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OCT 3 1986
DEPT. OF
WATER RESOURCES

HYDROLOGIC STUDY
AND LETTER OF MAP REVISION DATA
FOR
SANTO TOMAS

Prepared For:

PATTERSON DEVELOPMENT COMPANY

For Submittal To:

CITY OF SCOTTSDALE

FEDERAL EMERGENCY MANAGEMENT AGENCY

PREPARED BY:

ERIE AND ASSOCIATES, INC.

CONSULTING ENGINEERS

EA #1180.1

April 1986

Erie & Associates, Inc.
CONSULTING ENGINEERS
5110 N. 40th Street, Suite 252 / Phoenix, Arizona 85018 / (602) 954-6399

HYDROLOGIC STUDY
AND LETTER OF MAP REVISION DATA
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LOCATION/DESCRIPTION

The proposed development is located in the City of Scottsdale, Arizona, adjacent to the east side of Scottsdale Road north of McCormick Parkway (See Plate 1). The primary source of water affecting the site is Indian Bend Wash.

Indian Bend Wash leaves the Town of Paradise Valley and enters the City of Scottsdale along this project's Scottsdale Road frontage and a portion of this site lies within it's floodplain. Both upstream and downstream of the project site, Indian Bend Wash flows through a greenbelt area consisting of recreational lakes and golf courses.

INDIAN BEND WASH BACKGROUND

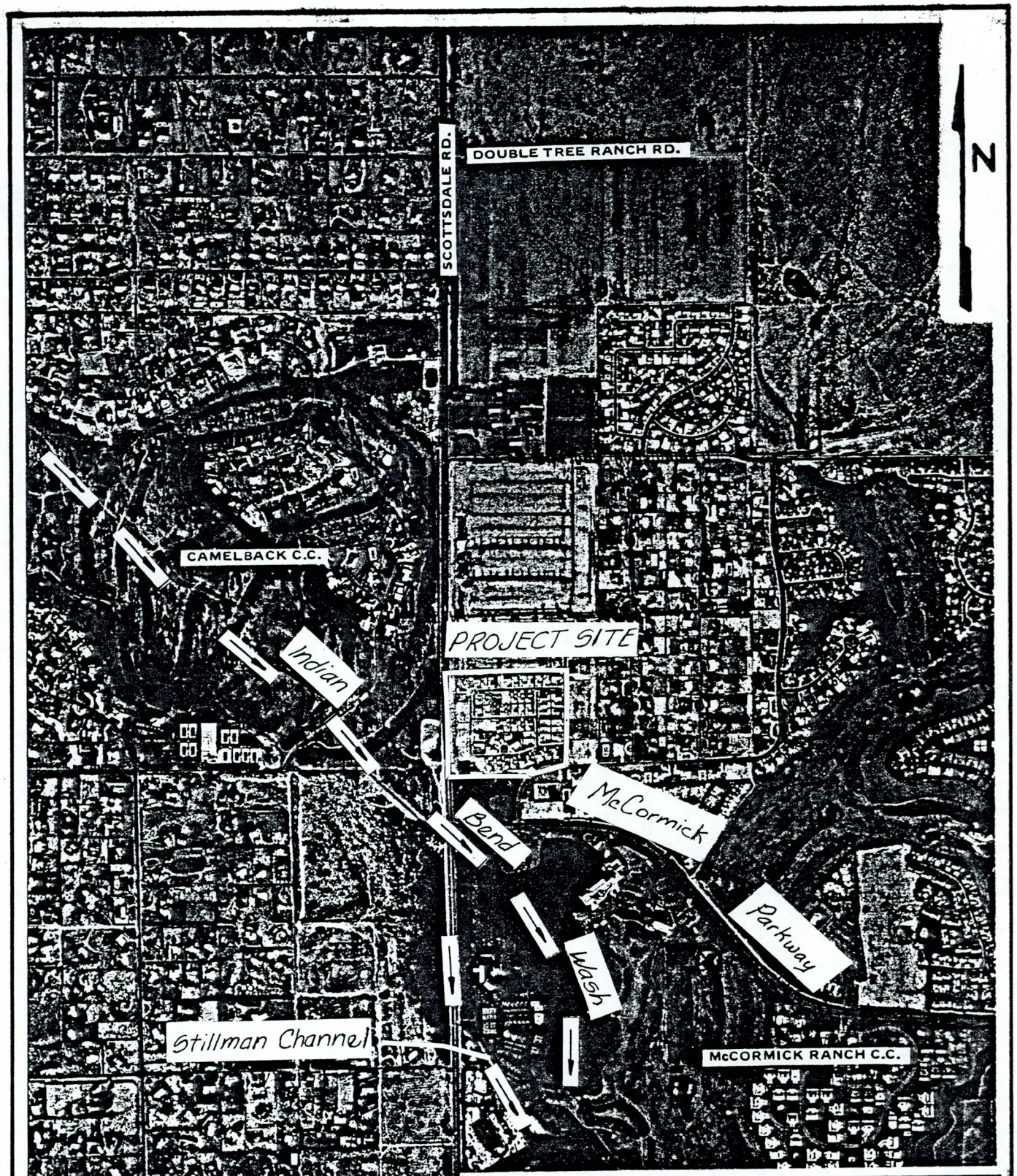
The site lies within the Indian Bend Wash encroachment limits as definied by the Federal Emergency Management Agency flood plain delineations for the City of Scottsdale. The ultimate 100 year flow for Indian Bend Wash used by the Corps is 23,000 cfs.

Since the original encroachment limits were defined, considerable alteration has taken place on the wash immediately upstream and downstream of this site. Camelback Golf Course upstream has encroached into the floodplain and confined the 100 year flow to a defined channel. McCormick Ranch downstream has considerably lowered the channel invert and water-surface by constructing a series of lakes, grassed areas, and the Stillman Channel to confine the floodplain.

HYDROLOGY

The original encroachment limits from the Corp's 1964 floodplain study were based on a watershed extending north into the McDowell Mountains, 90 square miles in area. The 100 year frequency flood flow prior to Central Arizona Project (CAP) construction was set at 30,000 cfs. Since that study, detention dikes built by the U.S. Bureau of Reclamation for the Central Arizona Project have eliminated the majority of the watershed north of Bell Road; the revised hydrology from the Corps for fully developed condition (future) in the remaining watershed put the 100 year flow at 23,000 cfs. Correspondingly, the Corps has also reduced the 100 year design flow on the joint Federal-County-City Indian Bend Wash project in Scottsdale.

The flow rates used by the Federal Emergency Management Agency (FEMA) in their definitions are for present conditions (within the next five years). The 100 year flow required for redefinition by FEMA is approximately 16,000 cfs vs the 23,000 cfs rate used as the design criteria for this project.



AERIAL LOCATION MAP

SANTO TOMAS

SCALE	JOB NO.	DATE	PLATE
1" =	1180.1	Feb. 86	1

Erie & Associates, Inc.

CONSULTING ENGINEERS

Phoenix, Arizona

Flow rates for Indian Bend Wash were generated by the Corps of Engineers (USCE) and have been used by the Federal Emergency Management Agency (FEMA) for the current Flood Insurance Study (FIS, July 1985) and in this study.

TABLE 1
INDIAN BEND WASH FLOWS AT SCOTTSDALE ROAD

Frequency (Yrs)	Flow (cfs)
10	3,400
25	6,900
50	11,000
100	16,000
500	34,000
Fully Developed 100	23,000

HYDRAULICS

During intermediate and high flow events, the existing culverts under Scottsdale Road have little to no influence on the upstream water surface elevations. Even though the construction of an additional seven 10' w x 8' h box culverts is being planned by the City of Scottsdale, design and existing conditions were modeled as if there are no box culverts in place.

High Flow Event

The 100 year event for the fully developed watershed was used to set the finished floor elevations as required by the City of Scottsdale. As listed in Table 1, the fully developed 100 year flow is 23,000 cfs at Scottsdale Road. The HEC-2 computed backwater profiles for existing and design conditions are given in Appendix I and summarized in Table 2.

TABLE 2

WATER SURFACE PROFILES: 100 Year Event Fully Developed Watershed
Existing and Design Conditions

Section No.	Water Surface Elevation Existing Conditions+	Design Conditions+
18 + 00	1293.70	1293.70
23 + 00	1297.88*	1297.88*
23 + 75	1299.06	1299.06
25 + 50	1299.64	1299.64
28 + 00	1300.48	1300.48
29 + 50	1300.93	1300.91
30 + 00	1301.13	1301.11
33 + 30	1301.60	1301.60
38 + 30	1303.05	1303.05

* Critical Depth + Q = 23,000 cfs

Letter of Map Amendment Data (FEMA Flows)

The flows used in the FEMA Flood Insurance Study (July 1985) for Indian Bend Wash at Scottsdale Road are given in Table 1. The HEC-2 computed water surface profiles for existing and design conditions during the FEMA 100 year event flow are given in Appendix I and summarized in Table 3. The computed water surface profiles for design conditions during the 10, 50, 100, and 500 year FEMA flow events are summarized in Table 4 and given in Appendix I.

TABLE 3

WATER SURFACE PROFILES: 100 Year FEMA Event (Q = 16,000 cfs)
Existing and Design Conditions

Section No.	Water Surface Elevations Existing Conditions	Design Conditions	Difference (ft)	Effective FIS (Approx.)
18 + 00	1292.64	1292.64	0	------
23 + 00	1297.43*	1297.43*	0	1297.5
23 + 75	1298.48	1298.48	0	------
25 + 50	1299.02	1299.02	0	------
28 + 00	1299.83	1299.83	0	------
29 + 50	1300.25	1300.24	-.01	------
30 + 00	1300.42	1300.42	0	1300.5
33 + 30	1300.89	1300.88	-.01	1301.0
38 + 30	1302.35	1302.35	0	1302.6

* Critical Depth

TABLE 4

WATER SURFACE PROFILES: FEMA Flood Events - Design Conditions

Water Surface Elevations

Section No.	10 Year Event (Q = 3,400 cfs)	50 Yr Event (Q = 11,000 cfs)	100 Yr Event (Q = 16,000 cfs)	500 Yr Event (Q = 34,000 cfs)
18 + 00	1289.86	1291.73	1292.64	1295.13
23 + 00	1296.13*	1297.07*	1297.43*	1298.49*
23 + 75	1296.96	1298.00	1298.48	1299.95
23 + 50	1297.35	1298.50	1299.02	1300.46
28 + 00	1297.99	1299.29	1299.83	1301.35
29 + 50	1298.37	1299.67	1300.24	1301.79
30 + 00	1298.49	1299.83	1300.42	1302.05
33 + 30	1298.89	1300.26	1300.88	1302.56
38 + 30	1300.59	1301.77	1302.35	1303.98

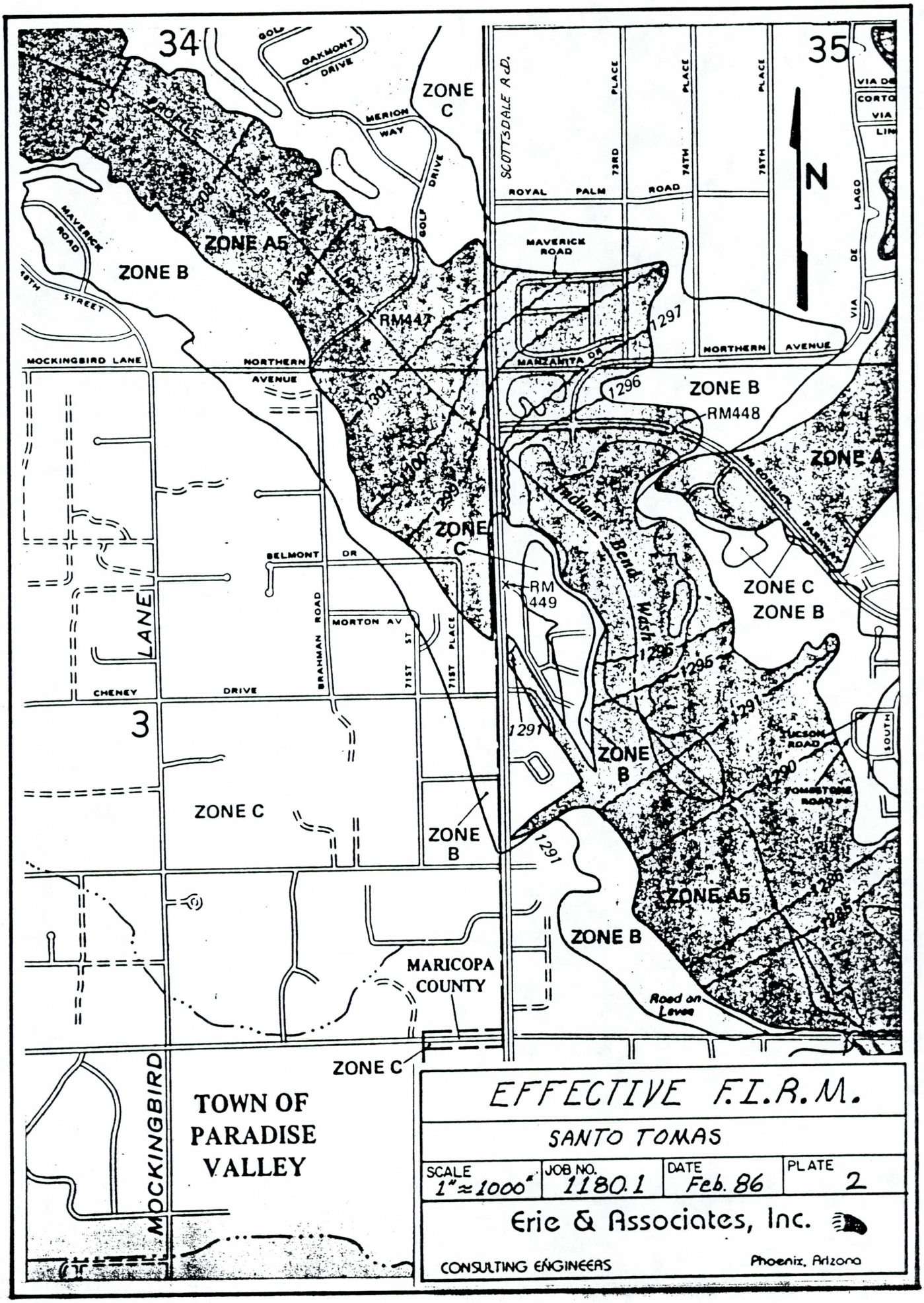
* Critical Depth

As indicated in Table 3, the computed 100 year water surface elevations for design conditions are less than or equal to those computed for existing conditions. Hence, the encroachments to the Indian Bend Wash channel by the Santo Tomas development result in no increase in the computed water surface elevations.

A portion of the effective Flood Insurance Rate Map (FIRM) is shown in Plate 2. The water surface elevations shown on the effective FIRM are also listed in Table 3.

Plate 3 illustrates the revised 100 year flood boundary adjacent to the project site. Plate 4 is a portion of the effective Flood Insurance Rate Map (FIRM) indicating the revisions corresponding to the Santo Tomas development.

The Santo Tomas development does not encroach on the floodway as indicated in the effective FEMA Flood Boundary and Floodway Map. Therefore, the floodway boundaries were not recomputed or revised.



EFFECTIVE F.I.R.M.

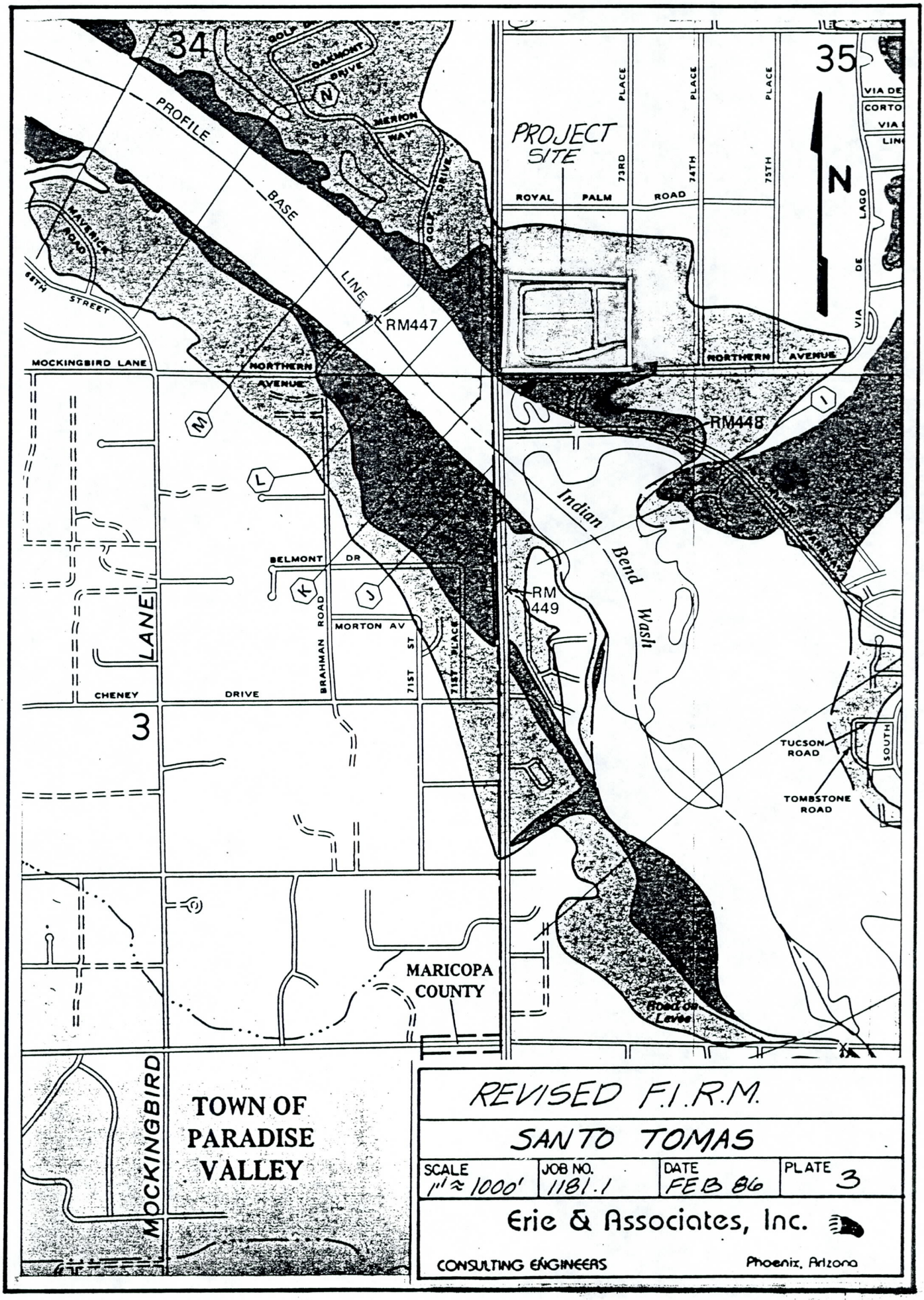
SANTO TOMAS

SCALE	JOB NO.	DATE	PLATE
1" ≈ 1000'	1180.1	Feb. 86	2

Erie & Associates, Inc.

CONSULTING ENGINEERS

Phoenix, Arizona



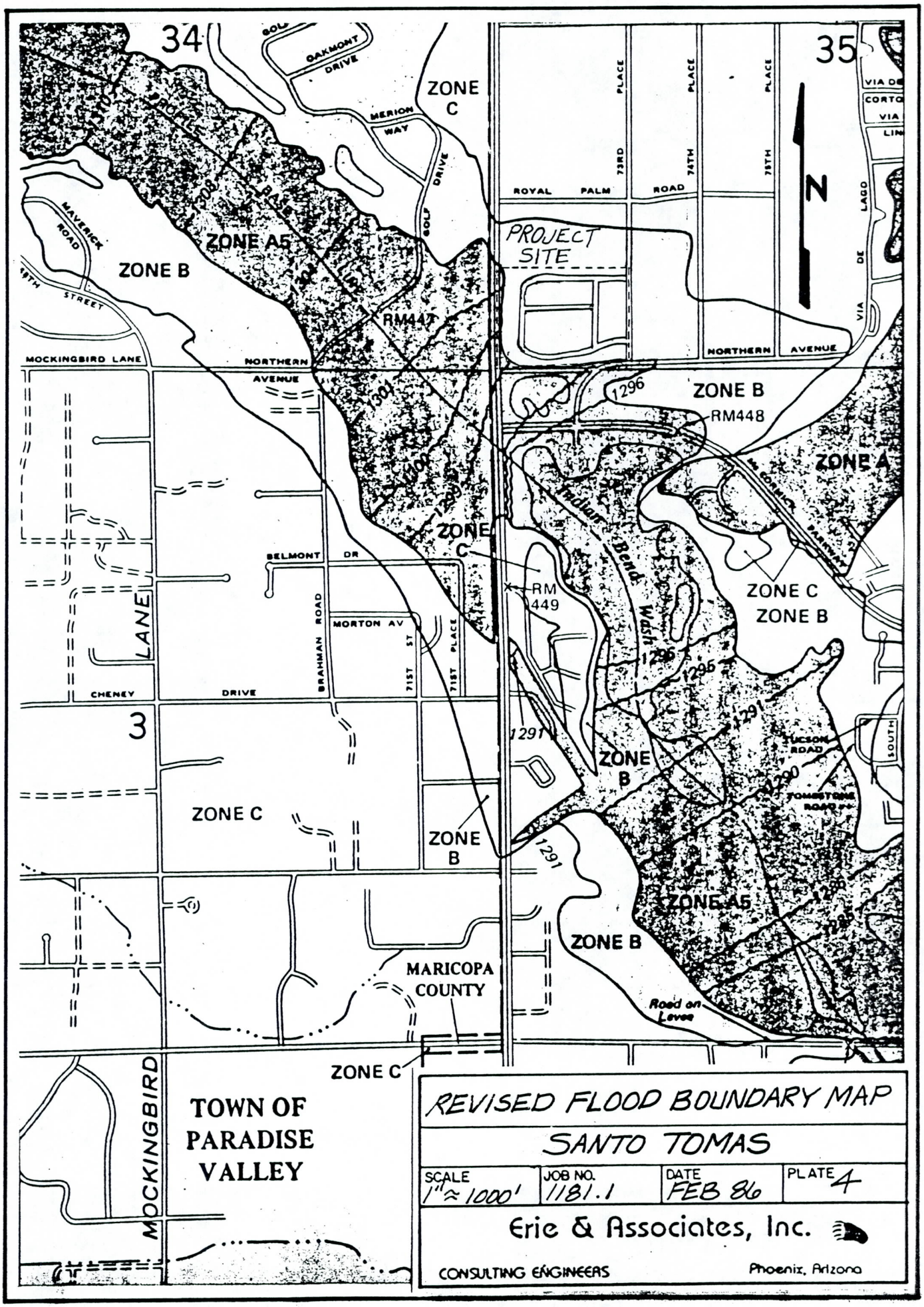
REVISED F.I.R.M.

SANTO TOMAS

SCALE	JOB NO.	DATE	PLATE
1" ≈ 1000'	1181.1	FEB 86	3

Erie & Associates, Inc.

CONSULTING ENGINEERS Phoenix, Arizona



REVISED FLOOD BOUNDARY MAP

SANTO TOMAS

SCALE	JOB NO.	DATE	PLATE
1" ≈ 1000'	1181.1	FEB 86	4

Erie & Associates, Inc.

CONSULTING ENGINEERS Phoenix, Arizona

ENGINEERING DIVISION
INCOMING CORRESPONDENCE

DATE RECEIVED: 10-3-86

REQUESTED ACTION:

TO: Lawrence__
Nicholson__
Fominko__
Jenkins__
Bond__
Morris__

Hussain__
Cox__
Alexander__

Jaynes__
Creighton__
Goff__
Harris__

Miller__
Lomeli__

Date:_____

Draft Response:
_____

Review & Comment:
_____

Other:_____
_____
_____

File:_____

NOTES:

Erie & Associates, Inc.
CONSULTING ENGINEERS
LEN ERIE, P.E.
3120 N. 24th St. / Phoenix, Arizona 85016
(602) 954-6399

October 2, 1986

RECEIVED
OCT 3 1986
DEPT. OF WATER RESOURCES

Federal Emergency Management Agency
Federal Insurance Administration
Risk Studies Division
Washington, D.C. 20472

RE: Request for Conditional Letter of Map of Amendment
Santo Tomas Subdivision and Indian Bend Wash
EA #1180.1

Dear Sirs:

Attached are items for your review with respect to a Conditional Letter of Map of Amendment for the Santo Tomas subdivision. The project is located within the City of Scottsdale, Arizona, adjacent to Indian Bend Wash (Community Number 045012).

Enclosed are three (3) copies of the following information:

1) A drainage study approved by the City of Scottsdale that includes hydraulic grading plans, HEC-2 backwater analyses, and modified FEMA maps.

2) Approved Grading Plans.

3) "Request for Letter of Map Amendment"

The project will be under construction in the near future, and we are anticipating forwarding as-built topo to your office for the final Letter of Map Amendment (LOMA).

Please contact me should you require additional information or if there is anything I can do to expedite issuance of the LOMA. Thanks for your assistance.

Sincerely,

ERIE & ASSOCIATES, INC.

Len Erie II, P.E.
President

cc: FEMA REGION IX
Building 105
Presidio of San Francisco
San Francisco, CA 94129

Mr. Bill Erickson
City of Scottsdale
Engineering Division
3939 Civic Center Plaza
Scottsdale, Arizona 85251

Mr. Les Bond
Arizona Deptartment of Water Resources
99 E. Virginia
Phoenix, Arizona 85004

Doug Patterson
Patterson Development
8100 E. Indian School Road, Suite 6E
Scottsdale, Arizona 85251

Mr. Kazem Zomouuodian
Collar, Williams & White
2702 E. 44th Street, Suite 205-B
Phoenix, Arizona 85008

REQUEST FOR LETTER OF MAP AMENDMENT

RECEIVED
OCT 3 1986
DEPT. OF
WATER RESOURCES

This is to request that a determination be made as to whether or not a certain land area or structure is within a Special Flood Hazard Area.

All documents submitted in support of this appeal are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

30 SEPT 86
Date

Signature of Applicant

NOTES APPLICABLE TO ALL GRADING IN THE CITY OF SCOTTSDALE PUBLIC RIGHTS OF WAY & EASEMENTS AND TO CERTAIN ON SITE GRADING & DRAINAGE REQUIREMENTS

1. All excavation and grading which is not in the public rights-of-way or not in easements granted for public use must conform to Chapter 70, titled Excavation and Grading, of the latest edition of the Uniform Building Code prepared by the International Conference of Building Officials. A permit for this grading must be secured from the City for a fee established by the Uniform Building Code.

2. The certification requirements listed under paragraph C, Section 5-615 of the City Code, must be met before the City will make a final inspection and grant a utility clearance for a single-family residential structure or grant a certificate of occupancy for a structure other than a single-family residential structure if the structure is built in a Regulatory Floodway or in Flood Hazard Zone A or AO.

3. The injection well(s) for the disposal of rainfall runoff water to be constructed in accordance with this set of plans is(are) expected to discharge water at a rate of at least _____cfs. The hole for the well should be excavated deep enough to penetrate a minimum of ten (10) feet into a porous stratum of clean sand or gravel.
   a. If a penetration of at least ten feet into a porous stratum is not achieved, then testing of the completed injection well is required to demonstrate the well's discharge capability.
   b. If the minimum rate of discharge specified above is greater than 0.75 cfs, testing of the completed injection well is required, regardless of the depth of penetration into a porous stratum.
   c. When testing is required to demonstrate the ability of an injection well to discharge drainage water, a constant head percolation test must be performed on the completed injection well for a period of time sufficient to establish its stabilized rate of discharge. This test must be monitored and reported by a soils engineering laboratory or by the engineer who sealed this set of plans. A copy of this report must be forwarded to the City of Scottsdale Project Review Office. The report must be received and accepted by the City as having met its requirements prior to the issuance of the certificate of occupancy for the development served by the injection well.

4. An encroachment permit will be issued by the City upon receipt of payment of a base fee of $30.00 plus a fee for inspection services to be provided by the City. The inspection services fee for the improvements depicted on these plans is $_____.

NOTES APPLICABLE TO ALL CONSTRUCTION IN THE CITY OF SCOTTSDALE PUBLIC RIGHTS OF WAY & EASEMENTS

1. All construction in the public right-of-way or in easements granted for public use must conform to the latest Maricopa Association of Governments (MAG) Uniform Standard Specifications and Uniform Standard Details for Public work Construction, and the City of Scottsdale Standard Details.

2. Traffic control shall conform to the City of Scottsdale Traffic Barricade Manual. No work shall be done in any roadway pavement between the hours of 7:00 A.M. to 9:00 A.M. and 4:00 P.M. to 6:00 P.M. The roadway must be completely unobstructed during these hours. At other times, a minimum of one lane of traffic for each direction of travel shall remain open. Any exceptions to this must be approved in advance by Traffic Engineering.

3. The contractor shall be responsible for the immediate repair and reporting of any damage to any traffic signal equipment. This shall include, but shall not be limited to, such items as: underground conduit, detectors, detector lead-in wiring, signal heads, signal poles, mast arms, cables, controller, and other signal-related equipment. Wire splicing will not be permitted. Modification of traffic signals for construction shall require advance design and approval prior to the start of construction. All materials and installations shall conform to the latest Ar zona Department of Transportation standard drawings and specifications for traffic signals, except as approved by the Traffic Engineering Manager.

4. The engineering designs on these plans are only approved by the City in scope and not in detail.

5. If construction quantities are shown on these plans, they are not verified by the City.

6. Approval of plans is for six months' time only. If an encroachment permit for the construction has not been issued within six months, the plans shall be resubmitted for reapproval.

7. A representative of Field Engineering will inspect all work in the public right-of-way and in easements granted for public use. Field Engineering shall be notified 24 hours prior to starting of any work within the City of Scottsdale rights-of-way or easements (telephone 994-2558).

8. Encroachment permits are required for all work in the public right-of-way and in easements granted for public purposes. Prior to obtaining an encroachment permit, the contractor must have on file with the City a certificate of insurance verifying the following coverages: $250,000 for death of/or injury to any one person in any one accident, $250,000 for property damage. The City of Scottsdale must be named as an additional insured party on the contractor's automobile and gneeral liability policies.

9. The City requires the submission of reproducible "as-built" drawings showing all construction in the public rights-of-way and easements. These drawings must be certified by a registered land surveyor or a professional civil engineer registered in the State of Arizona. In addition to showing "as-built" locations and elevations of the improvements constructed for the general public use (such as paving, manholes, culverts, sewer lines, etc.) these drawings must show the actual locations of the water and sewer service lines to all lots and parcels by the use of dimensions and/or stationing when these service lines are constructed as part of the project.

10. Upon satisfactory completion of the improvements in the public rights-of-way and easements and upon receipt by the City of the certified "as-built" drawings of these improvements, the Field Engineering Manager will provide the contractor a letter indicating the work is complete and stating that the improvements are accepted by the City. A certificate of occupancy for the on-site improvements will not be issued to the developer until this letter has been forwarded by the Field Engineering Manager.

11. No water valve, sewer manhole or clean-out shall be left damaged or inaccessible for more than seven (7) working days. If deficiencies are not corrected within the prescribed time period, the necessary repairs will be effected by the City of Scottsdale at developer/owner expense.

12. If a gas main or service line is exposed during any construction activity, contact Southwest Gas at 271-4277. A gas line maintenance representative will respond, usually within one hour, to inspect the line. If a gas leak or an emergency exists, tell the person receiving your call.

13. Whenever excavation is to be done, call the "Blue Stake Center," 263-1100, two working days before excavation is begun. The Center will see that the location of the underground utility lines is identified for you. Call "collect" if necessary.

GRADING & DRAINAGE PLANS

CITY OF SCOTTSDALE

OF

SANTO TOMAS SCOTTSDALE VIII

SANTO TOMAS SCOTTSDALE VIII

Being a portion of the SW 1/4 SW 1/4 of Section 35, T. 3 N., R. 4 E., G. & S. R. B. & M., Maricopa County, Arizona, more particularly described as follows:

Beginning at the Southwest Corner of said Section 35

THENCE N00°02'28"E, 299.25 feet along the West line of said Section 35;

THENCE S90°00'00"E, 194.91 feet;

THENCE S00°00'00"W, 150.35 feet to a point marking the beginning of a tangent curve, having a radius of 45.00 feet to the left;

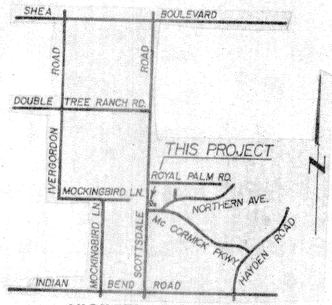
THENCE along the arc of said curve through a central angle of 92°06'04", having an arc distance of 72.34 feet;

THENCE N87°53'56"E, 105.25 feet;

THENCE S02°06'04"E, 95.00 feet;

THENCE S87°53'58"W, 350.68 feet to the POINT OF BEGINNING.

Comprising 1.6697 Acres, more or less, subject to all easements of record.



VICINITY MAP

APPROXIMATE QUANTITIES

ITEM	QUANTITY	UNIT
1. CUT	2000	CY
2. BANK PROTECTION	3100	SF
3. 3' CUTOFF WALL	370	LF

LEGEND :

(0.TO)	ELEVATION AT TOP OF CURB AT PROPERTY CORNER
	EXISTING CONTOUR
	FLOOD PLAIN (100 Year)
	EXISTING ROLL CURB & SIDEWALK
FF=1302.20	FINISH FLOOR ELEVATION
PAD=1310.10	PAD ELEVATION

BENCH MARK

PK NAIL AT THE INTERSECTION OF ROYAL PALM ROAD AND SCOTTSDALE ROAD
ELEV. 1303.705
(CITY OF SCOTTSDALE DATUM)

SUBMITTED BY :

REGISTERED CIVIL ENGINEER — DATE 7/23/86

"AS BUILT" CERTIFICATION

I HEREBY CERTIFY THAT THE "AS BUILT" IMPROVEMENTS AS SHOWN HEREON ARE LOCATED AS NOTED, AND THE LOCATIONS ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED CIVIL ENGINEER — DATE

CITY OF SCOTTSDALE

REVIEW & RECOMMENDED APPROVAL BY:

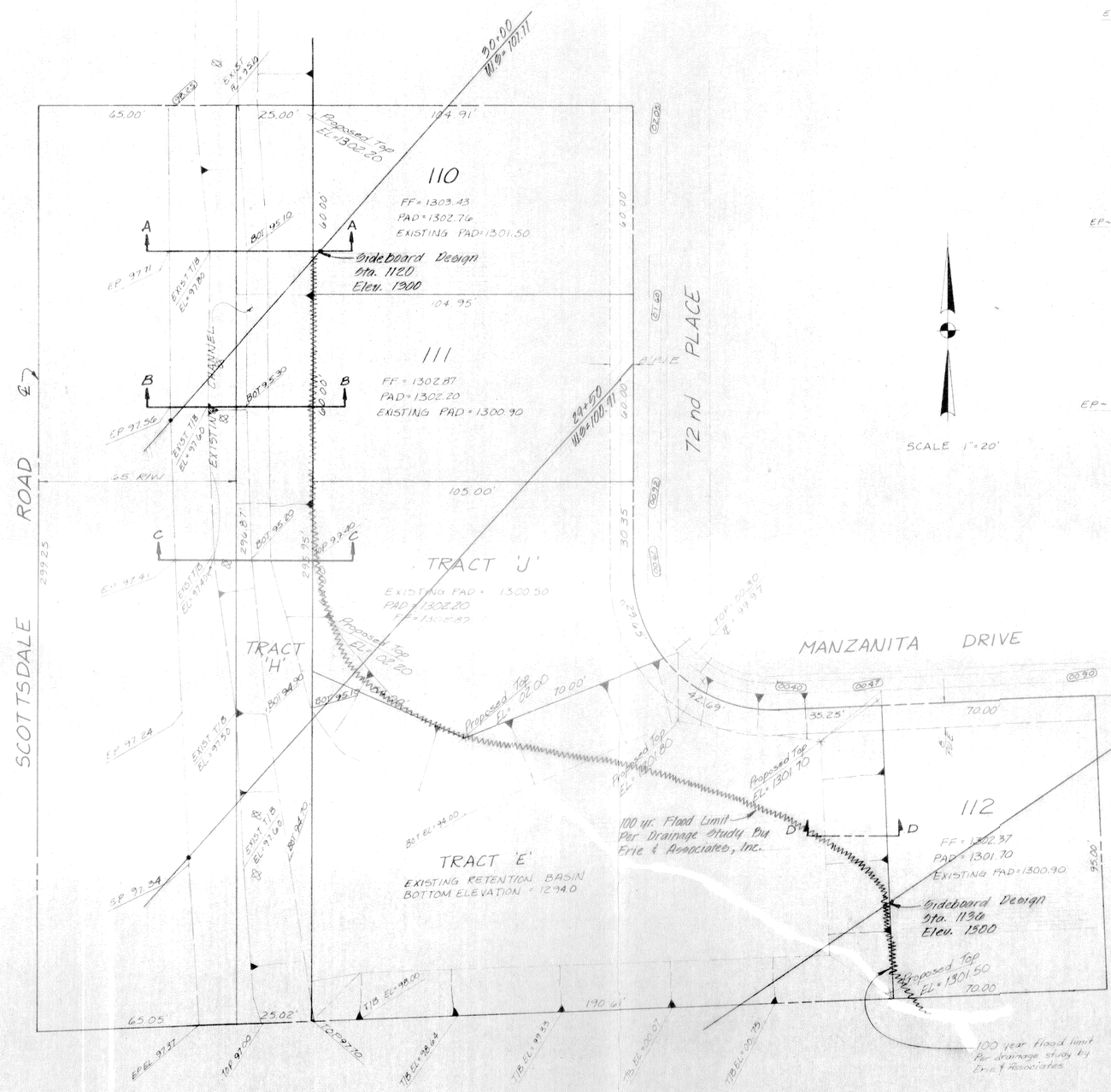
FIRE DEPT.	8-12-86	CIVIL	8-12-86
WATER & SEWER	8-11-86	PLANNING	8-12-86

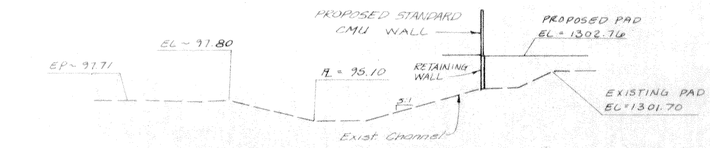
APPROVED BY: PROJECT REVIEW MANAGER — DATE 8-14-86

Collar Williams & White Engineering Inc.

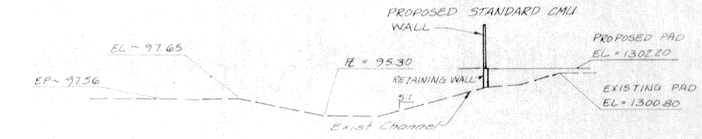
JOB NO. 86-0102

4 - DR - 77

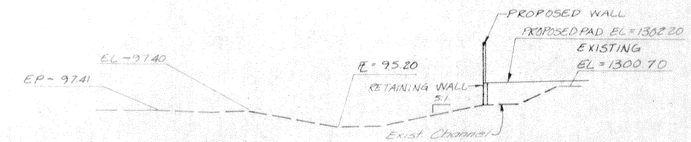




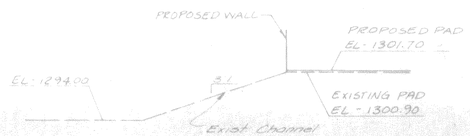
SECTION A-A
STA 3+50 SCALE 1"=10'



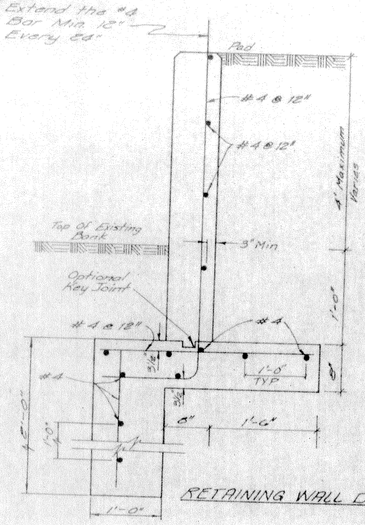
SECTION B-B
STA 3+00 SCALE 1"=10'



SECTION C-C
STA 2+50 SCALE 1"=10'



SECTION D-D
SCALE 1"=10'



RETAINING WALL DETAIL
N.T.S.

Collar, Williams & White Engineering Inc.
Consulting Engineers and Land Surveyors
2702 NORTH 44TH STREET
PHOENIX, ARIZONA 85008
PHONE: 957-2200

JOB NO. 860102

4-DR-77

APPENDIX I

WATER SURFACE PROFILES:

EXISTING CONDITIONS AND DESIGN CONDITIONS

```
*****************************************************
*  WATER SURFACE PROFILES                           *
*  VERSION OF NOVEMBER 1976                         *
*  UPDATED MAY 1984                                 *
*                                                   *
*  RUN DATE: Fri 14-MAR-1986  TIME: 16:54:11.07     *
*****************************************************
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```
*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  THE HYDROLOGIC ENGINEERING CENTER *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616          *
*  (916) 756-1104 (FTS) 448-2105    *
*************************************
```


```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX             XXXXXXX
```

HEC-2 COMPUTATIONS
PERFORMED BY:

ERIE AND ASSOCIATES, INC.
Consulting Engineers
5110 North 40th Street, Suite 252
Phoenix, Arizona 85018


```
:::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::
:::                                     :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION :::
:::          By: John R. Haestad        :::
:::                                     :::
:::::::::::::::::::::::::::::::::::::::::::
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==========
H A E S T A D M E T H O D S
==========

37 brookside Road * Waterbury, Connecticut 06708 * (203) 753-9800

```
*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
*************************************************
```

T1 INDIAN BEND WASH: EXISTING CONDITIONS: without Scotts. Rd. culverts
T2 100 YEAR FLOOD EVENT: fully developed watershed: Q=23000. CFS
T3 EXISTING COND. (1985):fn:EXIST2

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	2.	0.	0.	0.000000	0.00	0.0	0.	1293.700	0.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1.000	0.000	-1.000	0.000	0.000	0.000	-1.000	0.000	0.000	15.000

NC	0.020	0.020	0.020	0.200	0.400	0.000	0.000	0.000	0.000	0.000
WT	6.000	23000.000	3400.000	6900.000	11000.000	16000.000	34000.000	0.000	0.000	0.000
X1	1800.000	7.000	1160.000	1590.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	1299.100	1000.000	1296.000	1110.000	1292.000	1160.000	1288.000	1180.000	1288.000	1570.000
GR	1292.000	1590.000	1296.000	1630.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.030	0.045	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2300.000	9.000	1450.000	2590.000	600.000	300.000	450.000	0.000	0.000	0.000
GR	1297.000	1180.000	1296.300	1450.000	1296.500	1545.000	1296.800	1585.000	1296.100	1745.000
GR	1295.700	1990.000	1295.700	2190.000	1294.300	2410.000	1295.000	2590.000	0.000	0.000
NC	0.030	0.045	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2375.000	10.000	1455.000	2640.000	75.000	75.000	75.000	0.000	0.000	0.000
GR	1296.300	1130.000	1296.300	1435.000	1297.000	1455.000	1296.500	1550.000	1296.800	1660.000
GR	1296.000	1875.000	1295.700	2000.000	1295.700	2240.000	1294.300	2470.000	1295.000	2640.000
NC	0.030	0.045	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2550.000	11.000	1490.000	2650.000	75.000	235.000	165.000	0.000	0.000	0.000
GR	1298.000	1179.000	1298.000	1180.000	1298.000	1181.000	1298.000	1205.000	1298.000	1460.000
GR	1297.500	1490.000	1296.000	1600.000	1296.000	1815.000	1297.700	1885.000	1295.600	1965.000
GR	1295.500	2650.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2800.000	11.000	1350.000	2665.000	160.000	410.000	240.000	0.000	0.000	0.000
GR	1298.000	1140.000	1298.000	1210.000	1298.000	1290.000	1298.900	1350.000	1298.000	1475.000
GR	1296.000	1525.000	1296.000	1845.000	1296.800	1940.000	1296.800	2070.000	1297.000	2415.000
GR	1298.000	2665.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2950.000	22.000	1390.000	2665.000	130.000	235.000	150.000	0.000	0.000	0.000
GR	1300.000	1080.000	1300.000	1130.000	1299.000	1220.000	1296.000	1230.000	1296.000	1270.000
GR	1297.000	1295.000	1298.000	1305.000	1298.000	1390.000	1298.000	1405.000	1297.000	1435.000
GR	1296.000	1510.000	1296.000	1575.000	1297.000	1640.000	1297.000	1790.000	1296.000	1815.000
GR	1295.000	1840.000	1296.000	1845.000	1297.000	1865.000	1297.000	2000.000	1297.000	2330.000
GR	1298.000	2605.000	1298.500	2665.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	3000.000	13.000	1325.000	2660.000	100.000	105.000	80.000	0.000	0.000	0.000
GR	1300.600	1010.000	1300.000	1120.000	1296.000	1160.000	1297.000	1215.000	1297.000	1325.000
GR	1296.000	1410.000	1296.000	1550.000	1297.500	1660.000	1296.000	1805.000	1297.000	1850.000
GR	1297.000	2300.000	1298.000	2375.000	1299.000	2660.000	0.000	0.000	0.000	0.000
X1	3330.000	14.000	1520.000	2610.000	270.000	350.000	310.000	0.000	0.000	0.000
GR	1298.000	1020.000	1297.000	1040.000	1297.600	1305.000	1297.000	1305.000	1297.000	1330.000
GR	1298.000	1520.000	1298.600	1730.000	1298.000	1760.000	1296.000	1825.000	1296.000	1860.000
GR	1298.000	1865.000	1298.700	2275.000	1299.000	2480.000	1300.000	2610.000	0.000	0.000
X1	3830.000	20.000	1110.000	2470.000	540.000	500.000	510.000	0.000	0.000	0.000
GR	1301.000	897.000	1301.000	900.000	1302.000	960.000	1300.000	1000.000	1306.000	1090.000
GR	1307.000	1110.000	1302.000	1150.000	1300.000	1180.000	1299.000	1280.000	1298.800	1410.000
GR	1298.000	1595.000	1298.000	1635.000	1299.000	1760.000	1300.000	1870.000	1301.000	1935.000
GR	1305.000	1970.000	1305.000	2160.000	1300.000	2200.000	1300.000	2395.000	1300.800	2470.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


*PROF 1

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.200 CEHV=   0.400
*SECNO 1800.000
  1800.00      5.70  1293.70  1292.65  1293.70  1295.14     1.44     0.00     0.00  1292.00
   23000.       50.   22910.      40.      18.    2371.      14.       0.       0.   1292.00
     0.00      2.78     9.66     2.77    0.020    0.020    0.020    0.000  1288.00  1138.75
 0.001740        0.       0.       0.        0       14        0     0.00   468.25  1607.00


FLOW DISTRIBUTION FOR SECNO=   1800.00          CWSEL=   1293.70

STA=    1139.    1160.    1590.    1607.
  PER Q=      0.2     99.6      0.2
   AREA=     18.1   2371.0     14.4
    VEL=      2.8      9.7      2.8

*SECNO 2300.000
3280 CROSS SECTION   2300.00 EXTENDED      2.88 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00      3.58  1297.88  1297.88     0.00  1298.92     1.04     1.40     0.08  1296.30
   23000.     1559.   21441.       0.     333.    2559.       0.      28.      10.   1295.00
     0.02      4.68     8.38     0.00    0.030    0.025    0.000    0.000  1294.30  1180.00
 0.006786      600.     450.     300.        0       14        0     0.00  1410.00  2590.00


FLOW DISTRIBUTION FOR SECNO=   2300.00          CWSEL=   1297.88

STA=    1180.    1450.    2590.
  PER Q=      6.8     93.2
   AREA=    333.0   2558.6
    VEL=      4.7      8.4

*SECNO 2375.000
3280 CROSS SECTION   2375.00 EXTENDED      4.06 FEET


3301 HV CHANGED MORE THAN HVINS
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
2375.00	4.76	1299.06	1297.78	0.00	1299.43	0.37	0.37	0.13	1297.00
23000.	5252.	17748.	0.	890.	3949.	0.	35.	13.	1295.00
0.02	5.90	4.49	0.00	0.030	0.045	0.000	0.000	1294.30	1130.00
0.003738	75.	75.	75.	3	8	0	0.00	1510.00	2640.00

FLOW DISTRIBUTION FOR SECNO= 2375.00 CWSEL= 1299.06

STA=	1130.	1435.	1455.	2640.
PER Q=	21.7	1.1	77.2	
AREA=	842.2	48.2	3949.1	
VEL=	5.9	5.4	4.5	

*SECNO 2550.000
3280 CROSS SECTION 2550.00 EXTENDED 4.14 FEET

2550.00	4.14	1299.64	1298.30	0.00	1299.99	0.35	0.56	0.00	1297.50
23000.	2175.	20825.	0.	517.	4334.	0.	51.	18.	1295.50
0.03	4.21	4.81	0.00	0.030	0.045	0.000	0.000	1295.50	1179.00
0.003669	75.	165.	235.	2	11	0	0.00	1471.00	2650.00

FLOW DISTRIBUTION FOR SECNO= 2550.00 CWSEL= 1299.64

STA=	1179.	1180.	1181.	1205.	1460.	1490.	2650.
PER Q=	0.0	0.0	0.7	7.6	1.1	90.5	
AREA=	1.6	1.6	39.3	417.6	56.6	4334.0	
VEL=	2.2	4.2	4.2	4.2	4.6	4.8	

*SECNO 2800.000
3280 CROSS SECTION 2800.00 EXTENDED 2.48 FEET

2800.00	4.48	1300.48	1298.98	0.00	1300.79	0.30	0.79	0.01	1298.90
23000.	2440.	20560.	0.	495.	4714.	0.	78.	25.	1298.00
0.04	4.93	4.36	0.00	0.030	0.045	0.000	0.000	1296.00	1140.00
0.003188	160.	240.	410.	2	19	0	0.00	1525.00	2665.00

FLOW DISTRIBUTION FOR SECNO= 2800.00 CWSEL= 1300.48

STA=	1140.	1210.	1290.	1350.	2665.
PER Q=	3.8	4.4	2.4	89.4	
AREA=	173.9	198.8	122.1	4713.7	
VEL=	5.0	5.1	4.5	4.4	

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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        DLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


*SECNO 2950.000
3280 CROSS SECTION   2950.00 EXTENDED      2.43 FEET

  2950.00     5.93  1300.93  1299.11     0.00  1301.18     0.26     0.39     0.01  1298.00
   23000.    4027.   18973.       0.     800.    4969.       0.      97.      31.   1298.50
     0.05     5.03     3.82     0.00    0.030    0.045    0.000    0.000  1295.00  1080.00
 0.002186     130.     150.     235.        2       15        0     0.00  1585.00  2665.00


FLOW DISTRIBUTION FOR SECNO=   2950.00          CWSEL=   1300.93

STA=    1080.    1130.    1220.    1230.    1270.    1295.    1305.    1390.    2665.
  PER Q=      0.4      1.6      0.8      5.7      3.0      0.8      5.1     82.5
   AREA=     46.4    128.6     34.3    197.1    110.7     34.3    248.9   4968.8
    VEL=      2.2      2.9      5.1      6.7      6.2      5.2      4.7      3.8

*SECNO 3000.000
3280 CROSS SECTION   3000.00 EXTENDED      2.13 FEET

  3000.00     5.13  1301.13  1299.12     0.00  1301.35     0.23     0.16     0.01  1297.00
   23000.    4599.   18401.       0.     925.    5313.       0.      108.      34.   1299.00
     0.06     4.97     3.46     0.00    0.030    0.045    0.000    0.000  1296.00  1010.00
 0.001747     100.      80.     105.        2       11        0     0.00  1650.00  2660.00


FLOW DISTRIBUTION FOR SECNO=   3000.00          CWSEL=   1301.13

STA=    1010.    1120.    1160.    1215.    1325.    2660.
  PER Q=      0.7      2.4      6.4     10.5     80.0
   AREA=     91.0    125.1    254.5    454.0   5313.4
    VEL=      1.8      4.4      5.7      5.3      3.5

*SECNO 3330.000
3280 CROSS SECTION   3330.00 EXTENDED      3.60 FEET

  3330.00     5.60  1301.60  1300.19     0.00  1301.94     0.34     0.54     0.04  1298.00
   23000.   12029.   10971.       0.    2118.    3484.       0.      149.      45.   1300.00
     0.08     5.68     3.15     0.00    0.030    0.045    0.000    0.000  1296.00  1020.00
 0.001935     270.     310.     350.        2       15        0     0.00  1590.00  2610.00


FLOW DISTRIBUTION FOR SECNO=   3330.00          CWSEL=   1301.60

STA=    1020.    1040.    1305.    1330.    1520.    2610.
  PER Q=      1.8     28.6      3.0     18.9     47.7
   AREA=     82.1   1140.7    115.1    779.9   3484.3
    VEL=      5.0      5.8      5.9      5.6      3.1
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SECND	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECND 3830.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3830.00 EXTENDED 2.25 FEET

3830.00	5.05	1303.05	1301.76	0.00	1303.51	0.46	1.52	0.05	1307.00
23000.	1236.	21764.	0.	251.	3995.	0.	207.	62.	1300.80
0.10	4.93	5.45	0.00	0.030	0.045	0.000	0.000	1298.00	897.00
0.004923	540.	510.	500.	2	19	0	0.00	1254.44	2470.00

FLOW DISTRIBUTION FOR SECND= 3830.00 CWSEL= 1303.05

STA=	897.	900.	960.	1000.	1046.	2470.
PER Q=	0.1	1.9	2.0	1.4	94.6	
AREA=	6.1	92.9	81.9	69.7	3995.3	
VEL=	4.0	4.7	5.6	4.6	5.4	

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*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
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T1      INDIAN BEND WASH: EXISTING CONDITIONS: without Scotts. Rd. culverts
T2      10  YEAR FLOOD EVENT:(FEMA) Q=3400. CFS
T3      EXISTING COND.              (1985):tn:EXISTMP-

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       3.       0.       0.  0.001720     0.00     0.0      0.  1291.500   0.000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    2.000    0.000   -1.000    0.000    0.000    0.000   -1.000    0.000    0.000   15.000
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 SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
 Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
 TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
 SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 2

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.200 CEHV=   0.400
*SECNO 1800.000
  1800.00     1.86  1289.86  1289.32  1291.50  1290.19     0.32     0.00     0.00  1292.00
    3400.       0.    3400.       0.       0.     744.       0.       0.       0.   1292.00
     0.00     0.00     4.57     0.00    0.000    0.020    0.000    0.000  1288.00  1170.68
 0.001701       0.       0.       0.        0       18        4     0.00   408.64  1579.32


FLOW DISTRIBUTION FOR SECNO=   1800.00          CWSEL=   1289.86

STA=    1171.    1590.
  PER Q=    100.0
   AREA=    744.3
    VEL=      4.6

*SECNO 2300.000
3280 CROSS SECTION   2300.00 EXTENDED      1.13 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00     1.83  1296.13  1296.13     0.00  1296.55     0.42     1.57     0.04  1296.30
    3400.       0.    3400.       0.       0.     655.       0.       7.       7.   1295.00
     0.02     0.00     5.19     0.00    0.000    0.025    0.000    0.000  1294.30  1738.69
 0.010815     600.     450.     300.        0        5        0     0.00   851.31  2590.00


FLOW DISTRIBUTION FOR SECNO=   2300.00          CWSEL=   1296.13

STA=    1739.    2590.
  PER Q=    100.0
   AREA=    655.4
    VEL=      5.2

*SECNO 2375.000

3265 DIVIDED FLOW

3280 CROSS SECTION   2375.00 EXTENDED      1.94 FEET
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 2375.00     2.64  1296.94  1296.13     0.00  1297.01     0.07     0.39     0.07  1297.00
   3400.     403.    2997.       0.     201.    1434.       0.       9.       9.   1295.00
    0.03     2.01     2.09     0.00    0.030    0.045    0.000    0.000  1294.30  1130.00
0.003071      75.      75.      75.        0        5        0     0.00  1496.58  2640.00


FLOW DISTRIBUTION FOR SECNO=   2375.00          CWSEL=   1296.94

STA=    1130.    1435.    1453.    2640.
  PER Q=     11.6      0.2     88.1
   AREA=    194.8      5.8   1434.1
    VEL=      2.0      1.3      2.1

*SECNO 2550.000

3265 DIVIDED FLOW

3280 CROSS SECTION   2550.00 EXTENDED      1.85 FEET

  2550.00     1.85  1297.35  1296.41     0.00  1297.42     0.06     0.41     0.00  1297.50
    3400.       0.    3400.       0.       0.    1690.       0.      15.      13.   1295.50
     0.06     0.00     2.01     0.00    0.000    0.045    0.000    0.000  1295.50  1500.73
 0.002154      75.     165.     235.        3       22        0     0.00  1121.81  2650.00


FLOW DISTRIBUTION FOR SECNO=   2550.00          CWSEL=   1297.35

STA=    1501.    2650.
  PER Q=    100.0
   AREA=   1690.0
    VEL=      2.0

*SECNO 2800.000
  2800.00     1.99  1297.99  1297.26     0.00  1298.07     0.08     0.65     0.01  1298.90
    3400.       0.    3400.       0.       0.    1493.       0.      24.      20.   1298.00
     0.09     0.00     2.28     0.00    0.000    0.045    0.000    0.000  1296.00  1475.19
 0.003504     160.     240.     410.        2       19        0     0.00  1187.89  2663.08


FLOW DISTRIBUTION FOR SECNO=   2800.00          CWSEL=   1297.99

STA=    1475.    2665.
  PER Q=    100.0
   AREA=   1493.3
    VEL=      2.3
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


*SECNO 2950.000
  2950.00     3.37  1298.37  1296.99     0.00  1298.43     0.06     0.35     0.00  1298.00
    3400.     558.    2842.       0.     191.    1706.       0.      30.      24.   1298.50
     0.11     2.92     1.67     0.00    0.030    0.045    0.000    0.000  1295.00  1222.10
 0.001698     130.     150.     235.        2       11        0     0.00  1427.13  2649.24


FLOW DISTRIBUTION FOR SECNO=   2950.00          CWSEL=   1298.37

STA=    1222.    1230.    1270.    1295.    1305.    1390.    2665.
  PER Q=      0.6     10.1      4.3      0.5      1.0     83.6
   AREA=      9.4     94.7     46.7      8.7     31.3   1706.1
    VEL=      2.2      3.6      3.1      1.9      1.0      1.7

*SECNO 3000.000
  3000.00     2.50  1298.50  1297.41     0.00  1298.54     0.04     0.11     0.00  1297.00
    3400.     702.    2698.       0.     306.    1842.       0.      34.      27.   1299.00
     0.12     2.29     1.46     0.00    0.030    0.045    0.000    0.000  1296.00  1135.00
 0.001102     100.      80.     105.        2       13        0     0.00  1382.54  2517.53


FLOW DISTRIBUTION FOR SECNO=   3000.00          CWSEL=   1298.50

STA=    1135.    1160.    1215.    1325.    2660.
  PER Q=      1.7      8.4     10.5     79.4
   AREA=     31.3    110.0    165.0   1842.0
    VEL=      1.9      2.6      2.2      1.5

*SECNO 3330.000
3280 CROSS SECTION   3330.00 EXTENDED      0.91 FEET

  3330.00     2.91  1298.91  1298.31     0.00  1299.05     0.14     0.47     0.04  1298.00
    3400.    2578.     822.       0.     771.     627.       0.      46.      36.   1300.00
     0.15     3.35     1.31     0.00    0.030    0.045    0.000    0.000  1296.00  1020.00
 0.002554     270.     310.     350.        2       11        0     0.00  1398.53  2418.53


FLOW DISTRIBUTION FOR SECNO=   3330.00          CWSEL=   1298.91

STA=    1020.    1040.    1305.    1330.    1520.    2610.
  PER Q=      2.5     43.2      5.3     24.8     24.2
   AREA=     28.2    426.7     47.8    267.9    626.7
    VEL=      3.1      3.4      3.8      3.1      1.3
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 3830.000

3265 DIVIDED FLOW

3830.00	2.57	1300.57	1299.69	0.00	1300.67	0.10	1.62	0.01	1307.00
3400.	8.	3392.	0.	6.	1349.	0.	62.	50.	1300.80
0.21	1.33	2.52	0.00	0.030	0.045	0.000	0.000	1298.00	988.54
0.003839	540.	510.	500.	3	11	0	0.00	1009.22	2448.73

FLOW DISTRIBUTION FOR SECNO= 3830.00 CWSEL= 1300.57

STA=	989.	1000.	1009.	2470.
PER Q=	0.1	0.1	99.8	
AREA=	3.3	2.5	1348.6	
VEL=	1.3	1.3	2.5	

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*****************************************
 RELEASE DATED NOV 76 UPDATED MAY  1984
R CORR -  01,02,03,04,05,06
FICATION -  50,51,52,53,54,55,56
*****************************************
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INDIAN BEND WASH: EXISTING CONDITIONS: without Scotts. Rd. culverts
25 YEAR FLOOD EVENT:(FEMA) Q=6900. CFS
EXISTING COND. (1985):fn:EXISTMP-

CHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
0.	4.	0.	0.	0.001720	0.00	0.0	0.	1291.500	0.000

PROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
3.000	0.000	-1.000	0.000	0.000	0.000	-1.000	0.000	0.000	15.000

```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 3

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.200 CEHV=   0.400
*SECNO 1800.000
  1800.00     2.83  1290.83  1290.11  1291.50  1291.40     0.56     0.00     0.00  1292.00
   6900.       0.    6900.       0.       0.    1145.       0.       0.       0.   1292.00
     0.00     0.00     6.03     0.00    0.000    0.020    0.000    0.000  1288.00  1165.83
 0.001721       0.       0.       0.        0       14        5     0.00   418.33  1584.17


FLOW DISTRIBUTION FOR SECNO=   1800.00          CWSEL=   1290.83

STA=    1166.    1590.
  PER Q=    100.0
   AREA=   1145.1
    VEL=      6.0

*SECNO 2300.000

3265 DIVIDED FLOW

3280 CROSS SECTION   2300.00 EXTENDED      1.67 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00     2.37  1296.67  1296.67     0.00  1297.19     0.53     1.49     0.01  1296.30
   6900.       39.    6861.       0.      26.    1176.       0.      12.       9.   1295.00
     0.02     1.50     5.83     0.00    0.030    0.025    0.000    0.000  1294.30  1308.17
 0.008749     600.     450.     300.        0       15        0     0.00  1233.95  2590.00


FLOW DISTRIBUTION FOR SECNO=   2300.00          CWSEL=   1296.67

STA=    1308.    1450.    2590.
  PER Q=      0.6     99.4
   AREA=     26.1   1175.9
    VEL=      1.5      5.8

*SECNO 2375.000
3280 CROSS SECTION   2375.00 EXTENDED      2.52 FEET
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```
  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 2375.00      3.22  1297.52  1296.71      0.00  1297.64      0.12      0.36      0.08  1297.00
   6900.     1200.     5700.       0.      388.     2119.       0.       15.       11.   1295.00
    0.03      3.09      2.69     0.00     0.030     0.045     0.000     0.000  1294.30  1130.00
0.003066       75.       75.       75.         2         5         0      0.00  1510.00  2640.00


FLOW DISTRIBUTION FOR SECNO=   2375.00          CWSEL=   1297.52

STA=    1130.    1435.    1455.    2640.
  PER Q=     16.8      0.6     82.6
   AREA=    371.1     17.3   2119.0
    VEL=      3.1      2.5      2.7

*SECNO 2550.000
3280 CROSS SECTION   2550.00 EXTENDED      2.48 FEET

  2550.00      2.48  1297.98  1296.86      0.00  1298.10      0.13      0.46      0.00  1297.50
   6900.        7.     6893.       0.        7.     2409.       0.       24.       16.   1295.50
    0.04      1.02      2.86     0.00     0.030     0.045     0.000     0.000  1295.50  1461.30
0.002841       75.      165.      235.         3        18         0      0.00  1188.70  2650.00


FLOW DISTRIBUTION FOR SECNO=   2550.00          CWSEL=   1297.98

STA=    1461.    1490.    2650.
  PER Q=      0.1     99.9
   AREA=      6.9   2409.2
    VEL=      1.0      2.9

*SECNO 2800.000

3265 DIVIDED FLOW

3280 CROSS SECTION   2800.00 EXTENDED      0.70 FEET

  2800.00      2.70  1298.70  1297.71      0.00  1298.82      0.12      0.72      0.00  1298.90
   6900.      255.     6645.       0.      122.     2373.       0.       38.       23.   1298.00
    0.07      2.09      2.80     0.00     0.030     0.045     0.000     0.000  1296.00  1140.00
0.003183      160.      240.      410.         2        19         0      0.00  1484.50  2665.00


FLOW DISTRIBUTION FOR SECNO=   2800.00          CWSEL=   1298.70

STA=    1140.    1210.    1290.    1337.    2665.
  PER Q=      1.6      1.8      0.3     96.3
   AREA=     49.2     56.2     16.5   2373.4
    VEL=      2.2      2.2      1.4      2.8
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  SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECND 2950.000
3280 CROSS SECTION   2950.00 EXTENDED      0.58 FEET

  2950.00     4.08  1299.08  1298.04     0.00  1299.17     0.09     0.34     0.01  1298.00
    6900.    1080.    5820.       0.     311.    2607.       0.      47.      28.   1298.50
     0.09     3.48     2.23     0.00    0.030    0.045    0.000    0.000  1295.00  1213.17
 0.001763     130.     150.     235.        2       11        0     0.00  1451.83  2665.00


FLOW DISTRIBUTION FOR SECND=   2950.00          CWSEL=   1299.08

STA=    1213.    1230.    1270.    1295.    1305.    1390.    2665.
  PER Q=      0.6      7.8      3.6      0.6      2.9     84.3
   AREA=     16.0    123.0     64.4     15.8     91.5   2606.8
    VEL=      2.7      4.4      3.9      2.8      2.2      2.2

*SECND 3000.000
3280 CROSS SECTION   3000.00 EXTENDED      0.22 FEET

  3000.00     3.22  1299.22  1297.80     0.00  1299.30     0.08     0.13     0.00  1297.00
    6900.    1421.    5479.       0.     446.    2770.       0.      53.      31.   1299.00
     0.10     3.19     1.98     0.00    0.030    0.045    0.000    0.000  1296.00  1127.78
 0.001356     100.      80.     105.        2       15        0     0.00  1532.22  2660.00


FLOW DISTRIBUTION FOR SECND=   3000.00          CWSEL=   1299.22

STA=    1128.    1160.    1215.    1325.    2660.
  PER Q=      1.9      7.7     11.0     79.4
   AREA=     51.9    149.7    244.4   2770.2
    VEL=      2.5      3.6      3.1      2.0

*SECND 3330.000
3280 CROSS SECTION   3330.00 EXTENDED      1.65 FEET

  3330.00     3.65  1299.65  1298.94     0.00  1299.82     0.17     0.48     0.04  1298.00
    6900.    4453.    2447.       0.    1142.    1365.       0.      72.      41.   1300.00
     0.12     3.90     1.79     0.00    0.030    0.045    0.000    0.000  1296.00  1020.00
 0.002065     270.     310.     350.        2       12        0     0.00  1544.88  2564.88


FLOW DISTRIBUTION FOR SECND=   3330.00          CWSEL=   1299.65

STA=    1020.    1040.    1305.    1330.    1520.    2610.
  PER Q=      2.2     36.0      4.1     22.3     35.5
   AREA=     43.1    623.5     66.3    409.1   1364.8
    VEL=      3.6      4.0      4.2      3.8      1.8
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```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO 3830.000

3265 DIVIDED FLOW

3280 CROSS SECTION   3830.00 EXTENDED      0.39 FEET

  3830.00     3.19  1301.19  1300.32     0.00  1301.38     0.18     1.55     0.01  1307.00
    6900.      61.    6839.       0.      27.    1989.       0.      99.      57.   1300.80
     0.16     2.29     3.44     0.00    0.030    0.045    0.000    0.000  1298.00   897.00
 0.004656     540.     510.     500.        2       14        0     0.00  1110.49  2470.00


FLOW DISTRIBUTION FOR SECNO=   3830.00          CWSEL=   1301.19

STA=     897.     912.    1000.    1018.    2470.
  PER Q=      0.0      0.5      0.4     99.1
   AREA=      1.7     14.2     10.7   1988.6
    VEL=      0.8      2.4      2.4      3.4
```

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*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
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T1      INDIAN BEND WASH: EXISTING CONDITIONS: without Scotts. Rd. culverts
T2      50  YEAR FLOOD EVENT:(FEMA) Q=11000. CFS
T3      EXISTING COND.              (1985):fn:EXISTMP-

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       5.       0.       0.  0.001720     0.00     0.0      0.  1291.500   0.000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    4.000    0.000   -1.000    0.000    0.000    0.000   -1.000    0.000    0.000   15.000
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```
  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


*PROF 4

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.200 CEHV=   0.400
*SECNO 1800.000
  1800.00     3.73  1291.73  1290.87  1291.50  1292.54     0.81     0.00     0.00  1292.00
   11000.      0.   11000.      0.       0.    1525.       0.       0.       0.   1292.00
     0.00     0.00     7.21     0.00    0.000    0.020    0.000    0.000  1288.00  1161.34
 0.001730      0.       0.       0.        0       15        4     0.00   427.33  1588.66


FLOW DISTRIBUTION FOR SECNO=   1800.00          CWSEL=   1291.73

STA=    1161.    1590.
  PER Q=    100.0
   AREA=   1525.4
    VEL=      7.2

*SECNO 2300.000
3280 CROSS SECTION   2300.00 EXTENDED      2.07 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00     2.77  1297.07  1297.07     0.00  1297.73     0.66     1.44     0.03  1296.30
   11000.     273.   10727.      0.      113.    1628.       0.      17.      10.   1295.00
     0.02     2.42     6.59     0.00    0.030    0.025    0.000    0.000  1294.30  1180.00
 0.007659     600.     450.     300.        0       19        0     0.00  1410.00  2590.00


FLOW DISTRIBUTION FOR SECNO=   2300.00          CWSEL=   1297.07

STA=    1180.    1450.    2590.
  PER Q=      2.5     97.5
   AREA=    112.6   1628.0
    VEL=      2.4      6.6

*SECNO 2375.000
3280 CROSS SECTION   2375.00 EXTENDED      3.00 FEET

  2375.00     3.70  1298.00  1297.05     0.00  1298.18     0.18     0.36     0.10  1297.00
   11000.    2188.    8812.      0.      545.    2690.       0.      21.      12.   1295.00
     0.03     4.01     3.28     0.00    0.030    0.045    0.000    0.000  1294.30  1130.00
 0.003310      75.      75.      75.        2        6        0     0.00  1510.00  2640.00
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 2375.00 CWSEL= 1298.00

STA=	1130.	1435.	1455.	2640.
PER Q=	19.0	0.9	80.1	
AREA=	518.1	27.0	2689.9	
VEL=	4.0	3.5	3.3	

*SECNO 2550.000
3280 CROSS SECTION 2550.00 EXTENDED 3.00 FEET

2550.00	3.00	1298.50	1297.28	0.00	1298.70	0.19	0.51	0.00	1297.50
11000.	300.	10700.	0.	162.	3011.	0.	33.	17.	1295.50
0.04	1.85	3.55	0.00	0.030	0.045	0.000	0.000	1295.50	1179.00
0.003257	75.	165.	235.	2	11	0	0.00	1471.00	2650.00

FLOW DISTRIBUTION FOR SECNO= 2550.00 CWSEL= 1298.50

STA=	1179.	1181.	1205.	1460.	1490.	2650.
PER Q=	0.0	0.2	2.0	0.5	97.3	
AREA=	1.0	11.9	126.8	22.4	3011.1	
VEL=	1.6	1.8	1.8	2.3	3.6	

*SECNO 2800.000
3280 CROSS SECTION 2800.00 EXTENDED 1.28 FEET

2800.00	3.28	1299.28	1298.16	0.00	1299.45	0.16	0.75	0.01	1298.90
11000.	745.	10255.	0.	243.	3135.	0.	50.	25.	1298.00
0.06	3.07	3.27	0.00	0.030	0.045	0.000	0.000	1296.00	1140.00
0.003084	160.	240.	410.	2	19	0	0.00	1525.00	2665.00

FLOW DISTRIBUTION FOR SECNO= 2800.00 CWSEL= 1299.28

STA=	1140.	1210.	1290.	1350.	2665.
PER Q=	2.6	3.0	1.1	93.2	
AREA=	89.9	102.8	50.1	3135.2	
VEL=	3.2	3.3	2.4	3.3	

*SECNO 2950.000
3280 CROSS SECTION 2950.00 EXTENDED 1.17 FEET

2950.00	4.67	1299.67	1298.34	0.00	1299.81	0.14	0.35	0.01	1298.00
11000.	1735.	9265.	0.	431.	3364.	0.	63.	30.	1298.50
0.07	4.02	2.75	0.00	0.030	0.045	0.000	0.000	1295.00	1159.75
0.001912	130.	150.	235.	2	8	0	0.00	1505.25	2665.00

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 2950.00 CWSEL= 1299.67

STA=	1160.	1220.	1230.	1270.	1295.	1305.	1390.	2665.
PER Q=	0.2	0.7	6.9	3.4	0.7	3.9	84.2	
AREA=	20.2	21.7	146.8	79.2	21.7	141.9	3363.5	
VEL=	1.0	3.5	5.2	4.7	3.6	3.0	2.8	

*SECNO 3000.000
3280 CROSS SECTION 3000.00 EXTENDED 0.83 FEET

3000.00	3.83	1299.83	1298.16	0.00	1299.95	0.12	0.14	0.00	1297.00
11000.	2187.	8813.	0.	568.	3584.	0.	70.	33.	1299.00
0.08	3.85	2.46	0.00	0.030	0.045	0.000	0.000	1296.00	1121.69
0.001488	100.	80.	105.	2	14	0	0.00	1538.31	2660.00

FLOW DISTRIBUTION FOR SECNO= 3000.00 CWSEL= 1299.83

STA=	1122.	1160.	1215.	1325.	2660.
PER Q=	2.0	7.1	10.8	80.1	
AREA=	73.4	183.2	311.5	3583.7	
VEL=	2.9	4.3	3.8	2.5	

*SECNO 3330.000
3280 CROSS SECTION 3330.00 EXTENDED 2.28 FEET

3330.00	4.28	1300.28	1299.32	0.00	1300.49	0.21	0.50	0.04	1298.00
11000.	6483.	4517.	0.	1454.	2036.	0.	96.	44.	1300.00
0.10	4.46	2.22	0.00	0.030	0.045	0.000	0.000	1296.00	1020.00
0.001963	270.	310.	350.	2	9	0	0.00	1590.00	2610.00

FLOW DISTRIBUTION FOR SECNO= 3330.00 CWSEL= 1300.28

STA=	1020.	1040.	1305.	1330.	1520.	2610.
PER Q=	2.0	32.6	3.5	20.8	41.1	
AREA=	55.5	788.7	81.9	527.5	2036.2	
VEL=	4.0	4.5	4.8	4.3	2.2	

*SECNO 3830.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3280 CROSS SECTION 3830.00 EXTENDED 0.97 FEET

3830.00	3.77	1301.77	1300.79	0.00	1302.04	0.27	1.52	0.02	1307.00
11000.	211.	10789.	0.	75.	2598.	0.	133.	60.	1300.80
0.14	2.84	4.15	0.00	0.030	0.045	0.000	0.000	1298.00	897.00
0.004866	540.	510.	500.	2	14	0	0.00	1183.15	2470.00

FLOW DISTRIBUTION FOR SECNO= 3830.00 CWSEL= 1301.77

STA=	897.	900.	946.	1000.	1026.	2470.
PER Q=	0.1	0.3	0.9	0.7	98.1	
AREA=	2.3	17.6	31.2	23.4	2598.1	
VEL=	2.5	1.8	3.2	3.2	4.2	

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************
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T1      INDIAN BEND WASH: EXISTING CONDITIONS: without Scotts. Rd. culverts
T2      100 YEAR FLOOD EVENT:(FEMA) Q=16000. CFS
T3      EXISTING COND.              (1985):fn:EXISTMP-

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        6.        0.        0.  0.001720      0.00       0.0        0.  1292.000     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     5.000     0.000    -1.000     0.000     0.000     0.000    -1.000     0.000     0.000    15.000
```

```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 5

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.200 CEHV=   0.400
*SECNO 1800.000
  1800.00     4.64  1292.64  1291.67  1292.00  1293.72     1.08     0.00     0.00  1292.00
   16000.       4.   15993.       3.       3.    1915.       2.       0.       0.   1292.00
     0.00     1.44     8.35     1.44    0.020    0.020    0.020    0.000  1288.00  1152.01
 0.001728       0.       0.       0.        0       11        4     0.00   444.39  1596.40


FLOW DISTRIBUTION FOR SECNO=   1800.00          CWSEL=   1292.64

STA=    1152.    1160.    1590.    1596.
  PER Q=      0.0    100.0      0.0
   AREA=      2.6   1915.0      2.0
    VEL=      1.4      8.4      1.4

*SECNO 2300.000
3280 CROSS SECTION   2300.00 EXTENDED      2.43 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00     3.13  1297.43  1297.43     0.00  1298.26     0.83     1.41     0.05  1296.30
   16000.     757.   15243.       0.     212.    2047.       0.      22.      10.   1295.00
     0.02     3.57     7.45     0.00    0.030    0.025    0.000    0.000  1294.30  1180.00
 0.007214     600.     450.     300.        0       19        0     0.00  1410.00  2590.00


FLOW DISTRIBUTION FOR SECNO=   2300.00          CWSEL=   1297.43

STA=    1180.    1450.    2590.
  PER Q=      4.7     95.3
   AREA=    211.8   2046.8
    VEL=      3.6      7.4

*SECNO 2375.000
3280 CROSS SECTION   2375.00 EXTENDED      3.49 FEET


3301 HV CHANGED MORE THAN HVINS
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```
  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 2375.00      4.18  1298.48  1297.37      0.00  1298.74      0.26      0.36      0.11  1297.00
  16000.     3446.   12554.       0.      705.    3272.        0.       27.       13.   1295.00
    0.02      4.89      3.84     0.00     0.030     0.045    0.000     0.000  1294.30  1130.00
0.003499       75.       75.      75.         2         8        0      0.00  1510.00  2640.00


FLOW DISTRIBUTION FOR SECNO=   2375.00          CWSEL=   1298.48

STA=    1130.    1435.    1455.    2640.
  PER Q=     20.5      1.0     78.5
   AREA=    667.9     36.8   3271.9
    VEL=      4.9      4.4      3.8

*SECNO 2550.000
3280 CROSS SECTION   2550.00 EXTENDED      3.52 FEET

 2550.00      3.52  1299.02  1297.70      0.00  1299.28      0.26      0.53      0.00  1297.50
  16000.      976.   15024.       0.      324.    3614.        0.       41.       18.   1295.50
    0.03      3.01      4.16     0.00     0.030     0.045    0.000     0.000  1295.50  1179.00
0.003498       75.      165.     235.         2        11        0      0.00  1471.00  2650.00


FLOW DISTRIBUTION FOR SECNO=   2550.00          CWSEL=   1299.02

STA=    1179.    1180.    1181.    1205.    1460.    1490.    2650.
  PER Q=      0.0      0.0      0.5      4.8      0.8     93.9
   AREA=      1.0      1.0     24.4    259.3     38.0   3613.7
    VEL=      1.9      3.0      3.0      3.0      3.4      4.2

*SECNO 2800.000
3280 CROSS SECTION   2800.00 EXTENDED      1.83 FEET

 2800.00      3.83  1299.83  1298.54      0.00  1300.06      0.22      0.77      0.01  1298.90
  16000.     1418.   14582.       0.      358.    3858.        0.       63.       25.   1298.00
    0.05      3.96      3.78     0.00     0.030     0.045    0.000     0.000  1296.00  1140.00
0.003126      160.      240.     410.         2        19        0      0.00  1525.00  2665.00


FLOW DISTRIBUTION FOR SECNO=   2800.00          CWSEL=   1299.83

STA=    1140.    1210.    1290.    1350.    2665.
  PER Q=      3.3      3.8      1.8     91.1
   AREA=    128.4    146.7     83.0   3857.8
    VEL=      4.1      4.1      3.4      3.8
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	DLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

```
*SECNO 2950.000
3280 CROSS SECTION   2950.00 EXTENDED      1.75 FEET

  2950.00     5.25  1300.25  1298.75     0.00  1300.44     0.19     0.37     0.01  1298.00
   16000.    2621.   13379.       0.     589.    4100.       0.      78.      31.   1298.50
     0.06     4.45     3.26     0.00    0.030    0.045    0.000    0.000  1295.00  1080.00
 0.002061     130.     150.     235.        2        6        0     0.00  1585.00  2665.00


FLOW DISTRIBUTION FOR SECNO=   2950.00          CWSEL=   1300.25

STA=    1080.    1130.    1220.    1230.    1270.    1295.    1305.    1390.    2665.
  PER Q=      0.1      0.8      0.7      6.3      3.2      0.8      4.6     83.6
   AREA=     12.4     67.2     27.5    169.9     93.7     27.5    191.0   4100.0
    VEL=      0.9      1.9      4.3      5.9      5.4      4.4      3.9      3.3

*SECNO 3000.000
3280 CROSS SECTION   3000.00 EXTENDED      1.42 FEET

  3000.00     4.42  1300.42  1298.59     0.00  1300.59     0.17     0.15     0.00  1297.00
   16000.    3144.   12856.       0.     706.    4375.       0.      87.      34.   1299.00
     0.07     4.45     2.94     0.00    0.030    0.045    0.000    0.000  1296.00  1042.23
 0.001629     100.      80.     105.        2        8        0     0.00  1617.77  2660.00


FLOW DISTRIBUTION FOR SECNO=   3000.00          CWSEL=   1300.42

STA=    1042.    1120.    1160.    1215.    1325.    2660.
  PER Q=      0.1      2.2      6.7     10.7     80.3
   AREA=     16.5     97.0    215.8    376.7   4375.0
    VEL=      0.7      3.6      5.0      4.5      2.9

*SECNO 3330.000
3280 CROSS SECTION   3330.00 EXTENDED      2.89 FEET

  3330.00     4.89  1300.89  1299.79     0.00  1301.15     0.26     0.52     0.04  1298.00
   16000.    8824.    7176.       0.    1760.    2703.       0.     120.      45.   1300.00
     0.09     5.01     2.65     0.00    0.030    0.045    0.000    0.000  1296.00  1020.00
 0.001928     270.     310.     350.        2       10        0     0.00  1590.00  2610.00


FLOW DISTRIBUTION FOR SECNO=   3330.00          CWSEL=   1300.89

STA=    1020.    1040.    1305.    1330.    1520.    2610.
  PER Q=      1.9     30.3      3.2     19.7     44.9
   AREA=     67.8    950.8     97.2    643.7   2703.3
    VEL=      4.5      5.1      5.3      4.9      2.7
```

SECND	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECND 3830.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3830.00 EXTENDED 1.55 FEET

3830.00	4.35	1302.35	1301.23	0.00	1302.70	0.35	1.51	0.03	1307.00
16000.	562.	15438.	0.	150.	3229.	0.	167.	61.	1300.80
0.12	3.73	4.78	0.00	0.030	0.045	0.000	0.000	1298.00	897.00
0.004928	540.	510.	500.	2	14	0	0.00	1226.67	2470.00

FLOW DISTRIBUTION FOR SECND= 3830.00 CWSEL= 1302.35

STA=	897.	900.	960.	1000.	1035. 2470.
PER Q=	0.1	1.0	1.4	1.0	96.5
AREA=	4.1	51.0	54.0	41.4	3229.0
VEL=	3.3	3.1	4.2	3.9	4.8

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************
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T1      INDIAN BEND WASH: EXISTING CONDITIONS: without Scotts. Rd. culverts
T2      500 YEAR FLOOD EVENT:(FEMA) Q=34000. CFS
T3      EXISTING COND.                (1985):tn:EXISTMP-

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

       0.      7.       0.       0.  0.001720     0.00     0.0      0.  1297.000    0.000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    15.000    0.000   -1.000    0.000    0.000    0.000   -1.000    0.000    0.000    15.000
```

```
  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


*PROF 6

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.200 CEHV=   0.400
*SECNO 1800.000
  1800.00     7.13  1295.13  1294.02  1297.00  1297.07     1.94     0.00     0.00  1292.00
   34000.     254.   33543.     203.      61.    2984.      49.       0.       0.   1292.00
     0.00     4.16    11.24     4.15    0.020    0.020    0.020    0.000  1288.00  1120.92
 0.001733       0.       0.       0.        0       14        3     0.00   500.34  1621.26


FLOW DISTRIBUTION FOR SECNO=   1800.00          CWSEL=   1295.13

STA=    1121.    1160.    1590.    1621.
  PER Q=      0.7     98.7      0.6
   AREA=     61.1   2984.2     48.9
    VEL=      4.2     11.2      4.2

*SECNO 2300.000
3280 CROSS SECTION   2300.00 EXTENDED      3.49 FEET


3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00     4.19  1298.49  1298.49     0.00  1299.83     1.35     1.37     0.12  1296.30
   34000.    2946.   31054.       0.     496.    3246.       0.      36.      10.   1295.00
     0.01     5.94     9.57     0.00    0.030    0.025    0.000    0.000  1294.30  1180.00
 0.006447     600.     450.     300.        0       14        0     0.00  1410.00  2590.00


FLOW DISTRIBUTION FOR SECNO=   2300.00          CWSEL=   1298.49

STA=    1180.    1450.    2590.
  PER Q=      8.7     91.3
   AREA=    495.7   3245.6
    VEL=      5.9      9.6

*SECNO 2375.000
3280 CROSS SECTION   2375.00 EXTENDED      4.84 FEET
```

```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


3301 HV CHANGED MORE THAN HVINS

 2375.00     5.55  1299.85  1298.36     0.00  1300.37     0.52     0.37     0.16  1297.00
  34000.    8165.   25835.       0.    1145.    4876.       0.      45.      13.   1295.00
    0.02     7.13     5.30     0.00    0.030    0.045    0.000    0.000  1294.30  1130.00
0.003925      75.      75.      75.        3        8        0     0.00  1510.00  2640.00


FLOW DISTRIBUTION FOR SECNO=   2375.00          CWSEL=   1299.85

STA=    1130.    1435.    1455.    2640.
  PER Q=     22.8      1.3     76.0
   AREA=   1080.8     63.9   4876.1
    VEL=      7.2      6.7      5.3

*SECNO 2550.000
3280 CROSS SECTION   2550.00 EXTENDED      4.96 FEET

 2550.00     4.96  1300.46  1298.92     0.00  1300.95     0.49     0.58     0.01  1297.50
  34000.    4347.   29653.       0.     774.    5292.       0.      65.      18.   1295.50
    0.02     5.62     5.60     0.00    0.030    0.045    0.000    0.000  1295.50  1179.00
0.003828      75.     165.     235.        2       14        0     0.00  1471.00  2650.00


FLOW DISTRIBUTION FOR SECNO=   2550.00          CWSEL=   1300.46

STA=    1179.    1180.    1181.    1205.    1460.    1490.    2650.
  PER Q=      0.0      0.0      1.0     10.3      1.4     87.2
   AREA=      2.5      2.5     59.1    628.1     81.4   5291.6
    VEL=      2.4      5.6      5.6      5.6      6.0      5.6

*SECNO 2800.000
3280 CROSS SECTION   2800.00 EXTENDED      3.35 FEET

 2800.00     5.35  1301.35  1299.54     0.00  1301.78     0.43     0.81     0.01  1298.90
  34000.    4145.   29855.       0.     676.    5851.       0.      99.      26.   1298.00
    0.04     6.13     5.10     0.00    0.030    0.045    0.000    0.000  1296.00  1140.00
0.003274     160.     240.     410.        2       19        0     0.00  1525.00  2665.00


FLOW DISTRIBUTION FOR SECNO=   2800.00          CWSEL=   1301.35

STA=    1140.    1210.    1290.    1350.    2665.
  PER Q=      4.2      5.0      2.9     87.8
   AREA=    234.5    268.0    174.0   5851.0
    VEL=      6.2      6.3      5.8      5.1
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```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO 2950.000
3280 CROSS SECTION   2950.00 EXTENDED      3.33 FEET

  2950.00     6.83  1301.83  1299.74     0.00  1302.19     0.36     0.40     0.01  1298.00
   34000.    6403.   27597.       0.    1080.    6120.       0.     122.      31.   1298.50
     0.05     5.93     4.51     0.00    0.030    0.045    0.000    0.000  1295.00  1080.00
 0.002311     130.     150.     235.        2       12        0     0.00  1585.00  2665.00


FLOW DISTRIBUTION FOR SECNO=   2950.00          CWSEL=   1301.83

STA=    1080.    1130.    1220.    1230.    1270.    1295.    1305.    1390.    2665.
  PER Q=      0.9      2.6      0.8      5.3      2.8      0.8      5.6     81.2
   AREA=     91.6    209.8     43.3    233.3    133.3     43.3    325.7   6119.9
    VEL=      3.5      4.2      6.1      7.7      7.3      6.3      5.8      4.5

*SECNO 3000.000
3280 CROSS SECTION   3000.00 EXTENDED      3.06 FEET

  3000.00     6.06  1302.06  1299.71     0.00  1302.37     0.32     0.17     0.01  1297.00
   34000.    7034.   26966.       0.    1217.    6555.       0.     136.      34.   1299.00
     0.05     5.78     4.11     0.00    0.030    0.045    0.000    0.000  1296.00  1010.00
 0.001865     100.      80.     105.        2       11        0     0.00  1650.00  2660.00


FLOW DISTRIBUTION FOR SECNO=   3000.00          CWSEL=   1302.06

STA=    1010.    1120.    1160.    1215.    1325.    2660.
  PER Q=      1.8      2.6      6.0     10.3     79.3
   AREA=    193.3    162.3    305.6    556.3   6555.0
    VEL=      3.1      5.4      6.7      6.3      4.1

*SECNO 3330.000
3280 CROSS SECTION   3330.00 EXTENDED      4.55 FEET

  3330.00     6.55  1302.55  1300.82     0.00  1302.99     0.44     0.57     0.05  1298.00
   34000.   16964.   17036.       0.    2589.    4512.       0.     188.      45.   1300.00
     0.07     6.55     3.78     0.00    0.030    0.045    0.000    0.000  1296.00  1020.00
 0.001974     270.     310.     350.        2       16        0     0.00  1590.00  2610.00


FLOW DISTRIBUTION FOR SECNO=   3330.00          CWSEL=   1302.55

STA=    1020.    1040.    1305.    1330.    1520.    2610.
  PER Q=      1.7     27.2      2.8     18.3     50.1
   AREA=    101.0   1390.7    138.7    959.1   4512.3
    VEL=      5.6      6.6      6.8      6.5      3.8
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 3830.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3830.00 EXTENDED 3.18 FEET

3830.00	5.98	1303.98	1302.47	0.00	1304.59	0.61	1.53	0.07	1307.00
34000.	2495.	31505.	0.	396.	5038.	0.	262.	62.	1300.80
0.09	6.30	6.25	0.00	0.030	0.045	0.000	0.000	1298.00	897.00
0.004901	540.	510.	500.	2	19	0	0.00	1291.54	2470.00

FLOW DISTRIBUTION FOR SECNO= 3830.00 CWSEL= 1303.98

STA=	897.	900.	960.	1000.	1060.	2470.
PER W=	0.1	2.8	2.5	1.9	92.7
AREA=	8.9	148.9	119.3	118.9	5038.2
VEL=	4.5	6.4	7.2	5.5	6.3

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

EXISTING COND.

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	1800.000	0.00	0.00	0.00	1288.00	23000.00	1293.70	1292.65	1295.14	17.40	9.66	2403.49	5513.41
	1800.000	0.00	0.00	0.00	1288.00	3400.00	1289.86	1289.32	1290.19	17.01	4.57	744.34	824.38
	1800.000	0.00	0.00	0.00	1288.00	6900.00	1290.83	1290.11	1291.40	17.21	6.03	1145.05	1663.33
	1800.000	0.00	0.00	0.00	1288.00	11000.00	1291.73	1290.87	1292.54	17.30	7.21	1525.40	2644.28
	1800.000	0.00	0.00	0.00	1288.00	16000.00	1292.64	1291.67	1293.72	17.28	8.35	1919.60	3848.50
	1800.000	0.00	0.00	0.00	1288.00	34000.00	1295.13	1294.02	1297.07	17.33	11.24	3094.16	8167.66
*	2300.000	450.00	0.00	0.00	1294.30	23000.00	1297.88	1297.88	1298.92	67.86	8.38	2891.63	2792.02
*	2300.000	450.00	0.00	0.00	1294.30	3400.00	1296.13	1296.13	1296.55	108.15	5.19	655.39	326.94
*	2300.000	450.00	0.00	0.00	1294.30	6900.00	1296.67	1296.67	1297.19	87.49	5.83	1201.96	737.67
*	2300.000	450.00	0.00	0.00	1294.30	11000.00	1297.07	1297.07	1297.73	76.59	6.59	1740.67	1256.88
*	2300.000	450.00	0.00	0.00	1294.30	16000.00	1297.43	1297.43	1298.26	72.14	7.45	2258.58	1883.80
*	2300.000	450.00	0.00	0.00	1294.30	34000.00	1298.49	1298.49	1299.83	64.47	9.57	3741.38	4234.43
	2375.000	75.00	0.00	0.00	1294.30	23000.00	1299.06	1297.78	1299.43	37.38	4.49	4839.52	3762.13
	2375.000	75.00	0.00	0.00	1294.30	3400.00	1296.94	1296.13	1297.01	30.71	2.09	1634.68	613.55
	2375.000	75.00	0.00	0.00	1294.30	6900.00	1297.52	1296.71	1297.64	30.66	2.69	2507.43	1246.19
	2375.000	75.00	0.00	0.00	1294.30	11000.00	1298.00	1297.05	1298.18	33.10	3.28	3234.96	1911.97
	2375.000	75.00	0.00	0.00	1294.30	16000.00	1298.48	1297.37	1298.74	34.99	3.84	3976.51	2704.87
	2375.000	75.00	0.00	0.00	1294.30	34000.00	1299.85	1298.36	1300.37	39.25	5.30	6020.69	5426.97
	2550.000	165.00	0.00	0.00	1295.50	23000.00	1299.64	1298.30	1299.99	36.69	4.81	4850.82	3796.88
	2550.000	165.00	0.00	0.00	1295.50	3400.00	1297.35	1296.41	1297.42	21.54	2.01	1690.02	732.59
	2550.000	165.00	0.00	0.00	1295.50	6900.00	1297.98	1296.86	1298.10	28.41	2.86	2416.07	1294.51
	2550.000	165.00	0.00	0.00	1295.50	11000.00	1298.50	1297.28	1298.70	32.57	3.55	3173.31	1927.44
	2550.000	165.00	0.00	0.00	1295.50	16000.00	1299.02	1297.70	1299.28	34.98	4.16	3937.37	2705.16
	2550.000	165.00	0.00	0.00	1295.50	34000.00	1300.46	1298.92	1300.95	38.28	5.60	6065.22	5495.35
	2800.000	240.00	0.00	0.00	1296.00	23000.00	1300.48	1298.98	1300.79	31.88	4.36	5208.46	4073.39
	2800.000	240.00	0.00	0.00	1296.00	3400.00	1297.99	1297.26	1298.07	35.04	2.28	1493.34	574.40
	2800.000	240.00	0.00	0.00	1296.00	6900.00	1298.70	1297.71	1298.82	31.83	2.80	2495.30	1223.01
	2800.000	240.00	0.00	0.00	1296.00	11000.00	1299.28	1298.16	1299.45	30.84	3.27	3377.98	1980.66
	2800.000	240.00	0.00	0.00	1296.00	16000.00	1299.83	1298.54	1300.06	31.26	3.78	4215.87	2861.84
	2800.000	240.00	0.00	0.00	1296.00	34000.00	1301.35	1299.54	1301.78	32.74	5.10	6527.39	5942.50

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
2950.000	150.00	0.00	0.00	1295.00	23000.00	1300.93	1299.11	1301.18	21.86	3.82	5769.12	4919.37
2950.000	150.00	0.00	0.00	1295.00	3400.00	1298.37	1296.99	1298.43	16.98	1.67	1896.90	825.15
2950.000	150.00	0.00	0.00	1295.00	6900.00	1299.08	1298.04	1299.17	17.63	2.23	2917.48	1643.37
2950.000	150.00	0.00	0.00	1295.00	11000.00	1299.67	1298.34	1299.81	19.12	2.75	3795.00	2515.94
2950.000	150.00	0.00	0.00	1295.00	16000.00	1300.25	1298.75	1300.44	20.61	3.26	4689.11	3524.05
2950.000	150.00	0.00	0.00	1295.00	34000.00	1301.83	1299.74	1302.19	23.11	4.51	7200.11	7072.16
3000.000	80.00	0.00	0.00	1296.00	23000.00	1301.13	1299.12	1301.35	17.47	3.46	6237.93	5502.31
3000.000	80.00	0.00	0.00	1296.00	3400.00	1298.50	1297.41	1298.54	11.02	1.46	2148.29	1024.30
3000.000	80.00	0.00	0.00	1296.00	6900.00	1299.22	1297.80	1299.30	13.56	1.98	3216.23	1874.00
3000.000	80.00	0.00	0.00	1296.00	11000.00	1299.83	1298.16	1299.95	14.88	2.46	4151.78	2851.98
3000.000	80.00	0.00	0.00	1296.00	16000.00	1300.42	1298.59	1300.59	16.29	2.94	5081.00	3964.48
3000.000	80.00	0.00	0.00	1296.00	34000.00	1302.06	1299.71	1302.37	18.65	4.11	7772.52	7872.80
3330.000	310.00	0.00	0.00	1296.00	23000.00	1301.60	1300.19	1301.94	19.35	3.15	5602.11	5228.04
3330.000	310.00	0.00	0.00	1296.00	3400.00	1298.91	1298.31	1299.05	25.54	1.31	1397.19	672.76
3330.000	310.00	0.00	0.00	1296.00	6900.00	1299.65	1298.94	1299.82	20.65	1.79	2506.80	1518.32
3330.000	310.00	0.00	0.00	1296.00	11000.00	1300.28	1299.32	1300.49	19.63	2.22	3489.81	2482.53
3330.000	310.00	0.00	0.00	1296.00	16000.00	1300.89	1299.79	1301.15	19.28	2.65	4462.79	3643.85
3330.000	310.00	0.00	0.00	1296.00	34000.00	1302.55	1300.82	1302.99	19.74	3.78	7101.66	7653.30
3830.000	510.00	0.00	0.00	1298.00	23000.00	1303.05	1301.76	1303.51	49.23	5.45	4246.04	3277.92
3830.000	510.00	0.00	0.00	1298.00	3400.00	1300.57	1299.69	1300.67	38.39	2.52	1354.30	548.74
3830.000	510.00	0.00	0.00	1298.00	6900.00	1301.19	1300.32	1301.38	46.56	3.44	2015.21	1011.20
3830.000	510.00	0.00	0.00	1298.00	11000.00	1301.77	1300.79	1302.04	48.66	4.15	2672.62	1576.84
3830.000	510.00	0.00	0.00	1298.00	16000.00	1302.35	1301.23	1302.70	49.28	4.78	3379.53	2279.15
3830.000	510.00	0.00	0.00	1298.00	34000.00	1303.98	1302.47	1304.59	49.01	6.25	5434.34	4856.69

EXISTING COND.

SUMMARY PRINTOUT TABLE 150

	SECND	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	1800.000	23000.00	1293.70	0.00	0.00	0.00	468.25	0.00
	1800.000	3400.00	1289.86	-3.84	0.00	-1.64	408.64	0.00
	1800.000	6900.00	1290.83	0.97	0.00	-0.67	418.33	0.00
	1800.000	11000.00	1291.73	0.90	0.00	0.23	427.33	0.00
	1800.000	16000.00	1292.64	0.91	0.00	0.64	444.39	0.00
	1800.000	34000.00	1295.13	2.49	0.00	-1.87	500.34	0.00
*	2300.000	23000.00	1297.88	0.00	4.18	0.00	1410.00	450.00
*	2300.000	3400.00	1296.13	-1.76	6.26	0.00	851.31	450.00
*	2300.000	6900.00	1296.67	0.54	5.83	0.00	1233.95	450.00
*	2300.000	11000.00	1297.07	0.40	5.33	0.00	1410.00	450.00
*	2300.000	16000.00	1297.43	0.37	4.79	0.00	1410.00	450.00
*	2300.000	34000.00	1298.49	1.05	3.36	0.00	1410.00	450.00
	2375.000	23000.00	1299.06	0.00	1.18	0.00	1510.00	75.00
	2375.000	3400.00	1296.94	-2.12	0.81	0.00	1496.58	75.00
	2375.000	6900.00	1297.52	0.58	0.85	0.00	1510.00	75.00
	2375.000	11000.00	1298.00	0.48	0.93	0.00	1510.00	75.00
	2375.000	16000.00	1298.48	0.48	1.05	0.00	1510.00	75.00
	2375.000	34000.00	1299.85	1.36	1.36	0.00	1510.00	75.00
	2550.000	23000.00	1299.64	0.00	0.57	0.00	1471.00	165.00
	2550.000	3400.00	1297.35	-2.28	0.41	0.00	1121.81	165.00
	2550.000	6900.00	1297.98	0.62	0.46	0.00	1188.70	165.00
	2550.000	11000.00	1298.50	0.53	0.50	0.00	1471.00	165.00
	2550.000	16000.00	1299.02	0.51	0.53	0.00	1471.00	165.00
	2550.000	34000.00	1300.46	1.45	0.61	0.00	1471.00	165.00
	2800.000	23000.00	1300.48	0.00	0.85	0.00	1525.00	240.00
	2800.000	3400.00	1297.99	-2.49	0.64	0.00	1187.89	240.00
	2800.000	6900.00	1298.70	0.71	0.73	0.00	1484.50	240.00
	2800.000	11000.00	1299.28	0.58	0.78	0.00	1525.00	240.00
	2800.000	16000.00	1299.83	0.55	0.82	0.00	1525.00	240.00
	2800.000	34000.00	1301.35	1.52	0.89	0.00	1525.00	240.00
	2950.000	23000.00	1300.93	0.00	0.44	0.00	1585.00	150.00
	2950.000	3400.00	1298.37	-2.56	0.38	0.00	1427.13	150.00
	2950.000	6900.00	1299.08	0.71	0.37	0.00	1451.83	150.00
	2950.000	11000.00	1299.67	0.59	0.38	0.00	1505.25	150.00
	2950.000	16000.00	1300.25	0.58	0.41	0.00	1585.00	150.00
	2950.000	34000.00	1301.83	1.58	0.48	0.00	1585.00	150.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
3000.000	23000.00	1301.13	0.00	0.20	0.00	1650.00	80.00
3000.000	3400.00	1298.50	-2.63	0.13	0.00	1382.54	80.00
3000.000	6900.00	1299.22	0.72	0.15	0.00	1532.22	80.00
3000.000	11000.00	1299.83	0.61	0.16	0.00	1538.31	80.00
3000.000	16000.00	1300.42	0.59	0.18	0.00	1617.77	80.00
3000.000	34000.00	1302.06	1.63	0.23	0.00	1650.00	80.00
3330.000	23000.00	1301.60	0.00	0.48	0.00	1590.00	310.00
3330.000	3400.00	1298.91	-2.69	0.41	0.00	1398.53	310.00
3330.000	6900.00	1299.65	0.74	0.43	0.00	1544.88	310.00
3330.000	11000.00	1300.28	0.62	0.44	0.00	1590.00	310.00
3330.000	16000.00	1300.89	0.61	0.46	0.00	1590.00	310.00
3330.000	34000.00	1302.55	1.66	0.49	0.00	1590.00	310.00
3830.000	23000.00	1303.05	0.00	1.44	0.00	1254.44	510.00
3830.000	3400.00	1300.57	-2.47	1.66	0.00	1009.22	510.00
3830.000	6900.00	1301.19	0.62	1.54	0.00	1110.49	510.00
3830.000	11000.00	1301.77	0.58	1.49	0.00	1183.15	510.00
3830.000	16000.00	1302.35	0.58	1.46	0.00	1226.67	510.00
3830.000	34000.00	1303.98	1.63	1.43	0.00	1291.54	510.00

SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION  SECNO=  2300.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  2300.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  2300.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  2300.000  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  2300.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  2300.000  PROFILE= 3  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  2300.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  2300.000  PROFILE= 4  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  2300.000  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  2300.000  PROFILE= 5  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  2300.000  PROFILE= 6  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  2300.000  PROFILE= 6  MINIMUM SPECIFIC ENERGY
```

THIS RUN EXECUTED: Fri 14-MAR-1986 16:57:29.90

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
**************************************************
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*************************************************
*  WATER SURFACE PROFILES                       *
*  VERSION OF NOVEMBER 1976                     *
*  UPDATED MAY 1984                             *
*                                               *
*  RUN DATE: Tue 25-MAR-1986  TIME: 15:02:20.82 *
*************************************************
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*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  THE HYDROLOGIC ENGINEERING CENTER *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616          *
*  (916) 756-1104 (FTS) 448-2105    *
*************************************
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X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX             XXXXXXX
```

HEC-2 COMPUTATIONS
PERFORMED BY:

ERIE AND ASSOCIATES, INC.
Consulting Engineers
5110 North 40th Street, Suite 252
Phoenix, Arizona 85018

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:::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::
:::                                     :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION  :::
:::          By: John R. Haestad        :::
:::                                     :::
:::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::
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H A E S T A D M E T H O D S
==========

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 753-9800

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************
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T1      INDIAN BEND WASH: SANTO TOMAS DEVELPMENT: W/O Scottsdale Rd. culverts
T2      100 YEAR FLOOD EVENT: fully developed watershed: Q=23000. CFS
T3      SANTO TOMAS                    DESIGN E2:  FN:STDE2

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        2.        0.        0.  0.000000      0.00       0.0       0.  1293.700     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1.000     0.000    -1.000     0.000     0.000     0.000    -1.000     0.000     0.000    15.000


NC      0.020     0.020     0.020     0.200     0.400     0.000     0.000     0.000     0.000     0.000
WT      6.000 23000.000  3400.000  6900.000 11000.000 16000.000 34000.000     0.000     0.000     0.000
X1   1800.000     7.000  1160.000  1590.000     0.000     0.000     0.000     0.000     0.000     0.000
GR   1299.100  1000.000  1296.000  1110.000  1292.000  1160.000  1288.000  1180.000  1288.000  1570.000
GR   1292.000  1590.000  1296.000  1630.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      0.030     0.045     0.025     0.000     0.000     0.000     0.000     0.000     0.000     0.000
X1   2300.000     9.000  1450.000  2590.000   600.000   300.000   450.000     0.000     0.000     0.000
GR   1297.000  1180.000  1296.300  1450.000  1296.500  1545.000  1296.800  1585.000  1296.100  1745.000
GR   1295.700  1990.000  1295.700  2190.000  1294.300  2410.000  1295.000  2590.000     0.000     0.000

NC      0.030     0.045     0.045     0.000     0.000     0.000     0.000     0.000     0.000     0.000
X1   2375.000    10.000  1455.000  2640.000    75.000    75.000    75.000     0.000     0.000     0.000
GR   1296.300  1130.000  1296.300  1435.000  1297.000  1455.000  1296.500  1550.000  1296.800  1660.000
GR   1296.000  1875.000  1295.700  2000.000  1295.700  2240.000  1294.300  2470.000  1295.000  2640.000

NC      0.030     0.045     0.045     0.000     0.000     0.000     0.000     0.000     0.000     0.000
X1   2550.000    11.000  1490.000  2650.000    75.000   235.000   165.000     0.000     0.000     0.000
GR   1298.000  1179.000  1298.000  1180.000  1298.000  1181.000  1298.000  1205.000  1298.000  1460.000
GR   1297.500  1490.000  1296.000  1600.000  1296.000  1815.000  1297.700  1885.000  1295.600  1965.000
GR   1295.500  2650.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

ET      0.000     9.100     9.100     9.100     9.100     9.100     9.100     0.000  1136.000  2665.000
X1   2800.000    11.000  1350.000  2665.000   160.000   410.000   240.000     0.000     0.000     0.000
GR   1300.000  1136.000  1298.000  1144.000  1298.000  1290.000  1298.900  1350.000  1298.000  1475.000
GR   1296.000  1525.000  1296.000  1845.000  1296.800  1940.000  1296.800  2070.000  1297.000  2415.000
GR   1298.000  2665.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

ET	0.000	9.100	9.100	9.100	9.100	9.100	9.100	0.000	1210.000	2665.000
X1	2950.000	22.000	1390.000	2665.000	130.000	235.000	150.000	0.000	0.000	0.000
GR	1300.000	1210.000	1296.000	1226.000	1296.000	1232.000	1296.000	1233.000	1296.000	1270.000
GR	1297.000	1295.000	1298.000	1305.000	1298.000	1390.000	1298.000	1405.000	1297.000	1435.000
GR	1296.000	1510.000	1296.000	1575.000	1297.000	1640.000	1297.000	1790.000	1296.000	1815.000
GR	1295.000	1840.000	1296.000	1845.000	1297.000	1865.000	1297.000	2000.000	1297.000	2330.000
GR	1298.000	2605.000	1298.500	2665.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	9.100	9.100	9.100	9.100	9.100	0.000	1120.000	2660.000
X1	3000.000	14.000	1325.000	2660.000	100.000	105.000	80.000	0.000	0.000	0.000
GR	1300.600	1010.000	1300.000	1120.000	1296.000	1136.000	1296.000	1160.000	1297.000	1215.000
GR	1297.000	1325.000	1296.000	1410.000	1296.000	1550.000	1297.500	1660.000	1296.000	1805.000
GR	1297.000	1850.000	1297.000	2300.000	1298.000	2375.000	1299.000	2660.000	0.000	0.000
X1	3330.000	14.000	1520.000	2610.000	270.000	350.000	310.000	0.000	0.000	0.000
GR	1298.000	1020.000	1297.000	1040.000	1297.600	1305.000	1297.000	1305.000	1297.000	1330.000
GR	1298.000	1520.000	1298.600	1730.000	1298.000	1760.000	1296.000	1825.000	1296.000	1860.000
GR	1298.000	1865.000	1298.700	2275.000	1299.000	2480.000	1300.000	2610.000	0.000	0.000
X1	3830.000	20.000	1110.000	2470.000	540.000	500.000	510.000	0.000	0.000	0.000
GR	1301.000	897.000	1301.000	900.000	1302.000	960.000	1300.000	1000.000	1306.000	1090.000
GR	1307.000	1110.000	1302.000	1150.000	1300.000	1180.000	1299.000	1280.000	1298.800	1410.000
GR	1298.000	1595.000	1298.000	1635.000	1299.000	1760.000	1300.000	1870.000	1301.000	1935.000
GR	1305.000	1970.000	1305.000	2160.000	1300.000	2200.000	1300.000	2395.000	1300.800	2470.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 1

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.200 CEHV=   0.400
*SECNO 1800.000
  1800.00     5.70  1293.70  1292.65  1293.70  1295.14     1.44     0.00     0.00  1292.00
   23000.      50.   22910.      40.      18.    2371.      14.       0.       0.   1292.00
     0.00     2.78     9.66     2.77    0.020    0.020    0.020    0.000  1288.00  1138.75
 0.001740       0.       0.       0.        0       14        0     0.00   468.25  1607.00


FLOW DISTRIBUTION FOR SECNO=   1800.00          CWSEL=   1293.70

STA=    1139.    1160.    1590.    1607.
  PER Q=      0.2     99.6      0.2
   AREA=     18.1   2371.0     14.4
    VEL=      2.8      9.7      2.8

*SECNO 2300.000
3280 CROSS SECTION   2300.00 EXTENDED      2.88 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00     3.58  1297.88  1297.88     0.00  1298.92     1.04     1.40     0.08  1296.30
   23000.    1559.   21441.       0.     333.    2559.       0.      28.      10.   1295.00
     0.02     4.68     8.38     0.00    0.030    0.025    0.000    0.000  1294.30  1180.00
 0.006786     600.     450.     300.        0       14        0     0.00  1410.00  2590.00


FLOW DISTRIBUTION FOR SECNO=   2300.00          CWSEL=   1297.88

STA=    1180.    1450.    2590.
  PER Q=      6.8     93.2
   AREA=    333.0   2558.6
    VEL=      4.7      8.4

*SECNO 2375.000
3280 CROSS SECTION   2375.00 EXTENDED      4.06 FEET


3301 HV CHANGED MORE THAN HVINS
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 2375.00      4.76  1299.06  1297.78      0.00  1299.43      0.37      0.37      0.13  1297.00
  23000.     5252.   17748.       0.      890.    3949.        0.       35.       13.   1295.00
    0.02      5.90     4.49     0.00     0.030    0.045     0.000     0.000  1294.30  1130.00
0.003738      75.      75.      75.         3        8         0      0.00  1510.00  2640.00


FLOW DISTRIBUTION FOR SECNO=   2375.00          CWSEL=   1299.06

STA=    1130.    1435.    1455.    2640.
  PER Q=     21.7      1.1     77.2
   AREA=    842.2     48.2   3949.1
    VEL=      5.9      5.4      4.5

*SECNO 2550.000
3280 CROSS SECTION   2550.00 EXTENDED      4.14 FEET

 2550.00      4.14  1299.64  1298.30      0.00  1299.99      0.35      0.56      0.00  1297.50
  23000.     2175.   20825.       0.      517.    4334.        0.       51.       18.   1295.50
    0.03      4.21     4.81     0.00     0.030    0.045     0.000     0.000  1295.50  1179.00
0.003669      75.     165.     235.         2       11         0      0.00  1471.00  2650.00


FLOW DISTRIBUTION FOR SECNO=   2550.00          CWSEL=   1299.64

STA=    1179.    1180.    1181.    1205.    1460.    1490.    2650.
  PER Q=      0.0      0.0      0.7      7.6      1.1     90.5
   AREA=      1.6      1.6     39.3    417.6     56.6   4334.0
    VEL=      2.2      4.2      4.2      4.2      4.6      4.8

*SECNO 2800.000
3280 CROSS SECTION   2800.00 EXTENDED      2.48 FEET


3470 ENCROACHMENT STATIONS=   1136.0    2665.0  TYPE=     1  TARGET=    1529.000
 2800.00      4.48  1300.48  1298.98      0.00  1300.79      0.30      0.79      0.01  1298.90
  23000.     2449.   20551.       0.      497.    4714.        0.       78.       25. 100000.00
    0.04      4.93     4.36     0.00     0.030    0.045     0.000     0.000  1296.00  1136.00
0.003185     160.     240.     410.         2       19         0      0.00  1529.00  2665.00


FLOW DISTRIBUTION FOR SECNO=   2800.00          CWSEL=   1300.48

STA=    1136.    1144.    1290.    1350.    2665.
  PER Q=      0.2      8.1      2.4     89.4
   AREA=     11.9    362.8    122.1   4713.7
    VEL=      3.4      5.1      4.5      4.4
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  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO 2950.000
3280 CROSS SECTION   2950.00 EXTENDED      2.41 FEET


3470 ENCROACHMENT STATIONS=    1210.0    2665.0  TYPE=     1  TARGET=    1455.000
  2950.00     5.91  1300.91  1299.09     0.00  1301.19     0.28     0.39     0.00  1298.00
   23000.    3766.   19234.       0.     654.    4942.       0.      97.      31. 100000.00
     0.05     5.76     3.89     0.00    0.030    0.045    0.000    0.000  1295.00  1210.00
 0.002287     130.     150.     235.        2       15        0     0.00  1455.00  2665.00


FLOW DISTRIBUTION FOR SECNO=   2950.00          CWSEL=   1300.91

STA=    1210.    1226.    1232.    1233.    1270.    1295.    1305.    1390.    2665.
  PER Q=      0.9      0.9      0.1      5.4      3.0      0.8      5.2     83.6
   AREA=     46.5     29.4      4.9    181.6    110.2     34.1    247.1   4942.2
    VEL=      4.6      6.8      6.8      6.8      6.4      5.3      4.8      3.9

*SECNO 3000.000
3280 CROSS SECTION   3000.00 EXTENDED      2.12 FEET


3470 ENCROACHMENT STATIONS=    1120.0    2660.0  TYPE=     1  TARGET=    1540.000
  3000.00     5.12  1301.12  1299.14     0.00  1301.36     0.24     0.17     0.01  1297.00
   23000.    4796.   18204.       0.     880.    5305.       0.     108.      33. 100000.00
     0.06     5.45     3.43     0.00    0.030    0.045    0.000    0.000  1296.00  1120.00
 0.001719     100.      80.     105.        2       11        0     0.00  1540.00  2660.00


FLOW DISTRIBUTION FOR SECNO=   3000.00          CWSEL=   1301.12

STA=    1120.    1136.    1160.    1215.    1325.    2660.
  PER Q=      0.9      3.3      6.3     10.4     79.1
   AREA=     49.9    122.9    254.1    453.3   5304.8
    VEL=      4.1      6.1      5.7      5.3      3.4

*SECNO 3330.000
3280 CROSS SECTION   3330.00 EXTENDED      3.60 FEET


  3330.00     5.60  1301.60  1300.19     0.00  1301.94     0.34     0.54     0.04  1298.00
   23000.   12031.   10969.       0.    2117.    3482.       0.     148.      44.   1300.00
     0.08     5.68     3.15     0.00    0.030    0.045    0.000    0.000  1296.00  1020.00
 0.001940     270.     310.     350.        2       15        0     0.00  1590.00  2610.00
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 3330.00 CWSEL= 1301.60

STA=	1020.	1040.	1305.	1330.	1520.	2610.
PER Q=	1.8	28.6	3.0	18.9	47.7	
AREA=	82.0	1140.1	115.1	779.4	3481.8	
VEL=	5.0	5.8	5.9	5.6	3.2	

*SECNO 3830.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3830.00 EXTENDED 2.25 FEET

3830.00	5.05	1303.05	1301.76	0.00	1303.51	0.46	1.52	0.05	1307.00
23000.	1236.	21764.	0.	251.	3995.	0.	207.	61.	1300.80
0.10	4.93	5.45	0.00	0.030	0.045	0.000	0.000	1298.00	897.00
0.004923	540.	510.	500.	2	19	0	0.00	1254.44	2470.00

FLOW DISTRIBUTION FOR SECNO= 3830.00 CWSEL= 1303.05

STA=	897.	900.	960.	1000.	1046.	2470.
PER Q=	0.1	1.9	2.0	1.4	94.6	
AREA=	6.1	92.9	82.0	69.7	3995.5	
VEL=	4.0	4.7	5.6	4.6	5.4	

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
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T1      INDIAN BEND WASH: SANTO TOMAS DEVELPMENT: W/O Scottsdale Rd. culverts
T2      10 YEAR FLOOD EVENT: FEMA                   : Q= 3400. CFS
T3      SANTO TOMAS                  DESIGN E2:fn:STDE2

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       3.       0.       0.  0.001720     0.00     0.0      0.  1291.500    0.000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    2.000    0.000   -1.000    0.000    0.000    0.000   -1.000    0.000    0.000   15.000
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  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 2

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.200 CEHV=   0.400
*SECNO 1800.000
  1800.00     1.86  1289.86  1289.32  1291.50  1290.19     0.32     0.00     0.00  1292.00
    3400.       0.    3400.       0.       0.     744.       0.       0.       0.   1292.00
     0.00     0.00     4.57     0.00    0.000    0.020    0.000    0.000  1288.00  1170.68
 0.001701       0.       0.       0.        0       18        4     0.00   408.64  1579.32


FLOW DISTRIBUTION FOR SECNO=   1800.00          CWSEL=   1289.86

STA=    1171.    1590.
  PER Q=    100.0
   AREA=    744.3
    VEL=      4.6

*SECNO 2300.000
3280 CROSS SECTION   2300.00 EXTENDED      1.13 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00     1.83  1296.13  1296.13     0.00  12D      1.13 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00     1.83  1296.13  1296.13     0.00  1296.55     0.42     1.57     0.04  1296.30
    3400.       0.    3400.       0.       0.     655.       0.       7.       7.   1295.00
     0.02     0.00     5.19     0.00    0.000    0.025    0.000    0.000  1294.30  1738.69
 0.010815     600.     450.     300.        0        5        0     0.00   851.31  2590.00


FLOW DISTRIBUTION FOR SECNO=   2300.00          CWSEL=   1296.13

STA=    1739.    2590.
  PER Q=    100.0
   AREA=    655.4
    VEL=      5.2

*SECNO 2375.000

3265 DIVIDED FLOW

3280 CROSS SECTION   2375.00 EXTENDED      1.94 FEET
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 2375.00      2.64  1296.94  1296.13      0.00  1297.01      0.07      0.39      0.07  1297.00
   3400.      403.    2997.       0.      201.    1434.       0.        9.        9.   1295.00
    0.03      2.01     2.09     0.00     0.030    0.045    0.000     0.000  1294.30  1130.00
0.003071      75.      75.      75.         0        5        0      0.00  1496.58  2640.00


FLOW DISTRIBUTION FOR SECNO=   2375.00          CWSEL=   1296.94

STA=    1130.    1435.    1453.    2640.
  PER Q=     11.6      0.2     88.1
   AREA=    194.8      5.8   1434.1
    VEL=      2.0      1.3      2.1

*SECNO 2550.000

3265 DIVIDED FLOW

3280 CROSS SECTION   2550.00 EXTENDED      1.85 FEET

 2550.00      1.85  1297.35  1296.41      0.00  1297.42      0.06      0.41      0.00  1297.50
   3400.        0.    3400.       0.        0.    1690.       0.        15.       13.   1295.50
    0.06      0.00     2.01     0.00     0.000    0.045    0.000     0.000  1295.50  1500.73
0.002154      75.     165.     235.         3       22        0      0.00  1121.81  2650.00


FLOW DISTRIBUTION FOR SECNO=   2550.00          CWSEL=   1297.35

STA=    1501.    2650.
  PER Q=    100.0
   AREA=   1690.0
    VEL=      2.0

*SECNO 2800.000

3470 ENCROACHMENT STATIONS=   1136.0    2665.0  TYPE=     1  TARGET=    1529.000
 2800.00      1.99  1297.99  1297.26  1300.48  1298.07      0.08      0.65      0.01  1298.90
   3400.        0.    3400.       0.        0.    1493.       0.        24.       20. 100000.00
    0.09      0.00     2.28     0.00     0.000    0.045    0.000     0.000  1296.00  1475.19
0.003504     160.     240.     410.         2       19        0      0.00  1187.88  2663.08


FLOW DISTRIBUTION FOR SECNO=   2800.00          CWSEL=   1297.99

STA=    1475.    2665.
  PER Q=    100.0
   AREA=   1493.3
    VEL=      2.3
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


*SECNO 2950.000

3470 ENCROACHMENT STATIONS=    1210.0    2665.0  TYPE=     1  TARGET=    1455.000
  2950.00     3.37  1298.37  1296.99  1300.91  1298.42     0.06     0.35     0.00  1298.00
    3400.     590.    2810.       0.     202.    1702.       0.      30.      24. 100000.00
     0.11     2.93     1.65     0.00    0.030    0.045    0.000    0.000  1295.00  1216.54
 0.001673     130.     150.     235.        2       11        0     0.00  1432.27  2648.81


FLOW DISTRIBUTION FOR SECNO=   2950.00          CWSEL=   1298.37

STA=    1217.    1226.    1232.    1233.    1270.    1295.    1305.    1390.    2665.
  PER Q=      0.7      1.5      0.3      9.3      4.2      0.5      0.9     82.6
   AREA=     11.2     14.2      2.4     87.5     46.6      8.7     31.0   1701.6
    VEL=      2.2      3.6      3.6      3.6      3.1      1.8      1.0      1.7

*SECNO 3000.000

3470 ENCROACHMENT STATIONS=    1120.0    2660.0  TYPE=     1  TARGET=    1540.000
  3000.00     2.49  1298.49  1297.40  1301.12  1298.54     0.04     0.11     0.00  1297.00
    3400.     813.    2587.       0.     346.    1832.       0.      34.      27. 100000.00
     0.12     2.35     1.41     0.00    0.030    0.045    0.000    0.000  1296.00  1126.03
 0.001029     100.      80.     105.        2       18        0     0.00  1389.07  2515.10


FLOW DISTRIBUTION FOR SECNO=   3000.00          CWSEL=   1298.49

STA=    1126.    1136.    1160.    1215.    1325.    2660.
  PER Q=      0.7      5.1      8.1     10.0     76.1
   AREA=     12.4     59.8    109.5    164.1   1831.8
    VEL=      1.8      2.9      2.5      2.1      1.4

*SECNO 3330.000
3280 CROSS SECTION   3330.00 EXTENDED      0.89 FEET

  3330.00     2.89  1298.89  1298.31  1301.60  1299.03     0.14     0.46     0.04  1298.00
    3400.    2589.     811.       0.     760.     607.       0.      46.      36.   1300.00
     0.15     3.41     1.34     0.00    0.030    0.045    0.000    0.000  1296.00  1020.00
 0.002701     270.     310.     350.        2       11        0     0.00  1383.60  2403.60

FLOW DISTRIBUTION FOR SECNO=   3330.00          CWSEL=   1298.89

STA=    1020.    1040.    1305.    1330.    1520.    2610.
  PER Q=      2.5     43.4      5.4     24.9     23.9
   AREA=     27.8    420.9     47.2    263.8    607.2
    VEL=      3.1      3.5      3.9      3.2      1.3
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 3830.000

3265 DIVIDED FLOW

3830.00	2.59	1300.59	1299.68	1303.05	1300.68	0.10	1.64	0.01	1307.00
3400.	8.	3392.	0.	6.	1362.	0.	62.	50.	1300.80
0.21	1.33	2.49	0.00	0.030	0.045	0.000	0.000	1298.00	988.26
0.003723	540.	510.	500.	3	14	0	0.00	1012.24	2450.03

FLOW DISTRIBUTION FOR SECNO= 3830.00 CWSEL= 1300.59

STA=	988.	1000.	1009. 2470.
PER Q=	0.1	0.1	99.8
AREA=	3.4	2.6	1362.3
VEL=	1.3	1.3	2.5

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
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T1      INDIAN BEND WASH: SANTO TOMAS DEVELPMENT: W/O Scottsdale Rd. culverts
T2      25  YEAR FLOOD EVENT: FEMA                    : Q= 6900. CFS
T3      SANTO TOMAS                 DESIGN E2:

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        4.        0.        0.  0.001720      0.00       0.0        0.  1291.500     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     3.000     0.000    -1.000     0.000     0.000     0.000    -1.000     0.000     0.000    15.000
```

```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 3

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.200 CEHV=   0.400
*SECNO 1800.000
  1800.00     2.83  1290.83  1290.11  1291.50  1291.40     0.56     0.00     0.00  1292.00
   6900.       0.    6900.       0.       0.    1145.       0.       0.       0.   1292.00
     0.00     0.00     6.03     0.00    0.000    0.020    0.000    0.000  1288.00  1165.83
 0.001721       0.       0.       0.        0       14        5     0.00   418.33  1584.17


FLOW DISTRIBUTION FOR SECNO=   1800.00          CWSEL=   1290.83

STA=    1166.    1590.
  PER Q=    100.0
   AREA=   1145.1
    VEL=      6.0

*SECNO 2300.000

3265 DIVIDED FLOW

3280 CROSS SECTION   2300.00 EXTENDED      1.67 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00     2.37  1296.67  1296.67     0.00  1297.19     0.53     1.49     0.01  1296.30
   6900.       39.    6861.       0.      26.    1176.       0.      12.       9.   1295.00
     0.02     1.50     5.83     0.00    0.030    0.025    0.000    0.000  1294.30  1308.17
 0.008749     600.     450.     300.        0       15        0     0.00  1233.95  2590.00


FLOW DISTRIBUTION FOR SECNO=   2300.00          CWSEL=   1296.67

STA=    1308.    1450.    2590.
  PER Q=      0.6     99.4
   AREA=     26.1   1175.9
    VEL=      1.5      5.8

*SECNO 2375.000
3280 CROSS SECTION   2375.00 EXTENDED      2.52 FEET
```

```
  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 2375.00      3.22   1297.52   1296.71      0.00   1297.64      0.12      0.36      0.08   1297.00
   6900.     1200.     5700.        0.      388.     2119.        0.       15.       11.   1295.00
    0.03      3.09      2.69      0.00     0.030     0.045     0.000     0.000   1294.30   1130.00
0.003066       75.       75.       75.         2         5         0      0.00   1510.00   2640.00


FLOW DISTRIBUTION FOR SECNO=   2375.00          CWSEL=   1297.52

STA=    1130.    1435.    1455.    2640.
  PER Q=     16.8      0.6     82.6
   AREA=    371.1     17.3   2119.0
    VEL=      3.1      2.5      2.7

*SECNO 2550.000
3280 CROSS SECTION   2550.00 EXTENDED      2.48 FEET

 2550.00      2.48   1297.98   1296.86      0.00   1298.10      0.13      0.46      0.00   1297.50
   6900.        7.      6893.        0.        7.     2409.        0.        24.       16.   1295.50
    0.04      1.02      2.86      0.00     0.030     0.045     0.000     0.000   1295.50   1461.30
0.002841       75.      165.      235.         3        18         0      0.00   1188.70   2650.00


FLOW DISTRIBUTION FOR SECNO=   2550.00          CWSEL=   1297.98

STA=    1461.    1490.    2650.
  PER Q=      0.1     99.9
   AREA=      6.9   2409.2
    VEL=      1.0      2.9

*SECNO 2800.000

3265 DIVIDED FLOW

3280 CROSS SECTION   2800.00 EXTENDED      0.70 FEET


3470 ENCROACHMENT STATIONS=    1136.0    2665.0  TYPE=     1  TARGET=    1529.000
 2800.00      2.70   1298.70   1297.71   1300.48   1298.82      0.12      0.72      0.00   1298.90
   6900.       251.      6649.        0.      120.     2374.        0.        38.       23. 100000.00
    0.07      2.09      2.80      0.00     0.030     0.045     0.000     0.000   1296.00   1141.19
0.003186       160.      240.      410.         2        19         0      0.00   1483.34   2665.00
```

```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=   2800.00          CWSEL=   1298.70

STA=    1141.    1144.    1290.    1337.    2665.
  PER Q=      0.0      3.3      0.3     96.4
   AREA=      1.0    102.7     16.5   2373.5
    VEL=      1.4      2.2      1.4      2.8

*SECNO 2950.000
3280 CROSS SECTION   2950.00 EXTENDED      0.57 FEET


3470 ENCROACHMENT STATIONS=    1210.0    2665.0  TYPE=     1  TARGET=    1455.000
  2950.00     4.07  1299.07  1298.04  1300.91  1299.17     0.09     0.34     0.01  1298.00
    6900.    1132.    5768.       0.     325.    2604.       0.      47.      28. 100000.00
     0.09     3.48     2.22     0.00    0.030    0.045    0.000    0.000  1295.00  1213.71
 0.001739     130.     150.     235.        2       11        0     0.00  1451.29  2665.00


FLOW DISTRIBUTION FOR SECNO=   2950.00          CWSEL=   1299.07

STA=    1214.    1226.    1232.    1233.    1270.    1295.    1305.    1390.    2665.
  PER Q=      0.7      1.2      0.2      7.2      3.6      0.6      2.9     83.6
   AREA=     18.9     18.4      3.1    113.7     64.3     15.7     91.2   2603.5
    VEL=      2.7      4.4      4.4      4.4      3.9      2.8      2.2      2.2

*SECNO 3000.000
3280 CROSS SECTION   3000.00 EXTENDED      0.21 FEET


3470 ENCROACHMENT STATIONS=    1120.0    2660.0  TYPE=     1  TARGET=    1540.000
  3000.00     3.21  1299.21  1297.81  1301.12  1299.30     0.08     0.12     0.00  1297.00
    6900.    1598.    5302.       0.     491.    2759.       0.      53.      31. 100000.00
     0.10     3.26     1.92     0.00    0.030    0.045    0.000    0.000  1296.00  1123.14
 0.001286     100.      80.     105.        2       15        0     0.00  1536.85  2660.00


FLOW DISTRIBUTION FOR SECNO=   3000.00          CWSEL=   1299.21

STA=    1123.    1136.    1160.    1215.    1325.    2660.
  PER Q=      0.7      4.3      7.5     10.6     76.8
   AREA=     20.7     77.1    149.3    243.5   2759.4
    VEL=      2.4      3.9      3.5      3.0      1.9
```

```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO 3330.000
3280 CROSS SECTION   3330.00 EXTENDED      1.64 FEET

  3330.00     3.64  1299.64  1298.94  1301.60  1299.81     0.17     0.48     0.04  1298.00
    6900.    4466.    2434.       0.    1133.    1346.       0.      72.      41.   1300.00
     0.12     3.94     1.81     0.00    0.030    0.045    0.000    0.000  1296.00  1020.00
 0.002132     270.     310.     350.        2       12        0     0.00  1542.57  2562.57


FLOW DISTRIBUTION FOR SECNO=   3330.00          CWSEL=   1299.64

STA=    1020.    1040.    1305.    1330.    1520.    2610.
  PER Q=      2.2     36.1      4.1     22.3     35.3
   AREA=     42.7    618.8     65.9    405.7   1346.2
    VEL=      3.6      4.0      4.3      3.8      1.8

*SECNO 3830.000

3265 DIVIDED FLOW

3280 CROSS SECTION   3830.00 EXTENDED      0.40 FEET

  3830.00     3.20  1301.20  1300.32  1303.05  1301.38     0.18     1.57     0.00  1307.00
    6900.      62.    6838.       0.      27.    1997.       0.      99.      57.   1300.80
     0.16     2.28     3.42     0.00    0.030    0.045    0.000    0.000  1298.00   897.00
 0.004593     540.     510.     500.        2       14        0     0.00  1111.48  2470.00


FLOW DISTRIBUTION FOR SECNO=   3830.00          CWSEL=   1301.20

STA=     897.     912.    1000.    1018.    2470.
  PER Q=      0.0      0.5      0.4     99.1
   AREA=      1.8     14.4     10.8   1996.8
    VEL=      0.9      2.4      2.4      3.4
```

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
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T1      INDIAN BEND WASH: SANTO TOMAS DEVELPMENT: W/O Scottsdale Rd. culverts
T2      50  YEAR FLOOD EVENT: FEMA                    : Q=11000. CFS
T3      SANTO TOMAS                 DESIGN E2:

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        5.        0.        0.  0.001720      0.00       0.0        0.  1291.500     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     4.000     0.000    -1.000     0.000     0.000     0.000    -1.000     0.000     0.000    15.000
```

```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 4

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.200 CEHV=   0.400
*SECNO 1800.000
  1800.00     3.73  1291.73  1290.87  1291.50  1292.54     0.81     0.00     0.00  1292.00
   11000.       0.   11000.       0.       0.    1525.       0.       0.       0.   1292.00
     0.00     0.00     7.21     0.00    0.000    0.020    0.000    0.000  1288.00  1161.34
 0.001730       0.       0.       0.        0       15        4     0.00   427.33  1588.66


FLOW DISTRIBUTION FOR SECNO=   1800.00          CWSEL=   1291.73

STA=    1161.    1590.
  PER Q=    100.0
   AREA=   1525.4
    VEL=      7.2

*SECNO 2300.000
3280 CROSS SECTION   2300.00 EXTENDED      2.07 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00     2.77  1297.07  1297.07     0.00  1297.73     0.66     1.44     0.03  1296.30
   11000.     273.   10727.       0.     113.    1628.       0.      17.      10.   1295.00
     0.02     2.42     6.59     0.00    0.030    0.025    0.000    0.000  1294.30  1180.00
 0.007659     600.     450.     300.        0       19        0     0.00  1410.00  2590.00


FLOW DISTRIBUTION FOR SECNO=   2300.00          CWSEL=   1297.07

STA=    1180.    1450.    2590.
  PER Q=      2.5     97.5
   AREA=    112.6   1628.0
    VEL=      2.4      6.6

*SECNO 2375.000
3280 CROSS SECTION   2375.00 EXTENDED      3.00 FEET

  2375.00     3.70  1298.00  1297.05     0.00  1298.18     0.18     0.36     0.10  1297.00
   11000.    2188.    8812.       0.     545.    2690.       0.      21.      12.   1295.00
     0.03     4.01     3.28     0.00    0.030    0.045    0.000    0.000  1294.30  1130.00
 0.003310      75.      75.      75.        2        6        0     0.00  1510.00  2640.00
```

```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=   2375.00          CWSEL=   1298.00

STA=    1130.    1435.    1455.    2640.
  PER Q=     19.0      0.9     80.1
   AREA=    518.1     27.0   2689.9
    VEL=      4.0      3.5      3.3

*SECNO 2550.000
3280 CROSS SECTION   2550.00 EXTENDED      3.00 FEET

  2550.00     3.00  1298.50  1297.28     0.00  1298.70     0.19     0.51     0.00  1297.50
   11000.     300.   10700.       0.     162.    3011.       0.      33.      17.   1295.50
     0.04     1.85     3.55     0.00    0.030    0.045    0.000    0.000  1295.50  1179.00
 0.003257      75.     165.     235.        2       11        0     0.00  1471.00  2650.00


FLOW DISTRIBUTION FOR SECNO=   2550.00          CWSEL=   1298.50

STA=    1179.    1181.    1205.    1460.    1490.    2650.
  PER Q=      0.0      0.2      2.0      0.5     97.3
   AREA=      1.0     11.9    126.8     22.4   3011.1
    VEL=      1.6      1.8      1.8      2.3      3.6

*SECNO 2800.000
3280 CROSS SECTION   2800.00 EXTENDED      1.28 FEET


3470 ENCROACHMENT STATIONS=    1136.0    2665.0  TYPE=     1  TARGET=    1529.000
  2800.00     3.29  1299.29  1298.15  1300.48  1299.45     0.16     0.75     0.01  1298.90
   11000.     739.   10261.       0.     241.    3135.       0.      50.      25. 100000.00
     0.06     3.07     3.27     0.00    0.030    0.045    0.000    0.000  1296.00  1138.86
 0.003087     160.     240.     410.        2       19        0     0.00  1526.14  2665.00


FLOW DISTRIBUTION FOR SECNO=   2800.00          CWSEL=   1299.29

STA=    1139.    1144.    1290.    1350.    2665.
  PER Q=      0.1      5.5      1.1     93.3
   AREA=      3.3    187.5     50.1   3135.4
    VEL=      2.0      3.3      2.4      3.3

*SECNO 2950.000
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```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


3280 CROSS SECTION   2950.00 EXTENDED      1.17 FEET


3470 ENCROACHMENT STATIONS=    1210.0    2665.0  TYPE=     1  TARGET=    1455.000
  2950.00     4.67  1299.67  1298.34  1300.91  1299.81     0.14     0.35     0.00  1298.00
   11000.    1788.    9212.       0.     430.    3358.       0.      63.      30. 100000.00
     0.07     4.15     2.74     0.00    0.030    0.045    0.000    0.000  1295.00  1211.34
 0.001899     130.     150.     235.        2        8        0     0.00  1453.66  2665.00


FLOW DISTRIBUTION FOR SECNO=   2950.00          CWSEL=   1299.67

STA=    1211.    1226.    1232.    1233.    1270.    1295.    1305.    1390.    2665.
  PER Q=      0.8      1.0      0.2      6.3      3.3      0.7      3.9     83.7
   AREA=     26.9     22.0      3.7    135.6     79.1     21.7    141.6   3358.4
    VEL=      3.2      5.1      5.1      5.1      4.7      3.6      3.0      2.7

*SECNO 3000.000
3280 CROSS SECTION   3000.00 EXTENDED      0.83 FEET


3470 ENCROACHMENT STATIONS=    1120.0    2660.0  TYPE=     1  TARGET=    1540.000
  3000.00     3.83  1299.83  1298.16  1301.12  1299.95     0.12     0.14     0.00  1297.00
   11000.    2422.    8578.       0.     615.    3575.       0.      70.      33. 100000.00
     0.08     3.94     2.40     0.00    0.030    0.045    0.000    0.000  1296.00  1120.70
 0.001420     100.      80.     105.        2       14        0     0.00  1539.30  2660.00


FLOW DISTRIBUTION FOR SECNO=   3000.00          CWSEL=   1299.83

STA=    1121.    1136.    1160.    1215.    1325.    2660.
  PER Q=      0.7      3.8      6.9     10.5     78.0
   AREA=     29.3     91.8    182.9    310.8   3575.4
    VEL=      2.8      4.6      4.2      3.7      2.4

*SECNO 3330.000
3280 CROSS SECTION   3330.00 EXTENDED      2.26 FEET


  3330.00     4.26  1300.26  1299.32  1301.60  1300.48     0.22     0.49     0.04  1298.00
   11000.    6496.    4504.       0.    1446.    2020.       0.      96.      44.   1300.00
     0.10     4.49     2.23     0.00    0.030    0.045    0.000    0.000  1296.00  1020.00
 0.002006     270.     310.     350.        2        9        0     0.00  1590.00  2610.00
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 3330.00 CWSEL= 1300.26

STA=	1020.	1040.	1305.	1330.	1520.	2610.
PER Q=	2.0	32.6	3.6	20.8	40.9	
AREA=	55.2	784.6	81.5	524.6	2019.6	
VEL=	4.1	4.6	4.8	4.4	2.2	

*SECNO 3830.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3830.00 EXTENDED 0.97 FEET

3830.00	3.77	1301.77	1300.79	1303.05	1302.04	0.26	1.54	0.02	1307.00
11000.	212.	10788.	0.	75.	2602.	0.	133.	60.	1300.80
0.14	2.83	4.15	0.00	0.030	0.045	0.000	0.000	1298.00	897.00
0.004840	540.	510.	500.	2	14	0	0.00	1183.65	2470.00

FLOW DISTRIBUTION FOR SECNO= 3830.00 CWSEL= 1301.77

STA=	897.	900.	946.	1000.	1027.	2470.
PER Q=	0.1	0.3	0.9	0.7	98.1	
AREA=	2.3	17.8	31.3	23.5	2602.3	
VEL=	2.5	1.8	3.2	3.2	4.1	

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
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T1      INDIAN BEND WASH: SANTO TOMAS DEVELPMENT: W/O Scottsdale Rd. culverts
T2      100 YEAR FLOOD EVENT: FEMA                    : Q=16000. CFS
T3      SANTO TOMAS                  DESIGN E2:

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       6.       0.       0.  0.001720     0.00     0.0      0.  1292.000    0.000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     5.000    0.000   -1.000    0.000    0.000    0.000   -1.000    0.000    0.000   15.000
```

```
  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


*PROF 5

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.200 CEHV=   0.400
*SECNO 1800.000
  1800.00     4.64  1292.64  1291.67  1292.00  1293.72     1.08     0.00     0.00  1292.00
   16000.       4.   15993.       3.       3.    1915.       2.       0.       0.   1292.00
     0.00     1.44     8.35     1.44    0.020    0.020    0.020    0.000  1288.00  1152.01
 0.001728       0.       0.       0.        0       11        4     0.00   444.39  1596.40


FLOW DISTRIBUTION FOR SECNO=   1800.00          CWSEL=   1292.64

STA=    1152.    1160.    1590.    1596.
  PER Q=      0.0    100.0      0.0
   AREA=      2.6   1915.0      2.0
    VEL=      1.4      8.4      1.4

*SECNO 2300.000
3280 CROSS SECTION   2300.00 EXTENDED      2.43 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00     3.13  1297.43  1297.43     0.00  1298.26     0.83     1.41     0.05  1296.30
   16000.     757.   15243.       0.     212.    2047.       0.      22.      10.   1295.00
     0.02     3.57     7.45     0.00    0.030    0.025    0.000    0.000  1294.30  1180.00
 0.007214     600.     450.     300.        0       19        0     0.00  1410.00  2590.00


FLOW DISTRIBUTION FOR SECNO=   2300.00          CWSEL=   1297.43

STA=    1180.    1450.    2590.
  PER Q=      4.7     95.3
   AREA=    211.8   2046.8
    VEL=      3.6      7.4

*SECNO 2375.000
3280 CROSS SECTION   2375.00 EXTENDED      3.49 FEET


3301 HV CHANGED MORE THAN HVINS
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```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


  2375.00      4.18  1298.48  1297.37      0.00  1298.74      0.26      0.36      0.11  1297.00
   16000.     3446.   12554.       0.      705.    3272.        0.       27.       13.   1295.00
     0.02      4.89     3.84     0.00     0.030    0.045     0.000     0.000   1294.30  1130.00
 0.003499      75.      75.      75.         2        8         0      0.00   1510.00  2640.00


FLOW DISTRIBUTION FOR SECNO=   2375.00          CWSEL=   1298.48

STA=    1130.    1435.    1455.    2640.
  PER Q=     20.5      1.0     78.5
   AREA=    667.9     36.8   3271.9
    VEL=      4.9      4.4      3.8

*SECNO 2550.000
3280 CROSS SECTION   2550.00 EXTENDED      3.52 FEET

  2550.00      3.52  1299.02  1297.70      0.00  1299.28      0.26      0.53      0.00  1297.50
   16000.      976.   15024.       0.      324.    3614.        0.       41.       18.   1295.50
     0.03      3.01     4.16     0.00     0.030    0.045     0.000     0.000   1295.50  1179.00
 0.003498      75.      165.     235.         2       11         0      0.00   1471.00  2650.00


FLOW DISTRIBUTION FOR SECNO=   2550.00          CWSEL=   1299.02

STA=    1179.    1180.    1181.    1205.    1460.    1490.    2650.
  PER Q=      0.0      0.0      0.5      4.8      0.8     93.9
   AREA=      1.0      1.0     24.4    259.3     38.0   3613.7
    VEL=      1.9      3.0      3.0      3.0      3.4      4.2

*SECNO 2800.000
3280 CROSS SECTION   2800.00 EXTENDED      1.83 FEET


3470 ENCROACHMENT STATIONS=    1136.0    2665.0  TYPE=     1  TARGET=    1529.000
  2800.00      3.83  1299.83  1298.54  1300.48  1300.06      0.22      0.77      0.01  1298.90
   16000.     1414.   14586.       0.      358.    3858.        0.       63.       25. 100000.00
     0.05      3.96     3.78     0.00     0.030    0.045     0.000     0.000   1296.00  1136.66
 0.003126     160.     240.     410.         2       19         0      0.00   1528.34  2665.00


FLOW DISTRIBUTION FOR SECNO=   2800.00          CWSEL=   1299.83

STA=    1137.    1144.    1290.    1350.    2665.
  PER Q=      0.1      6.9      1.8     91.2
   AREA=      6.7    267.8     83.0   3858.1
    VEL=      2.6      4.1      3.4      3.8
```

```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO 2950.000
3280 CROSS SECTION   2950.00 EXTENDED      1.74 FEET


3470 ENCROACHMENT STATIONS=    1210.0    2665.0  TYPE=     1  TARGET=    1455.000
 2950.00     5.24  1300.24  1298.76  1300.91  1300.44     0.20     0.37     0.00  1298.00
  16000.    2605.   13395.       0.     533.    4086.       0.      78.      30. 100000.00
    0.06     4.89     3.28     0.00    0.030    0.045    0.000    0.000  1295.00  1210.00
0.002090     130.     150.     235.        2        6        0     0.00  1455.00  2665.00


FLOW DISTRIBUTION FOR SECNO=   2950.00          CWSEL=   1300.24

STA=    1210.    1226.    1232.    1233.    1270.    1295.    1305.    1390.    2665.
  PER Q=     0.8      0.9      0.2      5.8      3.2      0.8      4.6     83.7
   AREA=    35.8     25.4      4.2    156.7     93.4     27.4    190.1   4085.8
    VEL=     3.8      5.9      5.9      5.9      5.4      4.4      3.9      3.3

*SECNO 3000.000
3280 CROSS SECTION   3000.00 EXTENDED      1.42 FEET


3470 ENCROACHMENT STATIONS=    1120.0    2660.0  TYPE=     1  TARGET=    1540.000
 3000.00     4.42  1300.42  1298.59  1301.12  1300.59     0.17     0.15     0.01  1297.00
  16000.    3418.   12582.       0.     737.    4369.       0.      87.      33. 100000.00
    0.07     4.64     2.88     0.00    0.030    0.045    0.000    0.000  1296.00  1120.00
0.001568     100.      80.     105.        2        8        0     0.00  1540.00  2660.00


FLOW DISTRIBUTION FOR SECNO=   3000.00          CWSEL=   1300.42

STA=    1120.    1136.    1160.    1215.    1325.    2660.
  PER Q=     0.8      3.5      6.6     10.5     78.6
   AREA=    38.7    106.1    215.6    376.2   4369.0
    VEL=     3.4      5.3      4.9      4.5      2.9

*SECNO 3330.000
3280 CROSS SECTION   3330.00 EXTENDED      2.88 FEET

 3330.00     4.88  1300.88  1299.80  1301.60  1301.14     0.27     0.51     0.04  1298.00
  16000.    8832.    7168.       0.    1754.    2691.       0.     120.      44.  1300.00
    0.09     5.04     2.66     0.00    0.030    0.045    0.000    0.000  1296.00  1020.00
0.001952     270.     310.     350.        2       10        0     0.00  1590.00  2610.00
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 3330.00 CWSEL= 1300.88

STA=	1020.	1040.	1305.	1330.	1520.	2610.
PER Q=	1.9	30.3	3.2	19.8	44.8	
AREA=	67.5	948.0	96.9	641.7	2691.4	
VEL=	4.5	5.1	5.3	4.9	2.7	

*SECNO 3830.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3830.00 EXTENDED 1.55 FEET

3830.00	4.35	1302.35	1301.23	1303.05	1302.70	0.35	1.52	0.03	1307.00
16000.	563.	15437.	0.	151.	3230.	0.	167.	61.	1300.80
0.12	3.73	4.78	0.00	0.030	0.045	0.000	0.000	1298.00	897.00
0.004921	540.	510.	500.	2	14	0	0.00	1226.72	2470.00

FLOW DISTRIBUTION FOR SECNO= 3830.00 CWSEL= 1302.35

STA=	897.	900.	960.	1000.	1035.	2470.
PER Q=	0.1	1.0	1.4	1.0	96.5	
AREA=	4.1	51.1	54.1	41.5	3230.4	
VEL=	3.3	3.1	4.2	3.9	4.8	

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**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
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T1      INDIAN BEND WASH: SANTO TOMAS DEVELPMENT: W/O Scottsdale Rd. culverts
T2      500 YEAR FLOOD EVENT: FEMA                    : Q=34000. CFS
T3      SANTO TOMAS                  DESIGN E2:

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       7.       0.       0.  0.001720     0.00      0.0      0.  1297.000    0.000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    15.000    0.000   -1.000    0.000    0.000    0.000   -1.000    0.000    0.000    15.000
```

```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


*PROF 6

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.200 CEHV=   0.400
*SECNO 1800.000
  1800.00     7.13  1295.13  1294.02  1297.00  1297.07     1.94     0.00     0.00  1292.00
   34000.     254.   33543.     203.      61.    2984.      49.       0.       0.   1292.00
     0.00     4.16    11.24     4.15    0.020    0.020    0.020    0.000  1288.00  1120.92
 0.001733       0.       0.       0.        0       14        3     0.00   500.34  1621.26


FLOW DISTRIBUTION FOR SECNO=   1800.00          CWSEL=   1295.13

STA=    1121.    1160.    1590.    1621.
  PER W=      0.7     98.7      0.6
   AREA=     61.1   2984.2     48.9
    VEL=      4.2     11.2      4.2

*SECNO 2300.000
3280 CROSS SECTION   2300.00 EXTENDED      3.49 FEET


3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  2300.00     4.19  1298.49  1298.49     0.00  1299.83     1.35     1.37     0.12  1296.30
   34000.    2946.   31054.       0.     496.    3246.       0.       36.      10.   1295.00
     0.01     5.94     9.57     0.00    0.030    0.025    0.000    0.000  1294.30  1180.00
 0.006447     600.     450.     300.        0       14        0     0.00  1410.00  2590.00


FLOW DISTRIBUTION FOR SECNO=   2300.00          CWSEL=   1298.49

STA=    1180.    1450.    2590.
  PER W=      8.7     91.3
   AREA=    495.7   3245.6
    VEL=      5.9      9.6

*SECNO 2375.000
3280 CROSS SECTION   2375.00 EXTENDED      4.84 FEET
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  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


3301 HV CHANGED MORE THAN HVINS

  2375.00     5.55  1299.85  1298.36     0.00  1300.37     0.52     0.37     0.16  1297.00
   34000.    8165.   25835.       0.    1145.    4876.       0.      45.      13.   1295.00
     0.02     7.13     5.30     0.00    0.030    0.045    0.000    0.000  1294.30  1130.00
 0.003925      75.      75.      75.        3        8        0     0.00  1510.00  2640.00


FLOW DISTRIBUTION FOR SECNO=   2375.00          CWSEL=   1299.85

STA=    1130.    1435.    1455.    2640.
  PER Q=     22.8      1.3     76.0
   AREA=   1080.8     63.9   4876.1
    VEL=      7.2      6.7      5.3

*SECNO 2550.000
3280 CROSS SECTION   2550.00 EXTENDED      4.96 FEET

  2550.00     4.96  1300.46  1298.92     0.00  1300.95     0.49     0.58     0.01  1297.50
   34000.    4347.   29653.       0.     774.    5292.       0.      65.      18.   1295.50
     0.02     5.62     5.60     0.00    0.030    0.045    0.000    0.000  1295.50  1179.00
 0.003828      75.     165.     235.        2       14        0     0.00  1471.00  2650.00


FLOW DISTRIBUTION FOR SECNO=   2550.00          CWSEL=   1300.46

STA=    1179.    1180.    1181.    1205.    1460.    1490.    2650.
  PER Q=      0.0      0.0      1.0     10.3      1.4     87.2
   AREA=      2.5      2.5     59.1    628.1     81.4   5291.6
    VEL=      2.4      5.6      5.6      5.6      6.0      5.6

*SECNO 2800.000
3280 CROSS SECTION   2800.00 EXTENDED      3.35 FEET


3470 ENCROACHMENT STATIONS=    1136.0    2665.0  TYPE=     1  TARGET=    1529.000
  2800.00     5.35  1301.35  1299.54  1300.48  1301.77     0.43     0.81     0.01  1298.90
   34000.    4183.   29817.       0.     682.    5850.       0.      99.      26. 100000.00
     0.04     6.14     5.10     0.00    0.030    0.045    0.000    0.000  1296.00  1136.00
 0.003267     160.     240.     410.        2       19        0     0.00  1529.00  2665.00
```

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  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=   2800.00          CWSEL=   1301.35

STA=    1136.    1144.    1290.    1350.    2665.
  PER Q=      0.2      9.1      2.9     87.7
   AREA=     18.8    489.0    173.9   5850.2
    VEL=      4.4      6.3      5.8      5.1

*SECNO 2950.000
3280 CROSS SECTION   2950.00 EXTENDED      3.29 FEET


3470 ENCROACHMENT STATIONS=    1210.0    2665.0  TYPE=     1  TARGET=    1455.000
  2950.00     6.79  1301.79  1299.68  1300.91  1302.20     0.41     0.42     0.00  1298.00
   34000.    5603.   28397.       0.     813.    6072.       0.     122.      31. 100000.00
     0.05     6.89     4.68     0.00    0.030    0.045    0.000    0.000  1295.00  1210.00
 0.002512     130.     150.     235.        2       15        0     0.00  1455.00  2665.00


FLOW DISTRIBUTION FOR SECNO=   2950.00          CWSEL=   1301.79

STA=    1210.    1226.    1232.    1233.    1270.    1295.    1305.    1390.    2665.
  PER Q=      1.0      0.8      0.1      5.0      2.9      0.8      5.7     83.5
   AREA=     60.7     34.8      5.8    214.4    132.3     42.9    322.5   6072.1
    VEL=      5.5      8.0      8.0      8.0      7.5      6.5      6.0      4.7

*SECNO 3000.000
3280 CROSS SECTION   3000.00 EXTENDED      3.05 FEET


3470 ENCROACHMENT STATIONS=    1120.0    2660.0  TYPE=     1  TARGET=    1540.000
  3000.00     6.05  1302.05  1299.72  1301.12  1302.39     0.34     0.18     0.01  1297.00
   34000.    6937.   27063.       0.    1070.    6542.       0.     135.      34. 100000.00
     0.05     6.48     4.14     0.00    0.030    0.045    0.000    0.000  1296.00  1120.00
 0.001891     100.      80.     105.        2       11        0     0.00  1540.00  2660.00


FLOW DISTRIBUTION FOR SECNO=   3000.00          CWSEL=   1302.05

STA=    1120.    1136.    1160.    1215.    1325.    2660.
  PER Q=      0.9      3.1      6.1     10.4     79.6
   AREA=     64.8    145.1    305.1    555.2   6541.8
    VEL=      5.0      7.2      6.7      6.3      4.1
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  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO 3330.000
3280 CROSS SECTION   3330.00 EXTENDED      4.56 FEET

  3330.00     6.56  1302.56  1300.82  1301.60  1303.00     0.44     0.57     0.04  1298.00
   34000.   16956.   17044.       0.    2595.    4525.       0.     186.      44.   1300.00
     0.07     6.53     3.77     0.00    0.030    0.045    0.000    0.000  1296.00  1020.00
 0.001958     270.     310.     350.        2       16        0     0.00  1590.00  2610.00


FLOW DISTRIBUTION FOR SECNO=   3330.00          CWSEL=   1302.56

STA=    1020.    1040.    1305.    1330.    1520.    2610.
  PER Q=      1.7     27.2      2.8     18.3     50.1
   AREA=    101.2   1393.6    139.0    961.2   4524.5
    VEL=      5.6      6.6      6.8      6.5      3.8

*SECNO 3830.000

3265 DIVIDED FLOW

3280 CROSS SECTION   3830.00 EXTENDED      3.18 FEET

  3830.00     5.98  1303.98  1302.47  1303.05  1304.59     0.61     1.52     0.07  1307.00
   34000.    2496.   31504.       0.     396.    5040.       0.     261.      61.   1300.80
     0.09     6.30     6.25     0.00    0.030    0.045    0.000    0.000  1298.00   897.00
 0.004895     540.     510.     500.        2       19        0     0.00  1291.60  2470.00


FLOW DISTRIBUTION FOR SECNO=   3830.00          CWSEL=   1303.98

STA=     897.     900.     960.    1000.    1060.    2470.
  PER Q=      0.1      2.8      2.5      1.9     92.7
   AREA=      9.0    149.0    119.3    119.0   5039.9
    VEL=      4.5      6.4      7.2      5.5      6.3
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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SANTO TOMAS

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	1800.000	0.00	0.00	0.00	1288.00	23000.00	1293.70	1292.65	1295.14	17.40	9.66	2403.49	5513.41
	1800.000	0.00	0.00	0.00	1288.00	3400.00	1289.86	1289.32	1290.19	17.01	4.57	744.34	824.38
	1800.000	0.00	0.00	0.00	1288.00	6900.00	1290.83	1290.11	1291.40	17.21	6.03	1145.05	1663.33
	1800.000	0.00	0.00	0.00	1288.00	11000.00	1291.73	1290.87	1292.54	17.30	7.21	1525.40	2644.28
	1800.000	0.00	0.00	0.00	1288.00	16000.00	1292.64	1291.67	1293.72	17.28	8.35	1919.60	3848.50
	1800.000	0.00	0.00	0.00	1288.00	34000.00	1295.13	1294.02	1297.07	17.33	11.24	3094.16	8167.66
*	2300.000	450.00	0.00	0.00	1294.30	23000.00	1297.88	1297.88	1298.92	67.86	8.38	2891.63	2792.02
*	2300.000	450.00	0.00	0.00	1294.30	3400.00	1296.13	1296.13	1296.55	108.15	5.19	655.39	326.94
*	2300.000	450.00	0.00	0.00	1294.30	6900.00	1296.67	1296.67	1297.19	87.49	5.83	1201.96	737.67
*	2300.000	450.00	0.00	0.00	1294.30	11000.00	1297.07	1297.07	1297.73	76.59	6.59	1740.67	1256.88
*	2300.000	450.00	0.00	0.00	1294.30	16000.00	1297.43	1297.43	1298.26	72.14	7.45	2258.58	1883.80
*	2300.000	450.00	0.00	0.00	1294.30	34000.00	1298.49	1298.49	1299.83	64.47	9.57	3741.38	4234.43
	2375.000	75.00	0.00	0.00	1294.30	23000.00	1299.06	1297.78	1299.43	37.38	4.49	4839.52	3762.13
	2375.000	75.00	0.00	0.00	1294.30	3400.00	1296.94	1296.13	1297.01	30.71	2.09	1634.68	613.55
	2375.000	75.00	0.00	0.00	1294.30	6900.00	1297.52	1296.71	1297.64	30.66	2.69	2507.43	1246.19
	2375.000	75.00	0.00	0.00	1294.30	11000.00	1298.00	1297.05	1298.18	33.10	3.28	3234.96	1911.97
	2375.000	75.00	0.00	0.00	1294.30	16000.00	1298.48	1297.37	1298.74	34.99	3.84	3976.51	2704.87
	2375.000	75.00	0.00	0.00	1294.30	34000.00	1299.85	1298.36	1300.37	39.25	5.30	6020.69	5426.97
	2550.000	165.00	0.00	0.00	1295.50	23000.00	1299.64	1298.30	1299.99	36.69	4.81	4850.82	3796.88
	2550.000	165.00	0.00	0.00	1295.50	3400.00	1297.35	1296.41	1297.42	21.54	2.01	1690.02	732.59
	2550.000	165.00	0.00	0.00	1295.50	6900.00	1297.98	1296.86	1298.10	28.41	2.86	2416.07	1294.51
	2550.000	165.00	0.00	0.00	1295.50	11000.00	1298.50	1297.28	1298.70	32.57	3.55	3173.31	1927.44
	2550.000	165.00	0.00	0.00	1295.50	16000.00	1299.02	1297.70	1299.28	34.98	4.16	3937.37	2705.16
	2550.000	165.00	0.00	0.00	1295.50	34000.00	1300.46	1298.92	1300.95	38.28	5.60	6065.22	5495.35
	2800.000	240.00	0.00	0.00	1296.00	23000.00	1300.48	1298.98	1300.79	31.85	4.36	5210.40	4075.21
	2800.000	240.00	0.00	0.00	1296.00	3400.00	1297.99	1297.26	1298.07	35.04	2.28	1493.34	574.40
	2800.000	240.00	0.00	0.00	1296.00	6900.00	1298.70	1297.71	1298.82	31.86	2.80	2493.66	1222.40
	2800.000	240.00	0.00	0.00	1296.00	11000.00	1299.29	1298.15	1299.45	30.87	3.27	3376.32	1979.66
	2800.000	240.00	0.00	0.00	1296.00	16000.00	1299.83	1298.54	1300.06	31.26	3.78	4215.63	2861.53
	2800.000	240.00	0.00	0.00	1296.00	34000.00	1301.35	1299.54	1301.77	32.67	5.10	6531.85	5948.76

SECND	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
2950.000	150.00	0.00	0.00	1295.00	23000.00	1300.91	1299.09	1301.19	22.87	3.89	5596.04	4809.29
2950.000	150.00	0.00	0.00	1295.00	3400.00	1298.37	1296.99	1298.42	16.73	1.65	1903.18	831.18
2950.000	150.00	0.00	0.00	1295.00	6900.00	1299.07	1298.04	1299.17	17.39	2.22	2928.96	1654.78
2950.000	150.00	0.00	0.00	1295.00	11000.00	1299.67	1298.34	1299.81	18.99	2.74	3788.89	2524.09
2950.000	150.00	0.00	0.00	1295.00	16000.00	1300.24	1298.76	1300.44	20.90	3.28	4618.82	3499.73
2950.000	150.00	0.00	0.00	1295.00	34000.00	1301.79	1299.68	1302.20	25.12	4.68	6885.51	6783.71
3000.000	80.00	0.00	0.00	1296.00	23000.00	1301.12	1299.14	1301.36	17.19	3.43	6184.98	5546.83
3000.000	80.00	0.00	0.00	1296.00	3400.00	1298.49	1297.40	1298.54	10.29	1.41	2177.66	1059.81
3000.000	80.00	0.00	0.00	1296.00	6900.00	1299.21	1297.81	1299.30	12.86	1.92	3250.03	1924.19
3000.000	80.00	0.00	0.00	1296.00	11000.00	1299.83	1298.16	1299.95	14.20	2.40	4190.11	2918.62
3000.000	80.00	0.00	0.00	1296.00	16000.00	1300.42	1298.59	1300.59	15.68	2.88	5105.55	4041.25
3000.000	80.00	0.00	0.00	1296.00	34000.00	1302.05	1299.72	1302.39	18.91	4.14	7612.00	7818.30
3330.000	310.00	0.00	0.00	1296.00	23000.00	1301.60	1300.19	1301.94	19.40	3.15	5598.42	5222.54
3330.000	310.00	0.00	0.00	1296.00	3400.00	1298.89	1298.31	1299.03	27.01	1.34	1366.79	654.22
3330.000	310.00	0.00	0.00	1296.00	6900.00	1299.64	1298.94	1299.81	21.32	1.81	2479.28	1494.26
3330.000	310.00	0.00	0.00	1296.00	11000.00	1300.26	1299.32	1300.48	20.06	2.23	3465.55	2455.96
3330.000	310.00	0.00	0.00	1296.00	16000.00	1300.88	1299.80	1301.14	19.52	2.66	4445.51	3621.65
3330.000	310.00	0.00	0.00	1296.00	34000.00	1302.56	1300.82	1303.00	19.58	3.77	7119.52	7684.40
3830.000	510.00	0.00	0.00	1298.00	23000.00	1303.05	1301.76	1303.51	49.23	5.45	4246.20	3278.11
3830.000	510.00	0.00	0.00	1298.00	3400.00	1300.59	1299.68	1300.68	37.23	2.49	1368.37	557.24
3830.000	510.00	0.00	0.00	1298.00	6900.00	1301.20	1300.32	1301.38	45.93	3.42	2023.89	1018.14
3830.000	510.00	0.00	0.00	1298.00	11000.00	1301.77	1300.79	1302.04	48.40	4.15	2677.24	1581.09
3830.000	510.00	0.00	0.00	1298.00	16000.00	1302.35	1301.23	1302.70	49.21	4.78	3381.03	2280.76
3830.000	510.00	0.00	0.00	1298.00	34000.00	1303.98	1302.47	1304.59	48.95	6.25	5436.24	4859.38

SANTO TOMAS

SUMMARY PRINTOUT TABLE 150

	SECND	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	1800.000	23000.00	1293.70	0.00	0.00	0.00	468.25	0.00
	1800.000	3400.00	1289.86	-3.84	0.00	-1.64	408.64	0.00
	1800.000	6900.00	1290.83	0.97	0.00	-0.67	418.33	0.00
	1800.000	11000.00	1291.73	0.90	0.00	0.23	427.33	0.00
	1800.000	16000.00	1292.64	0.91	0.00	0.64	444.39	0.00
	1800.000	34000.00	1295.13	2.49	0.00	-1.87	500.34	0.00
*	2300.000	23000.00	1297.88	0.00	4.18	0.00	1410.00	450.00
*	2300.000	3400.00	1296.13	-1.76	6.26	0.00	851.31	450.00
*	2300.000	6900.00	1296.67	0.54	5.83	0.00	1233.95	450.00
*	2300.000	11000.00	1297.07	0.40	5.33	0.00	1410.00	450.00
*	2300.000	16000.00	1297.43	0.37	4.79	0.00	1410.00	450.00
*	2300.000	34000.00	1298.49	1.05	3.36	0.00	1410.00	450.00
	2375.000	23000.00	1299.06	0.00	1.18	0.00	1510.00	75.00
	2375.000	3400.00	1296.94	-2.12	0.81	0.00	1496.58	75.00
	2375.000	6900.00	1297.52	0.58	0.85	0.00	1510.00	75.00
	2375.000	11000.00	1298.00	0.48	0.93	0.00	1510.00	75.00
	2375.000	16000.00	1298.48	0.48	1.05	0.00	1510.00	75.00
	2375.000	34000.00	1299.85	1.36	1.36	0.00	1510.00	75.00
	2550.000	23000.00	1299.64	0.00	0.57	0.00	1471.00	165.00
	2550.000	3400.00	1297.35	-2.28	0.41	0.00	1121.81	165.00
	2550.000	6900.00	1297.98	0.62	0.46	0.00	1188.70	165.00
	2550.000	11000.00	1298.50	0.53	0.50	0.00	1471.00	165.00
	2550.000	16000.00	1299.02	0.51	0.53	0.00	1471.00	165.00
	2550.000	34000.00	1300.46	1.45	0.61	0.00	1471.00	165.00
	2800.000	23000.00	1300.48	0.00	0.85	0.00	1529.00	240.00
	2800.000	3400.00	1297.99	-2.49	0.64	-2.49	1187.88	240.00
	2800.000	6900.00	1298.70	0.71	0.73	-1.78	1483.34	240.00
	2800.000	11000.00	1299.29	0.58	0.78	-1.20	1526.14	240.00
	2800.000	16000.00	1299.83	0.55	0.82	-0.65	1528.34	240.00
	2800.000	34000.00	1301.35	1.51	0.89	0.86	1529.00	240.00
	2950.000	23000.00	1300.91	0.00	0.42	0.00	1455.00	150.00
	2950.000	3400.00	1298.37	-2.54	0.37	-2.54	1432.27	150.00
	2950.000	6900.00	1299.07	0.71	0.37	-1.83	1451.29	150.00
	2950.000	11000.00	1299.67	0.59	0.38	-1.24	1453.66	150.00
	2950.000	16000.00	1300.24	0.57	0.40	-0.67	1455.00	150.00
	2950.000	34000.00	1301.79	1.56	0.44	0.89	1455.00	150.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
3000.000	23000.00	1301.12	0.00	0.21	0.00	1540.00	80.00
3000.000	3400.00	1298.49	-2.63	0.13	-2.63	1389.07	80.00
3000.000	6900.00	1299.21	0.72	0.14	-1.91	1536.85	80.00
3000.000	11000.00	1299.83	0.61	0.16	-1.30	1539.30	80.00
3000.000	16000.00	1300.42	0.59	0.18	-0.70	1540.00	80.00
3000.000	34000.00	1302.05	1.63	0.25	0.93	1540.00	80.00
3330.000	23000.00	1301.60	0.00	0.48	0.00	1590.00	310.00
3330.000	3400.00	1298.89	-2.71	0.40	-2.71	1383.60	310.00
3330.000	6900.00	1299.64	0.75	0.42	-1.97	1542.57	310.00
3330.000	11000.00	1300.26	0.63	0.44	-1.34	1590.00	310.00
3330.000	16000.00	1300.88	0.62	0.46	-0.73	1590.00	310.00
3330.000	34000.00	1302.56	1.68	0.51	0.96	1590.00	310.00
3830.000	23000.00	1303.05	0.00	1.45	0.00	1254.44	510.00
3830.000	3400.00	1300.59	-2.46	1.70	-2.46	1012.24	510.00
3830.000	6900.00	1301.20	0.61	1.56	-1.85	1111.48	510.00
3830.000	11000.00	1301.77	0.57	1.51	-1.27	1183.65	510.00
3830.000	16000.00	1302.35	0.58	1.48	-0.70	1226.72	510.00
3830.000	34000.00	1303.98	1.63	1.42	0.93	1291.60	510.00

SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION  SECNO=  2300.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  2300.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  2300.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  2300.000  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  2300.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  2300.000  PROFILE= 3  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  2300.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  2300.000  PROFILE= 4  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  2300.000  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  2300.000  PROFILE= 5  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  2300.000  PROFILE= 6  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  2300.000  PROFILE= 6  MINIMUM SPECIFIC ENERGY
```

THIS RUN EXECUTED: Tue 25-MAR-1986 15:05:55.69

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
**************************************************
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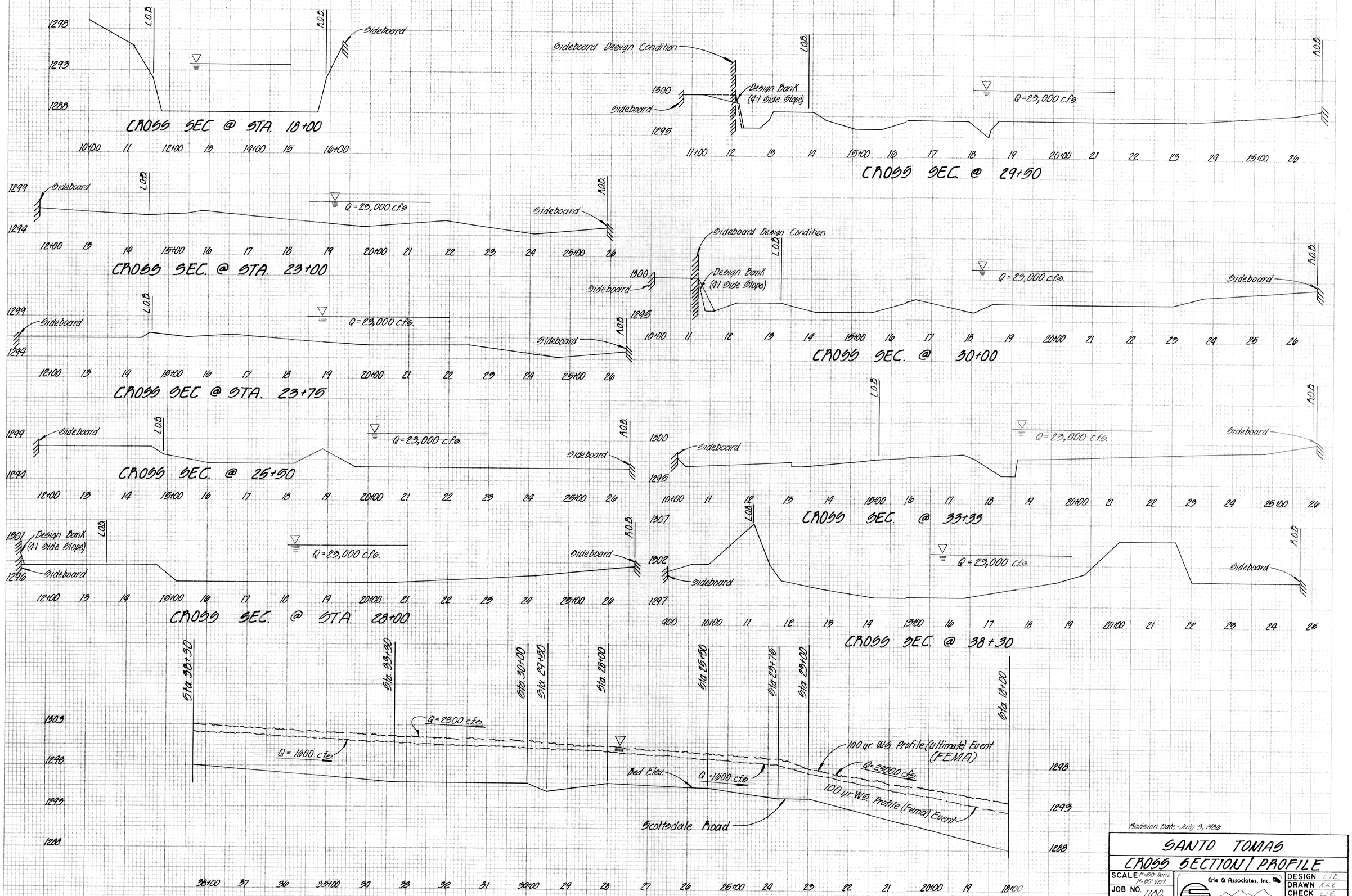
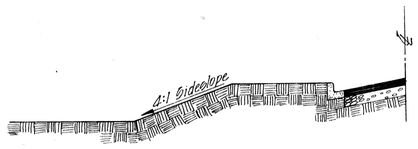
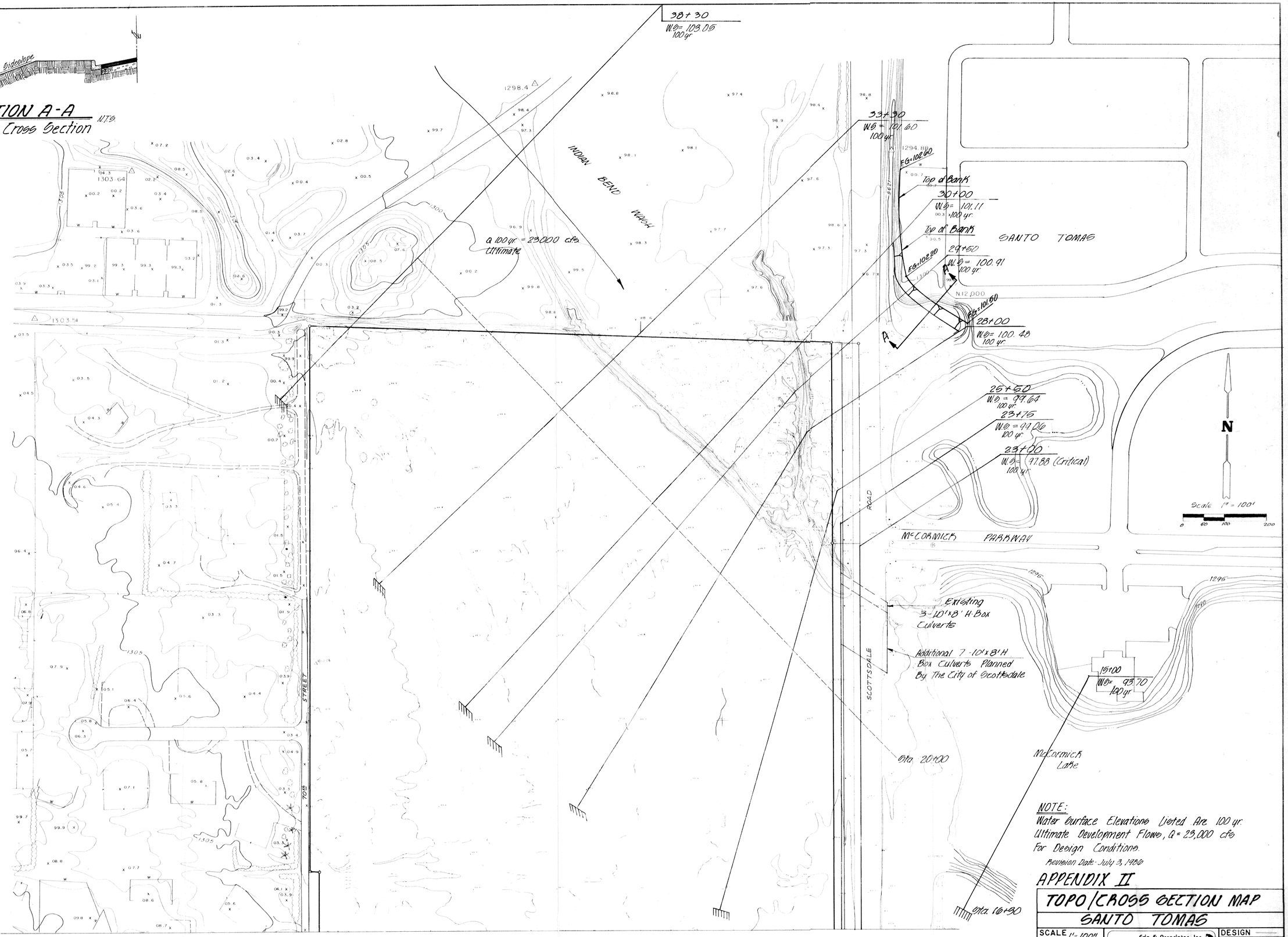


Revision Date - July 3, 1986

SANTO TOMAS	
CROSS SECTION / PROFILE	
SCALE 1"=100' Horiz. 1"=80' Vert.	DESIGN L.J.E.
JOB NO. 1180.	DRAWN K.A.V.
DATE May, 1986	CHECK L.J.E.
Erie & Associates, Inc. CONSULTING ENGINEERS Phoenix, Arizona (602) 954-6399	SHEET 1 OF 1



SECTION A-A
Typical Bank Cross Section N.T.S.



NOTE:
Water Surface Elevations Listed Are 100 yr. Ultimate Development Flows, Q = 23,000 cfs for Design Conditions.

Revision Date: July 3, 1986

APPENDIX II

TOPO/CROSS SECTION MAP
SANTO TOMAS

SCALE 1"=100'	Erie & Associates, Inc. CONSULTING ENGINEERS Phoenix, Arizona (602) 954-0399	DESIGN
JOB NO. 1180.1		DRAWN
DATE Mar. 1986		CHECK
		SHEET 1 OF 1