

DRAINAGE REPORT

Sandia Area Federal
Credit Union

GATEWAY NORTH

TRACT C-1A

FOR

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333 RIO RANCHO DRIVE N.E.
RIO RANCHO, N.M. 87124

SEPTEMBER, 1996



9/18/96

Approved 9-25-96
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DRAINAGE REPORT GATEWAY NORTH, TRACT C-1A

INTRODUCTION

A new branch of the Sandia Area Federal Credit Union is proposed in Rio Rancho, New Mexico. This drainage analysis measures the quantity of the developed storm runoff from the site and the infrastructure necessary to limit the runoff to acceptable levels.

SITE LOCATION & EXISTING CONDITIONS

The property is located in the Gateway North subdivision on Tract C-1A. This subdivision is in Unit 16. The lots are bounded on the east by N.M. 528 (Rio Rancho Blvd.), on the south by Grande Ct., on the north by Sara Rd. and on the west by Grande Blvd. The project will combine the three lots and develop the eastern two-thirds which will be approximately 1.62 ac. in area. The site is sparsely vegetated and slopes approximately 2% to the southeast. Figure 1 shows existing contours of the site.

METHODOLOGY

The methodology used to determine the runoff produced by the development is the AHYMO (Albuquerque Hydrologic Model) computer program developed by the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) as recommended in the City of Albuquerque's Development Process Manual (DPM), Section 22.2 - Hydrology.

PRECIPITATION

A 100-year, 24-hour design storm with peak intensity at 1.4 hours was used per the NOAA Atlas 2, Precipitation - Frequency Atlas of the Western United States, Vol. IV - New Mexico. A type 2 storm was used because of the need for a detention pond to decrease runoff peak flows, as recommended in the DPM, Section 22.2. Figure 2 shows the project location with respect to the 100-year, 24-hour isopluvials.

DRAINAGE PLAN

For design purposes, the site was divided into 5 basins (see Figure 3). Basin 5 consists of the building, which is drained via roof drains to the drive-thru area. Basin 5 will then add to a portion of Basin 1 and be detained in Pond 3. Basin 3 will drain the northern part of the parking lot thru a shallow, relatively flat, wide swale which will drain to the east before entering the access road and combining with the remaining portion of Basin 1. This portion will flow to the existing drop inlet in Grande Ct. Basin 4 will mostly drain to a small pond (Pond 1) and then be released in the street. Basin 2 will be detained in Pond 2 before entering the street. Vertical concrete walls will be utilized to maximize the volume of the ponds.

CONCLUSION

The site drains to the Rio Rancho Blvd. channel and ultimately to the Black Arroyo. Because of agreements with AMAFCA, the runoff is limited to 0.5 cfs per acre. The developed site contains approximately 1.62 acres, therefore, a maximum peak flow can be no more than 0.81 cfs. The results of the AHYMO program indicate that 0.81 cfs is released.

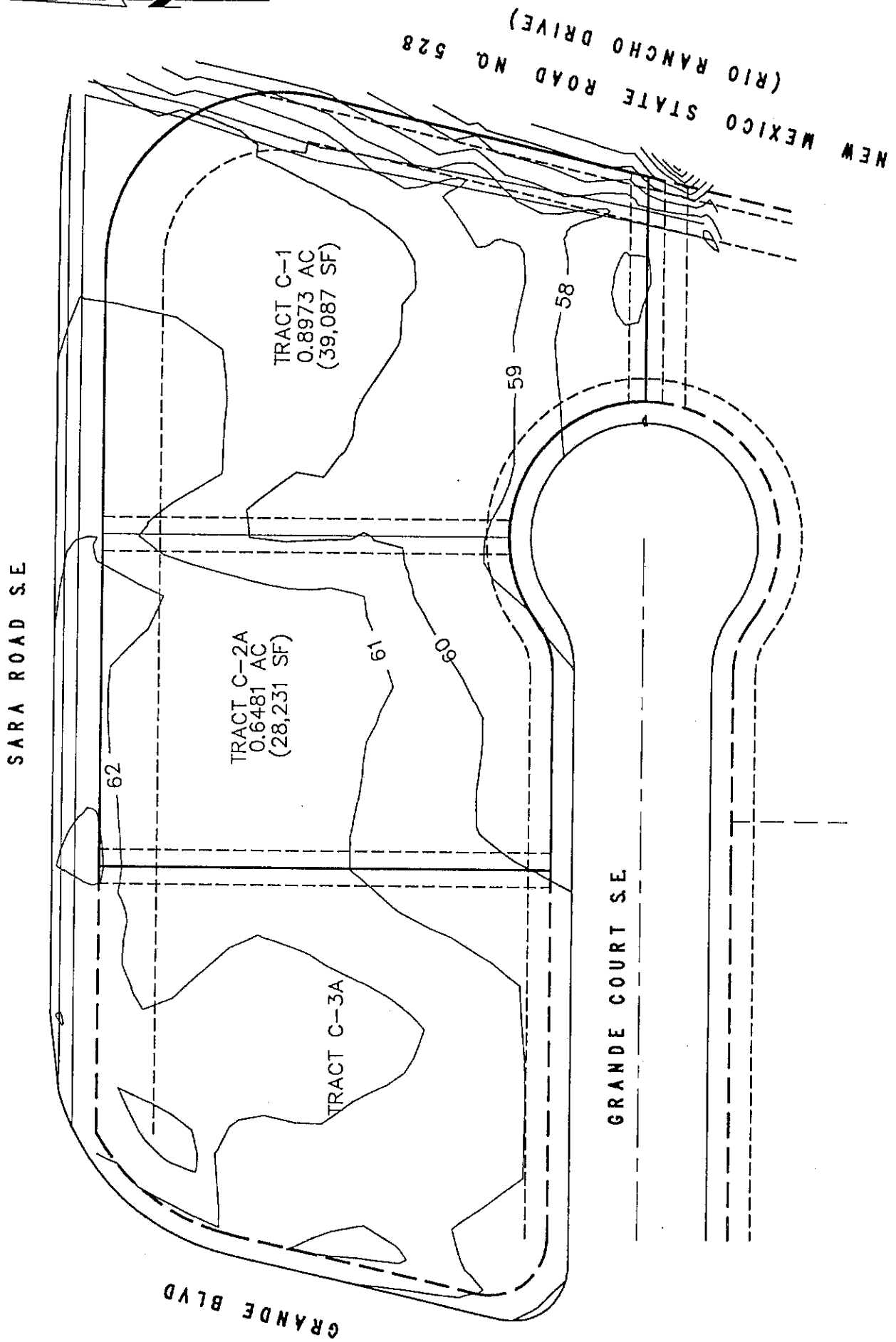


FIGURE 1

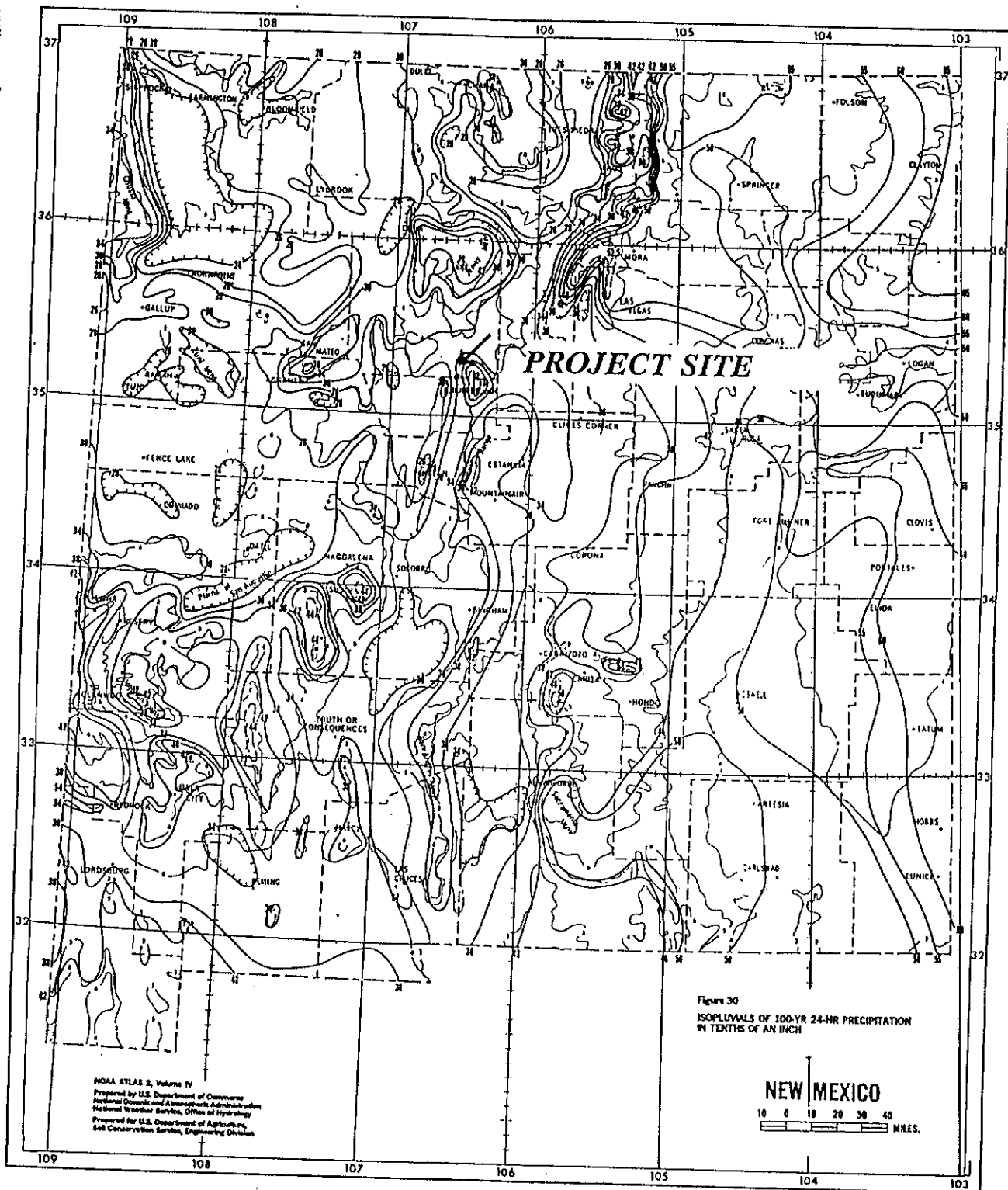
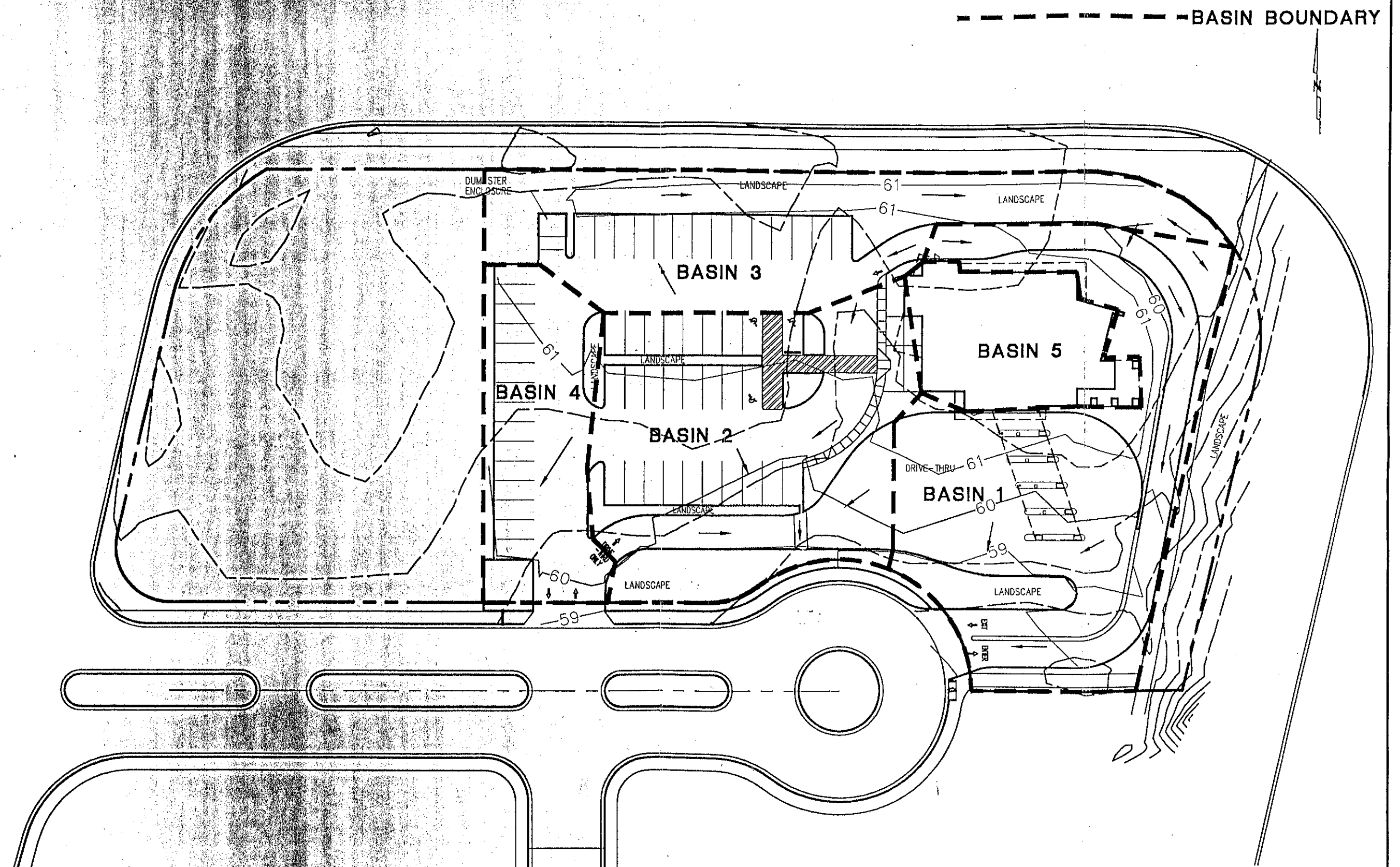


FIGURE 2



APPENDIX

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START          TIME=0.0 CODE 0 -1
*S             COMPUTE 100 YR. HYDROGRAPHS FOR THE BLOCK S LOT 27A
*S             SAFCU.DAT      -      HYMO PER JAN 1993 DPM REVISIONS
*S
RAINFALL      TYPE=-1 RAIN QUAR=0.0 RAIN ONE= 1.9
               RAIN SIX= 2.4 RAIN DAY=2.8 DT=0.03333
-----
*S COMPUTE HISTORIC DISCHARGE
COMPUTE NM HYD ID=1    HYD NO= 101.1    DA=0.002366 SQ MI
               PER A=100 PER B=0 PER C=0 PER D=0 TP=-.13
               RAIN=-1
PRINT HYD     ID=1      CODE=10
-----
RAINFALL      TYPE=-2 RAIN QUAR=0.0 RAIN ONE= 1.9
               RAIN SIX= 2.4 RAIN DAY=2.8 DT=0.05
-----
S BASIN 1
COMPUTE NM HYD ID=2    HYD NO 102.1 DA=0.000650 SQ MI
               PER A=0 PER B=20 PER C=0 PER D=80 TP=-.13
               RAIN=-1
PRINT HYD     ID=2      CODE=10
DIVIDE HYD    ID=2 PER=-75 ID I=3 HYD=103.1
               ID II=4 HYD=104.1
S ID 3 WILL BE DETAINED IN POND, ID 4 WILL DRAIN TO STREET VIA FIRE LANE
-----
S BASIN 2
COMPUTE NM HYD ID=5    HYD NO 105.1 DA=0.000635 SQ MI
               PER A=0 PER B=18 PER C=0 PER D=82 TP=-.13
               RAIN=-1
PRINT HYD     ID=5      CODE=10
-----
S BASIN 3
COMPUTE NM HYD ID=6    HYD NO 106.1 DA=0.000608 SQ MI
               PER A=0 PER B=54 PER C=0 PER D=46 TP=-.13
               RAIN=-1
PRINT HYD     ID=6      CODE=10
-----
S BASIN 4
COMPUTE NM HYD ID=7    HYD NO 107.1 DA=0.000278 SQ MI
               PER A=0 PER B=18 PER C=0 PER D=82 TP=-.13
               RAIN=-1
PRINT HYD     ID=7      CODE=10
DIVIDE HYD    ID=7 PER=-90 ID I=8 HYD=108.1
               ID II=9 HYD=109.1
S ID 9 WILL DRAIN TO STREET, ID 8 WILL BE DETAINED IN POND # 1
ROUTE RESERVOIR ID=10 HYD=110.1 ID=8 CODE=10
               OUT      STORE      ELEV
               0.0      0.0      0.0
               0.079    0.01      0.5
               0.157    0.02      1.0
               0.235    0.03      1.5
PRINT HYD     ID=10 CODE 10
DD HYD        ID=11 HYD=111.1 ID=10 ID=9
COMPUTE RATING CURVE CID=-1 VS=3 SEG=1 MINEL=0.0 MAXEL=0.67 CHSLP=0.01
               FSLP=0.005 N=0.017 D=33
               DIST      ELEV
               0.0      0.67
               0.5      0.0
               33      0.67
COMPUTE TRAVEL TIME ID=12 REACH 1 NO VS 1 L=180 S=.0125

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ROUTE ID=12 HYD=112.1 IN=11 DT=0.0
PRINT HYD ID=12 CODE 10

S BASIN 5
COMPUTE NM HYD ID=13 HYD NO 113.1 DA=0.000198 SQ MI
PER A=0 PER B=0 PER C=0 PER D=100 TP=-.13
RAIN=-1
PRINT HYD ID=13 CODE=10

S ROUTE BASIN 3 THROUGH POND # 2
ROUTE RESERVOIR ID=14 HYD=114.1 ID=6 CODE 10
OUT STORE ELEV
0.0 0.0 0.0
0.09 0.0330 0.5
0.18 0.0661 1.0
0.27 0.0992 1.5
PRINT HYD ID=14 CODE=10

*S ROUTE BASIN 5 THROUGH ROOF DRAINS
ROUTE RESERVOIR ID=15 HYD=115.1 ID=13 CODE 10
OUT STORE ELEV
0.0 0.0 0.0
0.206 0.0330 0.25
0.291 0.0661 0.5
0.357 0.0992 0.75

PRINT HYD ID=15 CODE=10
S ADD BASIN 5 TO BASIN 1(SPLIT)
ADD HYD ID=16 HYD=116.1 ID=15 ID=3
PRINT HYD ID=16 CODE 10

*S ROUTE BASIN 3 FROM POND # 2 TO STREET VIA FIRE LANE
COMPUTE RATING CURVE CID=-1 VS=4 SEG=1 MINEL=0.0 MAXEL=0.5 CHSLP=0.0125
FSLP=0.005 N=0.017 D=12
DIST ELEV
0.0 0.5
0.1 0.0
11.9 0.0
12.0 0.5

COMPUTE TRAVEL TIME ID 17 REACH 1 NO VS 1 L=240 S=.0125
ROUTE ID=17 HYD=117.1 IN=14 DT=0.0
PRINT HYD ID=17 CODE 10

*S ADD TO BASIN 1(SPLIT)
ADD HYD ID=18 HYD=118.1 ID=17 ID=4
PRINT HYD ID=18 CODE 10

*S ROUTE BASINS 1(SPLIT) AND 5 THROUGH DETENTION POND
ROUTE RESERVOIR ID=19 HYD=119.1 ID=16 CODE 10
OUT STORE ELEV
0.0 0.0 0.0
0.13 0.0225 0.5
0.26 0.0409 1.0
0.39 0.0688 1.5
PRINT HYD ID=19 CODE=10

*S ROUTE BASIN 2 THROUGH DETENTION POND
ROUTE RESERVOIR ID=20 HYD=120.1 ID=5 CODE 10
OUT STORE ELEV
0.0 0.0 0.0
0.13 0.0225 0.5
0.26 0.0409 1.0

0.39 0.0688 1.5

PRINT HYD ID=20 CODE=10

ADD HYD ID=21 HYD=121.1 ID=12 ID=19
PRINT HYD ID=21 CODE 10
ADD HYD ID=22 HYD=122.1 ID=18 ID=20
PRINT HYD ID=22 CODE 10
*S TOTAL AMOUNT LEAVING SITE
ADD HYD ID=23 HYD=123.1 ID=21 ID=22
PRINT HYD ID=23 CODE 10
FINISH

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 RUN DATE (MON/DAY/YR) = 09/17/1996
 START TIME (HR:MIN:SEC) = 12:32:41 USER NO.= CINFRNM.101
 INPUT FILE = SAFCU.DAT

START TIME=0.0 CODE 0 -1
 COMPUTE 100 YR. HYDROGRAPHS FOR THE BLOCK S LOT 27A
 SAFCU.DAT - HYMO PER JAN 1993 OPM REVISIONS

*S
 RAINFALL TYPE=-1 RAIN QUAR=0.0 RAIN ONE= 1.9
 RAIN SIX= 2.4 RAIN DAY=2.8 DT=0.03333

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
 DT = .033330 HOURS END TIME = 5.999400 HOURS

*S COMPUTE HISTORIC DISCHARGE

COMPUTE NM HYD ID=1 HYD NO= 101.1 DA=0.002366 SQ MI
 PER A=100 PER B=0 PER C=0 PER D=0 TP=-.13
 RAIN=-1

K = .158894HR TP = .130000HR K/TP RATIO = 1.222262 SHAPE CONSTANT, N = 2.911962
 UNIT PEAK = 4.9971 CFS UNIT VOLUME = .9967 B = 274.56 P60 = 1.9000
 AREA = .002366 SQ MI IA = .65000 INCHES INF = 1.67000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=1 CODE=10

PARTIAL HYDROGRAPH 101.10

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	1.000	.0	2.000	.2	3.000	.0		
.333	.0	1.333	.0	2.333	.1	3.333	.0		
.667	.0	1.666	1.3	2.666	.1	3.666	.0		

RUNOFF VOLUME = .51772 INCHES = .0653 ACRE-FEET
 PEAK DISCHARGE RATE = 2.33 CFS AT 1.500 HOURS BASIN AREA = .0024 SQ. MI.

INFALL TYPE=-2 RAIN QUAR=0.0 RAIN ONE= 1.9
 RAIN SIX= 2.4 RAIN DAY=2.8 DT=0.05

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
 DT = .050000 HOURS END TIME = 24.000000 HOURS

BASIN 1
 COMPUTE NM HYD ID=2 HYD NO 102.1 DA=0.000650 SQ MI
 PER A=0 PER B=20 PER C=0 PER D=80 TP=-.13
 RAIN=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 2.1051 CFS UNIT VOLUME = .9949 B = 526.28 P60 = 1.9000
 AREA = .000520 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .127524HR TP = .130000HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = .32755 CFS UNIT VOLUME = .9587 B = 327.55 P60 = 1.9000
 AREA = .000130 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=2 CODE=10

PARTIAL HYDROGRAPH 102.10

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
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.1	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	1.7	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.4	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.0	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 2.19116 INCHES = .0760 ACRE-FEET
 PEAK DISCHARGE RATE = 1.67 CFS AT 1.500 HOURS BASIN AREA = .0007 SQ. MI.

DIVIDE HYD ID=2 PER=-75 ID I=3 HYD=103.1

ID II=4 HYD=104.1

ID 3 WILL BE DETAINED IN POND, ID 4 WILL DRAIN TO STREET VIA FIRE LANE

*S BASIN 2

MPUTE NM HYD ID=5 HYD NO 105.1 DA=0.000635 SQ MI
 PER A=0 PER B=18 PER C=0 PER D=82 TP=-.13
 RAIN=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 2.1079 CFS UNIT VOLUME = .9949 B = 526.28 P60 = 1.9000
 AREA = .000521 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .127524HR TP = .130000HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = .28799 CFS UNIT VOLUME = .9527 B = 327.55 P60 = 1.9000
 AREA = .000114 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=5 CODE=10

PARTIAL HYDROGRAPH 105.10

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
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.1	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	1.7	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.4	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.0	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0

3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 2.22717 INCHES = .0754 ACRE-FEET
 PEAK DISCHARGE RATE = 1.65 CFS AT 1.500 HOURS BASIN AREA = .0006 SQ. MI.

*S BASIN 3

COMPUTE NM HYD ID=6 HYD NO 106.1 DA=0.000608 SQ MI
 PER A=0 PER B=54 PER C=0 PER D=46 TP=-.13
 RAIN=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 1.1322 CFS UNIT VOLUME = .9903 B = 526.28 P60 = 1.9000
 AREA = .000280 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .127524HR TP = .130000HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = .82724 CFS UNIT VOLUME = .9862 B = 327.55 P60 = 1.9000
 AREA = .000328 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

INT HYD ID=6 CODE=10

PARTIAL HYDROGRAPH 106.10

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	1.3	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.2	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.0	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 1.57890 INCHES = .0512 ACRE-FEET
 PEAK DISCHARGE RATE = 1.28 CFS AT 1.500 HOURS BASIN AREA = .0006 SQ. MI.

* BASIN 4

COMPUTE NM HYD ID=7 HYD NO 107.1 DA=0.000278 SQ MI
 PER A=0 PER B=18 PER C=0 PER D=82 TP=-.13
 RAIN=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = .92284 CFS UNIT VOLUME = .9878 B = 526.28 P60 = 1.9000
 AREA = .000228 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .127524HR TP = .130000HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = .12608 CFS UNIT VOLUME = .8951 B = 327.55 P60 = 1.9000
 AREA = .000050 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=7 CODE=10

PARTIAL HYDROGRAPH 107.10

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
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	.7	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.2	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.0	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 2.22718 INCHES = .0330 ACRE-FEET
 PEAK DISCHARGE RATE = .73 CFS AT 1.500 HOURS BASIN AREA = .0003 SQ. MI.

DIVIDE HYD ID=7 PER=-90 ID I=8 HYD=108.1
 ID II=9 HYD=109.1

ID 9 WILL DRAIN TO STREET, ID 8 WILL BE DETAINED IN POND # 1

ROUTE RESERVOIR ID=10 HYD=110.1 ID=8 CODE=10

OUT	STORE	ELEV
0.0	0.0	0.0
0.079	0.01	0.5
0.157	0.02	1.0
0.235	0.03	1.5

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	.00	.000	.00
.50	.00	.00	.000	.00
1.00	.02	.01	.000	.00
1.50	.66	.38	.008	.06
2.00	.14	.79	.016	.12
2.50	.02	.66	.013	.10
3.00	.01	.50	.010	.08
3.50	.01	.37	.007	.06
4.00	.01	.28	.006	.04
4.50	.01	.21	.004	.03
5.00	.01	.16	.003	.03
5.50	.01	.13	.003	.02
6.00	.01	.10	.002	.02
6.50	.00	.08	.002	.01
7.00	.00	.07	.001	.01
7.50	.00	.06	.001	.01
8.00	.00	.05	.001	.01
8.50	.00	.04	.001	.01

9.00 .00 .04 .001 .01
 9.50 .00 .03 .001 .01
 10.00 .00 .03 .001 .00
 PEAK DISCHARGE = .125 CFS - PEAK OCCURS AT HOUR 2.05
 MAXIMUM WATER SURFACE ELEVATION = .795
 MAXIMUM STORAGE = .0159 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=10 CODE 10

PARTIAL HYDROGRAPH 110.10

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	5.500	.0	11.000	.0	16.500	.0	22.000	.0
.500	.0	6.000	.0	11.500	.0	17.000	.0	22.500	.0
1.000	.0	6.500	.0	12.000	.0	17.500	.0	23.000	.0
1.500	.1	7.000	.0	12.500	.0	18.000	.0	23.500	.0
2.000	.1	7.500	.0	13.000	.0	18.500	.0	24.000	.0
2.500	.1	8.000	.0	13.500	.0	19.000	.0	24.500	.0
3.000	.1	8.500	.0	14.000	.0	19.500	.0	25.000	.0
3.500	.1	9.000	.0	14.500	.0	20.000	.0		
4.000	.0	9.500	.0	15.000	.0	20.500	.0		
4.500	.0	10.000	.0	15.500	.0	21.000	.0		
5.000	.0	10.500	.0	16.000	.0	21.500	.0		

RUNOFF VOLUME = 2.22598 INCHES = .0297 ACRE-Feet
 PEAK DISCHARGE RATE = .13 CFS AT 2.050 HOURS BASIN AREA = .0003 SQ. MI.

ID=11 HYD=111.1 ID=10 ID=9
 COMPUTE RATING CURVE CID=-1 VS=3 SEG=1 MINEL=0.0 MAXEL=0.67 CHSLP=0.01
 FSLP=0.005 N=0.017 D=33
 DIST ELEV
 0.0 0.67
 0.5 0.0
 33 0.67

COMPUTE TRAVEL TIME ID=12 REACH 1 NO VS 1 L=180 S=.0125

TRAVEL TIME TABLE

REACH= 1.0

WATER	AVERAGE	FLOW	TRAVEL
DEPTH	AREA	RATE	TIME
FEET	SQ. FT.	CFS	HRS
.035	.031	.01	.1202
.071	.122	.08	.0757
.106	.276	.24	.0578
.141	.490	.51	.0477
.176	.766	.93	.0411
.212	1.102	1.51	.0364
.247	1.501	2.28	.0329
.282	1.960	3.26	.0301
.317	2.480	4.46	.0278
.353	3.062	5.91	.0259
.388	3.705	7.62	.0243
.423	4.410	9.61	.0229
.458	5.175	11.90	.0217
.494	6.002	14.50	.0207
.529	6.890	17.43	.0198

.564	7.840	20.70	.0189
.599	8.850	24.33	.0182
.635	9.922	28.34	.0175
.670	11.055	32.73	.0169

ROUTE ID=12 HYD=112.1 IN=11 DT=0.0
 PRINT HYD ID=12 CODE 10

PARTIAL HYDROGRAPH 112.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.500	.0	11.000	.0	16.500	.0	22.000	.0
.500	.0	6.000	.0	11.500	.0	17.000	.0	22.500	.0
1.000	.0	6.500	.0	12.000	.0	17.500	.0	23.000	.0
1.500	.1	7.000	.0	12.500	.0	18.000	.0	23.500	.0
2.000	.1	7.500	.0	13.000	.0	18.500	.0	24.000	.0
2.500	.1	8.000	.0	13.500	.0	19.000	.0	24.500	.0
3.000	.1	8.500	.0	14.000	.0	19.500	.0	25.000	.0
3.500	.1	9.000	.0	14.500	.0	20.000	.0		
4.000	.0	9.500	.0	15.000	.0	20.500	.0		
4.500	.0	10.000	.0	15.500	.0	21.000	.0		
5.000	.0	10.500	.0	16.000	.0	21.500	.0		

RUNOFF VOLUME = 2.17507 INCHES = .0322 ACRE-FEET
 PEAK DISCHARGE RATE = .14 CFS AT 1.900 HOURS BASIN AREA = .0003 SQ. MI.

BASIN 5
 COMPUTE NM HYD ID=13 HYD NO 113.1 DA=0.000198 SQ MI
 PER A=0 PER B=0 PER C=0 PER D=100 TP=-.13
 RAIN=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = .80156 CFS UNIT VOLUME = .9848 B = 526.28 P60 = 1.9000
 AREA = .000198 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

INT HYD ID=13 CODE=10

PARTIAL HYDROGRAPH 113.10

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
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	.6	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.1	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.0	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 2.55131 INCHES = .0269 ACRE-FEET
 PEAK DISCHARGE RATE = .57 CFS AT 1.500 HOURS BASIN AREA = .0002 SQ. MI.

ROUTE BASIN 3 THROUGH POND # 2

ROUTE RESERVOIR ID=14 HYD=114.1 ID=6 CODE 10

OUT	STORE	ELEV
0.0	0.0	0.0
0.09	0.0330	0.5
0.18	0.0661	1.0
0.27	0.0992	1.5

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	.00	.000	.00
.50	.00	.00	.000	.00
1.00	.03	.01	.000	.00
1.50	1.28	.21	.014	.04
2.00	.24	.52	.035	.09
2.50	.04	.52	.035	.09
3.00	.01	.48	.032	.09
3.50	.01	.44	.029	.08
4.00	.01	.39	.026	.07
4.50	.01	.36	.024	.06
5.00	.01	.32	.021	.06
5.50	.01	.29	.019	.05
6.00	.01	.27	.018	.05
6.50	.01	.24	.016	.04
7.00	.01	.22	.015	.04
7.50	.01	.20	.013	.04
8.00	.01	.18	.012	.03
8.50	.01	.17	.011	.03
9.00	.01	.15	.010	.03
9.50	.01	.14	.009	.02
10.00	.00	.13	.008	.02
10.50	.00	.12	.008	.02
11.00	.00	.11	.007	.02
11.50	.00	.10	.006	.02
12.00	.00	.09	.006	.02
12.50	.00	.08	.005	.01
13.00	.00	.08	.005	.01
13.50	.00	.07	.005	.01
14.00	.00	.07	.004	.01
14.50	.00	.06	.004	.01
15.00	.00	.06	.004	.01
15.50	.00	.05	.004	.01
16.00	.00	.05	.003	.01
16.50	.00	.05	.003	.01
17.00	.00	.04	.003	.01
17.50	.00	.04	.003	.01
18.00	.00	.04	.003	.01
18.50	.00	.04	.002	.01
19.00	.00	.03	.002	.01
19.50	.00	.03	.002	.01
20.00	.00	.03	.002	.01
20.50	.00	.03	.002	.01
21.00	.00	.03	.002	.01
21.50	.00	.03	.002	.00

PEAK DISCHARGE = .097 CFS - PEAK OCCURS AT HOUR 2.20

MAXIMUM WATER SURFACE ELEVATION = .540
MAXIMUM STORAGE = .0357 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=14 CODE=10

PARTIAL HYDROGRAPH 114.10

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	6.000	.0	12.000	.0	18.000	.0	24.000	.0
.500	.0	6.500	.0	12.500	.0	18.500	.0	24.500	.0
1.000	.0	7.000	.0	13.000	.0	19.000	.0	25.000	.0
1.500	.0	7.500	.0	13.500	.0	19.500	.0	25.500	.0
2.000	.1	8.000	.0	14.000	.0	20.000	.0	26.000	.0
2.500	.1	8.500	.0	14.500	.0	20.500	.0	26.500	.0
3.000	.1	9.000	.0	15.000	.0	21.000	.0	27.000	.0
3.500	.1	9.500	.0	15.500	.0	21.500	.0	27.500	.0
4.000	.1	10.000	.0	16.000	.0	22.000	.0	28.000	.0
4.500	.1	10.500	.0	16.500	.0	22.500	.0	28.500	.0
5.000	.1	11.000	.0	17.000	.0	23.000	.0	29.000	.0
5.500	.1	11.500	.0	17.500	.0	23.500	.0	29.500	.0

RUNOFF VOLUME = 1.56655 INCHES = .0508 ACRE-FEET
PEAK DISCHARGE RATE = .10 CFS AT 2.200 HOURS BASIN AREA = .0006 SQ. MI.

ROUTE BASIN 5 THROUGH ROOF DRAINS

OUT	STORE	ELEV
0.0	0.0	0.0
0.206	0.0330	0.25
0.291	0.0661	0.5
0.357	0.0992	0.75

TIME	INFLOW	ELEV	VOLUME	OUTFLOW
(HRS)	(CFS)	(FEET)	(AC-FT)	(CFS)
.00	.00	.00	.000	.00
.50	.00	.00	.000	.00
1.00	.02	.00	.000	.00
1.50	.57	.05	.007	.04
2.00	.14	.11	.015	.09
2.50	.02	.10	.013	.08
3.00	.01	.08	.011	.07
3.50	.01	.06	.009	.05
4.00	.01	.05	.007	.04
4.50	.01	.04	.005	.03
5.00	.01	.03	.004	.03
5.50	.01	.03	.004	.02
6.00	.01	.02	.003	.02
6.50	.00	.02	.003	.02
7.00	.00	.02	.002	.01
7.50	.00	.01	.002	.01
8.00	.00	.01	.002	.01
8.50	.00	.01	.001	.01
9.00	.00	.01	.001	.01

9.50	.00	.01	.001	.01
10.00	.00	.01	.001	.01
10.50	.00	.01	.001	.01
11.00	.00	.01	.001	.00

PEAK DISCHARGE = .094 CFS - PEAK OCCURS AT HOUR 2.10
 MAXIMUM WATER SURFACE ELEVATION = .114
 MAXIMUM STORAGE = .0150 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=15 CODE=10

PARTIAL HYDROGRAPH 115.10

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	5.500	.0	11.000	.0	16.500	.0	22.000	.0
.500	.0	6.000	.0	11.500	.0	17.000	.0	22.500	.0
1.000	.0	6.500	.0	12.000	.0	17.500	.0	23.000	.0
1.500	.0	7.000	.0	12.500	.0	18.000	.0	23.500	.0
2.000	.1	7.500	.0	13.000	.0	18.500	.0	24.000	.0
2.500	.1	8.000	.0	13.500	.0	19.000	.0	24.500	.0
3.000	.1	8.500	.0	14.000	.0	19.500	.0	25.000	.0
3.500	.1	9.000	.0	14.500	.0	20.000	.0	25.500	.0
4.000	.0	9.500	.0	15.000	.0	20.500	.0		
4.500	.0	10.000	.0	15.500	.0	21.000	.0		
5.000	.0	10.500	.0	16.000	.0	21.500	.0		

RUNOFF VOLUME = 2.54888 INCHES = .0269 ACRE-Feet
 PEAK DISCHARGE RATE = .09 CFS AT 2.100 HOURS BASIN AREA = .0002 SQ. MI.

ADD BASIN 5 TO BASIN 1(SPLIT)

DD HYD ID=16 HYD=116.1 ID=15 ID=3
 PRINT HYD ID=16 CODE 10

PARTIAL HYDROGRAPH 116.10

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	5.500	.0	11.000	.0	16.500	.0	22.000	.0
.500	.0	6.000	.0	11.500	.0	17.000	.0	22.500	.0
1.000	.0	6.500	.0	12.000	.0	17.500	.0	23.000	.0
1.500	1.3	7.000	.0	12.500	.0	18.000	.0	23.500	.0
2.000	.4	7.500	.0	13.000	.0	18.500	.0	24.000	.0
2.500	.1	8.000	.0	13.500	.0	19.000	.0	24.500	.0
3.000	.1	8.500	.0	14.000	.0	19.500	.0	25.000	.0
3.500	.1	9.000	.0	14.500	.0	20.000	.0	25.500	.0
4.000	.1	9.500	.0	15.000	.0	20.500	.0		
4.500	.0	10.000	.0	15.500	.0	21.000	.0		
5.000	.0	10.500	.0	16.000	.0	21.500	.0		

RUNOFF VOLUME = 2.29014 INCHES = .0837 ACRE-Feet
 PEAK DISCHARGE RATE = 1.30 CFS AT 1.500 HOURS BASIN AREA = .0007 SQ. MI.

ROUTE BASIN 3 FROM POND # 2 TO STREET VIA FIRE LANE

COMPUTE RATING CURVE CID=-1 VS=4 SEG=1 MINEL=0.0 MAXEL=0.5 CHSLP=0.0125
 FSLP=0.005 N=0.017 D=12

DIST ELEV
0.0 0.5
0.1 0.0
11.9 0.0
12.0 0.5

COMPUTE TRAVEL TIME ID 17 REACH 1 NO VS 1 L=240 S=.0125

TRAVEL TIME TABLE

REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ. FT.	FLOW RATE CFS	TRAVEL TIME HRS
.026	.311	.17	.1222
.053	.622	.54	.0772
.079	.933	1.05	.0591
.105	1.244	1.70	.0489
.132	1.556	2.45	.0423
.158	1.868	3.32	.0375
.184	2.180	4.28	.0339
.211	2.493	5.34	.0311
.237	2.806	6.48	.0289
.263	3.119	7.71	.0270
.289	3.433	9.02	.0254
.316	3.746	10.40	.0240
.342	4.060	11.86	.0228
.368	4.375	13.39	.0218
.395	4.689	14.99	.0209
.421	5.004	16.66	.0200
.447	5.319	18.39	.0193
.474	5.634	20.19	.0186
.500	5.950	22.05	.0180

ROUTE

ID=17 HYD=117.1 IN=14 DT=0.0

PRINT HYD

ID=17 CODE 10

PARTIAL HYDROGRAPH 117.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	.0	12.000	.0	18.000	.0	24.000	.0
.500	.0	6.500	.0	12.500	.0	18.500	.0	24.500	.0
1.000	.0	7.000	.0	13.000	.0	19.000	.0	25.000	.0
1.500	.0	7.500	.0	13.500	.0	19.500	.0	25.500	.0
2.000	.1	8.000	.0	14.000	.0	20.000	.0	26.000	.0
2.500	.1	8.500	.0	14.500	.0	20.500	.0	26.500	.0
3.000	.1	9.000	.0	15.000	.0	21.000	.0	27.000	.0
3.500	.1	9.500	.0	15.500	.0	21.500	.0	27.500	.0
4.000	.1	10.000	.0	16.000	.0	22.000	.0	28.000	.0
4.500	.1	10.500	.0	16.500	.0	22.500	.0	28.500	.0
5.000	.1	11.000	.0	17.000	.0	23.000	.0	29.000	.0
5.500	.1	11.500	.0	17.500	.0	23.500	.0	29.500	.0

RUNOFF VOLUME = 1.56621 INCHES = .0508 ACRE-Feet

PEAK DISCHARGE RATE = .10 CFS AT 2.350 HOURS BASIN AREA = .0006 SQ. MI.

*S ADD TO BASIN 1(SPLIT)

ADD HYD ID=18 HYD=118.1 ID=17 ID=4

PRINT HYD ID=18 CODE 10

PARTIAL HYDROGRAPH 118.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	.1	12.000	.0	18.000	.0	24.000	.0
.500	.0	6.500	.0	12.500	.0	18.500	.0	24.500	.0
1.000	.0	7.000	.0	13.000	.0	19.000	.0	25.000	.0
1.500	.4	7.500	.0	13.500	.0	19.500	.0	25.500	.0
2.000	.2	8.000	.0	14.000	.0	20.000	.0	26.000	.0
2.500	.1	8.500	.0	14.500	.0	20.500	.0	26.500	.0
3.000	.1	9.000	.0	15.000	.0	21.000	.0	27.000	.0
3.500	.1	9.500	.0	15.500	.0	21.500	.0	27.500	.0
4.000	.1	10.000	.0	16.000	.0	22.000	.0	28.000	.0
4.500	.1	10.500	.0	16.500	.0	22.500	.0	28.500	.0
5.000	.1	11.000	.0	17.000	.0	23.000	.0	29.000	.0
5.500	.1	11.500	.0	17.500	.0	23.500	.0	29.500	.0

RUNOFF VOLUME = 1.69775 INCHES = .0698 ACRE-Feet
 PEAK DISCHARGE RATE = .44 CFS AT 1.500 HOURS BASIN AREA = .0008 SQ. MI.

ROUTE BASINS 1(SPLIT) AND 5 THROUGH DETENTION POND
 ROUTE RESERVOIR ID=19 HYD=119.1 ID=16 CODE 10

OUT	STORE	ELEV
0.0	0.0	0.0
0.13	0.0225	0.5
0.26	0.0409	1.0
0.39	0.0688	1.5

PRINT HYD ID=19 CODE=10

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	.00	.000	.00
.50	.00	.00	.000	.00
1.00	.04	.01	.000	.00
1.50	1.30	.34	.015	.09
2.00	.38	.85	.035	.22
2.50	.12	.83	.035	.21
3.00	.08	.71	.030	.19
3.50	.07	.60	.026	.16
4.00	.05	.51	.023	.13
4.50	.05	.44	.020	.11
5.00	.04	.38	.017	.10
5.50	.03	.33	.015	.09
6.00	.03	.29	.013	.07
6.50	.02	.25	.011	.06
7.00	.02	.21	.010	.06
7.50	.02	.18	.008	.05
8.00	.02	.16	.007	.04
8.50	.02	.14	.006	.04
9.00	.01	.12	.005	.03
9.50	.01	.11	.005	.03
10.00	.01	.10	.004	.02
10.50	.01	.08	.004	.02

11.00	.01	.08	.003	.02
11.50	.01	.07	.003	.02
12.00	.01	.06	.003	.02
12.50	.01	.06	.003	.01
13.00	.01	.05	.002	.01
13.50	.01	.05	.002	.01
14.00	.01	.05	.002	.01
14.50	.01	.04	.002	.01
15.00	.01	.04	.002	.01
15.50	.01	.04	.002	.01
16.00	.01	.04	.002	.01
16.50	.01	.04	.002	.01
17.00	.01	.03	.002	.01
17.50	.01	.03	.002	.01
18.00	.01	.03	.001	.01
18.50	.01	.03	.001	.01
19.00	.01	.03	.001	.01
19.50	.01	.03	.001	.01
20.00	.01	.03	.001	.01
20.50	.01	.03	.001	.01
21.00	.01	.03	.001	.01
21.50	.01	.03	.001	.01
22.00	.01	.03	.001	.01
22.50	.01	.03	.001	.01
23.00	.01	.03	.001	.01
23.50	.01	.03	.001	.01
24.00	.01	.02	.001	.01
24.50	.00	.02	.001	.01
25.00	.00	.02	.001	.00

PEAK DISCHARGE = .228 CFS - PEAK OCCURS AT HOUR 2.15

MAXIMUM WATER SURFACE ELEVATION = .877

MAXIMUM STORAGE = .0364 AC-FT INCREMENTAL TIME= .050000HRS

 *S ROUTE BASIN 2 THROUGH DETENTION POND

ROUTE RESERVOIR ID=20 HYD=120.1 ID=5 CODE 10

OUT	STORE	ELEV
0.0	0.0	0.0
0.13	0.0225	0.5
0.26	0.0409	1.0
0.39	0.0688	1.5

PRINT HYD ID=20 CODE=10

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	.00	.000	.00
.50	.00	.00	.000	.00
1.00	.06	.01	.001	.00
1.50	1.65	.44	.020	.11
2.00	.38	1.02	.042	.27
2.50	.05	.91	.038	.24
3.00	.02	.71	.030	.19
3.50	.02	.55	.024	.14
4.00	.02	.44	.020	.11
4.50	.01	.36	.016	.09
5.00	.02	.30	.013	.08
5.50	.02	.24	.011	.06

6.00	.02	.21	.009	.05
6.50	.01	.17	.008	.04
7.00	.01	.15	.007	.04
7.50	.01	.12	.006	.03
8.00	.01	.11	.005	.03
8.50	.01	.09	.004	.02
9.00	.01	.08	.004	.02
9.50	.01	.07	.003	.02
10.00	.01	.06	.003	.02
10.50	.01	.06	.003	.01
11.00	.01	.05	.002	.01
11.50	.01	.05	.002	.01
12.00	.01	.04	.002	.01
12.50	.01	.04	.002	.01
13.00	.01	.04	.002	.01
13.50	.01	.04	.002	.01
14.00	.01	.04	.002	.01
14.50	.01	.03	.002	.01
15.00	.01	.03	.001	.01
15.50	.01	.03	.001	.01
16.00	.01	.03	.001	.01
16.50	.01	.03	.001	.01
17.00	.01	.03	.001	.01
17.50	.01	.03	.001	.01
18.00	.01	.03	.001	.01
18.50	.01	.03	.001	.01
19.00	.01	.03	.001	.01
19.50	.01	.03	.001	.01
20.00	.01	.02	.001	.01
20.50	.01	.02	.001	.01
21.00	.01	.02	.001	.01
21.50	.01	.02	.001	.01
22.00	.01	.02	.001	.01
22.50	.01	.02	.001	.01
23.00	.01	.02	.001	.01
23.50	.01	.02	.001	.01
24.00	.01	.02	.001	.01
24.50	.00	.02	.001	.00

PEAK DISCHARGE = .268 CFS - PEAK OCCURS AT HOUR 2.10
 MAXIMUM WATER SURFACE ELEVATION = 1.032
 MAXIMUM STORAGE = .0427 AC-FT INCREMENTAL TIME= .050000HRS

ID HYD ID=21 HYD=121.1 ID=12 ID=19
 PRINT HYD ID=21 CODE 10

PARTIAL HYDROGRAPH 121.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	.1	12.000	.0	18.000	.0	24.000	.0
.500	.0	6.500	.1	12.500	.0	18.500	.0	24.500	.0
1.000	.0	7.000	.1	13.000	.0	19.000	.0	25.000	.0
1.500	.2	7.500	.1	13.500	.0	19.500	.0	25.500	.0
2.000	.4	8.000	.0	14.000	.0	20.000	.0	26.000	.0
2.500	.3	8.500	.0	14.500	.0	20.500	.0	26.500	.0
3.000	.3	9.000	.0	15.000	.0	21.000	.0	27.000	.0
3.500	.2	9.500	.0	15.500	.0	21.500	.0	27.500	.0
4.000	.2	10.000	.0	16.000	.0	22.000	.0	28.000	.0
4.500	.1	10.500	.0	16.500	.0	22.500	.0		

5.000	.1	11.000	.0	17.000	.0	23.000	.0
5.500	.1	11.500	.0	17.500	.0	23.500	.0

RUNOFF VOLUME = 2.25272 INCHES = .1158 ACRE-FEET
 PEAK DISCHARGE RATE = .37 CFS AT 2.100 HOURS BASIN AREA = .0010 SQ. MI.

ADD HYD ID=22 HYD=122.1 ID=18 ID=20
 PRINT HYD ID=22 CODE 10

PARTIAL HYDROGRAPH 122.10

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	6.000	.1	12.000	.0	18.000	.0	24.000	.0
.500	.0	6.500	.1	12.500	.0	18.500	.0	24.500	.0
1.000	.0	7.000	.1	13.000	.0	19.000	.0	25.000	.0
1.500	.5	7.500	.1	13.500	.0	19.500	.0	25.500	.0
2.000	.4	8.000	.1	14.000	.0	20.000	.0	26.000	.0
2.500	.3	8.500	.1	14.500	.0	20.500	.0	26.500	.0
3.000	.3	9.000	.1	15.000	.0	21.000	.0	27.000	.0
3.500	.2	9.500	.0	15.500	.0	21.500	.0	27.500	.0
4.000	.2	10.000	.0	16.000	.0	22.000	.0	28.000	.0
4.500	.2	10.500	.0	16.500	.0	22.500	.0	28.500	.0
5.000	.1	11.000	.0	17.000	.0	23.000	.0	29.000	.0
5.500	.1	11.500	.0	17.500	.0	23.500	.0	29.500	.0

RUNOFF VOLUME = 1.93446 INCHES = .1450 ACRE-FEET
 PEAK DISCHARGE RATE = .55 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

5 TOTAL AMOUNT LEAVING SITE
 ADD HYD ID=23 HYD=123.1 ID=21 ID=22
 PRINT HYD ID=23 CODE 10

PARTIAL HYDROGRAPH 123.10

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	6.000	.2	12.000	.1	18.000	.0	24.000	.0
.500	.0	6.500	.2	12.500	.0	18.500	.0	24.500	.0
1.000	.0	7.000	.1	13.000	.0	19.000	.0	25.000	.0
1.500	.7	7.500	.1	13.500	.0	19.500	.0	25.500	.0
2.000	.8	8.000	.1	14.000	.0	20.000	.0	26.000	.0
2.500	.7	8.500	.1	14.500	.0	20.500	.0	26.500	.0
3.000	.5	9.000	.1	15.000	.0	21.000	.0	27.000	.0
3.500	.4	9.500	.1	15.500	.0	21.500	.0	27.500	.0
4.000	.4	10.000	.1	16.000	.0	22.000	.0	28.000	.0
4.500	.3	10.500	.1	16.500	.0	22.500	.0	28.500	.0
5.000	.3	11.000	.1	17.000	.0	23.000	.0	29.000	.0
5.500	.2	11.500	.1	17.500	.0	23.500	.0	29.500	.0

RUNOFF VOLUME = 2.06390 INCHES = .2608 ACRE-FEET
 PEAK DISCHARGE RATE = .81 CFS AT 2.000 HOURS BASIN AREA = .0024 SQ. MI.

FINISH

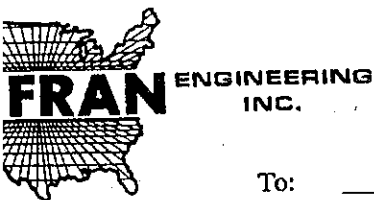
NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 12:32:42

MO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 UT FILE = SAFCU.DAT

RUN DATE (MON/DAY/YR) =09/17/1996
 USER NO.= CINFRNNM.I01

MAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE #	NOTATION
RT										1	TIME= .00
	COMPUTE 100 YR. HYDROGRAPHS FOR THE BLOCK S LOT 27A										
	SAFCU.DAT - HYMO PER JAN 1993 DPM REVISIONS										
	INFALL TYPE= 1										
	COMPUTE HISTORIC DISCHARGE										
	MPUTE NM HYD	101.10	-	1	.00237	2.33	.065	.51772	1.500	1.541	PER IMP= .00
	INFALL TYPE= 2										
	BASIN 1										
	MPUTE NM HYD	102.10	-	2	.00065	1.67	.076	2.19116	1.500	4.023	PER IMP= 80.00
	VIDE HYD	103.10	2	3	.00049	1.26	.057	2.19076	1.500	4.023	
		104.10	AND	4	.00016	.42	.019	2.19076	1.500	4.023	
	ID 3 WILL BE DETAINED IN POND, ID 4 WILL DRAIN TO STREET VIA FIRE LANE										
	BASIN 2										
	MPUTE NM HYD	105.10	-	5	.00064	1.65	.075	2.22717	1.500	4.067	PER IMP= 82.00
	BASIN 3										
	MPUTE NM HYD	106.10	-	6	.00061	1.28	.051	1.57890	1.500	3.299	PER IMP= 46.00
	BASIN 4										
	MPUTE NM HYD	107.10	-	7	.00028	.73	.033	2.22718	1.500	4.121	PER IMP= 82.00
	VIDE HYD	108.10	7	8	.00025	.66	.030	2.22642	1.500	4.121	
		109.10	AND	9	.00003	.07	.003	2.22642	1.500	4.121	
	ID 9 WILL DRAIN TO STREET, ID 8 WILL BE DETAINED IN POND # 1										
	UTE RESERVOIR	110.10	8	10	.00025	.13	.030	2.22598	2.050	.781	AC-FT= .016
	D HYD	111.10	10& 9	11	.00028	.14	.032	2.17254	1.850	.799	
	UTE	112.10	11	12	.00028	.14	.032	2.17507	1.900	.797	
	BASIN 5										
	MPUTE NM HYD	113.10	-	13	.00020	.57	.027	2.55131	1.500	4.479	PER IMP= 100.00
	ROUTE BASIN 3 THROUGH POND # 2										
	UTE RESERVOIR	114.10	6	14	.00061	.10	.051	1.56655	2.200	.250	AC-FT= .036
	ROUTE BASIN 5 THROUGH ROOF DRAINS										
	UTE RESERVOIR	115.10	13	15	.00020	.09	.027	2.54888	2.100	.740	AC-FT= .015
	ADD BASIN 5 TO BASIN 1(SPLIT)										
	D HYD	116.10	15& 3	16	.00069	1.30	.084	2.29014	1.500	2.960	
	ROUTE BASIN 3 FROM POND # 2 TO STREET VIA FIRE LANE										
	UTE	117.10	14	17	.00061	.10	.051	1.56621	2.350	.247	
	ADD TO BASIN 1(SPLIT)										
	D HYD	118.10	17& 4	18	.00077	.44	.070	1.69775	1.500	.885	
	ROUTE BASINS 1(SPLIT) AND 5 THROUGH DETENTION POND										
	UTE RESERVOIR	119.10	16	19	.00069	.23	.084	2.28788	2.150	.520	AC-FT= .036
	ROUTE BASIN 2 THROUGH DETENTION POND										
	UTE RESERVOIR	120.10	5	20	.00064	.27	.075	2.22502	2.100	.660	AC-FT= .043
	D HYD	121.10	12&19	21	.00096	.37	.116	2.25272	2.100	.593	
	D HYD	122.10	18&20	22	.00141	.55	.145	1.93446	1.500	.611	
	TOTAL AMOUNT LEAVING SITE										
	D HYD	123.10	21&22	23	.00237	.81	.261	2.06390	2.000	.534	
	ISH										



TRANSMITTAL

To:

Vance Fossinger
CORR

Date:

9/19/96

P.C. No.:

3947

Attention:

Reference:

GATEWAY NORTH

We transmit to you 1 copy(s) of the following:

☒ Drainage Report & Grading Plan Plans

☐ _____ Plat

☐ Specifications

☐ _____ Report

☐ Submittals

☐ Original

☐ Copy of Letter

☐ Mylar Sepia

☐ Prints

This information is transmitted:

☐ Per your request

☐ For your files

☐ For your review and approval

☐ For your use

☐ For your information

☐ For return to your files

☐ For your attention

☐ Please review and return

☐ For your signature

☐ Please advise

☐ _____

☐ _____

Remarks:

By:

Brad Bingham

Copies To:

Cinfran Engineering, Inc.
333 Rio Rancho Drive N.E. Suite 101
Rio Rancho, New Mexico 87124
(505) 892-5141

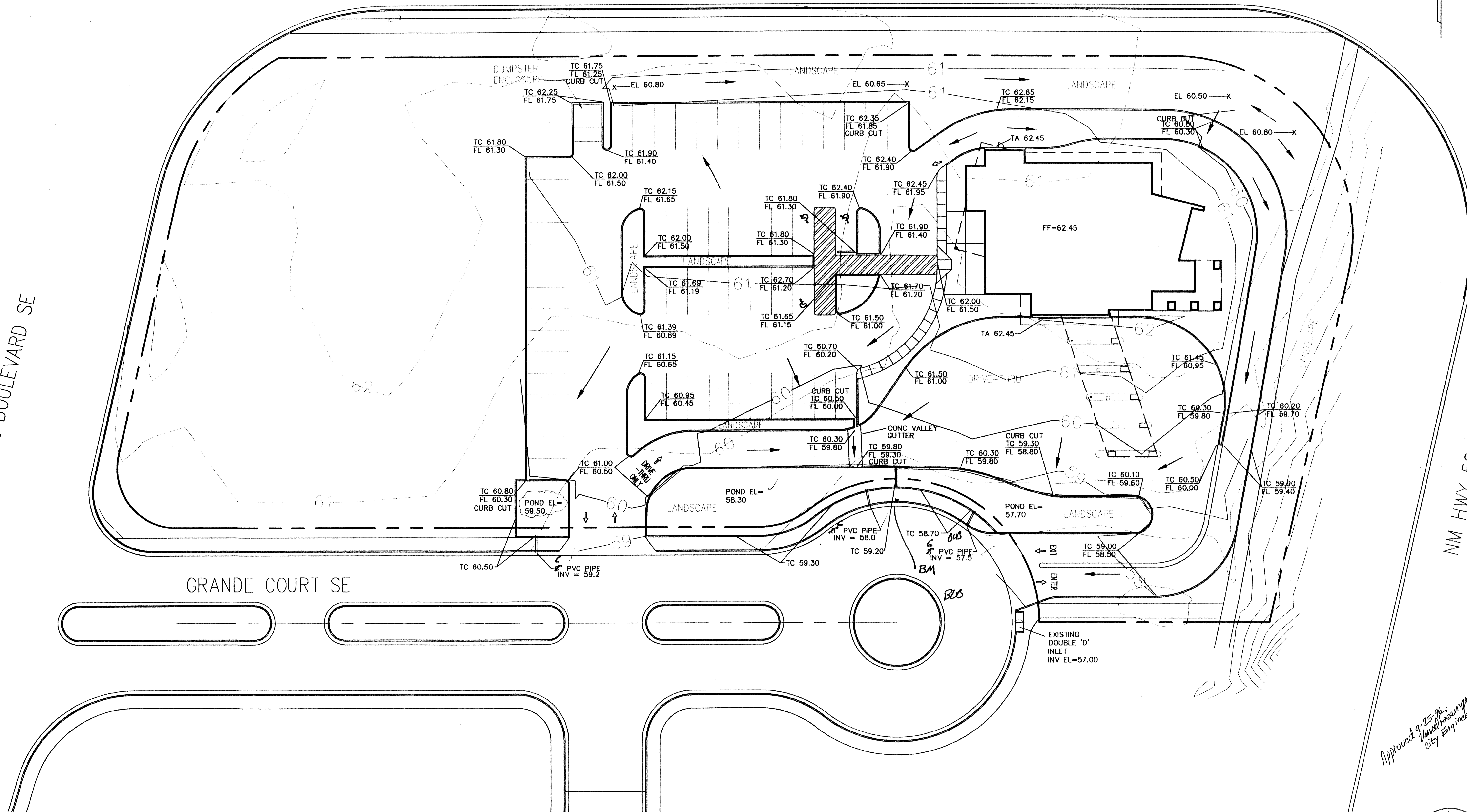
GRANDE BOULEVARD SE

GRANDE COURT SE

SARA ROAD SE

NM HWY 528

--- EXIST CONTOUR
--- PROPOSED CONTOUR



NOTE: ADD 5200 TO ALL ELEVATIONS.

BENCH MARK "□" IN TBC • EXIST BEGINNING OF CURVE
ELEVATION 5258.98

SCALES
1"=20'

REID AND ELLIOTT
GRADING PLAN
SANDIA AREA FEDERAL CREDIT UNION

SHEET NO.
G1

Approved 9-25-95
Bradley L. Bingham
City Engineer

