MASTER DRAINAGE PLAN

for the

ATRISCO BUSINESS PARK

SEPTEMBER 1992

K10/D30

K10/D30

MASTER DRAINAGE PLAN

for the

ATRISCO BUSINESS PARK

SEPTEMBER 1992

PREPARED FOR:

SUNWEST BANK
SPECIAL ASSETS DEPARTMENT
303 Roma Avenue, N.W.
Albuquerque, New Mexico 87102

PREPARED BY:

Easterling & Associates, Inc.
10131 Coors Road, N.W.
Suite H-7
Albuquerque, NM 87114-4048

I, Charles M. Easterling, do hereby certify that this report was prepared by me or under my direction and that I am a duly registered Professional Engineer under the laws of the State of New Mexico.

Charles M. Easterling, P.E.
NMPE No. 6411

Sept 30, 1992
Date

TABLE OF CONTENTS

		Page
I.	GENERAL	1
	A. Purpose and Authorization	1
	B. Description of the Plan Area	1
	C. Methodology for Analysis	2
II.	TIERRA BAYITA STORM DRAIN WATERSHED	2
	A. Background Information	2
	1. Existing Constraints	2
	2. Previous Studies	3
	B. Drainage Schemes	3
	1. Interim Condition	4
	2. Fully Developed Condition	4
	C. Developed Condition Constraints	4
III.	COORS CONNECTION STORM DRAIN WATERSHED	5
	A. Background Information	5
	1. Existing Constraints	5
	2. Previous Studies	5
	B. Drainage Schemes	6
	C. Developed Condition Drainage Constraints	8
	1. On-Site Watershed	8
	2. Off-site Watershed	9

FIGURES

Figure 1 - Location Map
Figure 2 - Connection Schematic
Figure 3 - F.E.M.A. Flood Plain Map

APPENDIX

APPENDIX A - AHYMO SUMMARY TABLES
1. Tierra Bayita Storm Drain Watershed
2. Coors Connection Storm Drain Watershed

APPENDIX B - AHYMO INPUT DATA
1. Tierra Bayita Storm Drain Watershed
2. Coors Connection Storm Drain Watershed

PLATES

Plate 1 - Overall Drainage Plan, Interim Condition
Plate 2 - Overall Drainage Plan, Fully Developed Condition
Plate 3 - Conceptual Grading and Drainage Plan (2.5 & 10 Acre Sites)
Plate 4 - Conceptual Grading and Drainage Plan (20 Acre Site)
Plate 5 - Conceptual Grading and Drainage Plan (Interim Condition)

ATRISCO BUSINESS PARK
MASTER DRAINAGE PLAN

I. GENERAL

A. Purpose and Authorization

This document has been prepared by Easterling & Associates, Inc. under contract to Sunwest Bank. Its purpose is to provide a drainage solution conducive to removal of the Flood Plain included in the subject area and to provide drainage criteria for subsequent development in the area.

B. Description of the Plan Area

Drainage areas which are discussed in this plan are illustrated in Figure 1. The focus of this plan is on the tracts of land identified as the on-site watershed in Figure 1. The on-site watershed more specifically includes the following tracts of land within the Atrisco Business Park; Unit 2 Subdivision:

Parcel	Acres
Tract T	40.5
Lot 2	33.1
Parcel A-1	26.1
Parcel C	28.6
Tract M	88.1
Tract L-1	4.5
Tract S-1	133.2
Total	354.1

In addition to the on-site area, an off-site area of approximately 794 acres contributes flow either directly to the on-site area or to proposed drainage outfalls for the on-site area. These off-site areas are illustrated on Figure 1. These off-site areas were included in the analysis performed for this plan for the purpose of verifying capacity in existing and proposed storm drainage facilities. This document is not intended to serve as a master plan for these off-site areas but does identify potential storm water discharge constraints for these areas.

In the existing condition there is no outfall for storm water developed upstream of or on the on-site area. Much of this flow is ponded in natural depressions located in the on-site area. Due to this, much of the area is within a 100 Year FEMA Flood Plain as shown on Figure 3. This plan proposes to divide this area into two watersheds as shown on Figure 1. The dividing line is primarily the east right-of-way line of Unser Boulevard. The west watershed will outfall

to the future Tierra Bayita Storm Drain in Unser Boulevard. This watershed includes parcel A-1 located east of Unser Boulevard. The east watershed will outfall to the existing North/South Coors Connection Storm Drain via the future Airport Drive Storm Drain. Both of the outfalls identified here outfall to the Amole del Norte Channel.

C. Methodology for Analysis

Hydrologic analysis was performed based on the August 1991, Section 22.2, Volume 2, DPM Drainage Criteria for the City of Albuquerque. Hydrologic Modeling was performed utilizing AMAFCA's AHYMO, March 1992 version. Model runs for the 100 year and 10 year storms were performed in order to verify street capacities and satisfy drainage ordinance criteria. A copy of the model input data is included in Appendix B of this report. Output summary tables are included in Appendix A.

Flow depths in the streets were determined from D.P.M. nomographs for street flow where typical street sections were analyzed and from Manning equation elsewhere.

II. TIERRA BAYITA STORM DRAIN WATERSHED

A. Background Information

The existing condition watershed is primarily undeveloped as shown by the photo based background on Plates 1 and 2. Existing street and drainage improvements within the on-site watershed were constructed by S.A.D. 214. These improvements include a portion of Unser Boulevard, a portion of Bluewater Road, a storm drain in Unser Boulevard, and a 9.5 acre retention pond located on Tract A-1.

1. Existing Constraints

- Development of the property requires drainage improvements to be constructed along the western edge of the Business Park to intercept the flows from the large off-site watershed located west of the Business Park.

- Discharge of flow from the property limited in volume by lack of a drainage outfall from the area and in rate by the size of the existing Unser Storm Drain.

- F.E.M.A. Flood Plain covers a portion of the area.

2. Previous Studies

Several previous studies have been prepared which have referenced this watershed. The previous studies which have pertinence to the drainage plan proposed here are listed and discussed below.

a. Drainage Plan for the Design of S.A.D. 214 Unser Boulevard by Scanlon and Associates dated February 14, 1983.

- Set discharge criteria for property discharging into the Unser Storm Drain.

b. West Bluff Drainage Plan Phase III by Andrews, Asbury, and Roberts, Inc. dated January 1987.

- Delineated the boundaries of the off-site watershed.
- Proposed the I-40 interceptor channel be constructed north of I-40. This project which will reduce the size of the off-site watershed.
- Proposed the Unser Diversion Channel be constructed along the western and southern boundaries of the Business Park to intercept flow from the off-site watershed to the west and convey it to Unser Boulevard.
- Proposed flow from the Unser Diversion Channel and the Unser Storm Drain be conveyed in a storm drain facility down Unser Boulevard from the south boundary of the Business Park to the Amole del Norte Channel.

c. Preliminary Analysis Report for Amole del Norte Storm Diversion Facilities/Tierra Bayita Drainage Facilities by Greiner, Inc. dated October 31, 1990.

- Proposed expansion and conversion of the existing S.A.D. 214 pond from a 9.5 ac-ft retention pond to a permanent 19 ac-ft detention pond.
- Established the design flow rate for the S.A.D. 214 pond outfall (the Tierra Bayita Storm Drain) in Unser Boulevard at 311 cfs.

B. Drainage Schemes

Plates 1 and 2 illustrate the drainage schemes for the interim and the fully developed conditions in the watershed.

1. Interim Condition

The interim condition illustrated on Plate 1 shows the facilities required to remove the Physical Flood Plain from the on-site watershed. These facilities include:

- The Unser Diversion Channel and associated Crossing Structures.
- Expansion of the S.A.D. 214 Pond to 19 ac-ft capacity.
- The Tierra Bayita Storm Drain Outfall or temporary facilities to retain runoff from the watershed.
- Conservation treatment and/or desiltation basins in the undeveloped watershed to reduce sediment load and peak flow rates contributed to the drainage facilities.

2. Fully Developed Condition

The Fully Developed condition illustrated on Plate 2 shows the watershed in the fully developed condition and assumes the I-40 Interceptor will be constructed. The public drainage infrastructure requirements are essentially the same as noted for the Interim Condition except that the Tierra Bayita storm will be required to support this level of development.

C. Developed Condition Constraints

- Lots discharging flow to the existing Unser Storm Drain must control peak flow rates to those established by the Drainage Plan for the Design of S.A.D. 214 Unser Boulevard, by Scanlon & Associates dated February 14, 1983.
- A master drainage plan should be developed for the watershed west of the Unser Diversion Channel prior to discharge of developed flow from that area. This future drainage plan should determine allowable release rates from the area based on downstream capacity. The analysis performed for this report indicates the maximum allowable discharge from the gross area is 1.3 cfs/Ac. A higher discharge rate may be possible depending upon how drainage facilities are configured within the area.
- Peak 100 year flow rates from lots between Bluewater Road and the Unser Diversion Channel are restricted to a maximum rate of 1.3 cfs/acre.

Peak 100 year flow rates corresponding to the above criteria are noted on Plate 2.

- The Unser Storm Drain and Unser Diversion Channel should be routed directly to the Tierra Bayita Storm Drain with excess flow routed to the S.A.D. 214 Pond in order to accommodate the 100 year peak allowable discharge rates noted above. Modeling demonstrated that due to the wide peak in the hydrograph created by detention in the upstream watershed 19 ac-ft is not sufficient volume to control outflow from the S.A.D. 214 Pond to 311 cfs (the design capacity of the future outfall) if conventional reservoir routing is used. A schematic drawing Figure 2 illustrates a possible configuration of the connection to the Tierra Bayita Storm Drain.

III. COORS CONNECTION STORM DRAIN WATERSHED

A. Background Information

As illustrated on the photo based background of Plate 1, the existing condition watershed is largely undeveloped. Paved streets within the on-site watershed include the following:

- Bluewater Road from Unser Boulevard to Airport Drive.
- Airport Road from Los Volcanes to Bluewater Road.
- Airport Drive from Bluewater to the south line of the Business Park.
- No drainage facilities are constructed within the on-site watershed.

1. Existing Constraints

- No drainage outfall or collector system currently exists.
- FEMA Flood plain covers much of the on-site watershed. Much of this Flood plain is caused by flow from the large off-site watershed west of Unser. Some of the flood plain is caused by flow from the public streets which is discharged onto Parcel C, Unit II, Atrisco Business Park.

2. Previous Studies

Several previous studies have included all of or portions of this watershed. Some of the most recent and pertinent studies are listed and discussed below.

a. West Bluff Drainage Plan Phase III by Andrews, Asbury and Roberts, Inc. dated January 1987.

- Proposed the on-site watershed outfall to the West Bluff Outfall via the Future I-40 Interceptor, and the Future West Mesa Diversion.

- Due to the fact that completion of the projects listed above will be very costly and not expected to occur in the near future, another outfall for the on-site area is proposed in the plan presented here.

b. Drainage Management Study for the North/South Coors Connection by Denny Cross and Associates dated June 1983.

- Hydrologic and hydraulic analysis pertaining to the existing Coors Connection Storm Drain established the peak discharge rate from the entire Coors Connection Storm Drain at 138 cfs.

  As-built drawings of the Coors Connection Storm Drain show a larger storm drain than the one analyzed in the study. A hydrologic analysis coinciding with the higher peak flow rates associated with the upsized storm drain could not be located. The analysis done for the Drainage Plan presented here includes the Coors Connection Storm Drain per the as-built drawings for the Project. The Watershed assumed for the Coors Connection Storm Drain includes the area which contributes flow to the storm drain in the existing condition. The allowable discharge rates, determined by this analysis, for the area currently discharging to the Coors Connection Storm Drain are in excess of 138 cfs.

c. Letter/Report RE: North/South Coors Connection/Airport Drive Storm Drain Capacity by Easterling & Associates, Inc., dated April 7, 1992.

- Presented preliminary modeling of the watersheds of the subject storm drains and preliminary hydraulic analysis of the subject storm drains.

B. Drainage Schemes

Plates 1 and 2 illustrate the drainage schemes and associated peak flow rates for the interim and the fully developed conditions in the watershed.

1. The interim condition illustrated on Plate 1 shows the facilities required to remove the physical flood plain from the on-site watershed. These facilities include:

   - Upgrade of approximately 800 LF of the existing Coors Connection Storm Drain located downstream of the proposed connection with the Airport Drive Storm Drain.

   - Airport Drive Storm Drain, a 48″ diameter storm drain to be located in Airport Drive extending from the Coors Connection Storm Drain to the south line of the Atrisco Business Park.

   - Airport Drive/Bluewater Road Storm Drain, a 48″ diameter storm drain extending from the Airport Drive Storm Drain to the intersection of Airport Road and Bluewater Road.

   - Conservation treatment as illustrated on Plate 1 and Plate 5 applied to the on-site undeveloped lots to retain runoff and thus sediment on-site. The conservation treatment or other retention or detention facilities must be in place prior to the extension of the Airport Drive Storm Drain into the Business Park. This is due to the fact that the existing condition flow rate is greater than the developed condition flow rates proposed for the on-site area by this Plan. A drainage covenant insuring the maintenance of the interim drainage facilities should be put into place prior to or concurrent with the extension of the Airport Drive Storm Drain into the Business Park.

2. The fully developed condition illustrated in Plate 2 requires the public storm drain facilities as listed for the interim condition and the additional public facilities listed below.

   - Airport Road Storm Drain, a 30″ to 36″ diameter storm drain extending north along Airport Road from the Airport/Bluewater Storm Drain to the intersection of Airport Road and Los Volcanes Road.

   - Bluewater Road Storm Drain, a 24″ diameter storm drain extending west along Bluewater Road from the Airport Drive/Bluewater Road Storm Drain to the eastern boundary of Tract L-1. The purpose of this storm drain is to provide an outfall for the proposed private detention ponds along Bluewater Road.

   - Tract "M" Storm Drain, a 24″ diameter storm drain extending down the back lot line of the lots in Tract "M." The purpose of this storm drain is to provide an outfall from the proposed

private detention ponds located in the northern portion of Tract "M."

- Los Volcanes Storm Drain, a 24″ diameter storm drain extending west from the Airport Road Storm Drain to the east lot line of Lot 6, Tract S-1. The purpose of this storm drain is to provide an outfall for the proposed private detention ponds to be located along Los Volcanes Road.

C. Developed Condition Drainage Constraints

1. On-Site Watershed

The maximum allowable peak 100 year discharge rates from lots in the on-site watershed are limited to the following:

- 0.1 cfs per acre except as provided below.
- Small areas of the site may discharge uncontrolled to the street where required to facilitate grading. No
- The total area allowed uncontrolled discharge from the site shall not be larger than an equivalent area 10 feet wide along the total street frontage of the site. ?
- Impervious areas allowed uncontrolled discharge to the street shall not be larger than an equivalent area two feet wide along the total street frontage of the site. ?
- The uncontrolled discharge from the small areas defined above shall not be considered a part of the 0.1 cfs allowable discharge from the site.

Fred wanted Hard Lining to assure owner cannot alter grades

Pond areas outside of the parking areas shall be fully landscaped. A minimum of 85% of the surface area of the pond area shall consist of pervious ground treatments. Bark or other landscape materials which are prone to float under submerged conditions shall not be allowed as a surface treatment material within the limits of pond areas.

Low flow channels shall connect all inlets to the outlet in the detention pond(s). Low flow channels shall be constructed with durable, erosion resistant materials which facilitate long term maintenance of the pond area.

when will covenant be executed?

A covenant insuring the perpetuity and the maintenance of the required detention facilities on individual lots will be required to replace the

interim condition drainage covenant at the time of development of individual lots.

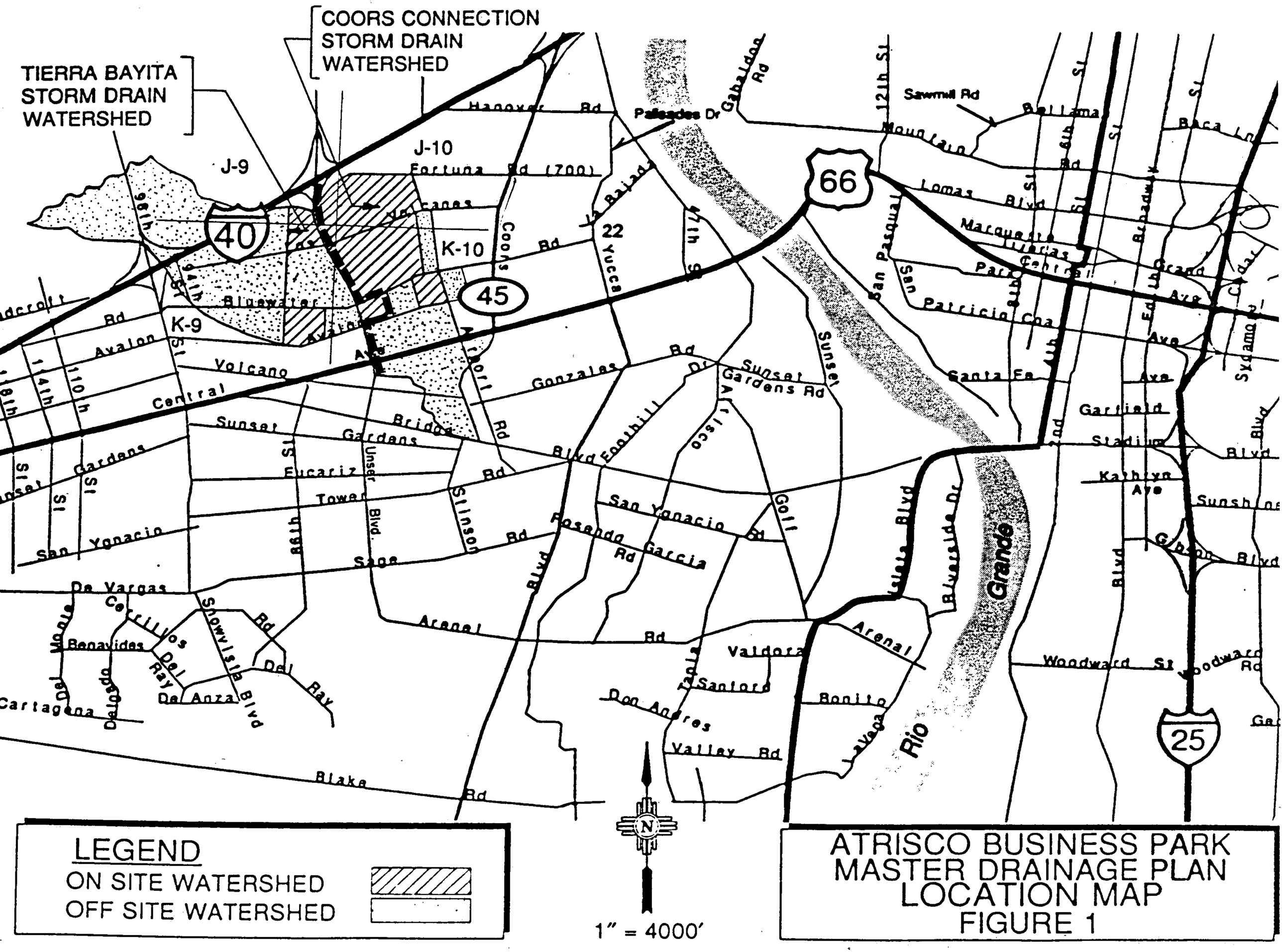
2. Off-site Watershed

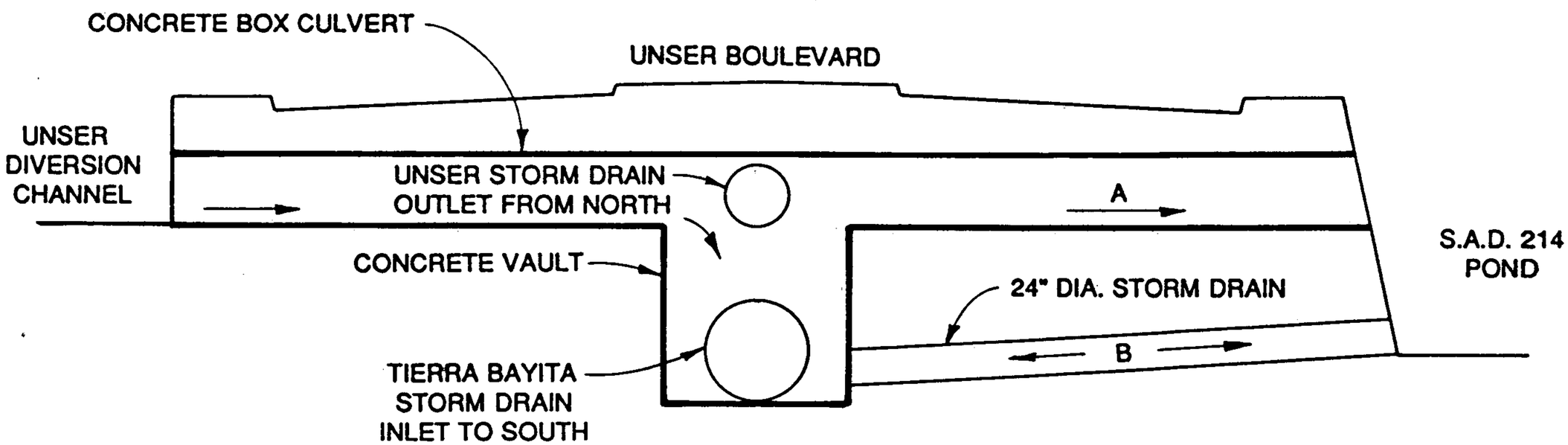
- Peak 100 year discharge from lots discharging into the Airport Drive Storm Drain is limited to 0.1 cfs per acre. This includes Basins 200.6, 210.4, 211.1, 220.2, 220.4 and 220.5 as shown on Plate 2.

- Peak 100 year discharge rates from all other lots contributing flow to the Coors Connection Storm Drain should be limited to rates which will not cause the aggregate flow rate at the point of connection to the Coors Connection Storm Drain to exceed the aggregate existing condition flow rates established by this Plan.

FIGURES

Figure 1 - Location Map
Figure 2 - Connection Schematic
Figure 3 - F.E.M.A. Flood Plain Map


COORS CONNECTION STORM DRAIN WATERSHED
TIERRA BAYITA STORM DRAIN WATERSHED
J-9
J-10
K-9
K-10
40
45
66
25
Hanover Rd
Fortuna Rd (700)
Volcanos
Bluewater
Avalon
Volcano
Central
Sunset Gardens
Bridge
Eucariz
Tower
San Yonacio
Sage
Gonzales
Coors Rd
Paseo Del Norte
Unser Blvd
Eubank
Eagle Ranch
Paseo Del Norte
Ellison Rd
Eagle Ranch
Golf
Rosendo Garcia Rd
Arenal Rd
Valdora
Santora
Don Andres
Valley Rd
Bonito
Blake Rd
De Vargas
Benavides
Del Rey
De Anza
Showville Blvd
Cartagena
Del Monte
Delgado
Palisades Dr
Gabaldon Rd
Sawmill Rd
Mountain Rd
Lomas Blvd
Marquette
Central
Paseo
San Pasqual
San Patricio
Santa Fe
Sunset Gardens Rd
Garfield
Stadium Blvd
Kathryn Ave
Gibson Blvd
Woodward St
Rio Grande
Bluewater
Bellamah
Baca
Grand Ave
Sycamore
Rio Grande Blvd
Bluewater Dr
Eubank Blvd
Edith Blvd
Broadway
12th St
8th St
6th St
4th St
98th St
94th St
88th St
114th St
110th St
118th St
Sunset St
Gardens St
Eucariz St
Tower St
Ellison St
Eagle Ranch Rd
Golf Rd
Arenal Rd
Valley Rd
Blake Rd
Del Rey Rd
Showville Blvd
Del Monte
Del Rey
Del Anza
Del Rey
Del Monte
Del Rey
Del Monte
Del Rey
Del Monte



CONNECTION TO TIERRA BAYITA STORM DRAIN

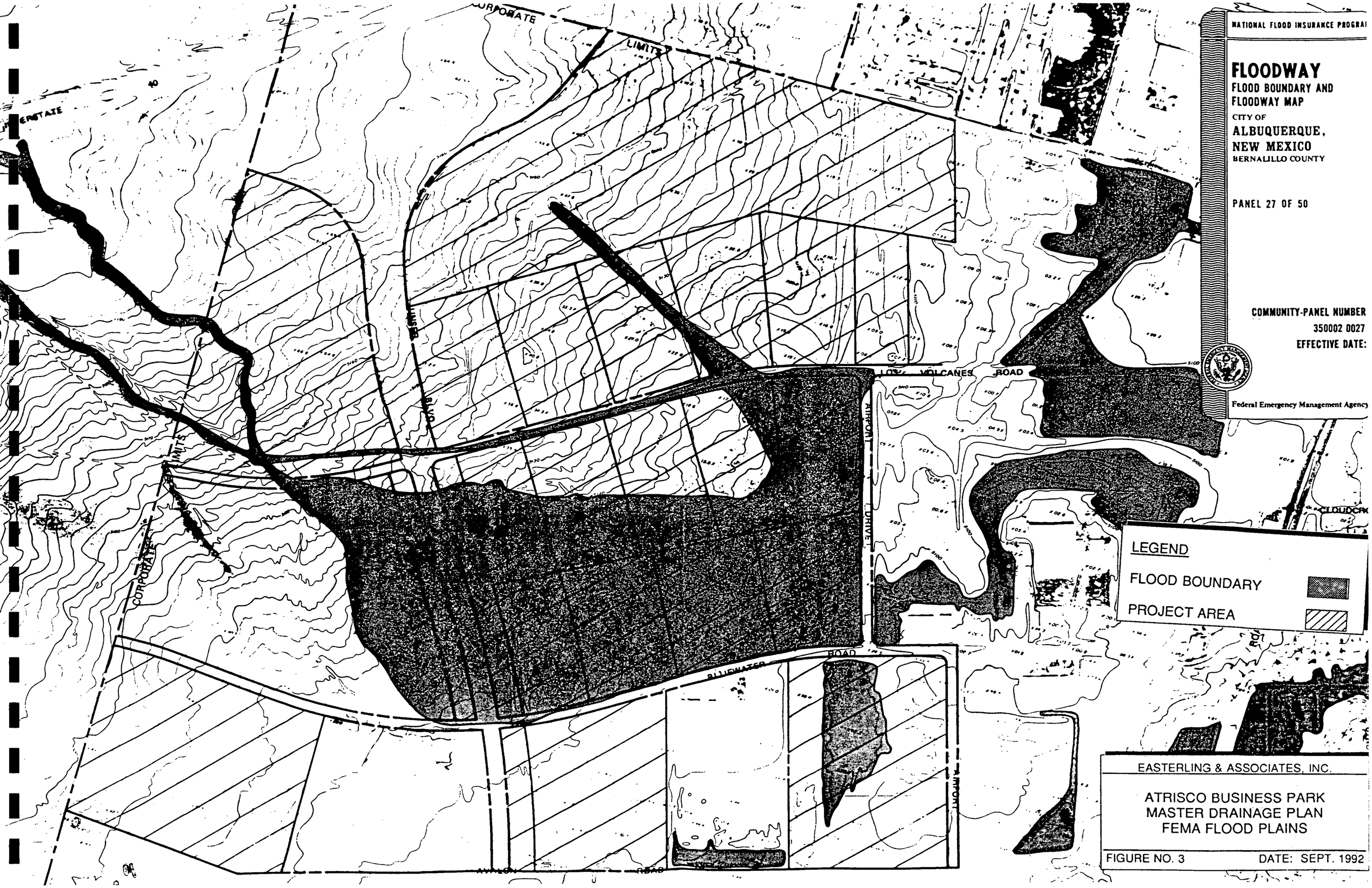
A. FLOW EXCEEDING TIERRA BAYITA S.D. CAPACITY IS ROUTED TO POND.

B. DURING RUNOFF EVENT SMALL FLOW RATE IS ROUTED TO THE POND. AFTER FLOW FROM WATER SHED DECREASES, FLOW DIRECTION IS REVERSED AND POND EMPTIES.

EASTERLING & ASSOCIATES, INC.

ATRISCO BUSINESS PARK
MASTER DRAINAGE PLAN
SCHEMATIC

FIGURE NO. 2 DATE: SEPT. 1992


NATIONAL FLOOD INSURANCE PROGRAM
FLOODWAY
FLOOD BOUNDARY AND FLOODWAY MAP
CITY OF
ALBUQUERQUE, NEW MEXICO
BERNALILLO COUNTY
PANEL 27 OF 50
COMMUNITY-PANEL NUMBER
350002 0027
EFFECTIVE DATE:
Federal Emergency Management Agency
LEGEND
FLOOD BOUNDARY
PROJECT AREA
CORPORATE LIMITS
LOS VOLCANES ROAD
AIRPORT DRIVE
BLUEWATER ROAD
AVALON ROAD
CLOUDCRFT
EASTERLING & ASSOCIATES, INC.
ATRISCO BUSINESS PARK
MASTER DRAINAGE PLAN
FEMA FLOOD PLAINS
FIGURE NO. 3
DATE: SEPT. 1992

APPENDIX A

AHYMO SUMMARY TABLES

Table of Contents

COORS CONNECTION STORM DRAIN WATERSHED — Page

100 Year 24 Hour Storm Interim Condition A-1
100 Year 24 Hour Storm Developed Condition A-4
10 Year 24 Hour Storm Interim Condition A-8
10 Year 24 Hour Storm Developed Condition A-11

TIERRA BAYITA STORM DRAIN WATERSHED

100 Year 6 Hour Storm Interim Condition A-15
100 Year 6 Hour Storm Developed Condition A-18
10 Year 6 Hour Storm Interim Condition A-20
10 Year 6 Hour Storm Developed Condition A-23

COORS CONNECTION STORM DRAIN WATERSHED (INTERIM) 100 YEAR 24 HOUR STORM
AHYMO SUMMARY TABLE (AHYMO392) - AMAFCA VERSION OF HYMO - MARCH, 1992 RUN DATE (MON/DAY/YR) =09/22/1992
INPUT FILE = ccsdwi.hmi USER NO.= D_HARRIS.S92

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	NOTATION
										PAGE = 1
START										TIME= .00
RAINFALL TYPE= 2										RAIN24= 2.660
*S BEGIN THE WATERSHED FOR THE AIRPORT ROAD STORM DRAIN **********										
COMPUTE NM HYD	200.10	-	2	.20810	201.15	5.307	.47815	1.500	1.510	PER IMP= .00
*S ASSUME CONSERVATION TREATMENT IS APPLIED TO THE BASIN AND NO RUNOFF										
*S LEAVES THE SITE										
COMPUTE NM HYD	200.40	-	3	.00420	10.40	.469	2.09267	1.500	3.868	PER IMP= 81.00
ROUTE	200.45	3	11	.00420	7.01	.469	2.09280	1.600	2.606	
COMPUTE NM HYD	200.50	-	4	.00350	8.67	.391	2.09267	1.500	3.869	PER IMP= 81.00
ADD HYD	200.51	11& 4	3	.00770	14.30	.859	2.09259	1.550	2.903	
ROUTE	200.66	3	11	.00770	11.60	.859	2.09269	1.650	2.354	
COMPUTE NM HYD	210.10	-	2	.07480	67.68	1.908	.47815	1.500	1.414	PER IMP= .00
*S ASSUME CONSERVATION TREATMENT IS APPLIED TO THE BASIN AND NO RUNOFF										
*S LEAVES THE SITE										
COMPUTE NM HYD	210.30	-	2	.00250	6.19	.279	2.09268	1.500	3.871	PER IMP= 81.00
ADD HYD	210.31	11& 2	12	.01020	15.71	1.138	2.09257	1.600	2.407	
ROUTE	210.47	12	11	.01020	13.77	1.138	2.09263	1.700	2.110	
COMPUTE NM HYD	210.50	-	2	.00240	5.95	.268	2.09267	1.500	3.871	PER IMP= 81.00
ADD HYD	210.51	2&11	11	.01260	16.65	1.406	2.09254	1.650	2.065	
COMPUTE NM HYD	210.60	-	3	.07000	63.19	1.785	.47815	1.500	1.411	PER IMP= .00
*S ASSUME CONSERVATION TREATMENT IS APPLIED TO THE BASIN AND NO RUNOFF										
*S LEAVES THE SITE										
COMPUTE NM HYD	210.70	-	2	.00330	8.17	.368	2.09267	1.500	3.869	PER IMP= 81.00
ROUTE	210.71	2	12	.00330	4.83	.368	2.09282	1.600	2.285	
COMPUTE NM HYD	210.80	-	3	.00280	6.94	.313	2.09267	1.500	3.871	PER IMP= 81.00
ADD HYD	210.81	3&12	12	.00610	10.56	.681	2.09252	1.550	2.706	
COMPUTE NM HYD	210.90	-	2	.00170	4.22	.190	2.09267	1.500	3.876	PER IMP= 81.00
ADD HYD	210.91	12& 2	12	.00780	14.64	.870	2.09251	1.500	2.933	
ADD HYD	210.92	12&11	11	.02040	29.41	2.277	2.09253	1.550	2.253	
ROUTE	211.13	11	10	.02040	26.71	2.277	2.09257	1.650	2.046	
*S BEGIN THE AREA SOUTH OF BLUEWATER ROAD										
COMPUTE NM HYD	220.10	-	2	.00350	8.67	.391	2.09267	1.500	3.869	PER IMP= 81.00
COMPUTE NM HYD	220.20	-	3	.03130	77.77	3.488	2.08937	1.500	3.882	PER IMP= 80.00
ROUTE RESERVOIR	220.21	3	4	.03130	2.01	3.162	1.89413	2.550	.100	AC-FT= 2.528
ROUTE	220.22	4	5	.03130	2.01	3.158	1.89148	2.650	.100	
ADD HYD	220.23	2& 5	3	.03480	9.29	3.548	1.91170	1.500	.417	
COMPUTE NM HYD	220.30	-	2	.04470	40.21	1.140	.47815	1.500	1.406	PER IMP= .00
*S ASSUME CONSERVATION TREATMENT IS APPLIED TO THE BASIN AND NO RUNOFF										
*S LEAVES THE SITE										
ADD HYD	220.53	10& 3	2	.05520	32.95	5.825	1.97853	1.600	.933	
ROUTE	220.54	2	10	.05520	32.91	5.823	1.97806	1.600	.931	
*S BEGIN THE AREA SOUTH OF THE ATRISCO BUSINESS PARK										
COMPUTE NM HYD	220.60	-	2	.01980	49.20	2.206	2.08937	1.500	3.883	PER IMP= 80.00
ROUTE RESERVOIR	220.61	2	3	.01980	1.27	1.992	1.88671	2.550	.100	AC-FT= 1.599
COMPUTE NM HYD	220.70	-	4	.00270	6.69	.301	2.09267	1.500	3.871	PER IMP= 81.00
ADD HYD	220.71	4& 3	5	.02250	7.40	2.294	1.91141	1.500	.514	
ADD HYD	220.72	10& 5	2	.07770	38.42	8.117	1.95876	1.600	.773	
ROUTE	220.73	2	10	.07770	36.34	8.100	1.95467	1.700	.731	

COORS CONNECTION STORM DRAIN WATERSHED (INTERIM) 100 YEAR 24 HOUR STORM (CONTINUED)

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	NOTATION
										PAGE = 2
*S BEGIN AREA SOUTH OF CENTRAL BOULEVARD										
COMPUTE NM HYD	230.10	-	2	.00180	3.80	.137	1.42332	1.500	3.294	PER IMP= 30.00
ROUTE	230.11	2	3	.00180	3.14	.137	1.42358	1.550	2.724	
COMPUTE NM HYD	230.20	-	2	.00520	10.93	.395	1.42332	1.500	3.285	PER IMP= 30.00
ADD HYD	230.21	2& 3	4	.00700	13.54	.531	1.42325	1.500	3.023	
ROUTE	230.22	4	11	.00700	13.40	.531	1.42336	1.500	2.990	
COMPUTE NM HYD	230.30	-	2	.00240	6.09	.277	2.16311	1.500	3.963	PER IMP= 85.00
ADD HYD	230.31	2&11	1	.00940	19.48	.808	1.61212	1.500	3.239	
ADD HYD	230.32	1&10	3	.08710	49.29	8.908	1.91770	1.600	.884	
ROUTE	230.33	3	10	.08710	49.32	8.907	1.91742	1.600	.885	
*S END OF AIRPORT ROAD STORM DRAIN										
*S BEGIN COORS CONNECTION STORM DRAIN										
COMPUTE NM HYD	230.60	-	2	.00230	6.13	.280	2.28382	1.500	4.162	PER IMP= 90.00
ROUTE	230.61	2	3	.00230	4.53	.280	2.28404	1.600	3.080	
COMPUTE NM HYD	230.70	-	2	.00580	14.69	.669	2.16311	1.500	3.958	PER IMP= 85.00
ADD HYD	230.71	3& 2	4	.00810	18.45	.949	2.19732	1.500	3.559	
COMPUTE NM HYD	230.50	-	2	.00660	6.49	.183	.52015	1.500	1.536	PER IMP= .00
ADD HYD	230.51	2& 4	5	.01470	24.94	1.132	1.44430	1.500	2.651	
ROUTE	230.52	5	4	.01470	24.72	1.132	1.44435	1.500	2.627	
COMPUTE NM HYD	230.80	-	2	.01120	15.84	.532	.89042	1.500	2.210	PER IMP= 15.00
ADD HYD	230.82	2& 4	5	.02590	40.56	1.664	1.20477	1.500	2.447	
ROUTE	230.83	5	2	.02590	39.99	1.664	1.20480	1.500	2.413	
ADD HYD	230.84	2&10	11	.11300	86.64	10.571	1.75408	1.550	1.198	
ROUTE	230.85	11	10	.11300	86.71	10.570	1.75395	1.550	1.199	
ROUTE	230.86	10	11	.11300	86.96	10.569	1.75375	1.550	1.202	
*S BEGIN THE AREA NORTH OF CENTRAL AVENUE BETWEEN UNSER AND THE WEST 66										
*S ADDITION										
COMPUTE NM HYD	240.10	-	2	.03330	58.74	2.655	1.49503	1.550	2.756	PER IMP= 35.00
ROUTE	240.11	2	3	.03330	56.78	2.655	1.49504	1.600	2.664	
COMPUTE NM HYD	240.20	-	4	.01250	25.65	1.319	1.97801	1.550	3.206	PER IMP= 71.00
ADD HYD	240.21	4& 3	5	.04580	80.95	3.974	1.62683	1.550	2.762	
ROUTE	240.22	5	15	.04580	80.73	3.974	1.62685	1.600	2.754	
COMPUTE NM HYD	240.30	-	3	.00800	12.85	.577	1.35161	1.550	2.509	PER IMP= 25.00
ROUTE	240.31	3	4	.00800	12.27	.577	1.35166	1.600	2.397	
ADD HYD	240.32	4&15	16	.05380	93.00	4.550	1.58590	1.600	2.701	
COMPUTE NM HYD	240.40	-	2	.02310	42.45	2.260	1.83425	1.600	2.871	PER IMP= 60.00
ROUTE RESERVOIR	240.41	2	3	.02310	29.29	1.074	.87164	1.850	1.981	AC-FT= 1.190
ADD HYD	240.42	3&16	15	.07690	93.00	5.624	1.37135	1.600	1.890	
COMPUTE NM HYD	240.50	-	4	.00930	24.26	1.133	2.28382	1.500	4.075	PER IMP= 90.00
ADD HYD	240.51	4&15	16	.08620	110.29	6.757	1.46979	1.600	1.999	
ROUTE RESERVOIR	240.52	16	15	.08620	92.22	6.757	1.46979	1.700	1.672	AC-FT= .499
ROUTE	240.53	15	5	.08620	92.27	6.757	1.46978	1.700	1.672	
COMPUTE NM HYD	240.60	-	2	.00650	16.96	.792	2.28382	1.500	4.076	PER IMP= 90.00
*S BEGIN AREA SOUTH OF CENTRAL AVENUE BETWEEN UNSER AND AIRPORT										
ADD HYD	240.61	2& 5	3	.09270	100.86	7.549	1.52686	1.650	1.700	
ROUTE	240.62	3	4	.09270	87.46	7.549	1.52680	1.800	1.474	
COMPUTE NM HYD	250.10	-	2	.02470	33.20	1.650	1.25219	1.600	2.100	PER IMP= 30.00
ADD HYD	250.11	4& 2	3	.11740	110.19	9.198	1.46902	1.750	1.466	
COMPUTE NM HYD	250.20	-	2	.00790	14.90	.599	1.42095	1.500	2.946	PER IMP= 35.00
ADD HYD	250.21	3& 2	4	.12530	117.95	9.797	1.46599	1.700	1.471	
ROUTE	250.22	4	3	.12530	117.24	9.797	1.46597	1.750	1.462	

COORS CONNECTION STORM DRAIN WATERSHED (INTERIM) 100 YEAR 24 HOUR STORM (CONTINUED)

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	NOTATION	PAGE = 3
COMPUTE NM HYD	260.10	-	2	.03980	33.14	1.099	.51796	1.550	1.301	PER IMP=	2.00
ADD HYD	260.11	3& 2	4	.16510	134.74	10.896	1.23743	1.700	1.275		
ROUTE	260.12	4	2	.16510	134.85	10.896	1.23743	1.700	1.276		
ROUTE	260.13	2	4	.16510	135.33	10.896	1.23743	1.700	1.281		
COMPUTE NM HYD	270.10	-	3	.02220	21.27	.637	.53787	1.500	1.497	PER IMP=	3.00
ADD HYD	270.11	3& 4	4	.18730	145.68	11.533	1.15451	1.650	1.215		
ADD HYD	260.13	4&11	10	.30030	222.15	22.102	1.38000	1.650	1.156		
COMPUTE NM HYD	270.20	-	3	.00710	17.98	.819	2.16311	1.500	3.957	PER IMP=	85.00
ADD HYD	270.23	10& 3	4	.30740	231.82	22.921	1.39809	1.650	1.178		
ROUTE	270.24	4	10	.30740	232.17	22.920	1.39800	1.650	1.180		
COMPUTE NM HYD	280.10	-	2	.00660	6.59	.203	.57768	1.500	1.560	PER IMP=	5.00
ADD HYD	280.11	10& 2	3	.31400	236.11	23.123	1.38075	1.650	1.175		
COMPUTE NM HYD	280.20	-	4	.00250	6.34	.288	2.16311	1.500	3.963	PER IMP=	85.00
ADD HYD	280.21	3& 4	5	.31650	239.52	23.411	1.38693	1.650	1.182		
COMPUTE NM HYD	280.30	-	6	.00450	8.64	.359	1.49614	1.500	2.998	PER IMP=	50.00
ADD HYD	280.31	5& 6	7	.32100	244.30	23.771	1.38846	1.650	1.189		
ROUTE	280.32	7	10	.32100	244.86	23.768	1.38834	1.650	1.192		
COMPUTE NM HYD	290.10	-	2	.03144	28.78	.848	.50557	1.500	1.430	PER IMP=	2.00
ADD HYD	290.12	10& 2	3	.35244	262.22	24.616	1.30959	1.650	1.163		
ROUTE	290.13	3	4	.35244	262.97	24.615	1.30955	1.650	1.166		
ROUTE	290.14	4	10	.35244	263.41	24.614	1.30946	1.650	1.168		
COMPUTE NM HYD	290.20	-	2	.00690	17.48	.796	2.16311	1.500	3.958	PER IMP=	85.00
ADD HYD	290.21	10& 2	3	.35934	272.98	25.410	1.32585	1.600	1.187		
ROUTE	290.22	3	4	.35934	273.04	25.409	1.32582	1.650	1.187		
ROUTE	290.23	4	5	.35934	273.70	25.408	1.32576	1.650	1.190		
FINISH											

COORS CONNECTION STORM DRAIN WATERSHED (DEVELOPED) 100 YEAR 24 HOUR STORM

AHYMO SUMMARY TABLE (AHYMO392) - AMAFCA VERSION OF HYMO - MARCH, 1992 RUN DATE (MON/DAY/YR) =09/22/1992

INPUT FILE = ccsdwd.hmi USER NO.= D_HARRIS.S92

PAGE = 1

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	NOTATION
START										TIME= .00
RAINFALL TYPE= 2						?				RAIN24= 2.660
*S BEGIN THE WATERSHED FOR THE AIRPORT ROAD STORM DRAIN **********										
COMPUTE NM HYD	200.10	-	2	.20810	513.44	23.189	2.08937	1.500	3.855	PER IMP= 80.00
ROUTE RESERVOIR	200.11	2	3	.20810	13.32	21.211	1.91113	2.600	.100	AC-FT= 16.792
COMPUTE NM HYD	200.20	-	2	.00420	10.15	.453	2.02224	1.500	3.777	PER IMP= 77.00
ADD HYD	200.21	3& 2	4	.21230	18.01	21.664	1.91333	1.500	.133	
COMPUTE NM HYD	200.30	-	2	.00760	17.97	.820	2.02224	1.500	3.695	PER IMP= 77.00
COMPUTE NM HYD	200.40	-	3	.00420	10.40	.469	2.09267	1.500	3.868	PER IMP= 81.00
ADD HYD	200.41	2& 3	5	.01180	28.37	1.288	2.04726	1.500	3.756	
ROUTE	200.45	5	11	.01180	21.24	1.288	2.04731	1.600	2.813	
COMPUTE NM HYD	200.50	-	3	.00350	8.67	.391	2.09267	1.500	3.869	PER IMP= 81.00
ADD HYD	200.51	11& 3	3	.01530	28.34	1.679	2.05761	1.550	2.894	
COMPUTE NM HYD	200.60	-	1	.00700	17.40	.780	2.08937	1.500	3.885	PER IMP= 80.00
ROUTE RESERVOIR	200.61	1	2	.00700	.45	.713	1.90867	2.550	.100	AC-FT= .566
ADD HYD	200.62	4& 2	1	.21930	18.31	22.377	1.91318	1.550	.130	
ROUTE	200.65	1	10	.21930	18.17	22.361	1.91184	1.550	.129	
ROUTE	200.66	3	11	.01530	24.28	1.679	2.05766	1.650	2.480	
COMPUTE NM HYD	210.10	-	2	.07480	185.71	8.335	2.08937	1.500	3.879	PER IMP= 80.00
ROUTE RESERVOIR	210.11	2	3	.07480	4.78	7.510	1.88246	2.600	.100	AC-FT= 6.043
ADD HYD	210.12	10& 3	10	.29410	21.38	29.871	1.90437	1.600	.114	
COMPUTE NM HYD	210.20	-	2	.00780	18.09	.841	2.02224	1.500	3.623	PER IMP= 77.00
DIVIDE HYD	210.21	2	3	.00705	11.00	.760	2.02219	1.450	2.440	
	210.22	AND	6	.00075	7.09	.081	2.02219	1.500	14.670	
ADD HYD	210.23	10& 3	10	.30115	32.38	30.630	1.90712	1.600	.168	
COMPUTE NM HYD	210.30	-	2	.00250	6.19	.279	2.09268	1.500	3.871	PER IMP= 81.00
ADD HYD	210.31	11& 2	11	.01780	27.66	1.958	2.06251	1.600	2.428	
COMPUTE NM HYD	210.40	-	2	.01170	29.08	1.304	2.08937	1.500	3.883	PER IMP= 80.00
ROUTE RESERVOIR	210.41	2	4	.01170	.73	1.179	1.88920	2.600	.098	AC-FT= .946
ADD HYD	210.42	10& 4	13	.31285	32.93	31.809	1.90645	1.600	.164	
ADD HYD	210.43	6&11	12	.01855	31.08	2.039	2.06087	1.550	2.617	
ROUTE	210.46	13	10	.31285	32.84	31.789	1.90521	1.600	.164	
ROUTE	210.47	12	11	.01855	26.75	2.039	2.06091	1.650	2.253	
COMPUTE NM HYD	210.50	-	2	.00240	5.95	.268	2.09267	1.500	3.871	PER IMP= 81.00
ADD HYD	210.51	2&11	11	.02095	29.96	2.307	2.06449	1.650	2.234	
COMPUTE NM HYD	210.60	-	3	.07000	173.84	7.800	2.08937	1.500	3.880	PER IMP= 80.00
ROUTE RESERVOIR	210.61	3	4	.07000	4.45	7.167	1.91968	2.600	.099	AC-FT= 5.652
ADD HYD	210.62	4&10	10	.38285	36.25	38.955	1.90786	1.600	.148	
COMPUTE NM HYD	210.70	-	2	.00330	8.17	.368	2.09267	1.500	3.869	PER IMP= 81.00
ROUTE	210.71	2	12	.00330	4.83	.368	2.09282	1.600	2.285	
COMPUTE NM HYD	210.80	-	3	.00280	6.94	.313	2.09267	1.500	3.871	PER IMP= 81.00
ADD HYD	210.81	3&12	12	.00610	10.56	.681	2.09252	1.550	2.706	
COMPUTE NM HYD	210.90	-	2	.00170	4.22	.190	2.09267	1.500	3.876	PER IMP= 81.00
ADD HYD	210.91	12& 2	12	.00780	14.64	.870	2.09251	1.500	2.933	
ADD HYD	210.92	12&11	11	.02875	41.59	3.178	2.07209	1.600	2.260	
ADD HYD	210.93	11&10	10	.41160	77.84	42.133	1.91933	1.600	.295	
COMPUTE NM HYD	211.10	-	2	.01170	29.08	1.304	2.08937	1.500	3.883	PER IMP= 80.00
ROUTE RESERVOIR	211.11	2	3	.01170	.74	1.185	1.89842	2.600	.098	AC-FT= .947
ADD HYD	211.12	3&10	11	.42330	78.38	43.318	1.91875	1.600	.289	

COORS CONNECTION STORM DRAIN WATERSHED (DEVELOPED) 100 YEAR 24 HOUR STORM (CONTINUED)

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	NOTATION	
ROUTE	211.13	11	10	.42330	73.25	43.248	1.91567	1.700	.270		
*S BEGIN THE AREA SOUTH OF BLUEWATER ROAD											
COMPUTE NM HYD	220.10	-	2	.00350	8.67	.391	2.09267	1.500	3.869	PER IMP=	81.00
COMPUTE NM HYD	220.20	-	3	.03130	77.77	3.488	2.08937	1.500	3.882	PER IMP=	80.00
ROUTE RESERVOIR	220.21	3	4	.03130	2.01	3.162	1.89413	2.550	.100	AC-FT=	2.528
ROUTE	220.22	4	5	.03130	2.01	3.158	1.89148	2.650	.100		
ADD HYD	220.23	2& 5	3	.03480	9.29	3.548	1.91170	1.500	.417		
COMPUTE NM HYD	220.30	-	2	.04470	111.05	4.981	2.08937	1.500	3.882	PER IMP=	80.00
ROUTE RESERVOIR	220.31	2	4	.04470	2.87	4.490	1.88324	2.550	.100	AC-FT=	3.611
ADD HYD	220.32	3& 4	2	.07950	10.90	8.038	1.89570	1.500	.214		
COMPUTE NM HYD	220.40	-	4	.00180	4.36	.194	2.02224	1.500	3.784	PER IMP=	77.00
ADD HYD	220.41	2& 4	1	.08130	15.26	8.232	1.89850	1.500	.293		
COMPUTE NM HYD	220.50	-	3	.03130	77.77	3.488	2.08937	1.500	3.882	PER IMP=	80.00
ROUTE RESERVOIR	220.51	3	4	.03130	2.01	3.162	1.89413	2.550	.100	AC-FT=	2.528
ADD HYD	220.52	4& 1	3	.11260	16.42	11.394	1.89728	1.500	.228		
ADD HYD	220.53	10& 3	2	.53590	84.94	54.642	1.91181	1.650	.248		
ROUTE	220.54	2	10	.53590	84.82	54.632	1.91147	1.700	.247		
*S BEGIN THE AREA SOUTH OF THE ATRISCO BUSINESS PARK											
COMPUTE NM HYD	220.60	-	2	.01980	49.20	2.206	2.08937	1.500	3.883	PER IMP=	80.00
ROUTE RESERVOIR	220.61	2	3	.01980	1.27	1.992	1.88671	2.550	.100	AC-FT=	1.599
COMPUTE NM HYD	220.70	-	4	.00270	6.69	.301	2.09267	1.500	3.871	PER IMP=	81.00
ADD HYD	220.71	4& 3	5	.02250	7.40	2.294	1.91141	1.500	.514		
ADD HYD	220.72	10& 5	2	.55840	89.29	56.926	1.91147	1.650	.250		
ROUTE	220.73	2	10	.55840	86.34	56.848	1.90885	1.750	.242		
*S BEGIN AREA SOUTH OF CENTRAL BOULEVARD											
COMPUTE NM HYD	230.10	-	2	.00180	4.49	.201	2.08937	1.500	3.895	PER IMP=	80.00
ROUTE RESERVOIR	230.11	2	20	.00180	3.55	.201	2.08922	1.550	3.084	AC-FT=	.017
ROUTE	230.12	20	3	.00180	3.34	.201	2.08965	1.650	2.899		
COMPUTE NM HYD	230.20	-	2	.00520	12.93	.579	2.08937	1.500	3.886	PER IMP=	80.00
ROUTE RESERVOIR	230.21	2	20	.00520	10.88	.579	2.08931	1.550	3.269	AC-FT=	.040
ADD HYD	230.22	20& 3	4	.00700	13.81	.780	2.08930	1.600	3.083		
ROUTE	230.23	4	11	.00700	13.89	.780	2.08941	1.600	3.100		
COMPUTE NM HYD	230.30	-	2	.00240	6.09	.277	2.16311	1.500	3.963	PER IMP=	85.00
ADD HYD	230.31	2&11	3	.00940	19.03	1.057	2.10812	1.550	3.164		
ADD HYD	230.32	10& 3	1	.56780	99.75	57.905	1.91215	1.700	.274		
ROUTE	230.33	1	10	.56780	99.79	57.901	1.91203	1.700	.275		
*S END OF AIRPORT ROAD STORM DRAIN											
*S BEGIN COORS CONNECTION STORM DRAIN											
COMPUTE NM HYD	230.50	-	2	.00660	16.59	.741	2.10487	1.500	3.927	PER IMP=	80.00
ROUTE RESERVOIR	530.51	2	20	.00660	6.52	.741	2.10483	1.750	1.544	AC-FT=	.225
ROUTE	230.52	20	4	.00660	6.52	.741	2.10490	1.750	1.544		
COMPUTE NM HYD	230.60	-	2	.00230	6.13	.280	2.28382	1.500	4.162	PER IMP=	90.00
ROUTE	230.61	2	3	.00230	4.53	.280	2.28404	1.600	3.080		
COMPUTE NM HYD	230.70	-	2	.00580	14.69	.669	2.16311	1.500	3.958	PER IMP=	85.00
ADD HYD	230.71	3& 2	1	.00810	18.45	.949	2.19732	1.500	3.559		
ADD HYD	230.72	4& 1	5	.01470	23.53	1.690	2.15577	1.500	2.501		
ROUTE	230.73	5	4	.01470	23.55	1.690	2.15582	1.550	2.503		
COMPUTE NM HYD	230.80	-	2	.01120	28.14	1.257	2.10487	1.500	3.926	PER IMP=	80.00
ROUTE RESERVOIR	230.81	2	20	.01120	15.80	1.257	2.10485	1.650	2.205	AC-FT=	.249
ADD HYD	230.82	20& 4	5	.02590	38.39	2.947	2.13375	1.550	2.316		
ROUTE	230.83	5	2	.02590	38.60	2.947	2.13378	1.550	2.328		
ADD HYD	230.84	2&10	11	.59370	133.12	60.849	1.92170	1.650	.350		

COORS CONNECTION STORM DRAIN WATERSHED (DEVELOPED) 100 YEAR 24 HOUR STORM (CONTINUED)

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	NOTATION
ROUTE	230.85	11	10	.59370	132.96	60.844	1.92155	1.650	.350	
ROUTE	230.86	10	11	.59370	133.07	60.837	1.92133	1.700	.350	
*S BEGIN THE AREA NORTH OF CENTRAL AVENUE BETWEEN UNSER AND THE WEST 66										
*S ADDITION										
COMPUTE NM HYD	240.10	-	2	.03330	81.24	3.581	2.01648	1.500	3.812	PER IMP= 75.00
ROUTE RESERVOIR	240.11	2	20	.03330	58.81	3.581	2.01647	1.600	2.760	AC-FT= .416
ROUTE	240.12	20	3	.03330	58.37	3.581	2.01649	1.600	2.739	
COMPUTE NM HYD	240.20	-	4	.01250	25.65	1.319	1.97801	1.550	3.206	PER IMP= 71.00
ADD HYD	240.21	4& 3	5	.04580	82.53	4.900	2.00597	1.600	2.815	
ROUTE	240.22	5	15	.04580	81.93	4.900	2.00599	1.600	2.795	
COMPUTE NM HYD	240.30	-	3	.00800	20.10	.898	2.10487	1.500	3.926	PER IMP= 80.00
ROUTE RESERVOIR	240.31	3	20	.00800	12.49	.898	2.10483	1.600	2.439	AC-FT= .151
ROUTE	240.32	20	4	.00800	12.28	.898	2.10492	1.650	2.398	
ADD HYD	240.33	4&15	16	.05380	93.78	5.798	2.02068	1.600	2.724	
COMPUTE NM HYD	240.40	-	2	.02310	42.45	2.260	1.83425	1.600	2.871	PER IMP= 60.00
ROUTE RESERVOIR	240.41	2	3	.02310	29.29	1.074	.87164	1.850	1.981	AC-FT= 1.190
ADD HYD	240.42	3&16	15	.07690	93.79	6.872	1.67552	1.600	1.906	
COMPUTE NM HYD	240.50	-	4	.00930	24.26	1.133	2.28382	1.500	4.075	PER IMP= 90.00
ADD HYD	240.51	4&15	16	.08620	111.07	8.005	1.74114	1.600	2.013	
ROUTE RESERVOIR	240.52	16	15	.08620	96.76	8.005	1.74114	1.700	1.754	AC-FT= .552
ROUTE	240.53	15	5	.08620	97.17	8.005	1.74114	1.700	1.761	
COMPUTE NM HYD	240.60	-	2	.00650	16.96	.792	2.28382	1.500	4.076	PER IMP= 90.00
*S BEGIN AREA SOUTH OF CENTRAL AVENUE BETWEEN UNSER AND AIRPORT										
ADD HYD	240.61	2& 5	3	.09270	105.09	8.796	1.77919	1.700	1.771	
ROUTE	240.62	3	4	.09270	104.46	8.796	1.77918	1.700	1.761	
COMPUTE NM HYD	250.10	-	2	.02470	62.04	2.773	2.10488	1.500	3.925	PER IMP= 80.00
ADD HYD	250.11	4& 2	3	.11740	146.40	11.569	1.84770	1.500	1.948	
COMPUTE NM HYD	250.20	-	2	.00790	14.90	.599	1.42095	1.500	2.946	PER IMP= 35.00
ADD HYD	250.21	3& 2	4	.12530	161.30	12.168	1.82079	1.500	2.011	
ROUTE	250.22	4	3	.12530	164.12	12.168	1.82079	1.550	2.047	
COMPUTE NM HYD	260.10	-	2	.03980	97.10	4.280	2.01648	1.500	3.812	PER IMP= 75.00
ADD HYD	260.11	2& 3	4	.16510	256.28	16.448	1.86796	1.500	2.425	
ROUTE	260.12	4	2	.16510	257.18	16.448	1.86795	1.550	2.434	
COMPUTE NM HYD	270.10	-	3	.02220	54.17	2.388	2.01648	1.500	3.812	PER IMP= 75.00
ADD HYD	270.11	3& 2	4	.18730	304.84	18.835	1.88555	1.550	2.543	
ROUTE RESERVOIR	270.12	4	20	.18730	145.37	18.835	1.88553	2.000	1.213	AC-FT= 5.010
ADD HYD	270.13	20&11	10	.78100	267.15	79.672	1.91274	1.750	.534	
COMPUTE NM HYD	270.20	-	3	.00710	17.98	.819	2.16311	1.500	3.957	PER IMP= 85.00
DIVIDE HYD	270.21	3	2	.00326	2.00	.376	2.16307	1.300	.958	
	270.22	AND	4	.00384	15.98	.443	2.16307	1.500	6.504	
ADD HYD	270.23	10& 2	3	.78426	269.15	80.048	1.91378	1.750	.536	
ROUTE	270.24	3	10	.78426	269.53	80.039	1.91357	1.750	.537	
ROUTE	270.25	4	3	.00384	15.18	.443	2.16508	1.500	6.178	
ADD HYD	270.26	10& 3	4	.78810	275.09	80.483	1.91479	1.750	.545	
COMPUTE NM HYD	280.10	-	2	.00660	16.11	.710	2.01647	1.500	3.815	PER IMP= 75.00
ROUTE RESERVOIR	280.11	2	20	.00660	6.51	.710	2.01643	1.750	1.540	AC-FT= .213
ADD HYD	280.12	4&20	3	.79470	281.60	81.192	1.91564	1.750	.554	
COMPUTE NM HYD	280.20	-	4	.00250	6.34	.288	2.16311	1.500	3.963	PER IMP= 85.00
ADD HYD	280.21	3& 4	5	.79720	284.08	81.481	1.91641	1.750	.557	
COMPUTE NM HYD	280.30	-	6	.00450	8.64	.359	1.49614	1.500	2.998	PER IMP= 50.00
ADD HYD	280.31	5& 6	7	.80170	287.31	81.840	1.91405	1.750	.560	
ROUTE	280.32	7	10	.80170	287.38	81.825	1.91371	1.700	.560	

COORS CONNECTION STORM DRAIN WATERSHED (DEVELOPED) 100 YEAR 24 HOUR STORM (CONTINUED)

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 = 4 NOTATION
COMPUTE NM HYD	290.10	-	2	.03144	67.47	2.789	1.66330	1.500	3.353	PER IMP= 55.00
ROUTE RESERVOIR	290.11	2	20	.03144	28.20	2.789	1.66329	1.700	1.402	AC-FT= .836
ADD HYD	290.12	10&20	3	.83314	315.58	84.614	1.90426	1.700	.592	
ROUTE	290.13	3	4	.83314	315.84	84.607	1.90410	1.700	.592	
ROUTE	290.14	4	10	.83314	315.86	84.595	1.90383	1.700	.592	
COMPUTE NM HYD	290.20	-	2	.00690	17.48	.796	2.16311	1.500	3.958	PER IMP= 85.00
ADD HYD	290.21	10& 2	3	.84004	323.70	85.391	1.90596	1.700	.602	
ROUTE	290.22	3	4	.84004	323.72	85.388	1.90589	1.700	.602	
ROUTE	290.23	4	5	.84004	324.01	85.380	1.90570	1.700	.603	
FINISH										

COORS CONNECTION STORM DRAIN WATERSHED (INTERIM) 10 YEAR 24 HOUR STORM
AHYMO SUMMARY TABLE (AHYMO392) - AMAFCA VERSION OF HYMO - MARCH, 1992 RUN DATE (MON/DAY/YR) =09/22/1992
INPUT FILE = ccsdwi.hmi USER NO.= D_HARRIS.S92

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	NOTATION
										PAGE = 1
START										TIME= .00
RAINFALL TYPE= 2										RAIN24= 1.650
*S BEGIN THE WATERSHED FOR THE AIRPORT ROAD STORM DRAIN **********										
COMPUTE NM HYD	200.10	-	2	.20810	41.20	1.124	.10130	1.550	.309	PER IMP= .00
*S ASSUME CONSERVATION TREATMENT IS APPLIED TO THE BASIN AND NO RUNOFF										
*S LEAVES THE SITE										
COMPUTE NM HYD	200.40	-	3	.00420	6.56	.267	1.19139	1.500	2.440	PER IMP= 81.00
ROUTE	200.45	3	11	.00420	4.09	.267	1.19149	1.600	1.523	
COMPUTE NM HYD	200.50	-	4	.00350	5.47	.222	1.19139	1.500	2.441	PER IMP= 81.00
ADD HYD	200.51	11& 4	3	.00770	8.61	.489	1.19128	1.550	1.746	
ROUTE	200.66	3	11	.00770	6.71	.489	1.19138	1.650	1.362	
COMPUTE NM HYD	210.10	-	2	.07480	14.47	.404	.10130	1.550	.302	PER IMP= .00
*S ASSUME CONSERVATION TREATMENT IS APPLIED TO THE BASIN AND NO RUNOFF										
*S LEAVES THE SITE										
COMPUTE NM HYD	210.30	-	2	.00250	3.91	.159	1.19139	1.500	2.442	PER IMP= 81.00
ADD HYD	210.31	11& 2	12	.01020	9.11	.648	1.19126	1.600	1.395	
ROUTE	210.47	12	11	.01020	7.79	.648	1.19133	1.750	1.194	
COMPUTE NM HYD	210.50	-	2	.00240	3.75	.152	1.19139	1.500	2.442	PER IMP= 81.00
ADD HYD	210.51	2&11	11	.01260	9.42	.801	1.19124	1.700	1.168	
COMPUTE NM HYD	210.60	-	3	.07000	13.53	.378	.10130	1.550	.302	PER IMP= .00
*S ASSUME CONSERVATION TREATMENT IS APPLIED TO THE BASIN AND NO RUNOFF										
*S LEAVES THE SITE										
COMPUTE NM HYD	210.70	-	2	.00330	5.15	.210	1.19139	1.500	2.441	PER IMP= 81.00
ROUTE	210.71	2	12	.00330	2.76	.210	1.19151	1.600	1.307	
COMPUTE NM HYD	210.80	-	3	.00280	4.38	.178	1.19139	1.500	2.441	PER IMP= 81.00
ADD HYD	210.81	3&12	12	.00610	6.34	.388	1.19121	1.550	1.624	
COMPUTE NM HYD	210.90	-	2	.00170	2.66	.108	1.19139	1.500	2.444	PER IMP= 81.00
ADD HYD	210.91	12& 2	12	.00780	8.93	.496	1.19121	1.500	1.788	
ADD HYD	210.92	12&11	11	.02040	17.08	1.296	1.19123	1.550	1.308	
ROUTE	211.13	11	10	.02040	15.15	1.296	1.19126	1.700	1.160	
*S BEGIN THE AREA SOUTH OF BLUEWATER ROAD										
COMPUTE NM HYD	220.10	-	2	.00350	5.47	.222	1.19139	1.500	2.441	PER IMP= 81.00
COMPUTE NM HYD	220.20	-	3	.03130	49.09	1.984	1.18860	1.500	2.450	PER IMP= 80.00
ROUTE RESERVOIR	220.21	3	4	.03130	1.57	1.857	1.11233	2.450	.078	AC-FT= 1.525
ROUTE	220.22	4	5	.03130	1.57	1.854	1.11092	2.500	.078	
ADD HYD	220.23	2& 5	3	.03480	5.76	2.077	1.11900	1.500	.259	
COMPUTE NM HYD	220.30	-	2	.04470	8.63	.242	.10130	1.550	.302	PER IMP= .00
*S ASSUME CONSERVATION TREATMENT IS APPLIED TO THE BASIN AND NO RUNOFF										
*S LEAVES THE SITE										
ADD HYD	220.53	10& 3	2	.05520	18.97	3.373	1.14569	1.650	.537	
ROUTE	220.54	2	10	.05520	19.00	3.372	1.14551	1.650	.538	
*S BEGIN THE AREA SOUTH OF THE ATRISCO BUSINESS PARK										
COMPUTE NM HYD	220.60	-	2	.01980	31.06	1.255	1.18860	1.500	2.451	PER IMP= 80.00
ROUTE RESERVOIR	220.61	2	3	.01980	1.01	1.168	1.10617	2.450	.080	AC-FT= .965
COMPUTE NM HYD	220.70	-	4	.00270	4.22	.172	1.19139	1.500	2.442	PER IMP= 81.00
ADD HYD	220.71	4& 3	5	.02250	4.64	1.340	1.11638	1.500	.322	
ADD HYD	220.72	10& 5	2	.07770	22.30	4.712	1.13707	1.600	.448	
ROUTE	220.73	2	10	.07770	20.96	4.705	1.13532	1.750	.422	

COORS CONNECTION STORM DRAIN WATERSHED (INTERIM) 10 YEAR 24 HOUR STORM (CONTINUED)

PAGE = 2

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	NOTATION
*S BEGIN AREA SOUTH OF CENTRAL BOULEVARD										
COMPUTE NM HYD	230.10	-	2	.00180	2.17	.070	.72693	1.500	1.883	PER IMP= 30.00
ROUTE	230.11	2	3	.00180	1.68	.070	.72727	1.600	1.456	
COMPUTE NM HYD	230.20	-	2	.00520	6.25	.202	.72693	1.500	1.878	PER IMP= 30.00
ADD HYD	230.21	2& 3	4	.00700	7.53	.271	.72686	1.500	1.682	
ROUTE	230.22	4	11	.00700	7.50	.271	.72697	1.550	1.675	
COMPUTE NM HYD	230.30	-	2	.00240	3.88	.159	1.23955	1.500	2.527	PER IMP= 85.00
ADD HYD	230.31	2&11	1	.00940	11.29	.430	.85772	1.500	1.876	
ADD HYD	230.32	1&10	3	.08710	27.45	5.135	1.10536	1.600	.492	
ROUTE	230.33	3	10	.08710	27.49	5.134	1.10523	1.650	.493	
*S END OF AIRPORT ROAD STORM DRAIN										
*S BEGIN COORS CONNECTION STORM DRAIN										
COMPUTE NM HYD	230.60	-	2	.00230	3.99	.162	1.32112	1.500	2.709	PER IMP= 90.00
ROUTE	230.61	2	3	.00230	2.80	.162	1.32130	1.600	1.905	
COMPUTE NM HYD	230.70	-	2	.00580	9.37	.383	1.23955	1.500	2.524	PER IMP= 85.00
ADD HYD	230.71	3& 2	4	.00810	11.54	.545	1.26262	1.500	2.225	
COMPUTE NM HYD	230.50	-	2	.00660	1.60	.044	.12523	1.500	.379	PER IMP= .00
ADD HYD	230.51	2& 4	5	.01470	13.14	.590	.75195	1.500	1.396	
ROUTE	230.52	5	4	.01470	12.96	.590	.75200	1.500	1.377	
COMPUTE NM HYD	230.80	-	2	.01120	6.73	.223	.37289	1.500	.938	PER IMP= 15.00
ADD HYD	230.82	2& 4	5	.02590	19.68	.812	.58802	1.500	1.187	
ROUTE	230.83	5	2	.02590	19.69	.812	.58805	1.550	1.188	
ADD HYD	230.84	2&10	11	.11300	45.23	5.946	.98668	1.550	.625	
ROUTE	230.85	11	10	.11300	45.50	5.946	.98663	1.550	.629	
ROUTE	230.86	10	11	.11300	45.47	5.946	.98655	1.550	.629	
*S BEGIN THE AREA NORTH OF CENTRAL AVENUE BETWEEN UNSER AND THE WEST 66										
*S ADDITION										
COMPUTE NM HYD	240.10	-	2	.03330	33.58	1.379	.77645	1.550	1.576	PER IMP= 35.00
ROUTE	240.11	2	3	.03330	32.47	1.379	.77646	1.600	1.523	
COMPUTE NM HYD	240.20	-	4	.01250	15.90	.740	1.11053	1.550	1.987	PER IMP= 71.00
ADD HYD	240.21	4& 3	5	.04580	47.48	2.119	.86761	1.600	1.620	
ROUTE	240.22	5	15	.04580	46.76	2.119	.86763	1.600	1.595	
COMPUTE NM HYD	240.30	-	3	.00800	7.08	.289	.67742	1.600	1.383	PER IMP= 25.00
ROUTE	240.31	3	4	.00800	6.59	.289	.67745	1.600	1.287	
ADD HYD	240.32	4&15	16	.05380	53.35	2.408	.83932	1.600	1.549	
COMPUTE NM HYD	240.40	-	2	.02310	25.81	1.245	1.01075	1.600	1.746	PER IMP= 60.00
ROUTE RESERVOIR	240.41	2	3	.02310	.14	.060	.04833	17.500	.010	AC-FT= 1.190
ADD HYD	240.42	3&16	15	.07690	53.35	2.468	.60172	1.600	1.084	
COMPUTE NM HYD	240.50	-	4	.00930	15.78	.655	1.32112	1.500	2.651	PER IMP= 90.00
ADD HYD	240.51	4&15	16	.08620	64.57	3.123	.67933	1.600	1.170	
ROUTE RESERVOIR	240.52	16	15	.08620	61.33	3.123	.67932	1.650	1.112	AC-FT= .142
ROUTE	240.53	15	5	.08620	61.27	3.123	.67932	1.650	1.111	
COMPUTE NM HYD	240.60	-	2	.00650	11.03	.458	1.32112	1.500	2.652	PER IMP= 90.00
*S BEGIN AREA SOUTH OF CENTRAL AVENUE BETWEEN UNSER AND AIRPORT										
ADD HYD	240.61	2& 5	3	.09270	68.95	3.581	.72432	1.600	1.162	
ROUTE	240.62	3	4	.09270	51.35	3.581	.72426	1.750	.866	
COMPUTE NM HYD	250.10	-	2	.02470	17.22	.809	.61449	1.600	1.089	PER IMP= 30.00
ADD HYD	250.11	4& 2	3	.11740	64.59	4.390	.70116	1.700	.860	
COMPUTE NM HYD	250.20	-	2	.00790	8.24	.306	.72659	1.500	1.629	PER IMP= 35.00
ADD HYD	250.21	3& 2	4	.12530	68.68	4.696	.70276	1.700	.856	
ROUTE	250.22	4	3	.12530	67.26	4.696	.70274	1.750	.839	
COMPUTE NM HYD	260.10	-	2	.03980	7.96	.272	.12815	1.550	.312	PER IMP= 2.00

COORS CONNECTION STORM DRAIN WATERSHED (INTERIM) 10 YEAR 24 HOUR STORM (CONTINUED)

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	NOTATION
ADD HYD	260.11	3& 2	4	.16510	71.01	4.968	.56423	1.750	.672	
ROUTE	260.12	4	2	.16510	70.66	4.968	.56422	1.750	.669	
ROUTE	260.13	2	4	.16510	70.58	4.968	.56422	1.750	.668	
COMPUTE NM HYD	270.10	-	3	.02220	5.32	.168	.14157	1.500	.374	PER IMP= 3.00
ADD HYD	270.11	3& 4	4	.18730	72.56	5.136	.51412	1.750	.605	
ADD HYD	260.13	4&11	10	.30030	107.68	11.081	.69189	1.750	.560	
COMPUTE NM HYD	270.20	-	3	.00710	11.47	.469	1.23955	1.500	2.524	PER IMP= 85.00
ADD HYD	270.23	10& 3	4	.30740	112.14	11.551	.70454	1.750	.570	
ROUTE	270.24	4	10	.30740	112.25	11.550	.70450	1.750	.571	
COMPUTE NM HYD	280.10	-	2	.00660	1.81	.059	.16841	1.500	.428	PER IMP= 5.00
ADD HYD	280.11	10& 2	3	.31400	112.93	11.609	.69324	1.750	.562	
COMPUTE NM HYD	280.20	-	4	.00250	4.04	.165	1.23955	1.500	2.527	PER IMP= 85.00
ADD HYD	280.21	3& 4	5	.31650	114.50	11.775	.69755	1.750	.565	
COMPUTE NM HYD	280.30	-	6	.00450	4.79	.189	.78701	1.500	1.663	PER IMP= 50.00
ADD HYD	280.31	5& 6	7	.32100	116.34	11.964	.69880	1.750	.566	
ROUTE	280.32	7	10	.32100	116.52	11.963	.69875	1.750	.567	
COMPUTE NM HYD	290.10	-	2	.03144	6.55	.203	.12120	1.550	.325	PER IMP= 2.00
ADD HYD	290.12	10& 2	3	.35244	119.01	12.166	.64723	1.750	.528	
ROUTE	290.13	3	4	.35244	119.01	12.166	.64722	1.750	.528	
ROUTE	290.14	4	10	.35244	119.17	12.165	.64718	1.750	.528	
COMPUTE NM HYD	290.20	-	2	.00690	11.15	.456	1.23955	1.500	2.524	PER IMP= 85.00
ADD HYD	290.21	10& 2	3	.35934	123.51	12.621	.65855	1.750	.537	
ROUTE	290.22	3	4	.35934	123.50	12.621	.65854	1.750	.537	
ROUTE	290.23	4	5	.35934	123.45	12.620	.65851	1.750	.537	
FINISH										

COORS CONNECTION STORM DRAIN WATERSHED (DEVELOPED) 10 YEAR 24 HOUR STORM
AHYMO SUMMARY TABLE (AHYMO392) - AMAFCA VERSION OF HYMO - MARCH, 1992 RUN DATE (MON/DAY/YR) =09/22/1992
INPUT FILE = ccsdwd.hmi USER NO.= D_HARRIS.S92

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	NOTATION
										PAGE = 1
START										TIME= .00
RAINFALL TYPE= 2										RAIN24= 1.650
*S BEGIN THE WATERSHED FOR THE AIRPORT ROAD STORM DRAIN **********										
COMPUTE NM HYD	200.10	-	2	.20810	313.99	13.192	1.18860	1.500	2.358	PER IMP= 80.00
ROUTE RESERVOIR	200.11	2	3	.20810	10.61	12.457	1.12234	2.450	.080	AC-FT= 10.081
COMPUTE NM HYD	200.20	-	2	.00420	6.33	.256	1.14323	1.500	2.355	PER IMP= 77.00
ADD HYD	200.21	3& 2	4	.21230	12.14	12.713	1.12275	1.550	.089	
COMPUTE NM HYD	200.30	-	2	.00760	11.21	.463	1.14323	1.500	2.304	PER IMP= 77.00
COMPUTE NM HYD	200.40	-	3	.00420	6.56	.267	1.19139	1.500	2.440	PER IMP= 81.00
ADD HYD	200.41	2& 3	5	.01180	17.77	.730	1.16032	1.500	2.353	
ROUTE	200.45	5	11	.01180	12.57	.730	1.16038	1.600	1.664	
COMPUTE NM HYD	200.50	-	3	.00350	5.47	.222	1.19139	1.500	2.441	PER IMP= 81.00
ADD HYD	200.51	11& 3	3	.01530	16.74	.953	1.16739	1.550	1.709	
COMPUTE NM HYD	200.60	-	1	.00700	10.98	.444	1.18860	1.500	2.452	PER IMP= 80.00
ROUTE RESERVOIR	200.61	1	2	.00700	.35	.419	1.12128	2.450	.079	AC-FT= .341
ADD HYD	200.62	4& 2	1	.21930	12.37	13.131	1.12271	1.550	.088	
ROUTE	200.65	1	10	.21930	12.26	13.123	1.12202	1.600	.087	
ROUTE	200.66	3	11	.01530	13.89	.953	1.16744	1.650	1.418	
COMPUTE NM HYD	210.10	-	2	.07480	116.91	4.742	1.18860	1.500	2.442	PER IMP= 80.00
ROUTE RESERVOIR	210.11	2	3	.07480	3.73	4.408	1.10498	2.450	.078	AC-FT= 3.646
ADD HYD	210.12	10& 3	10	.29410	15.50	17.531	1.11769	2.050	.082	
COMPUTE NM HYD	210.20	-	2	.00780	11.28	.476	1.14323	1.500	2.259	PER IMP= 77.00
DIVIDE HYD	210.21	2	3	.00778	11.00	.474	1.14318	1.500	2.209	
	210.22	AND	6	.00002	.28	.001	1.14318	1.500	23.054	
ADD HYD	210.23	10& 3	10	.30188	24.28	18.006	1.11834	1.550	.126	
COMPUTE NM HYD	210.30	-	2	.00250	3.91	.159	1.19139	1.500	2.442	PER IMP= 81.00
ADD HYD	210.31	11& 2	11	.01780	15.97	1.111	1.17074	1.650	1.402	
COMPUTE NM HYD	210.40	-	2	.01170	18.35	.742	1.18859	1.500	2.451	PER IMP= 80.00
ROUTE RESERVOIR	210.41	2	4	.01170	.58	.694	1.11191	2.450	.077	AC-FT= .571
ADD HYD	210.42	10& 4	13	.31358	24.64	18.700	1.11810	1.550	.123	
ADD HYD	210.43	6&11	12	.01782	15.97	1.113	1.17071	1.650	1.400	
ROUTE	210.46	13	10	.31358	24.22	18.689	1.11745	1.600	.121	
ROUTE	210.47	12	11	.01782	14.24	1.113	1.17074	1.750	1.249	
COMPUTE NM HYD	210.50	-	2	.00240	3.75	.152	1.19139	1.500	2.442	PER IMP= 81.00
ADD HYD	210.51	2&11	11	.02022	15.70	1.265	1.17314	1.750	1.213	
COMPUTE NM HYD	210.60	-	3	.07000	109.55	4.437	1.18859	1.500	2.445	PER IMP= 80.00
ROUTE RESERVOIR	210.61	3	4	.07000	3.57	4.214	1.12866	2.450	.080	AC-FT= 3.401
ADD HYD	210.62	4&10	10	.38358	26.88	22.902	1.11950	1.600	.109	
COMPUTE NM HYD	210.70	-	2	.00330	5.15	.210	1.19139	1.500	2.441	PER IMP= 81.00
ROUTE	210.71	2	12	.00330	2.76	.210	1.19151	1.600	1.307	
COMPUTE NM HYD	210.80	-	3	.00280	4.38	.178	1.19139	1.500	2.441	PER IMP= 81.00
ADD HYD	210.81	3&12	12	.00610	6.34	.388	1.19121	1.550	1.624	
COMPUTE NM HYD	210.90	-	2	.00170	2.66	.108	1.19139	1.500	2.444	PER IMP= 81.00
ADD HYD	210.91	12& 2	12	.00780	8.93	.496	1.19121	1.500	1.788	
ADD HYD	210.92	12&11	11	.02802	21.22	1.761	1.17817	1.700	1.183	
ADD HYD	210.93	11&10	10	.41160	47.22	24.663	1.12349	1.600	.179	
COMPUTE NM HYD	211.10	-	2	.01170	18.35	.742	1.18859	1.500	2.451	PER IMP= 80.00
ROUTE RESERVOIR	211.11	2	3	.01170	.57	.700	1.12165	2.450	.076	AC-FT= .571
ADD HYD	211.12	3&10	11	.42330	47.66	25.363	1.12344	1.600	.176	

COORS CONNECTION STORM DRAIN WATERSHED (DEVELOPED) 10 YEAR 24 HOUR STORM (CONTINUED)

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	NOTATION	
ROUTE	211.13	11	10	.42330	44.98	25.327	1.12187	1.700	.166		
*S BEGIN THE AREA SOUTH OF BLUEWATER ROAD											
COMPUTE NM HYD	220.10	-	2	.00350	5.47	.222	1.19139	1.500	2.441	PER IMP=	81.00
COMPUTE NM HYD	220.20	-	3	.03130	49.09	1.984	1.18860	1.500	2.450	PER IMP=	80.00
ROUTE RESERVOIR	220.21	3	4	.03130	1.57	1.857	1.11233	2.450	.078	AC-FT=	1.525
ROUTE	220.22	4	5	.03130	1.57	1.854	1.11092	2.500	.078		
ADD HYD	220.23	2& 5	3	.03480	5.76	2.077	1.11900	1.500	.259		
COMPUTE NM HYD	220.30	-	2	.04470	70.10	2.834	1.18859	1.500	2.450	PER IMP=	80.00
ROUTE RESERVOIR	220.31	2	4	.04470	2.25	2.633	1.10441	2.450	.079	AC-FT=	2.179
ADD HYD	220.32	3& 4	2	.07950	6.71	4.710	1.11080	1.500	.132		
COMPUTE NM HYD	220.40	-	4	.00180	2.72	.110	1.14323	1.500	2.359	PER IMP=	77.00
ADD HYD	220.41	2& 4	1	.08130	9.43	4.820	1.11151	1.500	.181		
COMPUTE NM HYD	220.50	-	3	.03130	49.09	1.984	1.18860	1.500	2.450	PER IMP=	80.00
ROUTE RESERVOIR	220.51	3	4	.03130	1.57	1.857	1.11233	2.450	.078	AC-FT=	1.525
ADD HYD	220.52	4& 1	3	.11260	10.12	6.676	1.11174	1.500	.140		
ADD HYD	220.53	10& 3	2	.53590	52.83	32.004	1.11975	1.700	.154		
ROUTE	220.54	2	10	.53590	52.79	31.999	1.11957	1.700	.154		
*S BEGIN THE AREA SOUTH OF THE ATRISCO BUSINESS PARK											
COMPUTE NM HYD	220.60	-	2	.01980	31.06	1.255	1.18860	1.500	2.451	PER IMP=	80.00
ROUTE RESERVOIR	220.61	2	3	.01980	1.01	1.168	1.10617	2.450	.080	AC-FT=	.965
COMPUTE NM HYD	220.70	-	4	.00270	4.22	.172	1.19139	1.500	2.442	PER IMP=	81.00
ADD HYD	220.71	4& 3	5	.02250	4.64	1.340	1.11638	1.500	.322		
ADD HYD	220.72	10& 5	2	.55840	55.47	33.338	1.11944	1.700	.155		
ROUTE	220.73	2	10	.55840	54.30	33.298	1.11807	1.800	.152		
*S BEGIN AREA SOUTH OF CENTRAL BOULEVARD											
COMPUTE NM HYD	230.10	-	2	.00180	2.83	.114	1.18859	1.500	2.458	PER IMP=	80.00
ROUTE RESERVOIR	230.11	2	20	.00180	2.50	.114	1.18842	1.550	2.171	AC-FT=	.007
ROUTE	230.12	20	3	.00180	2.20	.114	1.18899	1.600	1.909		
COMPUTE NM HYD	230.20	-	2	.00520	8.16	.330	1.18859	1.500	2.453	PER IMP=	80.00
ROUTE RESERVOIR	230.21	2	20	.00520	7.40	.330	1.18854	1.550	2.223	AC-FT=	.016
ADD HYD	230.22	20& 3	4	.00700	9.37	.444	1.18856	1.550	2.092		
ROUTE	230.23	4	11	.00700	9.25	.444	1.18866	1.550	2.065		
COMPUTE NM HYD	230.30	-	2	.00240	3.88	.159	1.23955	1.500	2.527	PER IMP=	85.00
ADD HYD	230.31	2&11	3	.00940	12.65	.602	1.20154	1.550	2.102		
ADD HYD	230.32	10& 3	1	.56780	60.53	33.900	1.11945	1.750	.167		
ROUTE	230.33	1	10	.56780	60.53	33.898	1.11939	1.750	.167		
*S END OF AIRPORT ROAD STORM DRAIN											
*S BEGIN COORS CONNECTION STORM DRAIN											
COMPUTE NM HYD	230.50	-	2	.00660	10.51	.422	1.19856	1.500	2.489	PER IMP=	80.00
ROUTE RESERVOIR	530.51	2	20	.00660	5.04	.422	1.19851	1.700	1.194	AC-FT=	.118
ROUTE	230.52	20	4	.00660	5.05	.422	1.19859	1.700	1.196		
COMPUTE NM HYD	230.60	-	2	.00230	3.99	.162	1.32112	1.500	2.709	PER IMP=	90.00
ROUTE	230.61	2	3	.00230	2.80	.162	1.32130	1.600	1.905		
COMPUTE NM HYD	230.70	-	2	.00580	9.37	.383	1.23955	1.500	2.524	PER IMP=	85.00
ADD HYD	230.71	3& 2	1	.00810	11.54	.545	1.26262	1.500	2.225		
ADD HYD	230.72	4& 1	5	.01470	15.41	.967	1.23382	1.550	1.638		
ROUTE	230.73	5	4	.01470	15.70	.967	1.23387	1.550	1.669		
COMPUTE NM HYD	230.80	-	2	.01120	17.83	.716	1.19856	1.500	2.488	PER IMP=	80.00
ROUTE RESERVOIR	230.81	2	20	.01120	11.77	.716	1.19853	1.600	1.642	AC-FT=	.121
ADD HYD	230.82	20& 4	5	.02590	27.07	1.683	1.21856	1.550	1.633		
ROUTE	230.83	5	2	.02590	27.02	1.683	1.21859	1.550	1.630		
ADD HYD	230.84	2&10	11	.59370	83.32	35.581	1.12371	1.700	.219		

COORS CONNECTION STORM DRAIN WATERSHED (DEVELOPED) 10 YEAR 24 HOUR STORM (CONTINUED)

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	NOTATION
ROUTE	230.85	11	10	.59370	83.29	35.579	1.12363	1.650	.219	
ROUTE	230.86	10	11	.59370	83.41	35.575	1.12351	1.700	.220	
*S BEGIN THE AREA NORTH OF CENTRAL AVENUE BETWEEN UNSER AND THE WEST 66										
*S ADDITION										
COMPUTE NM HYD	240.10	-	2	.03330	50.75	2.021	1.13800	1.500	2.381	PER IMP= 75.00
ROUTE RESERVOIR	240.11	2	20	.03330	41.75	2.021	1.13799	1.550	1.959	AC-FT= .176
ROUTE	240.12	20	3	.03330	41.09	2.021	1.13802	1.600	1.928	
COMPUTE NM HYD	240.20	-	4	.01250	15.90	.740	1.11053	1.550	1.987	PER IMP= 71.00
ADD HYD	240.21	4& 3	5	.04580	56.11	2.761	1.13050	1.600	1.914	
ROUTE	240.22	5	15	.04580	55.57	2.761	1.13051	1.600	1.896	
COMPUTE NM HYD	240.30	-	3	.00800	12.74	.511	1.19856	1.500	2.489	PER IMP= 80.00
ROUTE RESERVOIR	240.31	3	20	.00800	9.14	.511	1.19851	1.600	1.784	AC-FT= .073
ROUTE	240.32	20	4	.00800	8.87	.511	1.19860	1.650	1.732	
ADD HYD	240.33	4&15	16	.05380	64.29	3.273	1.14062	1.600	1.867	
COMPUTE NM HYD	240.40	-	2	.02310	25.81	1.245	1.01075	1.600	1.746	PER IMP= 60.00
ROUTE RESERVOIR	240.41	2	3	.02310	.14	.060	.04833	17.500	.010	AC-FT= 1.190
ADD HYD	240.42	3&16	15	.07690	64.30	3.332	.81250	1.600	1.306	
COMPUTE NM HYD	240.50	-	4	.00930	15.78	.655	1.32112	1.500	2.651	PER IMP= 90.00
ADD HYD	240.51	4&15	16	.08620	75.52	3.988	.86737	1.600	1.369	
ROUTE RESERVOIR	240.52	16	15	.08620	68.82	3.988	.86737	1.650	1.248	AC-FT= .229
ROUTE	240.53	15	5	.08620	69.06	3.988	.86736	1.650	1.252	
COMPUTE NM HYD	240.60	-	2	.00650	11.03	.458	1.32112	1.500	2.652	PER IMP= 90.00
*S BEGIN AREA SOUTH OF CENTRAL AVENUE BETWEEN UNSER AND AIRPORT										
ADD HYD	240.61	2& 5	3	.09270	75.23	4.446	.89918	1.650	1.268	
ROUTE	240.62	3	4	.09270	74.99	4.446	.89917	1.600	1.264	
COMPUTE NM HYD	250.10	-	2	.02470	39.32	1.579	1.19856	1.500	2.488	PER IMP= 80.00
ADD HYD	250.11	4& 2	3	.11740	107.60	6.024	.96216	1.550	1.432	
COMPUTE NM HYD	250.20	-	2	.00790	8.24	.306	.72659	1.500	1.629	PER IMP= 35.00
ADD HYD	250.21	3& 2	4	.12530	115.76	6.331	.94730	1.550	1.443	
ROUTE	250.22	4	3	.12530	115.99	6.330	.94730	1.550	1.446	
COMPUTE NM HYD	260.10	-	2	.03980	60.66	2.416	1.13800	1.500	2.381	PER IMP= 75.00
ADD HYD	260.11	2& 3	4	.16510	169.39	8.746	.99327	1.550	1.603	
ROUTE	260.12	4	2	.16510	165.53	8.746	.99326	1.550	1.567	
COMPUTE NM HYD	270.10	-	3	.02220	33.84	1.347	1.13800	1.500	2.382	PER IMP= 75.00
ADD HYD	270.11	3& 2	4	.18730	195.32	10.093	1.01041	1.550	1.629	
ROUTE RESERVOIR	270.12	4	20	.18730	107.70	10.093	1.01040	1.850	.898	AC-FT= 2.542
ADD HYD	270.13	20&11	10	.78100	188.02	45.668	1.09638	1.750	.376	
COMPUTE NM HYD	270.20	-	3	.00710	11.47	.469	1.23955	1.500	2.524	PER IMP= 85.00
DIVIDE HYD	270.21	3	2	.00367	2.00	.242	1.23950	1.350	.853	
	270.22	AND	4	.00343	9.47	.227	1.23950	1.500	4.307	
ADD HYD	270.23	10& 2	3	.78467	190.02	45.910	1.09705	1.750	.378	
ROUTE	270.24	3	10	.78467	190.13	45.905	1.09693	1.800	.379	
ROUTE	270.25	4	3	.00343	8.90	.227	1.24176	1.550	4.047	
ADD HYD	270.26	10& 3	4	.78810	192.82	46.133	1.09756	1.700	.382	
COMPUTE NM HYD	280.10	-	2	.00660	10.07	.401	1.13800	1.500	2.383	PER IMP= 75.00
ROUTE RESERVOIR	280.11	2	20	.00660	4.94	.401	1.13795	1.650	1.170	AC-FT= .110
ADD HYD	280.12	4&20	3	.79470	197.76	46.533	1.09790	1.700	.389	
COMPUTE NM HYD	280.20	-	4	.00250	4.04	.165	1.23955	1.500	2.527	PER IMP= 85.00
ADD HYD	280.21	3& 4	5	.79720	199.55	46.698	1.09834	1.700	.391	
COMPUTE NM HYD	280.30	-	6	.00450	4.79	.189	.78701	1.500	1.663	PER IMP= 50.00
ADD HYD	280.31	5& 6	7	.80170	201.68	46.887	1.09659	1.700	.393	
ROUTE	280.32	7	10	.80170	201.34	46.880	1.09642	1.750	.392	

COORS CONNECTION STORM DRAIN WATERSHED (DEVELOPED) 10 YEAR 24 HOUR STORM (CONTINUED)

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	NOTATION
COMPUTE NM HYD	290.10	-	2	.03144	39.30	1.504	.89678	1.500	1.953	PER IMP= 55.00
ROUTE RESERVOIR	290.11	2	20	.03144	20.80	1.504	.89677	1.650	1.034	AC-FT= .386
ADD HYD	290.12	10&20	3	.83314	221.81	48.384	1.08888	1.700	.416	
ROUTE	290.13	3	4	.83314	221.96	48.381	1.08882	1.750	.416	
ROUTE	290.14	4	10	.83314	222.12	48.375	1.08868	1.750	.417	
COMPUTE NM HYD	290.20	-	2	.00690	11.15	.456	1.23955	1.500	2.524	PER IMP= 85.00
ADD HYD	290.21	10& 2	3	.84004	226.46	48.831	1.08992	1.750	.421	
ROUTE	290.22	3	4	.84004	226.45	48.829	1.08988	1.750	.421	
ROUTE	290.23	4	5	.84004	226.70	48.824	1.08978	1.750	.422	
FINISH										

TIERRA BAYITA STORM DRAIN WATERSHED (INTERIM) 100 YEAR 6 HOUR STORM
AHYMO SUMMARY TABLE (AHYMO392) - AMAFCA VERSION OF HYMO - MARCH, 1992 RUN DATE (MON/DAY/YR) =09/22/1992
INPUT FILE = tbsdwi.hmi USER NO.= D_HARRIS.S92

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.200
*S BEGIN UNSER DIVERSION CHANNEL WATERSHED										
COMPUTE NM HYD	120.10	-	1	.02590	21.50	.607	.43922	1.533	1.297	PER IMP= .00
COMPUTE NM HYD	120.20	-	2	.05790	34.48	1.356	.43922	1.567	.930	PER IMP= .00
ADD HYD	120.21	1& 2	3	.08380	54.53	1.963	.43922	1.567	1.017	
ROUTE	120.22	3	4	.08380	45.42	1.963	.43923	1.633	.847	
COMPUTE NM HYD	120.30	-	1	.09380	50.93	2.197	.43922	1.600	.848	PER IMP= .00
ADD HYD	120.31	1& 4	2	.17760	95.77	4.160	.43922	1.633	.843	
COMPUTE NM HYD	130.10	-	3	.07430	36.94	1.740	.43922	1.633	.777	PER IMP= .00
COMPUTE NM HYD	130.20	-	4	.04890	30.31	1.145	.43922	1.567	.969	PER IMP= .00
COMPUTE NM HYD	130.30	-	5	.00470	13.15	.493	1.96546	1.500	4.371	PER IMP= 100.00
ADD HYD	130.21	4& 3	6	.12320	66.48	2.886	.43922	1.600	.843	
ADD HYD	130.31	5& 6	1	.12790	75.64	3.379	.49530	1.567	.924	
ROUTE	130.32	1	3	.12790	70.68	3.379	.49531	1.633	.863	
COMPUTE NM HYD	130.40	-	1	.06120	47.31	1.434	.43922	1.533	1.208	PER IMP= .00
ADD HYD	130.41	3& 1	4	.18910	109.38	4.812	.47715	1.600	.904	
ROUTE	130.42	4	1	.18910	109.81	4.812	.47716	1.600	.907	
COMPUTE NM HYD	130.50	-	3	.01040	18.57	.658	1.18708	1.500	2.790	PER IMP= 49.00
ADD HYD	130.51	1& 3	4	.19950	123.16	5.471	.51416	1.600	.965	
COMPUTE NM HYD	130.60	-	1	.05440	47.46	1.332	.45893	1.533	1.363	PER IMP= .00
ROUTE	130.52	4	3	.19950	113.69	5.471	.51416	1.667	.890	
ADD HYD	130.61	1& 3	4	.25390	144.82	6.802	.50233	1.633	.891	
COMPUTE NM HYD	130.70	-	1	.03260	27.06	.764	.43922	1.533	1.297	PER IMP= .00
ROUTE	130.62	4	3	.25390	142.51	6.802	.50233	1.667	.877	
ADD HYD	130.71	3& 1	5	.28650	159.38	7.566	.49515	1.633	.869	
ROUTE	120.31	2	3	.17760	96.33	4.160	.43923	1.633	.848	
COMPUTE NM HYD	120.40	-	1	.00910	16.25	.576	1.18708	1.500	2.790	PER IMP= 49.00
ADD HYD	120.41	3& 1	2	.18670	106.21	4.736	.47567	1.633	.889	
ROUTE	120.42	2	1	.18670	99.20	4.736	.47568	1.667	.830	
COMPUTE NM HYD	120.50	-	2	.01620	13.45	.379	.43922	1.533	1.297	PER IMP= .00
ADD HYD	120.51	2& 1	3	.20290	106.85	5.116	.47276	1.667	.823	
COMPUTE NM HYD	120.60	-	6	.03130	27.13	.784	.46974	1.533	1.354	PER IMP= 2.00
ADD HYD	120.61	3& 6	7	.23420	122.20	5.900	.47236	1.667	.815	
ROUTE	120.62	7	10	.23420	122.60	5.900	.47236	1.667	.818	
ADD HYD	130.72	10& 5	11	.52070	280.49	13.466	.48490	1.667	.842	
ROUTE	130.73	11	10	.52070	281.48	13.466	.48490	1.667	.845	
ROUTE	130.74	10	11	.52070	281.10	13.466	.48490	1.667	.844	
COMPUTE NM HYD	140.10	-	1	.08670	77.97	2.159	.46688	1.533	1.405	PER IMP= .00
ADD HYD	140.11	11& 1	10	.60740	324.71	15.625	.48233	1.667	.835	
ROUTE	140.12	10	11	.60740	315.65	15.625	.48233	1.700	.812	
COMPUTE NM HYD	150.10	-	1	.14480	77.31	3.392	.43922	1.633	.834	PER IMP= .00
ADD HYD	150.11	11& 1	10	.75220	387.97	19.017	.47403	1.667	.806	
COMPUTE NM HYD	160.10	-	1	.05170	47.24	1.321	.47911	1.533	1.428	PER IMP= .00
*S ASSUME ALL FLOWS FROM LOT 2 ARE RETAINED ONSITE										
ROUTE	160.11	10	12	.75220	387.20	19.017	.47403	1.700	.804	
ROUTE	160.13	12	11	.75220	386.97	19.017	.47403	1.700	.804	
ROUTE	160.14	11	10	.75220	385.49	19.017	.47403	1.733	.801	
COMPUTE NM HYD	160.20	-	1	.03500	59.72	1.999	1.07072	1.500	2.666	PER IMP= 35.00

TIERRA BAYITA STORM DRAIN WATERSHED (INTERIM) 100 YEAR 6 HOUR STORM (CONTINUED)

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	NOTATION
										PAGE = 2
ROUTE RESERVOIR	160.21	1	2	.03500	21.99	2.000	1.07151	1.733	.982	AC-FT= .599
ADD HYD	160.22	2&10	10	.78720	407.48	21.017	.50059	1.733	.809	
ROUTE	160.23	10	15	.78720	407.95	21.017	.50059	1.733	.810	
*S BEGIN UNSER BOULEVARD STORM DRAIN SYSTEM BETWEEN I-40 AND THE FUTURE TIERRA										
COMPUTE NM HYD	170.10	-	2	.06330	57.86	1.617	.47911	1.533	1.428	PER IMP= .00
*S ASSUME ALL FLOWS FROM TRACT "T" ARE RETAINED ONSITE										
COMPUTE NM HYD	170.20	-	3	.00770	14.60	.487	1.18661	1.500	2.962	PER IMP= 40.00
COMPUTE NM HYD	170.30	-	4	.00370	9.80	.362	1.83566	1.500	4.140	PER IMP= 90.00
ADD HYD	170.32	3& 4	2	.01140	24.40	.850	1.39722	1.500	3.344	
COMPUTE NM HYD	170.40	-	3	.00600	12.73	.442	1.38133	1.500	3.315	PER IMP= 55.00
ADD HYD	170.43	2& 3	5	.01740	37.13	1.292	1.39172	1.500	3.334	
DIVIDE HYD	170.44	5	2	.01740	37.13	1.292	1.39172	1.500	3.334	
	170.45	AND	11	.00000	.00	.000	.00000	-.033	.000	
ROUTE	170.46	2	1	.01740	36.54	1.292	1.39181	1.533	3.281	
ROUTE	170.47	1	3	.01740	36.91	1.292	1.39181	1.533	3.315	
COMPUTE NM HYD	170.50	-	2	.00290	7.25	.264	1.70585	1.500	3.907	PER IMP= 80.00
ADD HYD	170.51	2& 3	4	.02030	43.84	1.555	1.43663	1.533	3.374	
ROUTE	170.48	11	2	.00000	.00	.000	.00000	-.033	.000	
ADD HYD	170.52	4& 2	3	.02030	43.84	1.555	1.43663	1.533	3.374	
DIVIDE HYD	170.53	5	2	.01740	37.13	1.292	1.39172	1.500	3.334	
	170.54	AND	11	.00000	.00	.000	.00000	-.033	.000	
ROUTE	170.55	2	3	.01740	36.72	1.292	1.39181	1.533	3.297	
COMPUTE NM HYD	170.60	-	2	.00180	4.51	.164	1.70585	1.500	3.912	PER IMP= 80.00
ADD HYD	170.61	2& 3	4	.01920	41.02	1.455	1.42121	1.533	3.338	
COMPUTE NM HYD	170.70	-	2	.08590	220.51	8.112	1.77075	1.500	4.011	PER IMP= 85.00
ROUTE RESERVOIR	170.71	2	3	.08590	56.59	8.112	1.77075	1.967	1.029	AC-FT= 4.099
COMPUTE NM HYD	170.80	-	2	.00540	14.30	.529	1.83566	1.500	4.138	PER IMP= 90.00
ADD HYD	170.81	3& 2	5	.09130	60.86	8.641	1.77458	1.800	1.042	
ADD HYD	170.82	4& 5	2	.11050	100.34	10.096	1.71318	1.533	1.419	
COMPUTE NM HYD	170.90	-	3	.00470	11.74	.428	1.70585	1.500	3.904	PER IMP= 80.00
ADD HYD	170.91	3& 2	4	.11520	111.56	10.524	1.71288	1.533	1.513	
DIVIDE HYD	170.92	4	2	.11331	92.00	10.351	1.71288	1.467	1.269	
	170.93	AND	10	.00189	19.56	.173	1.71288	1.533	16.183	
DIVIDE HYD	170.95	10	11	.00189	19.56	.173	1.71288	1.533	16.183	
	170.94	AND	3	.00000	.00	.000	.00000	-.033	.000	
ROUTE	170.96	3	4	.00000	.00	.000	.00000	-.033	.000	
ROUTE	170.97	2	3	.11331	92.53	10.351	1.71288	1.500	1.276	
COMPUTE NM HYD	171.10	-	2	.00210	5.57	.206	1.83566	1.500	4.145	PER IMP= 90.00
ADD HYD	171.11	4& 2	5	.00210	5.57	.206	1.83553	1.500	4.145	
ADD HYD	171.12	3& 5	2	.11541	98.10	10.557	1.71511	1.500	1.328	
DIVIDE HYD	171.13	2	3	.11541	98.10	10.557	1.71511	1.500	1.328	
	171.14	AND	4	.00000	.00	.000	.00000	-.033	.000	
ROUTE	171.15	3	10	.11541	98.15	10.557	1.71511	1.500	1.329	
COMPUTE NM HYD	171.00	-	3	.00220	5.84	.215	1.83566	1.500	4.145	PER IMP= 90.00
ROUTE	171.01	11	4	.00189	13.20	.173	1.71561	1.567	10.916	
ADD HYD	171.02	3& 4	2	.00409	18.01	.388	1.78002	1.567	6.881	
DIVIDE HYD	171.03	2	3	.00409	18.01	.388	1.78002	1.567	6.881	
	171.04	AND	4	.00000	.00	.000	.00000	-.033	.000	
ADD HYD	171.05	15& 3	16	.79129	412.11	21.405	.50720	1.733	.814	
ADD HYD	171.06	16&10	11	.90670	500.44	31.962	.66095	1.700	.862	
ROUTE RESERVOIR	172.00	11	10	.90670	502.60	31.962	.66095	1.700	.866	AC-FT= .036
DIVIDE HYD	172.01	10	2	.83113	350.00	29.298	.66095	1.600	.658	
	172.02	AND	3	.07557	152.60	2.664	.66095	1.700	3.155	

TIERRA BAYITA STORM DRAIN WATERSHED (INTERIM) 100 YEAR 6 HOUR STORM (CONTINUED)

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 = 3 NOTATION
DIVIDE HYD	172.03	2	4	.79662	310.00	28.081	.66095	1.600	.608	
	172.04	AND	5	.03452	40.00	1.217	.66095	1.600	1.811	
ADD HYD	172.05	3& 5	2	.11008	192.60	3.881	.66095	1.700	2.734	
COMPUTE NM HYD	180.10	-	1	.03380	30.88	.864	.47911	1.533	1.428	PER IMP= .00
*S ASSUME ALL FLOWS FROM TRACT A-1 ARE RETAINED ONSITE**********										
ROUTE RESERVOIR	501.00	2	11	.11008	.01	.012	.00202	2.000	.000	AC-FT= 3.880
FINISH										

TIERRA BAYITA STORM DRAIN WATERSHED (DEVELOPED) 100 YEAR 6 HOUR STORM
AHYMO SUMMARY TABLE (AHYMO392) - AMAFCA VERSION OF HYMO - MARCH, 1992 RUN DATE (MON/DAY/YR) =09/22/1992
INPUT FILE = tbsdwd.hmi USER NO.= D_HARRIS.S92

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	NOTATION
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.200
*S BEGIN UNSER DIVERSION CHANNEL WATERSHED										
COMPUTE NM HYD	120.00	-	1	.10310	254.58	9.184	1.67015	1.500	3.858	PER IMP= 75.00
ROUTE RESERVOIR	120.01	1	2	.10310	85.80	9.249	1.68200	1.800	1.300	AC-FT= 2.837
ROUTE	120.02	2	10	.10310	87.39	9.249	1.68201	1.400	1.324	
ROUTE	120.03	10	11	.10310	87.89	9.249	1.68201	1.400	1.332	
COMPUTE NM HYD	130.00	-	1	.06990	172.88	6.226	1.67015	1.500	3.865	PER IMP= 75.00
ROUTE RESERVOIR	130.01	1	2	.06990	58.20	6.270	1.68182	1.800	1.301	AC-FT= 1.928
ADD HYD	130.02	11& 2	3	.17300	146.08	15.519	1.68193	1.400	1.319	
ROUTE	130.12	3	10	.17300	144.87	15.519	1.68193	1.467	1.308	
COMPUTE NM HYD	140.00	-	1	.14840	365.64	13.219	1.67015	1.500	3.850	PER IMP= 75.00
ROUTE RESERVOIR	140.01	1	2	.14840	123.50	13.318	1.68267	1.800	1.300	AC-FT= 4.071
ADD HYD	140.02	10& 2	11	.32140	268.36	28.836	1.68227	1.467	1.305	
ROUTE	140.03	11	10	.32140	267.49	28.836	1.68227	1.900	1.300	
COMPUTE NM HYD	150.00	-	1	.03950	97.75	3.518	1.67015	1.500	3.867	PER IMP= 75.00
ROUTE RESERVOIR	150.01	1	2	.03950	32.79	3.530	1.67563	1.800	1.297	AC-FT= 1.098
ADD HYD	150.02	10& 2	12	.36090	300.29	32.366	1.68155	1.900	1.300	
ROUTE	150.03	12	11	.36090	300.29	32.366	1.68155	1.867	1.300	
COMPUTE NM HYD	160.10	-	1	.05170	127.92	4.605	1.67015	1.500	3.866	PER IMP= 75.00
ROUTE RESERVOIR	160.11	1	2	.05170	43.00	4.630	1.67919	1.800	1.299	AC-FT= 1.430
ADD HYD	160.12	2&11	10	.41260	343.29	36.996	1.68125	1.867	1.300	
ROUTE	160.13	10	11	.41260	343.29	36.996	1.68125	1.867	1.300	
ROUTE	160.14	11	10	.41260	343.29	36.996	1.68125	1.900	1.300	
COMPUTE NM HYD	160.20	-	1	.03500	86.60	3.118	1.67015	1.500	3.866	PER IMP= 75.00
ROUTE RESERVOIR	160.21	1	2	.03500	29.10	3.130	1.67697	1.800	1.299	AC-FT= .972
ADD HYD	160.22	2&10	11	.44760	372.38	40.127	1.68092	1.900	1.300	
ROUTE	160.22	11	15	.44760	372.43	40.127	1.68092	1.867	1.300	
*S BEGIN UNSER BOULEVARD STORM DRAIN SYSTEM BETWEEN I-40 AND THE FUTURE TIERRA										
COMPUTE NM HYD	170.10	-	2	.06330	162.71	5.978	1.77075	1.500	4.016	PER IMP= 85.00
ROUTE RESERVOIR	170.15	2	6	.06330	47.19	5.978	1.77075	1.900	1.165	AC-FT= 2.779
COMPUTE NM HYD	170.20	-	3	.00770	14.60	.487	1.18661	1.500	2.962	PER IMP= 40.00
COMPUTE NM HYD	170.30	-	4	.00370	9.80	.362	1.83566	1.500	4.140	PER IMP= 90.00
ADD HYD	170.31	6& 4	5	.06700	50.38	6.340	1.77432	1.767	1.175	
ADD HYD	170.32	3& 5	2	.07470	62.42	6.828	1.71374	1.533	1.306	
COMPUTE NM HYD	170.40	-	3	.00600	12.73	.442	1.38133	1.500	3.315	PER IMP= 55.00
ADD HYD	170.43	2& 3	5	.08070	74.70	7.270	1.68902	1.533	1.446	
DIVIDE HYD	170.44	5	2	.06678	41.00	6.016	1.68902	1.433	.959	
	170.45	AND	11	.01392	33.70	1.254	1.68902	1.533	3.783	
ROUTE	170.46	2	1	.06678	41.00	6.016	1.68902	1.600	.959	
ROUTE	170.47	1	3	.06678	41.53	6.016	1.68902	1.467	.972	
COMPUTE NM HYD	170.50	-	2	.00290	7.25	.264	1.70585	1.500	3.907	PER IMP= 80.00
ADD HYD	170.51	2& 3	4	.06968	48.15	6.279	1.68971	1.467	1.080	
ROUTE	170.48	11	2	.01392	28.82	1.254	1.68939	1.600	3.235	
ADD HYD	170.52	4& 2	3	.08360	75.00	7.534	1.68965	1.567	1.402	
DIVIDE HYD	170.53	5	2	.08070	74.70	7.270	1.68902	1.533	1.446	
	170.54	AND	11	.00000	.00	.000	.00000	-.033	.000	
ROUTE	170.55	2	3	.08070	73.79	7.270	1.68902	1.533	1.429	
COMPUTE NM HYD	170.60	-	2	.00180	4.51	.164	1.70585	1.500	3.912	PER IMP= 80.00

TIERRA BAYITA STORM DRAIN WATERSHED (DEVELOPED) 100 YEAR 6 HOUR STORM (CONTINUED)

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	NOTATION
										PAGE = 2
ADD HYD	170.61	2& 3	4	.08250	78.10	7.433	1.68938	1.533	1.479	
COMPUTE NM HYD	170.70	-	2	.08590	220.51	8.112	1.77075	1.500	4.011	PER IMP= 85.00
ROUTE RESERVOIR	170.71	2	3	.08590	56.59	8.112	1.77075	1.967	1.029	AC-FT= 4.099
COMPUTE NM HYD	170.80	-	2	.00540	14.30	.529	1.83566	1.500	4.138	PER IMP= 90.00
ADD HYD	170.81	3& 2	5	.09130	60.86	8.641	1.77458	1.800	1.042	
ADD HYD	170.82	4& 5	2	.17380	137.76	16.074	1.73414	1.567	1.238	
COMPUTE NM HYD	170.90	-	3	.00470	11.74	.428	1.70585	1.500	3.904	PER IMP= 80.00
ADD HYD	170.91	3& 2	4	.17850	148.64	16.502	1.73339	1.533	1.301	
DIVIDE HYD	170.92	4	2	.15415	92.00	14.251	1.73339	1.432	.933	
	170.93	AND	10	.02435	56.64	2.251	1.73339	1.533	3.634	
DIVIDE HYD	170.95	10	11	.02379	48.00	2.200	1.73339	1.500	3.152	
	170.94	AND	3	.00056	8.64	.051	1.73339	1.533	24.252	
ROUTE	170.96	3	4	.00056	4.49	.052	1.74267	1.600	12.600	
ROUTE	170.97	2	3	.15415	92.92	14.251	1.73339	1.467	.942	
COMPUTE NM HYD	171.10	-	2	.00210	5.57	.206	1.83566	1.500	4.145	PER IMP= 90.00
ADD HYD	171.11	4& 2	5	.00266	8.60	.257	1.81591	1.567	5.059	
ADD HYD	171.12	3& 5	2	.15681	100.59	14.508	1.73479	1.567	1.002	
DIVIDE HYD	171.13	2	3	.15678	100.00	14.505	1.73479	1.567	.997	
	171.14	AND	4	.00003	.59	.003	1.73479	1.567	33.652	
ROUTE	171.15	3	10	.15678	100.07	14.505	1.73479	1.600	.997	
COMPUTE NM HYD	171.00	-	3	.00220	5.84	.215	1.83566	1.500	4.145	PER IMP= 90.00
ROUTE	171.01	11	4	.02379	46.71	2.200	1.73361	1.633	3.067	
ADD HYD	171.02	3& 4	2	.02599	50.56	2.415	1.74222	1.600	3.039	
DIVIDE HYD	171.03	2	3	.02143	30.00	1.991	1.74222	1.500	2.188	
	171.04	AND	4	.00457	20.56	.424	1.74222	1.600	7.036	
ADD HYD	171.05	15& 3	16	.46903	402.43	42.118	1.68372	1.867	1.341	
ADD HYD	171.06	16&10	11	.62581	501.72	56.623	1.69651	1.600	1.253	
ROUTE RESERVOIR	172.00	11	10	.62581	503.57	56.623	1.69651	1.600	1.257	AC-FT= .036
DIVIDE HYD	172.01	10	2	.49070	350.00	44.399	1.69651	1.433	1.114	
	172.02	AND	3	.13510	153.57	12.224	1.69651	1.600	1.776	
DIVIDE HYD	172.03	2	4	.44862	310.00	40.591	1.69651	1.433	1.080	
	172.04	AND	5	.04209	40.00	3.808	1.69651	1.433	1.485	
ADD HYD	172.05	3& 5	2	.17719	193.57	16.032	1.69651	1.600	1.707	
COMPUTE NM HYD	180.10	-	1	.03380	78.95	2.814	1.56114	1.500	3.650	PER IMP= 68.00
ADD HYD	180.12	1& 2	4	.21099	263.36	18.847	1.67482	1.533	1.950	
ROUTE RESERVOIR	501.00	4	11	.21099	.05	.071	.00628	6.367	.000	AC-FT= 18.829
FINISH										

TIERRA BAYITA STORM DRAIN WATERSHED (INTERIN) 10 YEAR 6 HOUR STORM
AHYMO SUMMARY TABLE (AHYMO392) - AMAFCA VERSION OF HYMO - MARCH, 1992 RUN DATE (MON/DAY/YR) =09/22/1992
INPUT FILE = tbsdwi.hmi USER NO.= D_HARRIS.S92

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 1.450
*S BEGIN UNSER DIVERSION CHANNEL WATERSHED										
COMPUTE NM HYD	120.10	-	1	.02590	3.83	.107	.07754	1.533	.231	PER IMP= .00
COMPUTE NM HYD	120.20	-	2	.05790	5.91	.239	.07754	1.600	.159	PER IMP= .00
ADD HYD	120.21	1& 2	3	.08380	9.48	.347	.07754	1.567	.177	
ROUTE	120.22	3	4	.08380	6.83	.347	.07754	1.700	.127	
COMPUTE NM HYD	120.30	-	1	.09380	8.50	.388	.07754	1.633	.142	PER IMP= .00
ADD HYD	120.31	1& 4	2	.17760	14.95	.734	.07754	1.667	.132	
COMPUTE NM HYD	130.10	-	3	.07430	6.20	.307	.07754	1.633	.130	PER IMP= .00
COMPUTE NM HYD	130.20	-	4	.04890	5.17	.202	.07754	1.600	.165	PER IMP= .00
COMPUTE NM HYD	130.30	-	5	.00470	8.69	.305	1.21822	1.500	2.890	PER IMP= 100.00
ADD HYD	130.21	4& 3	6	.12320	11.23	.509	.07754	1.600	.142	
ADD HYD	130.31	5& 6	1	.12790	17.94	.815	.11945	1.533	.219	
ROUTE	130.32	1	3	.12790	14.30	.815	.11946	1.700	.175	
COMPUTE NM HYD	130.40	-	1	.06120	8.25	.253	.07754	1.533	.211	PER IMP= .00
ADD HYD	130.41	3& 1	4	.18910	20.57	1.068	.10589	1.600	.170	
ROUTE	130.42	4	1	.18910	20.43	1.068	.10589	1.633	.169	
COMPUTE NM HYD	130.50	-	3	.01040	10.16	.353	.63647	1.500	1.527	PER IMP= 49.00
ADD HYD	130.51	1& 3	4	.19950	26.85	1.421	.13354	1.600	.210	
COMPUTE NM HYD	130.60	-	1	.05440	9.41	.260	.08959	1.533	.270	PER IMP= .00
ROUTE	130.52	4	3	.19950	21.97	1.421	.13355	1.733	.172	
ADD HYD	130.61	1& 3	4	.25390	26.32	1.681	.12413	1.667	.162	
COMPUTE NM HYD	130.70	-	1	.03260	4.82	.135	.07754	1.533	.231	PER IMP= .00
ROUTE	130.62	4	3	.25390	25.22	1.681	.12413	1.767	.155	
ADD HYD	130.71	3& 1	5	.28650	27.16	1.816	.11882	1.733	.148	
ROUTE	120.31	2	3	.17760	14.76	.734	.07754	1.667	.130	
COMPUTE NM HYD	120.40	-	1	.00910	8.89	.309	.63647	1.500	1.527	PER IMP= 49.00
ADD HYD	120.41	3& 1	2	.18670	19.49	1.043	.10478	1.633	.163	
ROUTE	120.42	2	1	.18670	16.45	1.043	.10478	1.767	.138	
COMPUTE NM HYD	120.50	-	2	.01620	2.40	.067	.07754	1.533	.231	PER IMP= .00
ADD HYD	120.51	2& 1	3	.20290	17.28	1.110	.10260	1.767	.133	
COMPUTE NM HYD	120.60	-	6	.03130	5.64	.168	.10036	1.533	.282	PER IMP= 2.00
ADD HYD	120.61	3& 6	7	.23420	19.73	1.278	.10230	1.700	.132	
ROUTE	120.62	7	10	.23420	19.65	1.278	.10230	1.733	.131	
ADD HYD	130.72	10& 5	11	.52070	46.81	3.093	.11139	1.733	.140	
ROUTE	130.73	11	10	.52070	46.90	3.093	.11139	1.733	.141	
ROUTE	130.74	10	11	.52070	46.87	3.093	.11139	1.767	.141	
COMPUTE NM HYD	140.10	-	1	.08670	15.97	.437	.09454	1.533	.288	PER IMP= .00
ADD HYD	140.11	11& 1	10	.60740	52.98	3.531	.10899	1.733	.136	
ROUTE	140.12	10	11	.60740	51.19	3.531	.10899	1.767	.132	
COMPUTE NM HYD	150.10	-	1	.14480	12.73	.599	.07754	1.633	.137	PER IMP= .00
ADD HYD	150.11	11& 1	10	.75220	61.35	4.129	.10293	1.767	.127	
COMPUTE NM HYD	160.10	-	1	.05170	10.30	.281	.10205	1.533	.311	PER IMP= .00
*S ASSUME ALL FLOWS FROM LOT 2 ARE RETAINED ONSITE										
ROUTE	160.11	10	12	.75220	60.98	4.129	.10293	1.767	.127	
ROUTE	160.13	12	11	.75220	60.96	4.129	.10293	1.800	.127	
ROUTE	160.14	11	10	.75220	60.89	4.129	.10293	1.800	.126	
COMPUTE NM HYD	160.20	-	1	.03500	30.37	1.001	.53638	1.500	1.356	PER IMP= 35.00

TIERRA BAYITA STORM DRAIN WATERSHED (INTERIN) 10 YEAR 6 HOUR STORM (CONTINIUED)

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	NOTATION
ROUTE RESERVOIR	160.21	1	2	.03500	21.99	1.001	.53637	1.600	.982	AC-FT= .079
ADD HYD	160.22	2&10	10	.78720	76.41	5.131	.12220	1.733	.152	
ROUTE	160.23	10	15	.78720	76.17	5.131	.12220	1.733	.151	
*S BEGIN UNSER BOULEVARD STORM DRAIN SYSTEM BETWEEN I-40 AND THE FUTURE TIERRA										
COMPUTE NM HYD	170.10	-	2	.06330	12.61	.345	.10205	1.533	.311	PER IMP= .00
*S ASSUME ALL FLOWS FROM TRACT "T" ARE RETAINED ONSITE										
COMPUTE NM HYD	170.20	-	3	.00770	7.83	.254	.61863	1.500	1.589	PER IMP= 40.00
COMPUTE NM HYD	170.30	-	4	.00370	6.33	.221	1.11829	1.500	2.675	PER IMP= 90.00
ADD HYD	170.32	3& 4	2	.01140	14.16	.475	.78074	1.500	1.941	
COMPUTE NM HYD	170.40	-	3	.00600	7.35	.246	.76852	1.500	1.915	PER IMP= 55.00
ADD HYD	170.43	2& 3	5	.01740	21.52	.721	.77651	1.500	1.932	
DIVIDE HYD	170.44	5	2	.01740	21.52	.721	.77651	1.500	1.932	
	170.45	AND	11	.00000	.00	.000	.00000	-.033	.000	
ROUTE	170.46	2	1	.01740	21.28	.721	.77657	1.533	1.911	
ROUTE	170.47	1	3	.01740	21.51	.721	.77657	1.533	1.932	
COMPUTE NM HYD	170.50	-	2	.00290	4.56	.158	1.01836	1.500	2.459	PER IMP= 80.00
ADD HYD	170.51	2& 3	4	.02030	25.87	.878	.81107	1.533	1.991	
ROUTE	170.48	11	2	.00000	.00	.000	.00000	-.033	.000	
ADD HYD	170.52	4& 2	3	.02030	25.87	.878	.81107	1.533	1.991	
DIVIDE HYD	170.53	5	2	.01740	21.52	.721	.77651	1.500	1.932	
	170.54	AND	11	.00000	.00	.000	.00000	-.033	.000	
ROUTE	170.55	2	3	.01740	21.28	.721	.77657	1.533	1.911	
COMPUTE NM HYD	170.60	-	2	.00180	2.84	.098	1.01835	1.500	2.462	PER IMP= 80.00
ADD HYD	170.61	2& 3	4	.01920	23.99	.818	.79919	1.533	1.952	
COMPUTE NM HYD	170.70	-	2	.08590	139.93	4.894	1.06832	1.500	2.545	PER IMP= 85.00
ROUTE RESERVOIR	170.71	2	3	.08590	44.09	4.894	1.06832	1.867	.802	AC-FT= 2.243
COMPUTE NM HYD	170.80	-	2	.00540	9.24	.322	1.11829	1.500	2.674	PER IMP= 90.00
ADD HYD	170.81	3& 2	5	.09130	47.24	5.216	1.07126	1.767	.808	
ADD HYD	170.82	4& 5	2	.11050	67.92	6.035	1.02399	1.533	.960	
COMPUTE NM HYD	170.90	-	3	.00470	7.39	.255	1.01835	1.500	2.457	PER IMP= 80.00
ADD HYD	170.91	3& 2	4	.11520	74.98	6.290	1.02376	1.533	1.017	
DIVIDE HYD	170.92	4	2	.11520	74.98	6.290	1.02376	1.533	1.017	
	170.93	AND	10	.00000	.00	.000	.00000	-.033	.000	
DIVIDE HYD	170.95	10	11	.00000	.00	.000	.00005	-.033	.000	
	170.94	AND	3	.00000	.00	.000	.00000	-.033	.000	
ROUTE	170.96	3	4	.00000	.00	.000	.00000	-.033	.000	
ROUTE	170.97	2	3	.11520	74.30	6.290	1.02376	1.533	1.008	
COMPUTE NM HYD	171.10	-	2	.00210	3.60	.125	1.11829	1.500	2.677	PER IMP= 90.00
ADD HYD	171.11	4& 2	5	.00210	3.60	.125	1.11814	1.500	2.677	
ADD HYD	171.12	3& 5	2	.11730	77.73	6.415	1.02545	1.533	1.035	
DIVIDE HYD	171.13	2	3	.11730	77.73	6.415	1.02545	1.533	1.035	
	171.14	AND	4	.00000	.00	.000	.00000	-.033	.000	
ROUTE	171.15	3	10	.11730	77.66	6.415	1.02545	1.533	1.034	
COMPUTE NM HYD	171.00	-	3	.00220	3.77	.131	1.11829	1.500	2.677	PER IMP= 90.00
ROUTE	171.01	11	4	.00000	.00	.000	.00000	-.033	.000	
ADD HYD	171.02	3& 4	2	.00220	3.77	.131	1.11816	1.500	2.677	
DIVIDE HYD	171.03	2	3	.00220	3.77	.131	1.11816	1.500	2.677	
	171.04	AND	4	.00000	.00	.000	.00000	-.033	.000	
ADD HYD	171.05	15& 3	16	.78940	77.71	5.262	.12498	1.733	.154	
ADD HYD	171.06	16&10	11	.90670	140.26	11.677	.24147	1.733	.242	
ROUTE RESERVOIR	172.00	11	10	.90670	140.31	11.677	.24147	1.733	.242	AC-FT= .015
DIVIDE HYD	172.01	10	2	.90670	140.31	11.677	.24147	1.733	.242	
	172.02	AND	3	.00000	.00	.000	.00000	-.033	.000	

TIERRA BAYITA STORM DRAIN WATERSHED (INTERIN) 10 YEAR 6 HOUR STORM (CONTINIUED)

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	NOTATION
										PAGE = 3
DIVIDE HYD	172.03	2	4	.90670	140.31	11.677	.24147	1.733	.242	
	172.04	AND	5	.00000	.00	.000	.00000	-.033	.000	
ADD HYD	172.05	3& 5	2	.00000	.00	.000	.00000	-.033	.000	
COMPUTE NM HYD	180.10	-	1	.03380	6.73	.184	.10205	1.533	.311	PER IMP= .00

*S ASSUME ALL FLOWS FROM TRACT A-1 ARE RETAINED ONSITE**********

ROUTE RESERVOIR	501.00	2	11	.00000	.00	.000	.00000	-.033	.000	

FINISH

TIERRA BAYITA STORM DRAIN WATERSHED (DEVELOPED) 10 YEAR 6 HOUR STORM
AHYMO SUMMARY TABLE (AHYMO392) - AMAFCA VERSION OF HYMO - MARCH, 1992 RUN DATE (MON/DAY/YR) =09/22/1992
INPUT FILE = tbsdwd.hmi USER NO.= D_HARRIS.S92

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 1.450
*S BEGIN UNSER DIVERSION CHANNEL WATERSHED										
COMPUTE NM HYD	120.00	-	1	.10310	157.25	5.424	.98647	1.500	2.383	PER IMP= 75.00
ROUTE RESERVOIR	120.01	1	2	.10310	85.79	5.424	.98647	1.667	1.300	AC-FT= .825
ROUTE	120.02	2	10	.10310	86.86	5.424	.98648	1.467	1.316	
ROUTE	120.03	10	11	.10310	88.30	5.424	.98648	1.467	1.338	
COMPUTE NM HYD	130.00	-	1	.06990	107.67	3.678	.98647	1.500	2.407	PER IMP= 75.00
ROUTE RESERVOIR	130.01	1	2	.06990	58.19	3.678	.98647	1.667	1.301	AC-FT= .571
ADD HYD	130.02	11& 2	3	.17300	146.49	9.102	.98647	1.467	1.323	
ROUTE	130.12	3	10	.17300	145.19	9.102	.98647	1.500	1.311	
COMPUTE NM HYD	140.00	-	1	.14840	223.37	7.808	.98647	1.500	2.352	PER IMP= 75.00
ROUTE RESERVOIR	140.01	1	2	.14840	123.49	7.811	.98687	1.667	1.300	AC-FT= 1.156
ADD HYD	140.02	10& 2	11	.32140	268.68	16.913	.98665	1.500	1.306	
ROUTE	140.03	11	10	.32140	267.47	16.913	.98666	1.900	1.300	
COMPUTE NM HYD	150.00	-	1	.03950	60.99	2.078	.98647	1.500	2.412	PER IMP= 75.00
ROUTE RESERVOIR	150.01	1	2	.03950	32.79	2.078	.98647	1.667	1.297	AC-FT= .331
ADD HYD	150.02	10& 2	12	.36090	300.26	18.991	.98663	1.900	1.300	
ROUTE	150.03	12	11	.36090	300.26	18.991	.98664	1.900	1.300	
COMPUTE NM HYD	160.10	-	1	.05170	79.81	2.720	.98647	1.500	2.412	PER IMP= 75.00
ROUTE RESERVOIR	160.11	1	2	.05170	42.99	2.720	.98647	1.667	1.299	AC-FT= .428
ADD HYD	160.12	2&11	10	.41260	343.25	21.711	.98661	1.900	1.300	
ROUTE	160.13	10	11	.41260	343.25	21.711	.98661	1.933	1.300	
ROUTE	160.14	11	10	.41260	343.25	21.711	.98661	1.900	1.300	
COMPUTE NM HYD	160.20	-	1	.03500	54.03	1.841	.98647	1.500	2.412	PER IMP= 75.00
ROUTE RESERVOIR	160.21	1	2	.03500	29.09	1.841	.98646	1.667	1.299	AC-FT= .294
ADD HYD	160.22	2&10	11	.44760	372.34	23.552	.98660	1.867	1.300	
ROUTE	160.22	11	15	.44760	372.41	23.552	.98660	1.833	1.300	
*S BEGIN UNSER BOULEVARD STORM DRAIN SYSTEM BETWEEN I-40 AND THE FUTURE TIERRA										
COMPUTE NM HYD	170.10	-	2	.06330	103.81	3.607	1.06832	1.500	2.562	PER IMP= 85.00
ROUTE RESERVOIR	170.15	2	6	.06330	36.54	3.607	1.06832	1.800	.902	AC-FT= 1.514
COMPUTE NM HYD	170.20	-	3	.00770	7.83	.254	.61863	1.500	1.589	PER IMP= 40.00
COMPUTE NM HYD	170.30	-	4	.00370	6.33	.221	1.11829	1.500	2.675	PER IMP= 90.00
ADD HYD	170.31	6& 4	5	.06700	38.93	3.827	1.07106	1.733	.908	
ADD HYD	170.32	3& 5	2	.07470	43.98	4.081	1.02442	1.567	.920	
COMPUTE NM HYD	170.40	-	3	.00600	7.35	.246	.76852	1.500	1.915	PER IMP= 55.00
ADD HYD	170.43	2& 3	5	.08070	50.63	4.327	1.00539	1.533	.980	
DIVIDE HYD	170.44	5	2	.07733	41.00	4.147	1.00539	1.467	.828	
	170.45	AND	11	.00337	9.63	.181	1.00539	1.533	4.466	
ROUTE	170.46	2	1	.07733	41.74	4.147	1.00540	1.500	.843	
ROUTE	170.47	1	3	.07733	41.53	4.147	1.00540	1.500	.839	
COMPUTE NM HYD	170.50	-	2	.00290	4.56	.158	1.01836	1.500	2.459	PER IMP= 80.00
ADD HYD	170.51	2& 3	4	.08023	46.09	4.304	1.00586	1.500	.898	
ROUTE	170.48	11	2	.00337	6.71	.181	1.00693	1.633	3.111	
ADD HYD	170.52	4& 2	3	.08360	50.81	4.485	1.00589	1.600	.950	
DIVIDE HYD	170.53	5	2	.08070	50.63	4.327	1.00539	1.533	.980	
	170.54	AND	11	.00000	.00	.000	.00000	-.033	.000	
ROUTE	170.55	2	3	.08070	50.56	4.327	1.00540	1.567	.979	
COMPUTE NM HYD	170.60	-	2	.00180	2.84	.098	1.01835	1.500	2.462	PER IMP= 80.00

TIERRA BAYITA STORM DRAIN WATERSHED (DEVELOPED) 10 YEAR 6 HOUR STORM

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	NOTATION
										PAGE = 2
ADD HYD	170.61	2& 3	4	.08250	53.04	4.425	1.00567	1.533	1.004	
COMPUTE NM HYD	170.70	-	2	.08590	139.93	4.894	1.06832	1.500	2.545	PER IMP= 85.00
ROUTE RESERVOIR	170.71	2	3	.08590	44.09	4.894	1.06832	1.867	.802	AC-FT= 2.243
COMPUTE NM HYD	170.80	-	2	.00540	9.24	.322	1.11829	1.500	2.674	PER IMP= 90.00
ADD HYD	170.81	3& 2	5	.09130	47.24	5.216	1.07126	1.767	.808	
ADD HYD	170.82	4& 5	2	.17380	98.23	9.641	1.04013	1.567	.883	
COMPUTE NM HYD	170.90	-	3	.00470	7.39	.255	1.01835	1.500	2.457	PER IMP= 80.00
ADD HYD	170.91	3& 2	4	.17850	104.35	9.897	1.03955	1.567	.913	
DIVIDE HYD	170.92	4	2	.17480	92.00	9.691	1.03955	1.500	.822	
	170.93	AND	10	.00370	12.35	.205	1.03955	1.567	5.210	
DIVIDE HYD	170.95	10	11	.00370	12.35	.205	1.03955	1.567	5.210	
	170.94	AND	3	.00000	.00	.000	.00000	-.033	.000	
ROUTE	170.96	3	4	.00000	.00	.000	.00000	-.033	.000	
ROUTE	170.97	2	3	.17480	92.37	9.691	1.03956	1.533	.826	
COMPUTE NM HYD	171.10	-	2	.00210	3.60	.125	1.11829	1.500	2.677	PER IMP= 90.00
ADD HYD	171.11	4& 2	5	.00210	3.60	.125	1.11814	1.500	2.677	
ADD HYD	171.12	3& 5	2	.17690	95.80	9.816	1.04049	1.533	.846	
DIVIDE HYD	171.13	2	3	.17690	95.80	9.816	1.04049	1.533	.846	
	171.14	AND	4	.00000	.00	.000	.00000	-.033	.000	
ROUTE	171.15	3	10	.17690	95.88	9.816	1.04049	1.533	.847	
COMPUTE NM HYD	171.00	-	3	.00220	3.77	.131	1.11829	1.500	2.677	PER IMP= 90.00
ROUTE	171.01	11	4	.00370	9.23	.206	1.04095	1.633	3.895	
ADD HYD	171.02	3& 4	2	.00590	11.72	.337	1.06965	1.600	3.103	
DIVIDE HYD	171.03	2	3	.00590	11.72	.337	1.06965	1.600	3.103	
	171.04	AND	4	.00000	.00	.000	.00000	-.033	.000	
ADD HYD	171.05	15& 3	16	.45350	382.92	23.889	.98768	1.633	1.319	
ADD HYD	171.06	16&10	11	.63040	477.04	33.705	1.00250	1.633	1.182	
ROUTE RESERVOIR	172.00	11	10	.63040	478.69	33.705	1.00250	1.600	1.186	AC-FT= .036
DIVIDE HYD	172.01	10	2	.53579	350.00	28.647	1.00250	1.500	1.021	
	172.02	AND	3	.09461	128.69	5.058	1.00250	1.600	2.125	
DIVIDE HYD	172.03	2	4	.49978	310.00	26.722	1.00250	1.467	.969	
	172.04	AND	5	.03601	40.00	1.925	1.00250	1.500	1.735	
ADD HYD	172.05	3& 5	2	.13062	168.69	6.984	1.00250	1.600	2.018	
COMPUTE NM HYD	180.10	-	1	.03380	48.00	1.632	.90524	1.500	2.219	PER IMP= 68.00
ADD HYD	180.12	1& 2	4	.16442	202.14	8.616	.98250	1.600	1.921	
ROUTE RESERVOIR	501.00	4	11	.16442	.02	.024	.00277	6.467	.000	AC-FT= 8.609
FINISH										

APPENDIX B

AHYMO INPUT DATA

Table of Contents

COORS CONNECTION STORM DRAIN WATERSHED — Page

Interim Condition . . . . . B-1 to B-14

Developed Condition . . . . . B-15 to B-34

TIERRA BAYITA STORM DRAIN WATERSHED

Interim Condition . . . . . B-35 to B-48

Developed Condition . . . . . B-49 to B-60

```
START                0.0 HOURS ****ONE HUNDRED YEAR TWENTY FOUR HOUR STORM ****
** FILE NAME : CCSDWI.HMI (COORS CONNECTION STORM DRAIN WATERSHED INTERIM)****
** ANALYSIS FOR THE ATRISCO BUSINESS PARK MASTER DRAINAGE PLAN ****************
** INCLUDES THE WATERSHED OF THE AIRPORT DRIVE AND COORS BLVD S.D.SYSTEM *****
** INTERIM CONDITION ***********************************************************
** AREAS OUTSIDE OF THE ATRISCO BUSINESS PARK INCLUDED TO DETERMINE TOTAL
** POTENTIAL FLOWS TO THE AIRPORT DRIVE AND COORS CONNECTION STORM DRAINS*****
*****************************************************************************
** ANALYSIS ASSUMPTIONS:
*****************************************************************************
** FLOW FROM ALL PRIVATE LAND DIRECTLY CONTRIBUTING FLOW TO THE AIRPORT ROAD
** STORM DRAIN IS RESTRICTED TO 0.1cfs PER ACRE.*******************************
** PUBLIC STREETS CONTRIBUTING FLOW TO THE AIRPORT DRIVE STORM DRAIN HAVE
** FREE DISCHARGE INTO THE SYSTEM **********************************************
** PUBLIC PLATTED STREETS IN THE ATRISCO BUSINESS PARK ASSUMED TO BE FULLY
** DEVELOPED.******************************************************************
** PRIVATE PROPERTY WITHIN THE BUSINESS PARK WHICH HAS THE POTENTIAL TO
** DISCHARGE FLOW TO THE AIRPORT ROAD STORM DRAIN SYSTEM WILL HAVE
** CONSERVATION TREATMENT APPLIED TO IT AND SO WILL CONTRIBUTE NO FLOW TO THE
** STORM DRAIN SYSTEM IN THE INTERIM CONDITION.********************************
** IN AREAS OF THE ATRISCO BUSINESS PARK WHERE THE POTENTIAL EXISTS FOR SOME OF
** OF THE PROPERTY ADJACENT TO THE STREETS TO DISCHARGE TO THE STREETS
** UNCONTROLLED DUE TO GRADE CONSTRAINTS, APPOXIMATELY 10 ADDITIONAL FEET OF
** WIDTH WAS USED IN CALCULATING STREET AREAS ***********************************
** THE EXISTING CONDITION LAND TREATMENTS WERE USED IN AREAS OUTSIDE OF THE
** THE ATRISCO BUSINESS PARK AND THE WATERSHED OF THE AIRPORT DRIVE STORM
** DRAIN. ASSUMPTIONS WERE MADE AS TO WHERE FLOW FROM THESE AREAS WILL ENTER
** THE STORM DRAIN SYSTEM IN THE DEVELOPED CONDITION AND THE BASINS WERE
** MODELED ASSUMING THESE CONNECTIONS WERE IN PLACE. THIS WAS DONE TO VERIFY
** CAPACITY FOR THE EXISTING CONDITION FLOWS WAS AVAILABLE IN THE STORM DRAIN
** SYSTEM.
** UPDATED   9-14-92
**RAINFALL            TYPE=2  0.0  1.25  1.45  1.65
RAINFALL            TYPE=2  0.0  1.87  2.20  2.66 DT=0.05
*****************************************************************************
*****************************************************************************
*S BEGIN THE WATERSHED FOR THE AIRPORT ROAD STORM DRAIN ***********************
*****************************************************************************
*****************************************************************************
** COMPUTE HYDROGRAPH FOR TRACT  "S-1"
** AREA = 133.2 ACRES
COMPUTE NM HYD      ID=2  HYD=200.1  DA==0.2081 SM
                    %A=90.0  %B=0.0  %C=10.0  %D=0.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
*S ASSUME CONSERVATION TREATMENT IS APPLIED TO THE BASIN AND NO  RUNOFF
*S LEAVES THE SITE
** COMPUTE HYDROGRAPH FOR LOS VOLCANES BETWEEN UNSER BLVD AND 1250 LF WEST
** OF AIRPORT ROAD
COMPUTE NM HYD      ID=3  HYD=200.4  DA==0.0042
                    %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=3 CODE=1
** ROUTE THE FLOW IN THE STREET FROM 1250' WEST OF AIRPORT IN THE STREET TO
```

```
** THE INTERSECTION WITH AIRPORT
COMPUTE RATING CURVECID=1  VS NO=1  NUMBER OF SEGS=3
                    MINIMUM ELEV=100.00  MAXIMUM ELEV=100.87
                    CHANNEL SLOPE=0.0082 FLOOD PLAIN SLOPE=0.0082
                    N=0.025  DIST=10.0  N=-0.017  DIST=58.0  N=0.025  DIST=68.0
                    DIST    ELEV   DIST    ELEV    DIST   ELEV    DIST   ELEV
                    0.0     100.87  10.00  100.67  10.05  100.00  12.0  100.13
                    34.0    100.57  56.00  100.13  57.95  100.00  58.00 100.67
                    68.00   100.87
COMPUTE TRAVEL TIME ID=11 REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=1250 FT  SLOPE=0.0082
ROUTE               ID=11  HYDROGRAPH NO=200.45  INFLOW ID=3  DT=0.0
PRINT HYD           ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR LOS VOLCANES BETWEEN  1250 LF WEST OF AIRPORT ROAD
** AND AIRPORT ROAD
COMPUTE NM HYD      ID=4  HYD=200.5  DA==0.0035
                    %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=4 CODE=1
** ADD THE FLOW FROM THE EASTERN SEGMENT OF LOS VOLCANES TO THE ROUTED FLOW
** IN THE STREET AT THE INTERSECTION OF LOS VOLCANES AND AIRPORT ROAD
ADD HYD             ID=3  HYDROGRAPH NO=200.51  ID I=11  ID II=4
PRINT HYD           ID=3  CODE=1
** ROUTE THE FLOW IN THE STREET DOWN AIRPORT ROAD FROM LOS VOLCANES TO THE
** BACK LOT LINE OF LOT 9, TRACT "M"
COMPUTE RATING CURVECID=1  VS NO=1  NUMBER OF SEGS=3
                    MINIMUM ELEV=100.00  MAXIMUM ELEV=100.87
                    CHANNEL SLOPE=0.0048 FLOOD PLAIN SLOPE=0.0048
                    N=0.025  DIST=10.0  N=-0.017  DIST=58.0  N=0.025  DIST=68.0
                    DIST    ELEV   DIST    ELEV    DIST   ELEV    DIST   ELEV
                    0.0     100.87  10.00  100.67  10.05  100.00  12.0  100.13
                    34.0    100.57  56.00  100.13   57.95  100.00  58.00 100.67
                    68.00   100.87
COMPUTE TRAVEL TIME ID=11 REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=850 FT  SLOPE=0.0048
ROUTE               ID=11  HYDROGRAPH NO=200.66  INFLOW ID=3  DT=0.0
PRINT HYD           ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR THE NORTHERN PART OF TRACT "M" ATRISCO BUSINESS PARK
** LOTS 5 TO 9.  AREA = 47.9 ACRES
COMPUTE NM HYD      ID=2  HYD=210.1  DA==0.0748 SM
                    %A=90.0  %B=0.0  %C=10.0  %D=0.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
*S ASSUME CONSERVATION TREATMENT IS APPLIED TO THE BASIN AND NO  RUNOFF
*S LEAVES THE SITE
** COMPUTE HYDROGRAPH FOR AIRPORT RD. FROM THE INTERSECTION OF LOS VOLCANES TO
** THE INTERSECTION WITH THE BACK LOT LINE OF LOT 9 TRACT "M"
COMPUTE NM HYD      ID=2  HYD=210.3  DA==0.0025
                    %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ADD THE FLOW FROM THE NORTHERN PORTION OF AIRPORT RD. TO THE ROUTED FLOW IN
** THE STREET
ADD HYD             ID=12  HYDROGRAPH NO=210.31  ID I=11  ID II=2
```

```
PRINT HYD            ID=12  CODE=1
** ROUTE THE FLOW IN THE STREET DOWN AIRPORT ROAD FROM THE BACK LOT LINE OF LOT
** OF LOT 9 TRACT "M" TO THE INTERSECTION WITH BLUEWATER ROAD
COMPUTE RATING CURVECID=1  VS NO=1  NUMBER OF SEGS=3
                     MINIMUM ELEV=100.00  MAXIMUM ELEV=100.87
                     CHANNEL SLOPE=0.0048 FLOOD PLAIN SLOPE=0.0048
                     N=0.025  DIST=10.0  N=-0.017  DIST=58.0  N=0.025  DIST=68.0
                     DIST    ELEV   DIST    ELEV    DIST   ELEV    DIST   ELEV
                     0.0     100.87  10.00  100.67  10.05  100.00  12.0  100.13
                     34.0    100.57  56.00  100.13  57.95  100.00  58.00 100.67
                     68.00   100.87
COMPUTE TRAVEL TIME ID=11 REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=850 FT  SLOPE=0.0048
ROUTE                ID=11  HYDROGRAPH NO=210.47  INFLOW ID=12 DT=0.0
PRINT HYD            ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR AIRPORT RD. FROM THE INTERSECTION WITH THE BACK
** LOT LINE OF LOT 9 TRACT "M" TO THE INTERSECTION WITH BLUEWATER ROAD
COMPUTE NM HYD       ID=2  HYD=210.5  DA==0.0024
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ADD THE ROUTED FLOW IN THE STREET TO THE FLOW FROM THE SOUTHERN SEGMENT OF
** AIRPORT ROAD AT THE INTERSECTION AIRPORT ROAD AND BLUEWATER
ADD HYD              ID=11  HYDROGRAPH NO=210.51  ID I=2  ID II=11
PRINT HYD            ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR THE SOUTHERN PART OF TRACT "M" ATRISCO BUSINESS PARK
* LOTS 1 TO 4 AND TRACT "L-1".  AREA = 44.8 ACRES
COMPUTE NM HYD       ID=3  HYD=210.6  DA==0.0700 SM
                     %A=90.0  %B=0.0  %C=10.0  %D=0.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
*S ASSUME CONSERVATION TREATMENT IS APPLIED TO THE BASIN AND NO  RUNOFF
*S LEAVES THE SITE
** COMPUTE HYDROGRAPH FOR BLUEWATER RD. FROM THE INTERSECTION OF UNSER BLVD. TO
** 1050 LF WEST OF THE INTERSECTION WITH AIRPORT ROAD
COMPUTE NM HYD       ID=2  HYD=210.7  DA==0.0033
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ROUTE FLOW FROM WESTERN PORTION OF BLUEWATER RD.DOWN THE STREET FROM 1050 LF
** WEST OF AIRPORT ROAD TO THE INTERSECTION WITH AIRPORT ROAD
COMPUTE RATING CURVECID=1  VS NO=1  NUMBER OF SEGS=3
                     MINIMUM ELEV=100.00  MAXIMUM ELEV=100.87
                     CHANNEL SLOPE=0.0030 FLOOD PLAIN SLOPE=0.0030
                     N=0.025  DIST=10.0  N=-0.017  DIST=58.0  N=0.025  DIST=68.0
                     DIST    ELEV   DIST    ELEV    DIST   ELEV    DIST   ELEV
                     0.0     100.87  10.00  100.67  10.05  100.00  12.0  100.13
                     34.0    100.57  56.00  100.13  57.95  100.00  58.00 100.67
                     68.00   100.87
COMPUTE TRAVEL TIME ID=12  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=1050 FT  SLOPE=0.0030
ROUTE                ID=12  HYDROGRAPH NO=210.71 INFLOW ID=2  DT=0.0
PRINT HYD            ID=12  CODE=1
** COMPUTE HYDROGRAPH FOR BLUEWATER RD. FROM 1050 LF WEST OF AIRPORT TO THE
```

```
** INTERSECTION WITH AIRPORT ROAD
COMPUTE NM HYD       ID=3  HYD=210.8  DA==0.0028
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
** ADD THE ROUTED FLOW FROM THE BLUEWATER RD.TO THE FLOW FROM THE EASTERN
** SEGMENT OF BLUEWATER AT THE INTERSECTION OF AIRPORT AND  BLUEWATER
ADD HYD              ID=12  HYDROGRAPH NO=210.81  ID I=3  ID II=12
PRINT HYD            ID=12  CODE=1
** COMPUTE HYDROGRAPH FOR BLUEWATER RD. FROM THE INTERSECTION WITH AIRPORT
** ROAD TO THE GRADE BREAK EAST OF THE INTERSECTION WITH AIRPORT DRIVE
COMPUTE NM HYD       ID=2  HYD=210.9  DA==0.0017
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ADD THE FLOW FROM THE FAR EAST SEGMENT OF BLUEWATER RD TO THE BLUEWATER
** FLOW FROM THE WEST AT THE INTERSECTION OF AIRPORT AND  BLUEWATER
ADD HYD              ID=12  HYDROGRAPH NO=210.91  ID I=12  ID II=2
PRINT HYD            ID=12  CODE=1
** ADD THE FLOW FROM  BLUEWATER RD TO THE FLOW IN THE STREET AT THE
** INTERSECTION OF AIRPORT AND  BLUEWATER
ADD HYD              ID=11  HYDROGRAPH NO=210.92 ID I=12  ID II=11
PRINT HYD            ID=11  CODE=1
** ROUTE FLOW IN A STORM DRAIN FROM THE INTERSECTION OF BLUEWATER AND AIRPORT
** DOWN AIRPORT RD. TO THE SOUTH LINE OF ATRISCO BUSINESS PARK
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0027
                     PIPE DIA=4.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=1850 FT  SLOPE=0.0027
ROUTE                ID=10  HYDROGRAPH NO=211.13  INFLOW ID=11  DT=0.0
PRINT HYD            ID=10  CODE=1
*****************************************************************************
*S BEGIN THE AREA SOUTH OF BLUEWATER ROAD
*****************************************************************************
** COMPUTE HYDROGRAPH FOR AIRPORT ROAD SOUTH OF BLUEWATER TO THE SOUTH LINE OF
** THE ATRISCO BUSINESS PARK
COMPUTE NM HYD       ID=2  HYD=220.1 DA==0.0035
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** COMPUTE HYDROGRAPH FOR TRACT B, UNIT 2, A.B.P. AREA = 20.0 ACRES
COMPUTE NM HYD       ID=3  HYD=220.2  DA==0.0313
                     %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A DISCHARGE OF .1 CFS PER ACRE
** ALLOWABLE RELEASE RATE=2.0cfs
ROUTE RESERVOIR      ID=4  HYDROGRAPH NO=220.21  INFLOW ID=3  CODE=20
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0              0              100.0
                          1.12          0.80            101.0
                          1.68          1.70            102.0
                          2.04          2.60            103.0
                          4.00          3.50            104.0
```

```
PRINT HYD            ID=4  CODE=1
** ROUTE FLOW IN A STORM DRAIN FROM THE TRACT "B", UNIT 2 POND TO THE AIRPORT
** ROAD STORM DRAIN
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.007
                     PIPE DIA=1.5  N=0.013
COMPUTE TRAVEL TIME ID=5  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=1100 FT  SLOPE=0.007
ROUTE                ID=5  HYDROGRAPH NO=220.22  INFLOW ID=4  DT=0.0
PRINT HYD            ID=5  CODE=1
** ADD THE ROUTED FLOW FROM PARCEL "B", UNIT 2 TO THE FLOW FROM AIRPORT ROAD
ADD HYD              ID=3  HYDROGRAPH NO=220.23  ID I=2 ID= II=5
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR PARCEL "C", UNIT 2, A.B.P. AREA = 28.6 ACRES
COMPUTE NM HYD       ID=2  HYD=220.3   DA==0.0447
                     %A=90.0  %B=0.0  %C10.0  %D=0.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
*S ASSUME CONSERVATION TREATMENT IS APPLIED TO THE BASIN AND NO  RUNOFF
*S LEAVES THE SITE
** ADD THE ROUTED FLOW FROM THE NORTH IN THE AIRPORT ROAD STORM DRAIN TO THE
** TOTAL FLOW IN AIRPORT ROAD AT THE SOUTH LINE OF THE ATRISCO BUSINESS PARK
ADD HYD              ID=2  HYDROGRAPH NO=220.53  ID I=10 ID= II=3
PRINT HYD            ID=2  CODE=1
** ROUTE FLOW IN A STORM DRAIN FROM THE SOUTH LINE OF THE BUSINESS PARK
** TO AIRPORT RD STORM DRAIN STA 28+80 THE JUNCTION WITH FLOW FROM THE
** WEST 66 ADDITION
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0040
                     PIPE DIA=4.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=250 FT  SLOPE=0.0037
ROUTE                ID=10  HYDROGRAPH NO=220.54  INFLOW ID=2  DT=0.0
PRINT HYD            ID=10  CODE=1
*****************************************************************************
*S BEGIN THE AREA SOUTH OF THE ATRISCO BUSINESS PARK
*****************************************************************************
** COMPUTE HYDROGRAPH FOR THE WEST 66 ADDITION  AREA = 12.7 ACRES
COMPUTE NM HYD       ID=2  HYD=220.6  DA==0.0198
                     %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A DISCHARGE OF .1 CFS PER ACRE
** ALLOWABLE RELEASE RATE=1.27 cfs
ROUTE RESERVOIR      ID=3  HYDROGRAPH NO=220.61  INFLOW ID=2  CODE=20
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0              0              100.0
                          0.70           0.52           101.0
                          1.06           1.04           102.0
                          1.29           1.65           103.0
                          2.00           2.55           104.0
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR AIRPORT ROAD SOUTH OF THE SOUTH LINE OF
** THE ATRISCO BUSINESS PARK TO CENTRAL AVE.
COMPUTE NM HYD       ID=4  HYD=220.7 DA==0.0027
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.1333
```

```
                    MASS RAINFALL=-1
PRINT HYD           ID=4 CODE=1
** ADD CONTROLED DISCHARGE FROM POND TO FLOW FROM AIRPORT ROAD
ADD HYD             ID=5  HYDROGRAPH NO=220.71  ID I=4  ID II=3
PRINT HYD           ID=5  CODE=1
** ADD FLOWS TO THE AIRPORT ROAD STORM DRAIN AT STA 28+80
ADD HYD             ID=2  HYDROGRAPH NO=220.72  ID I=10 ID II=5
PRINT HYD           ID=2  CODE=1
** ROUTE FLOW DOWN AIRPORT ROAD STORM DRAIN FROM STA 28+80 TO STA 9+85
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0037
                    PIPE DIA=4.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=1895 FT  SLOPE=0.0037
ROUTE               ID=10  HYDROGRAPH NO=220.73  INFLOW ID=2  DT=0.0
PRINT HYD           ID=10  CODE=1
*****************************************************************************
*S BEGIN AREA SOUTH OF CENTRAL BOULEVARD
*****************************************************************************
** COMPUTE HYDROGRAPH FOR LOT 59, UNIT 6, TOWN OF ATRISCO GRANT
COMPUTE NM HYD      ID=2  HYD=230.1 DA==0.0018
                    %A=0.0  %B=0.0  %C=70.0  %D=30.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ROUTE THE FLOW FROM LOT 59, UNIT 6 DOWN AIRPORT ROAD
** USE AVERAGE STREET SLOPE
COMPUTE RATING CURVECID=1  VS NO=1  NUMBER OF SEGS=3
                    MINIMUM ELEV=100.00  MAXIMUM ELEV=100.87
                    CHANNEL SLOPE=0.0097 FLOOD PLAIN SLOPE=0.0097
                    N=0.025  DIST=10.0  N=-0.017  DIST=58.0  N=0.025  DIST=68.0
                    DIST    ELEV   DIST    ELEV    DIST   ELEV    DIST   ELEV
                    0.0     100.87  10.00  100.67  10.05  100.00  12.0  100.13
                    34.0    100.57  56.00  100.13  57.95  100.00  58.00 100.67
                    68.00   100.87
COMPUTE TRAVEL TIME ID=3 REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=550 FT  SLOPE=0.0097
ROUTE               ID=3  HYDROGRAPH NO=230.11  INFLOW ID=2  DT=0.0
PRINT HYD           ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR TRACT "B", TOWN OF ATRISCO GRANT
COMPUTE NM HYD      ID=2  HYD=230.2  DA==0.0052
                    %A=0.0  %B=0.0  %C=70.0  %D=30.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ADD THE FLOW FROM TRACT "B", TOWN OF ATRISCO GRANT TO THE  ROUTED FLOW
** IN THE STREET
ADD HYD             ID=4  HYDROGRAPH NO=230.21 ID I=2  ID II=3
PRINT HYD           ID=4  CODE=1
** ROUTE THE COMBINED FLOW IN THE STREET DOWN AIRPORT ROAD TO THE INLET AT THE
** END OF AIRPORT ROAD
COMPUTE RATING CURVECID=1  VS NO=1  NUMBER OF SEGS=3
                    MINIMUM ELEV=100.00  MAXIMUM ELEV=100.87
                    CHANNEL SLOPE=0.014 FLOOD PLAIN SLOPE=0.014
                    N=0.025  DIST=10.0  N=-0.017  DIST=58.0  N=0.025  DIST=68.0
                    DIST    ELEV   DIST    ELEV    DIST   ELEV    DIST   ELEV
                    0.0     100.87  10.00  100.67  10.05  100.00  12.0  100.13
```

```
                    34.0    100.57  56.00  100.13  57.95  100.00  58.00 100.67
                    68.00   100.87
COMPUTE TRAVEL TIME ID=11 REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=100 FT  SLOPE=0.0097
ROUTE               ID=11  HYDROGRAPH NO=230.22 INFLOW ID=4  DT=0.0
PRINT HYD           ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR AIRPORT ROAD SOUTH OF CENTRAL TO THE SOUTH END OF
** AIRPORT ROAD
COMPUTE NM HYD      ID=2  HYD=230.3   DA==0.0024
                    %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ADD THE FLOW FROM AIRPORT DRIVE TO THE ROUTED FLOW IN THE STREET AT
** THE SOUTH END OF AIRPORT ROAD
ADD HYD             ID=1  HYDROGRAPH NO=230.31 ID I=2  ID II=11
PRINT HYD           ID=1  CODE=1
** ADD THE FLOW IN THE STREET TO THE STORM DRAIN AT THE SOUTH END OF AIRPORT
** DRIVE
ADD HYD             ID=3  HYDROGRAPH NO=230.32  ID I=1 ID II=10
PRINT HYD           ID=3  CODE=1
** ROUTE FLOW DOWN AIRPORT ROAD STORM DRAIN FROM STA 10+50 TO M.H ON
** COORS STORM DRAIN AT STA 82+30
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0040
                    PIPE DIA=3.5  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=150 FT  SLOPE=0.0202
ROUTE               ID=10  HYDROGRAPH NO=230.33  INFLOW ID=3  DT=0.050
PRINT HYD           ID=10  CODE=1
*****************************************************************************
*S END OF AIRPORT ROAD STORM DRAIN
*S BEGIN COORS CONNECTION STORM DRAIN
*****************************************************************************
** COMPUTE HYDROGRAPH FOR THE SOUTH HALF OF CENTRAL AVE R.W. BETWEEN AIRPORT
** AND COORS
COMPUTE NM HYD      ID=2  HYD=230.6   DA=0.0023
                    %A=0.0  %B=0.0  %C=10.00  %D=90.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ROUTE FLOW DOWN THE WEST SIDE OF COORS BLVD.
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                    MINIMUM ELEV=99.31 FT  MAXIMUM ELEV=100.62 FT
                    CHANNEL SLOPE=0.005 FLOOD PLAIN SLOPE=0.005
                    N=0.017  DIST=34
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   100.0    1     99.98  1.01   99.31  34.0   100.67
                    34.01  101.17
COMPUTE TRAVEL TIME ID=3  REACH NO=1  VALLEY SECTIONS=1
                    LENGTH=1000  SLOPE=0.005
ROUTE               ID=3  HYDROGRAPH NO=230.61  INFLOW ID=2  DT=0.0
PRINT HYD           ID=3  CODE=1
** COMPUTE HYDOGRAPH FOR COORS BLVD R.W. FROM CENTRAL TO STA 89+20 COORS
COMPUTE NM HYD      ID=2  HYD=230.7 DA=0.0058
                    %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.13333
                    MASS RAINFALL=-1
```

```
PRINT HYD            ID=2 CODE=1
** ADD  FLOW FROM COORS TO THE ROUTED FLOW AT COORS STA. 89+20
ADD HYD              ID=4  HYDROGRAPH NO=230.71  ID I=3  ID II=2
PRINT HYD            ID=4  CODE=1
** COMPUTE HYDOGRAPH FOR THE AREA S.& W. OF THE INTERSECTION OF COORS BLVD
** AND CENTRAL BOULEVARD. ASSUME ALL FLOW IS ROUTED TO THE SOUTH TO COORS
COMPUTE NM HYD       ID=2  HYD=230.5  DA=0.0066
                     %A=80.0  %B=0.0  %C=20.0  %0.0          TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ADD BASIN 230.5  FLOW TO ROUTED FLOW IN COORS BOULEVARD
ADD HYD              ID=5  HYDROGRAPH NO=230.51  ID I=2  ID II=4
PRINT HYD            ID=5  CODE=1
** ROUTE FLOW IN COORS STORM DRAIN FROM STA 89+00 TO STA 85+70
** USE FRICTION SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0111
                     PIPE DIA=2.5  N=0.013
COMPUTE TRAVEL TIME ID=4  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=330 FT  SLOPE=0.0111
ROUTE                ID=4  HYDROGRAPH NO=230.52  INFLOW ID=5  DT=0.0
PRINT HYD            ID=4  CODE=1
** COMPUTE HYDOGRAPH FOR AREA 230.8. ASSUME ALL FLOW FROM THIS AREA WILL BE
** ROUTED TO THE SOUTH TO COORS
COMPUTE NM HYD       ID=2  HYD=230.8  DA=0.0112
                     %A=50.0  %B=0.0  %C=35.0  %15.0         TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ADD BASIN 230.8  FLOW TO THE ROUTED FLOW IN COORS BOULEVARD STORM DRAIN
** AT THE MANHOLE AT STA. 85+70
ADD HYD              ID=5  HYDROGRAPH NO=230.82  ID I=2  ID II=4
PRINT HYD            ID=5  CODE=1
** ROUTE FLOW IN COORS STORM DRAIN FROM STA 85+70 TO STA 82+33
** PRESUURE FLOW USE FRICTION SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0111
                     PIPE DIA=2.5  N=0.013
COMPUTE TRAVEL TIME ID=2  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=337 FT  SLOPE=0.0111
ROUTE                ID=2  HYDROGRAPH NO=230.83  INFLOW ID=5  DT=0.0
PRINT HYD            ID=2  CODE=1
** ADD FLOW FROM AIRPORT STORM DRAIN TO COORS STORM DRAIN AT STA 82+33
ADD HYD              ID=11  HYDROGRAPH NO=230.84  ID I=2  ID II=10
PRINT HYD            ID=11  CODE=1
** ROUTE FLOW IN COORS STORM DRAIN FROM STA 82+33 TO STA 79+32
** NOTE THE EXISTING PIPE IS A 24" RCP PIPE. UPGRADE TO 48"
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0550
                     PIPE DIA=4.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=301 FT  SLOPE=0.0550
ROUTE                ID=10  HYDROGRAPH NO=230.85 INFLOW ID=11  DT=0.0
PRINT HYD            ID=10  CODE=1
** ROUTE FLOW IN COORS STORM DRAIN FROM STA 79+32 TO STA 75+80
** NOTE THE EXISTING PIPE IS A 30" DIA RCP PIPE . UPGRADE TO 48"
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.03
                     PIPE DIA=4.0  N=0.013
```

```
COMPUTE TRAVEL TIME ID=11  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=352 FT  SLOPE=0.066
ROUTE               ID=11  HYDROGRAPH NO=230.86  INFLOW ID=10  DT=0.0
PRINT HYD           ID=11  CODE=1
*****************************************************************************
*S BEGIN THE AREA NORTH OF CENTRAL AVENUE BETWEEN UNSER AND THE WEST 66
*S ADDITION
*****************************************************************************
** COMPUTE HYDROGRAPH FOR AREA 240.1
COMPUTE NM HYD      ID=2  HYD=240.1  DA=0.0333
                    %A=0.0  %B=0.0  %C=65.0  %D=35.0  TP=0.19
                    MASS RAINFALL=-1
PRINT HYD           ID=2   CODE=1
** ROUTE FLOW DOWN SWALE NORTH OF CENTRAL AVE
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                    MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=102 FT
                    CHANNEL SLOPE=0.0025 FLOOD PLAIN SLOPE=0.0025
                    N=0.025  DIST=22
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   102.0    1     101.9  11.0   100.0  15.0  100.1
                     25   101.9   26     102.0
COMPUTE TRAVEL TIME ID=3  REACH NO=1  VALLEY SECTIONS=1
                    LENGTH=320  SLOPE=0.0025
ROUTE               ID=3  HYDROGRAPH NO=240.11 INFLOW ID=2  DT=0.0
PRINT HYD           ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 240.2
COMPUTE NM HYD      ID=4  HYD=240.2  DA=0.0125
                    %A=0.0  %B=9.0  %C=20.0  %D=71.0  TP=0.19
                    MASS RAINFALL=-1
PRINT HYD           ID=4   CODE=1
** ADD  FLOW FROM AREA 240.2 TO ROUTED FLOW IN SWALE NORTH OF CENTRAL
ADD HYD             ID=5  HYDROGRAPH NO=240.21  ID I=4  ID II=3
PRINT HYD           ID=5  CODE=1
** ROUTE FLOW DOWN SWALE NORTH OF CENTRAL AVE TO CULVERTS CROSSING CENTRAL
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                    MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=102 FT
                    CHANNEL SLOPE=0.0025 FLOOD PLAIN SLOPE=0.0025
                    N=0.025  DIST=22
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   102.0    1     101.9  11.0   100.0  15.0  100.1
                     25   101.9   26     102.0
COMPUTE TRAVEL TIME ID=15  REACH NO=1  VALLEY SECTIONS=1
                    LENGTH=300  SLOPE=0.0025
ROUTE               ID=15  HYDROGRAPH NO=240.22 INFLOW ID=5  DT=0.0
PRINT HYD           ID=15  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 240.3
COMPUTE NM HYD      ID=3  HYD=240.3   DA=0.0080
                    %A=0.0  %B=0.0  %C=75.00  %D=25.0  TP=0.20
                    MASS RAINFALL=-1
PRINT HYD           ID=3   CODE=1
** ROUTE FLOW DOWN SWALE NORTH OF CENTRAL AVE
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                    MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=102 FT
                    CHANNEL SLOPE=0.0025 FLOOD PLAIN SLOPE=0.0025
```

```
                    N=0.025  DIST=22
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   102.0    1     101.9  11.0   100.0  21.0  101.9
                    22.0  102.0
COMPUTE TRAVEL TIME ID=4  REACH NO=1  VALLEY SECTIONS=1
                    LENGTH=350  SLOPE=0.0025
ROUTE               ID=4  HYDROGRAPH NO=240.31  INFLOW ID=3  DT=0.050
PRINT HYD           ID=4  CODE=1
** ADD  ROUTED FLOW IN THE SWALE FROM THE EAST TO ROUTED FLOW FROM THE WEST AT
** ENTRANCE TO THE 3 - 36" DIA CULVERTS
ADD HYD             ID=16  HYDROGRAPH NO=240.32 ID I=4  ID II=15
PRINT HYD           ID=16  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 240.4
COMPUTE NM HYD      ID=2  HYD=240.4   DA=0.0231
                    %A=0.0  %B=5.0  %C=35.00  %D=60.0  TP=0.21
                    MASS RAINFALL=-1
PRINT HYD           ID=2  CODE=1
** ROUTE FLOW THROUGH THE EXISTING RETENTION POND ON THE CHURCH PROPERTY.
** POND VOLUME TAKEN FROM DRAINAGE PLAN FOR CHURCH SITE. ASSUME FREE DISCHARGE
** OF FLOW FROM POND AFTER POND STAGE REACHES ELEV. 5088
ROUTE RESERVOIR     ID=3  HYDROGRAPH NO=240.41  INFLOW ID=2  CODE=5
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                         0             0              5083.0
                         0.01         1.19            5088.0
                       100.00         1.191           5088.01
                       100.01         1.192           5089.0
PRINT HYD           ID=3  CODE=1
** ADD  ROUTED FLOW IN THE SWALE TO FLOW FROM AREA 240.4
ADD HYD             ID=15  HYDROGRAPH NO=240.42  ID I=3  ID II=16
PRINT HYD           ID=15  CODE=1
** COMPUTE HYDROGRAPH FOR THE NORTH SIDE OF CENTRAL AVE BETWEEN UNSER & AIRPORT
COMPUTE NM HYD      ID=4  HYD=240.5  DA=0.0093
                    %A=0.0  %B=0.0  %C=10.0  %D=90.0  TP=0.14
                    MASS RAINFALL=-1
PRINT HYD           ID=4  code=1
** ADD FLOW FROM THE NORTH SIDE OF CENTRAL AVE. TO FLOW IN SWALE AT THE NORTH
** SIDE OF CENTRAL AVE. THIS IS THE TOTAL FLOW AT THE ENTRANCE TO THE 3 - 36"
** CULVERTS WHICH CROSS CENTRAL
ADD HYD             ID=16  HYDROGRAPH NO=240.51 ID I=4  ID II=15
PRINT HYD           ID=16  CODE=1
** ROUTE FLOW THROUGH THE SWALE AND THE VOLUME OF THE RETENTION POND AND
** PARKING AREA WHICH IS LOCATED ABOVE ELEVATION 5088 . ASSUME FLOW FROM THIS
** AREA IS CONTROLED BY THE ENTRANCE OF THE 3 - 36" CULVERTS
ROUTE RESERVOIR     ID=15  HYDROGRAPH NO=240.52  INFLOW ID=16 CODE=5
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                         0             0              5085.9
                        21            0.046           5087.0
                        60            0.127           5088.0
                       105            0.647           5089.0
                       150            1.437           5090.0
PRINT HYD           ID=15  CODE=1
** ROUTE FLOW FROM THE NORTH SIDE OF CENTRAL THROUGH 3 EXISTING 36" CULVERTS TO
** THE SOUTH SIDE OF CENTRAL.  SLOPE UNKNOWN ASSUME 0.005. USE 1 54" PIPE AS
** EQUIVILANT CONVEYANCE.
```

Seems low for massive parking paved area.

```
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.005
                     PIPE DIA=4.5  N=0.013
COMPUTE TRAVEL TIME ID=5  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=140 FT  SLOPE=0.005
ROUTE                ID=5  HYDROGRAPH NO=240.53  INFLOW ID=15  DT=0.0
PRINT HYD            ID=5  CODE=1
** COMPUTE HYDROGRAPH FOR THE SOUTH SIDE OF CENTRAL AVE BETWEEN UNSER & AIRPORT
COMPUTE NM HYD       ID=2  HYD=240.6  DA=0.0065
                     %A=0.0  %B=0.0  %C=10.0  %D=90.0  TP=0.14
                     MASS RAINFALL=-1
PRINT HYD            ID=2  code=1
*****************************************************************************
*S BEGIN AREA SOUTH OF CENTRAL AVENUE BETWEEN UNSER AND AIRPORT
** ASSUME A CHANNEL WILL BE CONSTRUCTED BETWEEN THE CULVERTS AT CENTRAL AVE
** AND THE COORS CONNECTION STORM DRAIN
*****************************************************************************
** ADD FLOW FROM THE SOUTH SIDE OF CENTRAL TO THE ROUTED FLOW FROM THE NORTH
** SIDE OF CENTRAL
ADD HYD              ID=3  HYDROGRAPH NO=240.61  ID I=2  ID II=5
PRINT HYD            ID=3  CODE=1
** NOTE: NO WELL DEFINED FLOW PATH IS APPARENT IN THE FOLLOWING REACH
** ROUTE FLOW DOWN AN ASSUMED WIDE DEPRESSION SECTION FROM THE SOUTH SIDE OF
** CENTRAL TO THE SOUTH EAST CORNER OF AREA 250.1
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=105.1FT
                     CHANNEL SLOPE=0.003 FLOOD PLAIN SLOPE=0.003
                     N=0.055  DIST=122
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   102      30    100     100    100    130    102
COMPUTE TRAVEL TIME ID=4  REACH NO=1  VALLEY SECTIONS=1
                     LENGTH=700  SLOPE=0.003
ROUTE                ID=4  HYDROGRAPH NO=240.62  INFLOW ID=3  DT=0.0
PRINT HYD            ID=4  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 250.1
COMPUTE NM HYD       ID=2  HYD=250.1   DA=0.0247
                     %A=20.0  %B=10.0  %C=40.0  %D=30.0  TP=0.22
                     MASS RAINFALL=-1
PRINT HYD            ID=2  code=1
** ADD FLOW FROM AREA 250.1 TO FLOW IN THE ASSUMED CHANNEL AT SOUTH EAST CORNER OF AREA
** OF AREA 250.1
ADD HYD              ID=3  HYDROGRAPH NO=250.11  ID I=4  ID II=2
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 250.2
COMPUTE NM HYD       ID=2  HYD=250.2  DA=0.0079
                     %A=0.0  %B=20.0  %C=45.0  %D=35.0  TP=0.15
                     MASS RAINFALL=-1
PRINT HYD            ID=2  code=1
** NOTE: NO WELL DEFINED FLOW PATH IS APPARENT IN THE FOLLOWING REACH
** ADD FLOW FROM AREA 250.2 TO FLOW IN ASSUMED CHANNEL AT SOUTH WEST CORNER OF
** AREA 260.1
ADD HYD              ID=4  HYDROGRAPH NO=250.21 ID I=3  ID II=2
PRINT HYD            ID=4  CODE=1
** ROUTE FLOW DOWN ASSUMED CHANNEL SECTION FROM THE SOUTH EAST CORNER OF
** OF AREA 250.1 TO THE SOUTH LINE OF AREA 260.1
```

```
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=102 FT
                     CHANNEL SLOPE=0.011  FLOOD PLAIN SLOPE=0.011
                     N=0.045  DIST=102
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   102      30    100     80    100     110   102
COMPUTE TRAVEL TIME ID=3  REACH NO=1  VALLEY SECTIONS=1
                     LENGTH=450  SLOPE=0.011
ROUTE                ID=3  HYDROGRAPH NO=250.22  INFLOW ID=4  DT=0.0
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 260.1
COMPUTE NM HYD       ID=2  HYD=260.1  DA=0.0398
                     %A=88.0  %B=0.0  %C=10.0  %D=2.0  TP=0.1555
                     MASS RAINFALL=-1
PRINT HYD            ID=2  code=1
** ADD FLOW FROM AREA 260.1 TO FLOW IN ASSUMED CHANNEL AT SOUTH LINE OF
** AREA 260.1
ADD HYD              ID=4  HYDROGRAPH NO=260.11 ID I=3  ID II=2
PRINT HYD            ID=4  CODE=1
** ROUTE FLOW DOWN ASSUMED CHANNEL SECTION FROM THE SOUTH LINE
** OF AREA 260.1 TO THE START OF INCISED CHANNEL
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=105.1FT
                     CHANNEL SLOPE=0.027 FLOOD PLAIN SLOPE=0.027
                     N=0.040  DIST=102
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   102      30    100     80    100     110   102
COMPUTE TRAVEL TIME ID=2  REACH NO=1  VALLEY SECTIONS=1
                     LENGTH=450  SLOPE=0.027
ROUTE                ID=2  HYDROGRAPH NO=260.12  INFLOW ID=4  DT=0.0
PRINT HYD            ID=2  CODE=1
** ROUTE FLOW DOWN ASSUMED CHANNEL SECTION FROM THE START OF THE INCISED
** CHANNEL TO THE S.E. CORNER OF AREA 270.1
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=105.1FT
                     CHANNEL SLOPE=0.05 FLOOD PLAIN SLOPE=0.05
                     N=0.035  DIST=31
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   105.12    1     105.0  10    100.1.  20    100.0
                      30   105.0    31    105.1
COMPUTE TRAVEL TIME ID=2  REACH NO=1  VALLEY SECTIONS=1
                     LENGTH=400  SLOPE=0.050
ROUTE                ID=4  HYDROGRAPH NO=260.13  INFLOW ID=2  DT=0.0
PRINT HYD            ID=4  CODE=1
** COMPUTE HYDOGRAPH FOR AREA 270.1. ASSUME ALL FLOW FROM THIS AREA WILL BE
** ROUTED TO THE SOUTH TO COORS STORM DRAIN
COMPUTE NM HYD       ID=3  HYD=270.1  DA=0.0222
                     %A=87.0  %B=0.0  %C=10.0  %D=3.0          TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
** ADD BASIN 270.1 FLOW TO THE ROUTED FLOW IN THE ASSUMED CHANNEL
** AT THE SOUTHEAST CORNER OF BASIN 270.1
ADD HYD              ID=4  HYDROGRAPH NO=270.11  ID I=3  ID II=4
PRINT HYD            ID=4  CODE=1
```

existing condition?

```
** ADD FLOW FROM THE ASSSUMED CHANNEL TO THE COORS STORM DRAIN AT STA 75+79
ADD HYD              ID=10  HYDROGRAPH NO=260.13  ID I=4  ID II=11
PRINT HYD            ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 270.2 COORS BLVD R.W. STA 89+20 TO STA 76+15
COMPUTE NM HYD       ID=3  HYD=270.2  DA=0.0071
                     %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=3  code=1
** ADD FLOW FROM AREA 270.2 TO FLOW IN COORS S.D MANHOLE  AT STA. 75+80
ADD HYD              ID=4  HYDROGRAPH NO=270.23 ID I=10 ID II=3
PRINT HYD            ID=4  CODE=1
** ROUTE FLOW IN STORM DRAIN FROM COORS STORM DRAIN M.H. AT STA 75+80
** TO COORS S.D. MANHOLE AT STA 71+29 PRESURE FLOW USE FRICTION SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0303
                     PIPE DIA=4.5  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=450 FT  SLOPE=0.0303
ROUTE                ID=10  HYDROGRAPH NO=270.24  INFLOW ID=4  DT=0.0
PRINT HYD            ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 280.1
COMPUTE NM HYD       ID=2  HYD=280.1  DA=0.0066
                     %A=85.0  %B=0.0  %C=10.0  %D=5.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=2  code=1
** ADD FLOW FROM AREA 280.1 TO FLOW IN COORS S.D MANHOLE  AT STA. 71+29
ADD HYD              ID=3  HYDROGRAPH NO=280.11 ID I=10  ID II=2
PRINT HYD            ID=3  CODE=1
** COMPUTE HYD. FOR  AREA 280.2 COORS BLVD R.W. FROM STA 76+15 TO STA 71+70
COMPUTE NM HYD       ID=4  HYD=280.2  DA=0.0025
                     %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=4  code=1
** ADD FLOW FROM AREA 280.2 TO FLOW IN COORS S.D AT MANHOLE  AT STA. 71+29
ADD HYD              ID=5  HYDROGRAPH NO=280.21 ID I=3  ID II=4
PRINT HYD            ID=5  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 280.3 A PORTION OF AIRPORT DRIVE
COMPUTE NM HYD       ID=6  HYD=280.3  DA=0.0045
                     %A=20.0  %B=30.0  %C=0.0  %D=50.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=6  code=1
** ADD FLOW FROM AREA 280.3 TO FLOW IN COORS S.D AT MANHOLE  AT STA. 71+29
ADD HYD              ID=7  HYDROGRAPH NO=280.31 ID I=5  ID II=6
PRINT HYD            ID=7  CODE=1
** ROUTE FLOW IN STORM DRAIN FROM COORS STORM DRAIN M.H. AT STA 71+29
** TO COORS S.D. MANHOLE AT STA 66+79
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.010
                     PIPE DIA=6.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=450   SLOPE=0.010
ROUTE                ID=10  HYDROGRAPH NO=280.32  INFLOW ID=7  DT=0.0
PRINT HYD            ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 290.1
COMPUTE NM HYD       ID=2  HYD=290.1  DA=0.03144
                     %A=90.0  %B=2.0  %C=6.0  %D=2.0  TP=0.1333
```

```
                    MASS RAINFALL=-1
PRINT HYD           ID=2  code=1
** ADD FLOW FROM AREA 290.1 TO FLOW IN COORS S.D MANHOLE  AT STA. 66+79
ADD HYD             ID=3  HYDROGRAPH NO=290.12 ID I=10  ID II=2
PRINT HYD           ID=3  CODE=1
** ROUTE FLOW IN STORM DRAIN FROM COORS STORM DRAIN M.H. AT STA 66+79
** TO COORS S.D. MANHOLE AT STA 62+29
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.075
                    PIPE DIA=6.0  N=0.013
COMPUTE TRAVEL TIME ID=4  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=450   SLOPE=0.075
ROUTE               ID=4  HYDROGRAPH NO=290.13 INFLOW ID=3  DT=0.0
PRINT HYD           ID=4  CODE=1
** ROUTE FLOW IN STORM DRAIN FROM COORS STORM DRAIN M.H. AT STA 62.29
** TO COORS S.D. MANHOLE AT STA 58+89
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0075
                    PIPE DIA=6.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=340   SLOPE=0.0075
ROUTE               ID=10  HYDROGRAPH NO=290.14  INFLOW ID=4  DT=0.
PRINT HYD           ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 290.2 COORS BLVD.RW FROM STA. 71+70 TO STA 59+40
COMPUTE NM HYD      ID=2  HYD=290.2  DA=0.0069
                    %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=2  code=1
** ADD FLOW FROM AREA 290.2 TO FLOW IN COORS S.D MANHOLE  AT STA. 58+89
ADD HYD             ID=3  HYDROGRAPH NO=290.21 ID I=10  ID II=2
PRINT HYD           ID=3  CODE=1
** ROUTE FLOW IN STORM DRAIN FROM COORS STORM DRAIN M.H. AT STA 58+89
** TO COORS S.D. MANHOLE AT STA 58+00
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0075
                    PIPE DIA=6.0  N=0.013
COMPUTE TRAVEL TIME ID=4  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=89  SLOPE=0.0075
ROUTE               ID=4  HYDROGRAPH NO=290.22  INFLOW ID=3  DT=0.050
PRINT HYD           ID=4  CODE=1
** ROUTE FLOW IN STORM DRAIN FROM COORS STORM DRAIN M.H. AT STA 58+00
** TO OUTLET AT POND AT STA 56+10 (170' LEFT)
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0075
                    PIPE DIA=6.0  N=0.013
COMPUTE TRAVEL TIME ID=5  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=248  SLOPE=0.0075
ROUTE               ID=5  HYDROGRAPH NO=290.23  INFLOW ID=4  DT=0.050
PRINT HYD           ID=5  CODE=1
FINISH
```

```
START                0.0 HOURS ****ONE HUNDRED YEAR TWENTY FOUR HOUR STORM ****
** FILE NAME : CCSDWD.HMI (COORS CONNECTION STORM DRAIN WATERSHED DEVELOPED)**
** ANALYSIS FOR THE ATRISCO BUSINESS PARK MASTER DRAINAGE PLAN ****************
** INCLUDES THE WATERSHED OF THE AIRPORT DRIVE AND COORS BLVD S.D.SYSTEM *****
** FULLY DEVELOPED CONNDITION ***********************************************
** AREAS OUTSIDE OF THE ATRISCO BUSINESS PARK INCLUDED TO DETERMINE TOTAL
** POTENTIAL FLOWS TO THE AIRPORT DRIVE AND COORS CONNECTION STORM DRAINS*****
*****************************************************************************
** ANALYSIS ASSUMPTIONS:
*****************************************************************************
** FLOW FROM ALL PRIVATE LAND NORTH OF CENTRAL AVE. CONTRIBUTING FLOW TO THE
** AIRPORT ROAD STORM DRAIN IS RESTRICTED TO 0.1cfs PER ACRE.******************
** LOTS SOUTH OF CENTRAL AVE. LOCATED ALONG THE EAST SIDE OF AIRPORT DRIVE
** ARE ASSUMED TO DISCHARGE AT THE EXISTING CONDITION FLOW RATE INTO AIRPORT
** DRIVE AND THEN flow IS ROUTED IN THE STREET TO THE CUL-DE-SAC BEFORE
** ENTERING THE STORM DRAIN *************************************************
** PUBLIC STREETS CONTRIBUTING FLOW TO THE AIRPORT DRIVE STORM DRAIN HAVE
** FREE DISCHARGE INTO THE SYSTEM *******************************************
** IN AREAS OF THE ATRISCO BUSINESS PARK WHERE THE POTENTIAL EXISTS FOR SOME OF
** OF THE PROPERTY ADJACENT TO THE STREETS TO DISCHARGE TO THE STREETS
** UNCONTROLLED DUE TO GRADE CONSTRAINTS, APPOXIMATELY 10 ADDITIONAL FEET OF
** WIDTH WAS USED IN CALCULATING STREET AREAS *******************************
** FLOW FROM THE AREAS OUTSIDE OF THE ATRISCO BUSINESS PARK AND THE WATERSHED
** OF THE AIRPORT DRIVE STORM DRAIN LIMITED TO THE EXISTING CONDITION FLOW
** RATE AT THE POINT WHERE THE FLOW ENTERS THE COORS STORM DRAIN *************
** UPDATED   9-14-92
**RAINFALL            TYPE=2  0.0  1.25  1.45  1.65
RAINFALL            TYPE=2  0.0  1.87  2.20  2.66 DT=0.05
*****************************************************************************
*****************************************************************************
*S BEGIN THE WATERSHED FOR THE AIRPORT ROAD STORM DRAIN ************************
*****************************************************************************
*****************************************************************************
** COMPUTE HYDROGRAPH FOR TRACT "S-1"********
** AREA = 133.2 ACRES
COMPUTE NM HYD      ID=2  HYD=200.1  DA==0.2081 SM
                    %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ROUTE FLOW FROM TRACT "S-1"THRU A POND WITH A MAX.  DISCHARGE RATE OF .1 CFS
** PER ACRE. ALLOWABLE RELEASE RATE=13.32 cfs
ROUTE RESERVOIR     ID=3  HYDROGRAPH NO=200.11  INFLOW ID=2  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0             0              100.0
                         7.46           5.0            101.0
                        11.18          11.0            102.0
                        13.58          17.5            103.0
                        22.91          24.0            104.0
PRINT HYD           ID=3  CODE=1
** COMPUTE A HYDROGRAPH FOR FUTURE PUBLIC STREETS IN THE EASTERN PORTION OF
** TRACT  "S-1"
COMPUTE NM HYD      ID=2  HYD=200.2  DA==0.0042
                    %A=0.0  %B=23.0  %C=0.0  %D=77.0  TP=0.1333
                    MASS RAINFALL=-1
```

```
PRINT HYD            ID=2 CODE=1
** ADD THE FLOW FROM THE FUTURE STREETS TO THE CONTROLLED FLOW FROM TRACT"S-1"
** AT THE INTERSECTION OF LOS VOLCANES AND AIRPORT ASSUME FLOW TO BE ROUTED TO
** THE AIRPORT ROAD STORM DRAIN
ADD HYD              ID=4  HYDROGRAPH NO=200.21  ID I=3  ID II=2
PRINT HYD            ID=4  CODE=1
** COMPUTE A HYDROGRAPH FOR FUTURE PUBLIC STREETS IN THE WESTERN PORTION OF
** OF TRACT "S-1"
COMPUTE NM HYD       ID=2  HYD=200.3  DA==0.0076
                     %A=0.0  %B=23.0  %C=0.0  %D=77.0  TP=0.1400
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** COMPUTE HYDROGRAPH FOR LOS VOLCANES BETWEEN UNSER BLVD AND 1250 LF WEST
** OF AIRPORT ROAD
COMPUTE NM HYD       ID=3  HYD=200.4  DA==0.0042
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
** ADD THE FLOW FROM THE FUTURE STREETS IN THE WEST PORTION OF TRACT "S-1" TO
** THE FLOW FROM THE WESTERN SEGMENT OF LOS VOLCANES 1250 WEST OF AIRPORT RD.
ADD HYD              ID=5  HYDROGRAPH NO=200.41  ID I=2  ID II=3
PRINT HYD            ID=5  CODE=1
** ROUTE THE FLOW IN THE STREET FROM 1250' WEST OF AIRPORT IN THE STREET TO
** THE INTERSECTION WITH AIRPORT
COMPUTE RATING CURVECID=1  VS NO=1  NUMBER OF SEGS=3
                     MINIMUM ELEV=100.00  MAXIMUM ELEV=100.87
                     CHANNEL SLOPE=0.0082 FLOOD PLAIN SLOPE=0.0082
                     N=0.025  DIST=10.0  N=-0.017  DIST=58.0  N=0.025  DIST=68.0
                     DIST    ELEV   DIST    ELEV    DIST   ELEV    DIST   ELEV
                     0.0     100.87  10.00  100.67  10.05  100.00  12.0  100.13
                     34.0    100.57  56.00  100.13  57.95  100.00  58.00 100.67
                     68.00   100.87
COMPUTE TRAVEL TIME ID=11 REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=1250 FT  SLOPE=0.0082
ROUTE                ID=11  HYDROGRAPH NO=200.45  INFLOW ID=5  DT=0.0
PRINT HYD            ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR LOS VOLCANES BETWEEN  1250 LF WEST OF AIRPORT ROAD
** AND AIRPORT ROAD
COMPUTE NM HYD       ID=3  HYD=200.5  DA==0.0035
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
** ADD THE FLOW FROM THE EASTERN SEGMENT OF LOS VOLCANES TO THE ROUTED FLOW
** IN THE STREET AT THE INTERSECTION OF LOS VOLCANES AND AIRPORT ROAD
ADD HYD              ID=3  HYDROGRAPH NO=200.51  ID I=11  ID II=3
PRINT HYD            ID=3  CODE=1
** COMPUTE A HYDROGRAPH FOR THE WESTERN PORTION OF LOT 2, TRACT "N", A.B.P.
** AREA = 4.5 ACRES
COMPUTE NM HYD       ID=1  HYD=200.6  DA==0.0070
                     %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
** ROUTE FLOW FROM THE WESTERN PORTION OF LOT 2,  TRACT "N", A.B.P. THRU A
** POND TO CONTROL DISCHARGE TO A MAX. OF 0.1 CFS PER ACRE. ALLOWABLE RELEASE
```

```
** RATE = .45 CFS
ROUTE RESERVOIR      ID=2  HYDROGRAPH NO=200.61  INFLOW ID=1  CODE=20
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0              0              100.0
                          0.252          0.17           101.0
                          0.378          0.38           102.0
                          0.459          0.59           103.0
                          0.774          0.90           104.0
PRINT HYD            ID=2  CODE=1
** ADD THE CONTROLED FLOW FROM LOT 2, TRACT "N", A.B.P. TO THE FLOW AT
** FROM TRACT "S-1" AT THE INTERSECTION OF LOS VOLCANES AND AIRPORT ALL OF
** THIS FLOW TO BE ROUTED IN THE AIRPORT RD. S.D.
ADD HYD              ID=1  HYDROGRAPH NO=200.62  ID I=4  ID II=2
PRINT HYD            ID=1  CODE=1
** ROUTE FLOW IN A STORM DRAIN FROM THE INTERSECTION OF LOS VOLCANES AND
** AIRPORT DOWN AIRPORT RD. TO A POINT APPROXIMATELY 850 LF. SOUTH OF
** LOS VOLCANES
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0050
                     PIPE DIA=2.5  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=850 FT  SLOPE=0.0050
ROUTE                ID=10  HYDROGRAPH NO=200.65  INFLOW ID=1  DT=0.0
PRINT HYD            ID=10  CODE=1
** ROUTE THE FLOW IN THER STREET DOWN AIRPORT ROAD FROM LOS VOLCANES TO THE
** BACK LOT LINE OF LOT 9, TRACT "M"
COMPUTE RATING CURVECID=1  VS NO=1  NUMBER OF SEGS=3
                     MINIMUM ELEV=100.00  MAXIMUM ELEV=100.87
                     CHANNEL SLOPE=0.0048 FLOOD PLAIN SLOPE=0.0048
                     N=0.025  DIST=10.0  N=-0.017  DIST=58.0  N=0.025  DIST=68.0
                     DIST    ELEV   DIST    ELEV    DIST   ELEV    DIST   ELEV
                     0.0     100.87  10.00  100.67  10.05  100.00  12.0  100.13
                     34.0    100.57  56.00  100.13   57.95  100.00  58.00 100.67
                     68.00   100.87
COMPUTE TRAVEL TIME ID=11 REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=850 FT  SLOPE=0.0048
ROUTE                ID=11  HYDROGRAPH NO=200.66  INFLOW ID=3  DT=0.0
PRINT HYD            ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR THE NORTHERN PART OF TRACT "M" ATRISCO BUSINESS PARK
** LOTS 5 TO 9.  AREA = 47.9 ACRES
COMPUTE NM HYD       ID=2  HYD=210.1  DA==0.0748 SM
                     %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ROUTE FLOW FROM TRACT "M" LOTS 5 - 9 THRU A THEORETICAL POND WITH A
** MAX. DISCHARGE OF 0.1 CFS PER ACRE. ALLOWABLE RELEASE RATE=4.79 cfs
ROUTE RESERVOIR      ID=3  HYDROGRAPH NO=210.11  INFLOW ID=2  CODE=5
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0              0              100.0
                          2.68           2.00           101.0
                          4.02           4.10           102.0
                          4.88           6.30           103.0
                          6.00           7.00           104.0
PRINT HYD            ID=3  CODE=1
** ADD CONTROLLED DISCHARGE FROM TRACT "M" LOTS 5 - 9 TO THE ROUTED FLOW IN THE
```

```
** AIRPORT ROAD STORM DRAIN
ADD HYD              ID=10  HYDROGRAPH NO=210.12  ID I=10  ID II=3
PRINT HYD            ID=10  CODE=1
** COMPUTE A HYDROGRAPH FOR FUTURE PUBLIC STREETS IN TRACT "M"
COMPUTE NM HYD       ID=2  HYD=210.2  DA=0.0078 SM
                     %A=0.0  %B=23.0  %C=0.0  %D=77.0  TP=0.1450
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ASSUME TWO TYPE DOUBLE "C" INLETS INTERCEPT FLOW FROM THE FUTURE PUBLIC
** STREETS IN TRACT "M" DIVIDE OUT THE APPROXIMATE FLOW INTERCEPTED BY THE
** INLETS  Q10=8cfs  Q100=11cfs
** HYD 210.21 = FLOW TO THE AIRPORT ROAD STORM DRAIN
** HYD 210.22 = FLOW TO REMAIN IN THE STREET
DIVIDE HYD           ID=2  Q=11.00  ID I=3  HYD I=210.21
                                   ID II=6 HYD II=210.22
PRINT HYD            ID=3 CODE=1
PRINT HYD            ID=6  CODE=1
** ADD THE INTERCEPTED FLOW FROM THE FUTURE STREETS TO THE AIRPORT RD. S.D.
ADD HYD              ID=10  HYDROGRAPH NO=210.23  ID I=10  ID II=3
PRINT HYD            ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR AIRPORT RD. FROM THE INTERSECTION OF LOS VOLCANES TO
** THE INTERSECTION WITH THE BACK LOT LINE OF LOT 9 TRACT "M"
COMPUTE NM HYD       ID=2  HYD=210.3  DA==0.0025
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ADD THE FLOW FROM THE NORTHERN PORTION OF AIRPORT RD. TO THE ROUTED FLOW IN
** THE STREET
ADD HYD              ID=11  HYDROGRAPH NO=210.31  ID I=11  ID II=2
PRINT HYD            ID=11  CODE=1
** COMPUTE A HYDROGRAPH FOR LOT 1, TRACT "A", A.B.P.
** AREA = 7.5 ACRES
COMPUTE NM HYD       ID=2  HYD=210.4  DA==0.0117
                     %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ROUTE FLOW FROM LOT 1, TRACT "A", A.B.P. THRU A POND TO CONTROL THE
** DISCHARGE TO A MAX. OF 0.1 CFS PER ACRE. ALLOWABLE RELEASE RATE
** = .75 CFS
ROUTE RESERVOIR      ID=4  HYDROGRAPH NO=210.41  INFLOW ID=2  CODE=20
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0              0              100.0
                          0.42           0.30           101.0
                          0.63           0.66           102.0
                          0.76           1.02           103.0
                          1.00           1.50           104.0
PRINT HYD            ID=4  CODE=1
** ADD THE CONTROLLED FLOW FROM LOT 1, TRACT "A", A.B.P. TO THE STORM DRAIN AT
** THE INTERSECTION OF THE BACK LOT LINE OF LOT 9, TRACT "M" AND AIRPORT RD.
ADD HYD              ID=13  HYDROGRAPH NO=210.42  ID I=10  ID II=4
PRINT HYD            ID=13  CODE=1
** ADD THE FLOW FROM THE FUTURE STREETS IN TRACT "M" THAT BYPASSES THE INLETS
** TO THE ROUTED FLOW IN THE STREET AT THE INTERSECTION OF THE BACK LOT
** LOT LINE OF LOT 9, TRACT "M" AND AIRPORT ROAD
```

```
ADD HYD              ID=12  HYDROGRAPH NO=210.43  ID I=6  ID II=11
PRINT HYD            ID=12  CODE=1
** ROUTE FLOW IN A STORM DRAIN FROM THE INTERSECTION OF THE BACK LOT LINE
** OF LOT 9, TRACT "M" AND AIRPORT ROAD
** DOWN AIRPORT RD. TO A THE INTERSECTION WITH BLUEWATER ROAD
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0048
                     PIPE DIA=3.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=850 FT  SLOPE=0.0048
ROUTE                ID=10  HYDROGRAPH NO=210.46  INFLOW ID=13  DT=0.0
PRINT HYD            ID=10  CODE=1
** ROUTE THE FLOW IN THE STREET DOWN AIRPORT ROAD FROM THE BACK LOT LINE OF LOT
** OF LOT 9 TRACT "M" TO THE INTERSECTION WITH BLUEWATER ROAD
COMPUTE RATING CURVECID=1  VS NO=1  NUMBER OF SEGS=3
                     MINIMUM ELEV=100.00  MAXIMUM ELEV=100.87
                     CHANNEL SLOPE=0.0048 FLOOD PLAIN SLOPE=0.0048
                     N=0.025  DIST=10.0  N=-0.017  DIST=58.0  N=0.025  DIST=68.0
                     DIST    ELEV   DIST    ELEV    DIST   ELEV    DIST   ELEV
                     0.0     100.87  10.00  100.67  10.05  100.00  12.0  100.13
                     34.0    100.57  56.00  100.13  57.95  100.00  58.00 100.67
                     68.00   100.87
COMPUTE TRAVEL TIME ID=11 REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=850 FT  SLOPE=0.0048
ROUTE                ID=11  HYDROGRAPH NO=210.47  INFLOW ID=12 DT=0.0
PRINT HYD            ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR AIRPORT RD. FROM THE INTERSECTION WITH THE BACK
** LOT LINE OF LOT 9 TRACT "M" TO THE INTERSECTION WITH BLUEWATER ROAD
COMPUTE NM HYD       ID=2  HYD=210.5  DA==0.0024
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ADD THE ROUTED FLOW IN THE STREET TO THE FLOW FROM THE SOUTHERN SEGMENT OF
** AIRPORT ROAD AT THE INTERSECTION AIRPORT ROAD AND BLUEWATER
ADD HYD              ID=11  HYDROGRAPH NO=210.51  ID I=2  ID II=11
PRINT HYD            ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR THE SOUTHERN PART OF TRACT "M" ATRISCO BUSINESS PARK
* LOTS 1 TO 4 AND TRACT "L-1".  AREA = 44.8 ACRES
COMPUTE NM HYD       ID=3  HYD=210.6  DA==0.0700 SM
                     %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
** ROUTE FLOW FROM TRACT "M" LOTS 1 - 4  AND TRACT "L-1" THRU A POND WITH A
** MAX. DISCHARGE OF 0.1 CFS PER ACRE. ALLOWABLE RELEASE RATE=4.48 cfs
ROUTE RESERVOIR      ID=4  HYDROGRAPH NO=210.61  INFLOW ID=3  CODE=20
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0              0             100.0
                          2.5            1.60          101.0
                          3.75           3.70          102.0
                          4.50           5.80          103.0
                          6.00           8.00          104.0
PRINT HYD            ID=4  CODE=1
** ADD THE ROUTED FLOW IN THE AIRPORT ROAD STORM DRAIN TO THE CONTROLLED FLOW
** FROM THE SOUTHERN PART OF TRACT "M" AT THE WEST INTERSECTION OF BLUEWATER
** AND AIRPORT ROAD
```

```
ADD HYD              ID=10  HYDROGRAPH NO=210.62  ID I=4  ID II=10
PRINT HYD            ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR BLUEWATER RD. FROM THE INTERSECTION OF UNSER BLVD. TO
** 1050 LF WEST OF THE INTERSECTION WITH AIRPORT ROAD
COMPUTE NM HYD       ID=2  HYD=210.7  DA==0.0033
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ROUTE FLOW FROM WESTERN PORTION OF BLUEWATER RD.DOWN THE STREET FROM 1050 LF
** WEST OF AIRPORT ROAD TO THE INTERSECTION WITH AIRPORT ROAD
COMPUTE RATING CURVECID=1  VS NO=1  NUMBER OF SEGS=3
                     MINIMUM ELEV=100.00  MAXIMUM ELEV=100.87
                     CHANNEL SLOPE=0.0030 FLOOD PLAIN SLOPE=0.0030
                     N=0.025  DIST=10.0  N=-0.017  DIST=58.0  N=0.025  DIST=68.0
                     DIST    ELEV   DIST    ELEV    DIST   ELEV    DIST   ELEV
                     0.0     100.87  10.00  100.67  10.05  100.00  12.0  100.13
                     34.0    100.57  56.00  100.13  57.95  100.00  58.00 100.67
                     68.00   100.87
COMPUTE TRAVEL TIME ID=12  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=1050 FT  SLOPE=0.0030
ROUTE                ID=12  HYDROGRAPH NO=210.71 INFLOW ID=2  DT=0.0
PRINT HYD            ID=12  CODE=1
** COMPUTE HYDROGRAPH FOR BLUEWATER RD. FROM 1050 LF WEST OF AIRPORT TO THE
** WEST INTERSECTION WITH AIRPORT ROAD
COMPUTE NM HYD       ID=3  HYD=210.8  DA==0.0028
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
** ADD THE ROUTED FLOW FROM THE BLUEWATER RD.TO THE FLOW FROM THE EASTERN
** SEGMENT OF BLUEWATER AT THE INTERSECTION OF AIRPORT AND  BLUEWATER
ADD HYD              ID=12  HYDROGRAPH NO=210.81  ID I=3  ID II=12
PRINT HYD            ID=12  CODE=1
** COMPUTE HYDROGRAPH FOR BLUEWATER RD. FROM THE INTERSECTION WITH AIRPORT
** ROAD TO THE GRADE BREAK EAST OF THE INTERSECTION WITH AIRPORT DRIVE
COMPUTE NM HYD       ID=2  HYD=210.9  DA==0.0017
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ADD THE FLOW FROM THE FAR EAST SEGMENT OF BLUEWATER RD TO THE BLUEWATER
** FLOW FROM THE WEST AT THE INTERSECTION OF AIRPORT AND  BLUEWATER
ADD HYD              ID=12  HYDROGRAPH NO=210.91  ID I=12  ID II=2
PRINT HYD            ID=12  CODE=1
** ADD THE FLOW FROM  BLUEWATER RD TO THE FLOW IN THE STREET AT THE
** INTERSECTION OF AIRPORT ROAD AND  BLUEWATER ROAD
ADD HYD              ID=11  HYDROGRAPH NO=210.92 ID I=12  ID II=11
PRINT HYD            ID=11  CODE=1
** ADD THE TOTAL FLOW IN THE STREET TO THE STORM DRAIN FLOW AT THE INTERSECTION
** OF BLUEWATER ROAD AND AIRPORT ROAD
ADD HYD              ID=10  HYDROGRAPH NO=210.93  ID I=11  ID II=10
PRINT HYD            ID=10  CODE=1
** COMPUTE A HYDROGRAPH FOR LOT 2, TRACT "A", A.B.P.
** AREA = 7.5 ACRES
COMPUTE NM HYD       ID=2  HYD=211.10  DA==0.0117
                     %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.13333
```

```
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ROUTE FLOW FROM LOT 2, TRACT "A", A.B.P. THRU A POND TO CONTROL THE
** DISCHARGE TO A MAX. OF 0.1 CFS PER ACRE. ALLOWABLE RELEASE RATE
** = .75 CFS
ROUTE RESERVOIR     ID=3  HYDROGRAPH NO=211.11  INFLOW ID=2  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0              0              100.0
                          0.42          0.28            101.0
                          0.60          0.64            102.0
                          0.75          0.98            103.0
                          1.00          1.50            104.0
PRINT HYD           ID=3    CODE=1
** ADD THE CONTROLLED FLOW FROM LOT 2, TRACT "A", A.B.P. TO THE TOTAL FLOW IN
** THE STORM DRAIN AT THE INTERSECTION OF BLUEWATER RD.AND AIRPORT RD.
ADD HYD             ID=11  HYDROGRAPH NO=211.12  ID I=3  ID II=10
PRINT HYD           ID=11  CODE=1
** ROUTE FLOW IN A STORM DRAIN FROM THE INTERSECTION OF BLUEWATER AND AIRPORT
** DOWN AIRPORT RD. TO THE SOUTH LINE OF ATRISCO BUSINESS PARK
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0027
                    PIPE DIA=4.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=1850 FT  SLOPE=0.0027
ROUTE               ID=10  HYDROGRAPH NO=211.13  INFLOW ID=11  DT=0.0
PRINT HYD           ID=10  CODE=1
*****************************************************************************
*S BEGIN THE AREA SOUTH OF BLUEWATER ROAD
*****************************************************************************
** COMPUTE HYDROGRAPH FOR AIRPORT ROAD SOUTH OF BLUEWATER TO THE SOUTH LINE OF
** THE ATRISCO BUSINESS PARK
COMPUTE NM HYD      ID=2  HYD=220.1 DA==0.0035
                    %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** COMPUTE HYDROGRAPH FOR TRACT B, UNIT 2, A.B.P. AREA = 20.0 ACRES
COMPUTE NM HYD      ID=3  HYD=220.2  DA==0.0313
                    %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=3 CODE=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A DISCHARGE OF .1 CFS PER ACRE
** ALLOWABLE RELEASE RATE=2.0cfs
ROUTE RESERVOIR     ID=4  HYDROGRAPH NO=220.21  INFLOW ID=3  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0              0              100.0
                          1.12          0.80            101.0
                          1.68          1.70            102.0
                          2.04          2.60            103.0
                          4.00          3.50            104.0
PRINT HYD           ID=4  CODE=1
** ROUTE FLOW IN A STORM DRAIN FROM THE TRACT "B", UNIT 2 POND TO THE AIRPORT
** ROAD STORM DRAIN
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.007
                    PIPE DIA=1.5  N=0.013
COMPUTE TRAVEL TIME ID=5  REACH=1  NUMBER OF VALLEY SECTIONS=1
```

```
                    LENGTH=1100 FT  SLOPE=0.007
ROUTE               ID=5  HYDROGRAPH NO=220.22  INFLOW ID=4  DT=0.0
PRINT HYD           ID=5  CODE=1
** ADD THE ROUTED FLOW FROM PARCEL "B", UNIT 2 TO THE FLOW FROM AIRPORT ROAD
ADD HYD             ID=3  HYDROGRAPH NO=220.23  ID I=2 ID= II=5
PRINT HYD           ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR PARCEL "C", UNIT 2, A.B.P. AREA = 28.6 ACRES
COMPUTE NM HYD      ID=2  HYD=220.3   DA==0.0447
                    %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A DISCHARGE OF .1 CFS PER ACRE
** ALLOWABLE RELEASE RATE=2.86 cfs
ROUTE RESERVOIR     ID=4  HYDROGRAPH NO=220.31  INFLOW ID=2  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0             0              100.0
                          1.60          1.20           101.0
                          2.40          2.40           102.0
                          2.90          3.70           103.0
                          3.50          5.00           104.0
PRINT HYD           ID=4  CODE=1
** ADD THE CONTROLLED FLOW FROM TRACT "C", UNIT 2 TO THE TOTAL FLOW IN AIRPORT
** ROAD AT THE SOUTH LINE OF THE ATRISCO BUSINESS PARK
ADD HYD             ID=2  HYDROGRAPH NO=220.32  ID I=3 ID= II=4
PRINT HYD           ID=2  CODE=1
** COMPUTE HYDROGRAPH FOR FUTURE STREETS IN PARCEL "C"
COMPUTE NM HYD      ID=4  HYD=220.40  DA==0.0018
                    %A=0.0  %B=23.0  %C=0.0  %D=77.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=4 CODE=1
** ADD THE FLOW FROM FUTURE STREETS IN PARCEL "C" TO THE TOTAL FLOW IN AIRPORT
** ROAD AT THE SOUTH LINE OF THE ATRISCO BUSINESS PARK
ADD HYD             ID=1  HYDROGRAPH NO=220.41  ID I=2 ID= II=4
PRINT HYD           ID=1  CODE=1
** COMPUTE HYDROGRAPH FOR TRACT "B", UNIT 1, A.B.P. AREA = 20.0 ACRES
COMPUTE NM HYD      ID=3  HYD=220.50   DA==0.0313
                    %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=3 CODE=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A DISCHARGE OF .1 CFS PER ACRE
** ALLOWABLE RELEASE RATE=2.00 cfs
ROUTE RESERVOIR     ID=4  HYDROGRAPH NO=220.51  INFLOW ID=3  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0             0              100.0
                          1.12         0.80            101.0
                          1.68         1.70            102.0
                          2.04         2.60            103.0
                          4.00         3.50            104.0
PRINT HYD           ID=4  CODE=1
** ADD THE CONTROLLED FLOW FROM TRACT "B", UNIT 1 TO THE TOTAL FLOW IN AIRPORT
** ROAD AT THE SOUTH LINE OF THE ATRISCO BUSINESS PARK
ADD HYD             ID=3  HYDROGRAPH NO=220.52  ID I=4 ID= II=1
PRINT HYD           ID=3  CODE=1
** ADD THE ROUTED FLOW FROM THE NORTH IN THE AIRPORT ROAD STORM DRAIN TO THE
```

```
** TOTAL FLOW IN AIRPORT ROAD AT THE SOUTH LINE OF THE ATRISCO BUSINESS PARK
ADD HYD              ID=2  HYDROGRAPH NO=220.53  ID I=10 ID= II=3
PRINT HYD            ID=2  CODE=1
** ROUTE FLOW IN A STORM DRAIN FROM THE SOUTH LINE OF THE BUSINESS PARK
** TO AIRPORT RD STORM DRAIN STA 28+80 THE JUNCTION WITH FLOW FROM THE
** WEST 66 ADDITION
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0040
                     PIPE DIA=4.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=250 FT  SLOPE=0.0037
ROUTE                ID=10  HYDROGRAPH NO=220.54  INFLOW ID=2  DT=0.0
PRINT HYD            ID=10  CODE=1
*****************************************************************************
*S BEGIN THE AREA SOUTH OF THE ATRISCO BUSINESS PARK
*****************************************************************************
** COMPUTE HYDROGRAPH FOR THE WEST 66 ADDITION  AREA = 12.7 ACRES
COMPUTE NM HYD       ID=2  HYD=220.6  DA==0.0198
                     %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A DISCHARGE OF .1 CFS PER ACRE
** ALLOWABLE RELEASE RATE=1.27 cfs
ROUTE RESERVOIR      ID=3  HYDROGRAPH NO=220.61  INFLOW ID=2  CODE=20
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0             0              100.0
                          0.70          0.52           101.0
                          1.06          1.04           102.0
                          1.29          1.65           103.0
                          2.00          2.55           104.0
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR AIRPORT ROAD SOUTH OF THE SOUTH LINE OF
** THE ATRISCO BUSINESS PARK TO CENTRAL AVE.
COMPUTE NM HYD       ID=4  HYD=220.7 DA==0.0027
                     %A=0.0  %B=19.0  %C=0.0  %D=81.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=4 CODE=1
** ADD CONTROLED DISCHARGE FROM POND TO FLOW FROM AIRPORT ROAD
ADD HYD              ID=5  HYDROGRAPH NO=220.71  ID I=4  ID II=3
PRINT HYD            ID=5  CODE=1
** ADD FLOWS TO THE AIRPORT ROAD STORM DRAIN AT STA 28+80
ADD HYD              ID=2  HYDROGRAPH NO=220.72  ID I=10 ID II=5
PRINT HYD            ID=2  CODE=1
** ROUTE FLOW DOWN AIRPORT ROAD STORM DRAIN FROM STA 28+80 TO STA 9+85
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0037
                     PIPE DIA=4.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=1895 FT  SLOPE=0.0037
ROUTE                ID=10  HYDROGRAPH NO=220.73  INFLOW ID=2  DT=0.0
PRINT HYD            ID=10  CODE=1
*****************************************************************************
*S BEGIN AREA SOUTH OF CENTRAL BOULEVARD
*****************************************************************************
** COMPUTE HYDROGRAPH FOR LOT 59, UNIT 6, TOWN OF ATRISCO GRANT
COMPUTE NM HYD       ID=2  HYD=230.1 DA==0.0018
```

```
                    %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A MAX. DISCHARGE OF 3.80 CFS
ROUTE RESERVOIR     ID=20 HYDROGRAPH NO=230.11 INFLOW ID=2  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0             0              100.0
                          2.20          0.005           101.0
                          3.11          0.012           102.0
                          3.80          0.02           103.0
                          5.00          1.00           104.0
PRINT HYD           ID=20  CODE=1
** ROUTE THE FLOW FROM LOT 59, UNIT 6 DOWN AIRPORT ROAD
** USE AVERAGE STREET SLOPE
COMPUTE RATING CURVECID=1  VS NO=1  NUMBER OF SEGS=3
                    MINIMUM ELEV=100.00  MAXIMUM ELEV=100.87
                    CHANNEL SLOPE=0.0097 FLOOD PLAIN SLOPE=0.0097
                    N=0.025  DIST=10.0  N=-0.017  DIST=58.0  N=0.025  DIST=68.0
                    DIST    ELEV   DIST    ELEV    DIST   ELEV    DIST   ELEV
                    0.0     100.87  10.00  100.67  10.05  100.00  12.0  100.13
                    34.0    100.57  56.00  100.13  57.95  100.00  58.00 100.67
                    68.00   100.87
COMPUTE TRAVEL TIME ID=3 REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=550 FT  SLOPE=0.0097
ROUTE               ID=3  HYDROGRAPH NO=230.12  INFLOW ID=20  DT=0.0
PRINT HYD           ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR TRACT "B", TOWN OF ATRISCO GRANT
COMPUTE NM HYD      ID=2  HYD=230.2  DA==0.0052
                    %A=0.0  %B=15.0  %C=5.0  %D=80.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A PEAK DISCHARGE OF 10.93 CFS
ROUTE RESERVOIR     ID=20  HYDROGRAPH NO=230.21 INFLOW ID=2  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0             0              100.0
                          6.34          0.01           101.0
                          8.96          0.024           102.0
                         10.93          0.04           103.0
                         15.00          1.50           104.0
PRINT HYD           ID=20  CODE=1
** ADD THE FLOW FROM TRACT "B", TOWN OF ATRISCO GRANT TO THE  ROUTED FLOW
** IN THE STREET
ADD HYD             ID=4  HYDROGRAPH NO=230.22 ID I=20 ID II=3
PRINT HYD           ID=4  CODE=1
** ROUTE THE COMBINED FLOW IN THE STREET DOWN AIRPORT ROAD TO THE INLET AT THE
** END OF AIRPORT ROAD
COMPUTE RATING CURVECID=1  VS NO=1  NUMBER OF SEGS=3
                    MINIMUM ELEV=100.00  MAXIMUM ELEV=100.87
                    CHANNEL SLOPE=0.014 FLOOD PLAIN SLOPE=0.014
                    N=0.025  DIST=10.0  N=-0.017  DIST=58.0  N=0.025  DIST=68.0
                    DIST    ELEV   DIST    ELEV    DIST   ELEV    DIST   ELEV
                    0.0     100.87  10.00  100.67  10.05  100.00  12.0  100.13
                    34.0    100.57  56.00  100.13  57.95  100.00  58.00 100.67
                    68.00   100.87
```

```
COMPUTE TRAVEL TIME ID=11 REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=100 FT  SLOPE=0.0097
ROUTE               ID=11  HYDROGRAPH NO=230.23 INFLOW ID=4  DT=0.0
PRINT HYD           ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR AIRPORT ROAD SOUTH OF CENTRAL TO THE SOUTH END OF
** AIRPORT ROAD
COMPUTE NM HYD      ID=2  HYD=230.30  DA==0.0024
                    %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ADD AIRPORT DRIVE FLOWS TO THE ROUTED FLOWS IN AIRPORT DRIVE
ADD HYD             ID=3  HYDROGRAPH NO=230.31  ID I=2 ID II=11
PRINT HYD           ID=3  CODE=1
** ADD THE FLOW IN THE STREET TO THE ROUTED FLOW IN THE STORM DRAIN AT
** THE SOUTH END OF AIRPORT ROAD
ADD HYD             ID=1  HYDROGRAPH NO=230.32  ID I=10  ID II=3
PRINT HYD           ID=1  CODE=1
** ROUTE FLOW DOWN AIRPORT ROAD STORM DRAIN FROM STA 9+85 TO M.H ON
** COORS STORM DRAIN AT STA 82+30
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.01
                    PIPE DIA=4.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=130 FT  SLOPE=0.01
ROUTE               ID=10  HYDROGRAPH NO=230.33  INFLOW ID=1  DT=0.050
PRINT HYD           ID=10  CODE=1
*****************************************************************************
*S END OF AIRPORT ROAD STORM DRAIN
*S BEGIN COORS CONNECTION STORM DRAIN
*****************************************************************************
** COMPUTE HYDOGRAPH FOR THE AREA S.& W. OF THE INTERSECTION OF COORS BLVD.
** AND CENTRAL BOULEVARD. ASSUME ALL FLOW IS ROUTED TO THE SOUTH TO COORS
COMPUTE NM HYD      ID=2  HYD=230.5  DA=0.0066
                    %A=0.0  %B=10.0  %C=10.0  %80.0          TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A PEAK DISCHARGE OF 6.49 CFS
ROUTE RESERVOIR     ID=20  HYDROGRAPH NO=530.51 INFLOW ID=2  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0             0              100.0
                        3.75          0.06            101.0
                        5.32          0.13            102.0
                        6.49          0.22            103.0
                       15.00          1.50            104.0
PRINT HYD           ID=20  CODE=1
** ROUTE FLOW IN COORS STORM DRAIN FROM STA 91+38 TO STA 89+00
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0059
                    PIPE DIA=2.0  N=0.013
COMPUTE TRAVEL TIME ID=4  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=330 FT  SLOPE=0.0059
ROUTE               ID=4  HYDROGRAPH NO=230.52  INFLOW ID=20  DT=0.0
PRINT HYD           ID=4  CODE=1
** COMPUTE HYDROGRAPH FOR THE SOUTH HALF OF CENTRAL AVE R.W. BETWEEN AIRPORT
** AND COORS
COMPUTE NM HYD      ID=2  HYD=230.6   DA=0.0023
```

```
                    %A=0.0  %B=0.0  %C=10.00  %D=90.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ROUTE FLOW DOWN THE WEST SIDE OF COORS BLVD.
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                    MINIMUM ELEV=99.31 FT  MAXIMUM ELEV=100.62 FT
                    CHANNEL SLOPE=0.005 FLOOD PLAIN SLOPE=0.005
                    N=0.017  DIST=34
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   100.0    1     99.98  1.01   99.31  34.0   100.67
                    34.01  101.17
COMPUTE TRAVEL TIME ID=3  REACH NO=1  VALLEY SECTIONS=1
                    LENGTH=1000  SLOPE=0.005
ROUTE               ID=3  HYDROGRAPH NO=230.61  INFLOW ID=2  DT=0.0
PRINT HYD           ID=3  CODE=1
** COMPUTE HYDOGRAPH FOR COORS BLVD R.W. FROM CENTRAL TO STA 89+20 COORS
COMPUTE NM HYD      ID=2  HYD=230.7 DA=0.0058
                    %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ADD  FLOW FROM COORS TO THE ROUTED FLOW AT COORS STA. 89+20
ADD HYD             ID=1  HYDROGRAPH NO=230.71  ID I=3  ID II=2
PRINT HYD           ID=1  CODE=1
** ADD THE FLOW IN COORS BOULEVARD TO THE ROUTED FLOW IN THE STORM DRAIN
** AT STA 89+00
ADD HYD             ID=5  HYDROGRAPH NO=230.72  ID I=4  ID II=1
PRINT HYD           ID=5  CODE=1
** ROUTE FLOW IN COORS STORM DRAIN FROM STA 89+00 TO STA 85+70
** USE FRICTION SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0111
                    PIPE DIA=2.5  N=0.013
COMPUTE TRAVEL TIME ID=4  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=330 FT  SLOPE=0.0111
ROUTE               ID=4  HYDROGRAPH NO=230.73  INFLOW ID=5  DT=0.0
PRINT HYD           ID=4  CODE=1
** COMPUTE HYDOGRAPH FOR AREA 230.8. ASSUME ALL FLOW FROM THIS AREA WILL BE
** ROUTED TO THE SOUTH TO COORS
COMPUTE NM HYD      ID=2  HYD=230.8  DA=0.0112
                    %A=0.0  %B=10.0  %C=10.0  %D80.0          TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A PEAK DISCHARGE OF 15.84 CFS
ROUTE RESERVOIR     ID=20  HYDROGRAPH NO=230.81 INFLOW ID=2  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                         0             0              100.0
                         9.18          0.06           101.0
                        12.99          0.15           102.0
                        15.84          0.25           103.0
                        25.00          2.00           104.0
PRINT HYD           ID=20  CODE=1
** ADD BASIN 230.8  FLOW TO THE ROUTED FLOW IN COORS BOULEVARD STORM DRAIN
** AT THE MANHOLE AT STA. 85+70
ADD HYD             ID=5  HYDROGRAPH NO=230.82  ID I=20  ID II=4
PRINT HYD           ID=5  CODE=1
```

```
** ROUTE FLOW IN COORS STORM DRAIN FROM STA 85+70 TO STA 82+33
** PRESUURE FLOW USE FRICTION SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0111
                     PIPE DIA=2.5  N=0.013
COMPUTE TRAVEL TIME ID=2  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=337 FT  SLOPE=0.0111
ROUTE                ID=2  HYDROGRAPH NO=230.83  INFLOW ID=5  DT=0.0
PRINT HYD            ID=2  CODE=1
** ADD FLOW FROM AIRPORT STORM DRAIN TO COORS STORM DRAIN AT STA 82+33
ADD HYD              ID=11  HYDROGRAPH NO=230.84  ID I=2  ID II=10
PRINT HYD            ID=11  CODE=1
** ROUTE FLOW IN COORS STORM DRAIN FROM STA 82+33 TO STA 79+32
** NOTE THE EXISTING PIPE IS A 24" RCP PIPE. UPGRADE TO 48"
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0550
                     PIPE DIA=4.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=301 FT  SLOPE=0.0550
ROUTE                ID=10  HYDROGRAPH NO=230.85 INFLOW ID=11  DT=0.0
PRINT HYD            ID=10  CODE=1
** ROUTE FLOW IN COORS STORM DRAIN FROM STA 79+32 TO STA 75+80
** NOTE THE EXISTING PIPE IS A 30" DIA RCP PIPE . UPGRADE TO 48"
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.03
                     PIPE DIA=4.0  N=0.013
COMPUTE TRAVEL TIME ID=11  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=352 FT  SLOPE=0.066
ROUTE                ID=11  HYDROGRAPH NO=230.86  INFLOW ID=10  DT=0.0
PRINT HYD            ID=11  CODE=1
*****************************************************************************
*S BEGIN THE AREA NORTH OF CENTRAL AVENUE BETWEEN UNSER AND THE WEST 66
*S ADDITION
*****************************************************************************
** COMPUTE HYDROGRAPH FOR AREA 240.1
COMPUTE NM HYD       ID=2  HYD=240.1  DA=0.0333
                     %A=0.0  %B=15.0  %C=10.0  %D=75.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=2   CODE=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A PEAK DISCHARGE OF 58.74CFS
ROUTE RESERVOIR      ID=20  HYDROGRAPH NO=240.11  INFLOW ID=2  CODE=20
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                       0              0              100.0
                      34.00           0.10           101.0
                      48.20           0.24           102.0
                      58.74           0.40           103.0
                      75.00           4.00           104.0
PRINT HYD            ID=20  CODE=1
** ROUTE FLOW DOWN SWALE NORTH OF CENTRAL AVE
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=102 FT
                     CHANNEL SLOPE=0.0025 FLOOD PLAIN SLOPE=0.0025
                     N=0.025  DIST=22
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   102.0    1     101.9  11.0   100.0  15.0  100.1
                      25   101.9   26     102.0
COMPUTE TRAVEL TIME ID=3  REACH NO=1  VALLEY SECTIONS=1
```

```
                    LENGTH=320  SLOPE=0.0025
ROUTE               ID=3  HYDROGRAPH NO=240.12 INFLOW ID=20  DT=0.0
PRINT HYD           ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 240.2
COMPUTE NM HYD      ID=4  HYD=240.2  DA=0.0125
                    %A=0.0  %B=9.0  %C=20.0  %D=71.0  TP=0.19
                    MASS RAINFALL=-1
PRINT HYD           ID=4   CODE=1
** ADD  FLOW FROM AREA 240.2 TO ROUTED FLOW IN SWALE NORTH OF CENTRAL
ADD HYD             ID=5  HYDROGRAPH NO=240.21  ID I=4  ID II=3
PRINT HYD           ID=5  CODE=1
** ROUTE FLOW DOWN SWALE NORTH OF CENTRAL AVE TO CULVERTS CROSSING CENTRAL
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                    MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=102 FT
                    CHANNEL SLOPE=0.0025 FLOOD PLAIN SLOPE=0.0025
                    N=0.025  DIST=22
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   102.0    1     101.9  11.0   100.0  15.0  100.1
                     25   101.9   26     102.0
COMPUTE TRAVEL TIME ID=15  REACH NO=1  VALLEY SECTIONS=1
                    LENGTH=300  SLOPE=0.0025
ROUTE               ID=15  HYDROGRAPH NO=240.22 INFLOW ID=5  DT=0.0
PRINT HYD           ID=15  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 240.3
COMPUTE NM HYD      ID=3  HYD=240.3   DA=0.0080
                    %A=0.0  %B=10.0  %C=10.00  %D=80.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=3   CODE=1
** ROUTE FLOW THRU AN  ASSUMED POND WITH A PEAK DISCHARGE OF 12.85 CFS
ROUTE RESERVOIR     ID=20  HYDROGRAPH NO=240.31  INFLOW ID=3  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                         0             0              100.0
                         7.45          0.04           101.0
                        10.54          0.10           102.0
                        12.85          0.16           103.0
                        20.00          1.50           104.0
PRINT HYD           ID=20  CODE=1
** ROUTE FLOW DOWN SWALE NORTH OF CENTRAL AVE
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                    MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=102 FT
                    CHANNEL SLOPE=0.0025 FLOOD PLAIN SLOPE=0.0025
                    N=0.025  DIST=22
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   102.0    1     101.9  11.0   100.0  21.0  101.9
                    22.0  102.0
COMPUTE TRAVEL TIME ID=4  REACH NO=1  VALLEY SECTIONS=1
                    LENGTH=350  SLOPE=0.0025
ROUTE               ID=4  HYDROGRAPH NO=240.32  INFLOW ID=20  DT=0.0
PRINT HYD           ID=4  CODE=1
** ADD  ROUTED FLOW IN THE SWALE FROM THE EAST TO ROUTED FLOW FROM THE WEST AT
** ENTRANCE TO THE 3 - 36" DIA CULVERTS
ADD HYD             ID=16  HYDROGRAPH NO=240.33 ID I=4  ID II=15
PRINT HYD           ID=16  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 240.4
```

```
COMPUTE NM HYD        ID=2  HYD=240.4   DA=0.0231
                      %A=0.0  %B=5.0  %C=35.00  %D=60.0  TP=0.21
                      MASS RAINFALL=-1
PRINT HYD             ID=2  CODE=1
** ROUTE FLOW THROUGH THE EXISTING RETENTION POND ON THE CHURCH PROPERTY.
** POND VOLUME TAKEN FROM DRAINAGE PLAN FOR CHURCH SITE. ASSUME FREE DISCHARGE
** OF FLOW FROM POND AFTER POND STAGE REACHES ELEV. 5088
ROUTE RESERVOIR       ID=3  HYDROGRAPH NO=240.41  INFLOW ID=2  CODE=5
                      OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                            0              0              5083.0
                            0.01          1.19            5088.0
                          100.00          1.191           5088.01
                          100.01          1.192           5089.0
PRINT HYD             ID=3  CODE=1
** ADD  ROUTED FLOW IN THE SWALE TO FLOW FROM AREA 240.4
ADD HYD               ID=15  HYDROGRAPH NO=240.42  ID I=3  ID II=16
PRINT HYD             ID=15  CODE=1
** COMPUTE HYDROGRAPH FOR THE NORTH SIDE OF CENTRAL AVE BETWEEN UNSER & AIRPORT
COMPUTE NM HYD        ID=4  HYD=240.5  DA=0.0093
                      %A=0.0  %B=0.0  %C=10.0  %D=90.0  TP=0.14
                      MASS RAINFALL=-1
PRINT HYD             ID=4  code=1
** ADD FLOW FROM THE NORTH SIDE OF CENTRAL AVE. TO FLOW IN SWALE AT THE NORTH
** SIDE OF CENTRAL AVE. THIS IS THE TOTAL FLOW AT THE ENTRANCE TO THE 3 - 36"
** CULVERTS WHICH CROSS CENTRAL
ADD HYD               ID=16  HYDROGRAPH NO=240.51 ID I=4  ID II=15
PRINT HYD             ID=16  CODE=1
** ROUTE FLOW THROUGH THE SWALE AND THE VOLUME OF THE RETENTION POND AND
** PARKING AREA WHICH IS LOCATED ABOVE ELEVATION 5088 . ASSUME FLOW FROM THIS
** AREA IS CONTROLED BY THE ENTRANCE OF THE 3 - 36" CULVERTS
ROUTE RESERVOIR       ID=15  HYDROGRAPH NO=240.52  INFLOW ID=16 CODE=5
                      OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                            0              0              5085.9
                           21            0.046           5087.0
                           60            0.127           5088.0
                          105            0.647           5089.0
                          150            1.437           5090.0
PRINT HYD             ID=15  CODE=1
** ROUTE FLOW FROM THE NORTH SIDE OF CENTRAL THROUGH 3 EXISTING 36" CULVERTS TO
** THE SOUTH SIDE OF CENTRAL.  SLOPE UNKNOWN ASSUME 0.005. USE 1 54" PIPE AS
** EQUIVILANT CONVEYANCE.
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.005
                      PIPE DIA=4.5  N=0.013
COMPUTE TRAVEL TIME ID=5  REACH=1  NUMBER OF VALLEY SECTIONS=1
                      LENGTH=140 FT  SLOPE=0.005
ROUTE                 ID=5  HYDROGRAPH NO=240.53  INFLOW ID=15  DT=0.0
PRINT HYD             ID=5  CODE=1
** COMPUTE HYDROGRAPH FOR THE SOUTH SIDE OF CENTRAL AVE BETWEEN UNSER & AIRPORT
COMPUTE NM HYD        ID=2  HYD=240.6  DA=0.0065
                      %A=0.0  %B=0.0  %C=10.0  %D=90.0  TP=0.14
                      MASS RAINFALL=-1
PRINT HYD             ID=2  code=1
*****************************************************************************
*S BEGIN AREA SOUTH OF CENTRAL AVENUE BETWEEN UNSER AND AIRPORT
```

```
** ASSUME A CHANNEL WILL BE CONSTRUCTED BETWEEN THE CULVERTS AT CENTRAL AVE
** AND THE COORS CONNECTION STORM DRAIN
*****************************************************************************
** ADD FLOW FROM THE SOUTH SIDE OF CENTRAL TO THE ROUTED FLOW FROM THE NORTH
** SIDE OF CENTRAL
ADD HYD              ID=3  HYDROGRAPH NO=240.61  ID I=2  ID II=5
PRINT HYD            ID=3  CODE=1
** ROUTE FLOW DOWN AN ASSUMED CHANNEL FROM THE SOUTH SIDE OF CENTRAL
** TO THE SOUTH EAST CORNER OF AREA 250.1
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                     CHANNEL SLOPE=0.0070  FLOOD PLAIN SLOPE=0.0070
                     N=0.013  DIST=50.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=4  REACH NO=1  VALLEY SECTIONS=1
                     LENGTH=700  SLOPE=0.0070
ROUTE                ID=4  HYDROGRAPH NO=240.62  INFLOW ID=3  DT=0.0
PRINT HYD            ID=4  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 250.1
COMPUTE NM HYD       ID=2  HYD=250.1   DA=0.0247
                     %A=0.0  %B=10.0  %C=10.0  %D=80.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=2  code=1
** ADD FLOW FROM AREA 250.1 TO FLOW IN THE ASSUMED CHANNEL AT THE SOUTH EAST
** CORNER OF AREA 250.1
ADD HYD              ID=3  HYDROGRAPH NO=250.11  ID I=4  ID II=2
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 250.2
COMPUTE NM HYD       ID=2  HYD=250.2  DA=0.0079
                     %A=0.0  %B=20.0  %C=45.0  %D=35.0  TP=0.15
                     MASS RAINFALL=-1
PRINT HYD            ID=2  code=1
** ADD FLOW FROM AREA 250.2 TO FLOW IN THE ASSUMED CHANNEL AT SOUTH EAST
** CORNER OF AREA 250.1
ADD HYD              ID=4  HYDROGRAPH NO=250.21 ID I=3  ID II=2
PRINT HYD            ID=4  CODE=1
** ROUTE FLOW DOWN ASSUMED CHANNEL FROM THE SOUTH EAST CORNER OF
** OF AREA 250.1 TO THE SOUTH LINE OF AREA 260.1
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                     CHANNEL SLOPE=0.0070  FLOOD PLAIN SLOPE=0.0070
                     N=0.013  DIST=50.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=3  REACH NO=1  VALLEY SECTIONS=1
                     LENGTH=350  SLOPE=0.007
ROUTE                ID=3  HYDROGRAPH NO=250.22  INFLOW ID=4  DT=0.0
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 260.1
COMPUTE NM HYD       ID=2  HYD=260.1  DA=0.0398
                     %A=0.0  %B=15.0  %C=10.0  %D=75.0  TP=0.1333
```

```
                    MASS RAINFALL=-1
PRINT HYD           ID=2  code=1
** ADD FLOW FROM AREA 260.1 TO FLOW IN ASSUMED CHANNEL AT THE SOUTH LINE OF
** AREA 260.1
ADD HYD             ID=4  HYDROGRAPH NO=260.11 ID I=2  ID II=3
PRINT HYD           ID=4  CODE=1
** ROUTE FLOW DOWN ASSUMED CHANNEL FROM THE SOUTH LINE
** OF AREA 260.1 TO THE SOUTH EAST CORNER OF AREA 270.1
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                    MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                    CHANNEL SLOPE=0.0025  FLOOD PLAIN SLOPE=0.0025
                    N=0.013  DIST=50.0
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                    48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=2  REACH NO=1  VALLEY SECTIONS=1
                    LENGTH=800  SLOPE=0.025
ROUTE               ID=2  HYDROGRAPH NO=260.12  INFLOW ID=4  DT=0.0
PRINT HYD           ID=2  CODE=1
** COMPUTE HYDOGRAPH FOR AREA 270.1. ASSUME ALL FLOW FROM THIS AREA WILL BE
** ROUTED TO THE SOUTH TO COORS STORM DRAIN
COMPUTE NM HYD      ID=3  HYD=270.1  DA=0.0222
                    %A=0.0  %B=15.0  %C=10.0  %D=75.0          TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=3 CODE=1
** ADD BASIN 270.1 FLOW TO THE ROUTED FLOW IN THE ASSUMED CHANNEL FROM THE WEST
** AT THE SOUTHEAST CORNER OF BASIN 270.1
ADD HYD             ID=4  HYDROGRAPH NO=270.11  ID I=3  ID II=2
PRINT HYD           ID=4  CODE=1
** ROUTE THE TOTAL FLOW IN THE ASSUMED CHANNEL FROM THE WEST THRU AN
** ASSUMED DETENTION BASIN
ROUTE RESERVOIR     ID=20  HYDROGRAPH NO=270.12 INFLOW ID=4  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                         0             0              100.0
                        87.0           1.40           101.0
                       116.0           3.00           102.0
                       145.0           5.00           103.0
                       200.0           6.50           104.0
PRINT HYD           ID=20  CODE=1
** ADD THE DETAINED FLOW FROM THE CHANNEL FROM THE WEST TO THE COORS STORM
** DRAIN AT STATION 75+79
ADD HYD             ID=10  HYDROGRAPH NO=270.13  ID I=20  ID II=11
PRINT HYD           ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 270.2 COORS BLVD R.W. STA 89+20 TO STA 76+15
COMPUTE NM HYD      ID=3  HYD=270.2  DA=0.0071
                    %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=3  code=1
** ASSMUME HGL AT STREET LEVEL IN THE 100 YEAR STORM. MOST FLOW FROM AREA
** 270.2 BYPASSSES INLETS AND FLOWS IN STREET
** HYD 270.21 = FLOW TO THE COORS STORM DRAIN
** HYD 270.22 = FLOW TO REMAIN IN COORS
DIVIDE HYD          ID=3  Q=2.00   ID I=2  HYD I=270.21
                                  ID II=4 HYD II=270.22
```

```
PRINT HYD            ID=2 CODE=1
PRINT HYD            ID=4  CODE=1
** ADD A PORTION OF THE AREA 270.3 FLOW TO THE STORM DRAIN AT THE MANHOLE  AT
** STA. 75+80
ADD HYD              ID=3  HYDROGRAPH NO=270.23 ID I=10 ID II=2
PRINT HYD            ID=3  CODE=1
** ROUTE FLOW IN STORM DRAIN FROM COORS STORM DRAIN M.H. AT STA 75+80
** TO COORS S.D. MANHOLE AT STA 71+29 PRESURE FLOW USE FRICTION SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0303
                     PIPE DIA=4.5  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=450 FT  SLOPE=0.0303
ROUTE                ID=10  HYDROGRAPH NO=270.24  INFLOW ID=3  DT=0.0
PRINT HYD            ID=10  CODE=1
** ROUTE THE REMAINING FLOW FROM AREA 270.2  DOWN COORS BLVD FROM STA 75+80 TO
** STA 71+29
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=99.31 FT  MAXIMUM ELEV=101.17 FT
                     CHANNEL SLOPE=0.0215 FLOOD PLAIN SLOPE=0.0215
                     N=0.017  DIST=117.00
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   100.0    1     99.98  1.01   99.31  34.0   100.67
                     34.01  101.17  81.98 101.17 82.00 100.67  116.00 99.31
                     116.02  99.98  117.0  100.00
COMPUTE TRAVEL TIME ID=3  REACH NO=1  VALLEY SECTIONS=1
                     LENGTH=450  SLOPE=0.0215
ROUTE                ID=3  HYDROGRAPH NO=270.25  INFLOW ID=4  DT=0.0
PRINT HYD            ID=3  CODE=1
** ADD THE ROUTED FLOW IN THE STREET TO THE FLOW IN THE STORM DRAIN AT STA
** STA. 71+29
ADD HYD              ID=4  HYDROGRAPH NO=270.26 ID I=10 ID II=3
PRINT HYD            ID=4  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 280.1
COMPUTE NM HYD       ID=2  HYD=280.1  DA=0.0066
                     %A=0.0  %B=15.0  %C=10.0  %D=75.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=2  code=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A PEAK DISCHARGE OF 6.59 CFS
ROUTE RESERVOIR      ID=20  HYDROGRAPH NO=280.11  INFLOW ID=2  CODE=20
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0              0              100.0
                          3.8           0.06           101.0
                          5.4           0.13           102.0
                          6.6           0.22           103.0
                         10.00          1.50           104.0
PRINT HYD            ID=20  CODE=1
** ADD FLOW FROM AREA 280.1 TO FLOW IN COORS S.D MANHOLE  AT STA. 71+29
ADD HYD              ID=3  HYDROGRAPH NO=280.12 ID I=4  ID II=20
PRINT HYD            ID=3  CODE=1
** COMPUTE HYD. FOR  AREA 280.2 COORS BLVD R.W. FROM STA 76+15 TO STA 71+70
COMPUTE NM HYD       ID=4  HYD=280.2  DA=0.0025
                     %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=4  code=1
```

```
** ADD FLOW FROM AREA 280.2 TO FLOW IN COORS S.D AT MANHOLE  AT STA. 71+29
ADD HYD              ID=5  HYDROGRAPH NO=280.21 ID I=3  ID II=4
PRINT HYD            ID=5  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 280.3 A PORTION OF AIRPORT DRIVE
COMPUTE NM HYD       ID=6  HYD=280.3  DA=0.0045
                     %A=20.0  %B=30.0  %C=0.0  %D=50.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=6  code=1
** ADD FLOW FROM AREA 280.3 TO FLOW IN COORS S.D AT MANHOLE  AT STA. 71+29
ADD HYD              ID=7  HYDROGRAPH NO=280.31 ID I=5  ID II=6
PRINT HYD            ID=7  CODE=1
** ROUTE FLOW IN STORM DRAIN FROM COORS STORM DRAIN M.H. AT STA 71+29
** TO COORS S.D. MANHOLE AT STA 66+79
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.010
                     PIPE DIA=6.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=450   SLOPE=0.010
ROUTE                ID=10  HYDROGRAPH NO=280.32  INFLOW ID=7  DT=0.0
PRINT HYD            ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 290.1
COMPUTE NM HYD       ID=2  HYD=290.1  DA=0.03144
                     %A=0.0  %B=35.00  %C=10.0  %D=55.0  TP=0.1333
                     MASS RAINFALL=-1
PRINT HYD            ID=2  code=1
** ROUTE FLOW THRU AN ASSUMED POND WITH A PEAK DISCHARGE OF 28.8 CFS
ROUTE RESERVOIR      ID=20  HYDROGRAPH NO=290.11 INFLOW ID=2  CODE=20
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0              0              100.0
                         16.7           0.22            101.0
                         23.6           0.50            102.0
                         28.8           0.88            103.0
                         35.0           4.00            104.0
PRINT HYD            ID=20  CODE=1
** ADD FLOW FROM AREA 290.1 TO FLOW IN COORS S.D MANHOLE  AT STA. 66+79
ADD HYD              ID=3  HYDROGRAPH NO=290.12 ID I=10  ID II=20
PRINT HYD            ID=3  CODE=1
** ROUTE FLOW IN STORM DRAIN FROM COORS STORM DRAIN M.H. AT STA 66+79
** TO COORS S.D. MANHOLE AT STA 62+29
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.075
                     PIPE DIA=6.0  N=0.013
COMPUTE TRAVEL TIME ID=4  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=450   SLOPE=0.075
ROUTE                ID=4  HYDROGRAPH NO=290.13 INFLOW ID=3  DT=0.0
PRINT HYD            ID=4  CODE=1
** ROUTE FLOW IN STORM DRAIN FROM COORS STORM DRAIN M.H. AT STA 62.29
** TO COORS S.D. MANHOLE AT STA 58+89
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0075
                     PIPE DIA=6.0  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=340   SLOPE=0.0075
ROUTE                ID=10  HYDROGRAPH NO=290.14  INFLOW ID=4  DT=0.
PRINT HYD            ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR AREA 290.2 COORS BLVD.RW FROM STA. 71+70 TO STA 59+40
COMPUTE NM HYD       ID=2  HYD=290.2  DA=0.0069
```

```
                    %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=2  code=1
** ADD FLOW FROM AREA 290.2 TO FLOW IN COORS S.D MANHOLE  AT STA. 58+89
ADD HYD             ID=3  HYDROGRAPH NO=290.21 ID I=10  ID II=2
PRINT HYD           ID=3  CODE=1
** ROUTE FLOW IN STORM DRAIN FROM COORS STORM DRAIN M.H. AT STA 58+89
** TO COORS S.D. MANHOLE AT STA 58+00
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0075
                    PIPE DIA=6.0  N=0.013
COMPUTE TRAVEL TIME ID=4  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=89  SLOPE=0.0075
ROUTE               ID=4  HYDROGRAPH NO=290.22  INFLOW ID=3  DT=0.050
PRINT HYD           ID=4  CODE=1
** ROUTE FLOW IN STORM DRAIN FROM COORS STORM DRAIN M.H. AT STA 58+00
** TO OUTLET AT POND AT STA 56+10 (170' LEFT)
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0075
                    PIPE DIA=6.0  N=0.013
COMPUTE TRAVEL TIME ID=5  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=248  SLOPE=0.0075
ROUTE               ID=5  HYDROGRAPH NO=290.23  INFLOW ID=4  DT=0.050
PRINT HYD           ID=5  CODE=1
FINISH
```

```
*****************************************************************************
*****************************************************************************
** FILE NAME: TBSDWI.HMI(TIERRA BAYITA STORM DRAIN WATERSHED INTERIM)
** CURRENT FILE UPDATED: 9-14-92
** ANALYSIS FOR ATRISCO BUSINESS PARK MASTER DRAINAGE PLAN
** UPPER WATERSHED OF THE FUTURE TIERRA BAYITA STORM DRAIN
** INCLUDES THE PROPOSED UNSER DIVERSION CHANNEL WATERSHED, THE UNSER STORM
** DRAIN WATERSHED AND TRACT A-1 OF ATRISCO BUSINESS PARK
** INTERIM CONDITION
*****************************************************************************
*****************************************************************************
START                 0.0 HOURS *****ONE HUNDRED YEAR SIX HOUR STORM******
RAINFALL              TYPE=1  0.0  1.87  2.20  0.00  DT=0.033333
**RAINFALL              TYPE=1  0.0  1.25  1.45  1.65    DT=0.033333
*****************************************************************************
*S BEGIN UNSER DIVERSION CHANNEL WATERSHED
*****************************************************************************
** ANALYSIS ASSUMPTIONS: OFFSITE WATERSHED IN EXISTING CONDITON
** LOT 1 IN EXISTING CONDITION
** LOT 2 UNDEVELOPED CONDITION WITH CONSERVATION TREATMENT APPLIED
** ASSUME PROPOSED UNSER DIVERSION CHANNEL IS HARD LINED WITH SOIL CEMENT
*****************************************************************************
** BEGIN OFFSITE WATERSHED NORTH OF THE FUTURE PROPOSED INTERSTATE 40
** INTERCEPTOR CHANNEL
*****************************************************************************
** COMPUTE  HYDROGRAPH BASIN 120.1 ************************************
COMPUTE NM HYD        ID=1  HYDROGRAPH NO=120.1  DA=0.0259
                      %A=100.0  %B=0.0  %C=0.0  %D=0.0  TP=0.133333
                      MASS RAINFALL=-1
PRINT HYD             ID=1  CODE=1
** COMPUTE  HYDROGRAPH BASIN 120.2 ***********************************************
COMPUTE NM HYD        ID=2  HYDROGRAPH NO=120.2 DA=0.0579
                      %A=100.0  %B=0.0  %C=0.0  %D=0.0  TP=0.193
                      MASS RAINFALL=-1
PRINT HYD             ID=2  CODE=1
** ADD HYDROGRAPHS FOR BASIN 120.1 AND BASIN 120.2
ADD HYD               ID=3  HYDROGRAPH NO=120.21 ID I=1  ID II=2
PRINT HYD             ID=3  CODE=1
** ROUTE FLOW DOWN ARROYO TO THE NORTH SIDE OF I-40
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=3
                      MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=106.0 FT
                      CHANNEL SLOPE=0.0229  FLOOD PLAIN SLOPE=0.0256
                      N=0.035  DIST=20  N=-0.030  DIST=55  N=0.035  DIST=75
                      DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                        0   106.0    20    105.0   30    100.0   45    100.0
                       55   105.0    75    106.0
COMPUTE TRAVEL TIME ID=4  REACH NO=1  VALLEY SECTIONS=1
                      LENGTH=1750 FT  SLOPE=0.0229
ROUTE                 ID=4  HYDROGRAPH NO=120.22 INFLOW ID=3  DT=0.033333
PRINT HYD             ID=4  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 120.3 ******************************************
COMPUTE NM HYD        ID=1  HYDROGRAPH NO=120.3  DA=0.0938
                      %A=100.0  %B=0.0  %C=0.0  %D=0.0  TP=0.2184
                      MASS RAINFALL=-1
```

```
PRINT HYD            ID=1  CODE=1
** ADD HYDROGRAPH FOR BASIN 120.3 TO ROUTED FLOW IN ARROYO N. OF I-40**********
ADD HYD              ID=2  HYDROGRAPH NO=120.31 ID I=1  ID II=4
PRINT HYD            ID=2  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 130.1 ******************************************
COMPUTE NM HYD       ID=3  HYDROGRAPH NO=130.1   DA=0.0743
                     %A=100.0  %B=0.0  %C=0.0  %D=0.0  TP=0.237
                     MASS RAINFALL=-1
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 130.2 ******************************************
COMPUTE NM HYD       ID=4  HYDROGRAPH NO=130.2  DA=0.0489
                     %A=100.0  %B=0.0  %C=0.0  %D=0.0  TP=0.1856
                     MASS RAINFALL=-1
PRINT HYD            ID=4  CODE=1
**COMPUTE HYDOGRAPH FOR BASIN 130.3 (SEGMENT OF NOLASCO STREET)***************
COMPUTE NM HYD       ID=5  HYDROGRAPH NO=130.3  DA=0.0047
                     %A=0.0  %B=0.0  %C=0.0  %D=100.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=5  CODE=1
** ADD BASINS 130.1 AND 130.2 HYDROGRAPHS***************************************
ADD HYD              ID=6  HYDROGRAPH NO=130.21 ID I=4  ID II=3
PRINT HYD            ID=6  CODE=1
** ADD BASIN 130.3 HYDROGRAPH TO BASIN 130.1 AND 130.2 COMBINED HYDRGRAPH *****
ADD HYD              ID=1  HYDROGRAPH NO=130.31 ID I=5  ID II=6
PRINT HYD            ID=1  CODE=1
** ROUTE FLOW FROM BASINS 130.1,130.2 AND 130.3 DOWN ARROYO TO THE NORTH SIDE
** OF I-40 *********************************************************************
COMPUTE RATING CURVE CID=2  VALLEY SECTION=1  NUMBER OF SEGMENTS=3
                     MINIMUM ELEV=53.3 FT  MAXIMUM ELEV=62.4 FT
                     CHANNEL SLOPE=0.0310  FLOOD PLAIN SLOPE=0.0333
                     N=0.035  DIST=20  N=-0.030  DIST=52  N=0.035  DIST=72
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   106.0    20    105.0    30   100.0   42    100.0
                      52   105.0    72    106.0
COMPUTE TRAVEL TIME ID=3  REACH NO=2  VALLEY SECTIONS=1
                     LENGTH=1500 FT  SLOPE=0.0310
ROUTE                ID=3  HYDROGRAPH NO=130.32  INFLOW ID=1  DT=0.033333
PRINT HYD            ID=3  CODE=1
**COMPUTE HYDROGRAPH FOR BASIN 130.4 ******************************************
COMPUTE NM HYD       ID=1  HYDROGRAPH NO=130.4  DA=0.0612
                     %A=100.0  %B=0.0  %C=0.0  %D=0.0  TP=0.1454
                     MASS RAINFALL=-1
PRINT HYD            ID=1  CODE=1
** ADD THE HYDOGRAPH FOR BASIN 130.4 TO THE ARROYO N. OF I-40******************
ADD HYD              ID=4  HYDROGRAPH NO=130.41  ID I=3  ID II=1
PRINT HYD            ID=4  CODE=1
*****************************************************************************
** BEGIN OFFSITE WATERSHED SOUTH OF FUTURE PROPOSED INTERSTATE 40
** INTERCEPTOR CHANNEL
*****************************************************************************
** ROUTE FLOWS THROUGH  BOX CULVERT UNDER I-40**********************************
COMPUTE RATING CURVE CID=3  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100 FT  MAXIMUM ELEV=112 FT
                     CHANNEL SLOPE=0.020  FLOOD PLAIN SLOPE=0.020
```

```
                    N=-0.013  DIST=20.1
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   108     0.10   100    10.1   100   10.15   108
                     11   108     11.1   100    20.0   100   20.1    108
COMPUTE TRAVEL TIME ID=1  REACH NO=3  VALLEY SECTIONS=1
                    LENGTH=350  FT  SLOPE=0.020
ROUTE               ID=1  HYDROGRAPH NO=130.42 INFLOW ID=4  DT=0.033333
PRINT HYD           ID=1  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 130.5 (PORTION OF I-40)************************
COMPUTE NM HYD      ID=3  HYDROGRAPH NO=130.5  DA=0.0104
                    %A=51.0  %B=0.0  %C=0.0  %D=49.0  TP=0.133333
                    MASS RAINFALL=-1
PRINT HYD           ID=3  CODE=1
** ADD BASIN 130.5 HYDROGRAPH TO ARROYO FLOW SOUTH OF I-40*********************
ADD HYD             ID=4  HYDROGRAPH NO=130.51 ID I=1  ID II=3
PRINT HYD           ID=4  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 130.6*******************************************
COMPUTE NM HYD      ID=1  HYDROGRAPH NO=130.6  DA=0.0544
                    %A=90.0  %B=10.0  %C=0.0  %D=0.0  TP=0.133333
                    MASS RAINFALL=-1
PRINT HYD           ID=1  CODE=1
** ROUTE FLOWS DOWN ARROYO FROM THE SOUTH SIDE OF I-40 TO SOUTH BOUNDARY OF **
** BASIN 130.6*****************************************************************
COMPUTE RATING CURVE CID=4  VALLEY SECTION=1  NUMBER OF SEGMENTS=3
                    MINIMUM ELEV=14.5 FT  MAXIMUM ELEV=30.0FT
                    CHANNEL SLOPE=0.0278  FLOOD PLAIN SLOPE=0.0286
                    N=0.035  DIST=20  N=-0.030  DIST=52 N=0.035 DIST=72
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   105.0     20   104.0   28    100.0   45    100.0
                     52   104.0     72   105.0
COMPUTE TRAVEL TIME ID=3  REACH NO=4  VALLEY SECTIONS=1
                    LENGTH=1800 FT  SLOPE=0.0278
ROUTE               ID=3  HYDROGRAPH NO=130.52 INFLOW ID=4  DT=0.033333
PRINT HYD           ID=3  CODE=1
** ADD THE HYDROGRAPH FOR BASIN 130.6 TO THE ARROYO FLOW************************
ADD HYD             ID=4  HYDROGRAPH NO=130.61 ID I=1  ID II=3
PRINT HYD           ID=4  CODE=1
**COMPUTE HYDROGRAPH FOR BASIN 130.7******************************************
COMPUTE NM HYD      ID=1  HYDROGRAPH NO=130.7  DA=0.0326
                    %A=100.0  %B=0.0  %C=0.0  %D=0.0  TP=0.133333
                    MASS RAINFALL=-1
PRINT HYD           ID=1  CODE=1
** ROUTE FLOWS IN ARROYO TO THE EAST BOUNDARY OF BASIN 130.7*******************
COMPUTE RATING CURVE CID=5  VALLEY SECTION=1  NUMBER OF SEGMENTS=3
                    MINIMUM ELEV=71.3 FT  MAXIMUM ELEV=75.0FT
                    CHANNEL SLOPE=0.0230 FLOOD PLAIN SLOPE=0.0286
                    N=0.035  DIST=40  N=-0.030  DIST=50 N=0.035 DIST=100
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   105.0     20   104.0   28    100.0   43    100.0
                     53   104.0     73   105.0
COMPUTE TRAVEL TIME ID=3  REACH NO=5  VALLEY SECTIONS=1
                    LENGTH=1000 FT  SLOPE=0.0230
ROUTE               ID=3  HYDROGRAPH NO=130.62  INFLOW ID=4  DT=0.033333
PRINT HYD           ID=3  CODE=1
```

```
** ADD HYDROGRAPH FOR BASIN 130.7 TO FLOW IN THE SOUTH ARROYO AT WEST BOUNDARY
** OF THE ATRISCO BUSINESS PARK
ADD HYD              ID=5  HYDROGRAPH NO=130.71 ID I=3  ID II=1
PRINT HYD            ID=5  CODE=1
** ROUTE FLOWS IN NORTH ARROYO FROM THE NORTH SIDE OF I-40 THROUGH 4X6X3 BOX
** CULVERTS TO THE SOUTH SIDE OF I-40
COMPUTE RATING CURVE CID=6  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=104FT
                     CHANNEL SLOPE=0.020 FLOOD PLAIN SLOPE=0.020
                     N=-0.013  DIST=20.1
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   104      0.1   100     6.0   100     6.1   104
                       7   104      7.1   100    13.0   100    13.1   104
                      14   104     14.1   100    20.0   100    20.1   104
COMPUTE TRAVEL TIME ID=3  REACH NO=6  VALLEY SECTIONS=1
                     LENGTH=300 FT  SLOPE=0.020
ROUTE                ID=3  HYDROGRAPH NO=120.31 INFLOW ID=2  DT=0.033333
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH BASIN 120.4 (A SEGMENT OF I-40)***************************
COMPUTE NM HYD       ID=1  HYDROGRAPH NO=120.4 DA=0.0091
                     %A=51.0  %B=0.0  %C=0.0  %D=49.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=1  CODE=1
** ADD HYDROGRAPH FOR BASIN 120.4 TO ARROYO FLOWS*******************************
ADD HYD              ID=2  HYDROGRAPH NO=120.41  ID I=3   ID II=1
PRINT HYD            ID=2  CODE=1
** ROUTE FLOWS IN ARROYO TO EAST BOUNDARY OF BASIN 120.5************************
COMPUTE RATING CURVE CID=6  VALLEY SECTION=1  NUMBER OF SEGMENTS=3
                     MINIMUM ELEV=3.8 FT  MAXIMUM ELEV=8.5FT
                     CHANNEL SLOPE=0.0244 FLOOD PLAIN SLOPE=0.0272
                     N=0.035  DIST=20.0 N=-0.030 DIST=57.0 N=0.035 DIST=77.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   106.0     20   105.0   30    100.0   47    100.0
                      57   105.0     77   106.0
COMPUTE TRAVEL TIME ID=1  REACH NO=7  VALLEY SECTIONS=1
                     LENGTH=1700 FT  SLOPE=0.0244
ROUTE                ID=1  HYDROGRAPH NO=120.42 INFLOW ID=2  DT=0.033333
PRINT HYD            ID=1  CODE=1
**COMPUTE HYDROGRAPH FOR BASIN 120.5 ******************************************
COMPUTE NM HYD       ID=2  HYDROGRAPH NO=120.5  DA=0.0162
                     %A=100.0  %B=0.0  %C=0.0  %D=0.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=2    CODE=1
** ADD HYDROGRAPH FOR BASIN 120.5 TO ARROYO FLOW AT WEST BOUNDARY OF ATRISCO
** BUSINESS PARK
ADD HYD              ID=3  HYDROGRAPH NO=120.51  ID I=2  ID II=1
PRINT HYD            ID=3  CODE=1
**COMPUTE HYDROGRAPH FOR BASIN 120.6******************************************
COMPUTE NM HYD       ID=6  HYDROGRAPH NO=120.6  DA=0.0313
                     %A=98.0  %B=0.0  %C=0.0  %D=2.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=6    CODE=1
** ADD HYDROGRAPH FOR BASIN 120.6 TO ARROYO FLOW AT WEST BOUNDARY OF ATRISCO
** BUSINESS PARK
```

```
ADD HYD              ID=7  HYDROGRAPH NO=120.61  ID I=3  ID II=6
PRINT HYD            ID=7  CODE=1
*************************************************************************
** BEGIN PROPOSED UNSER DIVERSION CHANNEL APPROXIMENTLY 900 LF NORTH OF LOS
** VOLCANES ROAD
*************************************************************************
** ROUTE FLOWS DOWN PROPOSED UNSER DIVERSION CHANNEL FROM NORTH ARROYO TO SOUTH
** ARROYO. USE AVERAGE SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                     CHANNEL SLOPE=0.015  FLOOD PLAIN SLOPE=0.015
                     N=0.017  DIST=50.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=10  REACH NO=8.1  VALLEY SECTIONS=1
                     LENGTH=600 FT  SLOPE=0.015
PRINT HYD            ID=10  CODE=1
ROUTE                ID=10  HYDROGRAPH NO=120.62  INFLOW ID=7  DT=0.0
** ADD SOUTH ARROYO FLOWS TO PROPOSED CHANNEL AT JUNCTION WITH SOUTH ARROYO****
ADD HYD              ID=11  HYDROGRAPH NO=130.72  ID I=10  ID II=5
PRINT HYD            ID=11  CODE=1
** ROUTE FLOWS DOWN PROPOSED UNSER DIVERSION CHANNEL TO LOS VOLCANES ROAD******
COMPUTE RATING CURVE CID=2  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                     CHANNEL SLOPE=0.0240  FLOOD PLAIN SLOPE=0.0240
                     N=0.017  DIST=50.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=10  REACH NO=8.2  VALLEY SECTIONS=1
                     LENGTH=340 FT  SLOPE=0.0240
ROUTE                ID=10  HYDROGRAPH NO=130.73 INFLOW ID=11  DT=0.0
PRINT HYD            ID=10  CODE=1
** ROUTE FLOWS DOWN PROPOSED UNSER DIVERSION CHANNEL TO BLUEWATER ROAD********
COMPUTE RATING CURVE CID=3  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                     CHANNEL SLOPE=0.01  FLOOD PLAIN SLOPE=0.01
                     N=0.017  DIST=50.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=11  REACH NO=8.3  VALLEY SECTIONS=1
                     LENGTH=1100 FT  SLOPE=0.0087
ROUTE                ID=11  HYDROGRAPH NO=130.74  INFLOW ID=10  DT=0.0
PRINT HYD            ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 140.1 ******************************************
COMPUTE NM HYD       ID=1  HYDROGRAPH NO=140.1 DA=0.0867
                     %A=90.0  %B=6.0  %C=4.0  %D=0.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=1  CODE=1
** ADD FLOWS FROM BASIN 140.1 WEST OF TRACT J TO THE PROPOSED UNSER DIVERSION
** CHANNEL
ADD HYD              ID=10  HYDROGRAPH NO=140.11  ID I=11  ID II=1
```

```
** ROUTE CHANNEL FLOW FROM BLUEWATER ROAD TO THE SOUTH LOT LINE OF LOT 2*******
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                     CHANNEL SLOPE=0.0036  FLOOD PLAIN SLOPE=0.0036
                     N=0.017  DIST=50.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=11  REACH NO=8.3  VALLEY SECTIONS=1
                     LENGTH=1100 FT  SLOPE=0.0036
ROUTE                ID=11  HYDROGRAPH NO=140.12  INFLOW ID=10  DT=0.0
PRINT HYD            ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 150.1
COMPUTE NM HYD       ID=1  HYDROGRAPH NO=150.1 DA=0.1448
                     %A=100.0  %B=0.0  %C=0.0  %D=0.0  TP=0.2285
                     MASS RAINFALL=-1
PRINT HYD            ID=1  CODE=1
** ADD FLOWS FROM BASIN 150.1 (WEST OF LOT 2) TO PROPOSED UNSER DIVERSION
** CHANNEL AT THE WEST LINE OF LOT2*****************************************
ADD HYD              ID=10  HYDROGRAPH NO=150.11 ID I=11  ID II=1
PRINT HYD            ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR LOT 2 (UNDEVELOPED CONDITION)*********************
COMPUTE NM HYD       ID=1  HYDROGRAPH NO=160.1  DA=0.0517
                     %A=90.0  %B=0.0  %C=10.0  %D=0.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=1  CODE=1
*S ASSUME ALL FLOWS FROM LOT 2 ARE RETAINED ONSITE
** ROUTE FLOWS DOWN PROPOSED UNSER DIVERSION CHANNEL FROM THE WEST LOT LINE OF
** LOT 2 TO THE EAST LOT LINE OF LOT 2
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                     CHANNEL SLOPE=0.018  FLOOD PLAIN SLOPE=0.018
                     N=0.0170  DIST=50.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=12 REACH NO=10  VALLEY SECTIONS=1
                     LENGTH=1300 FT  SLOPE=0.018
ROUTE                ID=12  HYDROGRAPH NO=160.11  INFLOW ID=10  DT=0.0
PRINT HYD            ID=12  CODE=1
** ROUTE CHANNEL FLOW FROM THE EAST LOT LINE OF LOT 2 TO A POINT  700 LF TO THE
** EAST
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                     CHANNEL SLOPE=0.015  FLOOD PLAIN SLOPE=0.015
                     N=0.0170  DIST=50.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=11 REACH NO=11  VALLEY SECTIONS=1
                     LENGTH=700 FT  SLOPE=0.015
ROUTE                ID=11  HYDROGRAPH NO=160.13  INFLOW ID=12  DT=0.0
PRINT HYD            ID=11  CODE=1
** ROUTE CHANNEL FLOW FROM APPROX. 500 LF WEST OF UNSER BOULEVARD TO UNSER BLVD
```

```
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                    MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                    CHANNEL SLOPE=0.0065  FLOOD PLAIN SLOPE=0.0065
                    N=0.017  DIST=50.0
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                    48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=10  REACH NO=12  VALLEY SECTIONS=1
                    LENGTH=500 FT  SLOPE=0.0065
ROUTE               ID=10  HYDROGRAPH NO=160.14  INFLOW ID=11  DT=0.0
PRINT HYD           ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR LOT 1 FLOWS*******************************************
COMPUTE NM HYD      ID=1  HYDROGRAPH NO=160.2  DA=0.0350
                    %A=40.0  %B=5.0  %C=20.0  %D=35.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=1  CODE=1
** ROUTE LOT 1 FLOW THRU A THEORETICAL POND WITH A PEAK DISCHARGE OF 22 CFS
** APPROX 1.3 CFS PER ACRE
ROUTE RESERVOIR     ID=2  HYDROGRAPH NO=160.21 INFLOW ID=1  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                         0              0              100.0
                       21.99           0.01            101.0
                       22.00          10.00            103.0
PRINT HYD           ID=2  CODE=1
** ADD FLOWS FROM LOT 1 TO CHANNEL**********************************************
ADD HYD             ID=10  HYDROGRAPH NO=160.22 ID I=2 ID II=10
PRINT HYD           ID=10  CODE=1
** ROUTE THE FLOW IN THE PROPOSED UNSER DIVERSION CHANNEL THROUGH A TRAPAZOIDAL
** BOX CULVERT FROM THE WEST SIDE OF UNSER TO THE TIERRA BAYITA STORM DRAIN
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                    MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=104FT
                    CHANNEL SLOPE=0.005 FLOOD PLAIN SLOPE=0.005
                    N=-0.014  DIST=24
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   104      8.0   100    18.0   100    24.0   104
COMPUTE TRAVEL TIME ID=15  REACH NO=12  VALLEY SECTIONS=1
                    LENGTH=50 FT  SLOPE=0.005
ROUTE               ID=15  HYDROGRAPH NO=160.23 INFLOW ID=10 DT=0.033333
PRINT HYD           ID=15  CODE=1
*****************************************************************************
*****************************************************************************
*S BEGIN UNSER BOULEVARD STORM DRAIN SYSTEM BETWEEN I-40 AND THE FUTURE TIERRA
** BAYITA STORM DRAIN
*****************************************************************************
** ASSUMPTIONS: ALL WATER ON EAST SIDE OF UNSER IS INTERCEPTED BY THE STORM
** DRAIN EXCEPT THE FLOW WHICH IS IN EXCESS OF THE S.D. CAPACITY BELOW THE
** INLETS ADJACENT TO THE SAD 214 POND.
** FLOW IN EXCESS OF THE STORM DRAIN CAPACITY IN OTHER AREAS IS ASSUMED TO BE
** CARRIED IN THE WEST SIDE OF UNSER WITH A SMALL PORTION OF THE FLOW CROSSING
** OVER TO THE EAST SIDE AT THE INTERSECTION WITH BLUWATER.
** FLOWS FROM TRACT "T" ARE ASSUMED TO BE RETAINED ONSITE IN DITCH DIKES.
** FLOWS FROM TRACTS "J" AND TRACT "K" ARE ASSUMED TO ENTER THE
** STORM DRAIN AT THE INTERSECTION OF BLUEWATER AND UNSER. FLOW FROM
** THE PROPERTY SOUTH OF BLUEWATER ARE ASSUMED TO FLOW TO THE SOUTH
```

```
** TO THE PROPOSED UNSER DIVERSION CHANNEL.
*****************************************************************************
** COMPUTE HYDROGRAPH FOR BASIN 170.1 TRACT "T"(UNDEVELOPED CONDITION WITH
** CONSERVATION TREATMENT APPLIED)*********************************************
COMPUTE NM HYD      ID=2  HYD=170.1  DA==0.0633
                    %A=90.0  %B=00.0  %C=10.0  %D=00.0  TP=0.133333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
*S ASSUME ALL FLOWS FROM TRACT "T" ARE RETAINED ONSITE
** COMPUTE HYDROGRAPH FOR BASIN 170.2 THE WEST PORTION OF UNSER BOULEVARD
** AND HIGHWAY RIGHT OF WAY NORTH OF LOS VOLCANES
** ASSUME ALL WATER ABOVE THIS BASIN IS INTERCEPTED BY THE INLETS IN UNSER AND
** ROUTED TO THE HIGHWAY INTERCHANGE POND
COMPUTE NM HYD      ID=3  HYD=170.2  DA==0.0077
                    %A=0.0  %B=60.0  %C=0.0  %D=40.0  TP=0.133333
                    MASS RAINFALL=-1
PRINT HYD           ID=3 CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 170.3 LOS VOLCANES WEST OF UNSER
COMPUTE NM HYD      ID=4  HYD=170.3  DA==0.0037
                    %A=0.0  %B=10.0  %C=0.0  %D=90.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=4 CODE=1
** ADD THE HYDROGRAPHS FROM BASIN 170.2 AND 170.3
** AT THE INTERSECTION OF LOS VOLCANES AND UNSER
ADD HYD             ID=2  HYDROGRAPH NO=170.32  ID I=3  ID II=4
PRINT HYD           ID=2  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 170.4 THE EAST PORTION OF UNSER BOULEVARD
** AND HIGHWAY RIGHT OF WAY NORTH OF LOS VOLCANES
** ASSUME ALL WATER ABOVE THIS BASIN IS INTERCEPTED BY THE INLETS IN UNSER AND
** ROUTED TO THE HIGHWAY INTERCHANGE POND
COMPUTE NM HYD      ID=3  HYD=170.4  DA==0.0060
                    %A=0.0  %B=45.0  %C=0.0  %D=55.0  TP=0.133333
                    MASS RAINFALL=-1
PRINT HYD           ID=3 CODE=1
** ADD THE FLOW FROM THE EAST SIDE OF UNSER TO THE TOTAL FLOW ON THE WEST
** SIDE OF UNSER
ADD HYD             ID=5  HYDROGRAPH NO=170.43 ID I=2  ID II=3
PRINT HYD           ID=5  CODE=1
** DIVIDE OUT FLOW WHICH EXCEEDS THE NON PRESSURE PIPE CAPACITY OF THE DOWN
** STREAM PORTION OF UNSER BLVD STORM DRAIN. S.D.= 30" RCP MIN SLOPE = 0.01
** HYD 170.44 = FLOW TO UNSER STORM DRAIN
** HYD 170.45= FLOW TO REMAIN IN STREET
DIVIDE HYD          ID=5  Q=41.0  ID I=2    HYD I=170.44
                                 ID II=11  HYD II=170.45
PRINT HYD           ID=2  CODE=1
PRINT HYD           ID=11  CODE=1
** ROUTE THE FLOW IN THE UNSER BLVD STORM DRAIN FROM THE INTERSECTION OF
** LOS VOLCANES AND UNSER TO THE SECOND MANHOLE SOUTH OF THE INTERSECTION
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.010
                    PIPE DIA=30  N=0.013
COMPUTE TRAVEL TIME ID=1  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=447 FT  SLOPE=0.010
ROUTE               ID=1  HYDROGRAPH NO=170.46  INFLOW ID=2  DT=0.033333
PRINT HYD           ID=1  CODE=1
```

```
** ROUTE THE FLOW DOWN UNSER STORM DRAIN FROM THE SECOND M.H. SOUTH OF
** LOS VOLCANES TO THE THIRD MANHOLE SOUTH OF LOS VOLCANES
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.01744
                     PIPE DIA=30  N=0.013
COMPUTE TRAVEL TIME ID=3  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=450 FT  SLOPE=0.01744
ROUTE                ID=3  HYDROGRAPH NO=170.47  INFLOW ID=1  DT=0.033333
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 170.5 THE WEST HALF OF UNSER BOULEVARD BETWEEN
** LOS VOLCANES AND THE THIRD MANHOLE SOUTH OF THE INTERSECTION
COMPUTE NM HYD       ID=2  HYD=170.5  DA==0.0029
                     %A=0.0  %B=20.0  %C=0.0  %D=80.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ADD THE HYDROGRAPH FROM BASINS 170.5 TO THE ROUTED UNSER STORM DRAIN FLOW
ADD HYD              ID=4  HYDROGRAPH NO=170.51  ID I=2  ID II=3
PRINT HYD            ID=4  CODE=1
** ROUTE THE FLOW IN THE STREET FROM THE LOS VOLCANES & UNSER INTERSECTION TO
** THE THIRD MANHOLE SOUTH OF THE INTERSECTION. USE AVERAGE SLOPE.USE FUTURE
** CROSS SECTION AS SHOWN ON SAD 214 DRAINAGE PLAN SHEET. ADD EXISTING SIDEWALK
** ALONG CURB. ASSUME ALL FLOW THAT COULD NOT ENTER THE STORM DRAIN AT
** LOS VOLCANES REMAINS ON THE WEST SIDE OF THE STREET.
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=3
                     MINIMUM ELEV=100.00 FT  MAXIMUM ELEV=100.87 FT
                     CHANNEL SLOPE=0.013  FLOOD PLAIN SLOPE=0.0129
                     N=0.035  DIST=5  N=0.017  DIST=10  N=-0.017  DIST=46.15
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   100.87   5     100.77  10    100.67  10.15 100.00
                      12    100.13  46    100.81  46.15 100.31
COMPUTE TRAVEL TIME ID=2  REACH NO=1  VALLEY SECTIONS=1
                     LENGTH=950 FT  SLOPE=0.0129
ROUTE                ID=2  HYDROGRAPH NO=170.48  INFLOW ID=11 DT=0.033333
PRINT HYD            ID=2  CODE=1
** ADD THE ROUTED FLOW IN THE STREET TO THE TOTAL FLOW ON THE WEST SIDE OF
** UNSER BOULEVARD @ THE THIRD MANHOLE SOUTH OF LOS VOLCANES
ADD HYD              ID=3  HYDROGRAPH NO=170.52  ID I=4  ID II=2
PRINT HYD            ID=3  CODE=1
** DIVIDE OUT FLOW WHICH EXCEEDS THE NON PRESSURE PIPE CAPACITY OF THE DOWN
** STREAM PORTION OF UNSER BLVD STORM DRAIN. S.D.= 36" RCP MIN. SLOPE = 0.0148
** HYD 170.53= FLOW TO UNSER STORM DRAIN
** HYD 170.54= FLOW TO REMAIN IN STREET
DIVIDE HYD           ID=5  Q=81.00  ID I=2    HYD I=170.53
                                   ID II=11  HYD II=170.54
PRINT HYD            ID=2  CODE=1
PRINT HYD            ID=11  CODE=1
** ROUTE THE FLOW IN THE UNSER BLVD STORM DRAIN FROM THE THIRD MANHOLE SOUTH
** OF LOS VOLCANES TO THE FIRST MANHOLE SOUTH OF THE INTERSECTION OF BLUEWATER
** AND UNSER. USE AVERAGE SLOPE.
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.016
                     PIPE DIA=36  N=0.013
COMPUTE TRAVEL TIME ID=3  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=795 FT  SLOPE=0.016
ROUTE                ID=3  HYDROGRAPH NO=170.55  INFLOW ID=2  DT=0.033333
PRINT HYD            ID=3  CODE=1
```

```
** COMPUTE HYDROGRAPH FOR BASIN 170.6 THE WEST PORTION OF UNSER BOULEVARD
** BETWEEN THE THIRD MANHOLE SOUTH OF LOS VOLCANES AND THE INTERSECTION OF
** BLUEWATER AND UNSER
COMPUTE NM HYD       ID=2  HYD=170.6  DA==0.0018
                     %A=0.0  %B=20.0  %C=0.0  %D=80.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2  CODE=1
** ADD THE HYDROGRAPH FROM BASINS 170.6 TO THE UNSER STORM DRAIN FLOW
ADD HYD              ID=4  HYDROGRAPH NO=170.61  ID I=2  ID II=3
PRINT HYD            ID=4  CODE=1
**COMPUTE A HYDROGRAPH FOR TRACTS "J" AND "K", THE RIO GRANDE ALBUQUERQUE SITE
COMPUTE NM HYD       ID=2  HYD=170.7  DA==0.0859
                     %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2  CODE=1
** ROUTE FLOW FROM tracts "J" AND "K" THRU AN ASSUMED POND
** ALLOWABLE RELEASE RATE=56.6 cfs PER THE SAD 214 DRAINAGE PLAN
ROUTE RESERVOIR      ID=3 HYDROGRAPH NO=170.71  INFLOW ID=2  CODE=5
                     OUTFLOW(cfs)    STORAGE(ac ft)    ELEV(ft)
                        0.00            0.00             100.00
                       31.13            1.03             101.00
                       46.41            2.46             102.00
                       56.60            4.10             103.00
                       65.00            6.00             104.00
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 170.8 BLUEWATER RD.FROM THE WEST BOUNDARY OF
** ATRISCO BUSINESS PARK TO UNSER BOULEVARD
COMPUTE NM HYD       ID=2  HYD=170.8  DA==0.0054 SQ MI
                     %A=0.0  %B=10.0  %C=0.0  %D=90.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ADD THE FLOW FROM BLUEWATER RD. TO THE CONTROLED FLOW FROM TRACTS "J" & "K"
ADD HYD              ID=5  HYDROGRAPH NO=170.81  ID I=3  ID II=2
PRINT HYD            ID=5  CODE=1
** ADD THE COMBINED FLOW FROM TRACTS "J" AND "K" & BLUEWATER ROAD TO THE FLOW
** IN STORM DRAIN AT THE UNSER &  BLUEWATER INTERSECTION
ADD HYD              ID=2  HYDROGRAPH NO=170.82  ID I=4  ID II=5
PRINT HYD            ID=2  CODE=1
** COMPUTE A HYDROGRAPH FOR THE EAST SIDE OF UNSER BLVD. BETWEEN LOS VOLCANES
** AND BLUWATER
COMPUTE NM HYD       ID=3  HYD=170.9  DA==0.0047 SQ MI
                     %A=0.0  %B=20.0  %C=0.0  %D=80.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
** ADD THE FLOW FROM THE EAST SIDE OF UNSER TO THE TOTAL FLOW IN THE STORM
** DRAIN AND IN THE STREET AT THE INTERSECTION OF BLUEWATER AND UNSER
ADD HYD              ID=4  HYDROGRAPH NO=170.91  ID I=3  ID II=2
PRINT HYD            ID=4  CODE=1
** DIVIDE OUT FLOW WHICH EXCEEDS THE NON PRESSURE PIPE CAPACITY OF THE DOWN
** STREAM PORTION OF UNSER BLVD STORM DRAIN. S.D.= 42" RCP MIN. SLOPE = 0.00842
** HYD 170.92= FLOW TO UNSER STORM DRAIN
** HYD 170.93= FLOW TO REMAIN IN STREET
DIVIDE HYD           ID=4  Q=92     ID I=2   HYD I=170.92
                                   ID II=10  HYD II=170.93
```

```
PRINT HYD            ID=2  CODE=1
PRINT HYD            ID=10  CODE=1
** DIVIDE OUT THE STREET FLOW WHICH MAY CROSS FROM THE WEST SIDE TO THE EAST
** SIDE OF UNSER BOULEVARD AT THE INTERSECTION WITH BLUEWATER. PLANS FOR
** UNSER BOULEVARD SHOW 0.3' DIFFERENTIAL BETWEEN THE FLOW LINE ELEVATION AND
** THE CROWN ELEVATION AT THE CENTER OF THE INTERSECTION. ESTIMATE CROSSOVER
** FLOW UTILIZING A BROAD CRESTED WIER FORMULA.
** HYD 170.94= FLOW TO CROSS OVER TO EAST SIDE OF STREET
** HYD 170.95= FLOW TO REMAIN ON WEST SIDE OF STREET
DIVIDE HYD           ID=10  Q=48.0  ID I=11   HYD I=170.95
                                   ID II=3  HYD II=170.94
PRINT HYD            ID=3  CODE=1
PRINT HYD            ID=11  CODE=1
** ROUTE THE STREET FLOW ON THE EAST SIDE OF UNSER BLVD. FROM THE INTERSECTION
** WITH BLUEWATER TO THE INLETS ADJACENT TO THE SAD  214 POND. USE THE FUTURE
** STREET SECTION AS SHOWN ON SAD 214 DRAINAGE PLAN SHEET. ADD EXISTING
** SIDEWALK ALONG CURB. USE AN AVERAGE STREET SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=3
                     MINIMUM ELEV=100.00 FT  MAXIMUM ELEV=100.87 FT
                     CHANNEL SLOPE=0.0130  FLOOD PLAIN SLOPE=0.0130
                     N=0.035  DIST=5  N=0.017  DIST=10  N=-0.017  DIST=46.15
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   100.87   5     100.77  10    100.67  10.15 100.00
                      12    100.13  46    100.81  46.15 100.31
COMPUTE TRAVEL TIME ID=4  REACH NO=1  VALLEY SECTIONS=1
                     LENGTH=700 FT  SLOPE=0.0130
ROUTE                ID=4  HYDROGRAPH NO=170.96  INFLOW ID=3 DT=0.033333
PRINT HYD            ID=4  CODE=1
** ROUTE FLOW DOWN UNSER STORM DRAIN FROM THE INTERSECTION OF UNSER AND
** BLUEWATER TO THE JUNCTION WITH THE INLETS NEAR THE SAD 214 POND
** USE AVERAGE SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0093
                     PIPE DIA=42  N=0.013
COMPUTE TRAVEL TIME ID=3  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=688 FT  SLOPE=0.0093
ROUTE                ID=3  HYDROGRAPH NO=170.97  INFLOW ID=2  DT=0.033333
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR THE EAST SIDE OF UNSER BOULEVARD BETWEEN BLUEWATER
** ROAD AND THE INLETS ADJACENT TO THE SAD 214 POND
COMPUTE NM HYD       ID=2  HYD=171.1 DA=0.0021
                     %A=0.0  %B=10.0  %C=0.0  %D=90.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ADD THE FLOW FROM BASIN 171.1 TO THE ROUTED STREET FLOW ON THE EAST SIDE OF
** UNSER AT THE INLETS ADJACENT TO THE SAD 214 POND
ADD HYD              ID=5  HYDROGRAPH NO=171.11 ID I=4  ID II=2
PRINT HYD            ID=5  CODE=1
** ADD THE TOTAL STREET FLOW ON THE EAST SIDE OF UNSER TO THE ROUTED FLOW IN
** UNSER STORM DRAIN
ADD HYD              ID=2  HYDROGRAPH NO=171.12 ID I=3  ID II=5
PRINT HYD            ID=2  CODE=1
** DIVIDE OUT FLOW WHICH EXCEEDS THE FULL PIPE CAPACITY OF THE DOWN
** STREAM PORTION OF UNSER BLVD STORM DRAIN. S.D.= 42" RCP MIN SLOPE = 0.00993
** HYD 171.13 = FLOW TO UNSER STORM DRAIN
```

```
** HYD 171.14 = FLOW TO REMAIN IN STREET
DIVIDE HYD          ID=2   Q=100  ID I=3    HYD I=171.13
                                 ID II=4    HYD II=171.14
PRINT HYD           ID=3  CODE=1
PRINT HYD           ID=4  CODE=1                                          *
PLOT HYD            ID=3  ID=0      Q SCALE=500     T SCALE=5.0
** ROUTE FLOW DOWN UNSER STORM DRAIN FROM THE JUNCTION WITH THE INLETS ADJACENT
** TO THE SAD 214 POND TO THE JUNCTION WITH THE FUTURE TIERRA BAYITA S.D.
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.00993
                    PIPE DIA=42  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=100 FT  SLOPE=0.00993
ROUTE               ID=10 HYDROGRAPH NO=171.15  INFLOW ID=3  DT=0.033333
PRINT HYD           ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR THE WEST SIDE OF UNSER BOULEVARD BETWEEN BLUEWATER
** ROAD AND THE INLETS ADJACENT TO THE SAD 214 POND
COMPUTE NM HYD      ID=3  HYD=171.0 DA=0.0022
                    %A=0.0  %B=10.0  %C=0.0  %D=90.0  TP=0.133333
                    MASS RAINFALL=-1
PRINT HYD           ID=3 CODE=1
** ROUTE THE STREET FLOW ON THE WEST SIDE OF UNSER BLVD. FROM THE INTERSECTION
** WITH BLUEWATER TO THE INLETS ADJACENT TO THE SAD  214 POND. USE THE FUTURE
** STREET SECTION AS SHOWN ON SAD 214 DRAINAGE PLAN SHEET. ADD EXISTING
** SIDEWALK ALONG CURB. USE AN AVERAGE STREET SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=3
                    MINIMUM ELEV=100.00 FT  MAXIMUM ELEV=100.87 FT
                    CHANNEL SLOPE=0.0130  FLOOD PLAIN SLOPE=0.0130
                    N=0.035  DIST=5  N=0.017  DIST=10  N=-0.017  DIST=46.15
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   100.87   5     100.77  10    100.67  10.15 100.00
                     12    100.13  46    100.81  46.15 100.31
COMPUTE TRAVEL TIME ID=4  REACH NO=1  VALLEY SECTIONS=1
                    LENGTH=800 FT  SLOPE=0.0130
ROUTE               ID=4  HYDROGRAPH NO=171.01  INFLOW ID=11 DT=0.033333
PRINT HYD           ID=4  CODE=1
** ADD THE ROUTED STREET FLOW ON THE WEST SIDE OF UNSER TO THE FLOW FROM BASIN
** 170.0
ADD HYD             ID=2  HYDROGRAPH NO=171.02 ID I=3  ID II=4
PRINT HYD           ID=2  CODE=1
** DIVIDE OUT FLOW WHICH EXCEEDS THE CAPACITY OF THE CONNECTOR PIPE BETWEEN THE
** INLETS AND THE CULVERT CROSSING UNSER TO THE SAD 214 POND. PIPE IS AN 18"
** RCP. ESTIMATE CAPACITY ASSUMINING PRESSURE PIPE FLOW WITH HGL AT THE SOFFIT
** AT THE OUTLET END OF THE 18" PIPE
** HYD 171.03 = FLOW TO THE TIERRA BAYITA STORM DRAIN
** HYD 171.04 = FLOW TO REMAIN IN STREET
DIVIDE HYD          ID=2   Q=30   ID I=3    HYD I=171.03
                                 ID II=4    HYD II=171.04
PRINT HYD           ID=3  CODE=1
PRINT HYD           ID=4  CODE=1
** ADD THE INTERCEPTED FLOW FROM THE WEST SIDE OF UNSER TO THE FLOW FROM THE
** PROPOSED UNSER DIVERSION CHANNEL AT THE JUNCTION WITH THE FUTURE TIERRA
** BAYITA STORM DRAIN
ADD HYD             ID=16  HYDROGRAPH NO=171.05 ID I=15  ID II=3
PRINT HYD           ID=16  CODE=1
```

```
** ADD THE FLOW IN THE UNSER STORM DRAIN TO THE TOTAL FLOW AT THE JUNCTION
** WITH THE TIERRA BAYITA STORM DRAIN
ADD HYD              ID=11  HYDROGRAPH NO=171.06 ID I=16  ID II=10
PRINT HYD            ID=11  CODE=1
*************************************************************************

*************************************************************************
** ASSUME ALL OF THIS FLOW IS ROUTED THROUGH A JUCNTION VAULT BEFORE
** FLOW IS ROUTED TO THE ENLARGED S.A.D. 214 POND. THE TIERRA BAYITA S.D. IS
** ASSUMED TO BE CONNECTED TO THIS VAULT. THE PURPOSE OF THIS CONFIGURATION IS
** TO ACHIEVE HIGHER OUTFLOW FROM THE BASIN IN THE EARLY STAGES OF THE STORM
** WHEN OUTFLOW FROM THE S.A.D. 214 POND WOULD BE LIMITED DUE TO LOW HEAD.
** OUTFLOW CURVE BASED ON ORIFICE FLOW THROUGH 5.5' DIA ORIFICE INTO THE 72"
** DIA. PIPE PLUS A CONSTANT FLOW THROUGH A 24" DIA S.D. CONNECTION BETWEEN
** THE VAULT AND THE S.A.D. 214 POND WHEN FLOW TO THE VAULT EXCEEDS 310 CFS.
** FLOW THROUGH THE 24" DIA LINE BASED ON PRESSURE FLOW WITH FULL VAULT
** CONDITION AT THE INLET AND H.G.L. AT THE OUTLET AT THE SOFFIT OF THE PIPE.
** VAULT PLAN DIMENSIONS ESTIMATED AT 10' X 15'
*************************************************************************
ROUTE RESERVOIR      ID=10 HYDROGRAPH NO=172.0  INFLOW ID=11  CODE=5
                     OUTFLOW(cfs)    STORAGE(ac ft)    ELEV(ft)
                             0.0              0.00            5088.0
                            12.4             0.002            5088.5
                            17.6             0.003            5089.0
                            26.3             0.005            5089.5
                            40.3             0.007            5090.0
                            60.0             0.009            5090.5
                            82.0             0.010            5091.0
                           103.0             0.012            5091.5
                           124.0             0.014            5092.0
                           142.0             0.015            5092.5
                           164.0             0.017            5093.0
                           190.0             0.019            5093.5
                           206.0             0.021            5094.0
                           221.0             0.022            5094.5
                           236.0             0.024            5095.0
                           249.0             0.026            5095.5
                           262.0             0.028            5096.0
                     ADD   314.0             0.029            5096.5
                           325.0             0.031            5097.0
                           337.0             0.033            5097.5
                           348.0             0.034            5098.0
                           358.0             0.036            5098.5
                          1200.0             0.038            5099.0
PRINT HYD            ID=10  CODE=1
** DIVIDE OUT THE FLOW WHICH EXCEEDS THE CAPACITY OF THE 24" & 72" OUTFLOW
** PIPES AND SEND THAT FLOW TO THE POND
DIVIDE HYD           ID=10  Q=350  ID I=2    HYD I=172.01
                                  ID II=3    HYD II=172.02
PRINT HYD            ID=2  CODE=1
PRINT HYD            ID=3  CODE=1
** DIVIDE OUT THE FLOW WHICH EXCEEDS THE CAPACITY OF THE 72" OUTFLOW
** PIPE AND SEND THAT FLOW TO THE POND
DIVIDE HYD           ID=2   Q=310  ID I=4    HYD I=172.03
```

```
                                    ID II=5    HYD II=172.04
PRINT HYD            ID=4  CODE=1
PRINT HYD            ID=5  CODE=1
** ADD THE TWO FLOWS WHICH HAVE BEEN DIVIDED OUT
ADD HYD              ID=2  HYDROGRAPH NO=172.05 ID I=3 ID II=5
PRINT HYD            ID=2  CODE=2
** COMPUTE A HYDROGRAPH FOR TRACT A-1 (UNDEVELOPED CONDITION WITH CONSERVATION
** TREATMENT APPLIED)*****************************************************
COMPUTE NM HYD       ID=1  HYD=180.1  DA=0.0338
                     %A=90.0  %B=0.0  %C=10.0  %D=0.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
*S ASSUME ALL FLOWS FROM TRACT A-1 ARE RETAINED ONSITE*********************
** ROUTE THE FLOW FROM THE VAULT  INTO
** THE EXPANDED S.A.D. 214 POND. ASSUME  POND FOOT PRINT EXPANDED
** WITHIN EXISTING EASEMENT AND POND DEEPENED TO ELEV. 5090
** OUTFLOW CANNOT BE MODELED HERE AS IT WILL ONLY OCCUR AFTER THE INFLOW
** TO THE INLET VAULT DROPS BELOW 310 CFS. A VERY SMALL OUTLOW IS ENTERED
** IN THE STAGE STORAGE DISCHARGE TABLE TO SATISFY THE PROGRAM REQUIREMENTS
** THIS OUTFLOW IS NEGLIGABLE
ROUTE RESERVOIR      ID=11 HYDROGRAPH NO=501  INFLOW ID=2  CODE=24
                     OUTFLOW(cfs)    STORAGE(ac ft)    ELEV(ft)
                             0.0              0.00             5090
                             0.01             4.92             5093.0
                             0.02            10.97             5096.0
                             0.03            15.56             5098.0
                             0.04            18.02             5099.0
                             0.05            19.02             5099.4
                             0.06            30.00             5100.0
PRINT HYD            ID=11  CODE=1

FINISH
```

```
*****************************************************************************
*****************************************************************************
** FILE NAME: TBSDWD.HMI (TIERRA BAYITA STORM DRAIN WATERSHED DEVELOPED)
** CURRENT FILE UPDATED:9-14-92
** ANALYSIS FOR ATRISCO BUSINESS MASTER DRAINAGE PLAN
** UPPER WATERSHED OF THE FUTURE TIERRA BAYITA STORM DRAIN
** FULLY DEVELOPED CONDITION
** INCLUDES THE PROPOSED UNSER DIVERSION CHANNEL WATERSHED, THE UNSER STORM
** DRAIN WATERSHED AND TRACT A-1 OF ATRISCO BUSINESS PARK
** FLOWS NORTH OF I-40 ASSUMED TO BE CUT OFF BY FUTURE I-40 INTERCEPTER CHANNEL
*****************************************************************************
*****************************************************************************
START                 0.0 HOURS *****ONE HUNDRED YEAR SIX HOUR STORM******
RAINFALL              TYPE=1  0.0  1.87  2.20  0.00  DT=0.033333
**RAINFALL              TYPE=1  0.0  1.25  1.45  1.65    DT=0.033333
*****************************************************************************
*S BEGIN UNSER DIVERSION CHANNEL WATERSHED
*****************************************************************************
** ANALYSIS ASSUMPTIONS: OFFSITE WATERSHED IN FULLY DEVELOPED CONDITON*******
** LOT 1 AND LOT 2 OF THE ATRISCO BUSINESS PARK FULLY DEVELOPED**************
** LAND TREATMENT FACTORS SIMILAIR TO THE LAND USES REFLECTED IN THE CURVE
** NUMBERS USED IN THE WEST BLUFF STUDY.**************************************
** ASSUME PROPOSED UNSER DIVERSION CHANNEL IS HARD LINED WITH SOIL CEMENT****
** DUE TO LIMITED CAPACITY IN THE DOWNSTREAM TIERRA BAYITA STORM DRAIN OUTFALL
** FLOW TO THE UNSER DIVERSION CHANNEL IS CONSTRAINED.************************
** DUE TO LACK OF KNOWLEDGE OF HOW DRAINAGE FACILITIES WILL BE CONFIGURED IN
** THE WATERSHED LOCATED WEST OF THE UNSER DIVERSION CHANNEL A SHORT TIME TO
** PEAK IS ASSUMED. ROUTING THROUGH PONDS IS ACCOMPLISHED WITH THE PEAK ALLOWED
** DISCHARGE BEING DISCHARGED AS SOON AS IT IS AVAILABLE AT THE POND.********
*****************************************************************************
** COMPUTE HYDROGRAPH BASIN 120.1 (BASIN ABOVE DAYTONA)**********************
COMPUTE NM HYD        ID=1  HYDROGRAPH NO=120.0 DA=0.1031
                      %A=0.0  %B=15.0  %C=10.0  %D=75.0  TP=0.133333
                      MASS RAINFALL=-1
PRINT HYD             ID=1  CODE=1
** ROUTE FLOW THRU A THEORETICAL POND WITH A PEAK DISCHARGE OF 85.8 CFS
** APPROX 1.3 CFS PER ACRE
ROUTE RESERVOIR       ID=2  HYDROGRAPH NO=120.01  INFLOW ID=1  CODE=20
                      OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                           0              0              100.0
                          85.79          0.01            101.0
                          85.80          3.50            102.0
PRINT HYD             ID=2  CODE=1
*****************************************************************************
** BEGIN PROPOSED UNSER DIVERSION CHANNEL AT DAYTONA RD.
*****************************************************************************
** ROUTE FLOWS DOWN PROPOSED UNSER DIVERSION CHANNEL FROM DAYTONA ROAD
** USE AVERAGE SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                      MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                      CHANNEL SLOPE=0.015  FLOOD PLAIN SLOPE=0.015
                      N=0.017  DIST=50.0
                      DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
```

```
                        0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=10  REACH NO=1  VALLEY SECTIONS=1
                     LENGTH=600 FT  SLOPE=0.015
ROUTE                ID=10  HYDROGRAPH NO=120.02 INFLOW ID=2  DT=0.0
PRINT HYD            ID=10  CODE=1
** ROUTE FLOWS DOWN PROPOSED UNSER DIVERSION CHANNEL TO LOS VOLCANES ROAD******
COMPUTE RATING CURVE CID=2  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                     CHANNEL SLOPE=0.0240  FLOOD PLAIN SLOPE=0.0240
                     N=0.017  DIST=50.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                        0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=11  REACH NO=8.2  VALLEY SECTIONS=1
                     LENGTH=340 FT  SLOPE=0.0240
ROUTE                ID=11  HYDROGRAPH NO=120.03 INFLOW ID=10  DT=0.0
PRINT HYD            ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 130.0 (THE BASIN BETWEEN LAS VOLCANES AND ****
** DAYTON RD.
COMPUTE NM HYD       ID=1  HYDROGRAPH NO=130.0   DA=0.0699
                     %A=0.0  %B=15.0  %C=10.0  %D75.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=1  CODE=1
** ROUTE FLOW THRU A THEORETICAL POND WITH A PEAK DISCHARGE OF 58.2 CFS
** APPROX 1.30 CFS PER ACRE
** PEAK DISCHARGE RELEASED AS SOON AS IT IS AVAILABLE IN THE POND
ROUTE RESERVOIR      ID=2  HYDROGRAPH NO=130.01  INFLOW ID=1  CODE=20
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0             0              100.0
                         58.19          0.01           101.0
                         58.20          2.50           103.0
PRINT HYD            ID=2  CODE=1
** ADD FLOWS FROM BASIN 130.1 TO THE PROPOSED UNSER DIVERSION CHANNEL AT
** LOS VOLCANES ROAD
ADD HYD              ID=3  HYDROGRAPH NO=130.02  ID I=11  ID II=2
PRINT HYD            ID=3  CODE=1
** ROUTE FLOWS DOWN PROPOSED UNSER DIVERSION CHANNEL TO BLUEWATER ROAD********
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                     CHANNEL SLOPE=0.01  FLOOD PLAIN SLOPE=0.01
                     N=0.017  DIST=50.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                        0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=10  REACH NO=8.3  VALLEY SECTIONS=1
                     LENGTH=1100 FT  SLOPE=0.0087
ROUTE                ID=10  HYDROGRAPH NO=130.12  INFLOW ID=3  DT=0.0
PRINT HYD            ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 140.0(BASIN BETWEEN LOS VOLCANES AND BLUEWATER
COMPUTE NM HYD       ID=1  HYDROGRAPH NO=140.0   DA=0.1484
                     %A=0.0  %B=15.0  %C=10.0  %D75.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=1  CODE=1
```

```
** ROUTE FLOW THRU A THEORETICAL POND WITH A PEAK DISCHARGE OF 123.5 CFS
** APPROX 1.30 CFS PER ACRE
** PEAK DISCHARGE RELEASED AS SOON AS IT IS AVAILABLE IN THE POND
ROUTE RESERVOIR     ID=2  HYDROGRAPH NO=140.01  INFLOW ID=1  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0             0              100.0
                        123.49         0.01            101.0
                        123.50         5.00            102.0
PRINT HYD           ID=2  CODE=1
** ADD FLOWS FROM BASIN 140.0 TO THE PROPOSED UNSER DIVERSION CHANNEL AT
** BLUEWATER ROAD
ADD HYD             ID=11  HYDROGRAPH NO=140.02 ID I=10  ID II=2
** ROUTE CHANNEL FLOW FROM BLUEWATER ROAD TO THE SOUTH LOT LINE OF LOT 2*******
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                    MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                    CHANNEL SLOPE=0.0036  FLOOD PLAIN SLOPE=0.0036
                    N=0.017  DIST=50.0
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                    48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=10  REACH NO=8.3  VALLEY SECTIONS=1
                    LENGTH=1100 FT  SLOPE=0.0036
ROUTE               ID=10  HYDROGRAPH NO=140.03  INFLOW ID=11  DT=0.0
PRINT HYD           ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 150.0 (THE AREA SOUTH OF BLUEWATER)
COMPUTE NM HYD      ID=1  HYDROGRAPH NO=150.0 DA=0.0395
                    %A=0.0  %B=15.0  %C=10.0  %D=75.0  TP=0.1333
                    MASS RAINFALL=-1
PRINT HYD           ID=1  CODE=1
** ROUTE FLOW THRU A THEORETICAL POND WITH A PEAK DISCHARGE OF 32.80 CFS
** APPROX 1.30 CFS PER ACRE
** PEAK DISCHARGE RELEASED AS SOON AS IT IS AVAILABLE IN THE POND
ROUTE RESERVOIR     ID=2  HYDROGRAPH NO=150.01 INFLOW ID=1  CODE=20
                    OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0             0              100.0
                         32.79         0.01            101.0
                         32.80         2.50            102.0
PRINT HYD           ID=2  CODE=1
** ADD FLOWS FROM BASIN 150.0 TO THE PROPOSED UNSER DIVERSION CHANNEL AT THE
** SOUTH LINE OF LOT 2
ADD HYD             ID=12  HYDROGRAPH NO=150.02 ID I=10  ID II=2
PRINT HYD           ID=12  CODE=1
** ROUTE FLOWS DOWN PROPOSED UNSER DIVERSION CHANNEL FROM THE WEST LOT LINE OF
** LOT 2 TO THE EAST LOT LINE OF LOT 2
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                    MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                    CHANNEL SLOPE=0.018  FLOOD PLAIN SLOPE=0.018
                    N=0.0170  DIST=50.0
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                    48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=11 REACH NO=10  VALLEY SECTIONS=1
                    LENGTH=1300 FT  SLOPE=0.018
ROUTE               ID=11  HYDROGRAPH NO=150.03  INFLOW ID=12 DT=0.0
```

```
PRINT HYD            ID=11  CODE=1
** COMPUTE HYDROGRAPH FOR LOT 2 (DEVELOPED CONDITION)************************
COMPUTE NM HYD       ID=1  HYDROGRAPH NO=160.1  DA=0.0517
                     %A=0.0  %B=15.0  %C=10.0  %D=75.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=1  CODE=1
** ROUTE FLOW THRU A THEORETICAL POND WITH A PEAK DISCHARGE OF 43.0 CFS
** APPROX 1.30 CFS PER ACRE
** PEAK DISCHARGE RELEASED AS SOON AS IT IS AVAILABLE IN THE POND
ROUTE RESERVOIR      ID=2  HYDROGRAPH NO=160.11  INFLOW ID=1  CODE=20
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0              0              100.0
                         42.99           0.01           101.0
                         43.00           2.50           102.0
PRINT HYD            ID=2  CODE=1
** ADD FLOWS FROM LOT 2 TO PROPOSED UNSER DIVERSION CHANNEL******************
ADD HYD              ID=10 HYDROGRAPH NO=160.12  ID I=2  ID II=11
PRINT HYD            ID=10  CODE=1
** ROUTE CHANNEL FLOW FROM THE EAST LOT LINE OF LOT 2 TO A POINT  700 LF TO THE
** EAST
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                     CHANNEL SLOPE=0.015  FLOOD PLAIN SLOPE=0.015
                     N=0.0170  DIST=50.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=11 REACH NO=11  VALLEY SECTIONS=1
                     LENGTH=700 FT  SLOPE=0.015
ROUTE                ID=11  HYDROGRAPH NO=160.13  INFLOW ID=10  DT=0.0
PRINT HYD            ID=11  CODE=1
** ROUTE CHANNEL FLOW FROM APPROX. 500 LF WEST OF UNSER BOULEVARD TO UNSER BLVD
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0  MAXIMUM ELEV=106.0
                     CHANNEL SLOPE=0.0065  FLOOD PLAIN SLOPE=0.0065
                     N=0.017  DIST=50.0
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   106.2    2.0   106.0  20.0   100.0  30.0   100.01
                     48.0  106.0   50.0   106.2
COMPUTE TRAVEL TIME ID=10  REACH NO=12  VALLEY SECTIONS=1
                     LENGTH=500 FT  SLOPE=0.0065
ROUTE                ID=10  HYDROGRAPH NO=160.14  INFLOW ID=11  DT=0.0
PRINT HYD            ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR LOT 1 FLOWS****************************************
COMPUTE NM HYD       ID=1  HYDROGRAPH NO=160.2  DA=0.0350
                     %A=0.0  %B=15.0  %C=10.0  %D=75.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=1  CODE=1
** ROUTE FLOW THRU A THEORETICAL POND WITH A PEAK DISCHARGE OF 29.1CFS
** APPROX 1.30 CFS PER ACRE
ROUTE RESERVOIR      ID=2  HYDROGRAPH NO=160.21 INFLOW ID=1  CODE=20
                     OUTFLOW(cfs)  STORAGE(ac ft)     ELEV(ft)
                          0              0              100.0
                         29.09           0.01           101.0
```

```
                        29.10          1.50          102.0
PRINT HYD            ID=2  CODE=1
** ADD FLOWS FROM LOT 1 TO CHANNEL*********************************************
ADD HYD              ID=11  HYDROGRAPH NO=160.22 ID I=2 ID II=10
PRINT HYD            ID=11  CODE=1
** ROUTE THE FLOW IN THE PROPOSED UNSER DIVERSION CHANNEL THROUGH A TRAPAZOIDAL
** BOX CULVERT FROM THE WEST SIDE OF UNSER TO THE TIERRA BAYITA STORM DRAIN
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=1
                     MINIMUM ELEV=100.0 FT  MAXIMUM ELEV=104FT
                     CHANNEL SLOPE=0.005 FLOOD PLAIN SLOPE=0.005
                     N=-0.014  DIST=24
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   104      8.0   100    18.0   100    24.0   104
COMPUTE TRAVEL TIME ID=15  REACH NO=12  VALLEY SECTIONS=1
                     LENGTH=50 FT  SLOPE=0.005
ROUTE                ID=15  HYDROGRAPH NO=160.22 INFLOW ID=11 DT=0.033333
PRINT HYD            ID=15  CODE=1                                          *
PLOT HYD             ID=15  ID=0      Q SCALE=500     T SCALE=5.0
*****************************************************************************
*S BEGIN UNSER BOULEVARD STORM DRAIN SYSTEM BETWEEN I-40 AND THE FUTURE TIERRA
*s BAYITA STORM DRAIN
*****************************************************************************
** ASSUMPTIONS: ALL WATER ON EAST SIDE OF UNSER IS INTERCEPTED BY THE STORM
** DRAIN EXCEPT THE FLOW WHICH IS IN EXCESS OF THE S.D. CAPACITY BELOW THE
** INLETS ADJACENT TO THE SAD 214 POND.*****************************************
** FLOW IN EXCESS OF THE STORM DRAIN CAPACITY IN OTHER AREAS IS ASSUMED TO BE
** CARRIED IN THE WEST SIDE OF UNSER WITH A SMALL PORTION OF THE FLOW CROSSING
** OVER TO THE EAST SIDE AT THE INTERSECTION WITH BLUWATER. FLOWS FROM TRACT
** "T" ARE ASSUMED TO ENTER THE STORM DRAIN AT THE INTERSECTION OF LOS VOLCANES
** AND UNSER. FLOWS FROM TRACTS "J" AND TRACT "K" ARE ASSUMED TO ENTER THE
** STORM DRAIN AT THE INTERSECTION OF BLUEWATER AND UNSER. FLOW FROM
** THE PROPERTY SOUTH OF BLUEWATER ARE ASSUMED TO FLOW TO THE SOUTH
** TO THE PROPOSED UNSER DIVERSION CHANNEL.
** FLOW FROM TRACTS "T", "J",AND "K" ARE RESTRICTED TO THE UNDEVELOPED FLOW
** RATES AS REPORTED IN THE DRAINAGE REPORT FOR SAD 214
*****************************************************************************
*****************************************************************************
** COMPUTE HYDROGRAPH FOR BASIN 170.1 TRACT "T"
COMPUTE NM HYD       ID=2  HYD=170.1  DA==0.0633
                     %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ROUTE FLOW FROM BASIN 170.1 THRU AN ASSUMED POND
** ALLOWABLE RELEASE RATE=47.2cfs
ROUTE RESERVOIR      ID=6 HYDROGRAPH NO=170.15  INFLOW ID=2  CODE=5
                     OUTFLOW(cfs)    STORAGE(ac ft)    ELEV(ft)
                        0.00            0.00             100.00
                       25.96            0.70             101.00
                       38.70            1.68             102.00
                       47.20            2.78             103.00
                       54.00            4.00             104.00
PRINT HYD            ID=6  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 170.2 THE WEST PORTION OF UNSER BOULEVARD
** AND HIGHWAY RIGHT OF WAY NORTH OF LOS VOLCANES
```

```
** ASSUME ALL WATER ABOVE THIS BASIN IS INTERCEPTED BY THE INLETS IN UNSER AND
** ROUTED TO THE HIGHWAY INTERCHANGE POND
COMPUTE NM HYD       ID=3  HYD=170.2  DA==0.0077
                     %A=0.0  %B=60.0  %C=0.0  %D=40.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 170.3 LOS VOLCANES WEST OF UNSER
COMPUTE NM HYD       ID=4  HYD=170.3  DA==0.0037
                     %A=0.0  %B=10.0  %C=0.0  %D=90.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=4 CODE=1
** ADD THE HYDROGRAPHS FROM BASINS 170.1 AND 170.3
ADD HYD              ID=5  HYDROGRAPH NO=170.31  ID I=6  ID II=4
PRINT HYD            ID=5  CODE=1
** ADD THE COMBINED HYDROGRAPH FROM BASINS 170.2 AND 170.3 TO BASIN 170.1 HYD.
** AT THE INTERSECTION OF LOS VOLCANES AND UNSER
ADD HYD              ID=2  HYDROGRAPH NO=170.32  ID I=3  ID II=5
PRINT HYD            ID=2  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 170.4 THE EAST PORTION OF UNSER BOULEVARD
** AND HIGHWAY RIGHT OF WAY NORTH OF LOS VOLCANES
** ASSUME ALL WATER ABOVE THIS BASIN IS INTERCEPTED BY THE INLETS IN UNSER AND
** ROUTED TO THE HIGHWAY INTERCHANGE POND
COMPUTE NM HYD       ID=3  HYD=170.4  DA==0.0060
                     %A=0.0  %B=45.0  %C=0.0  %D=55.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
** ADD THE FLOW FROM THE EAST SIDE OF UNSER TO THE TOTAL FLOW ON THE WEST
** SIDE OF UNSER
ADD HYD              ID=5  HYDROGRAPH NO=170.43 ID I=2  ID II=3
PRINT HYD            ID=5  CODE=1
** DIVIDE OUT FLOW WHICH EXCEEDS THE NON PRESSURE PIPE CAPACITY OF THE DOWN
** STREAM PORTION OF UNSER BLVD STORM DRAIN. S.D.= 30" RCP MIN SLOPE = 0.01
** HYD 170.44 = FLOW TO UNSER STORM DRAIN
** HYD 170.45= FLOW TO REMAIN IN STREET
DIVIDE HYD           ID=5  Q=41.0  ID I=2    HYD I=170.44
                                  ID II=11  HYD II=170.45
PRINT HYD            ID=2  CODE=1
PRINT HYD            ID=11  CODE=1
** ROUTE THE FLOW IN THE UNSER BLVD STORM DRAIN FROM THE INTERSECTION OF
** LOS VOLCANES AND UNSER TO THE SECOND MANHOLE SOUTH OF THE INTERSECTION
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.010
                     PIPE DIA=30  N=0.013
COMPUTE TRAVEL TIME ID=1  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=447 FT  SLOPE=0.010
ROUTE                ID=1  HYDROGRAPH NO=170.46  INFLOW ID=2  DT=0.033333
PRINT HYD            ID=1  CODE=1
** ROUTE THE FLOW DOWN UNSER STORM DRAIN FROM THE SECOND M.H. SOUTH OF
** LOS VOLCANES TO THE THIRD MANHOLE SOUTH OF LOS VOLCANES
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.01744
                     PIPE DIA=30  N=0.013
COMPUTE TRAVEL TIME ID=3  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=450 FT  SLOPE=0.01744
ROUTE                ID=3  HYDROGRAPH NO=170.47  INFLOW ID=1  DT=0.033333
PRINT HYD            ID=3  CODE=1
```

```
** COMPUTE HYDROGRAPH FOR BASIN 170.5 THE WEST HALF OF UNSER BOULEVARD BETWEEN
** LOS VOLCANES AND THE THIRD MANHOLE SOUTH OF THE INTERSECTION
COMPUTE NM HYD      ID=2  HYD=170.5  DA==0.0029
                    %A=0.0  %B=20.0  %C=0.0  %D=80.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ADD THE HYDROGRAPH FROM BASINS 170.5 TO THE ROUTED UNSER STORM DRAIN FLOW
ADD HYD             ID=4  HYDROGRAPH NO=170.51  ID I=2  ID II=3
PRINT HYD           ID=4  CODE=1
** ROUTE THE FLOW IN THE STREET FROM THE LOS VOLCANES & UNSER INTERSECTION TO
** THE THIRD MANHOLE SOUTH OF THE INTERSECTION. USE AVERAGE SLOPE.USE FUTURE
** CROSS SECTION AS SHOWN ON SAD 214 DRAINAGE PLAN SHEET. ADD EXISTING SIDEWALK
** ALONG CURB. ASSUME ALL FLOW THAT COULD NOT ENTER THE STORM DRAIN AT
** LOS VOLCANES REMAINS ON THE WEST SIDE OF THE STREET.
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=3
                    MINIMUM ELEV=100.00 FT  MAXIMUM ELEV=100.87 FT
                    CHANNEL SLOPE=0.013  FLOOD PLAIN SLOPE=0.0129
                    N=0.035  DIST=5  N=0.017  DIST=10  N=-0.017  DIST=46.15
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   100.87   5     100.77  10    100.67  10.15 100.00
                     12    100.13  46    100.81  46.15 100.31
COMPUTE TRAVEL TIME ID=2  REACH NO=1  VALLEY SECTIONS=1
                    LENGTH=950 FT  SLOPE=0.0129
ROUTE               ID=2  HYDROGRAPH NO=170.48  INFLOW ID=11 DT=0.033333
PRINT HYD           ID=2  CODE=1
** ADD THE ROUTED FLOW IN THE STREET TO THE TOTAL FLOW ON THE WEST SIDE OF
** UNSER BOULEVARD @ THE THIRD MANHOLE SOUTH OF LOS VOLCANES
ADD HYD             ID=3  HYDROGRAPH NO=170.52  ID I=4  ID II=2
PRINT HYD           ID=3  CODE=1
** DIVIDE OUT FLOW WHICH EXCEEDS THE NON PRESSURE PIPE CAPACITY OF THE DOWN
** STREAM PORTION OF UNSER BLVD STORM DRAIN. S.D.= 36" RCP MIN. SLOPE = 0.0148
** HYD 170.53= FLOW TO UNSER STORM DRAIN
** HYD 170.54= FLOW TO REMAIN IN STREET
DIVIDE HYD          ID=5  Q=81.00  ID I=2    HYD I=170.53
                                   ID II=11  HYD II=170.54
PRINT HYD           ID=2  CODE=1
PRINT HYD           ID=11  CODE=1
** ROUTE THE FLOW IN THE UNSER BLVD STORM DRAIN FROM THE THIRD MANHOLE SOUTH
** OF LOS VOLCANES TO THE FIRST MANHOLE SOUTH OF THE INTERSECTION OF BLUEWATER
** AND UNSER. USE AVERAGE SLOPE.
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.016
                    PIPE DIA=36  N=0.013
COMPUTE TRAVEL TIME ID=3  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=795 FT  SLOPE=0.016
ROUTE               ID=3  HYDROGRAPH NO=170.55  INFLOW ID=2  DT=0.033333
PRINT HYD           ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 170.6 THE WEST PORTION OF UNSER BOULEVARD
** BETWEEN THE THIRD MANHOLE SOUTH OF LOS VOLCANES AND THE INTERSECTION OF
** BLUEWATER AND UNSER
COMPUTE NM HYD      ID=2  HYD=170.6  DA==0.0018
                    %A=0.0  %B=20.0  %C=0.0  %D=80.0  TP=0.13333
                    MASS RAINFALL=-1
PRINT HYD           ID=2  CODE=1
** ADD THE HYDROGRAPH FROM BASINS 170.6 TO THE UNSER STORM DRAIN FLOW
```

```
ADD HYD              ID=4  HYDROGRAPH NO=170.61  ID I=2  ID II=3
PRINT HYD            ID=4  CODE=1
**COMPUTE A HYDROGRAPH FOR TRACTS "J" AND "K", THE RIO GRANDE ALBUQUERQUE SITE
COMPUTE NM HYD       ID=2  HYD=170.7  DA==0.0859
                     %A=0.0  %B=15.0  %C=0.0  %D=85.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2  CODE=1
** ROUTE FLOW FROM tracts "J" AND "K" THRU AN ASSUMED POND
** ALLOWABLE RELEASE RATE=56.6 cfs PER THE SAD 214 DRAINAGE PLAN
ROUTE RESERVOIR      ID=3 HYDROGRAPH NO=170.71  INFLOW ID=2  CODE=5
                     OUTFLOW(cfs)    STORAGE(ac ft)    ELEV(ft)
                        0.00            0.00             100.00
                       31.13            1.03             101.00
                       46.41            2.46             102.00
                       56.60            4.10             103.00
                       65.00            6.00             104.00
PRINT HYD            ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR BASIN 170.8 BLUEWATER RD.FROM THE WEST BOUNDARY OF
** ATRISCO BUSINESS PARK TO UNSER BOULEVARD
COMPUTE NM HYD       ID=2  HYD=170.8  DA==0.0054 SQ MI
                     %A=0.0  %B=10.0  %C=0.0  %D=90.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
** ADD THE FLOW FROM BLUEWATER RD. TO THE CONTROLED FLOW FROM TRACTS "J" & "K"
ADD HYD              ID=5  HYDROGRAPH NO=170.81  ID I=3  ID II=2
PRINT HYD            ID=5  CODE=1
** ADD THE COMBINED FLOW FROM TRACTS "J" AND "K" & BLUEWATER ROAD TO THE FLOW
** IN STORM DRAIN AT THE UNSER &  BLUEWATER INTERSECTION
ADD HYD              ID=2  HYDROGRAPH NO=170.82  ID I=4  ID II=5
PRINT HYD            ID=2  CODE=1
** COMPUTE A HYDROGRAPH FOR THE EAST SIDE OF UNSER BLVD. BETWEEN LOS VOLCANES
** AND BLUWATER
COMPUTE NM HYD       ID=3  HYD=170.9  DA==0.0047 SQ MI
                     %A=0.0  %B=20.0  %C=0.0  %D=80.0  TP=0.13333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
** ADD THE FLOW FROM THE EAST SIDE OF UNSER TO THE TOTAL FLOW IN THE STORM
** DRAIN AND IN THE STREET AT THE INTERSECTION OF BLUEWATER AND UNSER
ADD HYD              ID=4  HYDROGRAPH NO=170.91  ID I=3  ID II=2
PRINT HYD            ID=4  CODE=1
** DIVIDE OUT FLOW WHICH EXCEEDS THE NON PRESSURE PIPE CAPACITY OF THE DOWN
** STREAM PORTION OF UNSER BLVD STORM DRAIN. S.D.= 42" RCP MIN. SLOPE = 0.00842
** HYD 170.92= FLOW TO UNSER STORM DRAIN
** HYD 170.93= FLOW TO REMAIN IN STREET
DIVIDE HYD           ID=4  Q=92     ID I=2   HYD I=170.92
                                   ID II=10  HYD II=170.93
PRINT HYD            ID=2  CODE=1
PRINT HYD            ID=10  CODE=1
** DIVIDE OUT THE STREET FLOW WHICH MAY CROSS FROM THE WEST SIDE TO THE EAST
** SIDE OF UNSER BOULEVARD AT THE INTERSECTION WITH BLUEWATER. PLANS FOR
** UNSER BOULEVARD SHOW 0.3' DIFFERENTIAL BETWEEN THE FLOW LINE ELEVATION AND
** THE CROWN ELEVATION AT THE CENTER OF THE INTERSECTION. ESTIMATE CROSSOVER
** FLOW UTILIZING A BROAD CRESTED WIER FORMULA.
** HYD 170.94= FLOW TO CROSS OVER TO EAST SIDE OF STREET
```

```
** HYD 170.95= FLOW TO REMAIN ON WEST SIDE OF STREET
DIVIDE HYD          ID=10  Q=48.0  ID I=11   HYD I=170.95
                                  ID II=3  HYD II=170.94
PRINT HYD           ID=3  CODE=1
PRINT HYD           ID=11  CODE=1
** ROUTE THE STREET FLOW ON THE EAST SIDE OF UNSER BLVD. FROM THE INTERSECTION
** WITH BLUEWATER TO THE INLETS ADJACENT TO THE SAD  214 POND. USE THE FUTURE
** STREET SECTION AS SHOWN ON SAD 214 DRAINAGE PLAN SHEET. ADD EXISTING
** SIDEWALK ALONG CURB. USE AN AVERAGE STREET SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=3
                    MINIMUM ELEV=100.00 FT  MAXIMUM ELEV=100.87 FT
                    CHANNEL SLOPE=0.0130  FLOOD PLAIN SLOPE=0.0130
                    N=0.035  DIST=5  N=0.017  DIST=10  N=-0.017  DIST=46.15
                    DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                      0   100.87   5     100.77  10    100.67  10.15 100.00
                     12    100.13  46    100.81  46.15 100.31
COMPUTE TRAVEL TIME ID=4  REACH NO=1  VALLEY SECTIONS=1
                    LENGTH=700 FT  SLOPE=0.0130
ROUTE               ID=4  HYDROGRAPH NO=170.96  INFLOW ID=3 DT=0.033333
PRINT HYD           ID=4  CODE=1
** ROUTE FLOW DOWN UNSER STORM DRAIN FROM THE INTERSECTION OF UNSER AND
** BLUEWATER TO THE JUNCTION WITH THE INLETS NEAR THE SAD 214 POND
** USE AVERAGE SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.0093
                    PIPE DIA=42  N=0.013
COMPUTE TRAVEL TIME ID=3  REACH=1  NUMBER OF VALLEY SECTIONS=1
                    LENGTH=688 FT  SLOPE=0.0093
ROUTE               ID=3  HYDROGRAPH NO=170.97  INFLOW ID=2  DT=0.033333
PRINT HYD           ID=3  CODE=1
** COMPUTE HYDROGRAPH FOR THE EAST SIDE OF UNSER BOULEVARD BETWEEN BLUEWATER
** ROAD AND THE INLETS ADJACENT TO THE SAD 214 POND
COMPUTE NM HYD      ID=2  HYD=171.1 DA=0.0021
                    %A=0.0  %B=10.0  %C=0.0  %D=90.0  TP=0.133333
                    MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
** ADD THE FLOW FROM BASIN 171.1 TO THE ROUTED STREET FLOW ON THE EAST SIDE OF
** UNSER AT THE INLETS ADJACENT TO THE SAD 214 POND
ADD HYD             ID=5  HYDROGRAPH NO=171.11 ID I=4  ID II=2
PRINT HYD           ID=5  CODE=1
** ADD THE TOTAL STREET FLOW ON THE EAST SIDE OF UNSER TO THE ROUTED FLOW IN
** UNSER STORM DRAIN
ADD HYD             ID=2  HYDROGRAPH NO=171.12 ID I=3  ID II=5
PRINT HYD           ID=2  CODE=1
** DIVIDE OUT FLOW WHICH EXCEEDS THE FULL PIPE CAPACITY OF THE DOWN
** STREAM PORTION OF UNSER BLVD STORM DRAIN. S.D.= 42" RCP MIN SLOPE = 0.00993
** HYD 171.13 = FLOW TO UNSER STORM DRAIN
** HYD 171.14 = FLOW TO REMAIN IN STREET
DIVIDE HYD          ID=2  Q=100  ID I=3    HYD I=171.13
                                 ID II=4   HYD II=171.14
PRINT HYD           ID=3  CODE=1
PRINT HYD           ID=4  CODE=1                                            *
PLOT HYD            ID=3  ID=0      Q SCALE=500     T SCALE=5.0
** ROUTE FLOW DOWN UNSER STORM DRAIN FROM THE JUNCTION WITH THE INLETS ADJACENT
** TO THE SAD 214 POND TO THE JUNCTION WITH THE FUTURE TIERRA BAYITA S.D.
```

```
COMPUTE RATING CURVE CID=1  VALLEY SECTION NO=1  CODE=-1  SLOPE=0.00993
                     PIPE DIA=42  N=0.013
COMPUTE TRAVEL TIME ID=10  REACH=1  NUMBER OF VALLEY SECTIONS=1
                     LENGTH=100 FT  SLOPE=0.00993
ROUTE                ID=10 HYDROGRAPH NO=171.15  INFLOW ID=3  DT=0.033333
PRINT HYD            ID=10  CODE=1
** COMPUTE HYDROGRAPH FOR THE WEST SIDE OF UNSER BOULEVARD BETWEEN BLUEWATER
** ROAD AND THE INLETS ADJACENT TO THE SAD 214 POND
COMPUTE NM HYD       ID=3  HYD=171.0 DA=0.0022
                     %A=0.0  %B=10.0  %C=0.0  %D=90.0  TP=0.133333
                     MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
** ROUTE THE STREET FLOW ON THE WEST SIDE OF UNSER BLVD. FROM THE INTERSECTION
** WITH BLUEWATER TO THE INLETS ADJACENT TO THE SAD  214 POND. USE THE FUTURE
** STREET SECTION AS SHOWN ON SAD 214 DRAINAGE PLAN SHEET. ADD EXISTING
** SIDEWALK ALONG CURB. USE AN AVERAGE STREET SLOPE
COMPUTE RATING CURVE CID=1  VALLEY SECTION=1  NUMBER OF SEGMENTS=3
                     MINIMUM ELEV=100.00 FT  MAXIMUM ELEV=100.87 FT
                     CHANNEL SLOPE=0.0130  FLOOD PLAIN SLOPE=0.0130
                     N=0.035  DIST=5  N=0.017  DIST=10  N=-0.017  DIST=46.15
                     DIST  ELEV    DIST   ELEV   DIST   ELEV   DIST   ELEV
                       0   100.87   5     100.77  10    100.67  10.15 100.00
                      12    100.13  46    100.81  46.15 100.31
COMPUTE TRAVEL TIME ID=4  REACH NO=1  VALLEY SECTIONS=1
                     LENGTH=800 FT  SLOPE=0.0130
ROUTE                ID=4  HYDROGRAPH NO=171.01  INFLOW ID=11 DT=0.033333
PRINT HYD            ID=4  CODE=1
** ADD THE ROUTED STREET FLOW ON THE WEST SIDE OF UNSER TO THE FLOW FROM BASIN
** 170.0
ADD HYD              ID=2  HYDROGRAPH NO=171.02 ID I=3  ID II=4
PRINT HYD            ID=2  CODE=1
** DIVIDE OUT FLOW WHICH EXCEEDS THE CAPACITY OF THE CONNECTOR PIPE BETWEEN THE
** INLETS AND THE CULVERT CROSSING UNSER TO THE SAD 214 POND. PIPE IS AN 18"
** RCP. ESTIMATE CAPACITY ASSUMINING PRESSURE PIPE FLOW WITH HGL AT THE SOFFIT
** AT THE OUTLET END OF THE 18" PIPE
** HYD 171.03 = FLOW TO THE TIERR BAYITA STORM DRAIN
** HYD 171.04 = FLOW TO REMAIN IN STREET
DIVIDE HYD           ID=2   Q=30   ID I=3    HYD I=171.03
                                  ID II=4    HYD II=171.04
PRINT HYD            ID=3  CODE=1
PRINT HYD            ID=4  CODE=1
** ADD THE INTERCEPTED FLOW FROM THE WEST SIDE OF UNSER TO THE FLOW FROM THE
** PROPOSED UNSER DIVERSION CHANNEL AT THE JUNCTION WITH THE FUTURE TIERRA
** BAYITA STORM DRAIN
ADD HYD              ID=16  HYDROGRAPH NO=171.05 ID I=15  ID II=3
PRINT HYD            ID=16  CODE=1
** ADD THE FLOW IN THE UNSER STORM DRAIN TO THE TOTAL FLOW AT THE JUNCTION
** WITH THE TIERRA BAYITA STORM DRAIN
ADD HYD              ID=11  HYDROGRAPH NO=171.06 ID I=16  ID II=10
PRINT HYD            ID=11  CODE=1
*************************************************************************

*************************************************************************
** ASSUME ALL OF THIS FLOW IS ROUTED THROUGH A JUCNTION VAULT BEFORE
```

```
** FLOW IS ROUTED TO THE ENLARGED S.A.D. 214 POND. THE TIERRA BAYITA S.D. IS
** ASSUMED TO BE CONNECTED TO THIS VAULT. THE PURPOSE OF THIS CONFIGURATION IS
** TO ACHIEVE HIGHER OUTFLOW FROM THE BASIN IN THE EARLY STAGES OF THE STORM
** WHEN OUTFLOW FROM THE S.A.D. 214 POND WOULD BE LIMITED DUE TO LOW HEAD.
** OUTFLOW CURVE BASED ON ORIFICE FLOW THROUGH 5.5' DIA ORIFICE INTO THE 72"
** DIA. PIPE PLUS A CONSTANT FLOW THROUGH A 24" DIA S.D. CONNECTION BETWEEN
** THE VAULT AND THE S.A.D. 214 POND WHEN FLOW TO THE VAULT EXCEEDS 310 CFS.
** FLOW THROUGH THE 24" DIA LINE BASED ON PRESSURE FLOW WITH FULL VAULT
** CONDITION AT THE INLET AND H.G.L. AT THE OUTLET AT THE SOFFIT OF THE PIPE.
** VAULT PLAN DIMENSIONS ESTIMATED AT 10' X 15'
*****************************************************************************
ROUTE RESERVOIR     ID=10 HYDROGRAPH NO=172.0  INFLOW ID=11  CODE=5
                    OUTFLOW(cfs)    STORAGE(ac ft)    ELEV(ft)
                           0.0              0.00            5088.0
                          12.4              0.002           5088.5
                          17.6              0.003           5089.0
                          26.3              0.005           5089.5
                          40.3              0.007           5090.0
                          60.0              0.009           5090.5
                          82.0              0.010           5091.0
                         103.0              0.012           5091.5
                         124.0              0.014           5092.0
                         142.0              0.015           5092.5
                         164.0              0.017           5093.0
                         190.0              0.019           5093.5
                         206.0              0.021           5094.0
                         221.0              0.022           5094.5
                         236.0              0.024           5095.0
                         249.0              0.026           5095.5
                         262.0              0.028           5096.0
                    ADD  314.0              0.029           5096.5
                         325.0              0.031           5097.0
                         337.0              0.033           5097.5
                         348.0              0.034           5098.0
                         358.0              0.036           5098.5
                        1200.0              0.038           5099.0
PRINT HYD           ID=10  CODE=1
** DIVIDE OUT THE FLOW WHICH EXCEEDS THE CAPACITY OF THE 24" & 72" OUTFLOW
** PIPES AND SEND THAT FLOW TO THE POND
DIVIDE HYD          ID=10  Q=350  ID I=2    HYD I=172.01
                                 ID II=3    HYD II=172.02
PRINT HYD           ID=2  CODE=1
PRINT HYD           ID=3  CODE=1
** DIVIDE OUT THE FLOW WHICH EXCEEDS THE CAPACITY OF THE 72" OUTFLOW
** PIPE AND SEND THAT FLOW TO THE POND
DIVIDE HYD          ID=2   Q=310  ID I=4    HYD I=172.03
                                 ID II=5    HYD II=172.04
PRINT HYD           ID=4  CODE=1
PRINT HYD           ID=5  CODE=1
** ADD THE TWO FLOWS WHICH HAVE BEEN DIVIDED OUT
ADD HYD             ID=2  HYDROGRAPH NO=172.05 ID I=3 ID II=5
PRINT HYD           ID=2  CODE=2
** COMPUTE A HYDROGRAPH FOR TRACT A-1
COMPUTE NM HYD      ID=1  HYD=180.1  DA=0.0338
```

```
                    %A=0.0  %B=28.0  %C=4.0  %D=68.0  TP=0.133333
                    MASS RAINFALL=-1
PRINT HYD           ID=1 CODE=1
** ADD THE FLOW FROM TRACT  A-1 TO THE SAD 214 POND
ADD HYD             ID=4  HYDROGRAPH NO=180.12 ID I=1  ID II=2
PRINT HYD           ID=4  CODE=2
** ROUTE THE FLOW FROM THE VAULT AND THE FLOW FROM THE  TRACT A-1 THROUGH
** THE EXPANDED S.A.D. 214 POND. ASSUME  POND FOOT PRINT EXPANDED
** WITHIN EXISTING EASEMENT AND POND DEEPENED TO ELEV. 5090
** OUTFLOW CANNOT BE MODELED HERE AS IT WILL ONLY OCCUR AFTER THE INFLOW
** TO THE INLET VAULT DROPS BELOW 310 CFS. A VERY SMALL OUTLOW IS ENTERED
** IN THE STAGE STORAGE DISCHARGE TABLE TO SATISFY THE PROGRAM REQUIREMENTS
** THIS OUTFLOW IS NEGLIGABLE
ROUTE RESERVOIR     ID=11 HYDROGRAPH NO=501  INFLOW ID=4  CODE=1
                    OUTFLOW(cfs)    STORAGE(ac ft)    ELEV(ft)
                          0.0              0.00             5090
                          0.01             4.92             5093.0
                          0.02            10.97             5096.0
                          0.03            15.56             5098.0
                          0.04            18.02             5099.0
                          0.05            19.02             5099.4
                          0.06            30.00             5100.0
PRINT HYD           ID=11  CODE=1


FINISH
```

Federal Emergency Management Agency

Washington, D.C. 20472

APR 21 1994

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Martin Chavez
Mayor, City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

IN REPLY REFER TO:
Case No.: 94-06-127R

Community: City of Albuquerque, New Mexico
Community No.: 350002

104

Dear Mayor Chavez:

This is in response to a letter dated March 9, 1994, from Ms. Laurie B. Schuller, Project Engineer, Easterling & Associates, Inc., to the Federal Emergency Management Agency (FEMA) regarding the effective Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) report for the City of Albuquerque, New Mexico. With her letter, Ms. Schuller provided additional information to support a January 20, 1994, request for a Conditional Letter of Map Revision (CLOMR) from Mr. Gilbert Aldaz, P.E., L.S., City/County Floodplain Administrator, City of Albuquerque. Mr. Aldaz requested that FEMA evaluate the effects that the following projects along Mirehaven Arroyos B and C would have on the effective FIRM: the proposed construction of a series of six retention ponds and the associated storm drain system (Unser Diversion); the proposed and as-built construction of a series of terraced berms; the proposed and as-built construction of storm drain systems along Airport Drive, Bluewater Road, and Unser Boulevard; and the proposed curb reconstruction along Bluewater Road. These projects are associated with the proposed construction of Atrisco Business Park.

All data required by FEMA to evaluate this request were submitted by Mr. Aldaz with his January 20 letter and by Ms. Schuller with her March 4 and March 9, 1994, letters. All fees necessary to process this CLOMR (a total of $2,880) have been received.

We have reviewed the data submitted and the flood data used to prepare the effective FIRM for the City of Albuquerque. We believe that if the proposed projects are constructed as described in the technical reports prepared by Easterling & Associates, Inc., entitled "CLOMR Request for Unser Diversion/ Atrisco Business Park," dated January 1994; "Draft Design Analysis Report for AMAFCA Unser Diversion," dated September 1993; and "Master Drainage Plan for the Atrisco Business Park," dated October 1993, and as shown in the following construction plans: "Construction Plans for AMAFCA Unser Diversion," prepared by Easterling & Associates, Inc., dated 1993, and "Construction Plans for the City of Albuquerque Airport Drive/Bluewater Road Storm Drain," prepared by the City of Albuquerque, dated April 1993, then the 100-year floodplain will be removed as shown on Plate 1 of 3 of the plans entitled "Unser Diversion Revised Floodplain Boundaries," prepared by Easterling & Associates, Inc., dated October 1993.

As a result of the proposed construction, the effective 100-year floodplain delineations along Mirehaven Arroyos B and C will be removed from the area bounded on the north by Interstate Highway 40, on the east by Airport Drive, on the south by Bluewater Road, and on the west by the Unser Diversion. In addition, the 100-year floodplain delineations will be removed from the area bounded on the north by the intersection of Bluewater Road and Airport Drive, and on the south by Avalon Road. The 100-year flood discharge will be contained in the Unser Diversion. Local drainage will be conveyed by the series of terraced berms north of Los Volcanoes Road and by storm drain systems and street right-of-ways along Airport Drive, Bluewater Road, and Unser Boulevard.

Upon completion of the project and receipt of the data listed below, we will make a final determination on revising the effective FIRM and FIS report.

- Please note that the National Flood Insurance Program (NFIP) is non-taxpayer funded and its expenses are paid for by policyholders. Therefore, to minimize the financial burden on the policyholders while maintaining the NFIP as self-sustaining, FEMA has implemented a procedure to recover costs associated with reviewing and processing requests for modifications to published flood information and maps. Therefore, an initial fee of $225, which represents the minimum charges associated with a request of this type, must be submitted before we can process your revision request. Payment of this fee shall be made in the form of a check or money order <u>made payable in U.S. funds to the National Flood Insurance Program</u>, or by credit card payment. The payment is to be forwarded to the following address:

  Federal Emergency Management Agency
  Revisions Fee-Collection System Administrator
  P.O. Box 3173
  Merrifield, Virginia 22116

- As-built plans, certified by a registered professional engineer, of all proposed project elements

- Certification that all fill placed in the currently effective 100-year floodplain and below the proposed base flood elevation is compacted to 95 percent of the maximum density obtainable with the Standard Proctor Test method issued by the American Society for Testing and Materials (ASTM Standard D-698) or an acceptable equivalent method for all areas to be removed from the 100-year floodplain

The basis of this CLOMR is a proposed channel-modification and culvert project. Paragraph 60.3(b)(7) of the NFIP regulations requires that communities "assure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained." This provision is incorporated into your community's existing floodplain management regulations. Consequently, your community must agree to accept responsibility for the maintenance of the modified channel before allowing its construction.

This response to Mr. Aldaz's request is based on minimum floodplain management criteria established under the NFIP. Your community is responsible for approving all proposed floodplain development, including this request, and for assuring that the necessary permits required by Federal or State law have been received. State and community officials, based on knowledge of local conditions and in the interest of human safety, may set higher standards for construction or may limit development in floodplain areas. If the State of New Mexico or the City of Albuquerque has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

Should you have any questions regarding this matter, please contact the Division Director, Mitigation Division of FEMA in Denton, Texas, at (817) 898-5127, or Mr. Alan Johnson of our staff in Washington, DC, either by telephone at (202) 646-3403 or by facsimile at (202) 646-3445.

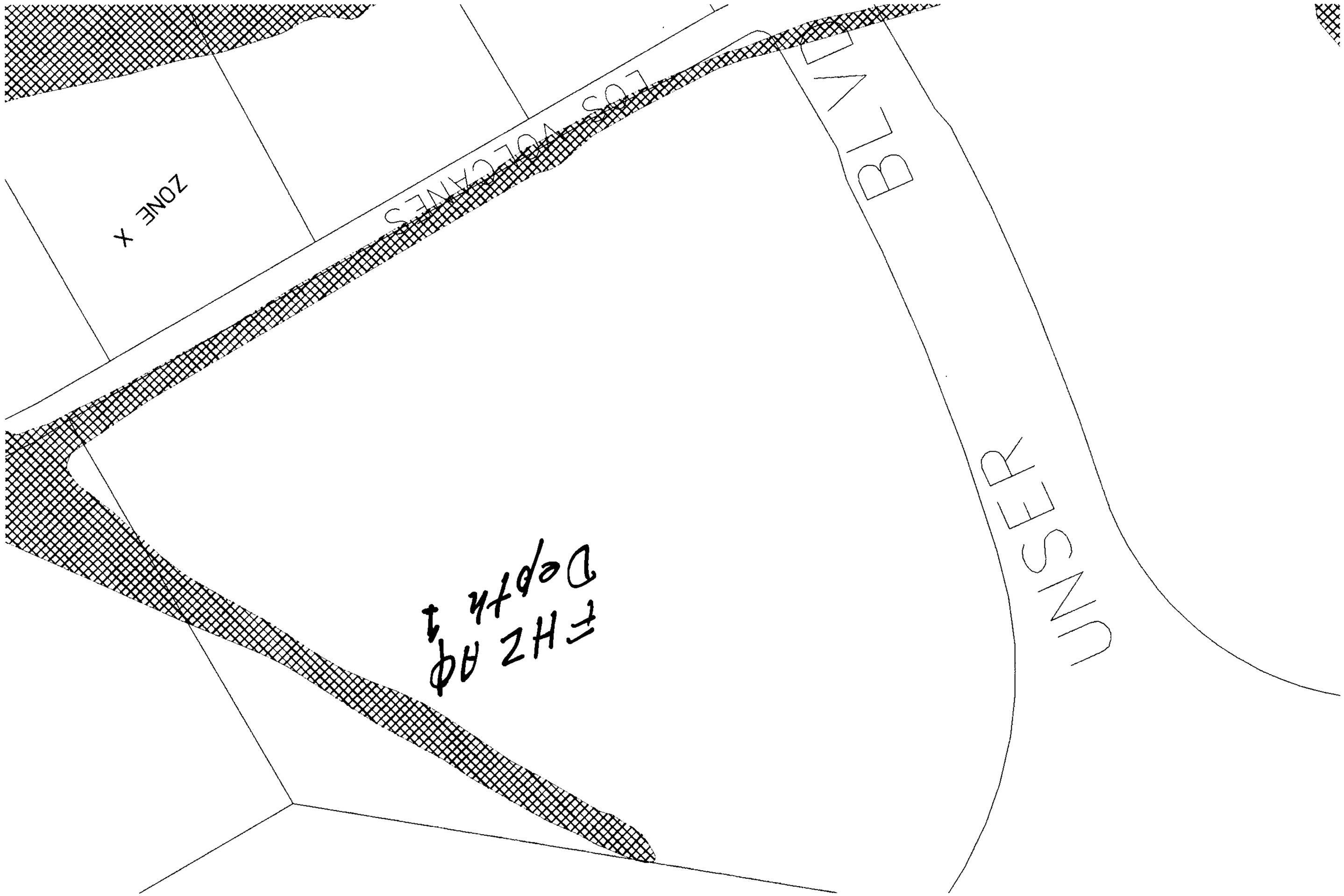
Sincerely,

Michael K. Buckley, P.E., Chief
for Hazard Identification Branch
Mitigation Directorate

cc: Mr. Charles Easterling, P.E.
President
Easterling & Associates, Inc.

Ms. Laurie B. Schuller
Project Engineer
Easterling & Associates, Inc.

Mr. Gilbert Aldaz, P.E., L.S.
City/County Floodplain Administrator
City of Albuquerque


UNSERR
BLVD
LOS VOLCANES
ZONE X
Depth 1
ZH2 AO

CITY OF
Albuquerque

January 8, 1997

Martin J. Chávez, Mayor

Greg Krenik, P.E.
Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, NM 87199

RE: COCA-COLA MAIN FACILITY (K10-D30). ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY. ENGINEER'S CERTIFICATION DATED DECEMBER 19, 1996.

Dear Mr. Krenik:

Based on the information provided on your December 20, 1996 submittal, the above referenced project is approved for a Certificate of Occupancy.

If I can be of further assistance, please feel free to contact me at 768-3622.

Sincerely,

Lisa Ann Manwill
Engineering Assoc./Hyd.

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

ROJECT TITLE: Coca-Cola Main Facility ZONE ATLAS/DRNG,FILE#: K-10 / 430

RB #: _____ EPC #: _____ WORK ORDER #: _____

EGAL DESCRIPTION: Tract S-2A, Atrisco Business Park, Unit 2

ITY ADDRESS: 7901 Los Vacanes NW

ENGINEERING FIRM: Mark Goodwin & Associates, PA CONTACT: Gregory J. Krenik, PE

ADDRESS: PO Box 90606 PHONE: 345-2010

OWNER: Coca-Cola CONTACT: Sandy Smith

ADDRESS: 1307 Tijeras NW PHONE: 842-1113

ARCHITECT: Claudio Vigil Architects CONTACT: Sandy Smith

ADDRESS: 1307 Tijeras NW PHONE: 842-1113

SURVEYOR: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN
- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- X ENGINEER'S CERTIFICATION
- ____ OTHER

PRE-DESIGN MEETING:

- ____ YES
- ____ NO
- ____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ____ SKETCH PLAT APPROVAL
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D APPROVAL
- ____ S. DEV. PLAN FOR BLDG PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- ____ BUILDING PERMIT APPROVAL
- X CERTIFICATION OF OCCUPANCY APPROVAL
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ S.A.D. DRAINAGE REPORT
- ____ DRAINAGE REQUIREMENTS
- X OTHER 30 day TEMP CO immediately (Specify)

12-19-96

LOGY DIVISIO

DATE SUBMITTED: 12-20-96 30 day Temp issued on 12-20-96

BY: _____
Gregory J. Krenik, PE

CITY OF
Albuquerque

P.O. Box 1293 Albuquerque, NM 87103

August 13, 1996

Martin J. Chávez, Mayor

Gregory J. Krenik, PE
Mark Goodwin & Assoc
PO Box 90606
Albuquerque, NM 87199

RE: DRAINAGE REPORT FOR COCA COLA MAIN FACILITY (K-10/D30)
RECEIVED AUGUST 2, 1996 FOR BUILDING PERMIT
ENGINEER'S STAMP DATED 8-1-96

Dear Mr. Krenik:

Based on the information included in the submittal referenced above, City Hydrology accepts the Drainage Report for building permit.

Include a copy of the grading & drainage plan, dated 6-13-96, in the sets of construction documents that will be siubmitted to Code Administration for the Building Permit.

Engineer's Certification of grading & drainage per DPM checklist must be accepted by City Hydrology before any Certificate of Occupancy will be released.

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Andrew Garcia
Fred Aguirre
Sandy Smith, Claudio Vigil Architects, 1305 Tijeras NW 87102

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Coca-Cola Main Facility ZONE ATLAS/DRNG,FILE#: K-10 /1130

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Tract S-2A, Atrisco Business Park, Unit 2

CITY ADDRESS: _____

ENGINEERING FIRM: Mark Goodwin & Associates, PA CONTACT: Gregory J. Krenik, PE

ADDRESS: PO Box 90606 PHONE: 345-2010

OWNER: Coca-Cola CONTACT: Sandy Smith

ADDRESS: 1307 Tijeras NW PHONE: 842-1113

ARCHITECT: Claudio Vigil Architects CONTACT: Sandy Smith

ADDRESS: 1307 Tijeras NW PHONE: 842-1113

SURVEYOR: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

___ OTHER

PRE-DESIGN MEETING:

___ YES

X NO

___ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ S. DEV. PLAN FOR SUB'D APPROVAL

___ S. DEV. PLAN FOR BLDG PERMIT APPROVAL

___ SECTOR PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ FOUNDATION PERMIT APPROVAL

X BUILDING PERMIT APPROVAL

___ CERTIFICATION OF OCCUPANCY APPROVAL

___ GRADING PERMIT APPROVAL

___ PAVING PERMIT APPROVAL

___ S.A.D. DRAINAGE REPORT

___ DRAINAGE REQUIREMENTS

___ OTHER _____ (Specify)

AUG - 2 1996
DIVISION

DATE SUBMITTED: 8-1-96

BY: _____
Gregory J. Krenik, PE

DRAINAGE ~~CALCULATIONS~~ REPORT
for
COCA-COLA
ALBUQUERQUE, NEW MEXICO

Prepared For

Coca-Cola Company
Albuquerque, NM

March 1995

GREGORY JAMES KRENIK
NEW MEXICO
11929
REGISTERED PROFESSIONAL ENGINEER
3-23-95
6-16-95
8-14-95
12-1-95
5-29-96
6-13-96
8-1-96

D. MARK GOODWIN & ASSOCIATES

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT Coca Cola Plant
SUBJECT TABLE OF CONTENTS
BY GJK DATE 8-1-96
CHECKED _____ DATE _____
SHEET ____ OF ____

TABLE OF CONTENTS

SHEET NO.	DESCRIPTION
A	DRAINAGE REPORT
B	VICINITY MAP
1 - 7	DRAINAGE CALCULATIONS
8 - 23	AHYMO PRINTOUTS

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT Coca Cola Plant
SUBJECT Drainage Report
BY GJK DATE 8-1-96
CHECKED _____ DATE _____
SHEET A OF ____

- THE SITE CONSISTS OF 50 ACRES LOCATED AT THE NE CORNER OF UNSER & LOS VOLCANES.

- THE SITE IS MODERATELY SLOPED FROM NW TO SE. THE SITE DRAINS OVERLAND TO LOS VOLCANES.

- AHYMO WAS USED TO EVALUATE THE HYDROLOGIC ASPECTS OF THE SITE.

- THE BASIS OF DESIGN IS THE "ATRISCO BUSINESS PARK MASTER PLAN" PREPARED BY EASTERLING AND ASSOC.

- AS A DEVELOPED SITE THERE WILL BE FIVE DRAINAGE BASINS.
  - BASIN 1 WILL BE UNDEVELOPED
  - BASIN 2 DRAINS TO THE TRUCKWELL THEN THE POND
  - BASIN 3 DRAINS TO THE POND
  - BASIN 4 DRAINS TO THE INLET THEN THE POND
  - BASIN 5 DRAINS DIRECTLY TO LOS VOLCANES.

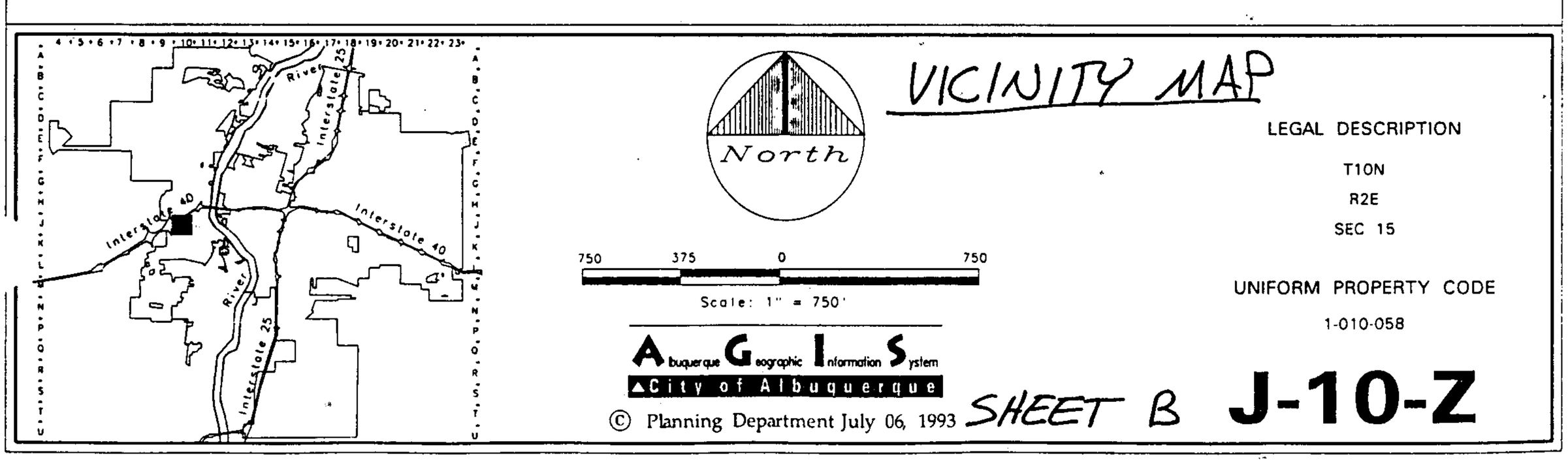
  THE POND HAS A CONTROLLED DISCHARGE PER THE MASTER PLAN TO THE STORMDRAIN IN LOS VOLCANES.

- BECAUSE OF THE SANDY SOILS ON THE WEST SIDE AN EROSION CONTROL PLAN IS PART OF THIS PROJECT.
  - THE PLAN CENTERS ON THE FACT THAT STORMWATERS OF THE DEVELOPED PORTION OF THE PROJECT WILL NOT BE ALLOWED FREE DISCHARGE DURING THE CONSTRUCTION PROCESS.

- THE PROPOSED FACILITY CAN BE READILY ACCOMODATED THROUGH THE IMPLEMENTATION OF THIS PLAN. IT HAS ALSO BEEN SHOWN IN THIS REPORT THAT THE INTERNAL CONVEYANCE OF STORMWATER CAN BE ACCOMPLISHED WHILE MEETING ALL CURRENT CITY REQUIREMENTS.

AQ Depth 1 Flood Plain on FIRM #27

Off-Site Flows



VICINITY MAP

LEGAL DESCRIPTION

T10N

R2E

SEC 15

UNIFORM PROPERTY CODE

1-010-058

SHEET B

J-10-Z

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT Coca Cola Plant
SUBJECT DRAINAGE CALCS
BY GJK DATE 5-22-95
CHECKED _____ DATE _____
SHEET 1 OF ____

Revised 12-1-95
5-29-96
6-12-96

THERE ARE FIVE DRAINAGE BASINS WITHIN THE SITE.

BASIN 1: 34.5863 AC NORTH & EAST OF DRIVEWAY. TO REMAIN UNDEVELOPED FOR FUTURE DEVELOPMENT.
NO DRAINAGE IMPROVEMENTS ARE TO BE MADE AT THIS TIME.

BASIN 3: 7.7714 AC NORTH PORTION OF SITE AND EAST HALF OF BLDG - DRAINS TO POND WITH CONTROLLED DISCHARGE.

BASIN 2: 3.9210 AC WEST HALF OF BLDG AND LOADING DOCK - DRAINS TO TRUCK WELL AND THEN TO POND

BASIN 4: 3.6696 AC FRONT PARKING LOT - DRAINS TO INLET WHICH DRAINS TO POND WITH CONTROLLED DISCHARGE.

BASIN 5: 0.0517 AC ENTRANCE OF DRIVEWAY. DRAINS TO LOS VOLCANES.

TOTAL SITE = 50.0000 AC

- TOTAL MINUS BASIN 1

  50 − 34.5863 = 15.4137 AC

  THIS AREA IS THE DEVELOPED SITE.

- ALLOWABLE DISCHARGE PER ATRISCO BUISINESS PARK MASTER PLAN
  0.1 CFS/AC 15.4137 × 0.1 = 1.54137 CFS

- FIND Q & V FOR EACH BASIN

  P_1 = 1.90 in
  P_6 = 2.22 in
  P_{24} = 2.65 in
  DT = 0.03333 HR
  TP = 0.1333 HR

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT Coca Cola Plant
SUBJECT Drainage Calcs
BY GJK DATE 5-22-95
CHECKED _____ DATE _____
SHEET 2 OF ____

REVISED 8-4-95 5-29-96

- FIND Q AND V FOR BASINS 2 - 5

BASIN	% A	% B	% C	% D	SM	AC
2	8.49	10.90	10.91	69.70	0.006127	3.9210
3	8.77	28.47	28.47	34.29	0.01243	7.7714
4	0	21.37	21.38	57.25	0.005734	3.6693
5	0	0	0	100	0.000081	0.0517

FROM HYMO OUTPUT SHEETS 8-19

BASIN	Q (CFS)	V (AC-FT)
2	14.65	0.5226
3	23.61	0.7705
4	13.24	0.4572
5	0.24	0.0086

ALL RUNOFF WILL NEED TO BE ROUTED TO A PONDING AREA WHERE IT WILL HAVE TO BE DISCHARGED AT A CONTROLLED RATE NOT EXCEEDING 1.54137 - 0.24 = 1.30137 CFS

DIRECT DISCHARGE FROM BASIN 5

- SIZE POND

BASINS 2, 3 & 4 DRAIN TO THE POND

TOTAL AREA = 0.024004 SM TYPE A = 6.60% B = 22.29% C = 22.29%
TYPE D = 48.82

ELEVATION	AREA (SF)	STORAGE (AC-FT)
30	29,450	0
31	31,556	0.700
32	33,734	1.450
33	35,984	2.250

- SIZE DISCHARGE OPENING

$Q = CA\sqrt{2gh}$

C = 0.8 round corners
OF 5" ORIFICE PLATE

A = 0.13635

ELEVATION	OUTFLOW (CFS)	h
30	0	0
31	0.7789	.78
32	1.1717	1.78
33	1.4626	2.78

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT Coca Cola Plant
SUBJECT Drainage Calcs
BY GJK DATE 5-22-95
CHECKED _____ DATE _____
SHEET 3 OF ____

REVISED 8-4-95 Revised 12-1-95
REVISED 5-29-96
REVISED 6-12-96

FROM HYMO OUTPUT SHEETS 20-23

PEAK DISCHARGE = 1,213 CFS < 1,30137 OK
MAX WATER SURFACE = 32.141

- DETERMINE INLETS IN TRUCK DRIVE

Q = 7.15 CFS (BASIN 2)

2 - DOT "A" INLETS IN SUMP CONDITION

ASSUME 50% CLOGGED

P = 17 x 0.50 = 8.50

$\frac{Q}{P} = 3.0H^{3/2}$

ASSUME 50% OF Q GOES TO EACH INLET

$\frac{3.575}{8.50} = 3(H)^{3/2}$

H = 0.27'

OK

NO REQUIRED SHEET FLOW INTO SIDE POND

- DETERMINE INLET IN BASIN 4

Q = 13.24 CFS

P = 17 x 0.50 = 8.50 50% clogged

$Q/P = 3.0H^{3/2}$

H = 0.27 OK

- SIZE SIDE POND

BASINS 2, 3 & 6 DRAIN TO THIS POND

Q = 7.62 + 47.42 + 3.59 = 58.63 CFS
V = 0.2684 + 1.5648 + 0.1199 = 1.9531 AC-FT

MAX DISCHARGE = 2.5323 - 0.739 = 1.7933 CFS

TOTAL AREA DRAINING TO POND
A = 21.9363 AC = 0.034275 SM

TYPE A = 38.27 %
TYPE B = 13.82 %
TYPE C = 13.82 %
TYPE D = 34.09 %

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT Coca Cola Plant
SUBJECT Drainage Calcs
BY GJK DATE 5-22-95
CHECKED _____ DATE _____
SHEET 4 OF ____

REVISED 8-14-95
REVISED 5-29-96

ELEVATION	STORAGE (AC-FT)
24	0
25	0.345
26	0.746
27	1.204
28	1.722

- SIZE DISCHARGE OPENING

$Q = CA\sqrt{2gh}$

C=0.8 round corners of 5" orifice plate

A=0.13635

ELEVATION	OUTFLOW (CFS)
24	0
25	0.7789
26	1.1017
27	1.4626
28	1.7045

FROM HYMO OUTPUT SHEETS 30-33

PEAK DISCHARGE = 1.698 CFS < 1.7933 CFS OK
MAX WATER SURFACE ELEVATION = 27.973

- THE OUTFALL FROM THE POND TO THE STORMDRAIN WILL BE 18" WITH A 5" ORIFICE PLATE.

- SIZE TRENCH DRAIN IN BASIN 2

S = 1% n = 0.013 15" WIDE

d = 2
WP = 5.25
A = 2.50
V = 6.97 F/S
Q = 17.426 CFS > 14.65 CFS OK

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT Coca Cola Plant
SUBJECT Drainage Calcs
BY GSK DATE 5-22-95
CHECKED _____ DATE _____
SHEET 5 OF ____

REVISED 5-29-96
6-12-96

- SIZE STORM DRAIN FROM INLET TO POND

  SLOPE = 1.96/115 = 1.7 %

  18" RCP CARRIES 14 CFS (NOMO SHEET 6)

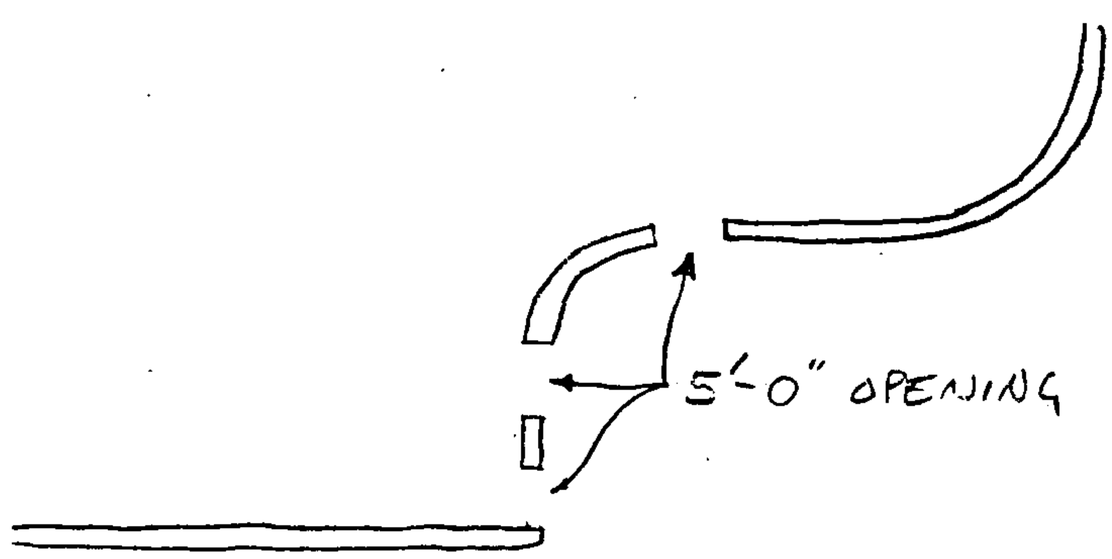
- SIZE CURB OPENING TO INLETS

  Q = 13.24 CFS

  $Q = 2.95 L H^{1.5}$
  H = 0.5

  L = 12.69 SAY 15'

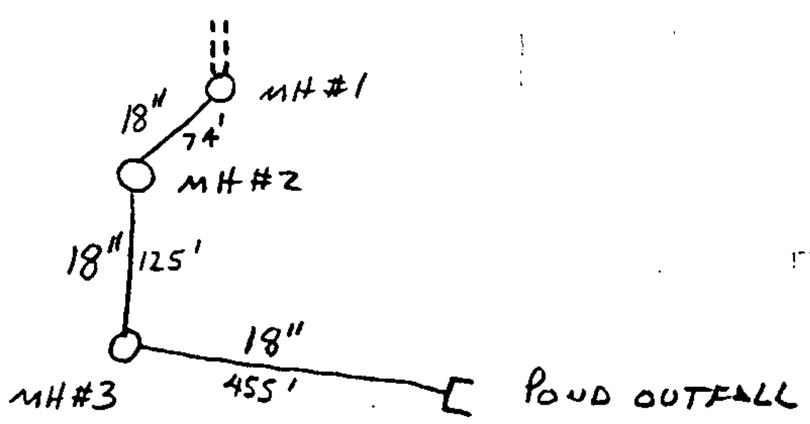
  USE 3 - 5'-0" CURB OPENINGS



- TRUCK WELL TO DRAIN TO POND VIA STORM DRAIN

  Q = 14.65 CFS

  Pond bottom = 30.00
  INVERT OF TRUCK WELL MANHOLE = 39.00

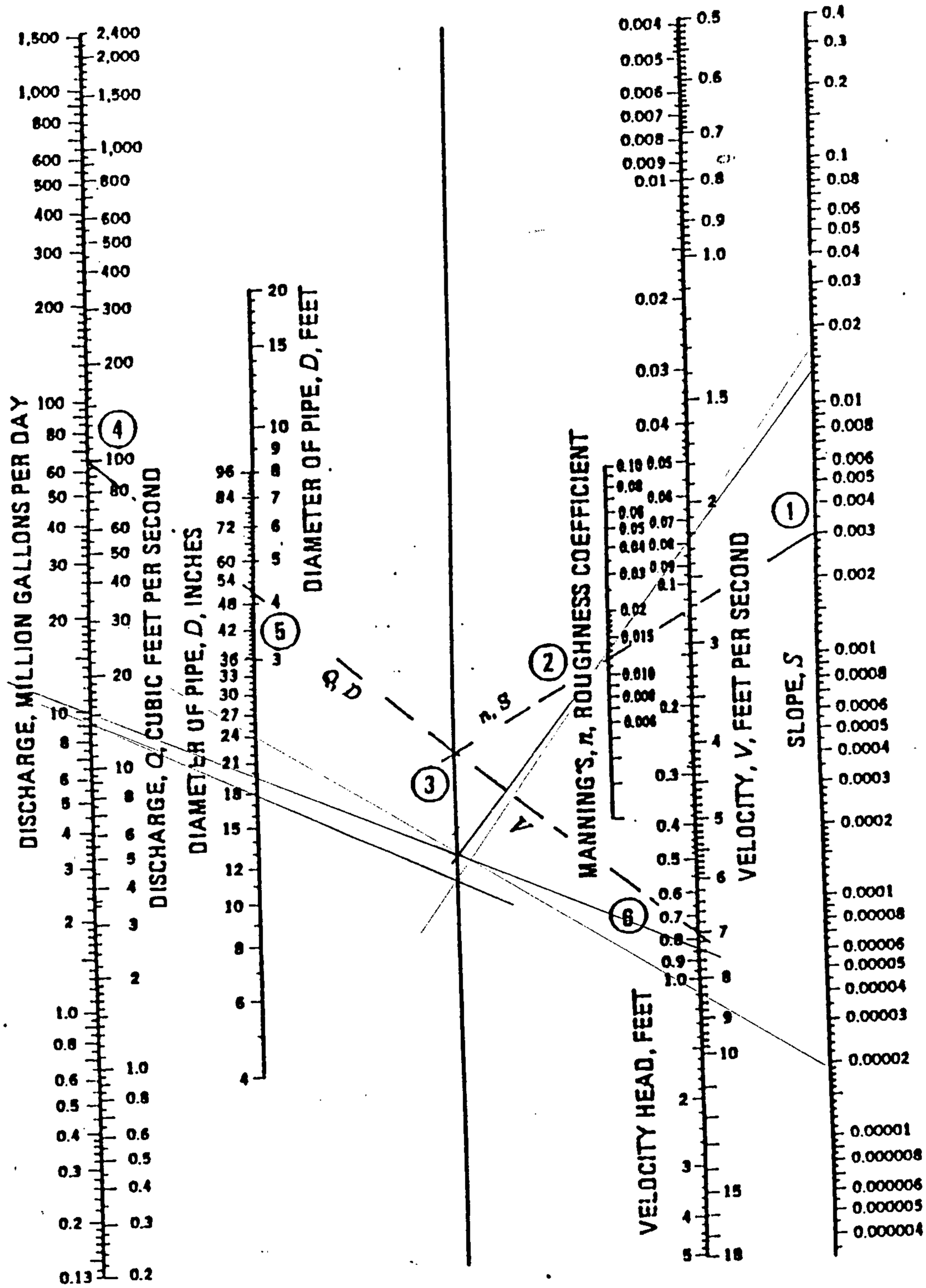


LENGTH = 654 LF

S = 1.38%

USE 24" RCP
FROM NOMO SHEET 6
CARRIES 23 CFS

Reference: American Concrete Pipe Association (1980).



B) Circular Pipe Solution

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT Coca Cola Plant
SUBJECT DRAINAGE CALCS
BY GJK DATE 5-22-95
CHECKED _____ DATE _____
SHEET 7 OF ____
Revised 8-14-95 REVISED 5-29-96

• Design EMERGENCY SPILLWAY

$Q = 27.89 + 23.61$
$= 51.50$

35' LONG

FIND WIER OPENING

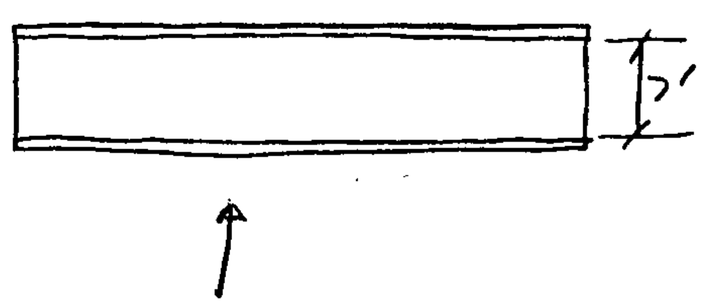
$Q = 2.95\ L H^{1.5}$

$H = 1.86'$

$L = 6.88'$ SAY $7'$

SLOPE: $\frac{32.14 - 31.17}{35} = 2.77\%$

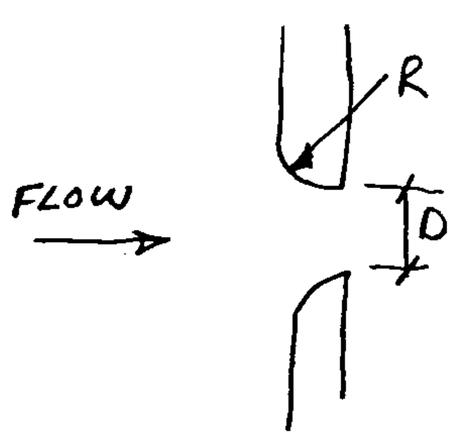
$d = 0.67$ 7' WIDE $n = 0.013$
$WP = 8.34$
$A = 4.69$
$V = 12.96$ F/s
$Q = 60.79 > 51.50$ OK



TRANSITION FROM
1.86' WALL TO 8" CURB

• DESIGN ORIFICE PLATE OPENING

$R = 1.625\ D$



FOR 5" OPENING $R = 8\frac{1}{8}$"

```
START                    TIME=0.0
***** HYDROGRAPH FOR COCA COLA MAIN FACILITY-BASIN 2
RAINFALL                 TYPE=1 RAIN QUARTER=0.0 IN
                         RAIN ONE=1.90 IN RAIN SIX=2.22 IN
                         RAIN DAY=2.65 IN DT=0.03333 HR
COMPUTE NM HYD           ID=1 HYD NO=101.1 AREA=0.006127 SQ MI
                         PER A=8.49 B=10.90 C=10.91 D=69.70
                         TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                 ID=1 CODE=1
FINISH
```

```
AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
     RUN DATE (MON/DAY/YR) = 05/30/1996
     START TIME (HR:MIN:SEC) = 09:46:51      USER NO.= M_GOODWN.I01
     INPUT FILE = COKE2A.DAT

 START                    TIME=0.0

 ***** HYDROGRAPH FOR COCA COLA MAIN FACILITY-BASIN 2

 RAINFALL                 TYPE=1 RAIN QUARTER=0.0 IN

                          RAIN ONE=1.90 IN RAIN SIX=2.22 IN

                          RAIN DAY=2.65 IN DT=0.03333 HR

                    COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2
- PEAK AT 1.40 HR.
                    DT =      .033330 HOURS        END TIME =      5.999400 HOURS
                       .0000    .0015    .0030    .0046    .0062    .0079    .0096
                       .0113    .0130    .0149    .0167    .0186    .0206    .0226
                       .0246    .0268    .0290    .0312    .0336    .0360    .0385
                       .0411    .0438    .0466    .0496    .0526    .0558    .0592
                       .0627    .0665    .0704    .0757    .0813    .0873    .1001
                       .1290    .1733    .2371    .3240    .4384    .5841    .7656
                       .9871   1.1928   1.2786   1.3511   1.4156   1.4743   1.5283
                      1.5784   1.6253   1.6692   1.7105   1.7495   1.7863   1.8212
                      1.8542   1.8856   1.9153   1.9435   1.9703   1.9764   1.9822
                      1.9876   1.9928   1.9977   2.0024   2.0070   2.0113   2.0155
                      2.0196   2.0235   2.0273   2.0310   2.0346   2.0381   2.0414
                      2.0447   2.0479   2.0511   2.0541   2.0571   2.0600   2.0629
                      2.0657   2.0685   2.0711   2.0738   2.0764   2.0789   2.0814
                      2.0839   2.0863   2.0886   2.0910   2.0933   2.0955   2.0977
                      2.0999   2.1021   2.1042   2.1063   2.1084   2.1104   2.1124
                      2.1144   2.1164   2.1183   2.1202   2.1221   2.1240   2.1258
                      2.1276   2.1294   2.1312   2.1330   2.1347   2.1364   2.1381
                      2.1398   2.1415   2.1432   2.1448   2.1464   2.1480   2.1496
                      2.1512   2.1527   2.1543   2.1558   2.1573   2.1588   2.1603
                      2.1618   2.1632   2.1647   2.1661   2.1675   2.1690   2.1704
                      2.1718   2.1731   2.1745   2.1759   2.1772   2.1785   2.1799
                      2.1812   2.1825   2.1838   2.1851   2.1864   2.1876   2.1889
                      2.1901   2.1914   2.1926   2.1938   2.1951   2.1963   2.1975
                      2.1987   2.1998   2.2010   2.2022   2.2034   2.2045   2.2057
                      2.2068   2.2079   2.2091   2.2102   2.2113   2.2124   2.2135
                      2.2146   2.2157   2.2168   2.2178   2.2189   2.2200

 COMPUTE NM HYD           ID=1 HYD NO=101.1 AREA=0.006127 SQ MI
```

PER A=8.49 B=10.90 C-10.91 D-69.70

TP=0.1333 HR MASS RAINFALL--1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.105470
UNIT PEAK = 16.860 CFS UNIT VOLUME = .9987 B = 326.28
P60 = 1.9000
AREA = .004271 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .130932HR TP = .133300HR K/TP RATIO = .982237 SHAPE CONSTANT, N = 3.595121
UNIT PEAK = 4.5570 CFS UNIT VOLUME = .9973 B = 327.21
P60 = 1.9000
AREA = .001856 SQ MI IA = .48802 INCHES INF = 1.21646 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = 1.59913 INCHES = .5226 ACRE-FEET
PEAK DISCHARGE RATE = 14.65 CFS AT 1.500 HOURS BASIN AREA = .0061 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 09:46:58

```
START                    TIME=0.0
***** HYDROGRAPH FOR COCA COLA MAIN FACILITY-BASIN 3
RAINFALL                 TYPE=1 RAIN QUARTER=0.0 IN
                         RAIN ONE=1.90 IN RAIN SIX=2.22 IN
                         RAIN DAY=2.65 IN DT=0.03333 HR
COMPUTE NM HYD           ID=1 HYD NO=101.1 AREA=0.012143 SQ MI
                         PER A=8.77 B=28.47 C=28.47 D=34.29
                         TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                 ID=1 CODE=1
FINISH
```

```
AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
     RUN DATE (MON/DAY/YR) = 05/30/1996
     START TIME (HR:MIN:SEC) = 09:48:33      USER NO.= M_GOODWN.I01
     INPUT FILE = COKE3A.DAT

START                    TIME=0.0

***** HYDROGRAPH FOR COCA COLA MAIN FACILITY-BASIN 3

RAINFALL                 TYPE=1 RAIN QUARTER=0.0 IN

                         RAIN ONE=1.90 IN RAIN SIX=2.22 IN

                         RAIN DAY=2.65 IN DT=0.03333 HR


                    COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2
- PEAK AT 1.40 HR.
                    DT =      .033330 HOURS        END TIME =      5.999400 HOURS
                       .0000    .0015    .0030    .0046    .0062    .0079    .0096
                       .0113    .0130    .0149    .0167    .0186    .0206    .0226
                       .0246    .0268    .0290    .0312    .0336    .0360    .0385
                       .0411    .0438    .0466    .0496    .0526    .0558    .0592
                       .0627    .0665    .0704    .0757    .0813    .0873    .1001
                       .1290    .1733    .2371    .3240    .4384    .5841    .7656
                       .9871   1.1928   1.2786   1.3511   1.4156   1.4743   1.5283
                      1.5784   1.6253   1.6692   1.7105   1.7495   1.7863   1.8212
                      1.8542   1.8856   1.9153   1.9435   1.9703   1.9764   1.9822
                      1.9876   1.9928   1.9977   2.0024   2.0070   2.0113   2.0155
                      2.0196   2.0235   2.0273   2.0310   2.0346   2.0381   2.0414
                      2.0447   2.0479   2.0511   2.0541   2.0571   2.0600   2.0629
                      2.0657   2.0685   2.0711   2.0738   2.0764   2.0789   2.0814
                      2.0839   2.0863   2.0886   2.0910   2.0933   2.0955   2.0977
                      2.0999   2.1021   2.1042   2.1063   2.1084   2.1104   2.1124
                      2.1144   2.1164   2.1183   2.1202   2.1221   2.1240   2.1258
                      2.1276   2.1294   2.1312   2.1330   2.1347   2.1364   2.1381
                      2.1398   2.1415   2.1432   2.1448   2.1464   2.1480   2.1496
                      2.1512   2.1527   2.1543   2.1558   2.1573   2.1588   2.1603
                      2.1618   2.1632   2.1647   2.1661   2.1675   2.1690   2.1704
                      2.1718   2.1731   2.1745   2.1759   2.1772   2.1785   2.1799
                      2.1812   2.1825   2.1838   2.1851   2.1864   2.1876   2.1889
                      2.1901   2.1914   2.1926   2.1938   2.1951   2.1963   2.1975
                      2.1987   2.1998   2.2010   2.2022   2.2034   2.2045   2.2057
                      2.2068   2.2079   2.2091   2.2102   2.2113   2.2124   2.2135
                      2.2146   2.2157   2.2168   2.2178   2.2189   2.2200

COMPUTE NM HYD           ID=1 HYD NO=101.1 AREA=0.017143 SQ MI
```

```
                    PEP A=8.77 B=28.47 C=28.47 D=34.29

                    TP-0.1333 HR MASS RAINFALL=-1


      K =    .072649HR     TP =    .133300HR     K/TP RATIO =    .545000      SHAPE
CONSTANT, N =  7.106420
      UNIT PEAK =    16.439     CFS   UNIT VOLUME =     .9987        B =    526.28
   P60 = 1.9000
      AREA =       .004164 SQ MI     IA =     .10000 INCHES     INF =     .04000 I
NCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=   .033330


      K =    .124415HR     TP =    .133300HR     K/TP RATIO =    .933344      SHAPE
CONSTANT, N =  3.789720
      UNIT PEAK =    20.406     CFS   UNIT VOLUME =     .9996        B =    340.90
   P60 = 1.9000
      AREA =       .007979 SQ MI.    IA =     .45503 INCHES     INF =    1.12406 I
NCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=   .033330

 PRINT HYD              ID=1 CODE=1


                                        PARTIAL HYDROGRAPH    101.10


      RUNOFF VOLUME =      1.18974 INCHES      =          .7705 ACRE-FEET
      PEAK DISCHARGE RATE =       23.61 CFS   AT    1.500 HOURS    BASIN AREA =
121 SQ. MI.


 FINISH


      NORMAL PROGRAM FINISH            END TIME (HR:MIN:SEC) = 09:48:40
```

```
START                    TIME=0.0
***** HYDROGRAPH FOR COCA COLA MAIN FACILITY-BASIN 4
RAINFALL                 TYPE=1 RAIN QUARTER=0.0 IN
                         RAIN ONE=1.90 IN RAIN SIX=2.22 IN
                         RAIN DAY=2.65 IN DT=0.03333 HR
COMPUTE NM HYD           ID=1 HYD NO=101.1 AREA=0.005734 SQ MI
                         PER A=0 B=21.37 C=21.38 D=57.25
                         TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                 ID=1 CODE=1
FINISH
```

```
AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
     RUN DATE (MON/DAY/YR) = 05/30/1996
     START TIME (HR:MTN:SEC) = 09:50:15      USER NO.= M_GOODWN.I01
     INPUT FILE = COKE4A.DAT

START                    TIME=0.0

***** HYDROGRAPH FOR COCA COLA MAIN FACILITY-BASIN 4

RAINFALL                 TYPE=1 RAIN QUARTER=0.0 IN

                         RAIN ONE=1.90 IN RAIN SIX=2.22 IN

                         RAIN DAY=2.65 IN DT=0.03333 HR

                    COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2
- PEAK AT 1.40 HR.
                    DT =     .033330 HOURS        END TIME =      5.999400 HOURS
                       .0000    .0015    .0030    .0046    .0062    .0079    .0096
                       .0113    .0130    .0149    .0167    .0186    .0206    .0226
                       .0246    .0268    .0290    .0312    .0336    .0360    .0385
                       .0411    .0438    .0466    .0496    .0526    .0558    .0592
                       .0627    .0665    .0704    .0757    .0813    .0873    .1001
                       .1290    .1733    .2371    .3240    .4384    .5841    .7656
                       .9871   1.1928   1.2786   1.3511   1.4156   1.4743   1.5283
                      1.5784   1.6253   1.6692   1.7105   1.7495   1.7863   1.8212
                      1.8542   1.8856   1.9153   1.9435   1.9703   1.9764   1.9822
                      1.9876   1.9928   1.9977   2.0024   2.0070   2.0113   2.0155
                      2.0196   2.0235   2.0273   2.0310   2.0346   2.0381   2.0414
                      2.0447   2.0479   2.0511   2.0541   2.0571   2.0600   2.0629
                      2.0657   2.0685   2.0711   2.0738   2.0764   2.0789   2.0814
                      2.0839   2.0863   2.0886   2.0910   2.0933   2.0955   2.0977
                      2.0999   2.1021   2.1042   2.1063   2.1084   2.1104   2.1124
                      2.1144   2.1164   2.1183   2.1202   2.1221   2.1240   2.1258
                      2.1276   2.1294   2.1312   2.1330   2.1347   2.1364   2.1381
                      2.1398   2.1415   2.1432   2.1448   2.1464   2.1480   2.1496
                      2.1512   2.1527   2.1543   2.1558   2.1573   2.1588   2.1603
                      2.1618   2.1632   2.1647   2.1661   2.1675   2.1690   2.1704
                      2.1718   2.1731   2.1745   2.1759   2.1772   2.1785   2.1799
                      2.1812   2.1825   2.1838   2.1851   2.1864   2.1876   2.1889
                      2.1901   2.1914   2.1926   2.1938   2.1951   2.1963   2.1975
                      2.1987   2.1998   2.2010   2.2022   2.2034   2.2045   2.2057
                      2.2068   2.2079   2.2091   2.2102   2.2113   2.2124   2.2135
                      2.2146   2.2157   2.2168   2.2178   2.2189   2.2200

COMPUTE NM HYD        ID=1 HYD NO=101.1 AREA=0.005734 SQ MI
```

```
                    PER A=0 B=21.37 C=21.38 D=57.25

                    TP=0.1333 HR MASS RAINFALL=-1

      K =    .072649HR     TP =    .133300HR     K/TP RATIO =    .545000      SHAPE
CONSTANT, N =  7.106470
      UNIT PEAK =    12.960     CFS    UNIT VOLUME =      9985        B =    526.38
   P60 = 1.9000
      AREA =       .003283 SQ MI     IA =     .10000 INCHES     INF =     .04000 I
NCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=   .033330

      K =    .118480HR     TP =    .133300HR     K/TP RATIO =    888822       SHAPE
CONSTANT, N =  3.990658
      UNIT PEAK =    6.5198     CFS    UNIT VOLUME =     .9984        B =    354.55
   P60 = 1.9000
      AREA =       .002451 SQ MI     IA =     .42498 INCHES     INF =    1.03995 I
NCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=   .033330

  PRINT HYD              ID=1  CODE=1


                                        PARTIAL HYDROGRAPH    101.10


      RUNOFF VOLUME =      1 49505 INCHES      =          .4572 ACRE-FEET
      PEAK DISCHARGE RATE =       13.24 CFS   AT    1.500 HOURS    BASIN AREA =
.0057 SQ. MI.


  FINISH

      NORMAL PROGRAM FINISH            END TIME (HR:MIN:SEC) = 09:50:22
```

```
START                    TIME=0.0
***** HYDROGRAPH FOR COCA COLA MAIN FACILITY-BASIN 5
RAINFALL                 TYPE=1 RAIN QUARTER=0.0 IN
                         RAIN ONE=1.90 IN RAIN SIX=2.22 IN
                         RAIN DAY=2.65 IN DT=0.03333 HR
COMPUTE NM HYD           ID=1 HYD NO=101.1 AREA=0.000081 SQ MI
                         PER A=0 B=0 C=0 D=100
                         TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                 ID=1 CODE=1
FINISH
```

```
AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
     RUN DATE (MON/DAY/YR) = 05/30/1996
     START TIME (HR:MIN:SEC) = 09:51:46      USER NO.= M_GOODWN.I01
     INPUT FILE = COKE5A.DAT

START                    TIME=0.0

***** HYDROGRAPH FOR COCA COLA MAIN FACILITY-BASIN 5

RAINFALL                 TYPE=1 RAIN QUARTER=0.0 IN

                         RAIN ONE=1.90 IN RAIN SIX=2.22 IN

                         RAIN DAY=2.65 IN DT=0.03333 HR


                    COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2
- PEAK AT 1.40 HR.
                    DT =      .033330 HOURS        END TIME =      5.999400 HOURS
                        .0000    .0015    .0030    .0046    .0062    .0079    .0096
                        .0113    .0130    .0149    .0167    .0186    .0206    .0226
                        .0246    .0268    .0290    .0312    .0336    .0360    .0385
                        .0411    .0438    .0466    .0496    .0526    .0558    .0592
                        .0627    .0665    .0704    .0757    .0813    .0873    .1001
                        .1290    .1733    .2371    .3240    .4384    .5841    .7656
                        .9871   1.1928   1.2786   1.3511   1.4156   1.4743   1.5283
                       1.5784   1.6253   1.6692   1.7105   1.7495   1.7863   1.8212
                       1.8542   1.8856   1.9153   1.9435   1.9703   1.9764   1.9972
                       1.9876   1.9928   1.9977   2.0024   2.0070   2.0113   2.0155
                       2.0196   2.0235   2.0273   2.0310   2.0346   2.0381   2.0414
                       2.0447   2.0479   2.0511   2.0541   2.0571   2.0600   2.0629
                       2.0657   2.0685   2.0711   2.0738   2.0764   2.0789   2.0814
                       2.0839   2.0863   2.0886   2.0910   2.0933   2.0955   2.0977
                       2.0999   2.1021   2.1042   2.1063   2.1084   2.1104   2.1124
                       2.1144   2.1164   2.1183   2.1202   2.1221   2.1240   2.1258
                       2.1276   2.1294   2.1312   2.1330   2.1347   2.1364   2.1381
                       2.1398   2.1415   2.1432   2.1448   2.1464   2.1480   2.1496
                       2.1512   2.1527   2.1543   2.1558   2.1573   2.1588   2.1603
                       2.1618   2.1632   2.1647   2.1661   2.1675   2.1690   2.1704
                       2.1718   2.1731   2.1745   2.1759   2.1772   2.1785   2.1799
                       2.1812   2.1825   2.1838   2.1851   2.1864   2.1876   2.1889
                       2.1901   2.1914   2.1926   2.1938   2.1951   2.1963   2.1975
                       2.1987   2.1998   2.2010   2.2022   2.2034   2.2045   2.2057
                       2.2068   2.2079   2.2091   2.2102   2.2113   2.2124   2.2135
                       2.2146   2.2157   2.2168   2.2178   2.2189   2.2200

COMPUTE NM HYD           ID=1 HYD NO=101.1 AREA=0.000081 SQ MI
```

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

                    TP=0.1333 HR MASS RAINFALL=-1


      K =    .072649HR     TP =    .133300HR     K/TP RATIO =    .545000      SHAPE
CONSTANT, N =  7.106420
      UNIT PEAK =    .31979     CFS    UNIT VOLUME =     .9610        B =    526.78
   P60 = 1.9000
      AREA =       .000081 SQ MI     IA =     .10000 INCHES     INF =     .04000 I
NCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=   .033330

   PRINT HYD              ID=1 CODE=1


                                    PARTIAL HYDROGRAPH   101.10


      RUNOFF VOLUME =      1.98600 INCHES      =          .0086 ACRE-FEET
      PEAK DISCHARGE RATE =          .24 CFS   AT    1.500 HOURS    BASIN AREA =
.0001 SQ. MI.


   FINISH

      NORMAL PROGRAM FINISH              END TIME (HR:MIN:SEC) = 09:51:52
```

```
START                    TIME=0.0
***** HYDROGRAPH FOR COCA COLA MAIN FACILITY POND
RAINFALL                 TYPE=1 RAIN QUARTER=0.0 IN
                         RAIN ONE=1.90 IN RAIN SIX=2.22 IN
                         RAIN DAY=2.65 IN DT=0.03333 HR
COMPUTE NM HYD           ID=1 HYD NO=101.1 AREA=0.024004 SQ MI
                         PER A=6.6 PER B=22.29 PER C=22.29 PER D=48.82
                         TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                ID=1 CODE=1
*****RESERVOIR ROUTE THE DEVELOPED STORM
ROUTE RESERVOIR          ID=2 HYD NO=101.2 INFLOW ID=1 CODE=24
                         OUTFLOW (CFS)      STORAGE(AC-FT)    ELEVATION(FT)
                             0.0                0.0                30.0
                             0.7789             0.700              31.0
                             1.1717             1.450              32.0
                             1.4626             2.250              33.0
FINISH
```

```
     AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
          RUN DATE (MON/DAY/YR) = 05/30/1996
          START TIME (HR:MIN:SEC) = 10:14:24      USER NO.= M_GOODWN.I01
          INPUT FILE = COKEPOND.DAT


START                    TIME=0.0

***** HYDROGRAPH FOR COCA COLA MAIN FACILITY POND

RAINFALL                 TYPE=1 RAIN QUARTER=0.0 IN

                         RAIN ONE=1.90 IN RAIN SIX=2.22 IN

                         RAIN DAY=2.65 IN DT=0.03333 HR


                    COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2
- PEAK AT 1.40 HR.
                    DT =      .033330 HOURS          END TIME =      5.999400 HOURS
                       .0000    .0015    .0030    .0046    .0062    .0079    .0096
                       .0113    .0130    .0149    .0167    .0186    .0206    .0226
                       .0246    .0268    .0290    .0312    .0336    .0360    .0385
                       .0411    .0438    .0466    .0496    .0526    .0558    .0592
                       .0627    .0665    .0704    .0757    .0813    .0873    .1001
                       .1290    .1733    .2371    .3240    .4384    .5841    .7656
                       .9871   1.1928   1.2786   1.3511   1.4156   1.4743   1.5283
                      1.5784   1.6253   1.6692   1.7105   1.7495   1.7863   1.8212
                      1.8542   1.8856   1.9153   1.9435   1.9703   1.9764   1.9822
                      1.9876   1.9928   1.9977   2.0024   2.0070   2.0113   2.0155
                      2.0196   2.0235   2.0273   2.0310   2.0346   2.0381   2.0414
                      2.0447   2.0479   2.0511   2.0541   2.0571   2.0600   2.0629
                      2.0657   2.0685   2.0711   2.0738   2.0764   2.0789   2.0814
                      2.0839   2.0863   2.0886   2.0910   2.0933   2.0955   2.0977
                      2.0999   2.1021   2.1042   2.1063   2.1084   2.1104   2.1124
                      2.1144   2.1164   2.1183   2.1202   2.1221   2.1240   2.1258
                      2.1276   2.1294   2.1312   2.1330   2.1347   2.1364   2.1381
                      2.1398   2.1415   2.1432   2.1448   2.1464   2.1480   2.1496
                      2.1512   2.1527   2.1543   2.1558   2.1573   2.1588   2.1603
                      2.1618   2.1632   2.1647   2.1661   2.1675   2.1690   2.1704
                      2.1718   2.1731   2.1745   2.1759   2.1772   2.1785   2.1799
                      2.1812   2.1825   2.1838   2.1851   2.1864   2.1876   2.1889
                      2.1901   2.1914   2.1926   2.1938   2.1951   2.1963   2.1975
                      2.1987   2.1998   2.2010   2.2022   2.2034   2.2045   2.2057
                      2.2068   2.2079   2.2091   2.2102   2.2113   2.2124   2.2135
                      2.2146   2.2157   2.2168   2.2178   2.2189   2.2200

 COMPUTE NM HYD          ID=1 HYD NO=101.1 AREA=0.024004 SQ MI

                         PER A=6.6 PER B=22.29 PER C=22.29 PER D=48.82

                         TP=0.1333 HR MASS RAINFALL=-1


       K =    .072649HR     TP =    .133300HR     K/TP RATIO =    .545000      SHAPE
CONSTANT, N =   7.106420
       UNIT PEAK =    46.266     CFS    UNIT VOLUME =     .9991          B =    526.28
   P50 = 1.2000
```

AREA = .011719 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

22

K = .124214HR TP = .133300HR K/TP RATIO = .931840 SHAPE CONSTANT, N = 3.796108

UNIT PEAK = 31.459 CFS UNIT VOLUME = .9999 B = 341.34 P60 = 1.9000

AREA = .012285 SQ MI IA = .45402 INCHES INF = 1.12124 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = 1.36687 INCHES = 1.7499 ACRE-FEET

PEAK DISCHARGE RATE = 51.47 CFS AT 1.500 HOURS BASIN AREA = .240 SQ. MI.

*****RESERVOIR ROUTE THE DEVELOPED STORM

ROUTE RESERVOIR ID=2 HYD NO=101.2 INFLOW ID=1 CODE=24

OUTFLOW (CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0	0.0	30.0
0.7789	0.700	31.0
1.1717	1.450	32.0
1.4626	2.250	33.0

* * * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	30.00	.000	.00
.80	.00	30.00	.000	.00
1.60	37.14	31.20	.851	.86
2.40	1.95	32.14	1.558	1.21
3.20	.35	32.11	1.535	1.20
4.00	.19	32.03	1.472	1.18
4.80	.18	31.94	1.407	1.15
5.60	.21	31.86	1.345	1.12
6.40	.02	31.78	1.282	1.08
7.20	.00	31.68	1.212	1.05
8.00	.00	31.59	1.144	1.01
8.80	.00	31.50	1.079	.98
9.60	.00	31.42	1.015	.94
10.40	.00	31.34	.954	.91
11.20	.00	31.26	.895	.88
12.00	.00	31.18	.837	.85
12.80	.00	31.11	.782	.82
13.60	.00	31.04	.729	.79
14.40	.00	30.97	.677	.75

23

15.20	.00	30.90	.629	.70
16.00	.00	30.84	.585	.65
16.80	.00	30.78	.543	.60
17.60	.00	30.72	.505	.56
18.40	.00	30.67	.469	.52
19.20	.00	30.62	.436	.48

PEAK DISCHARGE = 1.213 CFS - PEAK OCCURS AT HOUR 2.57
MAXIMUM WATER SURFACE ELEVATION = 32.141
MAXIMUM STORAGE = 1.5632 AC-FT INCREMENTAL TIME= .033330HR

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 10:14:30