	-
.574	15.9	.969	.611	-.580								
	1.35	2.3	19.0	.030	2.0	9.54	8.39	3.817	.101	.959	.593	-
.552	18.0	.963	.602	-.565								
	1.46	2.5	20.9	.029	2.0	8.75	8.52	3.499	.121	.948	.567	-
.515	20.0	.954	.583	-.537								
	1.56	2.6	22.7	.029	2.0	7.57	8.60	3.027	.151	.928	.521	-
.449	21.8	.940	.549	-.488								
	1.67	2.8	24.1	.029	2.0	5.89	8.60	2.357	.206	.884	.439	-
.323	23.4	.912	.489	-.401								
	1.77	2.9	25.1	.029	2.0	3.45	8.53	1.381	.367	.733	.272	-
.005	24.6	.842	.378	-.220								
	1.88	3.1	25.5	.030	2.0	1.97	8.34	.787	.655	.463	.181	
.356	25.3	.480	.181	.339								

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 1 TIMES. AVERAGE NUMBER
ITERATIONS = 1.1024

Equations solved using the Ponce correction to C2

*

PRINT HYD

ID=27 CODE=0

HYDROGRAPH FROM AREA RTE.OFFPOND2

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
	.000	.0	3.800	4.3	7.600	.7	11.400
.1	15.200	.0					
	.100	.0	3.900	4.3	7.700	.6	11.500
.1	15.300	.0					
	.200	.0	4.000	4.2	7.800	.5	11.600
.1	15.400	.0					
	.300	.0	4.100	4.2	7.900	.4	11.700
.1	15.500	.0					
	.400	.0	4.200	4.1	8.000	.4	11.800
.1	15.600	.0					
	.500	.0	4.300	4.1	8.100	.3	11.900
.1	15.700	.0					
	.600	.0	4.400	4.0	8.200	.3	12.000
.1	15.800	.0					
	.700	.0	4.500	4.0	8.300	.3	12.100
.1	15.900	.0					
	.800	.0	4.600	3.9	8.400	.3	12.200
.1	16.000	.0					
	.900	.0	4.700	3.9	8.500	.3	12.300
.1	16.100	.0					
	1.000	.0	4.800	3.9	8.600	.2	12.400
.0	16.200	.0					

.0	1.100	.0	4.900	3.8	8.700	.2	12.500
.0	16.300	.0					
.0	1.200	.0	5.000	3.8	8.800	.2	12.600
.0	16.400	.0					
.0	1.300	.0	5.100	3.7	8.900	.2	12.700
.0	16.500	.0					
.0	1.400	.0	5.200	3.6	9.000	.2	12.800
.0	16.600	.0					
.0	1.500	.4	5.300	3.6	9.100	.2	12.900
.0	16.700	.0					
.0	1.600	1.6	5.400	3.5	9.200	.2	13.000
.0	16.800	.0					
.0	1.700	2.6	5.500	3.4	9.300	.2	13.100
.0	16.900	.0					
.0	1.800	2.6	5.600	3.4	9.400	.2	13.200
.0	17.000	.0					
.0	1.900	3.1	5.700	3.3	9.500	.2	13.300
.0	17.100	.0					
.0	2.000	3.3	5.800	3.3	9.600	.2	13.400
.0	17.200	.0					
.0	2.100	3.6	5.900	3.2	9.700	.2	13.500
.0	17.300	.0					
.0	2.200	3.8	6.000	3.1	9.800	.1	13.600
.0	17.400	.0					
.0	2.300	3.9	6.100	3.1	9.900	.1	13.700
.0	17.500	.0					
.0	2.400	4.1	6.200	3.0	10.000	.1	13.800
.0	17.600	.0					
.0	2.500	4.2	6.300	2.9	10.100	.1	13.900
.0	17.700	.0					
.0	2.600	4.3	6.400	2.8	10.200	.1	14.000
.0	17.800	.0					
.0	2.700	4.3	6.500	2.7	10.300	.1	14.100
.0	17.900	.0					
.0	2.800	4.4	6.600	2.6	10.400	.1	14.200
.0	18.000	.0					
.0	2.900	4.4	6.700	2.5	10.500	.1	14.300
.0	18.100	.0					
.0	3.000	4.4	6.800	2.4	10.600	.1	14.400
.0	18.200	.0					
.0	3.100	4.4	6.900	2.3	10.700	.1	14.500
.0	18.300	.0					
.0	3.200	4.4	7.000	2.3	10.800	.1	14.600
.0	18.400	.0					
.0	3.300	4.4	7.100	2.2	10.900	.1	14.700
.0	18.500	.0					
.0	3.400	4.4	7.200	1.9	11.000	.1	14.800
.0	18.600	.0					
.0	3.500	4.4	7.300	1.3	11.100	.1	14.900
.0	18.700	.0					
.0	3.600	4.4	7.400	1.0	11.200	.1	15.000
.0	18.800	.0					
.0	3.700	4.3	7.500	.8	11.300	.1	15.100

RUNOFF VOLUME = .41538 INCHES = 1.7834 ACRE-FEET
 PEAK DISCHARGE RATE = 4.43 CFS AT 3.200 HOURS BASIN AREA = .0805 SQ. MI.

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COMPUTE NM HYD ID=28 HYD NO=BASIN.B DA=.01998 SQ MI
 %A=0 %B=34.0 %C=34.0 %D=32.0
 TP=-.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 25.299 CFS UNIT VOLUME = 1.030 B = 526.28 P60 = 1.8400
 AREA = .006394 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
3.989065
UNIT PEAK = 36.207 CFS UNIT VOLUME = 1.007 B = 354.44 P60 =
1.8400
AREA = .013586 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=28 CODE=10

HYDROGRAPH FROM AREA BASIN.B

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	HRS	CFS					
.1	.000	.0	2.000	5.8	4.000	.1	6.000
	1.000	.0	3.000	.3	5.000	.1	

RUNOFF VOLUME = 1.17286 INCHES = 1.2498 ACRE-FEET
PEAK DISCHARGE RATE = 34.80 CFS AT 1.500 HOURS BASIN AREA = .0200 SQ. MI.

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ROUTE RESERVOIR ID=29 HYD=POND.B INFLOW ID=28 CODE=5

OUTFLOW	STORAGE DEPTH
0 0	5515
1.71 0.06	5516
2.42 0.24	5517
2.96 0.55	5518
3.42 0.99	5519
3.82 1.67	5520

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5515.00	.000	.00
.50	.00	5515.00	.000	.00
1.00	.00	5515.00	.000	.00
1.50	34.80	5517.54	.407	2.71
2.00	5.83	5518.84	.918	3.34
2.50	.93	5518.75	.880	3.31
3.00	.31	5518.50	.769	3.19
3.50	.17	5518.23	.649	3.06
4.00	.13	5517.94	.531	2.93
4.50	.12	5517.58	.419	2.73
5.00	.13	5517.24	.315	2.55
5.50	.14	5516.88	.219	2.34
6.00	.15	5516.42	.136	2.01
6.50	.01	5516.00	.061	1.71
7.00	.00	5515.31	.019	.53
7.50	.00	5515.09	.006	.16
8.00	.00	5515.03	.002	.05
8.50	.00	5515.01	.001	.02
9.00	.00	5515.00	.000	.00

PEAK DISCHARGE = 3.357 CFS - PEAK OCCURS AT HOUR 2.10
MAXIMUM WATER SURFACE ELEVATION = 5518.863
MAXIMUM STORAGE = .9296 AC-FT INCREMENTAL TIME= .100000HRS

*
*

PRINT HYD ID=29 CODE=10

HYDROGRAPH FROM AREA POND.B

	.73	1.0	11.1	.031	1.9	14.80	10.74	4.515	.011	.996	.638	-
.634	9.7	.996	.629	-.625								
	.83	1.2	14.2	.029	2.0	15.64	11.48	4.771	.013	.995	.654	-
.650	12.7	.996	.647	-.643								
	.94	1.4	17.5	.027	2.0	16.29	12.13	4.971	.015	.995	.666	-
.661	15.9	.995	.661	-.656								
	1.04	1.7	21.0	.026	2.0	16.75	12.69	5.110	.018	.994	.674	-
.668	19.3	.995	.671	-.665								
	1.15	1.9	24.5	.025	2.0	16.86	13.16	5.143	.021	.993	.676	-
.669	22.7	.994	.676	-.670								
	1.25	2.1	28.0	.024	2.0	16.54	13.56	5.047	.024	.992	.671	-
.663	26.3	.993	.674	-.667								
	1.35	2.3	31.4	.024	2.0	15.76	13.86	4.808	.028	.990	.657	-
.648	29.7	.991	.666	-.657								
	1.46	2.5	34.6	.023	2.0	14.44	14.08	4.407	.034	.988	.632	-
.620	33.0	.989	.647	-.636								
	1.56	2.6	37.4	.023	2.0	12.50	14.20	3.813	.042	.983	.588	-
.571	36.0	.986	.615	-.600								
	1.67	2.8	39.8	.023	2.0	9.73	14.21	2.969	.058	.971	.503	-
.475	38.6	.979	.556	-.534								
	1.77	2.9	41.5	.023	2.0	5.70	14.09	1.739	.103	.928	.296	-
.224	40.6	.960	.435	-.395								
	1.88	3.1	42.1	.024	2.0	3.25	13.77	.991	.183	.831	.080	
.088	41.8	.838	.088	.074								

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 1 TIMES. AVERAGE NUMBER
ITERATIONS = 1.1036

Equations solved using the Ponce correction to C2

*

PRINT HYD

ID=30 CODE=0

HYDROGRAPH FROM AREA RTE.PONDB

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
	.000	.0	2.000	3.3	4.000	2.9	6.000
2.0	8.000	.1					
	.100	.0	2.100	3.4	4.100	2.9	6.100
2.0	8.100	.0					
	.200	.0	2.200	3.4	4.200	2.9	6.200
1.9	8.200	.0					
	.300	.0	2.300	3.3	4.300	2.8	6.300
1.8	8.300	.0					
	.400	.0	2.400	3.3	4.400	2.8	6.400
1.8	8.400	.0					
	.500	.0	2.500	3.3	4.500	2.7	6.500
1.7	8.500	.0					
	.600	.0	2.600	3.3	4.600	2.7	6.600
1.5	8.600	.0					
	.700	.0	2.700	3.3	4.700	2.7	6.700
1.2	8.700	.0					
	.800	.0	2.800	3.2	4.800	2.6	6.800
1.0	8.800	.0					
	.900	.0	2.900	3.2	4.900	2.6	6.900
.7	8.900	.0					
	1.000	.0	3.000	3.2	5.000	2.6	7.000
.6	9.000	.0					
	1.100	.0	3.100	3.2	5.100	2.5	7.100
.5	9.100	.0					
	1.200	.0	3.200	3.1	5.200	2.5	7.200
.4	9.200	.0					
	1.300	.5	3.300	3.1	5.300	2.5	7.300
.3	9.300	.0					
	1.400	1.7	3.400	3.1	5.400	2.4	7.400
.2	9.400	.0					
	1.500	2.6	3.500	3.1	5.500	2.4	7.500
.2	9.500	.0					
	1.600	2.9	3.600	3.0	5.600	2.3	7.600
.1	9.600	.0					

	1.700	3.2	3.700	3.0	5.700	2.2	7.700
.1	9.700	.0					
	1.800	3.2	3.800	3.0	5.800	2.2	7.800
.1	9.800	.0					
	1.900	3.3	3.900	3.0	5.900	2.1	7.900
.1							

RUNOFF VOLUME = 1.17295 INCHES = 1.2499 ACRE-FEET
 PEAK DISCHARGE RATE = 3.36 CFS AT 2.100 HOURS BASIN AREA = .0200 SQ. MI.

*
 *
 ADD HYD ID=31 HYD=OFF.B ID I=30 II=27
 PRINT HYD ID=31 CODE=10

HYDROGRAPH FROM AREA OFF.B

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
	.000	.0	4.000	7.2	8.000	.4	12.000
.1	16.000	.0					
	1.000	.0	5.000	6.3	9.000	.2	13.000
.0	17.000	.0					
	2.000	6.6	6.000	5.2	10.000	.1	14.000
.0	18.000	.0					
	3.000	7.6	7.000	2.9	11.000	.1	15.000
.0							

RUNOFF VOLUME = .56599 INCHES = 3.0331 ACRE-FEET
 PEAK DISCHARGE RATE = 7.62 CFS AT 2.900 HOURS BASIN AREA = .1005 SQ. MI.

*
 *
 COMPUTE NM HYD ID=32 HYD NO=BASINE1.1 DA=.02753 SQ MI
 %A=0.0 %B=33.0 %C=33.0 %D=34.0
 TP=-0.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
 7.106420
 UNIT PEAK = 37.038 CFS UNIT VOLUME = 1.030 B = 526.28 P60 =
 1.8400
 AREA = .009360 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
 3.989065
 UNIT PEAK = 48.422 CFS UNIT VOLUME = 1.007 B = 354.44 P60 =
 1.8400
 AREA = .018170 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=32 CODE=10

HYDROGRAPH FROM AREA BASINE1.1

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
	.000	.0	2.000	8.3	4.000	.2	6.000
.2							
	1.000	.0	3.000	.4	5.000	.2	

RUNOFF VOLUME = 1.19625 INCHES = 1.7564 ACRE-FEET

PEAK DISCHARGE RATE = 48.45 CFS AT 1.500 HOURS BASIN AREA = .0275 SQ. MI.

*
*

ADD HYD ID=33 HYD=OFF.E11 ID I=32 II=31
PRINT HYD ID=33 CODE=10

HYDROGRAPH FROM AREA OFF.E11

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.1	.000	.0	4.000	7.4	8.000	.4	12.000
.0	16.000	.0	5.000	6.5	9.000	.2	13.000
.0	1.000	.0	6.000	5.4	10.000	.1	14.000
.0	17.000	.0	7.000	2.9	11.000	.1	15.000
.0	2.000	14.9					
.0	18.000	.0					
.0	3.000	8.1					

RUNOFF VOLUME = .70153 INCHES = 4.7895 ACRE-FEET
PEAK DISCHARGE RATE = 51.42 CFS AT 1.500 HOURS BASIN AREA = .1280 SQ. MI.

*
*

COMPUTE NM HYD ID=34 HYD NO=BASINE1.2 DA=.00588 SQ MI
%A=0.0 %B=33.0 %C=33.0 %D=34.0
TP=-0.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
7.106420
UNIT PEAK = 7.9108 CFS UNIT VOLUME = 1.029 B = 526.28 P60 =
1.8400
AREA = .001999 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
3.989065
UNIT PEAK = 10.342 CFS UNIT VOLUME = 1.006 B = 354.44 P60 =
1.8400
AREA = .003881 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=34 CODE=10

HYDROGRAPH FROM AREA BASINE1.2

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	HRS <td>CFS<td>HRS<td>CFS<td>HRS<td>CFS<td>HRS</td></td></td></td></td></td>	CFS <td>HRS<td>CFS<td>HRS<td>CFS<td>HRS</td></td></td></td></td>	HRS <td>CFS<td>HRS<td>CFS<td>HRS</td></td></td></td>	CFS <td>HRS<td>CFS<td>HRS</td></td></td>	HRS <td>CFS<td>HRS</td></td>	CFS <td>HRS</td>	HRS
.0	.000	.0	2.000	1.8	4.000	.0	6.000
.0	1.000	.0	3.000	.1	5.000	.0	

RUNOFF VOLUME = 1.19625 INCHES = .3751 ACRE-FEET
PEAK DISCHARGE RATE = 10.36 CFS AT 1.500 HOURS BASIN AREA = .0059 SQ. MI.

*
*

COMPUTE NM HYD ID=35 HYD NO=BASIN.E2 DA=.01348 SQ MI
%A=0.0 %B=18.0 %C=18.0 %D=64.0

TP=-.133 HR RAIN=-1

7.106420 K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 34.137 CFS UNIT VOLUME = 1.030 B = 526.28 P60 =
AREA = .008627 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

3.989065 K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N =
1.8400 UNIT PEAK = 12.933 CFS UNIT VOLUME = 1.006 B = 354.44 P60 =
AREA = .004853 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=35 CODE=10

HYDROGRAPH FROM AREA BASIN.E2

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.2	.000	.0	2.000	6.1	4.000	.2	6.000
	1.000	.0	3.000	.3	5.000	.2	

RUNOFF VOLUME = 1.54716 INCHES = 1.1123 ACRE-FEET
PEAK DISCHARGE RATE = 27.42 CFS AT 1.500 HOURS BASIN AREA = .0135 SQ. MI.

*
*
ADD HYD ID=36 HYD=E2.E12 ID I=34 II=35
PRINT HYD ID=36 CODE=10

HYDROGRAPH FROM AREA E2.E12

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.2	.000	.0	2.000	7.9	4.000	.2	6.000
	1.000	.0	3.000	.4	5.000	.2	

RUNOFF VOLUME = 1.44056 INCHES = 1.4874 ACRE-FEET
PEAK DISCHARGE RATE = 37.77 CFS AT 1.500 HOURS BASIN AREA = .0194 SQ. MI.

*
*
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.002
DIA=3.0 N=0.013

RATING CURVE PIPE SECTION 1.0			
WATER	FLOW	FLOW	MAX
SURFACE	AREA	RATE	WIDTH
ELEV	SQ FT	CFS	FT
.00	.00	.00	.00
.16	.14	.16	1.33
.31	.39	.68	1.83
.47	.71	1.58	2.18
.63	1.07	2.84	2.44
.78	1.46	4.43	2.63
.94	1.89	6.33	2.78
1.09	2.33	8.48	2.89

1.25	2.79	10.84	2.96
1.41	3.26	13.36	2.99
1.56	3.72	15.99	3.00
1.72	4.19	18.67	3.00
1.88	4.65	21.33	3.00
2.03	5.10	23.90	3.00
2.19	5.53	26.32	3.00
2.35	5.93	28.48	3.00
2.50	6.30	30.27	3.00
2.66	6.62	31.56	3.00
2.81	6.89	32.09	3.00
3.00	7.07	32.09	3.00

ROUTE MCUNGE ID=37 HYD=RTE.E12 INFLOW ID=36
 DT=0.0 L=800 NS=0 SLOPE=0.01
 MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

INFLOW END= 70 TABLE PTS= 19
 DT= .100000 QMED= 18.89 CKMED= 5.7936
 WIDTH MED= 3.00 NREACH= 1 DX= 800.00

Q-M	DEPTH C1-M (FT)	AREA C2-M (SQ FT)	Q C3-M (CFS)	TRAVEL TIME (HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3
(CFS)	.00	.0	.0	.271	.0	2.22	.53	1.000	.000	1.000	.000	
.000	.0	1.000	.000	.000								
	.16	.1	.2	.200	1.3	2.21	1.11	.993	.007	.993	.000	
.007	.0	.999	.000	.001								
	.31	.4	.7	.128	1.8	2.53	1.74	1.138	.018	.983	.072	-
.055	.4	.989	.030	-.019								
	.47	.7	1.6	.099	2.2	3.20	2.24	1.441	.028	.977	.190	-
.167	1.1	.979	.135	-.115								
	.63	1.1	2.8	.084	2.4	3.77	2.66	1.696	.039	.972	.269	-
.240	2.2	.974	.232	-.206								
	.78	1.5	4.4	.073	2.6	4.25	3.03	1.913	.049	.967	.325	-
.292	3.6	.969	.299	-.268								
	.94	1.9	6.3	.066	2.8	4.66	3.35	2.098	.061	.961	.367	-
.328	5.4	.964	.348	-.312								
	1.09	2.3	8.5	.061	2.9	5.01	3.63	2.253	.073	.956	.399	-
.355	7.4	.959	.385	-.343								
	1.25	2.8	10.8	.057	3.0	5.29	3.88	2.381	.087	.950	.423	-
.373	9.6	.953	.413	-.366								
	1.41	3.3	13.4	.054	3.0	5.51	4.10	2.481	.101	.944	.442	-
.385	12.1	.947	.434	-.381								
	1.56	3.7	16.0	.052	3.0	5.67	4.29	2.550	.118	.936	.455	-
.391	14.7	.940	.450	-.390								
	1.72	4.2	18.7	.050	3.0	5.70	4.45	2.567	.136	.926	.460	-
.386	17.3	.932	.459	-.390								
	1.88	4.7	21.3	.048	3.0	5.60	4.59	2.519	.159	.914	.456	-
.370	20.0	.921	.460	-.380								
	2.03	5.1	23.9	.047	3.0	5.33	4.69	2.399	.187	.896	.442	-
.338	22.6	.906	.451	-.357								
	2.19	5.5	26.3	.047	3.0	4.89	4.76	2.199	.224	.869	.416	-
.285	25.1	.884	.432	-.316								
	2.35	5.9	28.5	.046	3.0	4.23	4.80	1.903	.281	.824	.372	-
.195	27.4	.851	.398	-.248								
	2.50	6.3	30.3	.046	3.0	3.29	4.81	1.482	.383	.733	.302	-
.034	29.4	.790	.343	-.133								
	2.66	6.6	31.6	.047	3.0	1.93	4.77	.868	.682	.465	.216	
.319	30.9	.652	.260	.088								
	2.81	6.9	32.1	.048	3.0	1.10	4.66	.495	1.216	.103	.262	
.635	31.8	.123	.255	.623								

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 11 OCCURRED 1 TIMES. AVERAGE NUMBER
 ITERATIONS = 1.0645

Equations solved using the Ponce correction to C2

*

PRINT HYD ID=37 CODE=0

HYDROGRAPH FROM AREA RTE.E12

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.2	.000	.0	1.500	31.2	3.000	.5	4.500
.2	.100	.0	1.600	31.3	3.100	.4	4.600
.2	.200	.0	1.700	20.5	3.200	.4	4.700
.2	.300	.0	1.800	13.8	3.300	.3	4.800
.2	.400	.0	1.900	10.9	3.400	.3	4.900
.2	.500	.0	2.000	8.6	3.500	.3	5.000
.2	.600	.0	2.100	6.5	3.600	.3	5.100
.2	.700	.0	2.200	3.7	3.700	.2	5.200
.2	.800	.0	2.300	2.4	3.800	.2	5.300
.2	.900	.0	2.400	1.8	3.900	.2	5.400
.2	1.000	.0	2.500	1.4	4.000	.2	5.500
.2	1.100	.0	2.600	1.1	4.100	.2	5.600
.2	1.200	.4	2.700	.9	4.200	.2	5.700
.2	1.300	6.0	2.800	.7	4.300	.2	5.800
.2	1.400	22.3	2.900	.6	4.400	.2	5.900

RUNOFF VOLUME = 1.37837 INCHES = 1.4232 ACRE-FEET
PEAK DISCHARGE RATE = 31.30 CFS AT 1.600 HOURS BASIN AREA = .0194 SQ. MI.

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*

COMPUTE NM HYD ID=38 HYD NO=BASIN.E4 DA=.00577 SQ MI
%A=0.0 %B=5.0 %C=5.0 %D=90.0
TP=-0.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 20.548 CFS UNIT VOLUME = 1.030 B = 526.28 P60 = 1.8400
AREA = .005193 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = 1.5377 CFS UNIT VOLUME = .9989 B = 354.44 P60 = 1.8400
AREA = .000577 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=38 CODE=10

HYDROGRAPH FROM AREA BASIN.E4

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.1	.000	.0	2.000	3.4	4.000	.1	6.000

1.000 .0 3.000 .2 5.000 .1
 RUNOFF VOLUME = 1.85129 INCHES = .5697 ACRE-FEET
 PEAK DISCHARGE RATE = 13.11 CFS AT 1.500 HOURS BASIN AREA = .0058 SQ. MI.

*
 *
 ADD HYD ID=39 HYD=AP1 ID I=38 II=33
 PRINT HYD ID=39 CODE=10

HYDROGRAPH FROM AREA AP1

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	HRS	CFS					
	.000	.0	4.000	7.5	8.000	.4	12.000
.1	16.000	.0					
	1.000	.0	5.000	6.6	9.000	.2	13.000
.0	17.000	.0					
	2.000	18.3	6.000	5.5	10.000	.1	14.000
.0	18.000	.0					
	3.000	8.2	7.000	2.9	11.000	.1	15.000
.0							

RUNOFF VOLUME = .75112 INCHES = 5.3592 ACRE-FEET
 PEAK DISCHARGE RATE = 64.53 CFS AT 1.500 HOURS BASIN AREA = .1338 SQ. MI.

*
 *
 COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.026
 DIA=4.0 N=0.013

RATING CURVE PIPE SECTION 1.0

WATER	FLOW	FLOW	MAX
SURFACE	AREA	RATE	WIDTH
ELEV	SQ FT	CFS	FT
.00	.00	.00	.00
.21	.25	1.21	1.78
.42	.69	5.27	2.44
.63	1.25	12.26	2.91
.83	1.90	22.05	3.25
1.04	2.60	34.43	3.51
1.25	3.36	49.13	3.71
1.46	4.15	65.82	3.85
1.67	4.96	84.15	3.94
1.88	5.79	103.74	3.99
2.08	6.62	124.15	4.00
2.29	7.45	144.94	4.00
2.50	8.27	165.61	4.00
2.71	9.06	185.62	4.00
2.92	9.82	204.35	4.00
3.13	10.54	221.12	4.00
3.34	11.20	235.07	4.00
3.54	11.77	245.05	4.00
3.75	12.24	249.15	4.00
4.00	12.57	249.15	4.00

ROUTE MCUNGE ID=40 HYD=RTE.E1E4 INFLOW ID=39
 DT=0.0 L=400 NS=0 SLOPE=0.026
 MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
 ZERO VALUE HYDROGRAPH OR SHORT ROUTE - ROUTING BYPASSED

*
 PRINT HYD ID=40 CODE=0

HYDROGRAPH FROM AREA RTE.E1E4

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	HRS	CFS	CFS				
.1	.000	.0	3.800	7.6	7.600	.8	11.400
	15.200	.0					
.1	.100	.0	3.900	7.5	7.700	.7	11.500
	15.300	.0					
.1	.200	.0	4.000	7.5	7.800	.6	11.600
	15.400	.0					
.1	.300	.0	4.100	7.4	7.900	.5	11.700
	15.500	.0					
.1	.400	.0	4.200	7.3	8.000	.4	11.800
	15.600	.0					
.1	.500	.0	4.300	7.2	8.100	.4	11.900
	15.700	.0					
.1	.600	.0	4.400	7.1	8.200	.4	12.000
	15.800	.0					
.1	.700	.0	4.500	7.0	8.300	.3	12.100
	15.900	.0					
.1	.800	.0	4.600	6.9	8.400	.3	12.200
	16.000	.0					
.1	.900	.0	4.700	6.9	8.500	.3	12.300
	16.100	.0					
.0	1.000	.0	4.800	6.8	8.600	.3	12.400
	16.200	.0					
.0	1.100	.2	4.900	6.7	8.700	.2	12.500
	16.300	.0					
.0	1.200	3.7	5.000	6.6	8.800	.2	12.600
	16.400	.0					
.0	1.300	14.9	5.100	6.5	8.900	.2	12.700
	16.500	.0					
.0	1.400	53.4	5.200	6.4	9.000	.2	12.800
	16.600	.0					
.0	1.500	64.5	5.300	6.3	9.100	.2	12.900
	16.700	.0					
.0	1.600	47.4	5.400	6.2	9.200	.2	13.000
	16.800	.0					
.0	1.700	33.3	5.500	6.1	9.300	.2	13.100
	16.900	.0					
.0	1.800	25.3	5.600	6.0	9.400	.2	13.200
	17.000	.0					
.0	1.900	21.2	5.700	5.9	9.500	.2	13.300
	17.100	.0					
.0	2.000	18.3	5.800	5.7	9.600	.2	13.400
	17.200	.0					
.0	2.100	14.1	5.900	5.6	9.700	.2	13.500
	17.300	.0					
.0	2.200	11.4	6.000	5.5	9.800	.1	13.600
	17.400	.0					
.0	2.300	10.3	6.100	5.2	9.900	.1	13.700
	17.500	.0					
.0	2.400	9.7	6.200	5.0	10.000	.1	13.800
	17.600	.0					
.0	2.500	9.3	6.300	4.8	10.100	.1	13.900
	17.700	.0					
.0	2.600	8.9	6.400	4.6	10.200	.1	14.000
	17.800	.0					
.0	2.700	8.7	6.500	4.4	10.300	.1	14.100
	17.900	.0					
.0	2.800	8.5	6.600	4.2	10.400	.1	14.200
	18.000	.0					
.0	2.900	8.4	6.700	3.7	10.500	.1	14.300
	18.100	.0					
.0	3.000	8.2	6.800	3.4	10.600	.1	14.400
	18.200	.0					
.0	3.100	8.1	6.900	3.1	10.700	.1	14.500
	18.300	.0					
.0	3.200	8.0	7.000	2.9	10.800	.1	14.600
	18.400	.0					

	3.300	8.0	7.100	2.7	10.900	.1	14.700
.0	18.500	.0					
	3.400	7.9	7.200	2.3	11.000	.1	14.800
.0	18.600	.0					
	3.500	7.8	7.300	1.6	11.100	.1	14.900
.0	18.700	.0					
	3.600	7.8	7.400	1.3	11.200	.1	15.000
.0	18.800	.0					
	3.700	7.7	7.500	1.0	11.300	.1	15.100
.0							

RUNOFF VOLUME = .75112 INCHES = 5.3592 ACRE-FEET
 PEAK DISCHARGE RATE = 64.53 CFS AT 1.500 HOURS BASIN AREA = .1338 SQ. MI.

*
 *
 ADD HYD ID=41 HYD=AP2 ID I=37 II=40
 PRINT HYD ID=41 CODE=10

HYDROGRAPH FROM AREA AP2

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS		HRS	CFS		HRS
CFS	HRS	CFS		HRS	CFS		HRS
	.000	.0	4.000	7.7	8.000	.4	12.000
.1	16.000	.0					
	1.000	.0	5.000	6.8	9.000	.2	13.000
.0	17.000	.0					
	2.000	27.0	6.000	5.7	10.000	.1	14.000
.0	18.000	.0					
	3.000	8.7	7.000	2.9	11.000	.1	15.000
.0							

RUNOFF VOLUME = .83041 INCHES = 6.7823 ACRE-FEET
 PEAK DISCHARGE RATE = 95.72 CFS AT 1.500 HOURS BASIN AREA = .1531 SQ. MI.

*
 *
 COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.026
 DIA=4.0 N=0.013

RATING CURVE PIPE SECTION 1.0

WATER	FLOW	FLOW	MAX
SURFACE	AREA	RATE	WIDTH
ELEV	SQ FT	CFS	FT
.00	.00	.00	.00
.21	.25	1.21	1.78
.42	.69	5.27	2.44
.63	1.25	12.26	2.91
.83	1.90	22.05	3.25
1.04	2.60	34.43	3.51
1.25	3.36	49.13	3.71
1.46	4.15	65.82	3.85
1.67	4.96	84.15	3.94
1.88	5.79	103.74	3.99
2.08	6.62	124.15	4.00
2.29	7.45	144.94	4.00
2.50	8.27	165.61	4.00
2.71	9.06	185.62	4.00
2.92	9.82	204.35	4.00
3.13	10.54	221.12	4.00
3.34	11.20	235.07	4.00
3.54	11.77	245.05	4.00
3.75	12.24	249.15	4.00
4.00	12.57	249.15	4.00

ROUTE MCUNGE ID=42 HYD=RTE.E1E4 INFLOW ID=41

DT=0.0 L=600 NS=0 SLOPE=0.026
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
ZERO VALUE HYDROGRAPH OR SHORT ROUTE - ROUTING BYPASSED

*
PRINT HYD ID=42 CODE=0

HYDROGRAPH FROM AREA RTE.E1E4

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
	.000	.0	3.800	7.9	7.600	.8	11.400
.1	15.200	.0					
	.100	.0	3.900	7.8	7.700	.7	11.500
.1	15.300	.0					
	.200	.0	4.000	7.7	7.800	.6	11.600
.1	15.400	.0					
	.300	.0	4.100	7.6	7.900	.5	11.700
.1	15.500	.0					
	.400	.0	4.200	7.5	8.000	.4	11.800
.1	15.600	.0					
	.500	.0	4.300	7.4	8.100	.4	11.900
.1	15.700	.0					
	.600	.0	4.400	7.3	8.200	.4	12.000
.1	15.800	.0					
	.700	.0	4.500	7.2	8.300	.3	12.100
.1	15.900	.0					
	.800	.0	4.600	7.1	8.400	.3	12.200
.1	16.000	.0					
	.900	.0	4.700	7.1	8.500	.3	12.300
.1	16.100	.0					
	1.000	.0	4.800	7.0	8.600	.3	12.400
.0	16.200	.0					
	1.100	.2	4.900	6.9	8.700	.2	12.500
.0	16.300	.0					
	1.200	4.2	5.000	6.8	8.800	.2	12.600
.0	16.400	.0					
	1.300	20.9	5.100	6.7	8.900	.2	12.700
.0	16.500	.0					
	1.400	75.7	5.200	6.6	9.000	.2	12.800
.0	16.600	.0					
	1.500	95.7	5.300	6.5	9.100	.2	12.900
.0	16.700	.0					
	1.600	78.7	5.400	6.4	9.200	.2	13.000
.0	16.800	.0					
	1.700	53.8	5.500	6.3	9.300	.2	13.100
.0	16.900	.0					
	1.800	39.2	5.600	6.2	9.400	.2	13.200
.0	17.000	.0					
	1.900	32.1	5.700	6.1	9.500	.2	13.300
.0	17.100	.0					
	2.000	27.0	5.800	6.0	9.600	.2	13.400
.0	17.200	.0					
	2.100	20.7	5.900	5.9	9.700	.2	13.500
.0	17.300	.0					
	2.200	15.1	6.000	5.7	9.800	.1	13.600
.0	17.400	.0					
	2.300	12.7	6.100	5.5	9.900	.1	13.700
.0	17.500	.0					
	2.400	11.5	6.200	5.1	10.000	.1	13.800
.0	17.600	.0					
	2.500	10.6	6.300	4.8	10.100	.1	13.900
.0	17.700	.0					
	2.600	10.0	6.400	4.6	10.200	.1	14.000
.0	17.800	.0					
	2.700	9.6	6.500	4.5	10.300	.1	14.100
.0	17.900	.0					
	2.800	9.2	6.600	4.2	10.400	.1	14.200
.0	18.000	.0					

RUNOFF VOLUME = .83041 INCHES = 6.7823 ACRE-FeET
PEAK DISCHARGE RATE = 95.72 CFS AT 1.500 HOURS BASIN AREA = .1531 SQ. MI.

HYDROGRAPH FROM AREA AP3

RUNOFF VOLUME = .94007 INCHES = 10.1755 ACRE-FeET
PEAK DISCHARGE RATE = 177.14 CFS AT 1.500 HOURS BASIN AREA = .2030 SQ. MI.

[illegible]

TIME HOURS	Value
0.00	0.00
1.57	1.57
3.13	3.13
4.70	4.70
6.27	6.27
7.83	7.83
9.40	9.40
10.97	10.97
12.53	12.53

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K = .105291HR      TP = .133000HR      K/TP RATIO = .791661      SHAPE CONSTANT, N =
4.531123
UNIT PEAK = 4.0963      CFS      UNIT VOLUME = 1.011      B = 389.14      P60 =
1.8400
AREA = .001400 SQ MI      IA = .35000 INCHES      INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

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PRINT HYD ID=44 CODE=10

HYDROGRAPH FROM AREA BASIN.OFF6

[illegible]

RUNOFF VOLUME = .96928 INCHES = .0724 ACRE-FEET
PEAK DISCHARGE RATE = 2.33 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

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ADD HYD                                ID=45 HYD=POND ID I=43 II=44
PRINT HYD                             ID=45 CODE=10

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HYDROGRAPH FROM AREA POND

	TIME	FLOW		TIME	FLOW		TIME	FLOW		TIME	FLOW		TIME	
FLOW		TIME		FLOW										
	HRS	CFS		HRS	CFS		HRS	CFS		HRS	CFS		HRS	
CFS		HRS		CFS										
.1	.000	.0		4.000	8.2		8.000	.4		12.000				
.	16.000	.0												
.0	1.000	.0		5.000	7.3		9.000	.2		13.000				
.	17.000	.0												
.0	2.000	47.0		6.000	6.3		10.000	.1		14.000				
.	18.000	.0												
.0	3.000	10.1		7.000	2.9		11.000	.1		15.000				

RUNOFF VOLUME = .94027 INCHES = 10.2479 ACRE-FEET
PEAK DISCHARGE RATE = 179.47 CFS AT 1.500 HOURS BASIN AREA = .2044 SQ. MI.

PLOT HYD ID=45

FLOW RATE (CFS)

179..-----*

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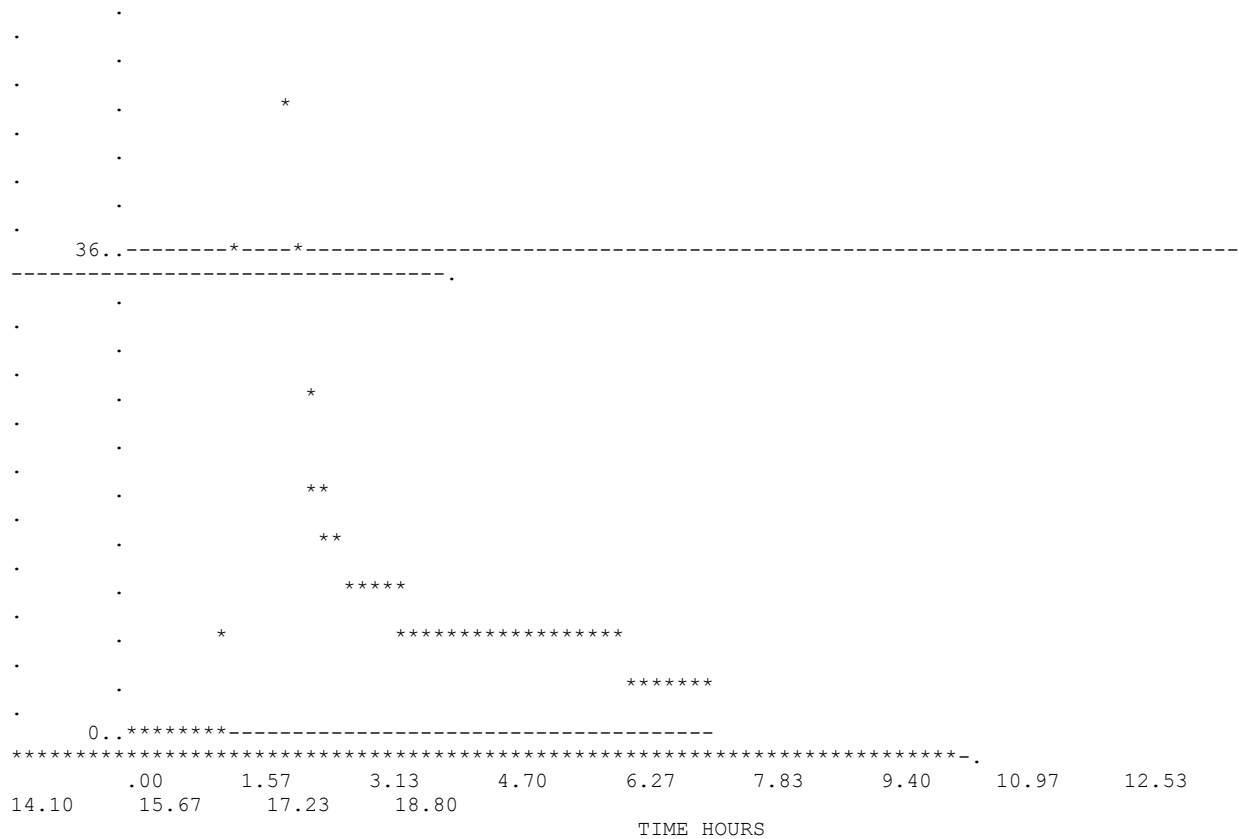
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ROUTE RESERVOIR ID=46 HYD=POND.E INFLOW ID=45 CODE=5

OUTFLOW	STORAGE	DEPTH
0	0.04	5444
0.01	0.23	5444.5
0.02	0.43	5445
0.03	0.66	5445.5
0.04	0.91	5446
0.5	1.20	5446.5
1.3	1.52	5447
2.2	1.88	5447.5
3.3	2.26	5448
6.7	2.68	5448.5
8.7	3.12	5449
10.8	3.60	5449.5
13.1	4.10	5450
15.5	4.65	5450.5
18.0	5.22	5451
20.7	5.82	5451.5
23.5	6.44	5452

TIME	INFLOW	ELEV	VOLUME	OUTFLOW
(HRS)	(CFS)	(FEET)	(AC-FT)	(CFS)
.00	.00	5444.00	.040	.00
.50	.00	5444.00	.040	.00
1.00	.00	5444.00	.040	.00
1.50	179.47	5447.89	2.175	3.05
2.00	47.04	5451.39	5.683	20.08
2.50	14.46	5451.53	5.855	20.86

3.00	10.09	5451.24	5.513	19.32
3.50	8.79	5450.93	5.135	17.63
4.00	8.16	5450.62	4.789	16.11
4.50	7.65	5450.34	4.478	14.75
5.00	7.26	5450.09	4.201	13.54
5.50	6.82	5449.86	3.956	12.44
6.00	6.26	5449.63	3.733	11.41
6.50	4.49	5449.39	3.499	10.36
7.00	2.87	5449.13	3.243	9.24
7.50	1.00	5448.83	2.966	8.00
8.00	.43	5448.51	2.689	6.74
8.50	.28	5448.24	2.463	4.95
9.00	.21	5448.04	2.298	3.61
9.50	.17	5447.88	2.171	3.04
10.00	.13	5447.73	2.059	2.72
10.50	.11	5447.60	1.957	2.42
11.00	.09	5447.48	1.867	2.17
11.50	.07	5447.37	1.785	1.96
12.00	.06	5447.26	1.710	1.78
12.50	.05	5447.17	1.643	1.61
13.00	.04	5447.08	1.581	1.45
13.50	.03	5447.01	1.526	1.31
14.00	.03	5446.93	1.475	1.19
14.50	.02	5446.86	1.429	1.07
15.00	.02	5446.79	1.388	.97
15.50	.01	5446.74	1.351	.88
16.00	.01	5446.68	1.317	.79
16.50	.01	5446.63	1.286	.71
17.00	.01	5446.59	1.258	.65
17.50	.01	5446.55	1.233	.58
18.00	.00	5446.52	1.210	.53
18.50	.00	5446.48	1.190	.48
19.00	.00	5446.45	1.171	.45
19.50	.00	5446.42	1.152	.42
20.00	.00	5446.39	1.135	.40
20.50	.00	5446.36	1.120	.37
21.00	.00	5446.34	1.105	.35
21.50	.00	5446.31	1.091	.33
22.00	.00	5446.29	1.078	.31
22.50	.00	5446.27	1.065	.29
23.00	.00	5446.25	1.054	.27
23.50	.00	5446.23	1.043	.25
24.00	.00	5446.21	1.033	.24
24.50	.00	5446.20	1.024	.22
25.00	.00	5446.18	1.015	.21
25.50	.00	5446.17	1.007	.19
26.00	.00	5446.15	.999	.18
26.50	.00	5446.14	.992	.17
27.00	.00	5446.13	.985	.16
27.50	.00	5446.12	.979	.15

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	.00	5446.11	.973	.14
28.50	.00	5446.10	.967	.13
29.00	.00	5446.09	.962	.12
29.50	.00	5446.08	.957	.11
30.00	.00	5446.07	.952	.11
30.50	.00	5446.07	.948	.10
31.00	.00	5446.06	.944	.09
31.50	.00	5446.05	.940	.09
32.00	.00	5446.05	.937	.08
32.50	.00	5446.04	.933	.08
33.00	.00	5446.04	.930	.07
33.50	.00	5446.03	.927	.07
34.00	.00	5446.03	.925	.06
34.50	.00	5446.02	.922	.06
35.00	.00	5446.02	.920	.06
35.50	.00	5446.01	.918	.05
36.00	.00	5446.01	.916	.05

36.50	.00	5446.01	.914	.05
37.00	.00	5446.00	.912	.04
37.50	.00	5446.00	.910	.04
38.00	.00	5446.00	.908	.04
38.50	.00	5445.99	.907	.04
39.00	.00	5445.99	.905	.04
39.50	.00	5445.99	.903	.04
40.00	.00	5445.98	.902	.04
40.50	.00	5445.98	.900	.04
41.00	.00	5445.98	.899	.04
41.50	.00	5445.97	.897	.04
42.00	.00	5445.97	.895	.04
42.50	.00	5445.97	.894	.04
43.00	.00	5445.96	.892	.04
43.50	.00	5445.96	.890	.04
44.00	.00	5445.96	.889	.04
44.50	.00	5445.95	.887	.04
45.00	.00	5445.95	.886	.04
45.50	.00	5445.95	.884	.04
46.00	.00	5445.94	.882	.04
46.50	.00	5445.94	.881	.04
47.00	.00	5445.94	.879	.04
47.50	.00	5445.94	.878	.04
48.00	.00	5445.93	.876	.04
48.50	.00	5445.93	.874	.04
49.00	.00	5445.93	.873	.04
49.50	.00	5445.92	.871	.04
50.00	.00	5445.92	.870	.04
50.50	.00	5445.92	.868	.04
51.00	.00	5445.91	.866	.04
51.50	.00	5445.91	.865	.04
52.00	.00	5445.91	.863	.04
52.50	.00	5445.90	.862	.04
53.00	.00	5445.90	.860	.04
53.50	.00	5445.90	.859	.04
54.00	.00	5445.89	.857	.04
54.50	.00	5445.89	.855	.04
55.00	.00	5445.89	.854	.04
55.50	.00	5445.88	.852	.04

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
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56.00	.00	5445.88	.851	.04
56.50	.00	5445.88	.849	.04
57.00	.00	5445.88	.848	.04
57.50	.00	5445.87	.846	.04
58.00	.00	5445.87	.845	.04
58.50	.00	5445.87	.843	.04
59.00	.00	5445.86	.841	.04
59.50	.00	5445.86	.840	.04

PEAK DISCHARGE = 21.196 CFS - PEAK OCCURS AT HOUR 2.30
 MAXIMUM WATER SURFACE ELEVATION = 5451.589
 MAXIMUM STORAGE = 5.9299 AC-FT INCREMENTAL TIME= .100000HRS

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 PRINT HYD ID=46 CODE=10

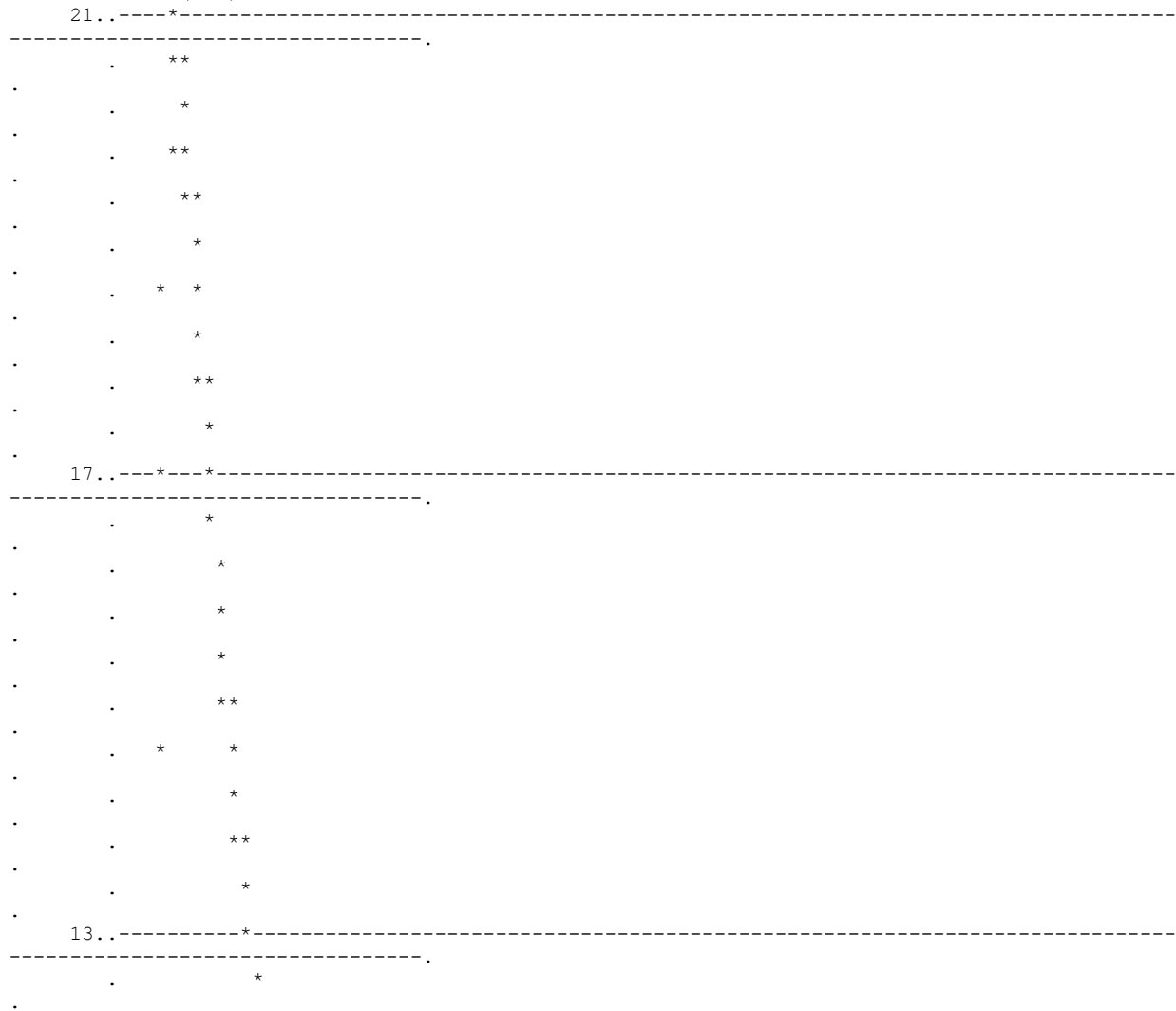
HYDROGRAPH FROM AREA POND.E

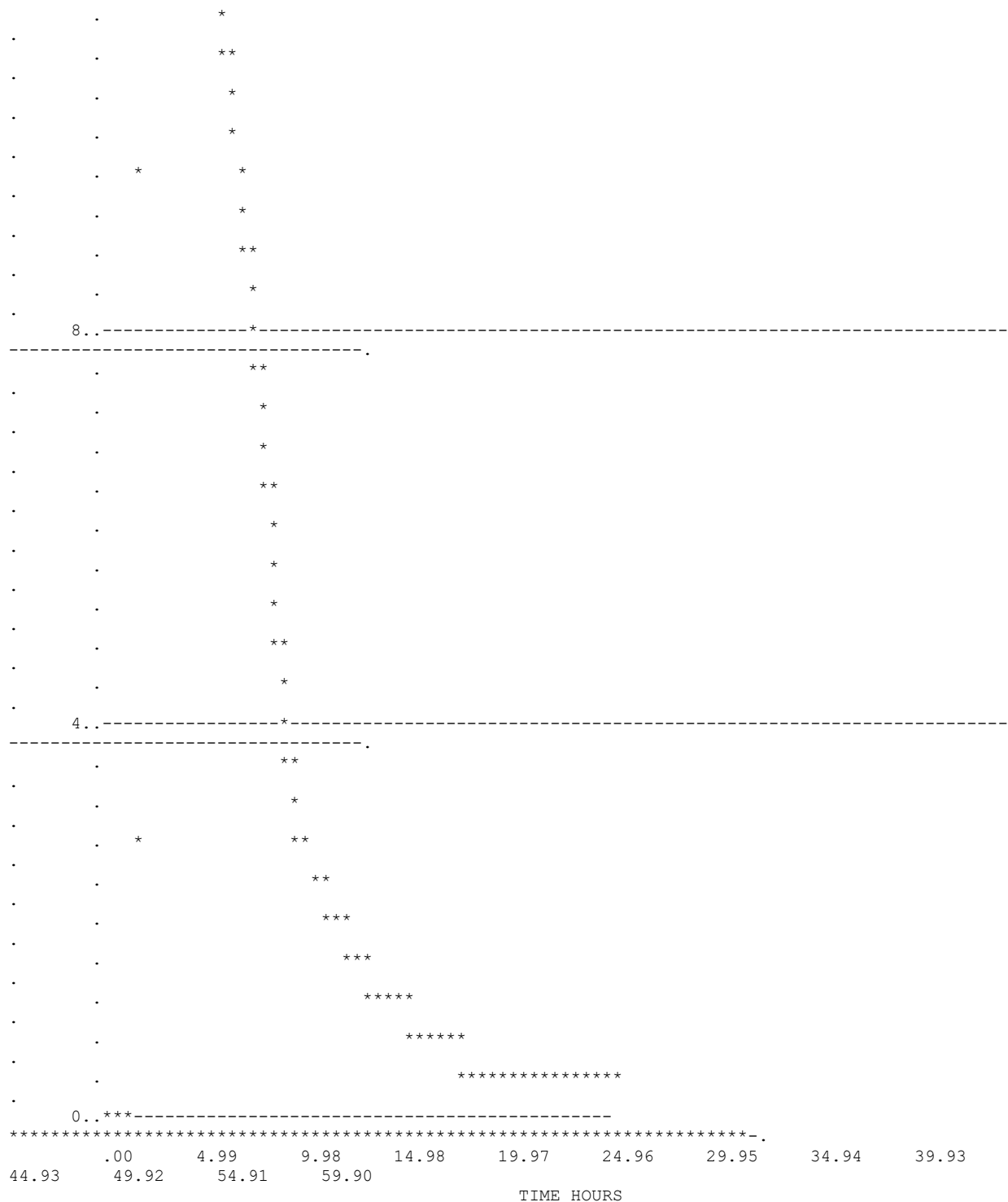
FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.0	.000	.0	12.000	1.8	24.000	.2	36.000
.0	48.000	.0	13.000	1.5	25.000	.2	37.000
.0	1.000	.0	14.000	1.2	26.000	.2	38.000
.0	49.000	.0					
.0	2.000	20.1					
.0	50.000	.0					

	3.000	19.3	15.000	1.0	27.000	.2	39.000
.0	51.000	.0					
	4.000	16.1	16.000	.8	28.000	.1	40.000
.0	52.000	.0					
	5.000	13.5	17.000	.6	29.000	.1	41.000
.0	53.000	.0					
	6.000	11.4	18.000	.5	30.000	.1	42.000
.0	54.000	.0					
	7.000	9.2	19.000	.5	31.000	.1	43.000
.0	55.000	.0					
	8.000	6.7	20.000	.4	32.000	.1	44.000
.0	56.000	.0					
	9.000	3.6	21.000	.3	33.000	.1	45.000
.0	57.000	.0					
	10.000	2.7	22.000	.3	34.000	.1	46.000
.0	58.000	.0					
	11.000	2.2	23.000	.3	35.000	.1	47.000
.0	59.000	.0					

RUNOFF VOLUME = .86700 INCHES = 9.4494 ACRE-FEET
PEAK DISCHARGE RATE = 21.20 CFS AT 2.300 HOURS BASIN AREA = .2044 SQ. MI.

PLOT HYD ID=46
FLOW RATE (CFS)





```

*
COMPUTE NM HYD      ID=47  HYD NO=BASIN.E6  DA=.00488 SQ MI
                    %A=0.0  %B=5.0  %C=5.0  %D=90.0
                    TP=-0.133 HR  RAIN=-1

      K = .072485HR    TP = .133000HR    K/TP RATIO = .545000    SHAPE CONSTANT, N =
7.106420

```

1.8400 UNIT PEAK = 17.379 CFS UNIT VOLUME = 1.030 B = 526.28 P60 =
 AREA = .004392 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

3.989065 K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N =

1.8400 UNIT PEAK = 1.3005 CFS UNIT VOLUME = .9989 B = 354.44 P60 =
 AREA = .000488 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=47 CODE=10

HYDROGRAPH FROM AREA BASIN.E6

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.1	.000	.0	2.000	2.9	4.000	.1	6.000
	1.000	.0	3.000	.1	5.000	.1	

RUNOFF VOLUME = 1.85129 INCHES = .4818 ACRE-FEET
 PEAK DISCHARGE RATE = 11.09 CFS AT 1.500 HOURS BASIN AREA = .0049 SQ. MI.

*
 ADD HYD ID=48 HYD=TOTALE ID I=46 II=47
 PRINT HYD ID=46 CODE=10

HYDROGRAPH FROM AREA POND.E

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
	HRS	CFS	HRS	CFS	HRS	CFS	HRS
CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.0	.000	.0	12.000	1.8	24.000	.2	36.000
	48.000	.0	13.000	1.5	25.000	.2	37.000
.0	1.000	.0	14.000	1.2	26.000	.2	38.000
	49.000	.0	15.000	1.0	27.000	.2	39.000
.0	2.000	20.1	16.000	.8	28.000	.1	40.000
	50.000	.0	17.000	.6	29.000	.1	41.000
.0	3.000	19.3	18.000	.5	30.000	.1	42.000
	51.000	.0	19.000	.5	31.000	.1	43.000
.0	4.000	16.1	20.000	.4	32.000	.1	44.000
	52.000	.0	21.000	.3	33.000	.1	45.000
.0	5.000	13.5	22.000	.3	34.000	.1	46.000
	53.000	.0	23.000	.3	35.000	.1	47.000
.0	6.000	11.4					
	54.000	.0					
.0	7.000	9.2					
	55.000	.0					
.0	8.000	6.7					
	56.000	.0					
.0	9.000	3.6					
	57.000	.0					
.0	10.000	2.7					
	58.000	.0					
.0	11.000	2.2					
	59.000	.0					

RUNOFF VOLUME = .86700 INCHES = 9.4494 ACRE-FEET
 PEAK DISCHARGE RATE = 21.20 CFS AT 2.300 HOURS BASIN AREA = .2044 SQ. MI.

*

*

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 16:13:42

APPENDIX C

ROADWAY HYDAULICS

MANNING'S N = 0.017 SLOPE = 0.025

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	4.0	11.6	0.1	7.0	37.5	0.0
2.0	9.5	0.7	5.0	23.5	0.3	8.0	37.6	0.7
3.0	9.6	0.0	6.0	35.5	0.1	9.0	47.0	0.9

WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	TOTAL
FT.	INC	AREA	RATE	PER	VEL	PLUS	ENERGY
		SQ.FT.	(CFS)	(FT)	(FPS)	OBSTRUCTIONS	(FT)

0.010	0.010	0.002	0.001	0.341	0.390	0.323	0.012
0.020	0.020	0.006	0.004	0.682	0.619	0.646	0.026
0.030	0.030	0.015	0.012	1.023	0.811	0.969	0.040
0.040	0.040	0.026	0.025	1.363	0.983	1.292	0.055
0.050	0.050	0.040	0.046	1.704	1.140	1.615	0.070
0.060	0.060	0.058	0.075	2.045	1.287	1.938	0.086
0.070	0.070	0.079	0.113	2.386	1.427	2.261	0.102
0.080	0.080	0.103	0.161	2.727	1.560	2.584	0.118
0.090	0.090	0.131	0.221	3.068	1.687	2.907	0.134
0.100	0.100	0.162	0.292	3.409	1.810	3.230	0.151
0.110	0.110	0.195	0.377	3.749	1.929	3.553	0.168
0.120	0.120	0.233	0.475	4.090	2.044	3.876	0.185
0.130	0.130	0.274	0.545	5.042	1.985	4.810	0.191
0.140	0.140	0.330	0.620	6.604	1.876	6.355	0.195
0.150	0.150	0.402	0.745	8.166	1.855	7.900	0.204
0.160	0.160	0.488	0.918	9.729	1.881	9.445	0.215
0.170	0.170	0.590	1.141	11.291	1.933	10.990	0.228
0.180	0.180	0.708	1.417	12.853	2.001	12.535	0.242
0.190	0.190	0.841	1.749	14.416	2.079	14.080	0.257
0.200	0.200	0.990	2.142	15.978	2.164	15.625	0.273
0.210	0.210	1.154	2.598	17.540	2.252	17.170	0.289
0.220	0.220	1.333	3.123	19.102	2.343	18.715	0.305
0.230	0.230	1.528	3.720	20.665	2.435	20.260	0.322
0.240	0.240	1.738	4.394	22.227	2.528	21.805	0.339
0.250	0.250	1.964	5.147	23.789	2.621	23.350	0.357
0.260	0.260	2.205	5.984	25.352	2.713	24.895	0.375
0.270	0.270	2.462	6.908	26.914	2.806	26.440	0.392
0.280	0.280	2.734	7.923	28.476	2.898	27.985	0.411
0.290	0.290	3.014	9.316	28.496	3.091	27.988	0.439
0.300	0.300	3.294	10.797	28.517	3.278	27.991	0.467
0.310	0.310	3.574	12.364	28.537	3.460	27.994	0.496
0.320	0.320	3.854	14.013	28.557	3.636	27.997	0.526
0.330	0.330	4.134	15.743	28.577	3.809	28.000	0.556
0.340	0.340	4.414	17.552	28.598	3.977	28.003	0.586
0.350	0.350	4.694	19.438	28.618	4.141	28.006	0.617
0.360	0.360	4.974	21.400	28.638	4.302	28.009	0.648
0.370	0.370	5.254	23.435	28.658	4.460	28.012	0.679
0.380	0.380	5.534	25.542	28.678	4.615	28.015	0.711
0.390	0.390	5.814	27.720	28.699	4.768	28.018	0.744
0.400	0.400	6.094	29.968	28.719	4.917	28.021	0.776

0.410	0.410	6.375	32.284	28.739	5.064	28.024	0.809	SANDMARK RD EGL=.84 Qmax=34.7 Qact=13.7
0.420	0.420	6.655	34.668	28.759	5.209	28.027	0.842	
0.430	0.430	6.935	37.118	28.780	5.352	28.030	0.876	
0.440	0.440	7.216	39.634	28.800	5.493	28.033	0.909	
0.450	0.450	7.496	42.214	28.820	5.632	28.036	0.943	
0.460	0.460	7.776	44.857	28.840	5.768	28.039	0.978	
0.470	0.470	8.057	47.563	28.861	5.903	28.042	1.012	
0.480	0.480	8.337	50.330	28.881	6.037	28.045	1.047	
0.490	0.490	8.618	53.159	28.901	6.169	28.048	1.082	
WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	TOTAL	
INC	AREA	RATE	PER	VEL	PLUS	ENERGY		
FT.	SQ.FT.	(CFS)	(FT)	(FPS)	OBSTRUCTIONS	(FT)		
0.500	0.500	8.898	56.048	28.921	6.299	28.052	1.117	
0.510	0.510	9.179	58.996	28.941	6.428	28.055	1.153	
0.520	0.520	9.459	62.003	28.962	6.555	28.058	1.188	
0.530	0.530	9.740	65.069	28.982	6.681	28.061	1.224	
0.540	0.540	10.020	68.192	29.002	6.805	28.064	1.260	
0.550	0.550	10.301	71.371	29.022	6.929	28.067	1.297	
0.560	0.560	10.582	74.607	29.043	7.051	28.070	1.333	
0.570	0.570	10.862	77.899	29.063	7.171	28.073	1.370	
0.580	0.580	11.143	81.245	29.083	7.291	28.076	1.407	
0.590	0.590	11.424	84.646	29.103	7.410	28.079	1.444	
0.600	0.600	11.705	88.102	29.124	7.527	28.082	1.481	
0.610	0.610	11.986	91.610	29.144	7.643	28.085	1.519	
0.620	0.620	12.266	95.172	29.164	7.759	28.088	1.556	
0.630	0.630	12.547	98.786	29.184	7.873	28.091	1.594	
0.640	0.640	12.828	102.453	29.204	7.986	28.094	1.632	
0.650	0.650	13.109	106.171	29.225	8.099	28.097	1.670	
0.660	0.660	13.390	109.940	29.245	8.210	28.100	1.709	
0.670	0.670	13.676	111.369	30.240	8.143	29.095	1.701	
0.680	0.680	13.972	112.950	31.235	8.084	30.089	1.696	
0.690	0.690	14.278	114.679	32.230	8.032	31.084	1.693	
0.700	0.700	14.594	116.551	33.225	7.986	32.079	1.692	
0.710	0.710	14.920	118.564	34.220	7.947	33.074	1.692	
0.720	0.720	15.255	120.715	35.215	7.913	34.068	1.694	
0.730	0.730	15.601	123.002	36.209	7.884	35.063	1.697	
0.740	0.740	15.957	125.423	37.204	7.860	36.058	1.701	
0.750	0.750	16.322	127.977	38.199	7.841	37.053	1.706	
0.760	0.760	16.698	130.662	39.194	7.825	38.047	1.712	
0.770	0.770	17.083	133.478	40.189	7.813	39.042	1.720	
0.780	0.780	17.478	136.424	41.184	7.805	40.037	1.728	
0.790	0.790	17.884	139.500	42.179	7.800	41.032	1.736	
0.800	0.800	18.299	142.706	43.174	7.799	42.026	1.746	
0.810	0.810	18.724	146.040	44.169	7.799	43.021	1.756	
0.820	0.820	19.160	149.504	45.164	7.803	44.016	1.767	
0.830	0.830	19.605	153.098	46.159	7.809	45.011	1.779	
0.840	0.840	20.060	156.821	47.154	7.818	46.005	1.791	

MANNING'S N = 0.017 SLOPE = 0.045

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	4.0	11.6	0.1	7.0	37.5	0.0
2.0	9.5	0.7	5.0	23.5	0.3	8.0	37.6	0.7
3.0	9.6	0.0	6.0	35.5	0.1	9.0	47.0	0.9

WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	TOTAL
FT.	INC	AREA	RATE	PER	VEL	PLUS	ENERGY
	SQ.FT.	(CFS)	(FT)	(FPS)	OBSTRUCTIONS	(FT)	

0.010	0.010	0.002	0.001	0.341	0.523	0.323	0.014
0.020	0.020	0.006	0.005	0.682	0.830	0.646	0.031
0.030	0.030	0.015	0.016	1.023	1.088	0.969	0.048
0.040	0.040	0.026	0.034	1.363	1.318	1.292	0.067
0.050	0.050	0.040	0.062	1.704	1.530	1.615	0.086
0.060	0.060	0.058	0.100	2.045	1.727	1.938	0.106
0.070	0.070	0.079	0.152	2.386	1.914	2.261	0.127
0.080	0.080	0.103	0.216	2.727	2.093	2.584	0.148
0.090	0.090	0.131	0.296	3.068	2.263	2.907	0.170
0.100	0.100	0.162	0.392	3.409	2.428	3.230	0.192
0.110	0.110	0.195	0.506	3.749	2.587	3.553	0.214
0.120	0.120	0.233	0.638	4.090	2.742	3.876	0.237
0.130	0.130	0.274	0.731	5.042	2.664	4.810	0.240
0.140	0.140	0.330	0.831	6.604	2.517	6.355	0.239
0.150	0.150	0.402	1.000	8.166	2.489	7.900	0.246
0.160	0.160	0.488	1.232	9.729	2.523	9.445	0.259
0.170	0.170	0.590	1.531	11.291	2.593	10.990	0.275
0.180	0.180	0.708	1.901	12.853	2.685	12.535	0.292
0.190	0.190	0.841	2.347	14.416	2.790	14.080	0.311
0.200	0.200	0.990	2.873	15.978	2.903	15.625	0.331
0.210	0.210	1.154	3.486	17.540	3.021	17.170	0.352
0.220	0.220	1.333	4.190	19.102	3.143	18.715	0.374
0.230	0.230	1.528	4.992	20.665	3.267	20.260	0.396
0.240	0.240	1.738	5.895	22.227	3.391	21.805	0.419
0.250	0.250	1.964	6.906	23.789	3.516	23.350	0.442
0.260	0.260	2.205	8.028	25.352	3.640	24.895	0.466
0.270	0.270	2.462	9.268	26.914	3.765	26.440	0.490
0.280	0.280	2.734	10.630	28.476	3.888	27.985	0.515
0.290	0.290	3.014	12.499	28.496	4.147	27.988	0.558
0.300	0.300	3.294	14.486	28.517	4.398	27.991	0.601
0.310	0.310	3.574	16.588	28.537	4.642	27.994	0.645
0.320	0.320	3.854	18.801	28.557	4.879	27.997	0.690
0.330	0.330	4.134	21.122	28.577	5.110	28.000	0.736
0.340	0.340	4.414	23.549	28.598	5.335	28.003	0.783
0.350	0.350	4.694	26.079	28.618	5.556	28.006	0.830
0.360	0.360	4.974	28.710	28.638	5.772	28.009	0.878
0.370	0.370	5.254	31.441	28.658	5.984	28.012	0.927
0.380	0.380	5.534	34.268	28.678	6.192	28.015	0.976
0.390	0.390	5.814	37.190	28.699	6.396	28.018	1.026
0.400	0.400	6.094	40.206	28.719	6.597	28.021	1.077

REDBLOOM ROAD
EGL @ 0.84
Qact=24.7 CFS
Qcap=26.62 CFS

0.410	0.410	6.375	43.314	28.739	6.795	28.024	1.128	
0.420	0.420	6.655	46.512	28.759	6.989	28.027	1.180	
0.430	0.430	6.935	49.799	28.780	7.181	28.030	1.232	
0.440	0.440	7.216	53.174	28.800	7.369	28.033	1.285	
0.450	0.450	7.496	56.635	28.820	7.555	28.036	1.338	
0.460	0.460	7.776	60.182	28.840	7.739	28.039	1.392	
0.470	0.470	8.057	63.812	28.861	7.920	28.042	1.446	
0.480	0.480	8.337	67.525	28.881	8.099	28.045	1.500	
0.490	0.490	8.618	71.320	28.901	8.276	28.048	1.555	
WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	TOTAL	
FT.	INC	AREA	RATE	PER	VEL	PLUS	ENERGY	
	SQ.FT.	(CFS)	(FT)	(FPS)	OBSTRUCTIONS	(FT)		
0.500	0.500	8.898	75.196	28.921	8.451	28.052	1.611	
0.510	0.510	9.179	79.152	28.941	8.623	28.055	1.667	
0.520	0.520	9.459	83.186	28.962	8.794	28.058	1.723	
0.530	0.530	9.740	87.299	28.982	8.963	28.061	1.780	
0.540	0.540	10.020	91.489	29.002	9.130	28.064	1.837	
0.550	0.550	10.301	95.754	29.022	9.296	28.067	1.894	
0.560	0.560	10.582	100.096	29.043	9.459	28.070	1.952	
0.570	0.570	10.862	104.512	29.063	9.621	28.073	2.010	
0.580	0.580	11.143	109.002	29.083	9.782	28.076	2.068	
0.590	0.590	11.424	113.565	29.103	9.941	28.079	2.127	
0.600	0.600	11.705	118.201	29.124	10.098	28.082	2.186	
0.610	0.610	11.986	122.908	29.144	10.255	28.085	2.246	
0.620	0.620	12.266	127.687	29.164	10.409	28.088	2.305	
0.630	0.630	12.547	132.536	29.184	10.563	28.091	2.365	
0.640	0.640	12.828	137.455	29.204	10.715	28.094	2.426	
0.650	0.650	13.109	142.443	29.225	10.866	28.097	2.486	
0.660	0.660	13.390	147.500	29.245	11.015	28.100	2.547	
0.670	0.670	13.676	149.417	30.240	10.925	29.095	2.527	
0.680	0.680	13.972	151.538	31.235	10.846	30.089	2.510	
0.690	0.690	14.278	153.857	32.230	10.776	31.084	2.496	
0.700	0.700	14.594	156.369	33.225	10.715	32.079	2.486	
0.710	0.710	14.920	159.070	34.220	10.662	33.074	2.478	
0.720	0.720	15.255	161.956	35.215	10.616	34.068	2.473	
0.730	0.730	15.601	165.024	36.209	10.578	35.063	2.470	
0.740	0.740	15.957	168.272	37.204	10.546	36.058	2.470	
0.750	0.750	16.322	171.699	38.199	10.519	37.053	2.471	
0.760	0.760	16.698	175.301	39.194	10.499	38.047	2.474	
0.770	0.770	17.083	179.080	40.189	10.483	39.042	2.479	
0.780	0.780	17.478	183.032	41.184	10.472	40.037	2.486	
0.790	0.790	17.884	187.159	42.179	10.465	41.032	2.494	
0.800	0.800	18.299	191.460	43.174	10.463	42.026	2.503	
0.810	0.810	18.724	195.933	44.169	10.464	43.021	2.513	
0.820	0.820	19.160	200.581	45.164	10.469	44.016	2.525	
0.830	0.830	19.605	205.402	46.159	10.477	45.011	2.537	
0.840	0.840	20.060	210.397	47.154	10.489	46.005	2.551	

MANNING'S N = 0.017 SLOPE = 0.040

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	4.0	11.6	0.1	7.0	37.5	0.0
2.0	9.5	0.7	5.0	23.5	0.3	8.0	37.6	0.7
3.0	9.6	0.0	6.0	35.5	0.1	9.0	47.0	0.9

WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	TOTAL
FT.	INC	AREA	RATE	PER	VEL	PLUS	ENERGY
		SQ.FT.	(CFS)	(FT)	(FPS)	OBSTRUCTIONS	(FT)

0.010	0.010	0.002	0.001	0.341	0.493	0.323	0.014
0.020	0.020	0.006	0.005	0.682	0.783	0.646	0.030
0.030	0.030	0.015	0.015	1.023	1.026	0.969	0.046
0.040	0.040	0.026	0.032	1.363	1.243	1.292	0.064
0.050	0.050	0.040	0.058	1.704	1.442	1.615	0.082
0.060	0.060	0.058	0.095	2.045	1.629	1.938	0.101
0.070	0.070	0.079	0.143	2.386	1.805	2.261	0.121
0.080	0.080	0.103	0.204	2.727	1.973	2.584	0.141
0.090	0.090	0.131	0.279	3.068	2.134	2.907	0.161
0.100	0.100	0.162	0.370	3.409	2.289	3.230	0.182
0.110	0.110	0.195	0.477	3.749	2.439	3.553	0.203
0.120	0.120	0.233	0.601	4.090	2.585	3.876	0.224
0.130	0.130	0.274	0.689	5.042	2.511	4.810	0.228
0.140	0.140	0.330	0.784	6.604	2.373	6.355	0.228
0.150	0.150	0.402	0.942	8.166	2.347	7.900	0.236
0.160	0.160	0.488	1.162	9.729	2.379	9.445	0.248
0.170	0.170	0.590	1.444	11.291	2.445	10.990	0.263
0.180	0.180	0.708	1.792	12.853	2.531	12.535	0.280
0.190	0.190	0.841	2.212	14.416	2.630	14.080	0.298
0.200	0.200	0.990	2.709	15.978	2.737	15.625	0.317
0.210	0.210	1.154	3.287	17.540	2.849	17.170	0.336
0.220	0.220	1.333	3.951	19.102	2.963	18.715	0.357
0.230	0.230	1.528	4.706	20.665	3.080	20.260	0.378
0.240	0.240	1.738	5.558	22.227	3.197	21.805	0.399
0.250	0.250	1.964	6.511	23.789	3.315	23.350	0.421
0.260	0.260	2.205	7.569	25.352	3.432	24.895	0.443
0.270	0.270	2.462	8.738	26.914	3.549	26.440	0.466
0.280	0.280	2.734	10.023	28.476	3.666	27.985	0.489
0.290	0.290	3.014	11.784	28.496	3.910	27.988	0.528
0.300	0.300	3.294	13.658	28.517	4.146	27.991	0.567
0.310	0.310	3.574	15.639	28.537	4.376	27.994	0.608
0.320	0.320	3.854	17.726	28.557	4.600	27.997	0.649
0.330	0.330	4.134	19.914	28.577	4.817	28.000	0.691
0.340	0.340	4.414	22.202	28.598	5.030	28.003	0.734
0.350	0.350	4.694	24.588	28.618	5.238	28.006	0.777
0.360	0.360	4.974	27.069	28.638	5.442	28.009	0.821
0.370	0.370	5.254	29.643	28.658	5.642	28.012	0.865
0.380	0.380	5.534	32.308	28.678	5.838	28.015	0.910
0.390	0.390	5.814	35.063	28.699	6.031	28.018	0.956
0.400	0.400	6.094	37.907	28.719	6.220	28.021	1.002

SOUTH SKY
STREET EGL=0.84
Qact=28.47 CFS
Qcap=11.3 CFS

0.410	0.410	6.375	40.837	28.739	6.406	28.024	1.048
0.420	0.420	6.655	43.852	28.759	6.589	28.027	1.095
0.430	0.430	6.935	46.951	28.780	6.770	28.030	1.143
0.440	0.440	7.216	50.133	28.800	6.948	28.033	1.191
0.450	0.450	7.496	53.396	28.820	7.123	28.036	1.239
0.460	0.460	7.776	56.740	28.840	7.297	28.039	1.288
0.470	0.470	8.057	60.163	28.861	7.467	28.042	1.337
0.480	0.480	8.337	63.664	28.881	7.636	28.045	1.387
0.490	0.490	8.618	67.242	28.901	7.803	28.048	1.437
WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	TOTAL
FT.	INC	AREA	RATE	PER	VEL	PLUS	ENERGY
	SQ.FT.	(CFS)	(FT)	(FPS)	OBSTRUCTIONS	(FT)	
0.500	0.500	8.898	70.896	28.921	7.967	28.052	1.487
0.510	0.510	9.179	74.625	28.941	8.130	28.055	1.538
0.520	0.520	9.459	78.429	28.962	8.291	28.058	1.589
0.530	0.530	9.740	82.306	28.982	8.450	28.061	1.641
0.540	0.540	10.020	86.256	29.002	8.608	28.064	1.693
0.550	0.550	10.301	90.278	29.022	8.764	28.067	1.745
0.560	0.560	10.582	94.371	29.043	8.918	28.070	1.797
0.570	0.570	10.862	98.535	29.063	9.071	28.073	1.850
0.580	0.580	11.143	102.768	29.083	9.222	28.076	1.903
0.590	0.590	11.424	107.070	29.103	9.372	28.079	1.956
0.600	0.600	11.705	111.441	29.124	9.521	28.082	2.010
0.610	0.610	11.986	115.879	29.144	9.668	28.085	2.064
0.620	0.620	12.266	120.384	29.164	9.814	28.088	2.118
0.630	0.630	12.547	124.956	29.184	9.959	28.091	2.173
0.640	0.640	12.828	129.594	29.204	10.102	28.094	2.227
0.650	0.650	13.109	134.296	29.225	10.244	28.097	2.282
0.660	0.660	13.390	139.064	29.245	10.385	28.100	2.338
0.670	0.670	13.676	140.872	30.240	10.300	29.095	2.320
0.680	0.680	13.972	142.872	31.235	10.225	30.089	2.306
0.690	0.690	14.278	145.058	32.230	10.160	31.084	2.295
0.700	0.700	14.594	147.426	33.225	10.102	32.079	2.287
0.710	0.710	14.920	149.973	34.220	10.052	33.074	2.282
0.720	0.720	15.255	152.693	35.215	10.009	34.068	2.278
0.730	0.730	15.601	155.586	36.209	9.973	35.063	2.277
0.740	0.740	15.957	158.649	37.204	9.943	36.058	2.278
0.750	0.750	16.322	161.879	38.199	9.918	37.053	2.280
0.760	0.760	16.698	165.276	39.194	9.898	38.047	2.284
0.770	0.770	17.083	168.838	40.189	9.883	39.042	2.289
0.780	0.780	17.478	172.565	41.184	9.873	40.037	2.296
0.790	0.790	17.884	176.455	42.179	9.867	41.032	2.304
0.800	0.800	18.299	180.510	43.174	9.864	42.026	2.314
0.810	0.810	18.724	184.728	44.169	9.866	43.021	2.324
0.820	0.820	19.160	189.109	45.164	9.870	44.016	2.335
0.830	0.830	19.605	193.655	46.159	9.878	45.011	2.348
0.840	0.840	20.060	198.364	47.154	9.889	46.005	2.361

MANNING'S N = 0.017 SLOPE = 0.045

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	28.0	0.0	9.0	88.0	0.0
2.0	12.4	0.8	6.0	30.0	0.1	10.0	88.6	0.7
3.0	20.4	0.7	7.0	49.0	0.7	11.0	91.0	0.7
4.0	27.4	0.7	8.0	86.0	0.1	12.0	98.0	0.9

WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	TOTAL
FT.	INC	AREA	RATE	PER	VEL	PLUS	ENERGY
		SQ.FT.	(CFS)	(FT)	(FPS)	OBSTRUCTIONS	(FT)

0.010	0.010	0.003	0.001	0.510	0.536	0.501	0.014
0.020	0.020	0.010	0.009	1.019	0.850	1.001	0.031
0.030	0.030	0.023	0.025	1.529	1.114	1.502	0.049
0.040	0.040	0.040	0.054	2.039	1.350	2.002	0.068
0.050	0.050	0.063	0.098	2.548	1.566	2.503	0.088
0.060	0.060	0.090	0.159	3.058	1.769	3.004	0.109
0.070	0.070	0.123	0.240	3.568	1.960	3.504	0.130
0.080	0.080	0.160	0.343	4.078	2.143	4.005	0.151
0.090	0.090	0.204	0.454	4.901	2.226	4.819	0.167
0.100	0.100	0.257	0.592	5.859	2.305	5.768	0.183
0.110	0.110	0.319	0.769	6.817	2.409	6.717	0.200
0.120	0.120	0.391	0.988	7.774	2.527	7.666	0.219
0.130	0.130	0.473	1.253	8.732	2.653	8.615	0.239
0.140	0.140	0.563	1.568	9.690	2.783	9.564	0.260
0.150	0.150	0.664	1.935	10.648	2.915	10.512	0.282
0.160	0.160	0.774	2.358	11.606	3.049	11.461	0.305
0.170	0.170	0.893	2.841	12.564	3.182	12.410	0.327
0.180	0.180	1.022	3.387	13.521	3.315	13.359	0.351
0.190	0.190	1.160	3.998	14.479	3.446	14.308	0.375
0.200	0.200	1.308	4.679	15.437	3.577	15.257	0.399
0.210	0.210	1.465	5.432	16.395	3.707	16.206	0.424
0.220	0.220	1.632	6.259	17.353	3.835	17.155	0.449
0.230	0.230	1.808	7.165	18.310	3.962	18.104	0.474
0.240	0.240	1.994	8.151	19.268	4.088	19.052	0.500
0.250	0.250	2.189	9.221	20.226	4.212	20.001	0.526
0.260	0.260	2.394	10.378	21.184	4.335	20.950	0.552
0.270	0.270	2.608	11.624	22.142	4.456	21.899	0.579
0.280	0.280	2.832	12.961	23.100	4.576	22.848	0.606
0.290	0.290	3.065	14.393	24.057	4.695	23.797	0.633
0.300	0.300	3.308	15.923	25.015	4.813	24.746	0.660
0.310	0.310	3.560	17.551	25.973	4.930	25.695	0.688
0.320	0.320	3.822	19.283	26.931	5.045	26.644	0.716
0.330	0.330	4.093	21.119	27.889	5.159	27.592	0.744
0.340	0.340	4.374	23.062	28.847	5.273	28.541	0.772
0.350	0.350	4.664	25.115	29.804	5.385	29.490	0.801
0.360	0.360	4.964	27.280	30.762	5.496	30.439	0.830
0.370	0.370	5.273	29.559	31.720	5.606	31.388	0.859
0.380	0.380	5.591	31.956	32.678	5.715	32.337	0.888
0.390	0.390	5.920	34.471	33.636	5.823	33.286	0.917

WOODMONT
EGL @ 0.84
Qact = 28.4
Qreq = 13.11

0.400	0.400	6.257	37.109	34.593	5.931	34.235	0.947
0.410	0.410	6.604	39.870	35.551	6.037	35.184	0.977
0.420	0.420	6.961	42.757	36.509	6.143	36.132	1.007
0.430	0.430	7.327	45.773	37.467	6.247	37.081	1.037
0.440	0.440	7.702	48.920	38.425	6.351	38.030	1.067
0.450	0.450	8.088	52.199	39.383	6.454	38.979	1.098
0.460	0.460	8.482	55.614	40.340	6.557	39.928	1.129
0.470	0.470	8.886	59.166	41.298	6.658	40.877	1.160
0.480	0.480	9.300	62.857	42.256	6.759	41.826	1.191
WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	TOTAL
INC	AREA	RATE	PER	VEL	PLUS	ENERGY	
FT.	SQ.FT.	(CFS)	(FT)	(FPS)	OBSTRUCTIONS	(FT)	
0.490	0.490	9.723	66.690	43.214	6.859	42.775	1.222
0.500	0.500	10.155	70.667	44.172	6.959	43.724	1.253
0.510	0.510	10.597	74.790	45.130	7.058	44.672	1.285
0.520	0.520	11.049	79.061	46.087	7.156	45.621	1.316
0.530	0.530	11.509	83.482	47.045	7.253	46.570	1.348
0.540	0.540	11.980	88.055	48.003	7.350	47.519	1.380
0.550	0.550	12.460	92.782	48.961	7.447	48.468	1.412
0.560	0.560	12.949	97.666	49.919	7.542	49.417	1.445
0.570	0.570	13.448	102.708	50.876	7.637	50.366	1.477
0.580	0.580	13.957	107.911	51.834	7.732	51.315	1.510
0.590	0.590	14.474	113.275	52.792	7.826	52.264	1.543
0.600	0.600	15.002	118.805	53.750	7.919	53.212	1.575
0.610	0.610	15.539	124.500	54.708	8.012	54.161	1.609
0.620	0.620	16.085	130.364	55.666	8.105	55.110	1.642
0.630	0.630	16.641	136.398	56.623	8.197	56.059	1.675
0.640	0.640	17.206	142.605	57.581	8.288	57.008	1.708
0.650	0.650	17.781	148.985	58.539	8.379	57.957	1.742
0.660	0.660	18.365	155.542	59.497	8.469	58.906	1.776
0.670	0.670	18.959	162.277	60.455	8.559	59.855	1.810
0.680	0.680	19.571	166.205	63.146	8.492	62.545	1.802
0.690	0.690	20.209	171.326	65.371	8.478	64.771	1.808
0.700	0.700	20.865	177.529	67.132	8.508	66.531	1.826
0.710	0.710	21.540	183.988	68.893	8.542	68.292	1.845
0.720	0.720	22.230	191.096	70.428	8.596	69.827	1.869
0.730	0.730	22.936	198.443	71.963	8.652	71.362	1.894
0.740	0.740	23.658	205.734	73.665	8.696	73.064	1.916
0.750	0.750	24.397	213.285	75.367	8.742	74.765	1.939
0.760	0.760	25.154	221.100	77.069	8.790	76.467	1.962
0.770	0.770	25.927	229.181	78.771	8.840	78.169	1.985
0.780	0.780	26.717	237.532	80.473	8.891	79.871	2.009
0.790	0.790	27.524	246.154	82.175	8.943	81.572	2.034
0.800	0.800	28.347	255.460	83.668	9.012	83.066	2.063
0.810	0.810	29.185	265.027	85.162	9.081	84.559	2.093
0.820	0.820	30.039	274.859	86.655	9.150	86.053	2.122
0.830	0.830	30.907	284.958	88.149	9.220	87.546	2.152
0.840	0.840	31.789	295.328	89.643	9.290	89.039	2.182
0.850	0.850	32.687	305.971	91.136	9.361	90.533	2.213
0.860	0.860	33.600	316.891	92.630	9.431	92.026	2.244
0.870	0.870	34.528	328.090	94.123	9.502	93.520	2.274
0.880	0.880	35.470	339.572	95.617	9.573	95.013	2.306
0.890	0.890	36.428	351.338	97.111	9.645	96.507	2.337

APPENDIX D
ORIGINAL DMP APPROVAL LETTER

CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



July 14, 2014

Brian Patterson, PE
BOHANNAN-HUSTON, INC.
7500 Jefferson Street NE Courtyard I
Albuquerque, NM 87109

Richard J. Berry, Mayor

RE: Valle Prado Units 1&2 - Tracts 9 and OS-3 (File: C09D011)
Drainage Report for Valle Prado at the Trails Units 3A,
Engineer's Stamp Date 6-24-2014
Revised Grading and Drainage Plans, Engineer's Stamp Date 7-10-2014
Supplemental Calculations, Engineer's Stamp Date 7-10-2014
Revised Inlet and Storm Drain Network Map, Received Stamp Date 7-10-2014
Revised Preliminary Plat, Received Stamp Date 7-10-2014

Dear Mr. Patterson:

Based upon the information provided in your submittals received 6-24-14 and 7-10-14, the above referenced submittals are approved for Grading Permit with the following exceptions:

PO Box 1293

On the G & D plans:

- 1) A cap should be shown on the Woodmont SD, east of South Sky Street on the Grading and Drainage plans, or at least on the As-builts.
- 2) The temporary pond should note that the Volume shown is for the developed flows only, and the undeveloped discharge calculations are part of another project.
- 3) On Sheet 1 of Grading and Drainage Plan, is that a wall between Lots 17 and 18?

Albuquerque

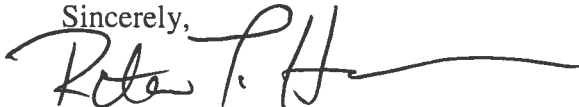
On the Inlet and SD Map:

- 4) A typo on the Inlet and SD Map shows Inlet #6 as "IN4"
- 5) Verify that the capacity for SDP6 is 269.5 cfs. It seems relatively high.
- 6) On the Fully Developed Basin Map, the basin boundary is missing between Basin 1 and 3
- 7) In the Drainage Report, page 2 has a typo in last paragraph and should be "...Basin 5 (3.1cfs), ..."
- 8) Resubmit the INROADS Storm Drain Network File(Appendix C), to be reflective of the of the current SD Map.

New Mexico 87103

www.cabq.gov

If you have any questions, you can contact me at 924-3695.

Sincerely,
A handwritten signature in black ink, appearing to read "Rita T. H.", followed by a long horizontal flourish.

Rita Harmon, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf Addressee via Email, Tim Simms, Monica Ortiz

APPENDIX E

FIRST FLUSH

Basins 1, 2, 3 & 5, Offsite Basin 3, Offsite Basin 4, Offsite Basin Well and Future Basins 1, 2 & 3 all drain to the proposed storm drain network located in South Sky Street, Red Bloom Road and Sandmark Road. This storm drain network combines with flows from the existing storm drain network in Woodmont Avenue and discharges into Pond E. Pond E has an available storage volume capacity of 6.4 ac-ft. and a maximum developed volume of 5.9 ac-ft. The first flush retention for the upstream basins that enter Pond E was calculated to need a volume of 1.3 ac-ft. This was done by calculating the cumulative impervious land treatment of the upstream basins (Basins E1.1, E1.2, E.2, E4 and E6 from the DMP as well as the basins listed in the beginning of the paragraph) for a %D of 47%. This is multiplied by 0.44' and then the corresponding area of 75.6 ac, which results in 1.3 ac-ft. Due to the existing infrastructure constraints, Pond E is able to achieve 0.9 ac-ft. of first flush volume, while having a maximum discharge of $Q=21.2$ cfs which is below that allowable discharge of $Q=22.3$ cfs as defined in the DMP. The maximum discharge from Pond E is accomplished by using a standpipe in the pond to control the outflow. Due to all of the upstream flows being conveyed through Pond E, the existing 12" orifice plate located at AP-E per the DMP that currently limits the developed flows downstream is not needed and shall be removed.

A portion of Basin 4 and Future Basin 4 are intercepted by inlets located in Two Rock Road. These flows ($Q=6.2$ cfs) are conveyed north to an existing temporary pond. A temporary berm will be placed on the south side of the temporary pond to increase its capacity. In the future, this storm drain network will tie to an existing storm drain network located in Treeline Avenue. The remaining flows from Basin 4 and Future Basin 4 combine with flows from Offsite Basin 2 and enter a proposed retention pond that is located in Offsite Basin 2, just southeast of Two Rock Road.

In the interim condition, Valle Prado Unit 1, desiltation ponds will be placed just upstream of Red Bloom Road, Sandmark Road and South Sky St. These temporary ponds have been designed as a desiltation pond which will remove sedimentation before they enter the downstream streets.

V. CONCLUSION

This report provides a detailed study of the developed runoff and street capacities for the proposed Valle Prado Units 1 and 2 at the Trails Unit 3A Subdivision. Included is the preliminary plat, basin map, grading plan, and all necessary hydrologic and hydraulic analyses. The proposed drainage plan for Valle Prado Units 1 and 2 can be safely conveyed by the existing and proposed improvements in this drainage plan. This drainage

April 23, 2015

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

Ms. Rita Harmon
Hydrology Section
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87102

Re: Grading and Drainage Certification, Valle Prado Unit 1
DRB Case No. 1004404, (C09/D011)

Dear Rita:

We are submitting the final grading and drainage certification for Valle Prado Unit 1. Enclosed for your review is the approved grading and drainage plan dated 11/19/14, with as-built elevations for Unit 1 and Pond E. The Unit 1 lots have been graded, and curb and gutter, pavement and storm drain improvements have been constructed. Grading of the Unit 2 lots and public infrastructure has not been completed. The Unit 2 lots will be certified once grading and construction of improvements has been completed.

The Valle Prado Addendum #2 AHYMO analysis, which removed offsite Pond 2, dated 11/19/14, has been updated with a revised stage-storage-discharge curve for Pond E based on the as-built grades for Pond E. The table below shows a comparison of the Pond E operations from Addendum #2 and the as-built condition.

POND E SUMMARY		
Description	Addendum #2	As-built Condition
Peak Inflow, cfs	180.6	182.7
Time to Peak, hrs	1.5	1.5
Peak Outflow, cfs	20.9	21.3
Time to Peak, hrs	2.5	2.5
Max Water Surface, feet	5451.57	5451.67
Storage Volume, ac-ft	6.59	6.53
Peak Flow AP-E, cfs	21.8	22.3
Time to Peak, hrs	2.0	2.0

The as-built Pond E analysis results in a peak discharge at Analysis Point E of 22.3 cfs, which matches the allowed discharge in the Trails Units 1-3 DMP of 22.3 cfs. The results of this analysis show that Pond E functions per the intent of the design in the Valle Prado Units 1 and 2 Drainage Report Addendum #2, dated 11/19/14 and meets the requirements of the Trails DMP.

Engineering ▲

Spatial Data ▲

Advanced Technologies ▲

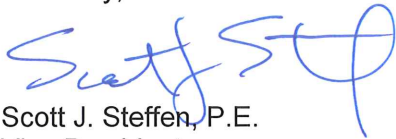
Rita Harmon, P.E.
Planning Department
April 23, 2015
Page 2

The final certification was originally submitted to City Hydrology on February 24, 2015. Curtis Cherne provided a comment per the attached email, dated February 27, 2015, regarding the Pond E rip-rap. In response to the comment, additional rip-rap, along with a swale directing water from the gas easement to Pond E, have been constructed and are shown on the as-built grading plan.

After reviewing the as-built elevations and visiting the site on 4/23/15, it is my belief that the Valle Prado Unit 1 subdivision has been graded in substantial compliance with the approved grading plan and will drain in compliance with the approved drainage plan.

Your review and approval is requested for Release of Financial Guaranty for Valle Prado Unit 1. I appreciate your time and consideration. If you have questions or require additional information, please contact me at 823-1000.

Sincerely,

A handwritten signature in blue ink, appearing to read "Scott J. Steffen".

Scott J. Steffen, P.E.
Vice President
Community Development & Planning

Enclosure

cc: Rick Beltramo, Wexford Construction

APPENDIX F:
BASIN LAND TREATMENTS

BASIN SUMMARY FOR TRACT 9 @ THE TRAILS UNIT 3A (VALLE PRADO)

BASIN	AREA		UNITS		% LAND TREATMENT				100YR
I.D.	(AC)		#		A	B	C	D	6 HR
BASIN 1	3.2	0.0050000	17		0.0%	24.0%	24.0%	52.0%	8.9
BASIN 2	2.9	0.0045313	14		0.0%	26.0%	26.0%	48.0%	7.9
BASIN 3	4.4	0.0068750	15		0.0%	31.0%	31.0%	38.0%	11.2
BASIN 4	2.3	0.0035938	11		0.0%	26.0%	26.0%	48.0%	6.3
BASIN 5	1.2	0.0018750	4		0.0%	31.5%	31.5%	37.0%	3.1
BASIN A	6.8	0.0106719	40		0.0%	22.1%	22.1%	55.8%	19.5
BASIN B	4.0	0.0062500	25		0.0%	20.7%	20.7%	58.7%	11.6
BASIN C	4.9	0.0076563	28		0.0%	22.6%	22.6%	54.8%	15.7
BASIN 6	3.1	0.0048438	12		0.0%	29.5%	29.5%	41.0%	8.1
OFFSITE BASIN 2	0.6	0.0009375			80.0%	20.0%	0.0%	0.0%	0.6
OFFSITE BASIN 3	0.7	0.0010938			76.0%	24.0%	0.0%	0.0%	0.7
OFFSITE BASIN 4	0.9	0.0014063			80.0%	20.0%	0.0%	0.0%	0.9
OFFSITE BASIN 5	2.1	0.0032813			95.0%	5.0%	0.0%	0.0%	2.0
OFFSITE BASIN WELL	1.0	0.0015625			0.0%	40.0%	40.0%	20.0%	2.3
OFFSITE BASIN 6	0.9	0.0014063			0.0%	0.0%	100.0%	0.0%	2.3
INTERIM BASIN 1	4.7	0.0073438			50.5%	12.2%	37.3%	0.0%	9.2
INTERIM BASIN 2	1.5	0.0022969			9.6%	0.0%	90.4%	0.0%	5.0
TOTAL	39.0		166						101.1

APPENDIX G:
TEMPORARY POND CALCULATIONS

Pond Volume Calculation - Average End Area Method
SUBJECT: Valle Prado
DATE: 2/12/2019
BY: JJL

Southwest temp Pond								
			AVG.			TOTAL		TOTAL
ELEV.	AREA	AREA	AREA	HEIGHT	VOLUME	VOLUME		VOLUME
(FT)	SF	(AC)	(AC)	(FT)	(AC-FT)	(AC-FT)		CFS
10.5	1899.9	0.044				0.000000		
			0.058	1	0.058			
11.5	3176.6	0.073				0.058270		
			0.089	1	0.089			
12.5	4553.8	0.105				0.147003		6403.45
Northeast temp pond								
			AVG.			TOTAL		
ELEV.	AREA	AREA	AREA	HEIGHT	VOLUME	VOLUME		
(FT)	SF	(AC)	(AC)	(FT)	(AC-FT)	(AC-FT)		
12		0.000				0.0000		
			0.02	0	0.0000			
12	1731	0.040				0.0000		
			0.049	1	0.049			
13	2530.1	0.058				0.0489		2130.55

which is greater than the required volume of 6082.88 CF

which is greater than the required volume of 1923.97 CF

Retention Pond Volume Calculations for Valle Prado Northeast Pond

NOTE: Blue shaded cells require user input, all other cells should not be edited.

ASSUMPTIONS:

1. Area less than 40 acres (simplified hydrograph method).
2. 100-year, 6-hour storm event

Peak Flow per Acre - DPM Section 22.2 Table A-9

Zone	A	B	C	D
1	1.29	2.03	2.87	4.37
2	1.56	2.28	3.14	4.7
3	1.87	2.6	3.45	5.02
4	2.2	2.92	3.73	5.25

Basin Name :

Choose Zone (1 - 4)

Basin Area = (acres)

1

0.5412557

Exist Conditions				Proposed Conditions			
Treatment	Percentage	Area	Q (cfs)	Treatment	Percentage	Area	Q (cfs)
A	100.0%	0.54	0.70	A	9.6%	0.05	0.07
B	0.0%	0.00	0.00	B	0.0%	0.00	0.00
C	0.0%	0.00	0.00	C	90.4%	0.49	1.40
D	0.0%	0.00	0.00	D	0.0%	0.00	0.00
Q Peak - exist =			0.70	Peak Q Developed =			1.47

Use my calculated exist cond. flow as the peak controlled discharge (1 = yes, or N) ??

N

If No, what is the maximum allowable discharge ?

0

Excess Precipitation - DPM Section 22.2 Table A-8

Zone	A	B	C	D
1	0.44	0.67	0.99	1.97
2	0.53	0.78	1.13	2.12
3	0.66	0.92	1.29	2.36
4	0.8	1.08	1.46	2.64

Determine Developed E (avg excess precipitation for the developed basin)

$$\%A \times E = 0.04$$

$$\%B \times E = 0.00$$

$$\%C \times E = 0.90$$

$$\%D \times E = 0.00$$

$$\text{Avg } E(\text{in}) = 0.94$$

Determine Tb (hours)

$$T_b = 0.726$$

Determine Tc (Note: Tc is assumed to be 0.2 hours, this should be checked using DPM 22.2.B.2)

$$T_c = 0.2$$

Determine Tp and Duration of Peak (hours)

$$T_p = 0.273333$$

$$\text{Peak Duration} = 0$$

Compute the required retention volume using the simple hydrograph, Figure A-3 in DPM Section 22.2

$$\text{Time to Control } Q \text{ (hrs)} = 0.000$$

$$\text{Time to end of Control } Q \text{ (hrs)} = 0.726435$$

$$\text{Duration of Control } Q \text{ (hrs)} = 0.726$$

Required Detention Volume (CF) = 1923.97

0.044168223

Convert from 100YR - 6HR to 100YR - 10DAY EQUATION A-9 from DPM Chapter 22

$$V_{10\text{days}} = V_{360} + A_D * (P_{10\text{DAYS}} - P_{360}) / 12 \text{ in/ft}$$

$$V_{10\text{days}} = 1923.97 \text{ CF}$$

Retention Pond Volume Calculations for Valle Prado Southwest Pond

NOTE: Blue shaded cells require user input, all other cells should not be edited.

ASSUMPTIONS:

1. Area less than 40 acres (simplified hydrograph method).
2. 100-year, 6-hour storm event

Peak Flow per Acre - DPM Section 22.2 Table A-9

Zone	A	B	C	D
1	1.29	2.03	2.87	4.37
2	1.56	2.28	3.14	4.7
3	1.87	2.6	3.45	5.02
4	2.2	2.92	3.73	5.25

Basin Name :

Choose Zone (1 - 4)

Basin Area = (acres)

Exist Conditions				Proposed Conditions			
Treatment	Percentage	Area	Q (cfs)	Treatment	Percentage	Area	Q (cfs)
A	100.0%	2.38	3.07	A	50.5%	1.20	1.55
B	0.0%	0.00	0.00	B	12.2%	0.29	0.59
C	0.0%	0.00	0.00	C	37.3%	0.89	2.55
D	0.0%	0.00	0.00	D	0.0%	0.00	0.00
Q Peak - exist.=			3.07	Peak Q Developed=			4.69

Use my calculated exist cond. flow as the peak controlled discharge (1 = yes, or N) ??

N

If No, what is the maximum allowable discharge ?

0

Excess Precipitation - DPM Section 22.2 Table A-8

Zone	A	B	C	D
1	0.44	0.67	0.99	1.97
2	0.53	0.78	1.13	2.12
3	0.66	0.92	1.29	2.36
4	0.8	1.08	1.46	2.64

Determine Developed E (avg excess precipitation for the developed basin)

$$\%A \times E = 0.22$$

$$\%B \times E = 0.08$$

$$\%C \times E = 0.37$$

$$\%D \times E = 0.00$$

$$\text{Avg } E(\text{in}) = 0.67$$

Determine Tb (hours)

$$T_b = 0.720$$

Determine Tc (Note: Tc is assumed to be 0.2 hours, this should be checked using DPM 22.2.B.2)

$$T_c = 0.2$$

Determine Tp and Duration of Peak (hours)

$$T_p = 0.273333$$

$$\text{Peak Duration} = 0$$

Compute the required retention volume using the simple hydrograph, Figure A-3 in DPM Section 22.2

$$\text{Time to Control } Q \text{ (hrs)} = 0.000$$

$$\text{Time to end of Control } Q \text{ (hrs)} = 0.720165$$

$$\text{Duration of Control } Q \text{ (hrs)} = 0.720$$

Required Detention Volume (CF) = 6082.88

0.139643756

Convert from 100YR - 6HR to 100YR - 10DAY EQUATION A-9 from DPM Chapter 22

$$V_{10\text{days}} = V_{360} + A_D * (P_{10\text{DAYS}} - P_{360}) / 12 \text{ in/ft}$$

$$V_{10\text{days}} = 6082.88 \text{ CF}$$

EXHIBITS

**EXHIBIT A: ORIGINAL FULLY DEVELOPED BASIN
MAP**

EXHIBIT B: PROPOSED BASIN MAP

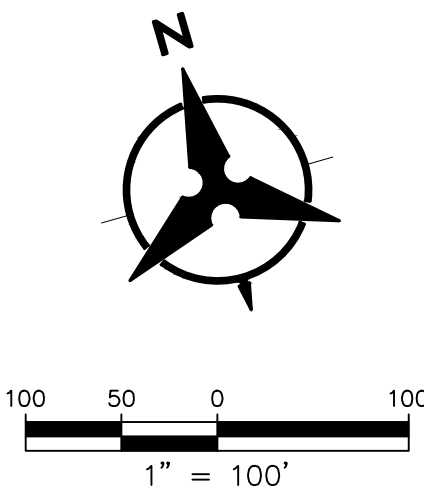
EXHIBIT C: PHASE 4 GRADING PLAN

EXHIBIT D: PHASE 5 GRADING PLAN

EXHIBIT A

ORIGINAL FULLY DEVELOPED BASIN MAP

VALLE PRADO
FULLY DEVELOPED BASIN MAP



LEGEND

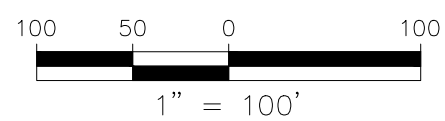
BASIN BOUNDARY	
FLOW ARROW	
PROPOSED STORM DRAIN	
EXISTING STORM DRAIN	
TEMPORARY BERM	
DMP BASIN BOUNDARY	

BASIN	AREA (AC)	Q (100YR-24HR) (CFS)
BASIN 1	3.2	8.9
BASIN 2	2.9	7.9
BASIN 3	4.4	11.2
BASIN 4	2.3	6.3
BASIN 5	1.2	3.1
FUTURE BASIN 1	6.9	19.9
FUTURE BASIN 2	4.8	13.5
FUTURE BASIN 3	3.8	10.8
FUTURE BASIN 4	3.1	8.1
OFFSITE BASIN 2	0.6	0.6
OFFSITE BASIN 3	0.7	0.7
OFFSITE BASIN 4	0.9	0.9
OFFSITE BASIN 5	2.1	2
OFFSITE BASIN WELL	1.0	2.3
OFFSITE BASIN 6	0.9	2.3
TOTAL	38.8	98.5



EXHIBIT B
PROPOSED BASIN MAP

VALLE PRADO
FULLY DEVELOPED BASIN MAP



LEGEND

BASIN BOUNDARY

FLOW ARROW

PROPOSED STORM DRAIN

EXISTING STORM DRAIN

TEMPORARY BERM

DMP BASIN BOUNDARY

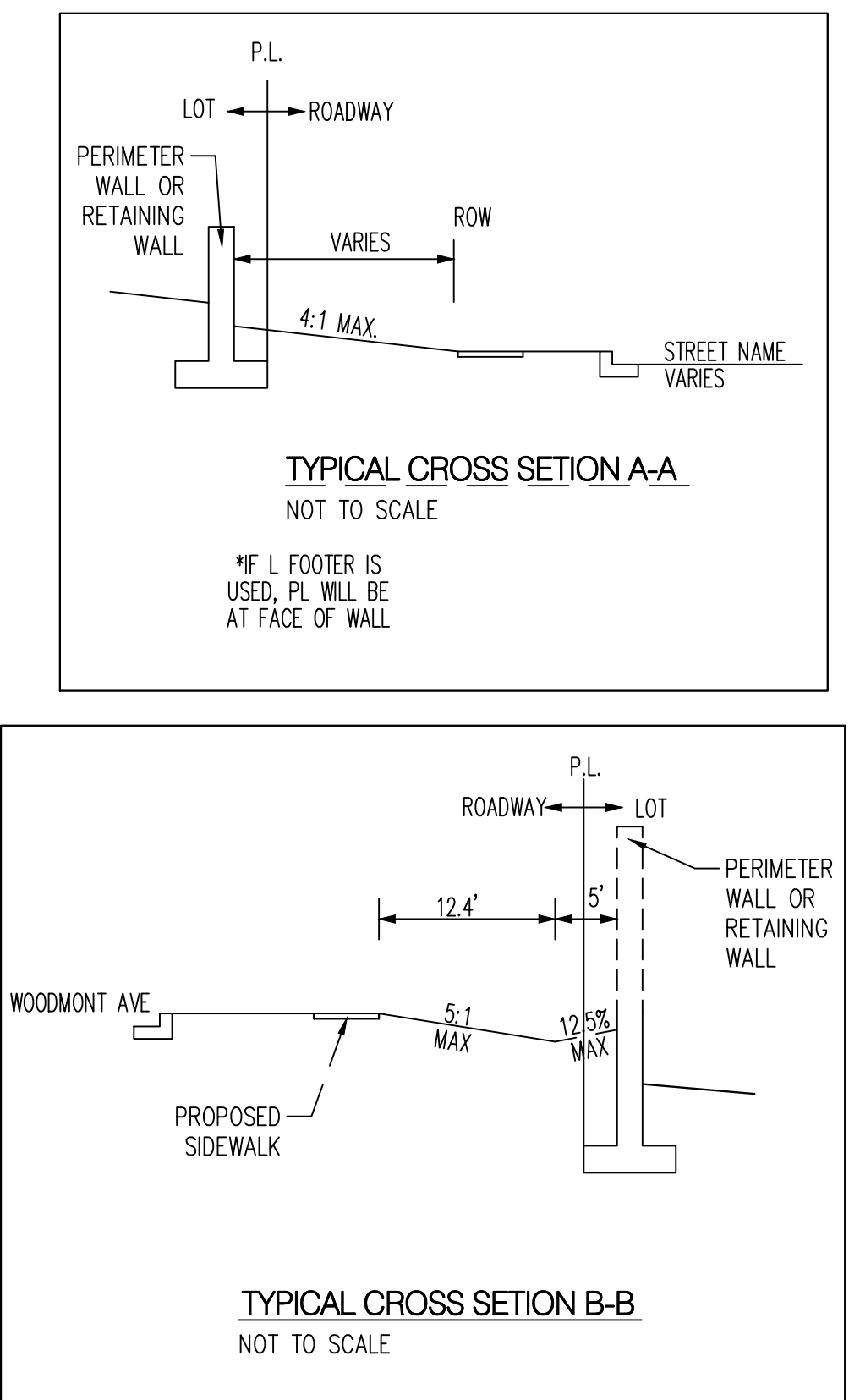
INTERIM BASIN BOUNDARY

FOR TRACT 9 @ THE TRAILS UNIT 3

BASIN I.D.	AREA (AC)	100YR 6 HR
BASIN 1	3.2	8.9
BASIN 2	2.9	7.9
BASIN 3	4.4	11.2
BASIN 4	2.3	6.3
BASIN 5	1.2	3.1
BASIN A	6.8	19.5
BASIN B	4.0	11.6
BASIN C	4.9	15.7
BASIN 6	3.1	8.1
OFFSITE BASIN 2	0.6	0.6
OFFSITE BASIN 3	0.7	0.7
OFFSITE BASIN 4	0.9	0.9
OFFSITE BASIN 5	2.1	2.0
OFFSITE BASIN WELL	1.0	2.3
OFFSITE BASIN 6	0.9	2.3
INTERIM BASIN 1	4.7	9.2
INTERIM BASIN 2	1.5	5.0
*BASIN E4	3.7	13.1
TOTAL	39.0	101.1
* PER DMP		

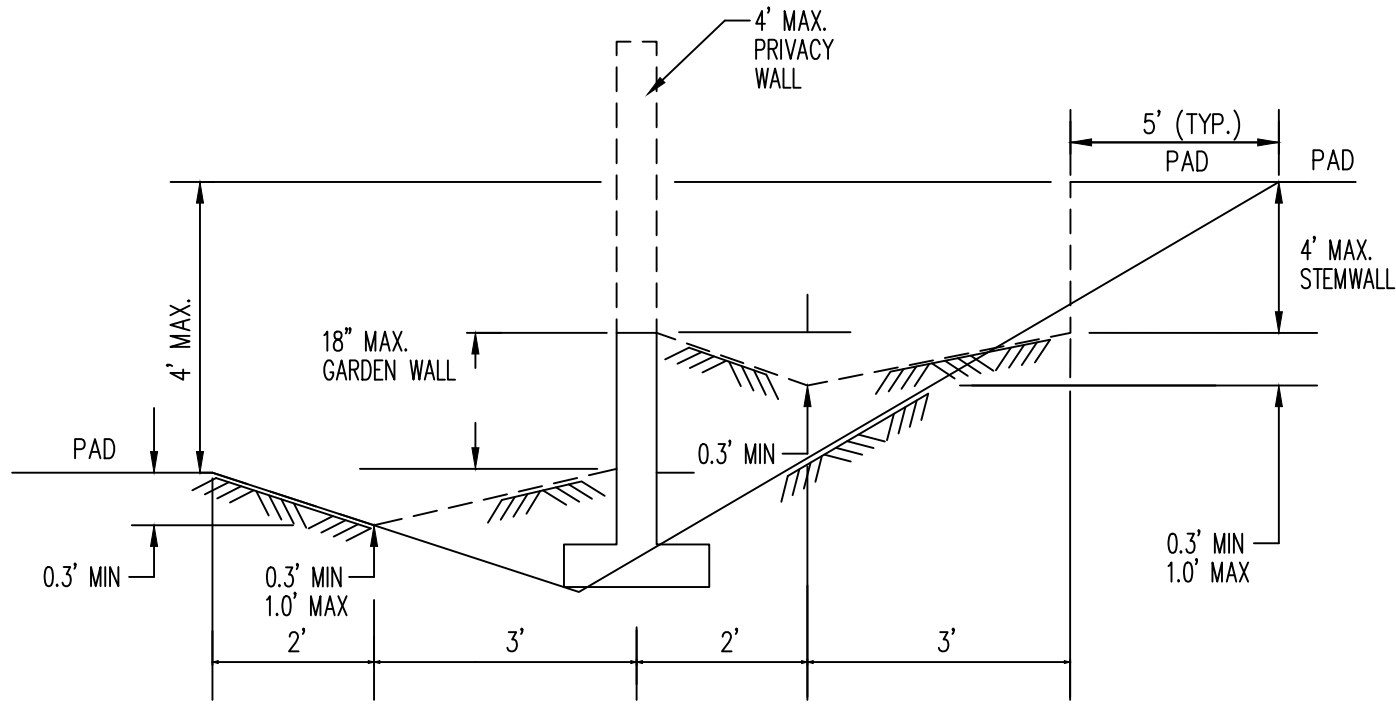


EXHIBIT C
PHASE 4 GRADING PLAN



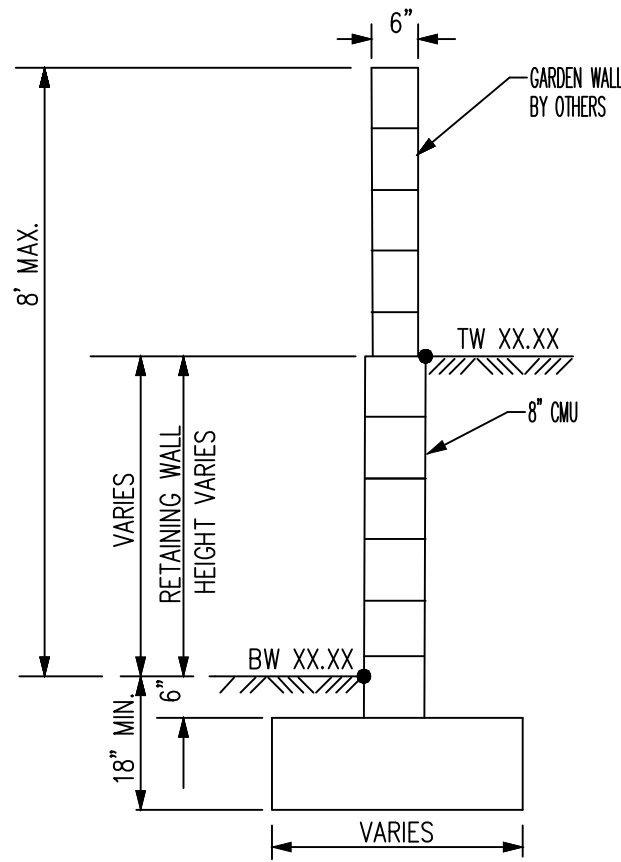
ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS-BUILT INFORMATION	
		FIELD NOTES					
		NO.	BY	DATE			
					ACS MONUMENT STAMPED "UNION"		
					GEOGRAPHIC POSITION (NAD 83)		
					N.M. STATE PLANE COORDINATES (CENTRAL ZONE)		
					N = 1,523,503.475 E = 1,493,655.030		
					GROUND-TO-GRID FACTOR = 0.9998664360		
					$\Delta\alpha = -00^{\circ}16'58.96"$		
					NAVD 1988 ELEVATION = 5524.950		
REVISIONS DESIGN		No.		Date	REMARKS	By	
Designed By: JL		DATE:		01/2019			
Drawn By: AR		DATE:		01/2019			
Checked By: YPM		DATE:		01/2019			
Mo./Day/Yr.							
Mo./Day/Yr.							
Sheet 1 Of 2							

NOTE
ALL SLOPES ON HOA TRACTS TO BE STABILIZED
BY NATIVE SEED AND MULCH PER STD SPEC 1012
WITH GRAVEL MULCH OR BETTER.



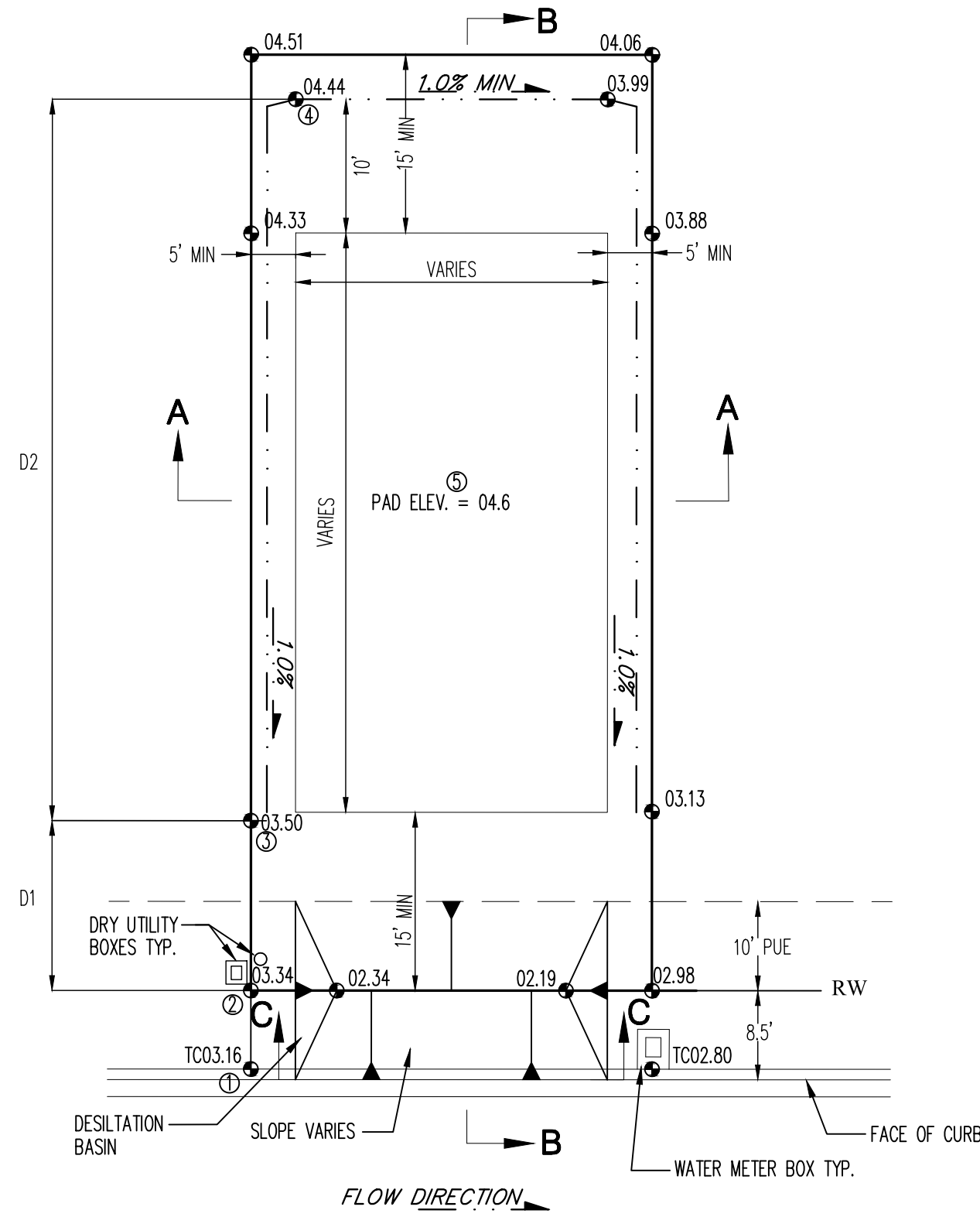
TYPICAL SIDE LOT LINE SECTION
NOT TO SCALE

NOTE: DASHED LINES IN TYP. SIDE LOT
LINE SECTIONS REPRESENT THE FINAL
CONDITION AFTER THE GARDEN, STEM,
AND PRIVACY WALLS HAVE BEEN CONSTRUCTED.
THE INTERIM CONDITION, WHICH IS TO BE
CONSTRUCTED BY THE GRADING CONTRACTOR
AND CERTIFIED BY THE ENGINEER, IS
REPRESENTED BY THE SOLID LINES.
RETAINING WALLS WILL BE CONSTRUCTED
PRIOR TO GRADING CERTIFICATION.



TYPICAL RETAINING WALL NOMENCLATURE
NOT TO SCALE

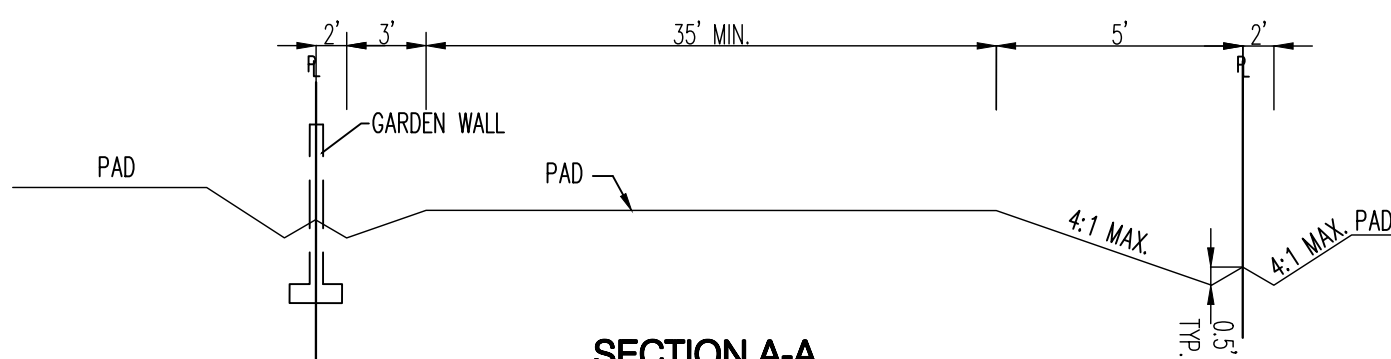
(RETAINING HEIGHT IS TAKEN TO BE DIFFERENCE IN
FINISHED GRADES ON LEFT AND RIGHT SIDE OF WALL.)
HEIGHT IS IN ACCORDANCE WITH CITY COMPREHENSIVE
ZONING CODE, SECTION 14-16-3-19, GENERAL HEIGHT
AND DESIGN REGULATIONS FOR WALLS, FENCES, AND
RETAINING WALLS.



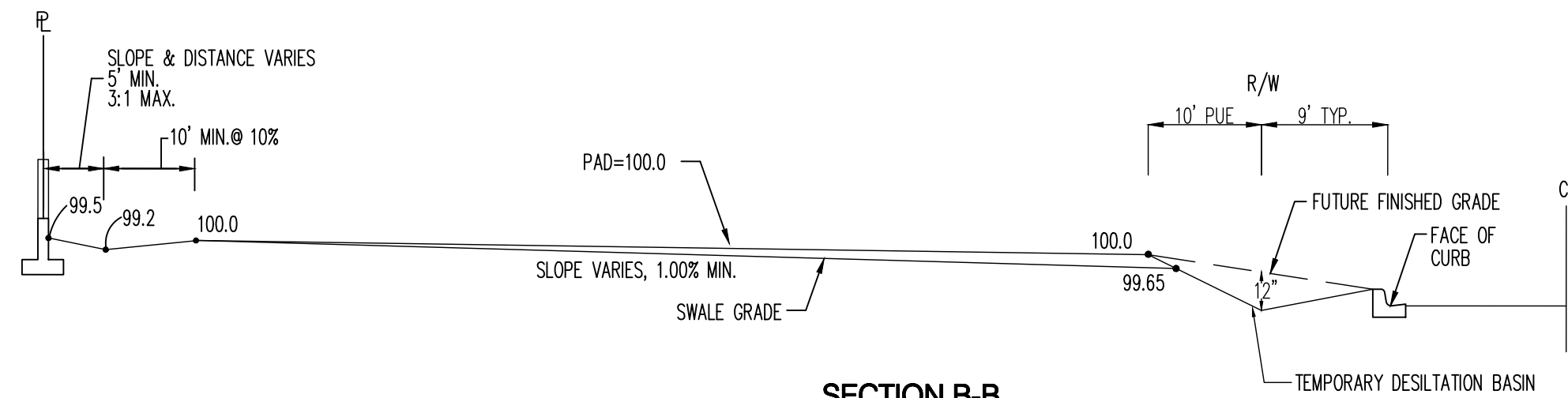
TYPICAL LOT GRADE DETAIL
WITH DESILTATION BASIN FOR SEDIMENTATION CONTROL
NOT TO SCALE

TO SET SPOT ② - ADD 0.17' TO SPOT ①
TO SET SPOT ③ - MULTIPLY D1 BY 1.0% AND ADD TO SPOT ②
TO SET SPOT ④ - MULTIPLY D2 BY 1.0% AND ADD TO SPOT ③
TO SET SPOT ⑤ - ADD 0.2' TO SPOT ④

BOTTOM OF BASIN IS 1' BELOW PROPERTY LINE ELEVATION.
SEE GRADING PLANS FOR EXACT ELEVATIONS.
CONTRACTOR SHALL CONSTRUCT TEMPORARY DESILTATION BASIN AT EACH LOT.



SECTION A-A
TYPICAL SIDE YARD SWALE
NOT TO SCALE



SECTION B-B
NOT TO SCALE

NOTE:

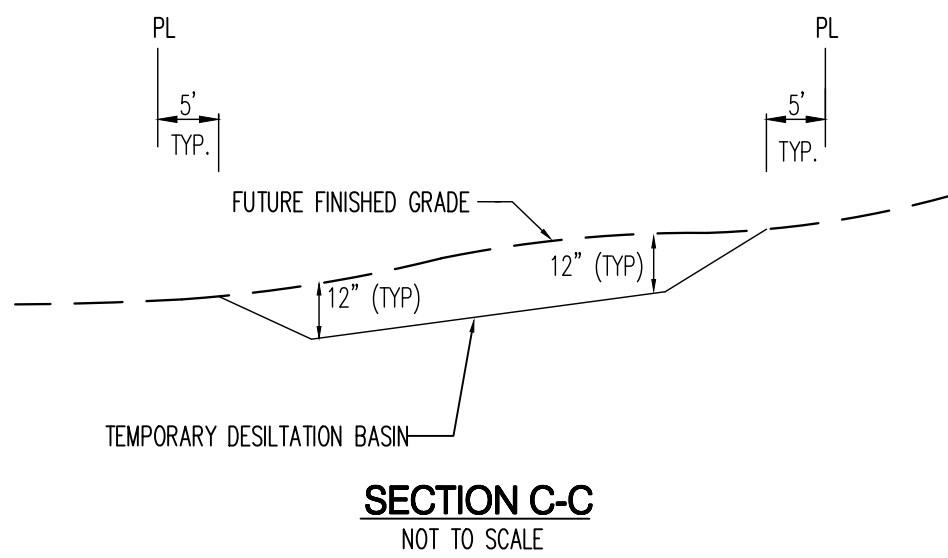
- CONTRACTOR IS TO MASS GRADE ROADS TO 2' BEYOND FUTURE CURB.
EXCESS FROM DRY UTILITY TRENCH IS TO BE USED TO BACK FILL BEHIND
CURB.
- FRONT YARDS ARE TO BE GRADED AS SHOWN ON THIS DETAIL FOR FINAL
GRADING AND CERTIFICATION THIS DETAIL TO BE COORDINATED WITH.
- HOME BUILDER TO BRING FRONT YARD TO ULTIMATE FRONT YARD GRADES
AFTER HOME CONSTRUCTION IS COMPLETED. SEE ULTIMATE FRONT YARD
GRADING DETAIL ON THIS SHEET.

GENERAL NOTES

- ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE
PROJECT SPECIFICATIONS AND THE PROJECT GEOTECHNICAL REPORT. WHERE APPLICABLE, CITY OF ALBUQUERQUE PUBLIC WORKS
STANDARDS SHALL APPLY.
- THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE
CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA REQUIREMENTS WITH RESPECT TO STORM WATER DISCHARGE.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL
OBSTRUCTIONS INCLUDING ALL UNDERGROUND UTILITIES. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE
CONSTRUCTION OBSERVER OR ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT LINE LOCATING SERVICE FOR LOCATION OF
EXISTING UTILITIES.
- ALL ELECTRICAL, TELEPHONE, CABLE TV, GAS AND OTHER UTILITY LINES, CABLES, AND APPURTENANCES ENCOUNTERED DURING
CONSTRUCTION THAT REQUIRE RELOCATION, SHALL BE COORDINATED WITH THAT UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR
COORDINATION OF ALL NECESSARY UTILITY ADJUSTMENTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR
INCONVENIENCES CAUSED BY UTILITY COMPANY WORK CREWS. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE HIS ACTIVITIES TO
ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA. ANY DAMAGE TO
EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND
APPROVED BY THE CONSTRUCTION OBSERVER.
- CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT PROPERTIES
RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE
CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY.
- THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION (I.E.,
BARRICADING, TOPSOIL DISTURBANCE, EXCAVATION PERMITS, EPA STORM WATER PERMITS, ETC.).
- ALL PROPERTY CORNERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ALL
PROPERTY CORNERS MUST BE RESET BY A REGISTERED LAND SURVEYOR.
- THE CONTRACTOR SHALL PREPARE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN AND OBTAIN APPROVAL OF SUCH PLAN
FROM THE CITY OF ALBUQUERQUE, TRAFFIC ENGINEERING DEPARTMENT, PRIOR TO BEGINNING ANY CONSTRUCTION WORK ON OR
ADJACENT TO EXISTING STREETS.
- ALL BARRICADES AND CONSTRUCTION SIGNING SHALL CONFORM TO APPLICABLE SECTIONS OF THE "MANUAL ON UNIFORM TRAFFIC
CONTROL DEVICES" (MUTCD), US DEPARTMENT OF TRANSPORTATION, LATEST EDITION.
- THE CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION BARRICADES AND SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY
THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.
- THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO CONFORM WITH EPA REQUIREMENTS, INCLUDING COMPLIANCE WITH NPDES
PHASE 2 REQUIREMENTS.

GRADING NOTES

- EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON
THIS PLAN.
- CONTRACTOR SHALL OBTAIN AND ABIDE BY A TOPSOIL DISTURBANCE PERMIT FROM THE CITY OF ALBUQUERQUE ENVIRONMENTAL
HEALTH DIVISION, PRIOR TO CONSTRUCTION. THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE
INCIDENTAL TO THE PROJECT COST. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL
MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND
APPROVALS.
- ALL WORK RELATIVE TO FOUNDATION CONSTRUCTION, SITE PREPARATION, AND PAVEMENT INSTALLATION, AS SHOWN ON THIS PLAN,
SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SOILS REPORT. ALL OTHER WORK, UNLESS OTHERWISE STATED OR PROVIDED FOR
HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS (FIRST PRIORITY), AND/OR THE CITY OF
ALBUQUERQUE (COA) STANDARD SPECIFICATIONS FOR PUBLIC WORKS (SECOND PRIORITY).
- TWO WORKING DAYS PRIOR TO EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE (765-1264) FOR LOCATION OF
EXISTING UTILITIES.
- PRIOR TO GRADING, ALL VEGETATION DEBRIS, AND NEAR SURFACE ORGANICALLY CONTAMINATED SOIL SHALL BE STRIPPED FROM ALL
AREAS TO BE GRADED. VEGETATION AND DEBRIS SHALL BE DISPOSED OF OFF-SITE OR STOCK-PILED FOR USE IN PLANTERS AND
NON-STRUCTURAL FILLS.
- EARTH SLOPES SHALL NOT EXCEED 4 HORIZONTAL TO 1 VERTICAL UNLESS SHOWN OTHERWISE.
- IT IS THE INTENT OF THESE PLANS THAT THIS CONTRACTOR SHALL NOT PERFORM ANY WORK OUTSIDE OF THE PROPERTY
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- RETAINING WALLS ARE REQUIRED BETWEEN LOTS THAT HAVE PAD ELEVATIONS THAT ARE GREATER THAN 2' DIFFERENCE.



SECTION C-C
NOT TO SCALE

Bohannon & Huston
www.bhinc.com 800.877.5332



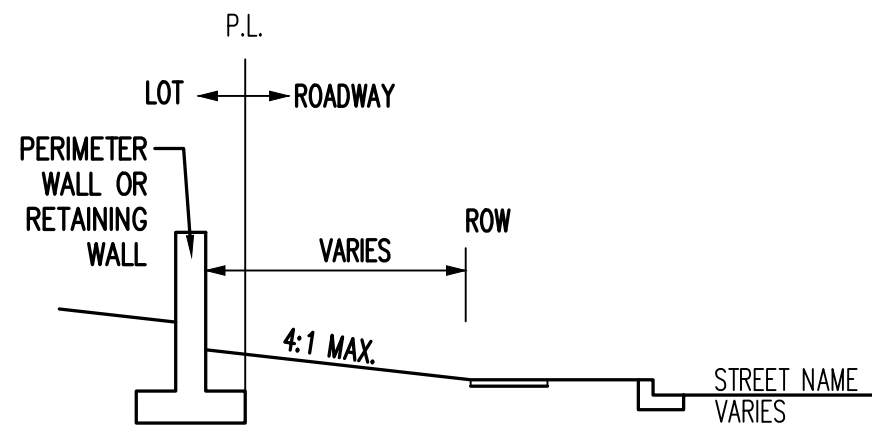
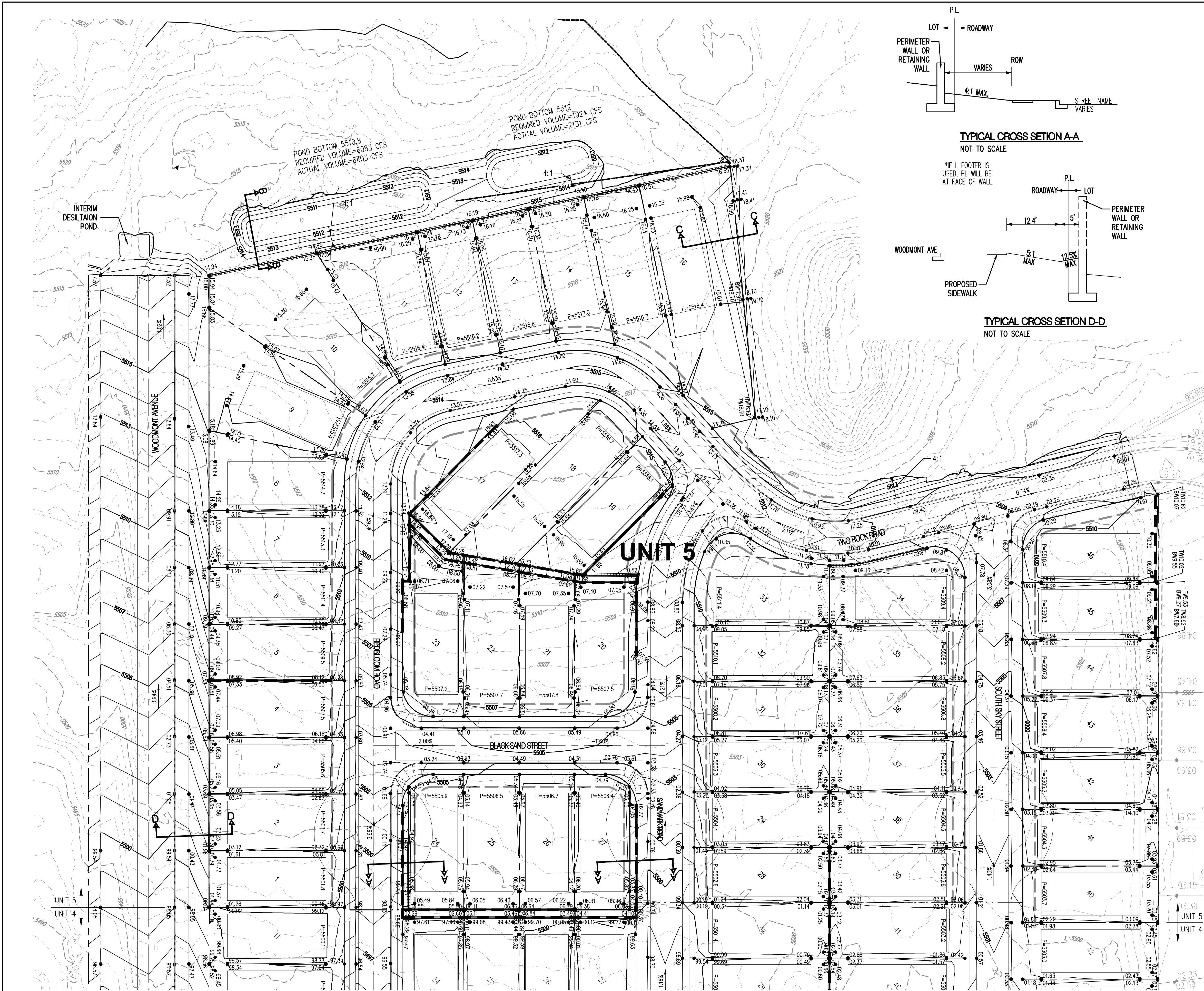
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

VALLE PRADO

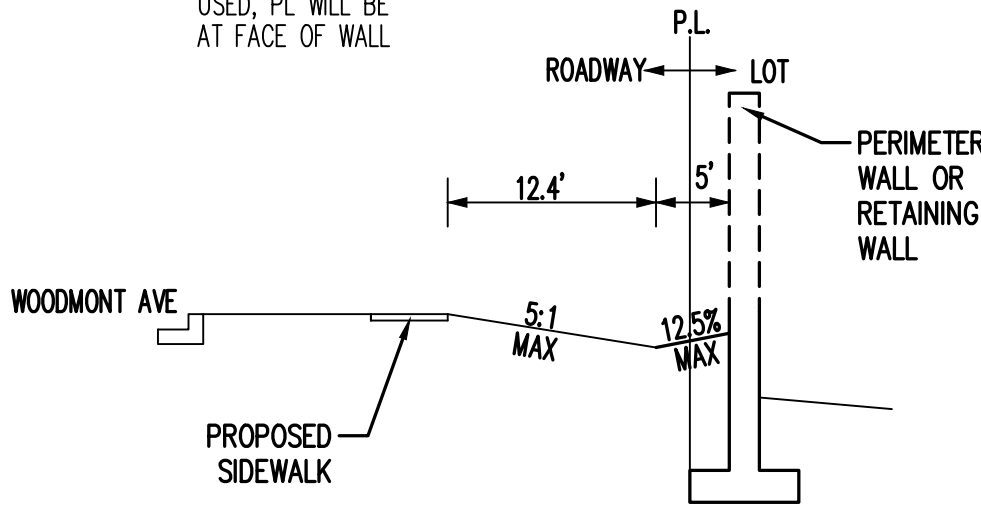
GRADING AND DRAINAGE DETAILS

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
City Project No.	Zone Map No.	Sheet	Of
	C-09-Z	2	2

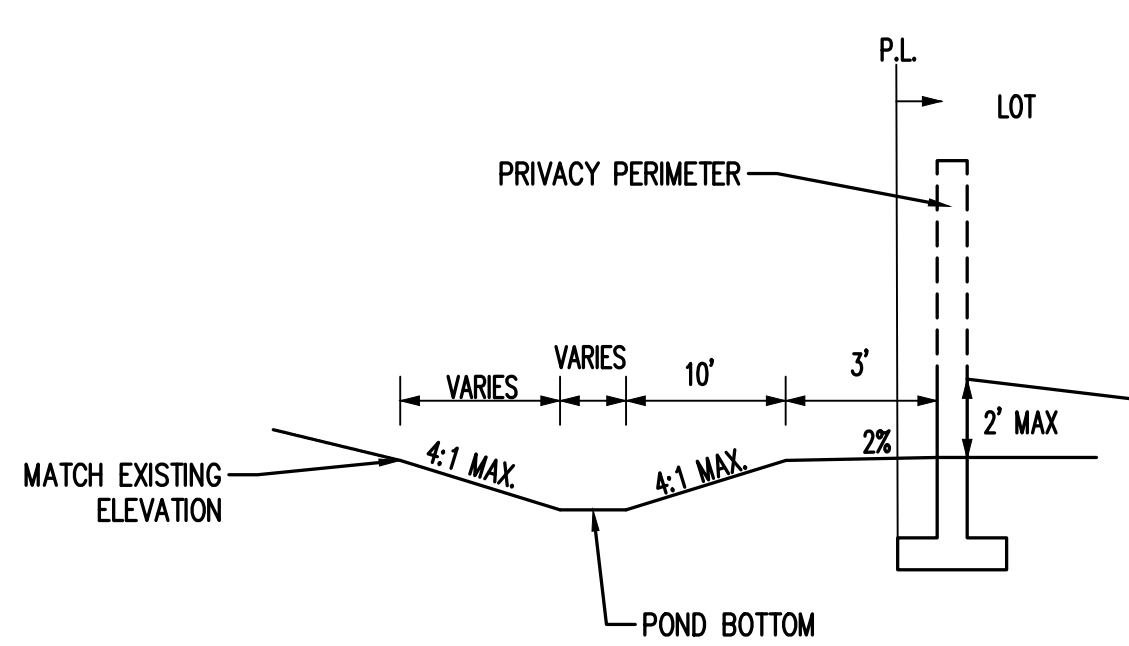
EXHIBIT D
PHASE 5 GRADING PLAN



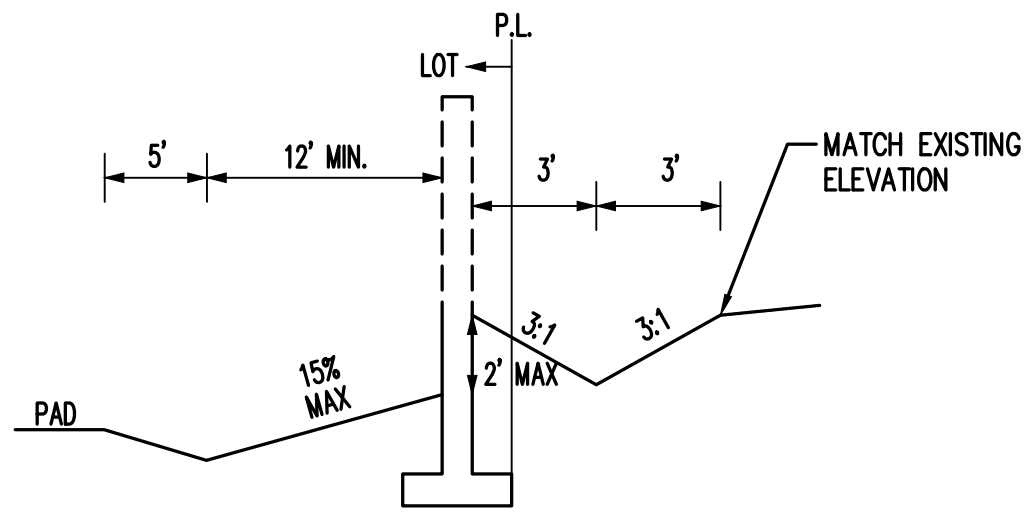
TYPICAL CROSS SECTION A-A
NOT TO SCALE



TYPICAL CROSS SECTION D-D
NOT TO SCALE



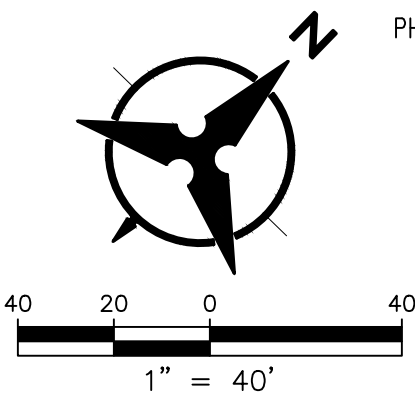
TYPICAL CROSS SECTION B-B
NOT TO SCALE



TYPICAL CROSS SECTION C-C
NOT TO SCALE

LEGEND

- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR
- EXISTING STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED WATER BLOCK
- RETAINING WALL
- PAD
- TURNED BLOCK
- STREET SLOPE
- PHASE BOUNDARY



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**CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT**

VALLE PRADO

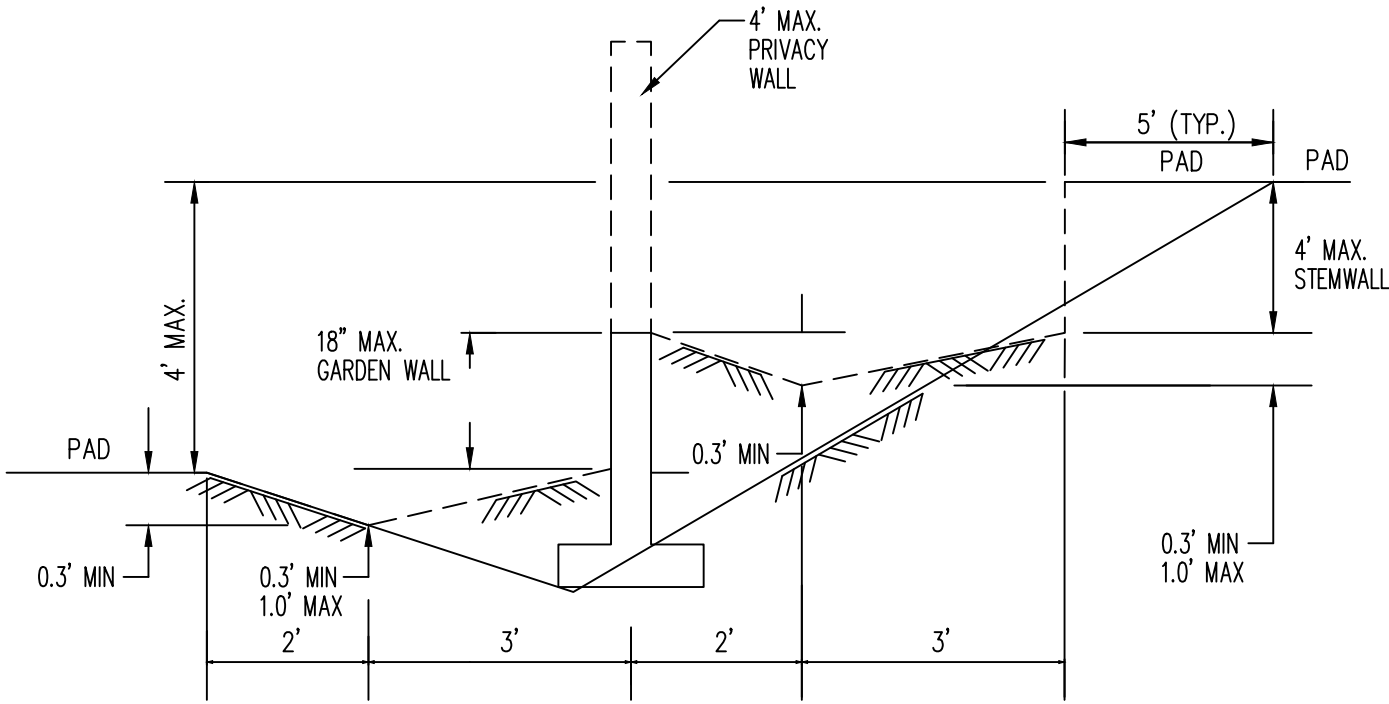
UNIT 5

GRADING AND DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
City Project No.	Zone Map No.	Sheet	Of
	C-09-Z	1	2

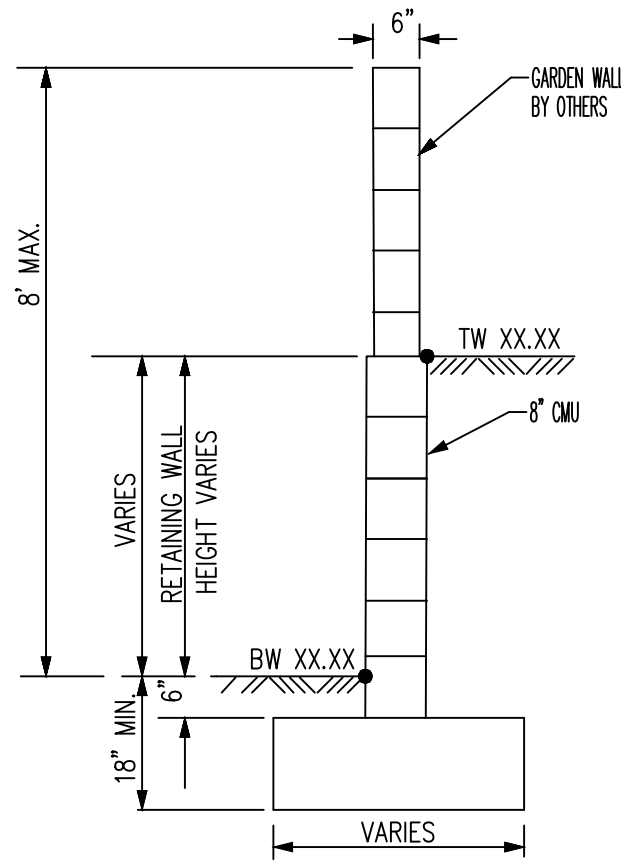
AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL		FIELD NOTES	
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INSPECTION BY		DATE		N.M. STATE PLANE COORDINATES (CENTRAL ZONE)		DATE		N = 1,523,503.475 E = 1,493,655.030	
DRAWING BY		DATE		GROUND-TO-GRID FACTOR = 0.999664360		DATE		Δx = -00'16'58.96"	
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NOTE
ALL SLOPES ON HOA TRACTS TO BE STABILIZED
BY NATIVE SEED AND MULCH PER STD SPEC 1012
WITH GRAVEL MULCH OR BETTER.



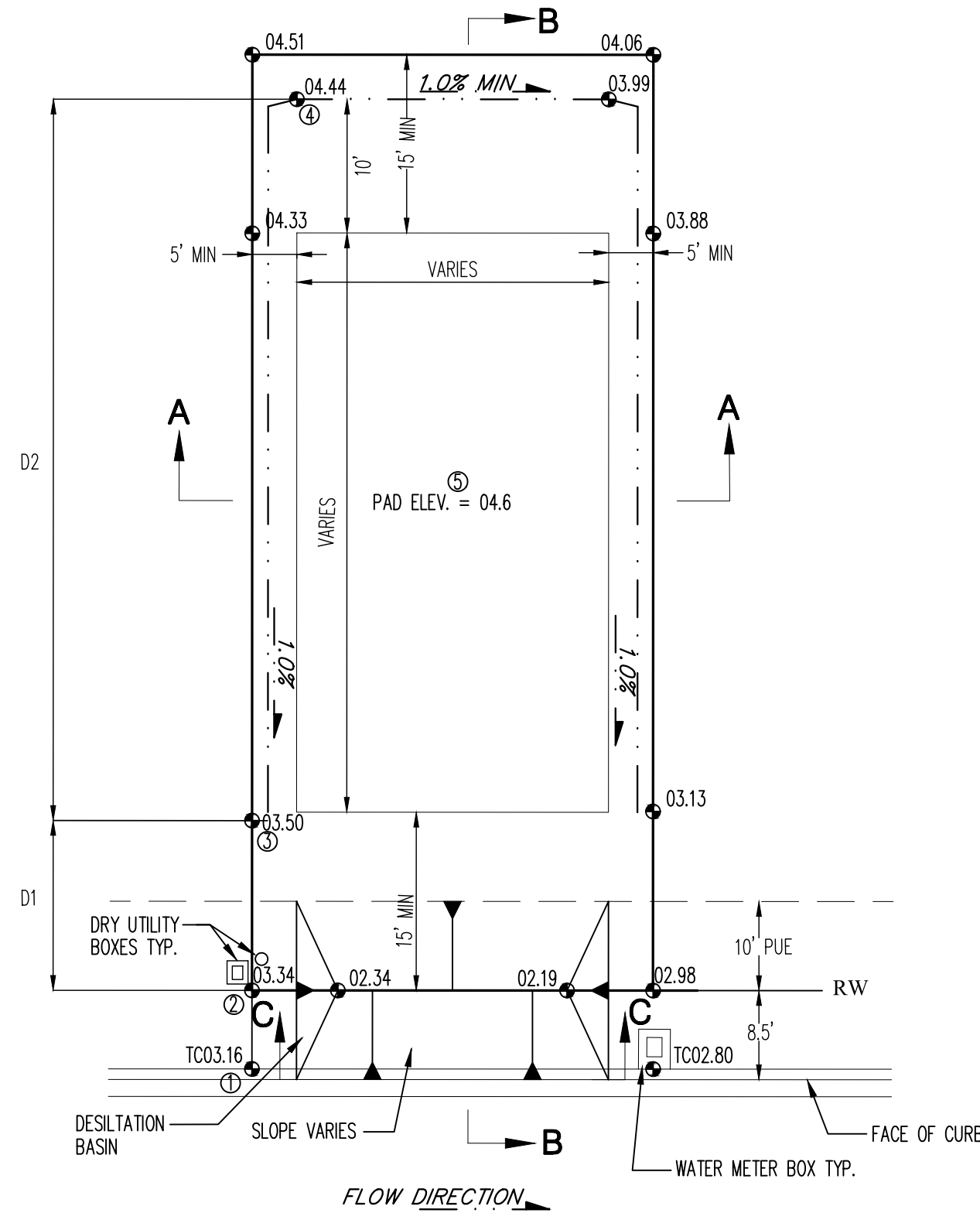
TYPICAL SIDE LOT LINE SECTION
NOT TO SCALE

NOTE: DASHED LINES IN TYP. SIDE LOT
LINE SECTIONS REPRESENT THE FINAL
CONDITION AFTER THE GARDEN, STEM,
AND PRIVACY WALLS HAVE BEEN CONSTRUCTED.
THE INTERIM CONDITION, WHICH IS TO BE
CONSTRUCTED BY THE GRADING CONTRACTOR
AND CERTIFIED BY THE ENGINEER, IS
REPRESENTED BY THE SOLID LINES.
RETAINING WALLS WILL BE CONSTRUCTED
PRIOR TO GRADING CERTIFICATION.



TYPICAL RETAINING WALL NOMENCLATURE
NOT TO SCALE

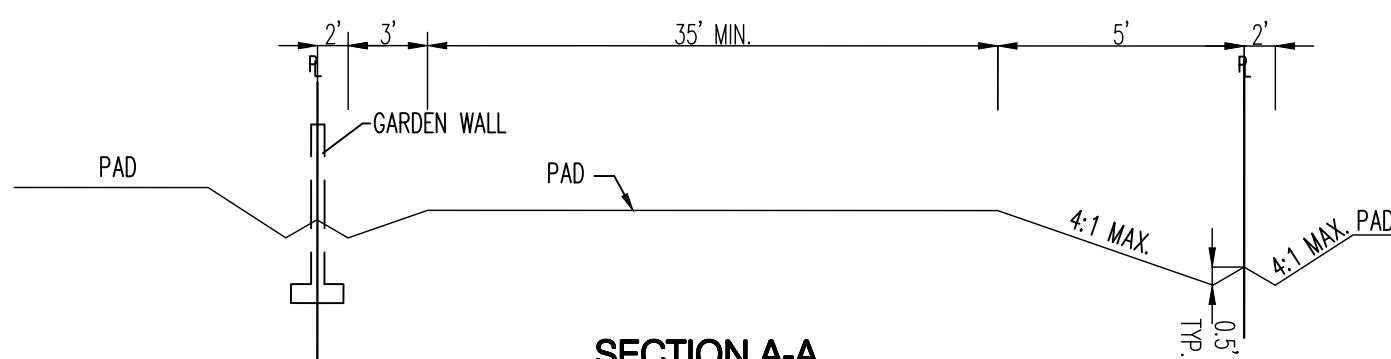
(RETAINING HEIGHT IS TAKEN TO BE DIFFERENCE IN
FINISHED GRADES ON LEFT AND RIGHT SIDE OF WALL.)
HEIGHT IS IN ACCORDANCE WITH CITY COMPREHENSIVE
ZONING CODE, SECTION 14-16-3-19, GENERAL HEIGHT
AND DESIGN REGULATIONS FOR WALLS, FENCES, AND
RETAINING WALLS.



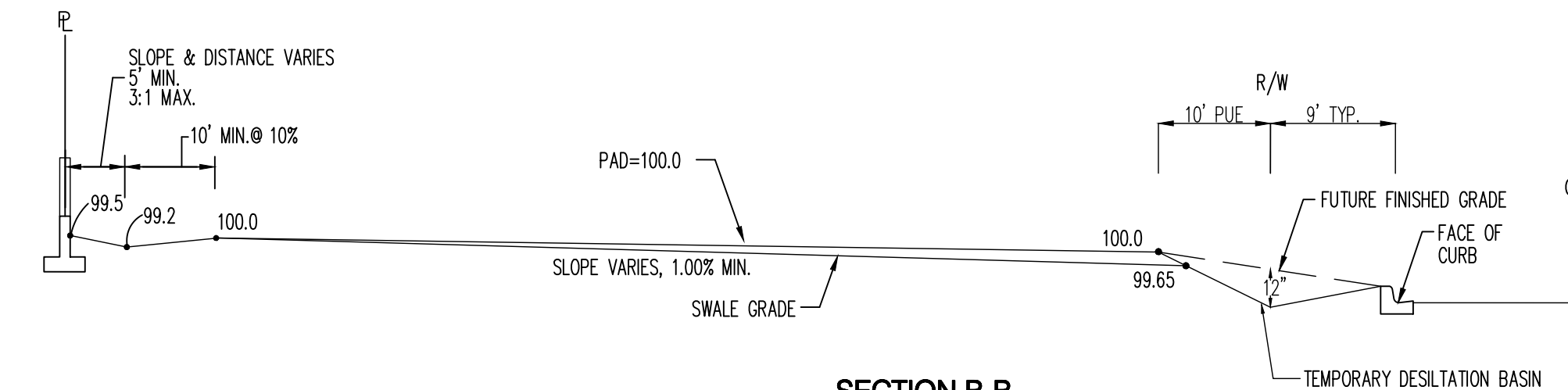
TYPICAL LOT GRADE DETAIL
WITH DESILTATION BASIN FOR SEDIMENTATION CONTROL
NOT TO SCALE

TO SET SPOT ② - ADD 0.17' TO SPOT ①
TO SET SPOT ③ - MULTIPLY D1 BY 1.0% AND ADD TO SPOT ②
TO SET SPOT ④ - MULTIPLY D2 BY 1.0% AND ADD TO SPOT ③
TO SET SPOT ⑤ - ADD 0.2' TO SPOT ④

BOTTOM OF BASIN IS 1' BELOW PROPERTY LINE ELEVATION.
SEE GRADING PLANS FOR EXACT ELEVATIONS.
CONTRACTOR SHALL CONSTRUCT TEMPORARY DESILTATION BASIN AT EACH LOT.



SECTION A-A
TYPICAL SIDE YARD SWALE
NOT TO SCALE



SECTION B-B
NOT TO SCALE

NOTE:

- CONTRACTOR IS TO MASS GRADE ROADS TO 2' BEYOND FUTURE CURB.
EXCESS FROM DRY UTILITY TRENCH IS TO BE USED TO BACK FILL BEHIND
CURB.
- FRONT YARDS ARE TO BE GRADED AS SHOWN ON THIS DETAIL FOR FINAL
GRADING AND CERTIFICATION THIS DETAIL TO BE COORDINATED WITH.
- HOME BUILDER TO BRING FRONT YARD TO ULTIMATE FRONT YARD GRADES
AFTER HOME CONSTRUCTION IS COMPLETED. SEE ULTIMATE FRONT YARD
GRADING DETAIL ON THIS SHEET.

GENERAL NOTES

- ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE
PROJECT SPECIFICATIONS AND THE PROJECT GEOTECHNICAL REPORT. WHERE APPLICABLE, CITY OF ALBUQUERQUE PUBLIC WORKS
STANDARDS SHALL APPLY.
- THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE
CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA REQUIREMENTS WITH RESPECT TO STORM WATER DISCHARGE.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL
OBSTRUCTIONS INCLUDING ALL UNDERGROUND UTILITIES. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE
CONSTRUCTION OBSERVER OR ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT LINE LOCATING SERVICE FOR LOCATION OF
EXISTING UTILITIES.
- ALL ELECTRICAL, TELEPHONE, CABLE TV, GAS AND OTHER UTILITY LINES, CABLES, AND APPURTENANCES ENCOUNTERED DURING
CONSTRUCTION THAT REQUIRE RELOCATION, SHALL BE COORDINATED WITH THAT UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR
COORDINATION OF ALL NECESSARY UTILITY ADJUSTMENTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR
INCONVENIENCES CAUSED BY UTILITY COMPANY WORK CREWS. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE HIS ACTIVITIES TO
ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA. ANY DAMAGE TO
EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND
APPROVED BY THE CONSTRUCTION OBSERVER.
- CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT PROPERTIES
RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE
CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY.
- THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION (I.E.,
BARRICADING, TOPSOIL DISTURBANCE, EXCAVATION PERMITS, EPA STORM WATER PERMITS, ETC.).
- ALL PROPERTY CORNERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ALL
PROPERTY CORNERS MUST BE RESET BY A REGISTERED LAND SURVEYOR.
- THE CONTRACTOR SHALL PREPARE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN AND OBTAIN APPROVAL OF SUCH PLAN
FROM THE CITY OF ALBUQUERQUE, TRAFFIC ENGINEERING DEPARTMENT, PRIOR TO BEGINNING ANY CONSTRUCTION WORK ON OR
ADJACENT TO EXISTING STREETS.
- ALL BARRICADES AND CONSTRUCTION SIGNING SHALL CONFORM TO APPLICABLE SECTIONS OF THE "MANUAL ON UNIFORM TRAFFIC
CONTROL DEVICES" (MUTCD), US DEPARTMENT OF TRANSPORTATION, LATEST EDITION.
- THE CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION BARRICADES AND SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY
THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.
- THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO CONFORM WITH EPA REQUIREMENTS, INCLUDING COMPLIANCE WITH NPDES
PHASE 2 REQUIREMENTS.

GRADING NOTES

- EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON
THIS PLAN.
- CONTRACTOR SHALL OBTAIN AND ABIDE BY A TOPSOIL DISTURBANCE PERMIT FROM THE CITY OF ALBUQUERQUE ENVIRONMENTAL
HEALTH DIVISION, PRIOR TO CONSTRUCTION. THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE
INCIDENTAL TO THE PROJECT COST. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL
MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND
APPROVALS.
- ALL WORK RELATIVE TO FOUNDATION CONSTRUCTION, SITE PREPARATION, AND PAVEMENT INSTALLATION, AS SHOWN ON THIS PLAN,
SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SOILS REPORT. ALL OTHER WORK, UNLESS OTHERWISE STATED OR PROVIDED FOR
HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS (FIRST PRIORITY), AND/OR THE CITY OF
ALBUQUERQUE (COA) STANDARD SPECIFICATIONS FOR PUBLIC WORKS (SECOND PRIORITY).
- TWO WORKING DAYS PRIOR TO EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE (765-1264) FOR LOCATION OF
EXISTING UTILITIES.
- PRIOR TO GRADING, ALL VEGETATION DEBRIS, AND NEAR SURFACE ORGANICALLY CONTAMINATED SOIL SHALL BE STRIPPED FROM ALL
AREAS TO BE GRADED. VEGETATION AND DEBRIS SHALL BE DISPOSED OF OFF-SITE OR STOCK-PILED FOR USE IN PLANTERS AND
NON-STRUCTURAL FILLS.
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AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL		REMARKS		DESIGN		City Project No.		Zone Map No.		Sheet		Of	
CONTRACTOR	DATE	ACS MONUMENT STAMPED "UNION"	DATE	NO.	BY	DATE	DATE	By	REVISIONS	DESIGN	DATE: 01/2019	City Project No.	C-09-Z	Zone Map No.	2	Sheet	2	Of	2
WORKING BY	DATE	GEOGRAPHIC POSITION (NAD 83)	DATE																
INSPECTOR'S	DATE	N.M. STATE PLANE COORDINATES (CENTRAL ZONE)	DATE																
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