

BERNALILLO COUNTY

- ☒ NEW SUBMITTAL
☐ RESUBMITTAL
☐ FINAL SIGNOFF



PWEP 141

FP/SUSAN CALUGNE
PWD SUBMITTAL

Use for all PWD applications EXCEPT Street Excavation

TODAY'S DATE: 13 JAN 00

CASE NO: PWDW 31

OWNER

OWNER	BERNALILLO COUNTY PARKS & REC	PHONE	CLAY CAMPBELL 764-6850
MAILING ADDRESS	6020 LOMAS, NW CITY ALBUQUERQUE ZIP 87102		

AGENT

AGENT/CONTRACTOR	PARSONS BRINCKERHOFF (EUGEN ARCHULETA)	PHONE	881-5357
MAILING ADDRESS	5801 OSUNA ROAD, NE, SUITE 200 CITY ABO ZIP 87109		
STATE LICENSE NO.	EXP DATE	VOLUME	CLASS
ARCHITECT/ENGINEER	SITES SOUTHWEST (TAGAY)	LICENSE NO.	PHONE 822-8200

SITE INFORMATION

SITE ADDRESS / DIRECTIONS	LOCATED SOUTH OF PASAD DEL NORTE, NORTH OF PIND AVE, EAST OF BROWNING ST. & WEST OF TENNYSON	ZONE ATLAS NO.	D-22
LEGAL DESCRIPTION	TRACT A, AMAFCA SOUTH BACA DAM, SECT. 22, T11N, R4E		
EXISTING BUILDING(S) AND USE	AMAFCA STORM WATER DETENTION FACILITY	PROPOSED BUILDING(S)	JOINT PARK USE
UPC #	1-022-063-225-430-205-12		
	LOT SIZE 31.48 AC. ±		

TYPE OF SUBMITTAL

- | | |
|---|--|
| ☐ REPLAT | ☐ TRAFFIC IMPACT ANALYSIS / TRAFFIC STUDY |
| ☐ MINOR SUBDIVISION | ☐ INFRASTRUCTURE LIST / DESIGN REVIEW |
| ☐ MAJOR SUBDIVISION | ☐ SPECIAL USE PERMIT |
| ☐ CONSTRUCTION DRAWINGS | ☐ BARRICADING PERMIT |
| ☒ GRADING & DRAINAGE PLAN | ☐ BUILDING PERMIT |
| ☐ AS-CONSTRUCTED GRADING & DRAINAGE PLAN | ☐ INSPECTION |
| ☐ VARIANCE REQUEST | ☐ OTHER (Specify): |
| ☐ LAND DIVISION | |

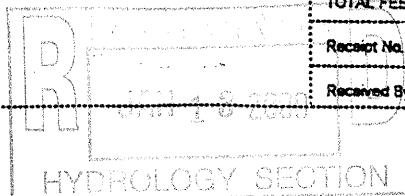
The issuance of a permit or a review or approval of plan specifications, computations, and shop drawings, shall not be interpreted to be a permit for, or an approval of any variance or violation of any of the provisions of any COUNTY or STATE codes, ordinances, standards, or policies. Nor shall such issuance of a permit or approval of plans, specifications, computations, and shop drawings prevent any authorized COUNTY representative or COUNTY inspector form thereafter requiring the correction of errors in said plans, specifications, computations, or shop drawings or from stopping construction operations which are being carried on thereunder when in violation of any COUNTY or STATE codes, ordinances, standards, or policies.

☐ Owner ☒ Agent ☐ Contractor

Signature [Signature] Date 13 JAN 00

COUNTY

BERNALILLO COUNTY USE ONLY	
C/R's:	TOTAL FEE:
	Receipt No.:
	Received By:



DRAINAGE INFORMATION SHEET

PROJECT TITLE: **SOUTH DOMINGO BACA DAM** ATLAS/DRAINAGE FILE# **D-22/**
EQUESTRIAN PARK

LEGAL DESCRIPTION: **TRACT A AMAFCA SOUTH BACA DAM, SECTION 22, T11N R4E**
CITY ADDRESS: **SOUTH OF PDN, EAST OF BROWNING, WEST OF TENNYSON, NORTH OF PINO**
ENGINEERING FIRM: **PARSONS BRINCKERHOFF** CONTACT: **ELIAS ARCHULETA**
ADDRESS: **5801 OSUNA RD. NE,** PHONE: **881-5357**
ALB, NM 87109

OWNER: **BERNALILLO CO.** CONTACT: **CLAY CAMPBELL**
PARKS & RECREATION DEPARTMENT
ADDRESS: **620 LOMAS BLVD.** PHONE: **(505) 764-6850**
ALBUQUERQUE, NM 87102

ARCHITECT: **SITES SOUTHWEST** CONTACT: **THOMAS GAY**
ADDRESS: **5150-A W. SAN FRANCISCO** PHONE: **(505) 822-8200**
ALBUQUERQUE, NM 87109

SURVEYOR: CONTACT: _____
ADDRESS: PHONE: _____
CONTRACTOR: **NA** CONTACT: **NA** _____
ADDRESS: **NA** PHONE: **NA** _____

PRE-DESIGN MEETING:

____ YES DRB NO. _____
XX NO EPC NO. _____
____ COPY OF CONFERENCE PROJECT NO. _____
RECAP SHEET PROVIDED

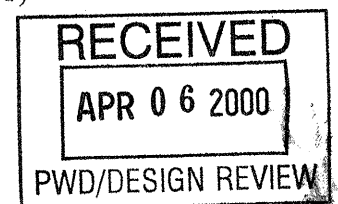
TYPE OF SUBMITTAL:

XX DRAINAGE REPORT
____ DRAINAGE PLAN
XX CONCEPTUAL GRADING
& DRAINAGE PLAN
____ GRADING PLAN
____ EROSION CONTROL PLAN
____ ENGINEERS CERTIFICATION
____ FOUNDATION PERMIT

CHECK TYPE OF APPROVAL SOUGHT:

____ SECTOR PLAN APPROVAL
____ SKETCH PLAT APPROVAL
____ PRELIMINARY PLAT APPROVAL
XX SITE DEVELOPMENT PLAN APPROVAL
____ FINAL PLAT APPROVAL
____ BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY APPROVAL
____ ROUGH GRADING PERMIT
____ GRADING/PAVING PERMIT APPROVAL
____ OTHER _____ (SPECIFY)

DATE SUBMITTED: 4-6-00
BY: _____
REV. 10/85



South Domingo Baca Dam Equestrian Park

Master Drainage Report

prepared for



Bernalillo County
Parks and Recreation Department

prepared by



5801 Osuna Road NE
Suite 200
Albuquerque, New Mexico 87109

March 2000

**SOUTH DOMINGO BACA EQUESTRIAN PARK
SUPPLIMENTAL DRAINAGE CALCULATIONS**

**10-YEAR WATER SURFACE FOR ARROYO ADJACENT TO PARK
SITE**

April 6, 2000

Prepared By:



SCOPE

A portion of the proposed South Domingo Baca Equestrian Park lays in the 100-year flood zone. As a result Parsons Brinckerhoff was asked to submit an analysis of the 10-year water surface for the adjacent arroyo. The affected area is in the southeast corner of the property where the proposed park site is planned. Enclosed in this submittal is an HEC-RAS model of the arroyo.

ANALYSIS

Flows for the subject arroyos were obtained from the North Albuquerque Acres and Sandia Heights-South, Phase I – Volume II Study prepared by Resource Technologies Inc., (RTI), June 1999. The 100-year flow for the portion of the arroyo running through the property is 107 cfs. This arroyo accepts flows from two upstream arroyos as determined by the RTI study. For this study the flow was reduced to a 10-year flow by using a scaling factor. The Return Period Factors taken from the DPM Section 22, were used as scaled down factors for the purposes of this study. Based on the Table A-3, DPM, the 10-year Return Period is 0.67, resulting flow for the arroyo is 71.4 cfs. The arroyo analysis was determined using HEC-RAS Hydrologic Software, output tables and cross-sections are included in this study.

RESULTS

The maximum water surface of the 10-year storm does not exceed the top of the arroyo and does not encroach on the proposed park or parking lot. Figure 1 shows the reach of the maximum water surface adjacent to the park site. In the worst case the high water mark is approximately 14 feet from the edge of the proposed park. The flow velocity in the channel ranges from 6.6 fps to 14.8 fps. The velocity in the areas nearest to the park range from 9.1fps to 9.45 fps. Therefore some type of slope treatment is recommended to secure the arroyo slope in order to protect the planned improvements from erosion damage. The planned park site does not fall in the floodplain for the 10-year storm.

FIGURE 1

SCALE 1" = 40'





PARSONS BRINCKERHOFF COMPUTATION SHEET

Page _____ of _____

Made by _____

Date 4 APR 00

Checked by _____

Date _____

Subject SOUTH DOMINGO BACA EQUESTRIAN PARK
10-YEAR WATER SURFACE CALCULATIONS

100YR FLOWRATE OBTAINED FROM THE "NORTH ALBUQUERQUE ACRES & SANDIA HEIGHTS-SOUTH STUDY; PHASE I-VOLUME II", PREPARED BY: RESOURCE TECH. INC. JUNE 99.

* ASSUMPTION: RETURN PERIOD FACTORS FROM DPM SECTION 22, USED TO SCALE DOWN 100 YR STORM TO 10 YR STORM. $10YR = (0.667) 100YR$

ARROYO 1

$$Q_{100} = 47 \text{ CFS}$$

$$Q_{10} = (0.667) 47 \text{ CFS} = 31.35 \text{ CFS}$$

ARROYO 2

$$Q_{100} = 58 \text{ CFS}$$

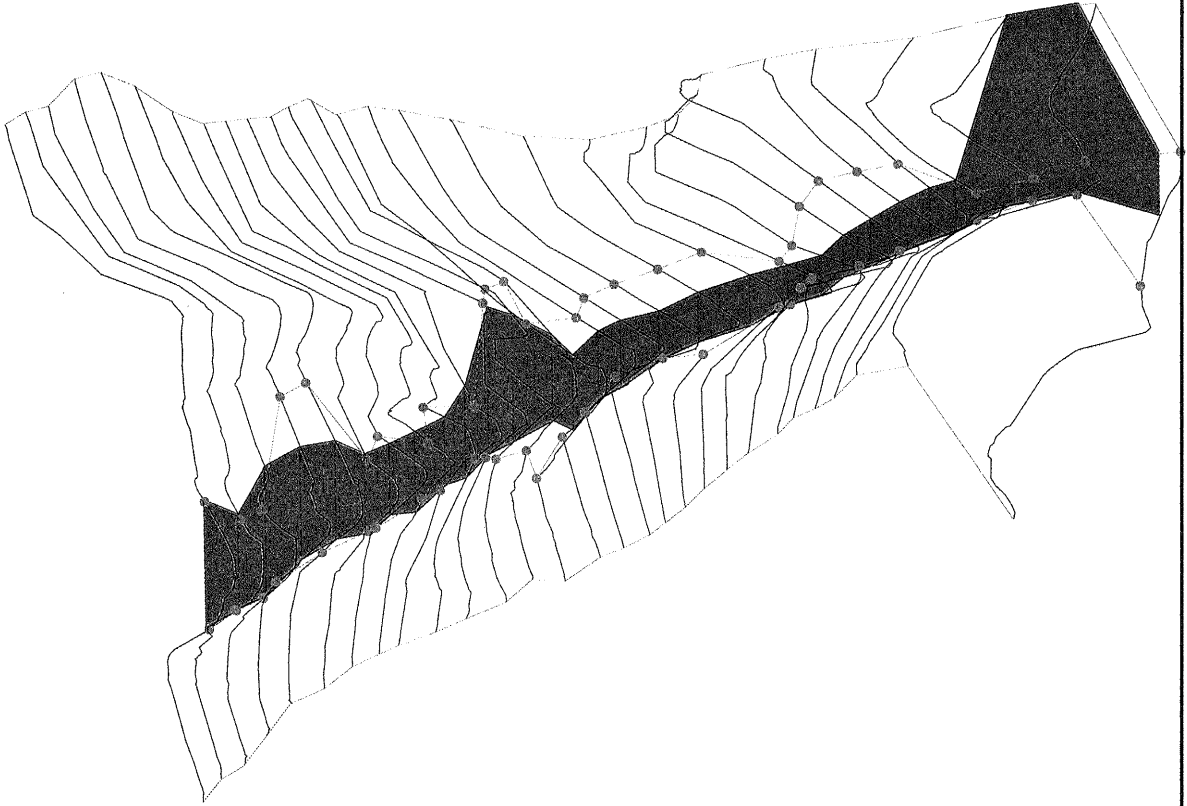
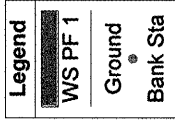
$$Q_{10} = (0.667) 58 \text{ CFS} = 38.68 \text{ CFS}$$

ARROYO 3

$$Q_{100} = 107 \text{ CFS}$$

$$Q_{10} = (0.667) 107 \text{ CFS} = 71.37 \text{ CFS}$$

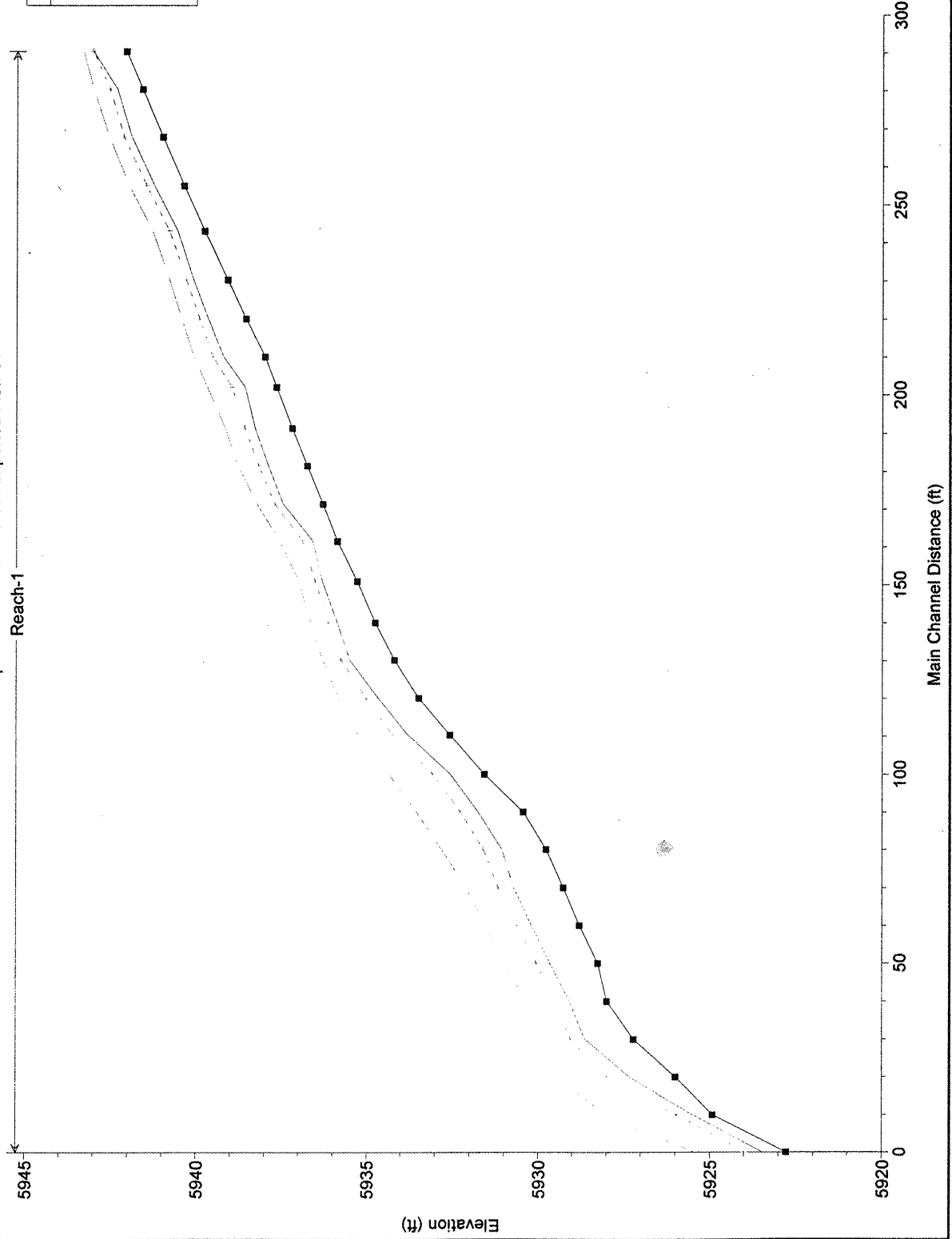
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Mixed Flow

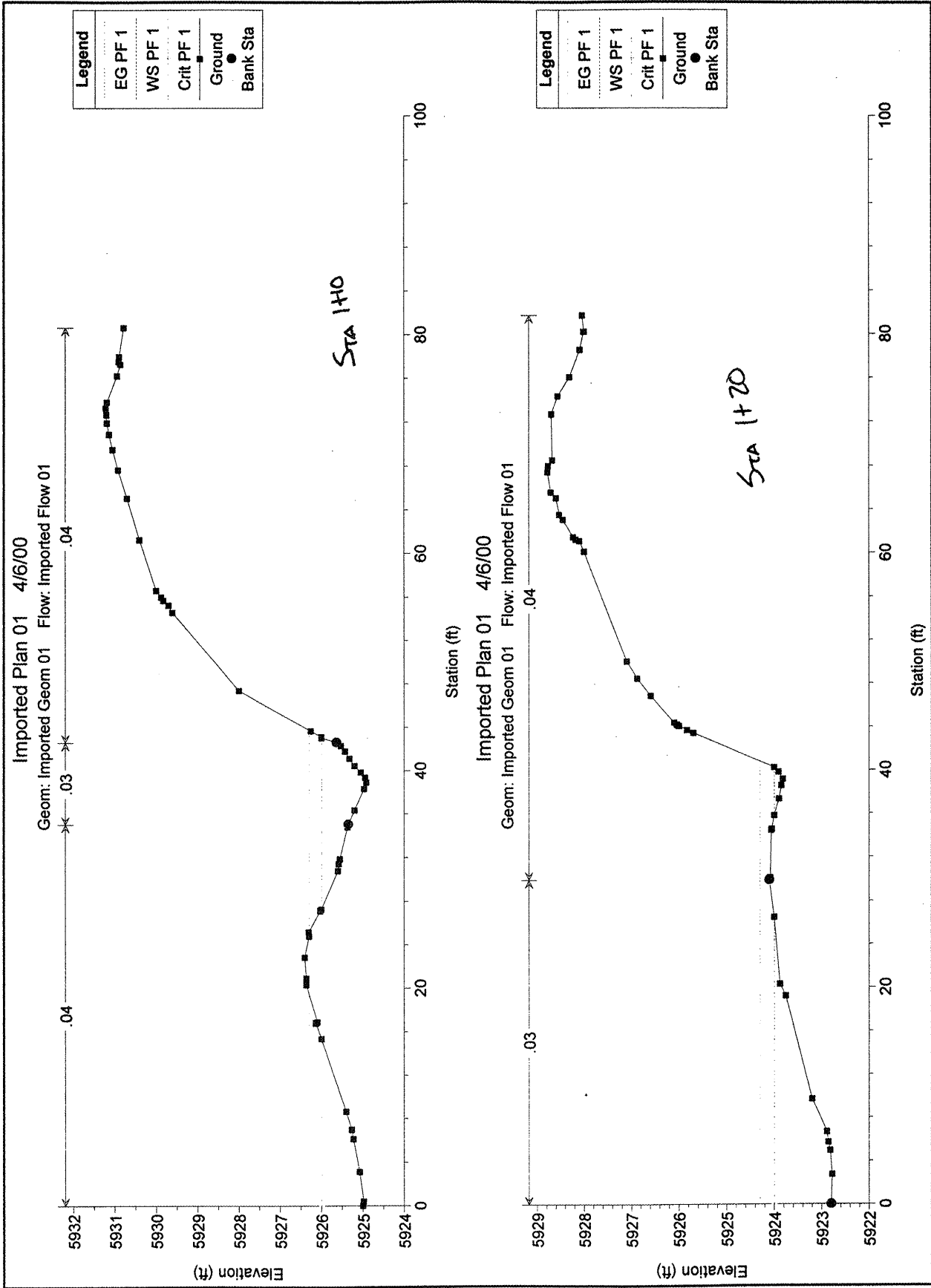
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Geom: Imported Geom 01 Flow: Imported Flow 01
Reach-1

Legend	
EG PF 1	
Crit PF 1	
WS PF 1	
Ground	



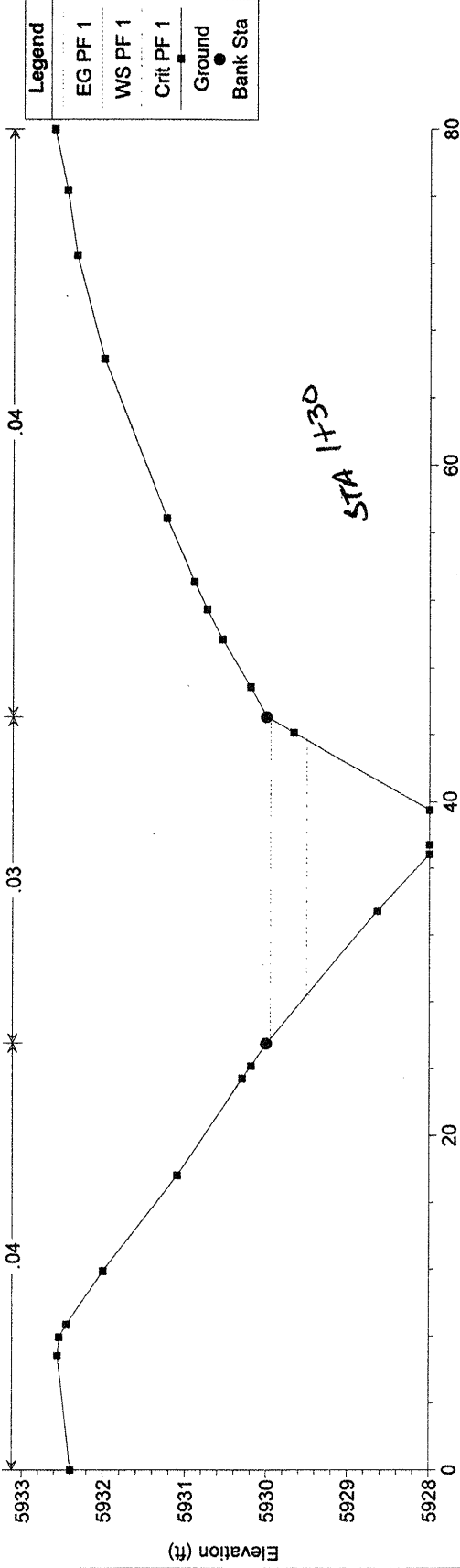
HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach-1	301	71.40	5937.20	5938.29	5938.59	5939.17	0.033733	7.62	10.22	20.47	1.52
Reach-1	291	71.40	5936.76	5937.90	5938.19	5938.79	0.049453	7.55	9.46	16.42	1.75
Reach-1	281	71.40	5936.30	5937.47	5937.71	5938.24	0.052315	7.03	10.15	20.28	1.75
Reach-1	271	71.40	5935.88	5936.60	5936.90	5937.57	0.071258	7.91	9.02	19.22	2.04
Reach-1	261	71.40	5935.30	5936.32	5936.53	5937.01	0.033924	6.66	10.71	16.91	1.48
Reach-1	250	71.40	5934.77	5935.88	5936.13	5936.65	0.035624	7.04	10.15	15.30	1.52
Reach-1	241	71.40	5934.20	5935.52	5935.78	5936.31	0.036358	7.13	10.02	15.01	1.54
Reach-1	230	71.40	5933.49	5934.68	5935.04	5935.84	0.046530	8.65	8.25	10.95	1.76
Reach-1	221	71.40	5932.58	5933.81	5934.26	5935.27	0.068743	9.73	7.34	11.00	2.10
Reach-1	210	71.40	5931.57	5932.58	5933.08	5934.37	0.095208	10.73	6.65	11.08	2.44
Reach-1	200	71.40	5930.45	5931.76	5932.28	5933.55	0.073845	10.76	6.63	8.82	2.19
Reach-1	190	71.40	5929.78	5931.07	5931.60	5932.82	0.068472	10.63	6.72	8.57	2.12
Reach-1	180	71.40	5929.27	5930.73	5931.18	5932.11	0.052358	9.45	7.56	9.30	1.85
Reach-1	170	71.40	5928.80	5930.21	5930.63	5931.53	0.055891	9.22	7.75	10.59	1.90
Reach-1	160	71.40	5928.26	5929.66	5930.07	5930.95	0.058612	9.11	7.84	11.45	1.94
Reach-1	150	71.40	5928.00	5929.09	5929.50	5930.40	0.061023	9.17	7.79	11.72	1.98
Reach-1	140	71.40	5927.21	5928.63	5929.06	5929.95	0.034581	9.54	8.62	11.59	1.59
Reach-1	130	71.40	5926.00	5927.35	5927.98	5929.44	0.063665	12.31	7.00	10.51	2.14
Reach-1	120	71.40	5924.92	5925.52	5925.99	5928.03	0.366293	14.82	5.96	19.74	4.40
Reach-1	110	71.40	5922.78	5923.47	5924.00	5925.47	0.166634	11.34	6.30	14.30	3.01



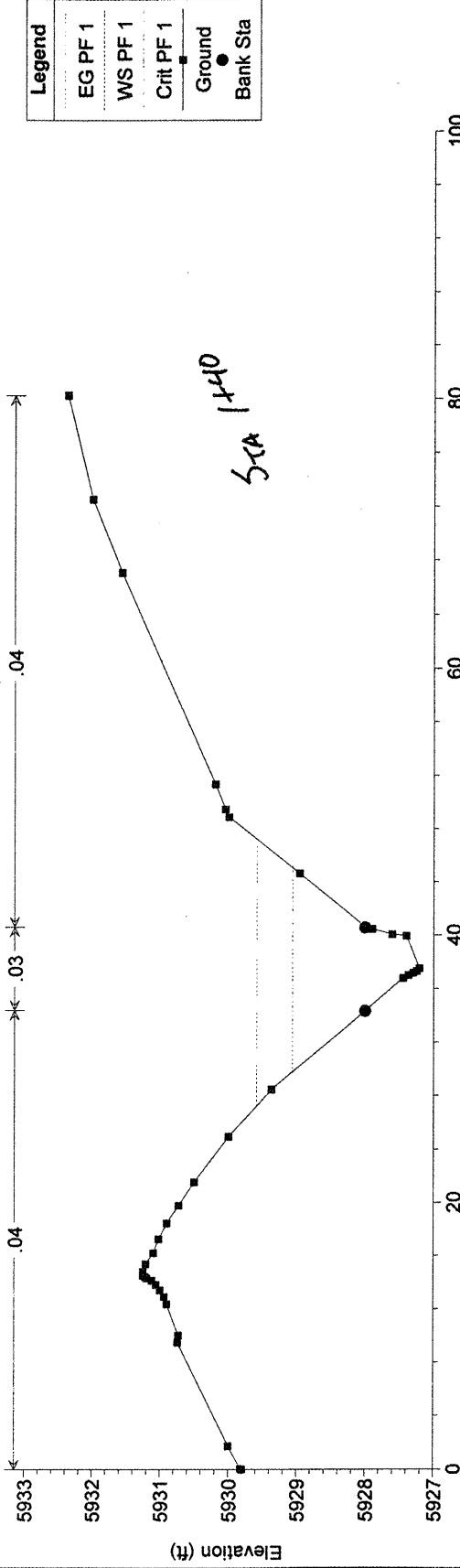
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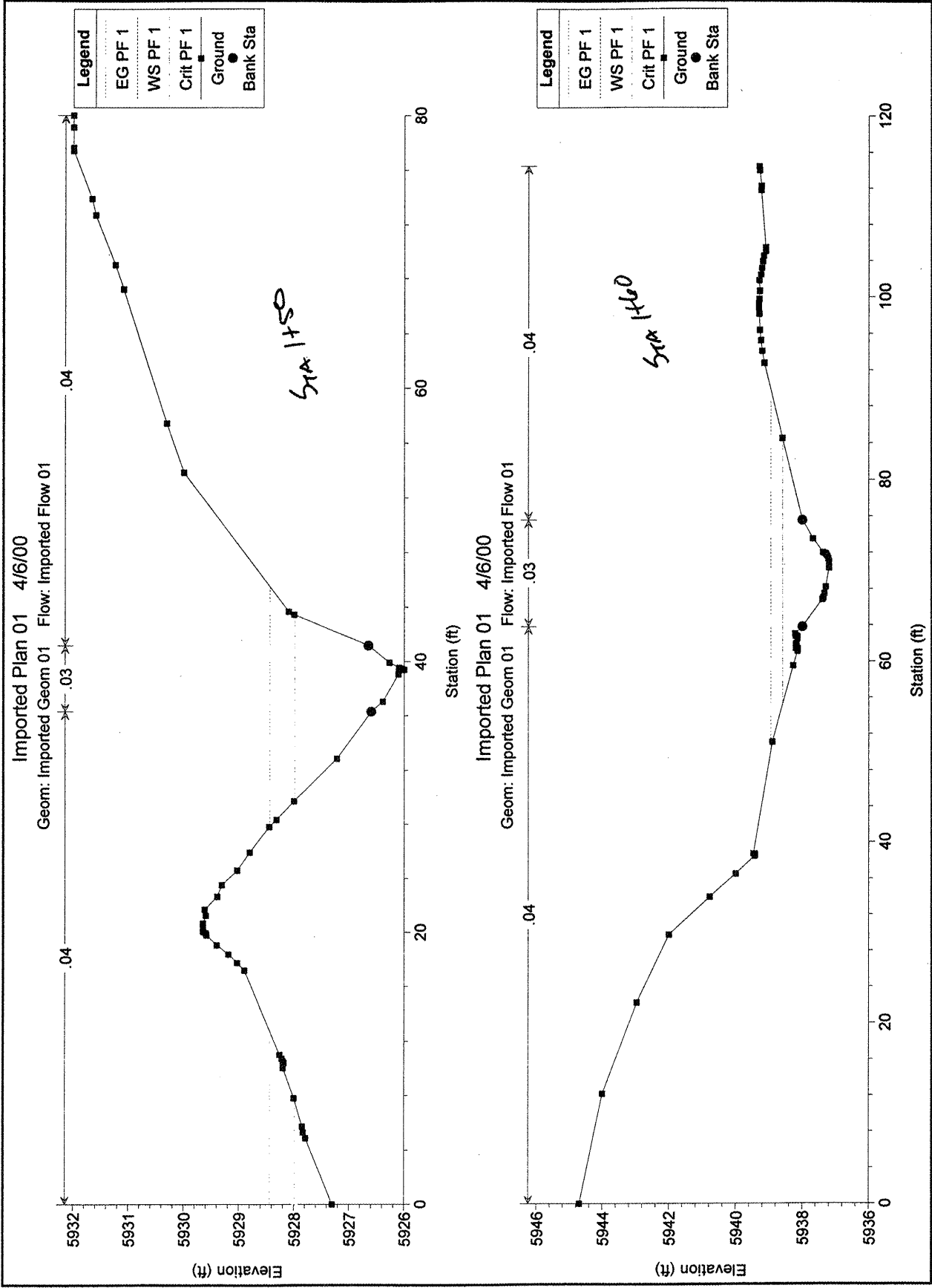
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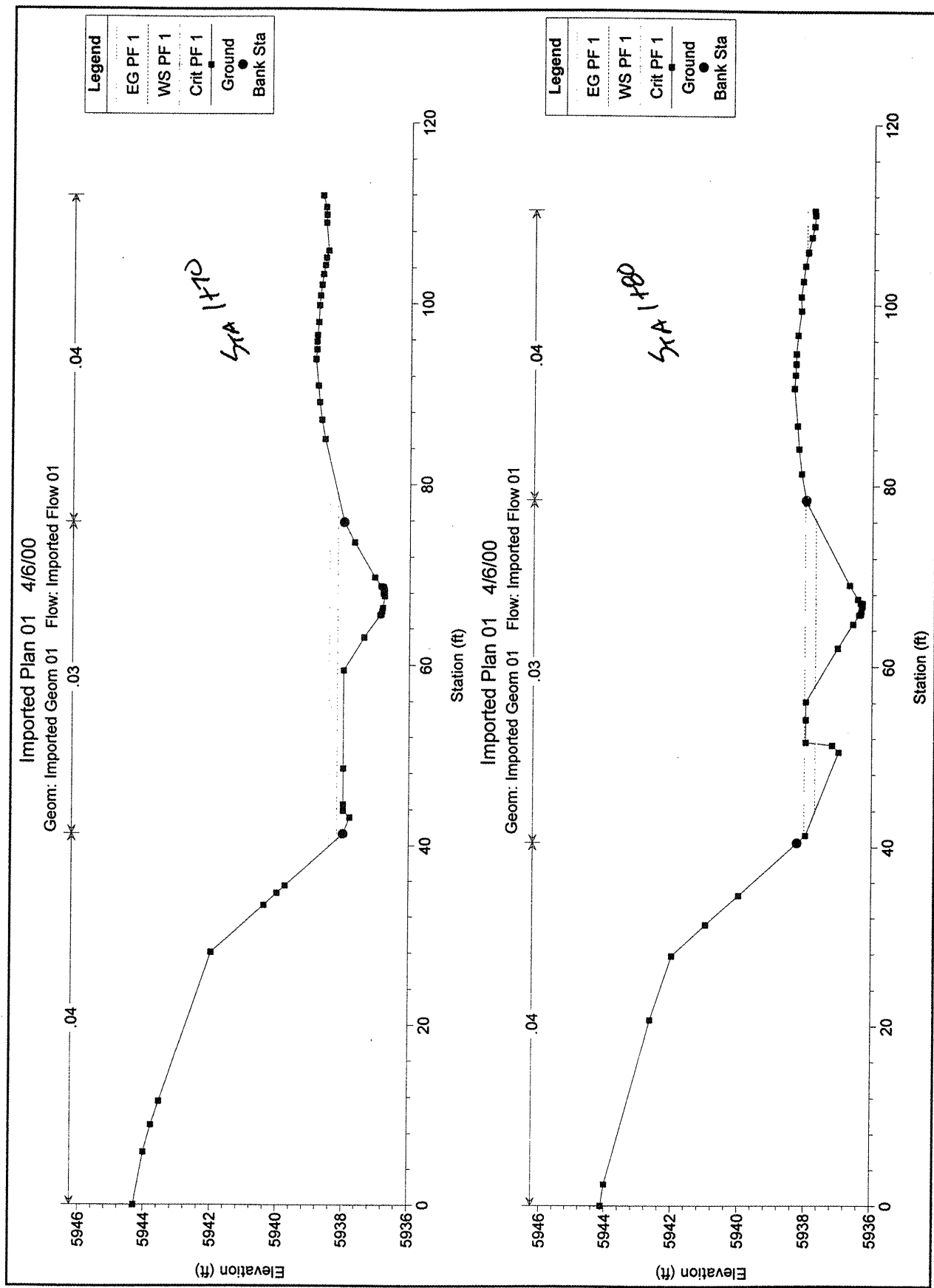


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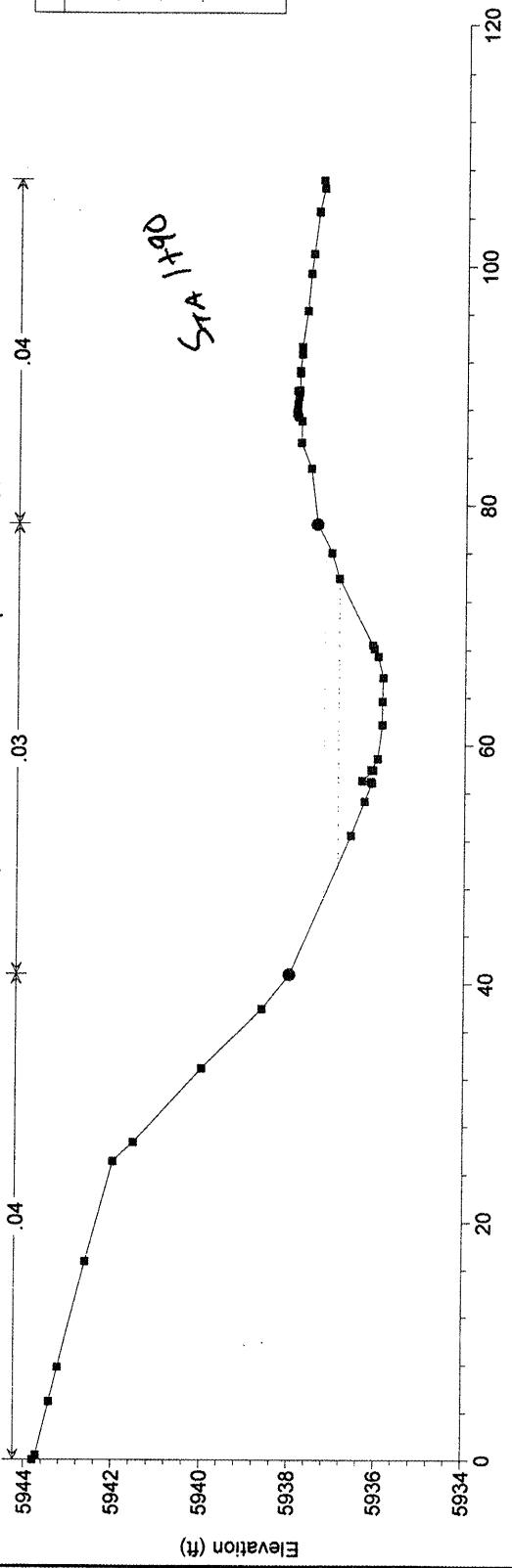
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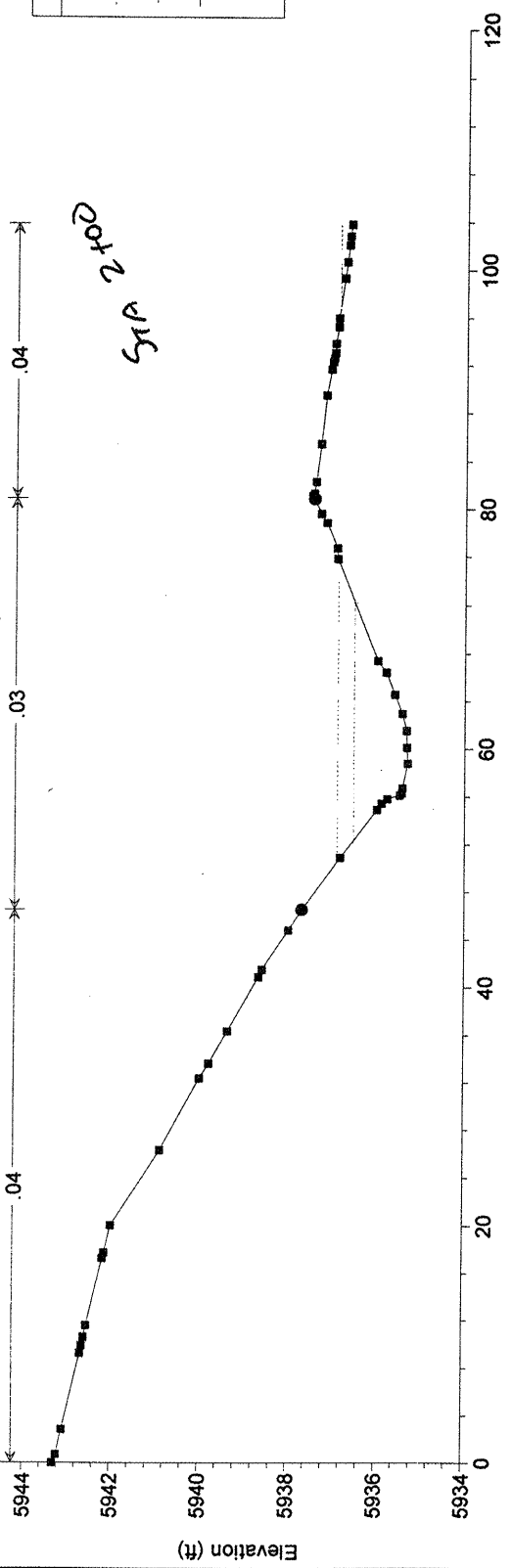


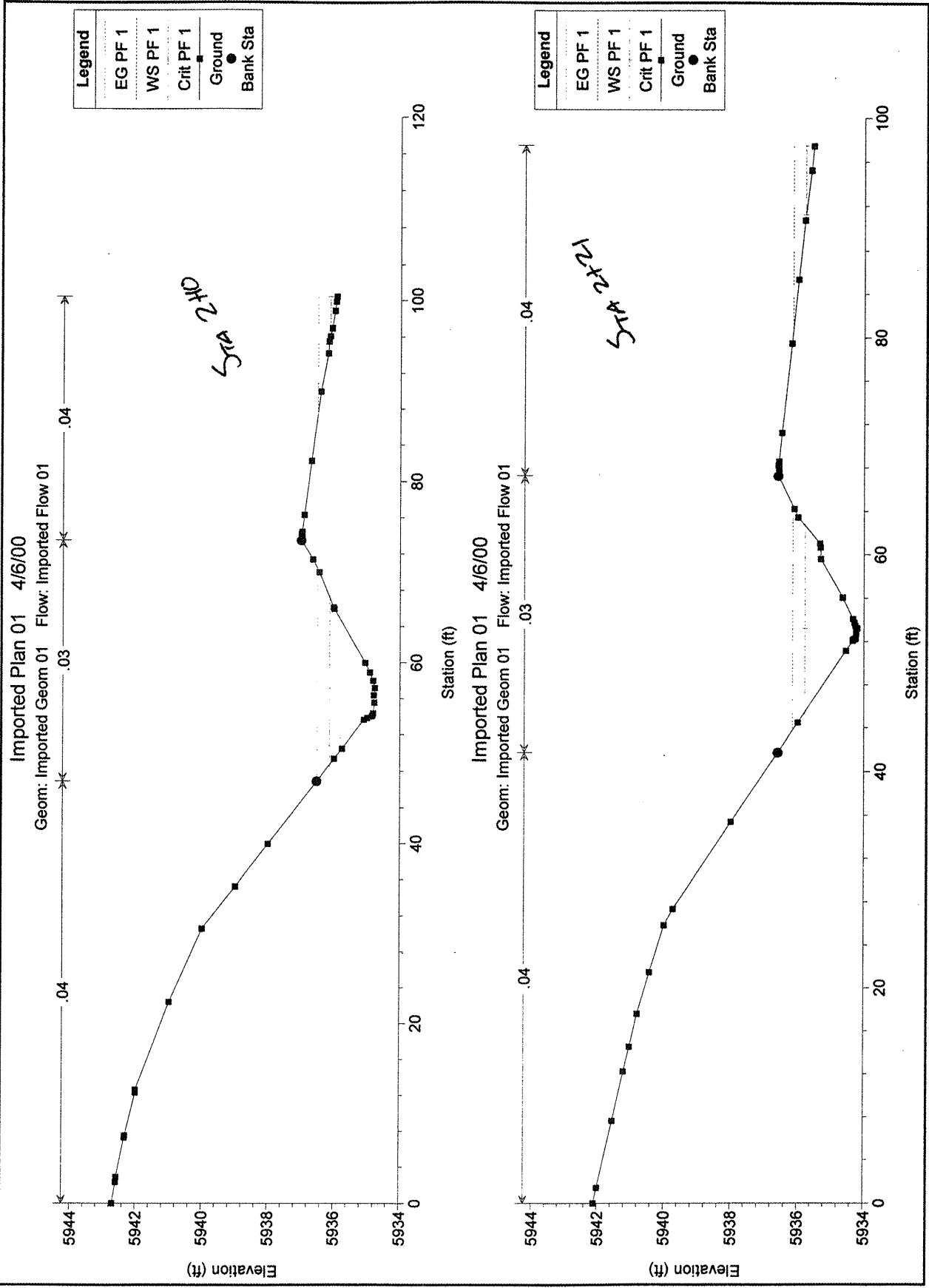


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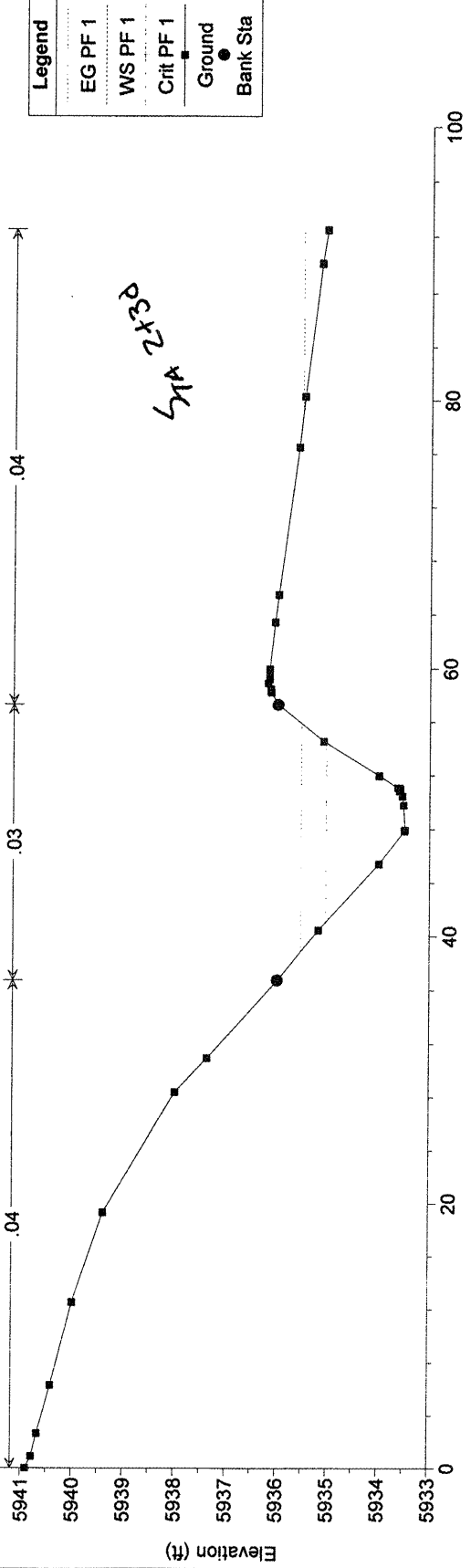
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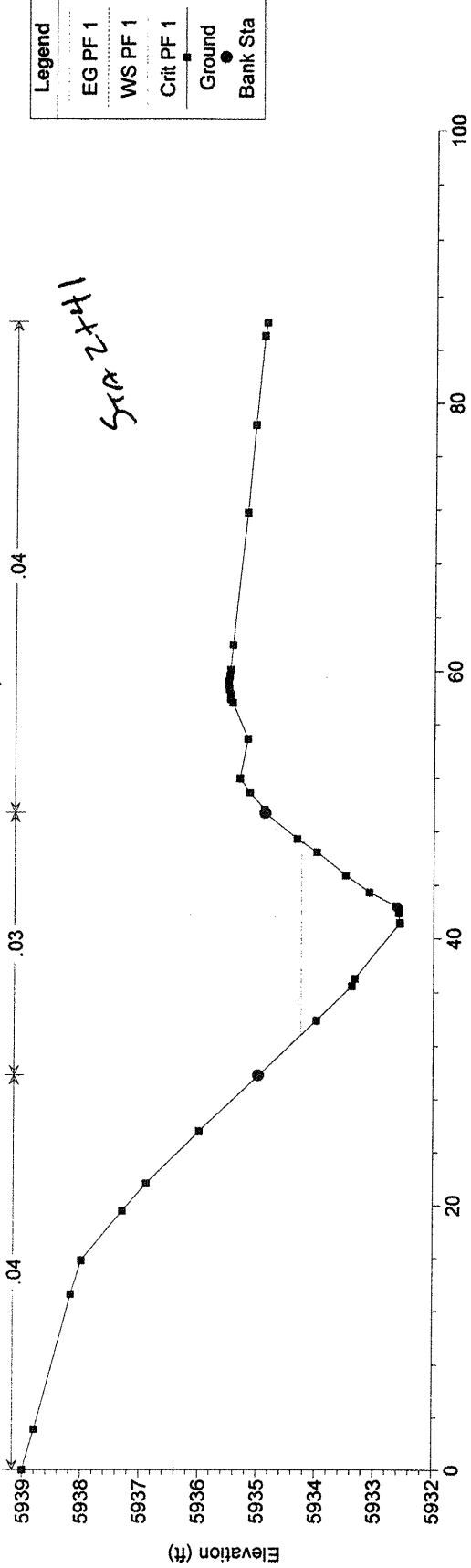
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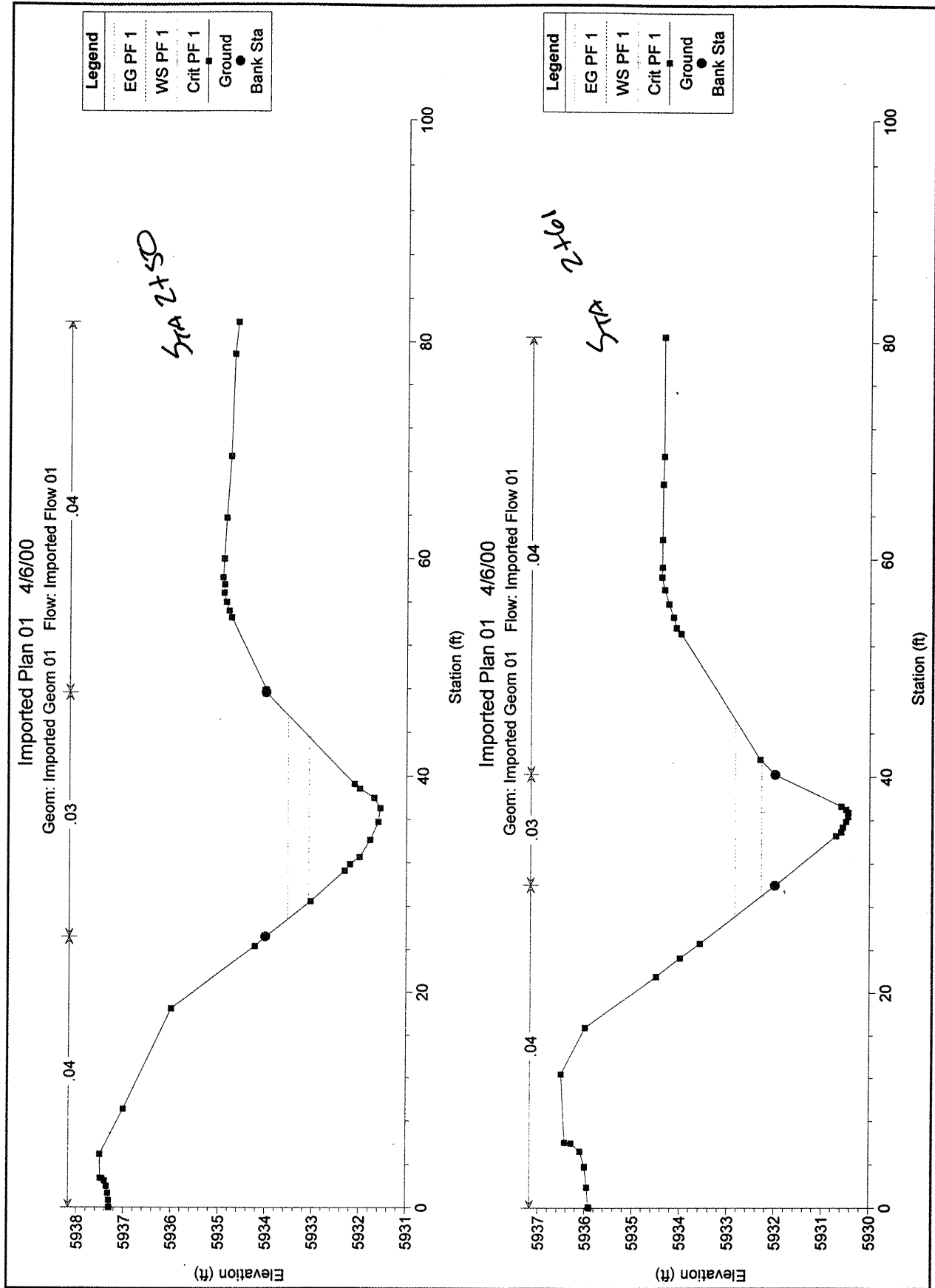
Legend	
EG PF 1	Ground
WS PF 1	Bank Sta
Crit PF 1	

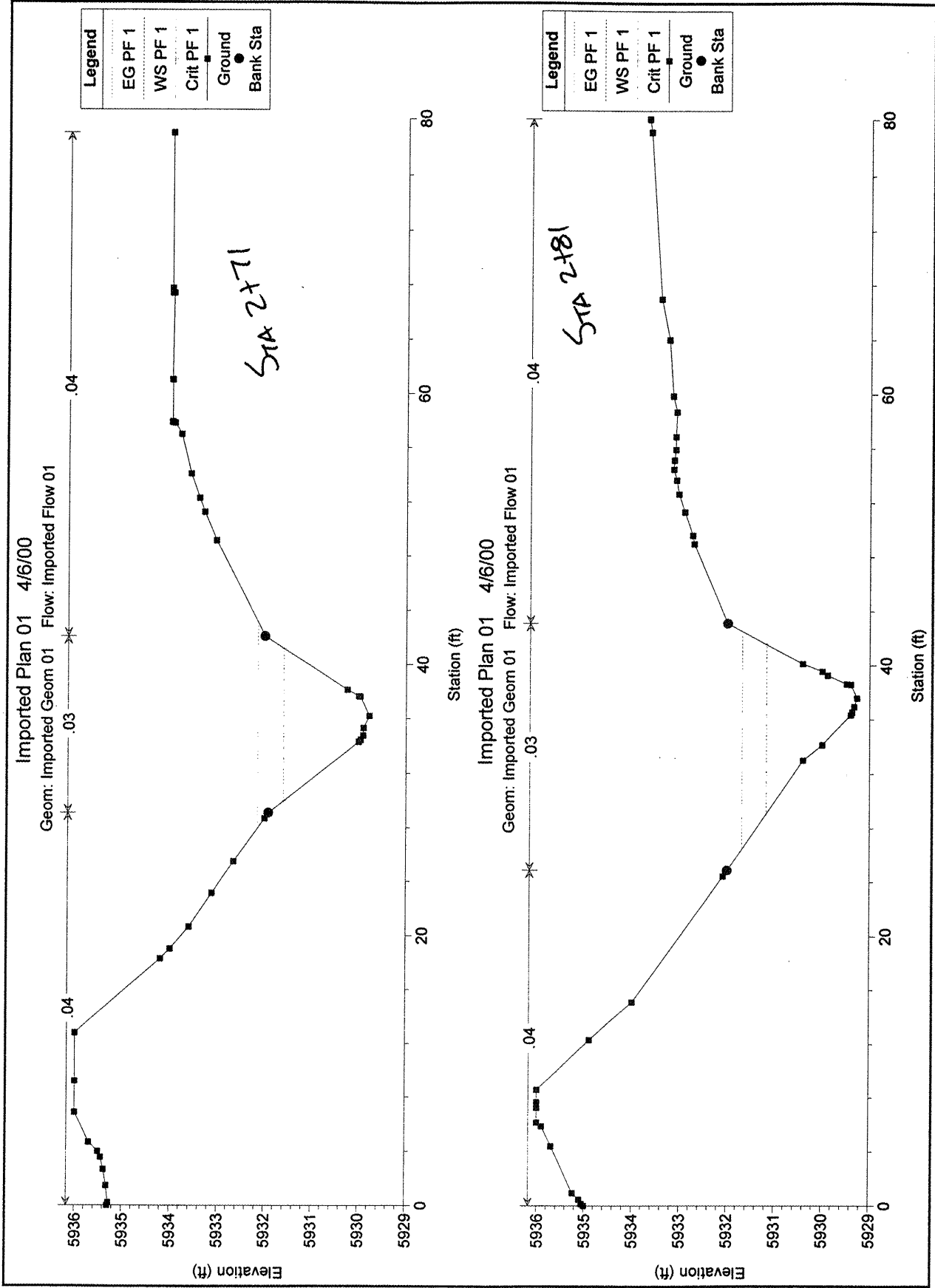
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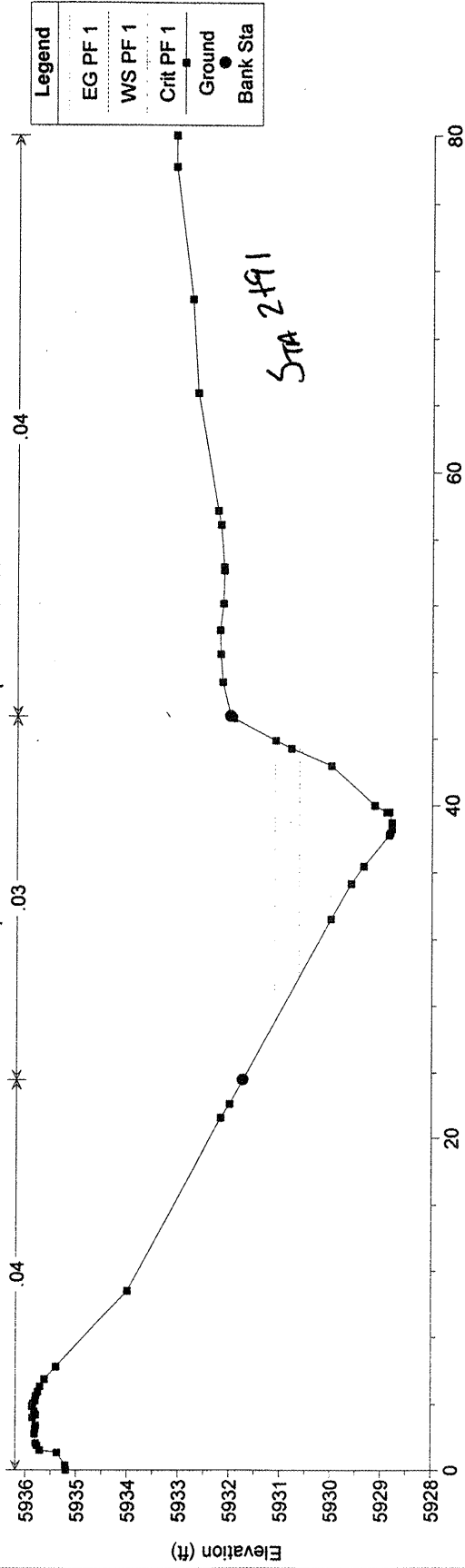
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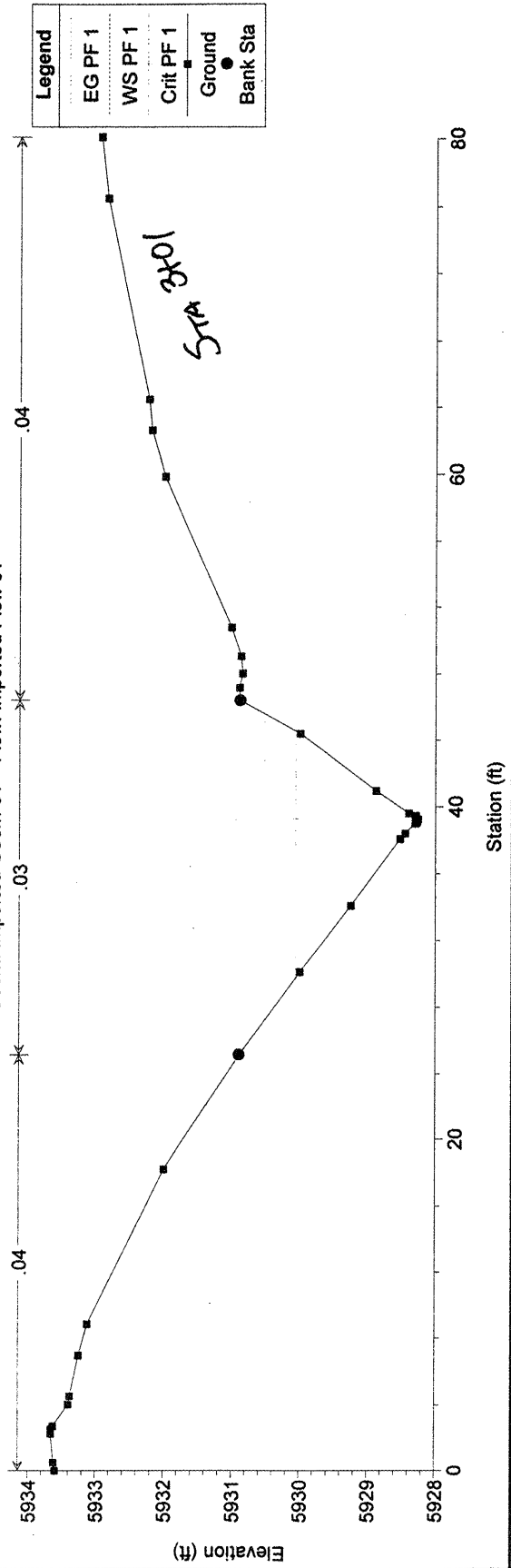
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Imported Plan 01 4/6/00

Geom: Imported Geom 01 Flow: Imported Flow 01



BERNALILLO COUNTY

☐ NEW SUBMITTAL

☒ RESUBMITTAL

☐ FINAL SIGNOFF

TODAY'S DATE: 14 MAR 00

Use for all PWD applications EXCEPT Street Excavation

CASE NO: D22/D31
PWDN-0031

OWNER

OWNER	BERNALILLO Co. PARKS & RECREATION	PHONE	(CLAY CAMPBELL) 222-3603
MAILING ADDRESS	620 LOMAS N.W.,	CITY	ALBUQUERQUE 8702

AGENT

AGENT / CONTRACTOR	PARSONS BRINCKERHOFF, KAREN ADELIN	PHONE	881-5357
MAILING ADDRESS	5801 OSUNA RD, NE, SUITE 200	CITY	ABQ ZIP 87109
STATE LICENSE NO	EXP DATE	VOLUME	CLASS
ARCHITECT/ENGINEER	LICENSE NO.	PHONE	

SITE INFORMATION

SITE ADDRESS / DIRECTIONS	SOUTH OF PASEO DEL NORTE, EAST OF BROWNING, WEST OF TENNYSON AND NORTH OF PINO	ZONE ATLAS NO.	D-22-Z
LEGAL DESCRIPTION	TR. A AAMECA SOUTH BACA DAM SECT. 22 T1N R4E	LCT SIZE	31.48 AC ±
EXISTING BUILDING(S) AND USE:	0	PROPOSED BUILDING(S):	0
UPC #	1-022-063-225-430-205-12		

TYPE OF SUBMITTAL

- | | |
|---|--|
| ☐ REPLAT | ☐ TRAFFIC IMPACT ANALYSIS / TRAFFIC STUDY |
| ☐ MINOR SUBDIVISION | ☐ INFRASTRUCTURE LIST / DESIGN REVIEW |
| ☐ MAJOR SUBDIVISION | ☐ SPECIAL USE PERMIT |
| ☐ CONSTRUCTION DRAWINGS | ☐ BARRICADING PERMIT |
| ☒ GRADING & DRAINAGE PLAN | ☐ BUILDING PERMIT |
| ☐ AS-CONSTRUCTED GRADING & DRAINAGE PLAN | ☐ INSPECTION |
| ☐ VARIANCE REQUEST | ☒ OTHER (Specify): DRAINAGE REPORT |
| ☐ LAND DIVISION | |

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☐ Owner ☒ Agent ☐ Contractor

Signature

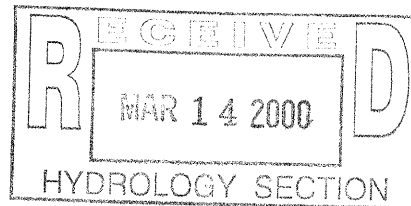
Date 14 MAR 00

COUNTY

C/R's	BERNALILLO COUNTY USE ONLY
RECEIVED MAR 14 2000 HYDROLOGY SECTION	TOTAL FEE: Receipt No.: Received By:

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DEVELOPED CONDITIONS	4
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AHYMO DETAILED OUTPUT-EXISTING CONDITIONS	
AHYMO SUMMARY TABLE-DEVELOPED CONDITIONS 10-YEAR STORM	
AHYMO DETAILED OUTPUT-DEVELOPED CONDITIONS 10-YEAR STORM	
AHYMO SUMMARY TABLE-DEVELOPED CONDITIONS 100-YEAR STORM	
AHYMO DETAILED OUTPUT-DEVELOPED CONDITIONS 100-YEAR STORM	
POND CALCULATIONS	
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<u>PLATES</u>	

EXISTING CONDITIONS
GRADING AND DRAINAGE PLAN



REPORT CERTIFICATION

I, Karen Aspelin of Parsons Brinckerhoff, Inc., NMPE #13293 hereby certify that this Conceptual Drainage Report was assembled and completed under my supervision. Any modifications to or revisions of this report from the reviewing agency will be incorporated into this report.

MASTER DRAINAGE REPORT

INTRODUCTION AND PROJECT DESCRIPTION

This report is the Drainage Master Plan for the South Domingo Baca Equestrian Park. The project site encompasses 31.48 acres± west and south of the South Domingo Baca Dam and spillway, including facilities in the dam spillway. The site is zoned A-1 with a Special Use Permit for Park Use. The proposed park, which will be maintained by Bernalillo County Parks and Recreation, would provide a performance arena, practice areas, staging areas, restrooms and parking for equestrian events as well as a playground area located in the southeast corner of the property, north of the Pino Avenue and Lowell Street intersection. An access road to the site from Paseo Del Norte is being constructed as part of a separate project.

PURPOSE AND SCOPE

The purpose of this report is to determine and define all drainage improvements necessary to support the proposed equestrian park. This master drainage report will support County approval of the site development plan. Included in this report is a grading plan showing conceptual grades and contours and proposed site improvements.

This report pertains to effects of improvements required for the equestrian park site and playground area. Previous models and reports have analyzed the basins contributing to the South Domingo Baca Dam. There are several reports on file at the AMAFCA office pertaining to the dam site; these reports were reviewed in the preparation of this report. There will be no modifications to the dam or the retention facility. Two practice areas will be placed in the spillway; these improvements will not modify the finished grades in the spillway and will create impermeable areas in the spillway. For purposes of this report, developed land treatments for basins will be compared to the typical North Albuquerque Acres land treatments to determine if runoff detention is required. Typical North Albuquerque Acres land treatments are as follows: 43% A, 20% B, 20% C, and 17% D.

DESIGN CRITERIA AND STANDARDS

This report is developed in accordance with City of Albuquerque regulations, ordinances and design criteria. Detailed design criteria is derived predominantly from the City Development Procedures Manual (DPM). The plan studies the existing and developed conditions for the 100-year, 6-hour event, as defined by chapter 22.2 of the DPM. Hydrology was developed using the current version of AHYMO, in accordance with chapter 22.2 of the DPM. AHYMO is a unit, synthetic hydrograph model developed for the Albuquerque area. The AHYMO computer model provides capabilities to analyze street hydraulics channel and

pipe routing and complex hydrograph development. Summary printouts of the AHYMO analysis are provided in the appendix. Summary basin data is provided in the Hydrologic Summary Table. Culvert pipe capacities are based on Manning's Equation.

EXISTING DRAINAGE CONDITIONS

The existing site lies within AMAFCA property. The majority of the proposed site is unimproved with the exception of the practice areas that lie in the spillway. The site is characteristic of the North Albuquerque Acres terrain. The site topography consists of varying slopes with two medium sized arroyos and the spillway draining the property. The slopes on the site range from 1.0% to 10.0%, with the steeper slopes occurring along the arroyo side slopes. The site predominantly slopes down from east to west. The South Domingo Baca lies north and east of the main arena site and the spillway borders the main area on the east and south. The vegetation consists of typical native grasses and shrubs. Onsite soils consist of typical alluvial fan deposits of sand and gravel from decomposed granite. The Soil Conservation Service (SCS) classification of soils in this area are:

EmB Embudo soil complex, gravely fine sandy loam; 0-5% slopes. These are generally deep, well-drained soils formed in alluvian derived from decomposed, coarse grained rocks. They exhibit medium runoff characteristics with moderate erosion.

EtC Embudo-Tijeras soil complex, Embudo fine sandy loam, 0-5% slopes, with 35% Tijeras gravely fine sandy loam, 0-9% slopes. The Embudo soil exists in the drainageways and depressions. Tijeras soil exists on low ridges in narrow undulations. These soils exhibit characteristics of the Embudo and Tijeras soil complexes respectively. They exhibit medium runoff and moderate erosion.

TgB Tijeras soil complex, gravely fine sand loam; 1-5% slopes. These are generally deep, well drained soils formed in decomposed granite alluvium. Run-off and erosion are moderate.

The proposed dressage arena and portions of the park area lie in flood zone AO (depth 1) as shown on panel 142 of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Bernalillo County and Incorporated Areas. There have been no map revisions to date for this area on the map. The South Domingo Baca Dam and the arroyo feeding and draining the dam fall in flood zones. The flood water elevation as shown on the flood map for the dam is 5914 mean sea level. The Probable Maximum Flood (PMF) flow in the spillway is 28,700 cfs.

DEVELOPED CONDITIONS

why 10 yr storm design?

Based on previous studies and models for the North Albuquerque Acres (NAA) area the developed flows from this site, using the typical North Albuquerque Acres land treatments, can be discharged to the historic flow paths. However, at the request of Bernalillo County all runoff from basins 1 and 3 for storms less than or equal to the 10-year storm will be detained on site. The proposed improvements to the site affect all three drainage basins designated in this report. Each of these basins drains to a separate flow path, two to historical paths and the third via the spillway. The proposed improvements are intended to disturb as little of the existing terrain as possible, and are therefore limited to the improvements and the required tie slopes. Flows from the improved basins will be discharged to historic flow paths. Flows from the existing spillway outfall to a historical drainage path. Basins 1 and 3 require detention of developed flows. Retention/Detention ponds will be utilized to retain runoff from storms less than or equal to the 10 year, 24 hour event and detain the runoff from larger storms. The runoff for storms greater than the 10-year storm will be discharged via a weir over the top of the pond. Tables showing the basins' areas, land treatments and AHYMO program output are contained in the appendix.

Basin 1 requires 0.1331 ac-ft to be retained for the 10-year storm and 0.1795 ac-ft to be detained for the 100-year storm. The maximum discharge for basin 1 during the 100-year storm will be 3.68 cfs. Basin 3 requires 0.3623 ac-ft to be retained for the 10-year storm and 0.4942 ac-ft to be detained for the 100-year storm. The maximum discharge for basin 3 during the 100-year storm will be 5.22 cfs. For basins 1 and 3 the maximum discharge for the 100-year storm will be significantly lower than the allowable discharge based on the North Albuquerque Acres typical land treatments. All pond sizing was determined using the AHYMO computer program's pond routing routine and the conic method for reservoir volumes. Discharge rates were based on the weir equation. Basin 5 generates 0.64 cfs more flow than existing conditions but generates less flow than allowed based on the typical NAA land treatments. Since the majority of Basin 5 consists of the dam spillway, and future development reflective of the typical NAA land treatments is unlikely, this report compares the proposed conditions to the existing conditions as a reference. Based on a comparison of the proposed land treatments versus the typical NAA land treatments, no additional runoff is generated by the improvements. No detention facility is required for basin 5. If detention facilities are required in the future, all required detention facilities should intercept flow prior to those flows entering the spillway.

SUMMARY

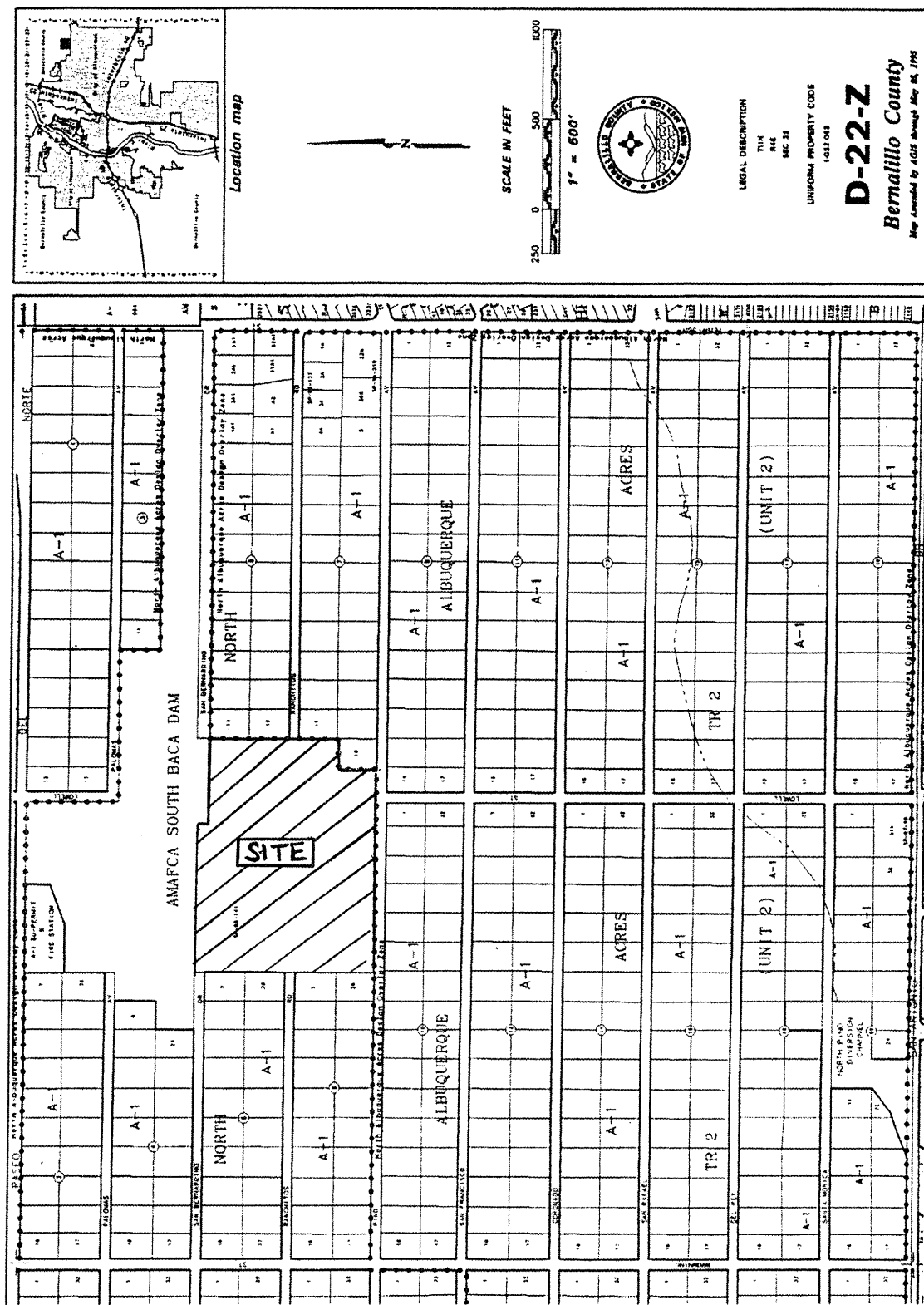
The overall grading and drainage plan for the South Domingo Baca Equestrian Park is in conformance with the City of Albuquerque's Development Process Manual. All developed flow generated by the improvements are detained and released at flows permitted by the typical NAA land treatments model. All site drainage will be discharged to its natural flow path at the determined flow rate.

Based on the above, it is recommended that this document serve as the basis for approval of the site plan for the South Domingo Baca Equestrian Park (approximately 31.48 acres $\pm$).

FIGURES AND EXHIBITS

FIGURES AND EXHIBITS

VICINITY MAP



SUMMARY HYDROLOGIC TABLE-DEVELOPED CONDITIONS

100-Year Storm

[illegible]

SUMMARY HYDROLOGIC TABLE-EXISTING CONDITIONS

Basin #	Area (sq. ft.)	Area (acres)	Area (sq. mi.)	Treatment A	Treatment B	Treatment C	Treatment D	tc	tp	Yield (cfs/acre)	Peak Flow (cfs)	Runoff Volume (ac-ft)
1	110,028.1 4	2.5259	0.003947	54.7%	0.0%	45.3%	0.0%	0.2	0.13	2.878	7.27	0.220
3	264,606.5 2	6.0745	0.009491	96.1%	0.0%	3.9%	0.0%	0.2	0.13	2.296	13.95	0.413
5	665,585.4 6	15.2797	0.023875	44.8%	7.2%	47.9%	0.0%	0.2	0.13	2.978	45.50	1.384

SUMMARY HYDROLOGIC TABLE-PROPOSED CONDITIONS

Basin #	Yield (cfs/acre)	Peak Flow (cfs)	Retained Volume (ac-ft)
1	2.132	5.39	0.1331
3	1.962	11.97	0.3623

APPENDICES

AHYMO SUMMARY TABLE – EXISTING CONDITIONS

AHYMO SUMMARY TABLE (AHYMO194) - ANAFCA Hydrologic Model - January, 1994
 INPUT FILE = D:\AHYMO\exist\100exist.in

RUN DATE (MON/DAY/YR) =12/28/1999
 USER NO.= AVID__NM.I01

HYDROGRAPH IDENTIFICATION		FROM ID	TO ID	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1
COMMAND	IDENTIFICATION	NO.	NO.							NOTATION
*SOUTH DOMINGO BACA DAM EQUESTRIAN PARK SITE										
START										
RAINFALL TYPE= 2										
*S BEGIN EXISTING CONDITIONS ANALYSIS										
COMPUTE NM HYD	1.00	-	1	.00395	7.27	.220	1.04397	1.500	2.878	PER IMP= .00
COMPUTE NM HYD	3.00	-	2	.00949	13.95	.413	.81639	1.500	2.296	PER IMP= .00
COMPUTE NM HYD	5.00	-	3	.02388	45.50	1.384	1.08711	1.500	2.978	PER IMP= .00
*S END OF EXISTING CONDITIONS ANALYSIS										
FINISH										
TIME=.00										
RAIN24= 3.650										

AHYMO DETAILED OUTPUT-EXISTING CONDITIONS

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 RUN DATE (MON/DAY/YR) = 12/28/1999
 START TIME (HR:MIN:SEC) = 11:02:18 USER NO.= AVID NM.I01
 INPUT FILE = D:\AHYMO\exist\100exist.in

*SOUTH DOMINGO BACA DAM EQUESTRIAN PARK SITE
 *COMPUTATIONS FOR A 100 YEAR, 24 HOUR STORM EVENT
 *EXISTING CONDITIONS ANALYSIS
 *FILE: g:\NAAPARKS\DRAINAGE\EXIST\100EXIST.IN
 START TIME=0.0 HR PUNCH CODE=0
 RAINFALL TYPE=2 RAIN QUARTER=0.0 IN
 RAIN ONE=2.23 IN RAIN SIX=2.90 IN
 RAIN DAY=3.65 IN DT=0.0500000 HRS

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT =	.050000 HOURS	END TIME =	24.000000 HOURS
.0000	.0082	.0167	.0254
.0634	.0738	.0846	.0958
.1461	.1604	.1755	.1915
.2563	.2667	.2968	.3679
1.3240	1.6177	1.7504	1.8612
2.1953	2.2611	2.3216	2.3775
2.5002	2.5109	2.5210	2.5307
2.5658	2.5738	2.5816	2.5891
2.6174	2.6240	2.6305	2.6369
2.6611	2.6668	2.6725	2.6781
2.6995	2.7047	2.7097	2.7148
2.7341	2.7388	2.7435	2.7481
2.7659	2.7702	2.7745	2.7788
2.7953	2.7993	2.8034	2.8073
2.8228	2.8266	2.8304	2.8341
2.8488	2.8524	2.8559	2.8595
2.8733	2.8768	2.8801	2.8835
2.8967	2.9000	2.9032	2.9063
2.9188	2.9218	2.9249	2.9280
2.9402	2.9432	2.9462	2.9492
2.9611	2.9640	2.9670	2.9699
2.9815	2.9844	2.9873	2.9901
3.0015	3.0043	3.0072	3.0100
3.0211	3.0239	3.0266	3.0294
3.0403	3.0430	3.0457	3.0484
3.0591	3.0617	3.0644	3.0670
3.0775	3.0801	3.0827	3.0853
3.0956	3.0981	3.1007	3.1032
3.1133	3.1158	3.1183	3.1208
3.1307	3.1332	3.1357	3.1381
3.1478	3.1503	3.1527	3.1551
3.1646	3.1670	3.1694	3.1717
3.1811	3.1835	3.1858	3.1881
3.1974	3.1997	3.2020	3.2043
3.2133	3.2156	3.2179	3.2201
3.2291	3.2313	3.2335	3.2357
3.2445	3.2467	3.2489	3.2511
3.2597	3.2619	3.2640	3.2662
3.2747	3.2768	3.2790	3.2811
3.2895	3.2916	3.2937	3.2957
3.3040	3.3061	3.3081	3.3102
3.3184	3.3204	3.3224	3.3244
3.3325	3.3345	3.3365	3.3385
3.3464	3.3484	3.3504	3.3523
3.3601	3.3621	3.3640	3.3660
3.3737	3.3756	3.3775	3.3795
3.3871	3.3890	3.3909	3.3927
3.4003	3.4021	3.4040	3.4059
3.4133	3.4151	3.4170	3.4188
3.4262	3.4280	3.4298	3.4316
3.4388	3.4406	3.4424	3.4442

3.4514	3.4532	3.4549	3.4567	3.4585	3.4603	3.4620
3.4638	3.4655	3.4673	3.4690	3.4708	3.4725	3.4743
3.4760	3.4778	3.4795	3.4812	3.4829	3.4847	3.4864
3.4881	3.4898	3.4915	3.4933	3.4950	3.4967	3.4984
3.5001	3.5018	3.5035	3.5052	3.5068	3.5085	3.5102
3.5119	3.5136	3.5152	3.5169	3.5186	3.5202	3.5219
3.5236	3.5252	3.5269	3.5285	3.5302	3.5318	3.5335
3.5351	3.5368	3.5384	3.5400	3.5417	3.5433	3.5449
3.5465	3.5482	3.5498	3.5514	3.5530	3.5546	3.5562
3.5578	3.5595	3.5611	3.5627	3.5642	3.5658	3.5674
3.5690	3.5706	3.5722	3.5738	3.5754	3.5769	3.5785
3.5801	3.5817	3.5832	3.5848	3.5864	3.5879	3.5895
3.5910	3.5926	3.5941	3.5957	3.5972	3.5988	3.6003
3.6019	3.6034	3.6049	3.6065	3.6080	3.6095	3.6111
3.6126	3.6141	3.6156	3.6171	3.6187	3.6202	3.6217
3.6232	3.6247	3.6262	3.6277	3.6292	3.6307	3.6322
3.6337	3.6352	3.6367	3.6382	3.6397	3.6411	3.6426
3.6441	3.6456	3.6471	3.6485	3.6500		

 *S BEGIN EXISTING CONDITIONS ANALYSIS

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*COMPUTE HYDROGRAPH FOR BASIN 1
 COMPUTE NM HYD ID=1 HYD NO=1 DA=0.003947 SQ MI
 %A=55.0 % B=0.0% C=45% D=0.0%
 TP=0.13000 HR
 MASS RAINFALL=-1

K = .133826HR TP = .130000HR K/TP RATIO = 1.029430 SHAPE CONSTANT, N =
 3.429044
 UNIT PEAK = 9.5674 CFS UNIT VOLUME = .9994 B = 315.11 P60 = 2.2300
 AREA = .003947 SQ MI IA = .51500 INCHES INF = 1.29200 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=1 CODE=1

OUTFLOW HYDROGRAPH REACH 1.00

RUNOFF VOLUME = 1.04397 INCHES = .2198 ACRE-FEET
 PEAK DISCHARGE RATE = 7.27 CFS AT 1.500 HOURS BASIN AREA = .0039 SQ. MI.

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*COMPUTE HYDROGRAPH FOR BASIN 3
 COMPUTE NM HYD ID=2 HYD NO=3 DA=0.009491 SQ MI
 %A=96.0 % B=0.0% C= 4.0% D=0.0%
 TP=0.1300 HR
 MASS RAINFALL=-1

K = .153670HR TP = .130000HR K/TP RATIO = 1.182075 SHAPE CONSTANT, N =
 3.002536
 UNIT PEAK = 20.590 CFS UNIT VOLUME = .9984 B = 282.03 P60 = 2.2300
 AREA = .009491 SQ MI IA = .63800 INCHES INF = 1.63640 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=2 CODE=1

OUTFLOW HYDROGRAPH REACH 3.00

RUNOFF VOLUME = .81639 INCHES = .4132 ACRE-FEET
PEAK DISCHARGE RATE = 13.95 CFS AT 1.500 HOURS BASIN AREA = .0095 SQ. MI.

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*COMPUTE HYDROGRAPH FOR BASIN 5
COMPUTE NM HYD ID=3 HYD NO=5 DA=0.023875 SQ MI
%A=44.8 % B=7.2% C=47.9 % D=0.0%
TP=0.1300 HR
MASS RAINFALL=-1

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

K = .130655HR TP = .130000HR K/TP RATIO = 1.005038 SHAPE CONSTANT, N =
3.512439
UNIT PEAK = 58.996 CFS UNIT VOLUME = 1.001 B = 321.24 P60 = 2.2300
AREA = .023875 SQ MI IA = .49535 INCHES INF = 1.23697 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=3 CODE=1

OUTFLOW HYDROGRAPH REACH 5.00

RUNOFF VOLUME = 1.08711 INCHES = 1.3842 ACRE-FEET
PEAK DISCHARGE RATE = 45.50 CFS AT 1.500 HOURS BASIN AREA = .0239 SQ. MI.

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*S END OF EXISTING CONDITIONS ANALYSIS

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 11:02:18

AHYMO SUMMARY TABLE-DEVELOPED CONDITIONS

10-YEAR STORM

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 INPUT FILE = D:\AHYMO\devel\10devel.in

RUN DATE (MON/DAY/YR) =03/09/2000
 USER NO.= AVID_NM.I01

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

*SOUTH DOMINGO BACA DAM EQUESTRIAN PARK

START	RAINFALL TYPE= 2	TIME=	RAIN24=
		.00	2.430

*S BEGIN DEVELOPED CONDITIONS ANALYSIS

COMPUTE NM HYD	1.00	-	1	.00395	5.39	.190	.90213	1.500	2.132	PER IMP=	22.00
ROUTE RESERVOIR	1.PND	1	8	.00395	.71	.069	.32771	2.000	.283	AC-FT=	.133
COMPUTE NM HYD	1TYP	-	2	.00395	4.10	.146	.69471	1.500	1.623	PER IMP=	17.00
COMPUTE NM HYD	3.00	-	3	.00949	11.92	.425	.83917	1.500	1.962	PER IMP=	21.00
ROUTE RESERVOIR	3.PND	3	9	.00949	.05	.065	.12785	6.450	.009	AC-FT=	.362
COMPUTE NM HYD	3TYP	-	5	.00949	9.85	.352	.69471	1.500	1.621	PER IMP=	17.00
COMPUTE NM HYD	5.00	-	6	.02388	22.85	.612	.48067	1.500	1.496	PER IMP=	1.50
COMPUTE NM HYD	5TYP	-	7	.02388	24.75	.885	.69471	1.500	1.620	PER IMP=	17.00

*S END OF EXISTING CONDITIONS ANALYSIS

FINISH

AHYMO DETAILED OUTPUT-DEVELOPED CONDITIONS

10-YEAR STORM

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
RUN DATE (MON/DAY/YR) = 03/06/2000
START TIME (HR:MIN:SEC) = 11:18:48 USER NO.= AVID__NM.I01
INPUT FILE = D:\AHYMO\devel\10devel.in

*SOUTH DOMINGO BACA DAM EQUESTRIAN PARK
*COMPUTATIONS FOR A 10 YEAR, 24 HOUR STORM EVENT
*DEVELOPED CONDITIONS ANALYSIS
*

*FILE: g:\NAAPARKS\DRAINAGE\10DEVEL.IN
START TIME=0.0 HR PUNCH CODE=0
RAINFALL TYPE=2 RAIN QUARTER=0.0 IN
RAIN ONE=1.49 IN RAIN SIX=1.93 IN
RAIN DAY=2.43 IN DT=0.0500000 HRS

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT =	.050000 HOURS	END TIME =	24.000000 HOURS
.0000	.0053	.0108	.0164
.0410	.0477	.0547	.0619
.0945	.1037	.1135	.1239
.1660	.1730	.1931	.2406
.8795	1.0757	1.1643	1.2384
1.4616	1.5055	1.5460	1.5833
1.6653	1.6724	1.6792	1.6857
1.7090	1.7144	1.7195	1.7245
1.7433	1.7477	1.7520	1.7562
1.7723	1.7761	1.7798	1.7835
1.7977	1.8011	1.8045	1.8078
1.8206	1.8237	1.8268	1.8298
1.8416	1.8445	1.8473	1.8501
1.8610	1.8637	1.8663	1.8689
1.8792	1.8817	1.8842	1.8866
1.8963	1.8986	1.9010	1.9033
1.9125	1.9147	1.9169	1.9191
1.9279	1.9300	1.9321	1.9342
1.9425	1.9446	1.9466	1.9487
1.9568	1.9588	1.9608	1.9628
1.9707	1.9727	1.9746	1.9766
1.9843	1.9863	1.9882	1.9901
1.9977	1.9996	2.0014	2.0033
2.0107	2.0126	2.0144	2.0162
2.0235	2.0253	2.0271	2.0289
2.0360	2.0378	2.0396	2.0413
2.0483	2.0501	2.0518	2.0535
2.0604	2.0621	2.0638	2.0655
2.0722	2.0739	2.0755	2.0772
2.0838	2.0855	2.0871	2.0887
2.0952	2.0968	2.0984	2.1000
2.1064	2.1080	2.1096	2.1112
2.1174	2.1190	2.1205	2.1221
2.1282	2.1298	2.1313	2.1328
2.1389	2.1404	2.1419	2.1434
2.1494	2.1508	2.1523	2.1538
2.1597	2.1611	2.1626	2.1640
2.1698	2.1712	2.1727	2.1741
2.1798	2.1812	2.1826	2.1840
2.1896	2.1910	2.1924	2.1938
2.1993	2.2007	2.2021	2.2034
2.2089	2.2102	2.2116	2.2129
2.2183	2.2196	2.2210	2.2223
2.2276	2.2289	2.2302	2.2315
2.2368	2.2380	2.2393	2.2406
2.2458	2.2471	2.2483	2.2496
2.2547	2.2560	2.2572	2.2585
2.2635	2.2647	2.2660	2.2672
2.2722	2.2734	2.2746	2.2759
2.2808	2.2820	2.2832	2.2844
2.2892	2.2904	2.2916	2.2928
2.2976	2.2988	2.3000	2.3011
			2.3023
			2.3035
			2.3047

2.3058 2.3070 2.3082 2.3094 2.3105 2.3117 2.3128
2.3140 2.3152 2.3163 2.3175 2.3186 2.3198 2.3209
2.3221 2.3232 2.3244 2.3255 2.3266 2.3278 2.3289
2.3300 2.3312 2.3323 2.3334 2.3345 2.3357 2.3368
2.3379 2.3390 2.3401 2.3413 2.3424 2.3435 2.3446
2.3457 2.3468 2.3479 2.3490 2.3501 2.3512 2.3523
2.3534 2.3545 2.3556 2.3567 2.3578 2.3589 2.3599
2.3610 2.3621 2.3632 2.3643 2.3653 2.3664 2.3675
2.3686 2.3696 2.3707 2.3718 2.3728 2.3739 2.3750
2.3760 2.3771 2.3781 2.3792 2.3802 2.3813 2.3823
2.3834 2.3844 2.3855 2.3865 2.3876 2.3886 2.3896
2.3907 2.3917 2.3928 2.3938 2.3948 2.3958 2.3969
2.3979 2.3989 2.4000 2.4010 2.4020 2.4030 2.4040
2.4051 2.4061 2.4071 2.4081 2.4091 2.4101 2.4111
2.4121 2.4131 2.4141 2.4151 2.4161 2.4171 2.4181
2.4191 2.4201 2.4211 2.4221 2.4231 2.4241 2.4251
2.4261 2.4271 2.4280 2.4290 2.4300

*S BEGIN DEVELOPED CONDITIONS ANALYSIS

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*COMPUTE HYDROGRAPH FOR BASIN 1
COMPUTE NM HYD ID=1 HYD NO=1 DA=0.003947 SQ MI
%A=22.0 % B=2.0% C=54.0% D=22.0%
TP=0.13000 HR
MASS RAINFALL=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
7.106420
UNIT PEAK = 3.5153 CFS UNIT VOLUME = .9965 B = 526.28 P60 = 1.4900
AREA = .000868 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .122414HR TP = .130000HR K/TP RATIO = .941643 SHAPE CONSTANT, N =
3.754886
UNIT PEAK = 8.0159 CFS UNIT VOLUME = .9994 B = 338.48 P60 = 1.4900
AREA = .003079 SQ MI IA = .43846 INCHES INF = 1.07769 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=1 CODE=1

OUTFLOW HYDROGRAPH REACH 1.00

RUNOFF VOLUME = .90213 INCHES = .1899 ACRE-FEET
PEAK DISCHARGE RATE = 5.39 CFS AT 1.500 HOURS BASIN AREA = .0039 SQ. MI.

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*
ROUTE RESERVOIR ID=8 HYD NO=1.PND INFLOW ID=1 CODE=24
OUTFLOW(CFS) STORAGE(AC FT) ELEV(FT)
0 0.00 5891.00
0.002 0.0177 5892.00
0.0021 0.0560 5893.00
0.0022 0.1219 5894.00
6.4399 0.2227 5895.00
9.6834 0.2542 5895.25
21.7346 0.3061 5896.00

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
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.00	.00	5891.00	.000	.00
1.20	.12	5891.14	.002	.00
2.40	.17	5894.05	.127	.34
3.60	.02	5894.00	.122	.03
4.80	.02	5894.00	.122	.02
6.00	.02	5894.00	.122	.02
7.20	.02	5894.00	.122	.02
8.40	.02	5894.00	.122	.02
9.60	.02	5894.00	.122	.02
10.80	.02	5894.00	.122	.02
12.00	.02	5894.00	.122	.02
13.20	.02	5894.00	.122	.02
14.40	.02	5894.00	.122	.02
15.60	.01	5894.00	.122	.01
16.80	.01	5894.00	.122	.01
18.00	.01	5894.00	.122	.01
19.20	.01	5894.00	.122	.01
20.40	.01	5894.00	.122	.01
21.60	.01	5894.00	.122	.01
22.80	.01	5894.00	.122	.01
24.00	.01	5894.00	.122	.01
25.20	.00	5894.00	.122	.00

PEAK DISCHARGE = .715 CFS - PEAK OCCURS AT HOUR 2.00
 MAXIMUM WATER SURFACE ELEVATION = 5894.111
 MAXIMUM STORAGE = .1331 AC-FT INCREMENTAL TIME= .050000HRS

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*COMPUTE HYDROGRAPH FOR BASIN 1 - TYPICAL NAA LAND TREATMENTS
 COMPUTE NM HYD ID=2 HYD NO=1TYP DA=0.003947 SQ MI
 %A=43.0 % B=20.0% C= 20.0% D=17.0%
 TP=0.1300 HR
 MASS RAINFALL=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
 7.106420
 UNIT PEAK = 2.7164 CFS UNIT VOLUME = .9958 B = 526.28 P60 = 1.4900
 AREA = .000671 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .144716HR TP = .130000HR K/TP RATIO = 1.113197 SHAPE CONSTANT, N =
 3.176950
 UNIT PEAK = 7.4578 CFS UNIT VOLUME = .9979 B = 295.95 P60 = 1.4900
 AREA = .003276 SQ MI IA = .54157 INCHES INF = 1.36639 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=2 CODE=1

HYDROGRAPH FROM AREA 1TYP

RUNOFF VOLUME = .69471 INCHES = .1462 ACRE-FEET
 PEAK DISCHARGE RATE = 4.10 CFS AT 1.500 HOURS BASIN AREA = .0039 SQ. MI.

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*COMPUTE HYDROGRAPH FOR BASIN 3
 COMPUTE NM HYD ID=3 HYD NO=3 DA=0.009491 SQ MI
 %A=23.0% B=20.0% C=36.0 % D=21.0%
 TP=0.1300 HR
 MASS RAINFALL=-1

7.106420 K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
 UNIT PEAK = 8.0687 CFS UNIT VOLUME = .9980 B = 526.28 P60 = 1.4900
 AREA = .001993 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

3.526830 K = .130127HR TP = .130000HR K/TP RATIO = 1.000973 SHAPE CONSTANT, N =
 UNIT PEAK = 18.588 CFS UNIT VOLUME = 1.000 B = 322.28 P60 = 1.4900
 AREA = .007498 SQ MI IA = .47532 INCHES INF = 1.18089 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=3 CODE=1

OUTFLOW HYDROGRAPH REACH 3.00

RUNOFF VOLUME = .83917 INCHES = .4248 ACRE-FEET
 PEAK DISCHARGE RATE = 11.92 CFS AT 1.500 HOURS BASIN AREA = .0095 SQ. MI.

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ROUTE RESERVOIR ID=9 HYD NO=3.PND INFLOW ID=3 CODE=24
 OUTFLOW(CFS) STORAGE(AC FT) ELEV(FT)
 0 0.00 5888.00
 0.002 0.0459 5889.00
 0.0021 0.1183 5890.00
 0.0022 0.2218 5891.00
 0.0023 0.3610 5892.00
 7.0440 0.5407 5893.25
 21.6065 0.6532 5894.00

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5888.00	.000	.00
1.20	.27	5888.12	.006	.00
2.40	.40	5891.90	.347	.00
3.60	.06	5892.00	.361	.00
4.80	.05	5892.01	.362	.04
6.00	.05	5892.01	.362	.05
7.20	.05	5892.01	.362	.05
8.40	.05	5892.01	.362	.05
9.60	.04	5892.01	.362	.04
10.80	.04	5892.01	.362	.04
12.00	.04	5892.01	.362	.04
13.20	.04	5892.01	.362	.04
14.40	.03	5892.01	.362	.04
15.60	.03	5892.01	.362	.03
16.80	.03	5892.01	.362	.03
18.00	.03	5892.00	.362	.03
19.20	.03	5892.00	.362	.03
20.40	.03	5892.00	.362	.03
21.60	.03	5892.00	.362	.03
22.80	.03	5892.00	.362	.03
24.00	.02	5892.00	.362	.03
25.20	.00	5892.00	.361	.00

PEAK DISCHARGE = .053 CFS - PEAK OCCURS AT HOUR 6.45
 MAXIMUM WATER SURFACE ELEVATION = 5892.009
 MAXIMUM STORAGE = .3623 AC-FT INCREMENTAL TIME= .050000HRS

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*COMPUTE HYDROGRAPH FOR BASIN 3 - TYPICAL NAA LAND TREATMENTS
COMPUTE NM HYD ID=5 HYD NO=3TYP DA=0.009491 SQ MI
A=43.0% B=20.0% C=20.0% D=17.0%
TP=0.1300 HR
MASS RAINFALL=-1

7.106420 K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
UNIT PEAK = 6.5318 CFS UNIT VOLUME = .9976 B = 526.28 P60 = 1.4900
AREA = .001613 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

3.176950 K = .144716HR TP = .130000HR K/TP RATIO = 1.113197 SHAPE CONSTANT, N =
UNIT PEAK = 17.933 CFS UNIT VOLUME = .9989 B = 295.95 P60 = 1.4900
AREA = .007878 SQ MI IA = .54157 INCHES INF = 1.36639 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=5 CODE=1

HYDROGRAPH FROM AREA 3TYP

RUNOFF VOLUME = .69471 INCHES = .3517 ACRE-FEET
PEAK DISCHARGE RATE = 9.85 CFS AT 1.500 HOURS BASIN AREA = .0095 SQ. MI.

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*COMPUTE HYDROGRAPH FOR BASIN 5
COMPUTE NM HYD ID=6 HYD NO=5 DA=0.023875 SQ MI
A=43.6% B=7.2% C=47.6% D=1.5%
TP=0.13000 HR
MASS RAINFALL=-1

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

7.106420 K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
UNIT PEAK = 1.4512 CFS UNIT VOLUME = .9922 B = 526.28 P60 = 1.4900
AREA = .000358 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

3.411369 K = .134523HR TP = .130000HR K/TP RATIO = 1.034793 SHAPE CONSTANT, N =
UNIT PEAK = 56.766 CFS UNIT VOLUME = 1.001 B = 313.80 P60 = 1.4900
AREA = .023517 SQ MI IA = .49390 INCHES INF = 1.23293 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=6 CODE=1

OUTFLOW HYDROGRAPH REACH 5.00

RUNOFF VOLUME = .48067 INCHES = .6121 ACRE-FEET
PEAK DISCHARGE RATE = 22.85 CFS AT 1.500 HOURS BASIN AREA = .0239 SQ. MI.

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*COMPUTE HYDROGRAPH FOR BASIN 5 - TYPICAL NAA LAND TREATMENTS
COMPUTE NM HYD ID=7 HYD NO=5TYP DA=0.023875 SQ MI
A=43.0% B=20.0% C=20.0% D=17.0%
TP=0.13000 HR

MASS RAINFALL=-1

7.106420 K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
UNIT PEAK = 16.431 CFS UNIT VOLUME = .9987 B = 526.28 P60 = 1.4900
AREA = .004059 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

3.176950 K = .144716HR TP = .130000HR K/TP RATIO = 1.113197 SHAPE CONSTANT, N =
UNIT PEAK = 45.112 CFS UNIT VOLUME = .9993 B = 295.95 P60 = 1.4900
AREA = .019816 SQ MI IA = .54157 INCHES INF = 1.36639 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=7 CODE=1

HYDROGRAPH FROM AREA 5TYP

RUNOFF VOLUME = .69471 INCHES = .8846 ACRE-FEET
PEAK DISCHARGE RATE = 24.75 CFS AT 1.500 HOURS BASIN AREA = .0239 SQ. MI.

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*S END OF EXISTING CONDITIONS ANALYSIS

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 11:18:49

AHYMO SUMMARY TABLE-DEVELOPED CONDITIONS

100-YEAR STORM

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AHYMO SUMMARY TABLE (AHYMO194) - ANAFCA Hydrologic Model - January, 1994
INPUT FILE = D:\AHYMO\devel\100devel.in
RUN DATE (MON/DAY/YR) =03/09/2000
USER NO. = AVID NM.I01

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COMMAND		HYDROGRAPH IDENTIFICATION		FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1
*SOUTH DOMINGO BACA DAM EQUESTRIAN PARK START												
RAINFALL		TYPE= 2										
*S BEGIN DEVELOPED CONDITIONS ANALYSIS												
COMPUTE	NM HYD	1.00	-	1		.00395	9.33	.357	1.69482	1.500	3.692	PER IMP= 22.00
ROUTE	RESERVOIR	1.PND	1	8		.00395	3.68	.236	1.12032	1.750	1.457	AC-FT= .179
COMPUTE	NM HYD	1TYP	-	2		.00395	7.99	.294	1.39783	1.500	3.164	PER IMP= 17.00
COMPUTE	NM HYD	3.00	-	3		.00949	21.40	.813	1.60575	1.500	3.524	PER IMP= 21.00
ROUTE	RESERVOIR	3.PND	3	9		.00949	5.22	.453	.89439	1.850	.860	AC-FT= .494
COMPUTE	NM HYD	3TYP	-	5		.00949	19.19	.708	1.39782	1.500	3.160	PER IMP= 17.00
COMPUTE	NM HYD	5.00	-	6		.02388	46.14	1.432	1.12488	1.500	3.019	PER IMP= 1.50
COMPUTE	NM HYD	5TYP	-	7		.02388	48.25	1.780	1.39782	1.500	3.158	PER IMP= 17.00
*S END OF EXISTING CONDITIONS ANALYSIS												
FINISH												

AHYMO DETAILED OUTPUT-DEVELOPED CONDITIONS

100-YEAR STORM

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 RUN DATE (MON/DAY/YR) = 03/06/2000
 START TIME (HR:MIN:SEC) = 11:20:33 USER NO.= AVID__NM.I01
 INPUT FILE = D:\AHYMO\devel\100devel.in

*SOUTH DOMINGO BACA DAM EQUESTRIAN PARK
 *COMPUTATIONS FOR A 100 YEAR, 24 HOUR STORM EVENT
 *DEVELOPED CONDITIONS ANALYSIS

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*FILE: g:\SITES_SW\DRAINAGE\100DEVEL.IN

START TIME=0.0 HR PUNCH CODE=0
 RAINFALL TYPE=2 RAIN QUARTER=0.0 IN
 RAIN ONE=2.23 IN RAIN SIX=2.90 IN
 RAIN DAY=3.65 IN DT=0.0500000 HRS

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT =	.050000 HOURS						END TIME =	24.000000 HOURS					
.0000	.0082	.0167	.0254	.0345	.0438	.0534							
.0634	.0738	.0846	.0958	.1075	.1198	.1326							
.1461	.1604	.1755	.1915	.2086	.2270	.2469							
.2563	.2667	.2968	.3679	.4902	.6793	.9517							
1.3240	1.6177	1.7504	1.8612	1.9582	2.0450	2.1236							
2.1953	2.2611	2.3216	2.3775	2.4291	2.4769	2.4889							
2.5002	2.5109	2.5210	2.5307	2.5400	2.5489	2.5575							
2.5658	2.5738	2.5816	2.5891	2.5965	2.6036	2.6106							
2.6174	2.6240	2.6305	2.6369	2.6431	2.6492	2.6552							
2.6611	2.6668	2.6725	2.6781	2.6836	2.6890	2.6943							
2.6995	2.7047	2.7097	2.7148	2.7197	2.7246	2.7294							
2.7341	2.7388	2.7435	2.7481	2.7526	2.7571	2.7615							
2.7659	2.7702	2.7745	2.7788	2.7830	2.7871	2.7912							
2.7953	2.7993	2.8034	2.8073	2.8112	2.8151	2.8190							
2.8228	2.8266	2.8304	2.8341	2.8378	2.8415	2.8452							
2.8488	2.8524	2.8559	2.8595	2.8630	2.8665	2.8699							
2.8733	2.8768	2.8801	2.8835	2.8869	2.8902	2.8935							
2.8967	2.9000	2.9032	2.9063	2.9094	2.9125	2.9157							
2.9188	2.9218	2.9249	2.9280	2.9310	2.9341	2.9371							
2.9402	2.9432	2.9462	2.9492	2.9522	2.9551	2.9581							
2.9611	2.9640	2.9670	2.9699	2.9728	2.9757	2.9786							
2.9815	2.9844	2.9873	2.9901	2.9930	2.9958	2.9987							
3.0015	3.0043	3.0072	3.0100	3.0128	3.0156	3.0183							
3.0211	3.0239	3.0266	3.0294	3.0321	3.0348	3.0376							
3.0403	3.0430	3.0457	3.0484	3.0511	3.0538	3.0564							
3.0591	3.0617	3.0644	3.0670	3.0697	3.0723	3.0749							
3.0775	3.0801	3.0827	3.0853	3.0879	3.0905	3.0930							
3.0956	3.0981	3.1007	3.1032	3.1058	3.1083	3.1108							
3.1133	3.1158	3.1183	3.1208	3.1233	3.1258	3.1283							
3.1307	3.1332	3.1357	3.1381	3.1405	3.1430	3.1454							
3.1478	3.1503	3.1527	3.1551	3.1575	3.1599	3.1623							
3.1646	3.1670	3.1694	3.1717	3.1741	3.1765	3.1788							
3.1811	3.1835	3.1858	3.1881	3.1905	3.1928	3.1951							
3.1974	3.1997	3.2020	3.2043	3.2065	3.2088	3.2111							
3.2133	3.2156	3.2179	3.2201	3.2224	3.2246	3.2268							
3.2291	3.2313	3.2335	3.2357	3.2379	3.2401	3.2423							
3.2445	3.2467	3.2489	3.2511	3.2532	3.2554	3.2576							
3.2597	3.2619	3.2640	3.2662	3.2683	3.2705	3.2726							
3.2747	3.2768	3.2790	3.2811	3.2832	3.2853	3.2874							
3.2895	3.2916	3.2937	3.2957	3.2978	3.2999	3.3020							
3.3040	3.3061	3.3081	3.3102	3.3122	3.3143	3.3163							
3.3184	3.3204	3.3224	3.3244	3.3265	3.3285	3.3305							
3.3325	3.3345	3.3365	3.3385	3.3405	3.3424	3.3444							
3.3464	3.3484	3.3504	3.3523	3.3543	3.3562	3.3582							
3.3601	3.3621	3.3640	3.3660	3.3679	3.3698	3.3718							
3.3737	3.3756	3.3775	3.3795	3.3814	3.3833	3.3852							
3.3871	3.3890	3.3909	3.3927	3.3946	3.3965	3.3984							
3.4003	3.4021	3.4040	3.4059	3.4077	3.4096	3.4114							
3.4133	3.4151	3.4170	3.4188	3.4207	3.4225	3.4243							
3.4262	3.4280	3.4298	3.4316	3.4334	3.4352	3.4370							
3.4388	3.4406	3.4424	3.4442	3.4460	3.4478	3.4496							
3.4514	3.4532	3.4549	3.4567	3.4585	3.4603	3.4620							

3.4638	3.4655	3.4673	3.4690	3.4708	3.4725	3.4743
3.4760	3.4778	3.4795	3.4812	3.4829	3.4847	3.4864
3.4881	3.4898	3.4915	3.4933	3.4950	3.4967	3.4984
3.5001	3.5018	3.5035	3.5052	3.5068	3.5085	3.5102
3.5119	3.5136	3.5152	3.5169	3.5186	3.5202	3.5219
3.5236	3.5252	3.5269	3.5285	3.5302	3.5318	3.5335
3.5351	3.5368	3.5384	3.5400	3.5417	3.5433	3.5449
3.5465	3.5482	3.5498	3.5514	3.5530	3.5546	3.5562
3.5578	3.5595	3.5611	3.5627	3.5642	3.5658	3.5674
3.5690	3.5706	3.5722	3.5738	3.5754	3.5769	3.5785
3.5801	3.5817	3.5832	3.5848	3.5864	3.5879	3.5895
3.5910	3.5926	3.5941	3.5957	3.5972	3.5988	3.6003
3.6019	3.6034	3.6049	3.6065	3.6080	3.6095	3.6111
3.6126	3.6141	3.6156	3.6171	3.6187	3.6202	3.6217
3.6232	3.6247	3.6262	3.6277	3.6292	3.6307	3.6322
3.6337	3.6352	3.6367	3.6382	3.6397	3.6411	3.6426
3.6441	3.6456	3.6471	3.6485	3.6500		

 *S BEGIN DEVELOPED CONDITIONS ANALYSIS

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*COMPUTE HYDROGRAPH FOR BASIN 1
 COMPUTE NM HYD ID=1 HYD NO=1 DA=0.003947 SQ MI
 %A=22.0 % B=2.0% C=54.0% D=22.0%
 TP=0.13000 HR
 MASS RAINFALL=-1

7.106420 K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
 UNIT PEAK = 3.5153 CFS UNIT VOLUME = .9965 B = 526.28 P60 = 2.2300
 AREA = .000868 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

3.785050 K = .121478HR TP = .130000HR K/TP RATIO = .934445 SHAPE CONSTANT, N =
 UNIT PEAK = 8.0655 CFS UNIT VOLUME = .9994 B = 340.57 P60 = 2.2300
 AREA = .003079 SQ MI IA = .43846 INCHES INF = 1.07769 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=1 CODE=1

OUTFLOW HYDROGRAPH REACH 1.00

RUNOFF VOLUME = 1.69482 INCHES = .3568 ACRE-FEET
 PEAK DISCHARGE RATE = 9.33 CFS AT 1.500 HOURS BASIN AREA = .0039 SQ. MI.

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ROUTE RESERVOIR	ID=8 HYD NO=1.PND	INFLOW ID=1	CODE=24
	OUTFLOW(CFS)	STORAGE(AC FT)	ELEV(FT)
	0	0.00	5891.00
	0.002	0.0177	5892.00
	0.0021	0.0560	5893.00
	0.0022	0.1219	5894.00
	6.4399	0.2227	5895.00
	9.6834	0.2542	5895.25
	21.7346	0.3061	5896.00

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5891.00	.000	.00
1.20	.19	5891.34	.006	.00
2.40	.34	5894.12	.134	.80
3.60	.04	5894.01	.123	.06
4.80	.04	5894.01	.122	.04
6.00	.04	5894.01	.122	.04
7.20	.03	5894.00	.122	.03
8.40	.03	5894.00	.122	.03
9.60	.03	5894.00	.122	.03
10.80	.03	5894.00	.122	.03
12.00	.03	5894.00	.122	.03
13.20	.02	5894.00	.122	.02
14.40	.02	5894.00	.122	.02
15.60	.02	5894.00	.122	.02
16.80	.02	5894.00	.122	.02
18.00	.02	5894.00	.122	.02
19.20	.02	5894.00	.122	.02
20.40	.02	5894.00	.122	.02
21.60	.02	5894.00	.122	.02
22.80	.02	5894.00	.122	.02
24.00	.02	5894.00	.122	.02
25.20	.00	5894.00	.122	.00

PEAK DISCHARGE = 3.681 CFS - PEAK OCCURS AT HOUR 1.75
 MAXIMUM WATER SURFACE ELEVATION = 5894.571
 MAXIMUM STORAGE = .1795 AC-FT INCREMENTAL TIME= .050000HRS

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*COMPUTE HYDROGRAPH FOR BASIN 1 - TYPICAL NAA LAND TREATMENTS
 COMPUTE NM HYD ID=2 HYD NO=1TYP DA=0.003947 SQ MI
 %A=43.0 % B=20.0% C= 20.0% D=17.0%
 TP=0.1300 HR
 MASS RAINFALL=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
 7.106420
 UNIT PEAK = 2.7164 CFS UNIT VOLUME = .9958 B = 526.28 P60 = 2.2300
 AREA = .000671 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .138112HR TP = .130000HR K/TP RATIO = 1.062399 SHAPE CONSTANT, N =
 3.323883
 UNIT PEAK = 7.7426 CFS UNIT VOLUME = .9985 B = 307.24 P60 = 2.2300
 AREA = .003276 SQ MI IA = .54157 INCHES INF = 1.36639 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=2 CODE=1

HYDROGRAPH FROM AREA 1TYP

RUNOFF VOLUME = 1.39783 INCHES = .2942 ACRE-FEET
 PEAK DISCHARGE RATE = 7.99 CFS AT 1.500 HOURS BASIN AREA = .0039 SQ. MI.

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*COMPUTE HYDROGRAPH FOR BASIN 3
 COMPUTE NM HYD ID=3 HYD NO=3 DA=0.009491 SQ MI
 %A=23.0% B=20.0% C=36.0 % D=21.0%
 TP=0.1300 HR
 MASS RAINFALL=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
 7.106420
 UNIT PEAK = 8.0687 CFS UNIT VOLUME = .9980 B = 526.28 P60 = 2.2300
 AREA = .001993 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .127424HR TP = .130000HR K/TP RATIO = .980182 SHAPE CONSTANT, N =
 3.602812
 UNIT PEAK = 18.904 CFS UNIT VOLUME = 1.000 B = 327.76 P60 = 2.2300
 AREA = .007498 SQ MI IA = .47532 INCHES INF = 1.18089 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=3 CODE=1

OUTFLOW HYDROGRAPH REACH 3.00

RUNOFF VOLUME = 1.60575 INCHES = .8128 ACRE-FEET
 PEAK DISCHARGE RATE = 21.40 CFS AT 1.500 HOURS BASIN AREA = .0095 SQ. MI.

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 *
 ROUTE RESERVOIR ID=9 HYD NO=3.PND INFLOW ID=3 CODE=24
 OUTFLOW(CFS) STORAGE(AC FT) ELEV(FT)
 0 0.00 5888.00
 0.002 0.0459 5889.00
 0.0021 0.1183 5890.00
 0.0022 0.2218 5891.00
 0.0023 0.3610 5892.00
 7.0440 0.5407 5893.25
 21.6065 0.6532 5894.00

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5888.00	.000	.00
1.20	.44	5888.30	.014	.00
2.40	.80	5892.41	.421	2.34
3.60	.12	5892.04	.366	.21
4.80	.08	5892.01	.363	.09
6.00	.08	5892.01	.363	.08
7.20	.08	5892.01	.363	.08
8.40	.07	5892.01	.363	.07
9.60	.07	5892.01	.363	.07
10.80	.06	5892.01	.363	.06
12.00	.06	5892.01	.362	.06
13.20	.06	5892.01	.362	.06
14.40	.05	5892.01	.362	.05
15.60	.05	5892.01	.362	.05
16.80	.05	5892.01	.362	.05
18.00	.05	5892.01	.362	.05
19.20	.04	5892.01	.362	.04
20.40	.04	5892.01	.362	.04
21.60	.04	5892.01	.362	.04
22.80	.04	5892.01	.362	.04
24.00	.04	5892.01	.362	.04
25.20	.00	5892.00	.361	.00

PEAK DISCHARGE = 5.223 CFS - PEAK OCCURS AT HOUR 1.85
 MAXIMUM WATER SURFACE ELEVATION = 5892.927
 MAXIMUM STORAGE = .4942 AC-FT INCREMENTAL TIME= .050000HRS

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*COMPUTE HYDROGRAPH FOR BASIN 3 - TYPICAL NAA LAND TREATMENTS
COMPUTE NM HYD ID=5 HYD NO=3TYP DA=0.009491 SQ MI
A=43.0% B=20.0% C=20.0% D=17.0%
TP=0.1300 HR
MASS RAINFALL=-1

7.106420 K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
UNIT PEAK = 6.5318 CFS UNIT VOLUME = .9976 B = 526.28 P60 = 2.2300
AREA = .001613 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

3.323883 K = .138112HR TP = .130000HR K/TP RATIO = 1.062399 SHAPE CONSTANT, N =
UNIT PEAK = 18.618 CFS UNIT VOLUME = .9995 B = 307.24 P60 = 2.2300
AREA = .007878 SQ MI IA = .54157 INCHES INF = 1.36639 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=5 CODE=1

HYDROGRAPH FROM AREA 3TYP

RUNOFF VOLUME = 1.39782 INCHES = .7076 ACRE-FEET
PEAK DISCHARGE RATE = 19.19 CFS AT 1.500 HOURS BASIN AREA = .0095 SQ. MI.

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*COMPUTE HYDROGRAPH FOR BASIN 5
COMPUTE NM HYD ID=6 HYD NO=5 DA=0.023875 SQ MI
A=43.6% B=7.2% C=47.6% D=1.5%
TP=0.13000 HR
MASS RAINFALL=-1

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

7.106420 K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
UNIT PEAK = 1.4512 CFS UNIT VOLUME = .9922 B = 526.28 P60 = 2.2300
AREA = .000358 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

3.518763 K = .130422HR TP = .130000HR K/TP RATIO = 1.003248 SHAPE CONSTANT, N =
UNIT PEAK = 58.194 CFS UNIT VOLUME = 1.001 B = 321.70 P60 = 2.2300
AREA = .023517 SQ MI IA = .49390 INCHES INF = 1.23293 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=6 CODE=1

OUTFLOW HYDROGRAPH REACH 5.00

RUNOFF VOLUME = 1.12488 INCHES = 1.4323 ACRE-FEET
PEAK DISCHARGE RATE = 46.14 CFS AT 1.500 HOURS BASIN AREA = .0239 SQ. MI.

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*COMPUTE HYDROGRAPH FOR BASIN 5 - TYPICAL NAA LAND TREATMENTS
COMPUTE NM HYD ID=7 HYD NO=5TYP DA=0.023875 SQ MI
A=43.0% B=20.0% C=20.0% D=17.0%
TP=0.13000 HR

MASS RAINFALL=-1

7.106420 K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
UNIT PEAK = 16.431 CFS UNIT VOLUME = .9987 B = 526.28 P60 = 2.2300
AREA = .004059 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

3.323883 K = .138112HR TP = .130000HR K/TP RATIO = 1.062399 SHAPE CONSTANT, N =
UNIT PEAK = 46.834 CFS UNIT VOLUME = 1.000 B = 307.24 P60 = 2.2300
AREA = .019816 SQ MI IA = .54157 INCHES INF = 1.36639 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=7 CODE=1

HYDROGRAPH FROM AREA 5TYP

RUNOFF VOLUME = 1.39782 INCHES = 1.7799 ACRE-FEET
PEAK DISCHARGE RATE = 48.25 CFS AT 1.500 HOURS BASIN AREA = .0239 SQ. MI.

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*S END OF EXISTING CONDITIONS ANALYSIS

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 11:20:33

POND CALCULATIONS

South Domingo Baca Equestrian Park
Pond Volume and Rating Curve Calculations

3/9/00 1:13 PM

Basin 1 Detention Pond

Area (sq. ft.)	Elevation (msl)	Delta Elevation (msl)	Volume (cu. ft.)	Cumulative Volume (cu. ft.)	Cumulative Volume (ac-ft)	Elevation (msl)	Discharge * (cfs)
435.84	5891	1	772.73	772.73	0.0177	5892	0
1168.66	5892	1	1664.95	2437.68	0.0560	5893	0
2216.67	5893	1	2871.17	5308.85	0.1219	5894	0
3579.86	5894	1	4392.25	9701.09	0.2227	5895	6.4399
5258.24	5895	0.25	1372.75	11073.84	0.2542	5895.25	9.6834
5727.08	5895.25	0.75	2260.32	13334.16	0.3061	5896	21.7346
6333.04	5896						

* Note: Runoff from 10 year storm and smaller storms will be detained on site.

WS Elev.	H	Q
5894.2	0	0.0000
5894.3	0.1	0.2846
5894.4	0.2	0.8050
5894.5	0.3	1.4789
5894.6	0.4	2.2768
5894.7	0.5	3.1820
5894.8	0.6	4.1828
5894.9	0.7	5.2710
5895	0.8	6.4399
5895.25	1.05	9.6834
5896	1.8	21.7346

Weir Data

C = 3.00
L = 3.00 ft
H = Water height above weir

Top of Weir = 5894.20
Top of Pond = 5895.25
Max. WS = 5894.60
100 yr Qpk = 9.33 cfs
100 yr Discharge = 3.68 cfs

South Domingo Baca Equestrian Park
Pond Volume and Rating Curve Calculations

3/9/00 1:13 PM

Basin 3 Detention Pond

Area (sq. ft.)	Elevation (msl)	Delta Elevation (msl)	Volume (cu. ft.)	Cumulative Volume (cu. ft.)	Cumulative Volume (ac-ft)	Elevation (msl)	Discharge *
1500.47	5888	1	2000.84	2000.84	0.0459	5889	0
2547.1	5889	1	3151.99	5152.83	0.1183	5890	0
3798.42	5890	1	4506.79	9659.63	0.2218	5891	0
5254.45	5891	1	6065.84	15725.46	0.3610	5892	0
6915.17	5892	1	7829.34	23554.80	0.5407	5893	7.0440
8780.59	5893	1	4898.70	28453.50	0.6532	5894	21.6065
10850.71	5894						

* Note: Runoff from 10 year storm and smaller storms will be detained on site.

WS Elev.	H	Q
5892.1	0.00	0.0000
5892.2	0.10	0.2609
5892.3	0.20	0.7379
5892.4	0.30	1.3556
5892.5	0.40	2.0871
5892.6	0.50	2.9168
5892.7	0.60	3.8343
5892.8	0.70	4.8317
5892.9	0.80	5.9032
5893	0.90	7.0440
5894	1.90	21.6065

Weir Data

C = 3.00
L = 2.75 ft
H = Water height above weir

Top of Weir = 5892.10
Top of Pond = 5894.00
Max. WS = 5892.90
100 yr Qpk = 21.40 cfs
100 yr Discharge = 5.22 cfs

South Domingo Baca
Equestrian Park
GRADING AND
DRAINAGE PLAN

EXISTING CONDITION

Proposed Use:

Site is currently used as a storm water drainage facility.
The proposed joint use park will provide for public
recreation activities including a equestrian park, walking
trails and seating areas.

Current Zoning: A-1 with Special Use
Permit for Park Use

Site Acreage: 31.18 ac.±

Site Amenities:

- Equestrian Park
- (Graded Native Grass)
- Access and Parking Lot
- Walking Trails
- Horse Pens
- Signage
- Trash Receptacle
- Drinking Fountain
- Shade Structures
- Seating

Legend

- SUB-BASIN #
- DIRECTION OF SURFACE FLOW
- BASIN LINE
- FLOOD ZONE
- OFFSITE BASIN LINE
- EXISTING TOPO
- PROPOSED ELEVATION
- EXISTING ELEVATION
- EXISTING AMAFCA BUFFER
- ACCESS ROAD

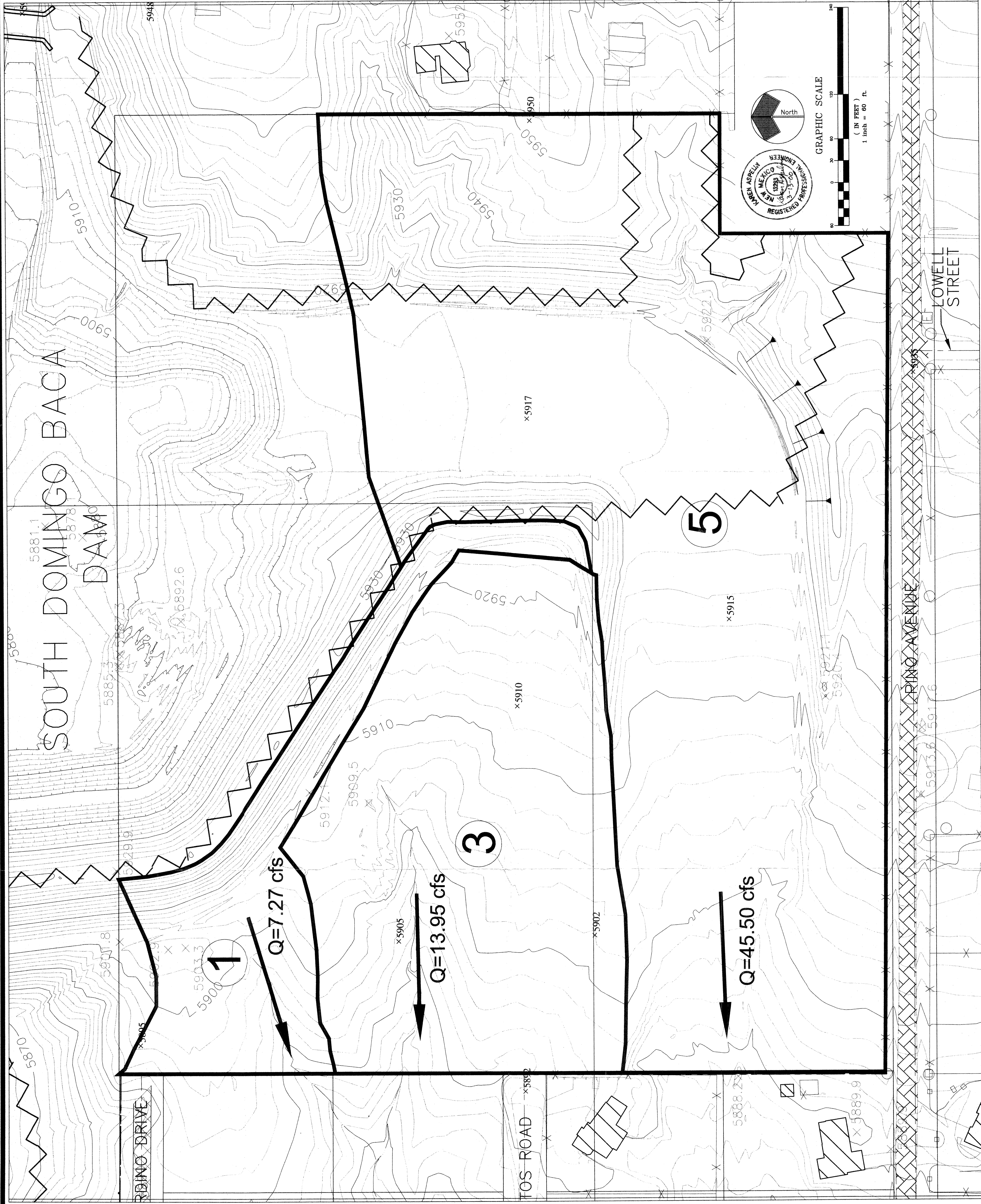
Notes

1. ALL ELEVATIONS SHOWN ARE MEAN SEA LEVEL (MSL)
2. GRADES SHOWN ARE TOP OF GROUND UNLESS OTHERWISE NOTED
3. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS BY CONDUCTING A SITE INSPECTION PRIOR TO CONSTRUCTION.

South Domingo
Baca Dam
Equestrian
Park

Bernalillo County Parks and
Recreation Department

SHEET 1 OF 2



HYDROLOGY SECTION
MAR 14 2000
U.S. GEOLOGICAL SURVEY

Site is currently used as a storm water drainage facility. The proposed joint use park will provide for public recreation activities including a equestrian park, walking trails and seating areas.

Current Zoning: A-1 with Special Use

31.48 ac. $\pm$

- Signage
- Trash Receptacle
- Drinking Fountain
- Shade Structures
- Seating

SUB-BASIN #	DIRECTION OF SURFACE FLOW	BASIN LINE	FLOOD ZONE	EXISTING TOPO	PROPOSED TOPO	PROPOSED ELEV	EXISTING ELEV
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1. ALL ELEVATIONS SHOWN ARE MEAN SEA LEVEL (MSL)
2. STREET GRADES SHOW ARE FINISHED GROUND UNLESS OTHERWISE NOTED
3. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS BY CONDUCTING A SITE INSPECTION PRIOR TO CONSTRUCTION.

RECEIVED
MAR 14 2000
HYDROLOGY SECTION

SHEET 2 OF 2

100 YEARS
Parsons
Brinckerhoff
5801 Osuna Rd. NE — Suite
Albuquerque, NM 87109 — (505) 881-1000

