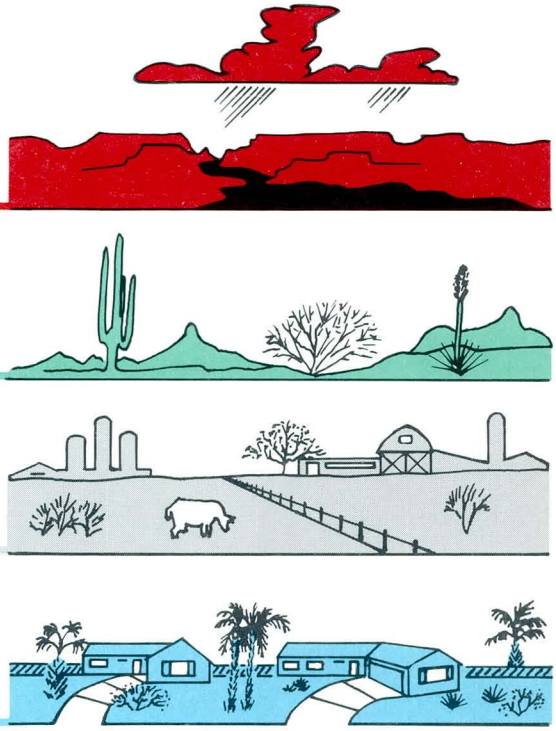

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

INDIAN BEND WASH
EAST PAPAGO FREEWAY

VOL. 2

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

A680.947

INDIAN BEND WASH
EAST PAPAGO FREEWAY

The Flood Control District
of
Maricopa County

September 1990

INDIAN BEND WASH
EAST PAPAGO FREEWAY

VOL. 2

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

INTEROFFICE MEMORANDUM

Subject: INDIAN BEND WASH - EAST PAPAGO FREEWAY

File: INDIAN BEND WASH

To: DON RERICK
DAVE JOHNSON

From: JOE TRAM
JAN FARMER

Date: ~~8/30/90~~
11/19/90
DJR

REVIEW SUMMARY ENCLOSED:

FILE COPY

```
*****************************************************
* WATER SURFACE PROFILES                            *
* VERSION OF SEPTEMBER 1988                         *
* ERROR: 01,02,03                                   *
* UPDATED:  SEPTEMBER 1989                          *
* RUN DATE     7/ 6/90   TIME    8:51: 8            *
*****************************************************
```

```
*************************************
* U.S. ARMY CORPS OF ENGINEERS      *
* THE HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET, SUITE D        *
* DAVIS, CALIFORNIA 95616-4687      *
*          (916) 756-1104           *
*************************************
```

```
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
```

END OF BANNER

FLOOD CONTROL DISTRICT
RECEIVED
JUL 10'90
CH ENG | P & PM
DEP | HYDRO
ADMIN | LRGT
FINANCE | FILE
C & C
ENGR
REMARKS

THIS RUN EXECUTED 7/ 6/90 8:51: 9

```
*********************************************
 HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989


 ERROR CORR - 01,02,03
 MODIFICATION -
*********************************************


T1      SIMONS, LI & ASSOCIATES, INC. — TEMPE, ARIZONA
T1      INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T2      STRT BASED ON SLOPE-AREA METHOD
T3      86EXT.DAT              PAZ-DMJM03-13

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0        0        0        0    0.002        0        0    30000   161.81        0

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

      1        0       -1        0        0        0       -1        0        0        0


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38        1       55       26       56       13       14       15        8        4
     53       54        0       38        1        2        3       11       12       42
      5       33       39       67       68

J6  IHLEQ     ICOPY    SUBDIV   STRTDS   RMILE

      1


NC    0.040    0.040    0.032      0.1      0.3
X1   3420.0       19        0      690        0        0        0        0        0        0
X3                                100.0
GR    152.0      0.0    154.0     60.0    156.0     80.0    158.0    100.0    158.0    140.0
GR    157.0    240.0    156.7    350.0    156.0    370.0    154.0    410.0    152.0    440.0
GR    151.0    460.0    152.0    490.0    154.0    500.0    156.0    520.0    156.0    590.0
GR    158.0    620.0    160.0    640.0    164.0    660.0    166.0    690.0

X1   3510.0       17        0      650       90       90       90        0        0        0
GR    166.0      0.0    160.0     40.0    158.0     60.0    158.0    190.0    157.0    330.0
GR    156.0    360.0    154.0    395.0    152.0    435.0    151.4    455.0    152.0    475.0
GR    154.0    485.0    156.0    500.0    156.5    545.0    158.0    600.0    160.0    620.0
GR    164.0    635.0    166.0    650.0
```

X1	3640.0	17	0	680	130	130	130	0	0	0
GR	167.5	0.0	166.0	20.0	158.0	60.0	158.4	140.0	158.0	245.0
GR	157.8	350.0	156.0	380.0	154.0	395.0	152.0	435.0	152.0	455.0
GR	154.0	480.0	156.0	520.0	157.2	560.0	158.0	610.0	160.0	630.0
GR	166.0	665.0	166.7	680.0						
X1	3790.0	14	0	660	150	150	150	0	0	0
GR	167.9	0.0	166.0	15.0	160.0	50.0	158.7	60.0	158.3	160.0
GR	158.3	320.0	158.0	345.0	156.0	370.0	154.0	380.0	154.0	490.0
GR	156.0	505.0	158.0	570.0	160.0	620.0	166.0	660.0		
X1	3919.5	12	0	650	129	129	129	0	0	0
GR	168.0	0.0	160.0	40.0	159.0	55.0	159.0	290.0	158.0	320.0
GR	156.0	345.0	155.0	365.0	155.0	440.0	156.0	475.0	158.0	510.0
GR	160.0	610.0	166.0	650.0						
X1	4080.5	10	0	650	161	161	161	0	0	0
X2	0	0	1	172.0	182.0	0	0	0	0	0
GR	168.0	0.0	160.0	40.0	160.0	280.0	158.0	290.0	156.0	320.0
GR	156.0	340.0	156.2	450.0	158.0	470.0	160.0	590.0	168.0	650.0
X1	4235.0	14	0	650	155	155	155	0	0	0
GR	169.0	0.0	168.0	10.0	162.0	45.0	160.8	55.0	160.5	235.0
GR	160.0	260.0	158.0	270.0	156.6	290.0	156.6	435.0	158.0	450.0
GR	160.0	500.0	160.0	600.0	164.0	630.0	168.0	650.0		
X1	4435.0	12	0	635	200	200	200	0	0	0
GR	168.0	0.0	162.0	40.0	160.0	210.0	158.0	240.0	157.1	255.0
GR	157.1	380.0	158.0	390.0	160.0	410.0	161.0	460.0	161.0	580.0
GR	162.0	600.0	168.0	635.0						
X1	4640	8	9687.6	10312.5	205	205	205	0	0	0
GR	169.74	9687.6	162.67	9730.0	162.67	9885.0	157.6	9900.0	157.6	10020.0
GR	162.67	10035.0	162.67	10270.0	169.74	10312.5				
X1	4980	8	9690.1	10309.9	340	340	340	0	0	0
GR	171.21	9690.1	164.56	9730.0	164.56	9852.0	158.4	9870.0	158.4	9990.0
GR	164.56	10008.0	164.56	10270.0	171.21	10309.9				
X1	5320	8	9692.7	10307.4	340	340	340	0	0	0
GR	172.67	9692.7	166.45	9730.0	166.45	9838.0	159.2	9860.0	159.2	9980.0
GR	166.45	10002.0	166.45	10270.0	172.67	10307.4				
X1	5600	8	9682.0	10318.0	280	280	280	0	0	0
GR	176.0	9682.0	168.0	9730.0	168.0	9836.0	159.9	9860.0	159.9	9980.0
GR	168.0	10004.0	168.0	10270.0	176.0	10318.0				
X1	5670	8	9622	10258	70	70	70	0	0	0
GR	176.4	9622.0	168.4	9670.0	168.4	9846.0	160.0	9880.0	160.0	10000.0
GR	168.4	10034.0	168.4	10210.0	176.4	10258.0				

X1	5672.1	19	9682.0	10318.0	2	2	2	0	0	0
BT	-9	9714.4	171.00	171.00	9730.0	170.18	168.40	9791.0	169.12	168.40
BT		9895.4	168.94	168.40	9895.5	168.94	166.94	10034.5	168.94	166.94
BT		10034.6	168.94	168.40	10270.0	170.42	168.40	10285.6	171.00	171.00
GR	176.40	9682.0	171.00	9714.4	168.40	9730.0	168.40	9791.0	168.40	9895.4
GR	162.72	9895.5	162.72	9937.0	166.94	9937.1	166.94	9938.9	162.72	9939.0
GR	162.72	9991.0	166.94	9991.1	166.94	9992.9	162.72	9993.0	162.72	10034.5
GR	168.40	10034.6	168.40	10270.0	171.00	10285.6	176.40	10318.0		
X1	5750.1	19	9682.0	10318.0	78	78	78	0	0	0
BT	-9	9717.0	171.00	171.00	9730.0	170.57	168.83	9791.0	169.54	168.83
BT		9895.4	169.36	168.83	9895.5	169.36	167.36	10034.5	169.36	167.36
BT		10034.6	169.36	168.83	10270.0	170.80	168.83	10283.0	171.00	171.00
GR	176.83	9682.0	171.00	9717.0	168.83	9730.0	168.83	9791.0	168.83	9895.4
GR	163.19	9895.5	163.19	9937.0	167.36	9937.1	167.36	9938.9	163.19	9939.0
GR	163.19	9991.0	167.36	9991.1	167.36	9992.9	163.19	9993.0	163.19	10034.5
GR	168.83	10034.6	168.83	10270.0	171.00	10283.0	176.83	10318.0		
X1	5825	8	9683.5	10316.5	75	75	75	0	0	0
GR	177.01	9683.5	169.25	9730.0	169.25	9916.0	163.34	9940.0	163.34	10060.0
GR	169.25	10084.0	169.25	10270.0	177.01	10316.5				
X1	5905	8	9685.0	10315.0	80	80	80	0	0	0
GR	177.20	9685.0	169.70	9730.0	169.70	9916.0	163.73	9940.0	163.73	10060.0
GR	169.70	10084.0	169.70	10270.0	177.20	10315.0				
X1	6100	8	9688.1	10311.9	195	195	195	0	0	0
GR	177.76	9688.1	170.78	9730.0	170.78	9915.0	164.41	9940.0	164.41	10060.0
GR	170.78	10085.0	170.78	10270.0	177.76	10311.9				

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

*PROF 1

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300

*SECNO 3420.000

3470 ENCROACHMENT STATIONS= 100.0 690.0 TYPE= 1 TARGET= -100.000

3420.000	12.24	163.24	160.53	161.81	164.15	.91	.00	.00100000.00	
30000.	0.	30000.	0.	0.	3923.	0.	0.	0.	216.00
.00	.00	7.65	.00	.000	.032	.000	.000	151.00	100.00
.002035	0.	0.	0.	0	15	3	.00	556.22	656.22

*SECNO 3510.000

3510.000	12.11	163.51	160.84	.00	164.34	.83	.18	.01	166.00
30000.	0.	30000.	0.	0.	4109.	0.	8.	1.	166.00
.00	.00	7.30	.00	.000	.032	.000	.000	151.40	16.58
.001977	90.	90.	90.	2	19	0	.00	616.60	633.18

*SECNO 3640.000

3640.000	11.77	163.77	161.16	.00	164.60	.84	.26	.00	167.50
30000.	0.	30000.	0.	0.	4089.	0.	21.	3.	166.70
.01	.00	7.34	.00	.000	.032	.000	.000	152.00	31.13
.002028	130.	130.	130.	0	19	0	.00	620.89	652.02

*SECNO 3790.000

3790.000	10.06	164.06	161.64	.00	164.93	.87	.32	.01	167.90
30000.	0.	30000.	0.	0.	3999.	0.	34.	5.	166.00
.01	.00	7.50	.00	.000	.032	.000	.000	154.00	26.30
.002183	150.	150.	150.	1	14	0	.00	620.79	647.09

*SECNO 3919.500

3919.500	9.29	164.29	162.29	.00	165.29	1.00	.32	.04	168.00
30000.	0.	30000.	0.	0.	3740.	0.	46.	7.	166.00
.02	.00	8.02	.00	.000	.032	.000	.000	155.00	18.57
.002722	129.	129.	129.	2	19	0	.00	620.00	638.57

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 4080.500

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS= .000 EGLWC= 165.602 ELLC= 172.000 PCWSE= 164.286 ELTRD= 182.000

3370 NORMAL BRIDGE, NRD= 0 MIN ELTRD= 182.00 MAX ELLC= 172.00

4080.500	8.67	164.67	163.07	.00	165.82	1.15	.49	.04	168.00
30000.	0.	30000.	0.	0.	3493.	0.	59.	9.	168.00
.02	.00	8.59	.00	.000	.032	.000	.000	156.00	16.64
.003334	161.	161.	161.	2	12	0	.00	608.41	625.05

*SECNO 4235.000

4235.000	8.60	165.20	163.53	.00	166.33	1.12	.51	.00	169.00
30000.	0.	30000.	0.	0.	3528.	0.	72.	11.	168.00
.03	.00	8.50	.00	.000	.032	.000	.000	156.60	26.32
.003236	155.	155.	155.	2	15	0	.00	609.70	636.02

*SECNO 4435.000

4435.000	8.75	165.85	164.21	.00	166.99	1.14	.65	.01	168.00
30000.	0.	30000.	0.	0.	3500.	0.	88.	14.	168.00
.04	.00	8.57	.00	.000	.032	.000	.000	157.10	14.30
.003309	200.	200.	200.	1	15	0	.00	608.18	622.48

*SECNO 4640.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

4640.000	8.74	166.34	165.91	.00	168.19	1.85	.99	.21	169.74
30000.	0.	30000.	0.	0.	2748.	0.	103.	17.	169.74
.04	.00	10.92	.00	.000	.032	.000	.000	157.60	9707.98
.007049	205.	205.	205.	2	11	0	.00	584.08	10292.07

*SECNO 4980.000

4980.000	10.29	168.69	167.49	.00	170.07	1.38	1.83	.05	171.21
30000.	0.	30000.	0.	0.	3185.	0.	126.	22.	171.21
.05	.00	9.42	.00	.000	.032	.000	.000	158.40	9705.20
.004368	340.	340.	340.	3	8	0	.00	589.61	10294.80

```
   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 5320.000
 5320.000    10.98   170.18   169.28      .00   171.61     1.43     1.52      .02   172.67
   30000.       0.   30000.       0.       0.    3129.       0.     150.      26.    172.67
      .06      .00     9.59      .00     .000     .032     .000     .000   159.20  9707.62
  .004588     340.     340.     340.        3        6        0      .00   584.82 10292.44


*SECNO 5600.000
 5600.000    11.56   171.46   170.61      .00   172.91     1.45     1.29      .01   176.00
   30000.       0.   30000.       0.       0.    3108.       0.     170.      30.    176.00
      .07      .00     9.65      .00     .000     .032     .000     .000   159.90  9709.23
  .004659     280.     280.     280.        2        6        0      .00   581.54 10290.77


*SECNO 5670.000
 5670.000    11.91   171.91   170.73      .00   173.22     1.31      .30      .01   176.40
   30000.       0.   30000.       0.       0.    3264.       0.     176.      31.    176.40
      .07      .00     9.19      .00     .000     .032     .000     .000   160.00  9648.93
  .003957      70.      70.      70.        2       10        0      .00   582.14 10231.07


*SECNO 5672.100

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE, NRD=   9 MIN ELTRD=   168.94 MAX ELLC=   171.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 5672.100    10.08   172.80   172.80      .00   175.01     2.21      .03      .26   176.40
   30000.       0.   30000.       0.       0.    2515.       0.     176.      31.    176.40
      .07      .00    11.93      .00     .000     .032     .000     .000   162.72  9703.60
  .016641       2.       2.       2.        0        9        0  -751.23   592.79 10296.40


*SECNO 5750.100

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.59
```

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

3370 NORMAL BRIDGE, NRD= 9 MIN ELTRD= 169.36 MAX ELLC= 171.00

5750.100	11.40	174.59	173.19	.00	175.84	1.25	.74	.10	176.83
30000.	0.	30000.	0.	0.	3343.	0.	181.	32.	176.83
.07	.00	8.97	.00	.000	.032	.000	.000	163.19	9695.44
.006599	78.	78.	78.	3	12	0	-736.07	609.12	10304.56

*SECNO 5825.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.03

5825.000	12.02	175.36	172.18	.00	176.09	.73	.19	.05	177.01
30000.	0.	30000.	0.	0.	4372.	0.	188.	33.	177.01
.08	.00	6.86	.00	.000	.032	.000	.000	163.34	9693.41
.001599	75.	75.	75.	2	19	0	.00	613.19	10306.59

*SECNO 5905.000

5905.000	11.71	175.44	172.62	.00	176.25	.81	.14	.02	177.20
30000.	0.	30000.	0.	0.	4158.	0.	195.	34.	177.20
.08	.00	7.21	.00	.000	.032	.000	.000	163.73	9695.55
.001872	80.	80.	80.	2	19	0	.00	608.91	10304.45

*SECNO 6100.000

6100.000	11.34	175.75	173.58	.00	176.74	.99	.43	.06	177.76
30000.	0.	30000.	0.	0.	3754.	0.	213.	37.	177.76
.09	.00	7.99	.00	.000	.032	.000	.000	164.41	9700.18
.002580	195.	195.	195.	2	19	0	.00	599.63	10299.82

T1 SIMONS, LI & ASSOCIATES, INC. — TEMPE, ARIZONA
T1 INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T2 STRT BASED ON SLOPE-AREA METHOD
T3 86EXT.DAT PAZ-DMJM03-13

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	0	0	0	0.002	0	0	43000	164.35	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	2	0	-1	0	0	0	-1	0	0	0

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 3420.000

3470 ENCROACHMENT STATIONS= 100.0 690.0 TYPE= 1 TARGET= -100.000

3420.000	14.05	165.05	161.78	164.35	166.23	1.18	.00	.00100000.00	
43000.	0.	43000.	0.	0.	4943.	0.	0.	0.	216.00
.00	.00	8.70	.00	.000	.032	.000	.000	151.00	100.00
.002034	0.	0.	0.	0	15	3	.00	575.80	675.80

*SECNO 3510.000

3510.000	13.99	165.39	162.04	.00	166.42	1.03	.17	.01	166.00
43000.	0.	43000.	0.	0.	5289.	0.	11.	1.	166.00
.00	.00	8.13	.00	.000	.032	.000	.000	151.40	4.05
.001846	90.	90.	90.	2	19	0	.00	641.39	645.44

*SECNO 3640.000

3640.000	13.63	165.63	162.36	.00	166.66	1.04	.24	.00	167.50
43000.	0.	43000.	0.	0.	5263.	0.	26.	3.	166.70
.01	.00	8.17	.00	.000	.032	.000	.000	152.00	21.82
.001876	130.	130.	130.	1	19	0	.00	641.05	662.87

*SECNO 3790.000

3790.000	11.89	165.89	162.83	.00	166.97	1.08	.29	.01	167.90
43000.	0.	43000.	0.	0.	5158.	0.	44.	5.	166.00
.01	.00	8.34	.00	.000	.032	.000	.000	154.00	15.60
.002015	150.	150.	150.	1	14	0	.00	643.71	659.31

*SECNO 3919.500
3280 CROSS SECTION 3919.50 EXTENDED .08 FEET

3919.500	11.08	166.08	163.48	.00	167.29	1.21	.29	.04	168.00
43000.	0.	43000.	0.	0.	4873.	0.	59.	7.	166.00
.02	.00	8.82	.00	.000	.032	.000	.000	155.00	9.58
.002419	129.	129.	129.	2	19	0	.00	640.42	650.00

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

*SECNO 4080.500

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS= .000 EGLWC= 167.591 ELLC= 172.000 PCWSE= 166.083 ELTRD= 182.000

3370 NORMAL BRIDGE, NRD= 0 MIN ELTRD= 182.00 MAX ELLC= 172.00

4080.500	10.40	166.40	164.29	.00	167.78	1.38	.43	.05	168.00
43000.	0.	43000.	0.	0.	4561.	0.	77.	10.	168.00
.02	.00	9.43	.00	.000	.032	.000	.000	156.00	8.02
.002951	161.	161.	161.	2	12	0	.00	629.96	637.98

*SECNO 4235.000

4235.000	10.25	166.85	164.72	.00	168.24	1.39	.46	.00	169.00
43000.	0.	43000.	0.	0.	4545.	0.	93.	12.	168.00
.03	.00	9.46	.00	.000	.032	.000	.000	156.60	16.72
.002971	155.	155.	155.	2	15	0	.00	627.52	644.24

*SECNO 4435.000

4435.000	10.33	167.43	165.41	.00	168.86	1.43	.61	.01	168.00
43000.	0.	43000.	0.	0.	4476.	0.	113.	15.	168.00
.03	.00	9.61	.00	.000	.032	.000	.000	157.10	3.78
.003126	200.	200.	200.	1	15	0	.00	627.92	631.70

*SECNO 4640.000

3301 HV CHANGED MORE THAN HVINS

4640.000	10.18	167.78	167.12	.00	169.99	2.22	.90	.23	169.74
43000.	0.	43000.	0.	0.	3600.	0.	132.	18.	169.74
.04	.00	11.94	.00	.000	.032	.000	.000	157.60	9699.36
.006119	205.	205.	205.	2	11	0	.00	601.35	10300.71

*SECNO 4980.000

4980.000	11.56	169.96	168.78	.00	171.80	1.85	1.78	.04	171.21
43000.	0.	43000.	0.	0.	3944.	0.	162.	22.	171.21
.05	.00	10.90	.00	.000	.032	.000	.000	158.40	9697.57
.004554	340.	340.	340.	2	5	0	.00	604.86	10302.43

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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 5320.000
 5320.000   12.30   171.50   170.27     .00   173.38     1.88     1.56      .01   172.67
   43000.      0.   43000.      0.      0.    3910.       0.     193.      27.    172.67
      .05     .00    11.00     .00    .000     .032     .000     .000   159.20  9699.71
  .004646    340.     340.     340.       3       11        0      .00   600.66 10300.37


*SECNO 5600.000
 5600.000   12.89   172.79   171.57     .00   174.69     1.90     1.31      .01   176.00
   43000.      0.   43000.      0.      0.    3889.       0.     218.      31.    176.00
      .06     .00    11.06     .00    .000     .032     .000     .000   159.90  9701.28
  .004701    280.     280.     280.       0       11        0      .00   597.44 10298.72


*SECNO 5670.000
 5670.000   13.28   173.28   171.74     .00   175.01     1.73      .30      .02   176.40
   43000.      0.   43000.      0.      0.    4075.       0.     224.      32.    176.40
      .06     .00    10.55     .00    .000     .032     .000     .000   160.00  9640.68
  .004027     70.      70.      70.       2       15        0      .00   598.63 10239.32


*SECNO 5672.100

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE, NRD=   9 MIN ELTRD=   168.94 MAX ELLC=   171.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 5672.100   11.25   173.97   173.97     .00   176.74     2.78      .03      .30   176.40
   43000.      0.   43000.      0.      0.    3215.       0.     224.      32.    176.40
      .06     .00    13.37     .00    .000     .032     .000     .000   162.72  9696.59
  .015383      2.       2.       2.       0       12        0  -751.23   606.81 10303.41


*SECNO 5750.100

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.52
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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

3370 NORMAL BRIDGE, NRD= 9 MIN ELTRD= 169.36 MAX ELLC= 171.00

5750.100	12.74	175.93	174.43	.00	177.58	1.66	.73	.11	176.83
43000.	0.	43000.	0.	0.	4165.	0.	231.	33.	176.83
.06	.00	10.32	.00	.000	.032	.000	.000	163.19	9687.44
.006668	78.	78.	78.	3	12	0	-736.07	625.12	10312.56

*SECNO 5825.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.92

5825.000	13.49	176.83	173.40	.00	177.86	1.03	.21	.06	177.01
43000.	0.	43000.	0.	0.	5291.	0.	239.	34.	177.01
.07	.00	8.13	.00	.000	.032	.000	.000	163.34	9684.56
.001808	75.	75.	75.	2	15	0	.00	630.88	10315.44

*SECNO 5905.000

5905.000	13.20	176.93	173.84	.00	178.04	1.11	.15	.03	177.20
43000.	0.	43000.	0.	0.	5075.	0.	248.	35.	177.20
.07	.00	8.47	.00	.000	.032	.000	.000	163.73	9686.64
.002058	80.	80.	80.	2	19	0	.00	626.72	10313.36

*SECNO 6100.000

6100.000	12.83	177.24	174.88	.00	178.56	1.32	.46	.06	177.76
43000.	0.	43000.	0.	0.	4665.	0.	270.	38.	177.76
.08	.00	9.22	.00	.000	.032	.000	.000	164.41	9691.20
.002674	195.	195.	195.	2	16	0	.00	617.60	10308.80

T1 SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1 INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T2 STRT BASED ON SLOPE-AREA METHOD
T3 86EXT.DAT PAZ-DMJM03-13

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	0	0	0	0.002	0	0	51000	165.56	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	3	0	-1	0	0	0	-1	0	0	0

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300

*SECNO 3420.000

3280 CROSS SECTION 3420.00 EXTENDED .06 FEET

3470 ENCROACHMENT STATIONS= 100.0 690.0 TYPE= 1 TARGET= -100.000

3420.000	15.06	166.06	162.49	165.56	167.38	1.32	.00	.00100000.00	
51000.	0.	51000.	0.	0.	5529.	0.	0.	0.	216.00
.00	.00	9.22	.00	.000	.032	.000	.000	151.00	100.00
.002038	0.	0.	0.	0	15	3	.00	590.00	690.00

*SECNO 3510.000

3280 CROSS SECTION 3510.00 EXTENDED .44 FEET

3510.000	15.03	166.43	162.71	.00	167.57	1.14	.17	.02	166.00
51000.	0.	51000.	0.	0.	5965.	0.	12.	1.	166.00
.00	.00	8.55	.00	.000	.032	.000	.000	151.40	.00
.001774	90.	90.	90.	2	19	0	.00	650.00	650.00

*SECNO 3640.000

3640.000	14.66	166.66	163.02	.00	167.81	1.14	.24	.00	167.50
51000.	0.	51000.	0.	0.	5940.	0.	30.	3.	166.70
.01	.00	8.59	.00	.000	.032	.000	.000	152.00	11.02
.001864	130.	130.	130.	1	19	0	.00	668.41	679.43

*SECNO 3790.000

3280 CROSS SECTION 3790.00 EXTENDED .92 FEET

3790.000	12.92	166.92	163.50	.00	168.11	1.19	.28	.01	167.90
51000.	0.	51000.	0.	0.	5818.	0.	50.	6.	166.00
.01	.00	8.77	.00	.000	.032	.000	.000	154.00	7.78
.001935	150.	150.	150.	2	14	0	.00	652.22	660.00

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

*SECNO 3919.500
3280 CROSS SECTION 3919.50 EXTENDED 1.09 FEET

3919.500	12.09	167.09	164.14	.00	168.42	1.32	.27	.04	168.00
51000.	0.	51000.	0.	0.	5524.	0.	67.	7.	166.00
.02	.00	9.23	.00	.000	.032	.000	.000	155.00	4.53
.002270	129.	129.	129.	2	19	0	.00	645.47	650.00

*SECNO 4080.500

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS= .000 EGLWC= 168.708 ELLC= 172.000 PCWSE= 167.095 ELTRD= 182.000

3370 NORMAL BRIDGE, NRD= 0 MIN ELTRD= 182.00 MAX ELLC= 172.00

4080.500	11.38	167.38	164.91	.00	168.88	1.50	.41	.05	168.00
51000.	0.	51000.	0.	0.	5185.	0.	86.	10.	168.00
.02	.00	9.84	.00	.000	.032	.000	.000	156.00	3.11
.002779	161.	161.	161.	2	15	0	.00	642.22	645.33

*SECNO 4235.000

4235.000	11.19	167.79	165.39	.00	169.32	1.53	.43	.01	169.00
51000.	0.	51000.	0.	0.	5143.	0.	105.	12.	168.00
.02	.00	9.92	.00	.000	.032	.000	.000	156.60	11.20
.002828	155.	155.	155.	2	15	0	.00	637.77	648.97

*SECNO 4435.000
3280 CROSS SECTION 4435.00 EXTENDED .35 FEET

4435.000	11.24	168.34	166.08	.00	169.92	1.58	.58	.02	168.00
51000.	0.	51000.	0.	0.	5053.	0.	128.	15.	168.00
.03	.00	10.09	.00	.000	.032	.000	.000	157.10	.00
.002984	200.	200.	200.	1	15	0	.00	635.00	635.00

*SECNO 4640.000

3301 HV CHANGED MORE THAN HVINS

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
4640.000	11.01	168.61	167.80	.00	171.01	2.39	.84	.24	169.74
51000.	0.	51000.	0.	0.	4107.	0.	150.	18.	169.74
.03	.00	12.42	.00	.000	.032	.000	.000	157.60	9694.35
.005675	205.	205.	205.	2	15	0	.00	611.39	10305.74
*SECNO 4980.000									
4980.000	12.25	170.65	169.42	.00	172.77	2.12	1.74	.03	171.21
51000.	0.	51000.	0.	0.	4363.	0.	183.	23.	171.21
.04	.00	11.69	.00	.000	.032	.000	.000	158.40	9693.44
.004659	340.	340.	340.	3	5	0	.00	613.12	10306.56
*SECNO 5320.000									
5320.000	13.03	172.23	170.96	.00	174.36	2.14	1.59	.00	172.67
51000.	0.	51000.	0.	0.	4348.	0.	217.	28.	172.67
.05	.00	11.73	.00	.000	.032	.000	.000	159.20	9695.38
.004679	340.	340.	340.	2	11	0	.00	609.34	10304.72
*SECNO 5600.000									
5600.000	13.63	173.53	172.26	.00	175.68	2.15	1.31	.00	176.00
51000.	0.	51000.	0.	0.	4339.	0.	245.	31.	176.00
.06	.00	11.75	.00	.000	.032	.000	.000	159.90	9696.79
.004682	280.	280.	280.	0	11	0	.00	606.42	10303.21
*SECNO 5670.000									
5670.000	14.03	174.03	172.44	.00	176.00	1.97	.31	.02	176.40
51000.	0.	51000.	0.	0.	4523.	0.	252.	32.	176.40
.06	.00	11.28	.00	.000	.032	.000	.000	160.00	9636.23
.004082	70.	70.	70.	2	15	0	.00	607.54	10243.77

*SECNO 5672.100

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE, NRD= 9 MIN ELTRD= 168.94 MAX ELLC= 171.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

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
5672.100	11.97	174.69	174.69	.00	177.71	3.02	.03	.30	176.40
51000.	0.	51000.	0.	0.	3658.	0.	252.	32.	176.40
.06	.00	13.94	.00	.000	.032	.000	.000	162.72	9692.25
.014261	2.	2.	2.	0	12	0	-751.23	615.51	10307.75

*SECNO 5750.100

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.45

3370 NORMAL BRIDGE, NRD= 9 MIN ELTRD= 169.36 MAX ELLC= 171.00

5750.100	13.45	176.64	175.05	.00	178.54	1.90	.72	.11	176.83
51000.	0.	51000.	0.	0.	4610.	0.	259.	34.	176.83
.06	.00	11.06	.00	.000	.032	.000	.000	163.19	9683.20
.006772	78.	78.	78.	3	15	0	-736.07	633.60	10316.80

*SECNO 5825.000
3280 CROSS SECTION 5825.00 EXTENDED .62 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.89

5825.000	14.29	177.63	174.08	.00	178.83	1.20	.22	.07	177.01
51000.	0.	51000.	0.	0.	5793.	0.	268.	35.	177.01
.06	.00	8.80	.00	.000	.032	.000	.000	163.34	9683.50
.001893	75.	75.	75.	2	15	0	.00	633.00	10316.50

*SECNO 5905.000
3280 CROSS SECTION 5905.00 EXTENDED .52 FEET

5905.000	13.99	177.72	174.52	.00	179.02	1.30	.16	.03	177.20
51000.	0.	51000.	0.	0.	5576.	0.	279.	36.	177.20
.07	.00	9.15	.00	.000	.032	.000	.000	163.73	9685.00
.002136	80.	80.	80.	2	19	0	.00	630.00	10315.00

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

*SECNO 6100.000
3280 CROSS SECTION 6100.00 EXTENDED .28 FEET

6100.000	13.63	178.04	175.48	.00	179.56	1.52	.47	.07	177.76
51000.	0.	51000.	0.	0.	5162.	0.	303.	39.	177.76
.07	.00	9.88	.00	.000	.032	.000	.000	164.41	9688.10
.002724	195.	195.	195.	2	15	0	.00	623.80	10311.90

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T1      SIMONS, LI & ASSOCIATES, INC. — TEMPE, ARIZONA
T1      INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T2      STRT BASED ON CWSEL @ 220 (SALT RIVER ANALYSYS OF COINCIDENTAL FLOWS)
T3      86EXT.DAT               PAZ-DMJM03-13

J1  ICHECK   INQ     NINV    IDIR    STRT    METRIC  HVINS   Q       WSEL    FQ

      0       0       0       0       0       0       0   63000   167.76    0

J2  NPROF    IPLOT   PRFVS   XSECV   XSECH   FN      ALLDC   IBW     CHNIM   ITRACE

     15       0      -1       0       0       0      -1       0       0       0
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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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 3420.000
3280 CROSS SECTION 3420.00 EXTENDED 1.76 FEET

3470 ENCROACHMENT STATIONS= 100.0 690.0 TYPE= 1 TARGET= -100.000

3420.000	16.76	167.76	163.46	167.76	169.20	1.44	.00	.00100000.00	
63000.	0.	63000.	0.	0.	6533.	0.	0.	0.	216.00
.00	.00	9.64	.00	.000	.032	.000	.000	151.00	100.00
.001797	0.	0.	0.	0	18	0	.00	590.00	690.00

*SECNO 3510.000
3280 CROSS SECTION 3510.00 EXTENDED 2.15 FEET

3510.000	16.74	168.14	163.64	.00	169.37	1.23	.15	.02	166.00
63000.	0.	63000.	0.	0.	7076.	0.	14.	1.	166.00
.00	.00	8.90	.00	.000	.032	.000	.000	151.40	.00
.001542	90.	90.	90.	2	19	0	.00	650.00	650.00

*SECNO 3640.000
3280 CROSS SECTION 3640.00 EXTENDED 1.66 FEET

3640.000	16.35	168.35	163.96	.00	169.58	1.23	.21	.00	167.50
63000.	0.	63000.	0.	0.	7083.	0.	35.	3.	166.70
.01	.00	8.89	.00	.000	.032	.000	.000	152.00	.00
.001627	130.	130.	130.	0	19	0	.00	680.00	680.00

*SECNO 3790.000
3280 CROSS SECTION 3790.00 EXTENDED 2.56 FEET

3790.000	14.56	168.56	164.43	.00	169.85	1.30	.25	.02	167.90
63000.	0.	63000.	0.	0.	6897.	0.	59.	6.	166.00
.01	.00	9.13	.00	.000	.032	.000	.000	154.00	.00
.001710	150.	150.	150.	2	14	0	.00	660.00	660.00

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

*SECNO 3919.500
3280 CROSS SECTION 3919.50 EXTENDED 2.70 FEET

3919.500	13.70	168.70	165.07	.00	170.13	1.43	.24	.04	168.00
63000.	0.	63000.	0.	0.	6565.	0.	79.	8.	166.00
.02	.00	9.60	.00	.000	.032	.000	.000	155.00	.00
.001976	129.	129.	129.	2	19	0	.00	650.00	650.00

*SECNO 4080.500

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS= .000 EGLWC= 170.388 ELLC= 172.000 PCWSE= 168.699 ELTRD= 182.000
3280 CROSS SECTION 4080.50 EXTENDED .93 FEET

3370 NORMAL BRIDGE, NRD= 0 MIN ELTRD= 182.00 MAX ELLC= 172.00

4080.500	12.93	168.93	165.85	.00	170.53	1.61	.35	.05	168.00
63000.	0.	63000.	0.	0.	6190.	0.	103.	10.	168.00
.02	.00	10.18	.00	.000	.032	.000	.000	156.00	.00
.002397	161.	161.	161.	2	20	0	.00	650.00	650.00

*SECNO 4235.000
3280 CROSS SECTION 4235.00 EXTENDED 1.27 FEET

4235.000	12.67	169.27	166.35	.00	170.93	1.66	.38	.02	169.00
63000.	0.	63000.	0.	0.	6093.	0.	125.	12.	168.00
.02	.00	10.34	.00	.000	.032	.000	.000	156.60	.00
.002525	155.	155.	155.	0	15	0	.00	650.00	650.00

*SECNO 4435.000
3280 CROSS SECTION 4435.00 EXTENDED 1.73 FEET

4435.000	12.63	169.73	167.02	.00	171.48	1.75	.52	.03	168.00
63000.	0.	63000.	0.	0.	5931.	0.	152.	15.	168.00
.03	.00	10.62	.00	.000	.032	.000	.000	157.10	.00
.002686	200.	200.	200.	2	15	0	.00	635.00	635.00

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

*SECNO 4640.000
3280 CROSS SECTION 4640.00 EXTENDED .18 FEET

3301 HV CHANGED MORE THAN HVINS

4640.000	12.31	169.91	168.75	.00	172.47	2.55	.74	.24	169.74
63000.	0.	63000.	0.	0.	4912.	0.	178.	18.	169.74
.03	.00	12.83	.00	.000	.032	.000	.000	157.60	9687.60
.004913	205.	205.	205.	2	15	0	.00	624.90	10312.50

*SECNO 4980.000
3280 CROSS SECTION 4980.00 EXTENDED .37 FEET

4980.000	13.19	171.59	170.41	.00	174.12	2.53	1.65	.00	171.21
63000.	0.	63000.	0.	0.	4936.	0.	216.	23.	171.21
.04	.00	12.76	.00	.000	.032	.000	.000	158.40	9690.10
.004789	340.	340.	340.	2	8	0	.00	619.80	10309.90

*SECNO 5320.000
3280 CROSS SECTION 5320.00 EXTENDED .56 FEET

5320.000	14.03	173.23	172.00	.00	175.72	2.50	1.60	.00	172.67
63000.	0.	63000.	0.	0.	4966.	0.	255.	28.	172.67
.05	.00	12.69	.00	.000	.032	.000	.000	159.20	9692.70
.004648	340.	340.	340.	1	8	0	.00	614.70	10307.40

*SECNO 5600.000

5600.000	14.63	174.53	173.22	.00	177.05	2.52	1.31	.01	176.00
63000.	0.	63000.	0.	0.	4945.	0.	287.	32.	176.00
.05	.00	12.74	.00	.000	.032	.000	.000	159.90	9690.85
.004742	280.	280.	280.	2	11	0	.00	618.30	10309.15

*SECNO 5670.000

5670.000	15.06	175.06	173.40	.00	177.37	2.32	.31	.02	176.40
63000.	0.	63000.	0.	0.	5156.	0.	295.	33.	176.40
.06	.00	12.22	.00	.000	.032	.000	.000	160.00	9630.04
.004136	70.	70.	70.	2	15	0	.00	619.92	10249.96

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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 5672.100

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE, NRD=   9 MIN ELTRD=   168.94 MAX ELLC=   171.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 5672.100    12.85   175.57   175.57      .00   179.06     3.48      .03      .34   176.40
   63000.       0.   63000.       0.       0.    4206.       0.     295.      33.   176.40
      .06      .00    14.98      .00     .000     .032     .000     .000   162.72  9686.96
  .013883       2.       2.       2.        0       15        0  -751.23   626.09 10313.04


*SECNO 5750.100
3280 CROSS SECTION   5750.10 EXTENDED       .84 FEET


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.44


3370 NORMAL BRIDGE, NRD=   9 MIN ELTRD=   169.36 MAX ELLC=   171.00

 5750.100    14.48   177.67   176.00      .00   179.89     2.22      .70      .13   176.83
   63000.       0.   63000.       0.       0.    5268.       0.     303.      34.   176.83
      .06      .00    11.96      .00     .000     .032     .000     .000   163.19  9682.00
  .006661      78.      78.      78.        4       15        0  -736.07   636.00 10318.00


*SECNO 5825.000
3280 CROSS SECTION   5825.00 EXTENDED      1.72 FEET


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.83

 5825.000    15.39   178.73   175.04      .00   180.19     1.46      .23      .08   177.01
   63000.       0.   63000.       0.       0.    6493.       0.     314.      35.   177.01
      .06      .00     9.70      .00     .000     .032     .000     .000   163.34  9683.50
  .001984      75.      75.      75.        2       15        0      .00   633.00 10316.50
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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 5905.000
3280 CROSS SECTION 5905.00 EXTENDED 1.63 FEET

5905.000	15.09	178.82	175.47	.00	180.39	1.57	.17	.03	177.20
63000.	0.	63000.	0.	0.	6271.	0.	325.	36.	177.20
.06	.00	10.05	.00	.000	.032	.000	.000	163.73	9685.00
.002213	80.	80.	80.	2	19	0	.00	630.00	10315.00

*SECNO 6100.000
3280 CROSS SECTION 6100.00 EXTENDED 1.38 FEET

6100.000	14.73	179.14	176.44	.00	180.95	1.80	.48	.07	177.76
63000.	0.	63000.	0.	0.	5849.	0.	352.	39.	177.76
.07	.00	10.77	.00	.000	.032	.000	.000	164.41	9688.10
.002752	195.	195.	195.	2	15	0	.00	623.80	10311.90

THIS RUN EXECUTED 7/ 6/90 8:52:46

****
HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

86EXT.DAT

SUMMARY PRINTOUT

SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
3420.000	163.24	.00	7.65	.00	.00	30000.00	.00	12.24	556.22	100.00	656.22
3420.000	165.05	.00	8.70	.00	.00	43000.00	.00	14.05	575.80	100.00	675.80
3420.000	166.06	.00	9.22	.00	.00	51000.00	.00	15.06	590.00	100.00	690.00
3420.000	167.76	.00	9.64	.00	.00	63000.00	.00	16.76	590.00	100.00	690.00
3510.000	163.51	.00	7.30	.00	.00	30000.00	.00	12.11	616.60	16.58	633.18
3510.000	165.39	.00	8.13	.00	.00	43000.00	.00	13.99	641.39	4.05	645.44
3510.000	166.43	.00	8.55	.00	.00	51000.00	.00	15.03	650.00	.00	650.00
3510.000	168.14	.00	8.90	.00	.00	63000.00	.00	16.74	650.00	.00	650.00
3640.000	163.77	.00	7.34	.00	.00	30000.00	.00	11.77	620.89	31.13	652.02
3640.000	165.63	.00	8.17	.00	.00	43000.00	.00	13.63	641.05	21.82	662.87
3640.000	166.66	.00	8.59	.00	.00	51000.00	.00	14.66	668.41	11.02	679.43
3640.000	168.35	.00	8.89	.00	.00	63000.00	.00	16.35	680.00	.00	680.00
3790.000	164.06	.00	7.50	.00	.00	30000.00	.00	10.06	620.79	26.30	647.09
3790.000	165.89	.00	8.34	.00	.00	43000.00	.00	11.89	643.71	15.60	659.31
3790.000	166.92	.00	8.77	.00	.00	51000.00	.00	12.92	652.22	7.78	660.00
3790.000	168.56	.00	9.13	.00	.00	63000.00	.00	14.56	660.00	.00	660.00
3919.500	164.29	.00	8.02	.00	.00	30000.00	.00	9.29	620.00	18.57	638.57
3919.500	166.08	.00	8.82	.00	.00	43000.00	.00	11.08	640.42	9.58	650.00
3919.500	167.09	.00	9.23	.00	.00	51000.00	.00	12.09	645.47	4.53	650.00
3919.500	168.70	.00	9.60	.00	.00	63000.00	.00	13.70	650.00	.00	650.00
4080.500	164.67	.00	8.59	.00	.00	30000.00	.00	8.67	608.41	16.64	625.05
4080.500	166.40	.00	9.43	.00	.00	43000.00	.00	10.40	629.96	8.02	637.98
4080.500	167.38	.00	9.84	.00	.00	51000.00	.00	11.38	642.22	3.11	645.33
4080.500	168.93	.00	10.18	.00	.00	63000.00	.00	12.93	650.00	.00	650.00
4235.000	165.20	.00	8.50	.00	.00	30000.00	.00	8.60	609.70	26.32	636.02
4235.000	166.85	.00	9.46	.00	.00	43000.00	.00	10.25	627.52	16.72	644.24
4235.000	167.79	.00	9.92	.00	.00	51000.00	.00	11.19	637.77	11.20	648.97
4235.000	169.27	.00	10.34	.00	.00	63000.00	.00	12.67	650.00	.00	650.00

	SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
	4435.000	165.85	.00	8.57	.00	.00	30000.00	.00	8.75	608.18	14.30	622.48
	4435.000	167.43	.00	9.61	.00	.00	43000.00	.00	10.33	627.92	3.78	631.70
	4435.000	168.34	.00	10.09	.00	.00	51000.00	.00	11.24	635.00	.00	635.00
	4435.000	169.73	.00	10.62	.00	.00	63000.00	.00	12.63	635.00	.00	635.00
*	4640.000	166.34	.00	10.92	.00	.00	30000.00	.00	8.74	584.08	9707.98	10292.07
	4640.000	167.78	.00	11.94	.00	.00	43000.00	.00	10.18	601.35	9699.36	10300.71
	4640.000	168.61	.00	12.42	.00	.00	51000.00	.00	11.01	611.39	9694.35	10305.74
	4640.000	169.91	.00	12.83	.00	.00	63000.00	.00	12.31	624.90	9687.60	10312.50
	4980.000	168.69	.00	9.42	.00	.00	30000.00	.00	10.29	589.61	9705.20	10294.80
	4980.000	169.96	.00	10.90	.00	.00	43000.00	.00	11.56	604.86	9697.57	10302.43
	4980.000	170.65	.00	11.69	.00	.00	51000.00	.00	12.25	613.12	9693.44	10306.56
	4980.000	171.59	.00	12.76	.00	.00	63000.00	.00	13.19	619.80	9690.10	10309.90
	5320.000	170.18	.00	9.59	.00	.00	30000.00	.00	10.98	584.82	9707.62	10292.44
	5320.000	171.50	.00	11.00	.00	.00	43000.00	.00	12.30	600.66	9699.71	10300.37
	5320.000	172.23	.00	11.73	.00	.00	51000.00	.00	13.03	609.34	9695.38	10304.72
	5320.000	173.23	.00	12.69	.00	.00	63000.00	.00	14.03	614.70	9692.70	10307.40
	5600.000	171.46	.00	9.65	.00	.00	30000.00	.00	11.56	581.54	9709.23	10290.77
	5600.000	172.79	.00	11.06	.00	.00	43000.00	.00	12.89	597.44	9701.28	10298.72
	5600.000	173.53	.00	11.75	.00	.00	51000.00	.00	13.63	606.42	9696.79	10303.21
	5600.000	174.53	.00	12.74	.00	.00	63000.00	.00	14.63	618.30	9690.85	10309.15
	5670.000	171.91	.00	9.19	.00	.00	30000.00	.00	11.91	582.14	9648.93	10231.07
	5670.000	173.28	.00	10.55	.00	.00	43000.00	.00	13.28	598.63	9640.68	10239.32
	5670.000	174.03	.00	11.28	.00	.00	51000.00	.00	14.03	607.54	9636.23	10243.77
	5670.000	175.06	.00	12.22	.00	.00	63000.00	.00	15.06	619.92	9630.04	10249.96
*	5672.100	172.80	.00	11.93	.00	.00	30000.00	.00	10.08	592.79	9703.60	10296.40
*	5672.100	173.97	.00	13.37	.00	.00	43000.00	.00	11.25	606.81	9696.59	10303.41
*	5672.100	174.69	.00	13.94	.00	.00	51000.00	.00	11.97	615.51	9692.25	10307.75
*	5672.100	175.57	.00	14.98	.00	.00	63000.00	.00	12.85	626.09	9686.96	10313.04
*	5750.100	174.59	.00	8.97	.00	.00	30000.00	.00	11.40	609.12	9695.44	10304.56
*	5750.100	175.93	.00	10.32	.00	.00	43000.00	.00	12.74	625.12	9687.44	10312.56
*	5750.100	176.64	.00	11.06	.00	.00	51000.00	.00	13.45	633.60	9683.20	10316.80
*	5750.100	177.67	.00	11.96	.00	.00	63000.00	.00	14.48	636.00	9682.00	10318.00
*	5825.000	175.36	.00	6.86	.00	.00	30000.00	.00	12.02	613.19	9693.41	10306.59
*	5825.000	176.83	.00	8.13	.00	.00	43000.00	.00	13.49	630.88	9684.56	10315.44
*	5825.000	177.63	.00	8.80	.00	.00	51000.00	.00	14.29	633.00	9683.50	10316.50
*	5825.000	178.73	.00	9.70	.00	.00	63000.00	.00	15.39	633.00	9683.50	10316.50
	5905.000	175.44	.00	7.21	.00	.00	30000.00	.00	11.71	608.91	9695.55	10304.45
	5905.000	176.93	.00	8.47	.00	.00	43000.00	.00	13.20	626.72	9686.64	10313.36
	5905.000	177.72	.00	9.15	.00	.00	51000.00	.00	13.99	630.00	9685.00	10315.00
	5905.000	178.82	.00	10.05	.00	.00	63000.00	.00	15.09	630.00	9685.00	10315.00

SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
6100.000	175.75	.00	7.99	.00	.00	30000.00	.00	11.34	599.63	9700.18	10299.82
6100.000	177.24	.00	9.22	.00	.00	43000.00	.00	12.83	617.60	9691.20	10308.80
6100.000	178.04	.00	9.88	.00	.00	51000.00	.00	13.63	623.80	9688.10	10311.90
6100.000	179.14	.00	10.77	.00	.00	63000.00	.00	14.73	623.80	9688.10	10311.90

86EXT.DAT

SUMMARY PRINTOUT

	SECNO	OWSEL	CRIWS	EG	HL	OLOSS	ELMIN	10*KS	K*CHSL	XLCH	SHEAR	FRCH
	3420.000	163.24	160.53	164.15	.00	.00	151.00	20.35	.00	.00	.90	.51
	3420.000	165.05	161.78	166.23	.00	.00	151.00	20.34	.00	.00	1.09	.52
	3420.000	166.06	162.49	167.38	.00	.00	151.00	20.38	.00	.00	1.19	.53
	3420.000	167.76	163.46	169.20	.00	.00	151.00	17.97	.00	.00	1.24	.51
	3510.000	163.51	160.84	164.34	.18	.01	151.40	19.77	4.44	90.00	.82	.50
	3510.000	165.39	162.04	166.42	.17	.01	151.40	18.46	4.44	90.00	.95	.50
	3510.000	166.43	162.71	167.57	.17	.02	151.40	17.74	4.44	90.00	1.02	.50
	3510.000	168.14	163.64	169.37	.15	.02	151.40	15.42	4.44	90.00	1.05	.48
	3640.000	163.77	161.16	164.60	.26	.00	152.00	20.28	4.62	130.00	.83	.50
	3640.000	165.63	162.36	166.66	.24	.00	152.00	18.76	4.62	130.00	.96	.50
	3640.000	166.66	163.02	167.81	.24	.00	152.00	18.64	4.62	130.00	1.03	.51
	3640.000	168.35	163.96	169.58	.21	.00	152.00	16.27	4.62	130.00	1.06	.49
	3790.000	164.06	161.64	164.93	.32	.01	154.00	21.83	13.33	150.00	.88	.52
	3790.000	165.89	162.83	166.97	.29	.01	154.00	20.15	13.33	150.00	1.01	.52
	3790.000	166.92	163.50	168.11	.28	.01	154.00	19.35	13.33	150.00	1.08	.52
	3790.000	168.56	164.43	169.85	.25	.02	154.00	17.10	13.33	150.00	1.11	.50
	3919.500	164.29	162.29	165.29	.32	.04	155.00	27.22	7.75	129.00	1.02	.58
	3919.500	166.08	163.48	167.29	.29	.04	155.00	24.19	7.75	129.00	1.15	.56
	3919.500	167.09	164.14	168.42	.27	.04	155.00	22.70	7.75	129.00	1.21	.56
	3919.500	168.70	165.07	170.13	.24	.04	155.00	19.76	7.75	129.00	1.25	.53
	4080.500	164.67	163.07	165.82	.49	.04	156.00	33.34	6.21	161.00	1.19	.63
	4080.500	166.40	164.29	167.78	.43	.05	156.00	29.51	6.21	161.00	1.33	.62
	4080.500	167.38	164.91	168.88	.41	.05	156.00	27.79	6.21	161.00	1.40	.61
	4080.500	168.93	165.85	170.53	.35	.05	156.00	23.97	6.21	161.00	1.42	.58
	4235.000	165.20	163.53	166.33	.51	.00	156.60	32.36	3.87	155.00	1.17	.62
	4235.000	166.85	164.72	168.24	.46	.00	156.60	29.71	3.87	155.00	1.34	.62
	4235.000	167.79	165.39	169.32	.43	.01	156.60	28.28	3.87	155.00	1.42	.62
	4235.000	169.27	166.35	170.93	.38	.02	156.60	25.25	3.87	155.00	1.48	.60
	4435.000	165.85	164.21	166.99	.65	.01	157.10	33.09	2.50	200.00	1.19	.63
	4435.000	167.43	165.41	168.86	.61	.01	157.10	31.26	2.50	200.00	1.39	.63
	4435.000	168.34	166.08	169.92	.58	.02	157.10	29.84	2.50	200.00	1.48	.63
	4435.000	169.73	167.02	171.48	.52	.03	157.10	26.86	2.50	200.00	1.57	.61
*	4640.000	166.34	165.91	168.19	.99	.21	157.60	70.49	2.44	205.00	2.07	.89
	4640.000	167.78	167.12	169.99	.90	.23	157.60	61.19	2.44	205.00	2.29	.86
	4640.000	168.61	167.80	171.01	.84	.24	157.60	56.75	2.44	205.00	2.38	.84
	4640.000	169.91	168.75	172.47	.74	.24	157.60	49.13	2.44	205.00	2.41	.81

	SECNO	CWSEL	CRIWS	EG	HL	OLOSS	ELMIN	10*KS	K*CHSL	XLCH	SHEAR	FRCH
	4980.000	168.69	167.49	170.07	1.83	.05	158.40	43.68	2.35	340.00	1.47	.71
	4980.000	169.96	168.78	171.80	1.78	.04	158.40	45.54	2.35	340.00	1.85	.75
	4980.000	170.65	169.42	172.77	1.74	.03	158.40	46.59	2.35	340.00	2.07	.77
	4980.000	171.59	170.41	174.12	1.65	.00	158.40	47.89	2.35	340.00	2.38	.80
	5320.000	170.18	169.28	171.61	1.52	.02	159.20	45.88	2.35	340.00	1.53	.73
	5320.000	171.50	170.27	173.38	1.56	.01	159.20	46.46	2.35	340.00	1.89	.76
	5320.000	172.23	170.96	174.36	1.59	.00	159.20	46.79	2.35	340.00	2.08	.77
	5320.000	173.23	172.00	175.72	1.60	.00	159.20	46.48	2.35	340.00	2.34	.79
	5600.000	171.46	170.61	172.91	1.29	.01	159.90	46.59	2.50	280.00	1.55	.74
	5600.000	172.79	171.57	174.69	1.31	.01	159.90	47.01	2.50	280.00	1.91	.76
	5600.000	173.53	172.26	175.68	1.31	.00	159.90	46.82	2.50	280.00	2.09	.77
	5600.000	174.53	173.22	177.05	1.31	.01	159.90	47.42	2.50	280.00	2.37	.79
	5670.000	171.91	170.73	173.22	.30	.01	160.00	39.57	1.43	70.00	1.38	.68
	5670.000	173.28	171.74	175.01	.30	.02	160.00	40.27	1.43	70.00	1.71	.71
	5670.000	174.03	172.44	176.00	.31	.02	160.00	40.82	1.43	70.00	1.90	.73
	5670.000	175.06	173.40	177.37	.31	.02	160.00	41.36	1.43	70.00	2.15	.75
*	5672.100	172.80	172.80	175.01	.03	.26	162.72	166.41	1360.00	2.00	4.40	1.02
*	5672.100	173.97	173.97	176.74	.03	.30	162.72	153.83	1360.00	2.00	5.09	1.02
*	5672.100	174.69	174.69	177.71	.03	.30	162.72	142.61	1360.00	2.00	5.29	1.01
*	5672.100	175.57	175.57	179.06	.03	.34	162.72	138.83	1360.00	2.00	5.82	1.02
*	5750.100	174.59	173.19	175.84	.74	.10	163.19	65.99	6.03	78.00	2.26	.68
*	5750.100	175.93	174.43	177.58	.73	.11	163.19	66.68	6.03	78.00	2.77	.70
*	5750.100	176.64	175.05	178.54	.72	.11	163.19	67.72	6.03	78.00	3.07	.72
*	5750.100	177.67	176.00	179.89	.70	.13	163.19	66.61	6.03	78.00	3.44	.73
*	5825.000	175.36	172.18	176.09	.19	.05	163.34	15.99	2.00	75.00	.71	.45
*	5825.000	176.83	173.40	177.86	.21	.06	163.34	18.08	2.00	75.00	.95	.49
*	5825.000	177.63	174.08	178.83	.22	.07	163.34	18.93	2.00	75.00	1.08	.51
*	5825.000	178.73	175.04	180.19	.23	.08	163.34	19.84	2.00	75.00	1.27	.53
	5905.000	175.44	172.62	176.25	.14	.02	163.73	18.72	4.87	80.00	.80	.49
	5905.000	176.93	173.84	178.04	.15	.03	163.73	20.58	4.87	80.00	1.04	.52
	5905.000	177.72	174.52	179.02	.16	.03	163.73	21.36	4.87	80.00	1.18	.54
	5905.000	178.82	175.47	180.39	.17	.03	163.73	22.13	4.87	80.00	1.37	.56
	6100.000	175.75	173.58	176.74	.43	.06	164.41	25.80	3.49	195.00	1.01	.56
	6100.000	177.24	174.88	178.56	.46	.06	164.41	26.74	3.49	195.00	1.26	.59
	6100.000	178.04	175.48	179.56	.47	.07	164.41	27.24	3.49	195.00	1.41	.61
	6100.000	179.14	176.44	180.95	.48	.07	164.41	27.52	3.49	195.00	1.61	.62

SUMMARY OF ERRORS AND SPECIAL NOTES

```
WARNING SECNO=  4640.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  5672.100  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  5672.100  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  5672.100  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  5672.100  PROFILE=  2  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  5672.100  PROFILE=  3  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  5672.100  PROFILE=  3  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  5672.100  PROFILE=  4  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  5672.100  PROFILE=  4  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  5750.100  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5750.100  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5750.100  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5750.100  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  5825.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5825.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5825.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5825.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```

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*****************************************************
*  WATER SURFACE PROFILES                           *
*  VERSION OF SEPTEMBER 1988                        *
*  ERROR: 01,02,03                                  *
*  UPDATED:  SEPTEMBER 1989                         *
*  RUN DATE     7/ 9/90   TIME    8:33:40           *
*****************************************************
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```
*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  THE HYDROLOGIC ENGINEERING CENTER *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616-4687     *
*          (916) 756-1104           *
*************************************
```

```
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
```

END OF BANNER

THIS RUN EXECUTED 7/ 9/90 8:33:40

```
*****************************************************
 HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989


 ERROR CORR -  01,02,03
 MODIFICATION -
*****************************************************


T1      SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1      INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T2      STRT BASED ON SLOPE-AREA METHOD
T3      86TOPO2.DAT             PAZ-DMJM03-13

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0       0        0        0      0.002       0        0     30000    161.81     0

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

      1       0       -1        0        0        0       -1        0        0        0


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38       1       55       26       56       13       14       15        8        4
     53      54        0       38        1        2        3       11       12       42
      5      33       39       67       68

J6  IHLEQ     ICOPY    SUBDIV   STRTDS   RMILE

      1


NC    0.040    0.040    0.032    0.1      0.3
X1   3420.0      19        0      690        0        0        0        0        0        0
X3                                100.0
GR    152.0      0.0    154.0     60.0    156.0     80.0    158.0    100.0    158.0    140.0
GR    157.0    240.0    156.7    350.0    156.0    370.0    154.0    410.0    152.0    440.0
GR    151.0    460.0    152.0    490.0    154.0    500.0    156.0    520.0    156.0    590.0
GR    158.0    620.0    160.0    640.0    164.0    660.0    166.0    690.0

X1   3510.0      17        0      650       90       90       90        0        0        0
GR    166.0      0.0    160.0     40.0    158.0     60.0    158.0    190.0    157.0    330.0
GR    156.0    360.0    154.0    395.0    152.0    435.0    151.4    455.0    152.0    475.0
GR    154.0    485.0    156.0    500.0    156.5    545.0    158.0    600.0    160.0    620.0
GR    164.0    635.0    166.0    650.0
```

X1	3640.0	17	0	680	130	130	130	0	0	0
GR	167.5	0.0	166.0	20.0	158.0	60.0	158.4	140.0	158.0	245.0
GR	157.8	350.0	156.0	380.0	154.0	395.0	152.0	435.0	152.0	455.0
GR	154.0	480.0	156.0	520.0	157.2	560.0	158.0	610.0	160.0	630.0
GR	166.0	665.0	166.7	680.0						
X1	3790.0	14	0	660	150	150	150	0	0	0
GR	167.9	0.0	166.0	15.0	160.0	50.0	158.7	60.0	158.3	160.0
GR	158.3	320.0	158.0	345.0	156.0	370.0	154.0	380.0	154.0	490.0
GR	156.0	505.0	158.0	570.0	160.0	620.0	166.0	660.0		
NC	0.040	0.040	0.032	0.3	0.5					
X1	3919.5	12	0	650	129	129	129	0	0	0
X3	10									
GR	168.0	0.0	160.0	40.0	159.0	55.0	159.0	290.0	158.0	320.0
GR	156.0	345.0	155.0	365.0	155.0	440.0	156.0	475.0	158.0	510.0
GR	160.0	610.0	166.0	650.0						
SB	1.05	1.56	2.60	631	450	60	7387	6.0	157.00	156.00
X1	4080.5	10	0	650	161	161	161	0	0	0
X2	0	0	1	172.0	182.0	0	0	0	0	0
X3	10									
GR	168.0	0.0	160.0	40.0	160.0	280.0	158.0	290.0	156.0	320.0
GR	156.0	340.0	156.2	450.0	158.0	470.0	160.0	590.0	168.0	650.0
X1	4235.0	14	0	650	155	155	155	0	0	0
GR	169.0	0.0	168.0	10.0	162.0	45.0	160.8	55.0	160.5	235.0
GR	160.0	260.0	158.0	270.0	156.6	290.0	156.6	435.0	158.0	450.0
GR	160.0	500.0	160.0	600.0	164.0	630.0	168.0	650.0		
NC	0.040	0.040	0.032	0.1	0.3					
X1	4435.0	12	0	635	200	200	200	0	0	0
GR	168.0	0.0	162.0	40.0	160.0	210.0	158.0	240.0	157.1	255.0
GR	157.1	380.0	158.0	390.0	160.0	410.0	161.0	460.0	161.0	580.0
GR	162.0	600.0	168.0	635.0						
X1	4640	8	9687.6	10312.5	205	205	205	0	0	0
GR	169.74	9687.6	162.67	9730.0	162.67	9885.0	157.6	9900.0	157.6	10020.0
GR	162.67	10035.0	162.67	10270.0	169.74	10312.5				
X1	4980	8	9690.1	10309.9	340	340	340	0	0	0
GR	171.21	9690.1	164.56	9730.0	164.56	9852.0	158.4	9870.0	158.4	9990.0
GR	164.56	10008.0	164.56	10270.0	171.21	10309.9				
X1	5320	8	9692.7	10307.4	340	340	340	0	0	0
GR	172.67	9692.7	166.45	9730.0	166.45	9838.0	159.2	9860.0	159.2	9980.0
GR	166.45	10002.0	166.45	10270.0	172.67	10307.4				

X1	5600	8	9682.0	10318.0	280	280	280	0	0	0
GR	176.0	9682.0	168.0	9730.0	168.0	9836.0	159.9	9860.0	159.9	9980.0
GR	168.0	10004.0	168.0	10270.0	176.0	10318.0				
X1	5670	8	9622	10258	70	70	70	0	0	0
GR	176.4	9622.0	168.4	9670.0	168.4	9846.0	160.0	9880.0	160.0	10000.0
GR	168.4	10034.0	168.4	10210.0	176.4	10258.0				
X1	5672.1	19	9682.0	10318.0	2	2	2	0	0	0
BT	-9	9714.4	171.00	171.00	9730.0	170.18	168.40	9791.0	169.12	168.40
BT		9895.4	168.94	168.40	9895.5	168.94	166.94	10034.5	168.94	166.94
BT		10034.6	168.94	168.40	10270.0	170.42	168.40	10285.6	171.00	171.00
GR	176.40	9682.0	171.00	9714.4	168.40	9730.0	168.40	9791.0	168.40	9895.4
GR	162.72	9895.5	162.72	9937.0	166.94	9937.1	166.94	9938.9	162.72	9939.0
GR	162.72	9991.0	166.94	9991.1	166.94	9992.9	162.72	9993.0	162.72	10034.5
GR	168.40	10034.6	168.40	10270.0	171.00	10285.6	176.40	10318.0		
X1	5750.1	19	9682.0	10318.0	78	78	78	0	0	0
BT	-9	9717.0	171.00	171.00	9730.0	170.57	168.83	9791.0	169.54	168.83
BT		9895.4	169.36	168.83	9895.5	169.36	167.36	10034.5	169.36	167.36
BT		10034.6	169.36	168.83	10270.0	170.80	168.83	10283.0	171.00	171.00
GR	176.83	9682.0	171.00	9717.0	168.83	9730.0	168.83	9791.0	168.83	9895.4
GR	163.19	9895.5	163.19	9937.0	167.36	9937.1	167.36	9938.9	163.19	9939.0
GR	163.19	9991.0	167.36	9991.1	167.36	9992.9	163.19	9993.0	163.19	10034.5
GR	168.83	10034.6	168.83	10270.0	171.00	10283.0	176.83	10318.0		
X1	5825	8	9683.5	10316.5	75	75	75	0	0	0
GR	177.01	9683.5	169.25	9730.0	169.25	9916.0	163.34	9940.0	163.34	10060.0
GR	169.25	10084.0	169.25	10270.0	177.01	10316.5				
X1	5905	8	9685.0	10315.0	80	80	80	0	0	0
GR	177.20	9685.0	169.70	9730.0	169.70	9916.0	163.73	9940.0	163.73	10060.0
GR	169.70	10084.0	169.70	10270.0	177.20	10315.0				
X1	6100	8	9688.1	10311.9	195	195	195	0	0	0
GR	177.76	9688.1	170.78	9730.0	170.78	9915.0	164.41	9940.0	164.41	10060.0
GR	170.78	10085.0	170.78	10270.0	177.76	10311.9				

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

*PROF 1

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 3420.000

3470 ENCROACHMENT STATIONS= 100.0 690.0 TYPE= 1 TARGET= -100.000

3420.000	12.24	163.24	160.53	161.81	164.15	.91	.00	.00100000.00	
30000.	0.	30000.	0.	0.	3923.	0.	0.	0.	216.00
.00	.00	7.65	.00	.000	.032	.000	.000	151.00	100.00
.002035	0.	0.	0.	0	15	3	.00	556.22	656.22

*SECNO 3510.000

3510.000	12.11	163.51	160.84	.00	164.34	.83	.18	.01	166.00
30000.	0.	30000.	0.	0.	4109.	0.	8.	1.	166.00
.00	.00	7.30	.00	.000	.032	.000	.000	151.40	16.58
.001977	90.	90.	90.	2	19	0	.00	616.60	633.18

*SECNO 3640.000

3640.000	11.77	163.77	161.16	.00	164.60	.84	.26	.00	167.50
30000.	0.	30000.	0.	0.	4089.	0.	21.	3.	166.70
.01	.00	7.34	.00	.000	.032	.000	.000	152.00	31.13
.002028	130.	130.	130.	0	19	0	.00	620.89	652.02

*SECNO 3790.000

3790.000	10.06	164.06	161.64	.00	164.93	.87	.32	.01	167.90
30000.	0.	30000.	0.	0.	3999.	0.	34.	5.	166.00
.01	.00	7.50	.00	.000	.032	.000	.000	154.00	26.30
.002183	150.	150.	150.	1	14	0	.00	620.79	647.09

CCHV= .300 CEHV= .500
*SECNO 3919.500

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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 168.00 ELREA= 166.00

3919.500	9.31	164.31	162.29	.00	165.30	.99	.31	.06	168.00
30000.	0.	30000.	0.	0.	3762.	0.	46.	7.	166.00
.02	.00	7.97	.00	.000	.032	.000	.000	155.00	18.39
.002672	129.	129.	129.	1	19	0	.00	620.42	638.81

SPECIAL BRIDGE

SB XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
1.05	1.56	2.60	631.00	450.00	60.00	7387.00	6.00	157.00	156.00

*SECNO 4080.500
CLASS A LOW FLOW

3420 BRIDGE W.S.= 164.45 BRIDGE VELOCITY= 8.63 CALCULATED CHANNEL AREA= 3237.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	165.85	.42	0.	30000.	7387.	7200.	172.00	182.00	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 168.00 ELREA= 168.00

4080.500	8.73	164.73	.00	.00	165.85	1.12	.55	.00	168.00
30000.	0.	30000.	0.	0.	3529.	0.	59.	9.	168.00
.02	.00	8.50	.00	.000	.032	.000	.000	156.00	16.34
.003227	161.	161.	161.	0	0	0	.00	609.15	625.49

*SECNO 4235.000

4235.000	8.64	165.24	163.53	.00	166.35	1.11	.50	.00	169.00
30000.	0.	30000.	0.	0.	3548.	0.	72.	11.	168.00
.03	.00	8.46	.00	.000	.032	.000	.000	156.60	26.12
.003177	155.	155.	155.	2	15	0	.00	610.07	636.18

CCHV= .100 CEHV= .300
*SECNO 4435.000

4435.000	8.77	165.87	164.21	.00	167.00	1.13	.64	.01	168.00
30000.	0.	30000.	0.	0.	3515.	0.	88.	14.	168.00
.04	.00	8.54	.00	.000	.032	.000	.000	157.10	14.14
.003266	200.	200.	200.	1	15	0	.00	608.48	622.62

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 4640.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .68

4640.000	8.76	166.36	165.91	.00	168.19	1.84	.98	.21	169.74
30000.	0.	30000.	0.	0.	2757.	0.	103.	17.	169.74
.04	.00	10.88	.00	.000	.032	.000	.000	157.60	9707.89
.006971	205.	205.	205.	2	11	0	.00	584.28	10292.17

*SECNO 4980.000

4980.000	10.29	168.69	167.49	.00	170.07	1.38	1.83	.05	171.21
30000.	0.	30000.	0.	0.	3182.	0.	126.	22.	171.21
.05	.00	9.43	.00	.000	.032	.000	.000	158.40	9705.23
.004381	340.	340.	340.	3	8	0	.00	589.54	10294.77

*SECNO 5320.000

5320.000	10.98	170.18	169.28	.00	171.61	1.43	1.52	.01	172.67
30000.	0.	30000.	0.	0.	3128.	0.	151.	26.	172.67
.06	.00	9.59	.00	.000	.032	.000	.000	159.20	9707.62
.004590	340.	340.	340.	3	6	0	.00	584.81	10292.44

*SECNO 5600.000

5600.000	11.56	171.46	170.61	.00	172.91	1.45	1.29	.01	176.00
30000.	0.	30000.	0.	0.	3108.	0.	171.	30.	176.00
.07	.00	9.65	.00	.000	.032	.000	.000	159.90	9709.23
.004659	280.	280.	280.	2	6	0	.00	581.54	10290.77

*SECNO 5670.000

5670.000	11.91	171.91	170.73	.00	173.22	1.31	.30	.01	176.40
30000.	0.	30000.	0.	0.	3264.	0.	176.	31.	176.40
.07	.00	9.19	.00	.000	.032	.000	.000	160.00	9648.93
.003957	70.	70.	70.	2	10	0	.00	582.14	10231.07

*SECNO 5672.100

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

3370 NORMAL BRIDGE, NRD= 9 MIN ELTRD= 168.94 MAX ELLC= 171.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

5672.100	10.08	172.80	172.80	.00	175.01	2.21	.03	.26	176.40
30000.	0.	30000.	0.	0.	2515.	0.	176.	31.	176.40
.07	.00	11.93	.00	.000	.032	.000	.000	162.72	9703.60
.016641	2.	2.	2.	0	9	0	-751.23	592.79	10296.40

*SECNO 5750.100

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.59

3370 NORMAL BRIDGE, NRD= 9 MIN ELTRD= 169.36 MAX ELLC= 171.00

5750.100	11.40	174.59	173.19	.00	175.84	1.25	.74	.10	176.83
30000.	0.	30000.	0.	0.	3343.	0.	181.	32.	176.83
.07	.00	8.97	.00	.000	.032	.000	.000	163.19	9695.44
.006599	78.	78.	78.	3	12	0	-736.07	609.12	10304.56

*SECNO 5825.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.03

5825.000	12.02	175.36	172.18	.00	176.09	.73	.19	.05	177.01
30000.	0.	30000.	0.	0.	4372.	0.	188.	33.	177.01
.08	.00	6.86	.00	.000	.032	.000	.000	163.34	9693.41
.001599	75.	75.	75.	2	19	0	.00	613.19	10306.59

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	IOC	ICONT	CORAR	TOPWID	ENDST

*SECNO 5905.000

5905.000	11.71	175.44	172.62	.00	176.25	.81	.14	.02	177.20
30000.	0.	30000.	0.	0.	4158.	0.	196.	34.	177.20
.08	.00	7.21	.00	.000	.032	.000	.000	163.73	9695.55
.001872	80.	80.	80.	2	19	0	.00	608.91	10304.45

*SECNO 6100.000

6100.000	11.34	175.75	173.58	.00	176.74	.99	.43	.06	177.76
30000.	0.	30000.	0.	0.	3754.	0.	214.	37.	177.76
.09	.00	7.99	.00	.000	.032	.000	.000	164.41	9700.18
.002580	195.	195.	195.	2	19	0	.00	599.63	10299.82

T1 SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1 INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T2 STRT BASED ON SLOPE-AREA METHOD
T3 86TOPO2.DAT PAZ-DMJM03-13

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	0	0	0	0.002	0	0	43000	164.35	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	2	0	-1	0	0	0	-1	0	0	0

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 3420.000

3470 ENCROACHMENT STATIONS= 100.0 690.0 TYPE= 1 TARGET= -100.000

3420.000	14.05	165.05	161.78	164.35	166.23	1.18	.00	.00100000.00	
43000.	0.	43000.	0.	0.	4943.	0.	0.	0.	216.00
.00	.00	8.70	.00	.000	.032	.000	.000	151.00	100.00
.002034	0.	0.	0.	0	15	3	.00	575.80	675.80

*SECNO 3510.000

3510.000	13.99	165.39	162.04	.00	166.42	1.03	.17	.01	166.00
43000.	0.	43000.	0.	0.	5289.	0.	11.	1.	166.00
.00	.00	8.13	.00	.000	.032	.000	.000	151.40	4.05
.001846	90.	90.	90.	2	19	0	.00	641.39	645.44

*SECNO 3640.000

3640.000	13.63	165.63	162.36	.00	166.66	1.04	.24	.00	167.50
43000.	0.	43000.	0.	0.	5263.	0.	26.	3.	166.70
.01	.00	8.17	.00	.000	.032	.000	.000	152.00	21.82
.001876	130.	130.	130.	1	19	0	.00	641.05	662.87

*SECNO 3790.000

3790.000	11.89	165.89	162.83	.00	166.97	1.08	.29	.01	167.90
43000.	0.	43000.	0.	0.	5158.	0.	44.	5.	166.00
.01	.00	8.34	.00	.000	.032	.000	.000	154.00	15.60
.002015	150.	150.	150.	1	14	0	.00	643.71	659.31

CCHV= .300 CEHV= .500
*SECNO 3919.500
3280 CROSS SECTION 3919.50 EXTENDED .11 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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 168.00 ELREA= 166.00

3919.500	11.11	166.11	163.48	.00	167.31	1.20	.28	.06	168.00
43000.	0.	43000.	0.	0.	4891.	0.	59.	7.	166.00
.02	.00	8.79	.00	.000	.032	.000	.000	155.00	9.44
.002390	129.	129.	129.	2	19	0	.00	640.56	650.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BHC	BHP	BAREA	SS	ELCHU	ELCHD
	1.05	1.56	2.60	631.00	450.00	60.00	7387.00	6.00	157.00	156.00

*SECNO 4080.500
CLASS A LOW FLOW

3420 BRIDGE W.S.= 166.11 BRIDGE VELOCITY= 10.00 CALCULATED CHANNEL AREA= 4050.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	167.91	.50	0.	43000.	7387.	7200.	172.00	182.00	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 168.00 ELREA= 168.00

4080.500	10.61	166.61	.00	.00	167.91	1.30	.60	.00	168.00
43000.	0.	43000.	0.	0.	4694.	0.	77.	10.	168.00
.02	.00	9.16	.00	.000	.032	.000	.000	156.00	6.96
.002696	161.	161.	161.	0	0	0	.00	632.60	639.56

*SECNO 4235.000

4235.000	10.42	167.02	164.73	.00	168.35	1.33	.42	.01	169.00
43000.	0.	43000.	0.	0.	4647.	0.	93.	12.	168.00
.03	.00	9.25	.00	.000	.032	.000	.000	156.60	15.78
.002769	155.	155.	155.	1	15	0	.00	629.27	645.05

CCHV= .100 CEHV= .300
*SECNO 4435.000

4435.000	10.45	167.55	165.41	.00	168.94	1.38	.57	.02	168.00
43000.	0.	43000.	0.	0.	4555.	0.	115.	15.	168.00
.03	.00	9.44	.00	.000	.032	.000	.000	157.10	2.94
.002960	200.	200.	200.	1	15	0	.00	629.49	632.43

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 4640.000

3301 HV CHANGED MORE THAN HVINS

4640.000	10.27	167.87	167.12	.00	170.02	2.15	.85	.23	169.74
43000.	0.	43000.	0.	0.	3656.	0.	134.	18.	169.74
.04	.00	11.76	.00	.000	.032	.000	.000	157.60	9698.80
.005826	205.	205.	205.	2	15	0	.00	602.47	10301.27

*SECNO 4980.000

4980.000	11.54	169.94	168.76	.00	171.80	1.86	1.75	.03	171.21
43000.	0.	43000.	0.	0.	3927.	0.	164.	22.	171.21
.05	.00	10.95	.00	.000	.032	.000	.000	158.40	9697.74
.004617	340.	340.	340.	3	5	0	.00	604.52	10302.26

*SECNO 5320.000

5320.000	12.30	171.50	170.28	.00	173.38	1.88	1.58	.01	172.67
43000.	0.	43000.	0.	0.	3906.	0.	194.	27.	172.67
.05	.00	11.01	.00	.000	.032	.000	.000	159.20	9699.75
.004662	340.	340.	340.	2	11	0	.00	600.57	10300.33

*SECNO 5600.000

5600.000	12.90	172.80	171.57	.00	174.69	1.89	1.31	.00	176.00
43000.	0.	43000.	0.	0.	3895.	0.	219.	31.	176.00
.06	.00	11.04	.00	.000	.032	.000	.000	159.90	9701.21
.004676	280.	280.	280.	0	11	0	.00	597.57	10298.79

*SECNO 5670.000

5670.000	13.28	173.28	171.74	.00	175.01	1.73	.30	.02	176.40
43000.	0.	43000.	0.	0.	4073.	0.	226.	32.	176.40
.06	.00	10.56	.00	.000	.032	.000	.000	160.00	9640.71
.004034	70.	70.	70.	2	15	0	.00	598.58	10239.29

*SECNO 5672.100

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	OCH	OROB	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

3370 NORMAL BRIDGE, NRD= 9 MIN ELTRD= 168.94 MAX ELLC= 171.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

5672.100	11.25	173.97	173.97	.00	176.74	2.78	.03	.30	176.40
43000.	0.	43000.	0.	0.	3215.	0.	226.	32.	176.40
.06	.00	13.37	.00	.000	.032	.000	.000	162.72	9696.59
.015383	2.	2.	2.	0	12	0	-751.23	606.81	10303.41

*SECNO 5750.100

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.52

3370 NORMAL BRIDGE, NRD= 9 MIN ELTRD= 169.36 MAX ELLC= 171.00

5750.100	12.74	175.93	174.43	.00	177.58	1.66	.73	.11	176.83
43000.	0.	43000.	0.	0.	4165.	0.	232.	33.	176.83
.07	.00	10.32	.00	.000	.032	.000	.000	163.19	9687.44
.006668	78.	78.	78.	3	12	0	-736.07	625.12	10312.56

*SECNO 5825.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.92

5825.000	13.49	176.83	173.40	.00	177.86	1.03	.21	.06	177.01
43000.	0.	43000.	0.	0.	5291.	0.	240.	34.	177.01
.07	.00	8.13	.00	.000	.032	.000	.000	163.34	9684.56
.001808	75.	75.	75.	2	15	0	.00	630.88	10315.44

*SECNO 5905.000

5905.000	13.20	176.93	173.84	.00	178.04	1.11	.15	.03	177.20
43000.	0.	43000.	0.	0.	5075.	0.	250.	35.	177.20
.07	.00	8.47	.00	.000	.032	.000	.000	163.73	9686.64
.002058	80.	80.	80.	2	19	0	.00	626.72	10313.36

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 6100.000

6100.000	12.83	177.24	174.88	.00	178.56	1.32	.46	.06	177.76
43000.	0.	43000.	0.	0.	4665.	0.	272.	38.	177.76
.08	.00	9.22	.00	.000	.032	.000	.000	164.41	9691.20
.002674	195.	195.	195.	2	16	0	.00	617.60	10308.80

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T1      SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1      INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T2      STRT BASED ON SLOPE-AREA METHOD
T3      86TOPO2.DAT             PAZ-DMJM03-13
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J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	0	0	0	0.002	0	0	51000	165.60	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	3	0	-1	0	0	0	-1	0	0	0

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 3420.000
3280 CROSS SECTION 3420.00 EXTENDED .06 FEET

3470 ENCROACHMENT STATIONS= 100.0 690.0 TYPE= 1 TARGET= -100.000

3420.000	15.06	166.06	162.58	165.60	167.38	1.32	.00	.00100000.00	
51000.	0.	51000.	0.	0.	5531.	0.	0.	0.	216.00
.00	.00	9.22	.00	.000	.032	.000	.000	151.00	100.00
.002036	0.	0.	0.	0	16	3	.00	590.00	690.00

*SECNO 3510.000
3280 CROSS SECTION 3510.00 EXTENDED .44 FEET

3510.000	15.04	166.44	162.71	.00	167.57	1.13	.17	.02	166.00
51000.	0.	51000.	0.	0.	5967.	0.	12.	1.	166.00
.00	.00	8.55	.00	.000	.032	.000	.000	151.40	.00
.001772	90.	90.	90.	2	19	0	.00	650.00	650.00

*SECNO 3640.000

3640.000	14.67	166.67	163.02	.00	167.81	1.14	.24	.00	167.50
51000.	0.	51000.	0.	0.	5942.	0.	30.	3.	166.70
.01	.00	8.58	.00	.000	.032	.000	.000	152.00	10.98
.001862	130.	130.	130.	1	19	0	.00	668.50	679.49

*SECNO 3790.000
3280 CROSS SECTION 3790.00 EXTENDED .92 FEET

3790.000	12.92	166.92	163.50	.00	168.11	1.19	.28	.01	167.90
51000.	0.	51000.	0.	0.	5820.	0.	50.	6.	166.00
.01	.00	8.76	.00	.000	.032	.000	.000	154.00	7.76
.001934	150.	150.	150.	2	14	0	.00	652.24	660.00

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

CCHV= .300 CEHV= .500
*SECNO 3919.500
3280 CROSS SECTION 3919.50 EXTENDED 1.13 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 168.00 ELREA= 166.00

3919.500	12.13	167.13	164.14	.00	168.44	1.31	.27	.06	168.00
51000.	0.	51000.	0.	0.	5544.	0.	67.	7.	166.00
.02	.00	9.20	.00	.000	.032	.000	.000	155.00	4.37
.002243	129.	129.	129.	2	19	0	.00	645.63	650.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.56	2.60	631.00	450.00	60.00	7387.00	6.00	157.00	156.00

*SECNO 4080.500
CLASS A LOW FLOW

3420 BRIDGE W.S.= 167.05 BRIDGE VELOCITY= 10.66 CALCULATED CHANNEL AREA= 4526.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	169.06	.53	0.	51000.	7387.	7200.	172.00	182.00	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 168.00 ELREA= 168.00

4080.500	11.66	167.66	.00	.00	169.06	1.40	.62	.00	168.00
51000.	0.	51000.	0.	0.	5367.	0.	87.	10.	168.00
.02	.00	9.50	.00	.000	.032	.000	.000	156.00	1.70
.002495	161.	161.	161.	0	0	0	.00	645.76	647.46

*SECNO 4235.000
3280 CROSS SECTION 4235.00 EXTENDED .03 FEET

4235.000	11.43	168.03	165.39	.00	169.48	1.44	.39	.02	169.00
51000.	0.	51000.	0.	0.	5293.	0.	106.	12.	168.00
.02	.00	9.63	.00	.000	.032	.000	.000	156.60	9.72
.002584	155.	155.	155.	0	19	0	.00	640.28	650.00

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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


CCHV=     .100 CEHV=     .300
*SECNO 4435.000
3280 CROSS SECTION   4435.00 EXTENDED      .52 FEET

 4435.000    11.42   168.52   166.08      .00   170.03     1.51      .54      .02   168.00
   51000.       0.   51000.       0.       0.    5164.       0.     130.      15.   168.00
      .03      .00     9.88      .00     .000     .032     .000     .000   157.10      .00
  .002779     200.     200.     200.        2       15        0      .00   635.00   635.00


*SECNO 4640.000

3301 HV CHANGED MORE THAN HVINS

 4640.000    11.16   168.76   167.80      .00   171.05     2.29      .79      .23   169.74
   51000.       0.   51000.       0.       0.    4199.       0.     152.      18.   169.74
      .04      .00    12.14      .00     .000     .032     .000     .000   157.60  9693.44
  .005289     205.     205.     205.        2       15        0      .00   613.21 10306.65


*SECNO 4980.000
 4980.000    12.22   170.62   169.36      .00   172.76     2.14     1.70      .02   171.21
   51000.       0.   51000.       0.       0.    4345.       0.     185.      23.   171.21
      .04      .00    11.74      .00     .000     .032     .000     .000   158.40  9693.62
  .004721     340.     340.     340.        3        5        0      .00   612.76 10306.38


*SECNO 5320.000
 5320.000    13.03   172.23   170.96      .00   174.36     2.13     1.60      .00   172.67
   51000.       0.   51000.       0.       0.    4350.       0.     219.      28.   172.67
      .05      .00    11.73      .00     .000     .032     .000     .000   159.20  9695.36
  .004672     340.     340.     340.        2       11        0      .00   609.38 10304.74


*SECNO 5600.000
 5600.000    13.63   173.53   172.26      .00   175.67     2.14     1.31      .00   176.00
   51000.       0.   51000.       0.       0.    4339.       0.     247.      31.   176.00
      .06      .00    11.75      .00     .000     .032     .000     .000   159.90  9696.79
  .004681     280.     280.     280.        1       11        0      .00   606.43 10303.21


*SECNO 5670.000
 5670.000    14.02   174.02   172.44      .00   176.00     1.98      .31      .02   176.40
   51000.       0.   51000.       0.       0.    4518.       0.     254.      32.   176.40
      .06      .00    11.29      .00     .000     .032     .000     .000   160.00  9636.28
  .004097      70.      70.      70.        2       15        0      .00   607.43 10243.72
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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 5672.100

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE, NRD=   9 MIN ELTRD=   168.94 MAX ELLC=   171.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 5672.100    11.97   174.69   174.69      .00   177.71     3.02      .03      .30   176.40
   51000.       0.   51000.       0.       0.    3658.       0.     254.      32.   176.40
      .06      .00    13.94      .00     .000     .032     .000     .000   162.72  9692.25
  .014261       2.       2.       2.        0       12        0  -751.23   615.51 10307.75


*SECNO 5750.100

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.45


3370 NORMAL BRIDGE, NRD=   9 MIN ELTRD=   169.36 MAX ELLC=   171.00

 5750.100    13.45   176.64   175.05      .00   178.54     1.90      .72      .11   176.83
   51000.       0.   51000.       0.       0.    4610.       0.     262.      34.   176.83
      .06      .00    11.06      .00     .000     .032     .000     .000   163.19  9683.20
  .006772      78.      78.      78.        3       15        0  -736.07   633.60 10316.80


*SECNO 5825.000
3280 CROSS SECTION   5825.00 EXTENDED       .62 FEET


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.89

 5825.000    14.29   177.63   174.08      .00   178.83     1.20      .22      .07   177.01
   51000.       0.   51000.       0.       0.    5793.       0.     271.      35.   177.01
      .06      .00     8.80      .00     .000     .032     .000     .000   163.34  9683.50
  .001893      75.      75.      75.        2       15        0      .00   633.00 10316.50
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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 5905.000
3280 CROSS SECTION 5905.00 EXTENDED .52 FEET

5905.000	13.99	177.72	174.52	.00	179.02	1.30	.16	.03	177.20
51000.	0.	51000.	0.	0.	5576.	0.	281.	36.	177.20
.07	.00	9.15	.00	.000	.032	.000	.000	163.73	9685.00
.002136	80.	80.	80.	2	19	0	.00	630.00	10315.00

*SECNO 6100.000
3280 CROSS SECTION 6100.00 EXTENDED .28 FEET

6100.000	13.63	178.04	175.48	.00	179.56	1.52	.47	.07	177.76
51000.	0.	51000.	0.	0.	5162.	0.	305.	39.	177.76
.07	.00	9.88	.00	.000	.032	.000	.000	164.41	9688.10
.002724	195.	195.	195.	2	15	0	.00	623.80	10311.90

T1 SIMONS, LI & ASSOCIATES, INC. — TEMPE, ARIZONA
T1 INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T2 STRT BASED ON CWSEL @ 220 (SALT RIVER ANALYSYS OF COINCIDENTAL FLOWS)
T3 86TOPO2.DAT PAZ-OMJM03-13

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	0	0	0	0	0	0	63000	168.01	0
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15	0	-1	0	0	0	-1	0	0	0

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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

IHLEQ = 1.  THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF
PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH.  SEE DOCUMENTATION FOR
DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS



CCHV=     .100 CEHV=     .300
*SECNO 3420.000
3280 CROSS SECTION   3420.00 EXTENDED      2.01 FEET


3470 ENCROACHMENT STATIONS=      100.0     690.0  TYPE=      1  TARGET=     -100.000
 3420.000    17.01   168.01   163.46   168.01   169.39     1.38      .00      .00100000.00
   63000.       0.   63000.       0.       0.    6680.       0.       0.       0.    216.00
      .00      .00     9.43      .00     .000     .032     .000     .000   151.00    100.00
  .001670       0.       0.       0.        0       18        0      .00   590.00    690.00


*SECNO 3510.000
3280 CROSS SECTION   3510.00 EXTENDED      2.37 FEET

 3510.000    16.97   168.37   163.64      .00   169.55     1.18      .14      .02    166.00
   63000.       0.   63000.       0.       0.    7222.       0.      14.       1.    166.00
      .00      .00     8.72      .00     .000     .032     .000     .000   151.40       .00
  .001442      90.      90.      90.        2       19        0      .00   650.00    650.00


*SECNO 3640.000
3280 CROSS SECTION   3640.00 EXTENDED      1.87 FEET

 3640.000    16.56   168.56   163.96      .00   169.74     1.18      .19      .00    167.50
   63000.       0.   63000.       0.       0.    7225.       0.      36.       3.    166.70
      .01      .00     8.72      .00     .000     .032     .000     .000   152.00       .00
  .001523     130.     130.     130.        0       19        0      .00   680.00    680.00


*SECNO 3790.000
3280 CROSS SECTION   3790.00 EXTENDED      2.75 FEET

 3790.000    14.75   168.75   164.42      .00   170.00     1.25      .23      .02    167.90
   63000.       0.   63000.       0.       0.    7025.       0.      60.       6.    166.00
      .01      .00     8.97      .00     .000     .032     .000     .000   154.00       .00
  .001609     150.     150.     150.        2       14        0      .00   660.00    660.00
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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

CCHV= .300 CEHV= .500

*SECNO 3919.500

3280 CROSS SECTION 3919.50 EXTENDED 2.91 FEET

3919.500	13.91	168.91	165.07	.00	170.28	1.37	.22	.06	168.00
63000.	0.	63000.	0.	0.	6702.	0.	81.	8.	166.00
.02	.00	9.40	.00	.000	.032	.000	.000	155.00	.00
.001845	129.	129.	129.	2	19	0	.00	650.00	650.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.56	2.60	631.00	450.00	60.00	7387.00	6.00	157.00	156.00

*SECNO 4080.500

3280 CROSS SECTION 4080.50 EXTENDED 1.42 FEET

CLASS A LOW FLOW

3420 BRIDGE W.S.= 168.82 BRIDGE VELOCITY= 11.02 CALCULATED CHANNEL AREA= 5449.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	170.87	.51	0.	63000.	7387.	7200.	172.00	182.00	0.

4080.500	13.42	169.42	.00	.00	170.87	1.45	.59	.00	168.00
63000.	0.	63000.	0.	0.	6508.	0.	105.	10.	168.00
.02	.00	9.68	.00	.000	.032	.000	.000	156.00	.00
.002032	161.	161.	161.	0	0	0	.00	650.00	650.00

*SECNO 4235.000

3280 CROSS SECTION 4235.00 EXTENDED 1.72 FEET

4235.000	13.11	169.71	166.32	.00	171.23	1.51	.32	.03	169.00
63000.	0.	63000.	0.	0.	6387.	0.	128.	12.	168.00
.02	.00	9.86	.00	.000	.032	.000	.000	156.60	.00
.002161	155.	155.	155.	0	19	0	.00	650.00	650.00

CCHV= .100 CEHV= .300

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 4435.000
3280 CROSS SECTION 4435.00 EXTENDED 2.09 FEET

4435.000	12.99	170.09	167.04	.00	171.71	1.62	.45	.03	168.00
63000.	0.	63000.	0.	0.	6160.	0.	157.	15.	168.00
.03	.00	10.23	.00	.000	.032	.000	.000	157.10	.00
.002371	200.	200.	200.	2	15	0	.00	635.00	635.00

*SECNO 4640.000
3280 CROSS SECTION 4640.00 EXTENDED .49 FEET

3301 HV CHANGED MORE THAN HVINS

4640.000	12.63	170.23	168.75	.00	172.59	2.36	.66	.22	169.74
63000.	0.	63000.	0.	0.	5110.	0.	183.	18.	169.74
.03	.00	12.33	.00	.000	.032	.000	.000	157.60	9687.60
.004314	205.	205.	205.	2	15	0	.00	624.90	10312.50

*SECNO 4980.000
3280 CROSS SECTION 4980.00 EXTENDED .46 FEET

4980.000	13.27	171.67	170.35	.00	174.14	2.47	1.52	.03	171.21
63000.	0.	63000.	0.	0.	4990.	0.	223.	23.	171.21
.04	.00	12.62	.00	.000	.032	.000	.000	158.40	9690.10
.004619	340.	340.	340.	2	11	0	.00	619.80	10309.90

*SECNO 5320.000
3280 CROSS SECTION 5320.00 EXTENDED .55 FEET

5320.000	14.02	173.22	172.01	.00	175.73	2.50	1.58	.01	172.67
63000.	0.	63000.	0.	0.	4961.	0.	262.	28.	172.67
.05	.00	12.70	.00	.000	.032	.000	.000	159.20	9692.70
.004663	340.	340.	340.	2	8	0	.00	614.70	10307.40

*SECNO 5600.000

5600.000	14.63	174.53	173.22	.00	177.05	2.52	1.32	.01	176.00
63000.	0.	63000.	0.	0.	4944.	0.	294.	32.	176.00
.06	.00	12.74	.00	.000	.032	.000	.000	159.90	9690.86
.004745	280.	280.	280.	0	11	0	.00	618.28	10309.14

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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 5670.000
 5670.000   15.07   175.07   173.40      .00   177.38     2.31      .31      .02   176.40
   63000.      0.   63000.       0.       0.    5164.       0.     302.      33.   176.40
      .06     .00    12.20      .00     .000     .032     .000     .000   160.00  9629.97
  .004117     70.      70.      70.        2       15        0      .00   620.07 10250.03


*SECNO 5672.100

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE, NRD=   9 MIN ELTRD=   168.94 MAX ELLC=   171.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 5672.100   12.85   175.57   175.57      .00   179.06     3.48      .03      .34   176.40
   63000.      0.   63000.       0.       0.    4206.       0.     302.      33.   176.40
      .06     .00    14.98      .00     .000     .032     .000     .000   162.72  9686.96
  .013883      2.       2.       2.        0       15        0  -751.23   626.09 10313.04


*SECNO 5750.100
3280 CROSS SECTION   5750.10 EXTENDED      .84 FEET


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.44


3370 NORMAL BRIDGE, NRD=   9 MIN ELTRD=   169.36 MAX ELLC=   171.00

 5750.100   14.48   177.67   176.00      .00   179.89     2.22      .70      .13   176.83
   63000.      0.   63000.       0.       0.    5268.       0.     310.      34.   176.83
      .06     .00    11.96      .00     .000     .032     .000     .000   163.19  9682.00
  .006661     78.      78.      78.        4       15        0  -736.07   636.00 10318.00


*SECNO 5825.000
3280 CROSS SECTION   5825.00 EXTENDED     1.72 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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.83

5825.000	15.39	178.73	175.04	.00	180.19	1.46	.23	.08	177.01
63000.	0.	63000.	0.	0.	6493.	0.	320.	35.	177.01
.06	.00	9.70	.00	.000	.032	.000	.000	163.34	9683.50
.001984	75.	75.	75.	2	15	0	.00	633.00	10316.50

*SECNO 5905.000
3280 CROSS SECTION 5905.00 EXTENDED 1.63 FEET

5905.000	15.09	178.82	175.47	.00	180.39	1.57	.17	.03	177.20
63000.	0.	63000.	0.	0.	6271.	0.	332.	36.	177.20
.06	.00	10.05	.00	.000	.032	.000	.000	163.73	9685.00
.002213	80.	80.	80.	2	19	0	.00	630.00	10315.00

*SECNO 6100.000
3280 CROSS SECTION 6100.00 EXTENDED 1.38 FEET

6100.000	14.73	179.14	176.44	.00	180.95	1.80	.48	.07	177.76
63000.	0.	63000.	0.	0.	5849.	0.	359.	39.	177.76
.07	.00	10.77	.00	.000	.032	.000	.000	164.41	9688.10
.002752	195.	195.	195.	2	15	0	.00	623.80	10311.90

THIS RUN EXECUTED 7/ 9/90 8:35:16

****
HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

86TOPO2.DAT

SUMMARY PRINTOUT

SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
3420.000	163.24	.00	7.65	.00	.00	30000.00	.00	12.24	556.22	100.00	656.22
3420.000	165.05	.00	8.70	.00	.00	43000.00	.00	14.05	575.80	100.00	675.80
3420.000	166.06	.00	9.22	.00	.00	51000.00	.00	15.06	590.00	100.00	690.00
3420.000	168.01	.00	9.43	.00	.00	63000.00	.00	17.01	590.00	100.00	690.00
3510.000	163.51	.00	7.30	.00	.00	30000.00	.00	12.11	616.60	16.58	633.18
3510.000	165.39	.00	8.13	.00	.00	43000.00	.00	13.99	641.39	4.05	645.44
3510.000	166.44	.00	8.55	.00	.00	51000.00	.00	15.04	650.00	.00	650.00
3510.000	168.37	.00	8.72	.00	.00	63000.00	.00	16.97	650.00	.00	650.00
3640.000	163.77	.00	7.34	.00	.00	30000.00	.00	11.77	620.89	31.13	652.02
3640.000	165.63	.00	8.17	.00	.00	43000.00	.00	13.63	641.05	21.82	662.87
3640.000	166.67	.00	8.58	.00	.00	51000.00	.00	14.67	668.50	10.98	679.49
3640.000	168.56	.00	8.72	.00	.00	63000.00	.00	16.56	680.00	.00	680.00
3790.000	164.06	.00	7.50	.00	.00	30000.00	.00	10.06	620.79	26.30	647.09
3790.000	165.89	.00	8.34	.00	.00	43000.00	.00	11.89	643.71	15.60	659.31
3790.000	166.92	.00	8.76	.00	.00	51000.00	.00	12.92	652.24	7.76	660.00
3790.000	168.75	.00	8.97	.00	.00	63000.00	.00	14.75	660.00	.00	660.00
3919.500	164.31	.00	7.97	.00	.00	30000.00	.00	9.31	620.42	18.39	638.81
3919.500	166.11	.00	8.79	.00	.00	43000.00	.00	11.11	640.56	9.44	650.00
3919.500	167.13	.00	9.20	.00	.00	51000.00	.00	12.13	645.63	4.37	650.00
3919.500	168.91	.00	9.40	.00	.00	63000.00	.00	13.91	650.00	.00	650.00
4080.500	164.73	.00	8.50	.00	.00	30000.00	.00	8.73	609.15	16.34	625.49
4080.500	166.61	.00	9.16	.00	.00	43000.00	.00	10.61	632.60	6.96	639.56
4080.500	167.66	.00	9.50	.00	.00	51000.00	.00	11.66	645.76	1.70	647.46
4080.500	169.42	.00	9.68	.00	.00	63000.00	.00	13.42	650.00	.00	650.00
4235.000	165.24	.00	8.46	.00	.00	30000.00	.00	8.64	610.07	26.12	636.18
4235.000	167.02	.00	9.25	.00	.00	43000.00	.00	10.42	629.27	15.78	645.05
4235.000	168.03	.00	9.63	.00	.00	51000.00	.00	11.43	640.28	9.72	650.00
4235.000	169.71	.00	9.86	.00	.00	63000.00	.00	13.11	650.00	.00	650.00

	SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
	4435.000	165.87	.00	8.54	.00	.00	30000.00	.00	8.77	608.48	14.14	622.62
	4435.000	167.55	.00	9.44	.00	.00	43000.00	.00	10.45	629.49	2.94	632.43
	4435.000	168.52	.00	9.88	.00	.00	51000.00	.00	11.42	635.00	.00	635.00
	4435.000	170.09	.00	10.23	.00	.00	63000.00	.00	12.99	635.00	.00	635.00
*	4640.000	166.36	.00	10.88	.00	.00	30000.00	.00	8.76	584.28	9707.89	10292.17
	4640.000	167.87	.00	11.76	.00	.00	43000.00	.00	10.27	602.47	9698.80	10301.27
	4640.000	168.76	.00	12.14	.00	.00	51000.00	.00	11.16	613.21	9693.44	10306.65
	4640.000	170.23	.00	12.33	.00	.00	63000.00	.00	12.63	624.90	9687.60	10312.50
	4980.000	168.69	.00	9.43	.00	.00	30000.00	.00	10.29	589.54	9705.23	10294.77
	4980.000	169.94	.00	10.95	.00	.00	43000.00	.00	11.54	604.52	9697.74	10302.26
	4980.000	170.62	.00	11.74	.00	.00	51000.00	.00	12.22	612.76	9693.62	10306.38
	4980.000	171.67	.00	12.62	.00	.00	63000.00	.00	13.27	619.80	9690.10	10309.90
	5320.000	170.18	.00	9.59	.00	.00	30000.00	.00	10.98	584.81	9707.62	10292.44
	5320.000	171.50	.00	11.01	.00	.00	43000.00	.00	12.30	600.57	9699.75	10300.33
	5320.000	172.23	.00	11.73	.00	.00	51000.00	.00	13.03	609.38	9695.36	10304.74
	5320.000	173.22	.00	12.70	.00	.00	63000.00	.00	14.02	614.70	9692.70	10307.40
	5600.000	171.46	.00	9.65	.00	.00	30000.00	.00	11.56	581.54	9709.23	10290.77
	5600.000	172.80	.00	11.04	.00	.00	43000.00	.00	12.90	597.57	9701.21	10298.79
	5600.000	173.53	.00	11.75	.00	.00	51000.00	.00	13.63	606.43	9696.79	10303.21
	5600.000	174.53	.00	12.74	.00	.00	63000.00	.00	14.63	618.28	9690.86	10309.14
	5670.000	171.91	.00	9.19	.00	.00	30000.00	.00	11.91	582.14	9648.93	10231.07
	5670.000	173.28	.00	10.56	.00	.00	43000.00	.00	13.28	598.58	9640.71	10239.29
	5670.000	174.02	.00	11.29	.00	.00	51000.00	.00	14.02	607.43	9636.28	10243.72
	5670.000	175.07	.00	12.20	.00	.00	63000.00	.00	15.07	620.07	9629.97	10250.03
*	5672.100	172.80	.00	11.93	.00	.00	30000.00	.00	10.08	592.79	9703.60	10296.40
*	5672.100	173.97	.00	13.37	.00	.00	43000.00	.00	11.25	606.81	9696.59	10303.41
*	5672.100	174.69	.00	13.94	.00	.00	51000.00	.00	11.97	615.51	9692.25	10307.75
*	5672.100	175.57	.00	14.98	.00	.00	63000.00	.00	12.85	626.09	9686.96	10313.04
*	5750.100	174.59	.00	8.97	.00	.00	30000.00	.00	11.40	609.12	9695.44	10304.56
*	5750.100	175.93	.00	10.32	.00	.00	43000.00	.00	12.74	625.12	9687.44	10312.56
*	5750.100	176.64	.00	11.06	.00	.00	51000.00	.00	13.45	633.60	9683.20	10316.80
*	5750.100	177.67	.00	11.96	.00	.00	63000.00	.00	14.48	636.00	9682.00	10318.00
*	5825.000	175.36	.00	6.86	.00	.00	30000.00	.00	12.02	613.19	9693.41	10306.59
*	5825.000	176.83	.00	8.13	.00	.00	43000.00	.00	13.49	630.88	9684.56	10315.44
*	5825.000	177.63	.00	8.80	.00	.00	51000.00	.00	14.29	633.00	9683.50	10316.50
*	5825.000	178.73	.00	9.70	.00	.00	63000.00	.00	15.39	633.00	9683.50	10316.50
	5905.000	175.44	.00	7.21	.00	.00	30000.00	.00	11.71	608.91	9695.55	10304.45
	5905.000	176.93	.00	8.47	.00	.00	43000.00	.00	13.20	626.72	9686.64	10313.36
	5905.000	177.72	.00	9.15	.00	.00	51000.00	.00	13.99	630.00	9685.00	10315.00
	5905.000	178.82	.00	10.05	.00	.00	63000.00	.00	15.09	630.00	9685.00	10315.00

SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
6100.000	175.75	.00	7.99	.00	.00	30000.00	.00	11.34	599.63	9700.18	10299.82
6100.000	177.24	.00	9.22	.00	.00	43000.00	.00	12.83	617.60	9691.20	10308.80
6100.000	178.04	.00	9.88	.00	.00	51000.00	.00	13.63	623.80	9688.10	10311.90
6100.000	179.14	.00	10.77	.00	.00	63000.00	.00	14.73	623.80	9688.10	10311.90

86TOPO2.DAT

SUMMARY PRINTOUT

	SECNO	CWSEL	CRIWS	EG	HL	OLOSS	ELMIN	10*KS	K*CHSL	XLCH	SHEAR	FRCH
	3420.000	163.24	160.53	164.15	.00	.00	151.00	20.35	.00	.00	.90	.51
	3420.000	165.05	161.78	166.23	.00	.00	151.00	20.34	.00	.00	1.09	.52
	3420.000	166.06	162.58	167.38	.00	.00	151.00	20.36	.00	.00	1.19	.53
	3420.000	168.01	163.46	169.39	.00	.00	151.00	16.70	.00	.00	1.18	.49
	3510.000	163.51	160.84	164.34	.18	.01	151.40	19.77	4.44	90.00	.82	.50
	3510.000	165.39	162.04	166.42	.17	.01	151.40	18.46	4.44	90.00	.95	.50
	3510.000	166.44	162.71	167.57	.17	.02	151.40	17.72	4.44	90.00	1.02	.50
	3510.000	168.37	163.64	169.55	.14	.02	151.40	14.42	4.44	90.00	1.00	.46
	3640.000	163.77	161.16	164.60	.26	.00	152.00	20.28	4.62	130.00	.83	.50
	3640.000	165.63	162.36	166.66	.24	.00	152.00	18.76	4.62	130.00	.96	.50
	3640.000	166.67	163.02	167.81	.24	.00	152.00	18.62	4.62	130.00	1.03	.51
	3640.000	168.56	163.96	169.74	.19	.00	152.00	15.23	4.62	130.00	1.01	.47
	3790.000	164.06	161.64	164.93	.32	.01	154.00	21.83	13.33	150.00	.88	.52
	3790.000	165.89	162.83	166.97	.29	.01	154.00	20.15	13.33	150.00	1.01	.52
	3790.000	166.92	163.50	168.11	.28	.01	154.00	19.34	13.33	150.00	1.08	.52
	3790.000	168.75	164.42	170.00	.23	.02	154.00	16.09	13.33	150.00	1.07	.48
	3919.500	164.31	162.29	165.30	.31	.06	155.00	26.72	7.75	129.00	1.01	.57
	3919.500	166.11	163.48	167.31	.28	.06	155.00	23.90	7.75	129.00	1.14	.56
	3919.500	167.13	164.14	168.44	.27	.06	155.00	22.43	7.75	129.00	1.20	.55
	3919.500	168.91	165.07	170.28	.22	.06	155.00	18.45	7.75	129.00	1.19	.52
	4080.500	164.73	.00	165.85	.55	.00	156.00	32.27	6.21	161.00	1.17	.62
	4080.500	166.61	.00	167.91	.60	.00	156.00	26.96	6.21	161.00	1.25	.59
	4080.500	167.66	.00	169.06	.62	.00	156.00	24.95	6.21	161.00	1.29	.58
	4080.500	169.42	.00	170.87	.59	.00	156.00	20.32	6.21	161.00	1.27	.54
	4235.000	165.24	163.53	166.35	.50	.00	156.60	31.77	3.87	155.00	1.15	.62
	4235.000	167.02	164.73	168.35	.42	.01	156.60	27.69	3.87	155.00	1.28	.60
	4235.000	168.03	165.39	169.48	.39	.02	156.60	25.84	3.87	155.00	1.33	.59
	4235.000	169.71	166.32	171.23	.32	.03	156.60	21.61	3.87	155.00	1.33	.55
	4435.000	165.87	164.21	167.00	.64	.01	157.10	32.66	2.50	200.00	1.18	.63
	4435.000	167.55	165.41	168.94	.57	.02	157.10	29.60	2.50	200.00	1.34	.62
	4435.000	168.52	166.08	170.03	.54	.02	157.10	27.79	2.50	200.00	1.41	.61
	4435.000	170.09	167.04	171.71	.45	.03	157.10	23.71	2.50	200.00	1.44	.58
*	4640.000	166.36	165.91	168.19	.98	.21	157.60	69.71	2.44	205.00	2.05	.88
	4640.000	167.87	167.12	170.02	.85	.23	157.60	58.26	2.44	205.00	2.21	.84
	4640.000	168.76	167.80	171.05	.79	.23	157.60	52.89	2.44	205.00	2.26	.82
	4640.000	170.23	168.75	172.59	.66	.22	157.60	43.14	2.44	205.00	2.20	.76

	SECNO	CWSEL	CRIWS	EG	HL	OLOSS	ELMIN	10*KS	K*CHSL	XLCH	SHEAR	FRCH
	4980.000	168.69	167.49	170.07	1.83	.05	158.40	43.81	2.35	340.00	1.48	.72
	4980.000	169.94	168.76	171.80	1.75	.03	158.40	46.17	2.35	340.00	1.87	.76
	4980.000	170.62	169.36	172.76	1.70	.02	158.40	47.21	2.35	340.00	2.09	.78
	4980.000	171.67	170.35	174.14	1.52	.03	158.40	46.19	2.35	340.00	2.32	.78
	5320.000	170.18	169.28	171.61	1.52	.01	159.20	45.90	2.35	340.00	1.53	.73
	5320.000	171.50	170.28	173.38	1.58	.01	159.20	46.62	2.35	340.00	1.89	.76
	5320.000	172.23	170.96	174.36	1.60	.00	159.20	46.72	2.35	340.00	2.08	.77
	5320.000	173.22	172.01	175.73	1.58	.01	159.20	46.63	2.35	340.00	2.35	.79
	5600.000	171.46	170.61	172.91	1.29	.01	159.90	46.59	2.50	280.00	1.55	.74
	5600.000	172.80	171.57	174.69	1.31	.00	159.90	46.76	2.50	280.00	1.90	.76
	5600.000	173.53	172.26	175.67	1.31	.00	159.90	46.81	2.50	280.00	2.09	.77
	5600.000	174.53	173.22	177.05	1.32	.01	159.90	47.45	2.50	280.00	2.37	.79
	5670.000	171.91	170.73	173.22	.30	.01	160.00	39.57	1.43	70.00	1.38	.68
	5670.000	173.28	171.74	175.01	.30	.02	160.00	40.34	1.43	70.00	1.71	.71
	5670.000	174.02	172.44	176.00	.31	.02	160.00	40.97	1.43	70.00	1.90	.73
	5670.000	175.07	173.40	177.38	.31	.02	160.00	41.17	1.43	70.00	2.14	.75
*	5672.100	172.80	172.80	175.01	.03	.26	162.72	166.41	1360.00	2.00	4.40	1.02
*	5672.100	173.97	173.97	176.74	.03	.30	162.72	153.83	1360.00	2.00	5.09	1.02
*	5672.100	174.69	174.69	177.71	.03	.30	162.72	142.61	1360.00	2.00	5.29	1.01
*	5672.100	175.57	175.57	179.06	.03	.34	162.72	138.83	1360.00	2.00	5.82	1.02
*	5750.100	174.59	173.19	175.84	.74	.10	163.19	65.99	6.03	78.00	2.26	.68
*	5750.100	175.93	174.43	177.58	.73	.11	163.19	66.68	6.03	78.00	2.77	.70
*	5750.100	176.64	175.05	178.54	.72	.11	163.19	67.72	6.03	78.00	3.07	.72
*	5750.100	177.67	176.00	179.89	.70	.13	163.19	66.61	6.03	78.00	3.44	.73
*	5825.000	175.36	172.18	176.09	.19	.05	163.34	15.99	2.00	75.00	.71	.45
*	5825.000	176.83	173.40	177.86	.21	.06	163.34	18.08	2.00	75.00	.95	.49
*	5825.000	177.63	174.08	178.83	.22	.07	163.34	18.93	2.00	75.00	1.08	.51
*	5825.000	178.73	175.04	180.19	.23	.08	163.34	19.84	2.00	75.00	1.27	.53
	5905.000	175.44	172.62	176.25	.14	.02	163.73	18.72	4.87	80.00	.80	.49
	5905.000	176.93	173.84	178.04	.15	.03	163.73	20.58	4.87	80.00	1.04	.52
	5905.000	177.72	174.52	179.02	.16	.03	163.73	21.36	4.87	80.00	1.18	.54
	5905.000	178.82	175.47	180.39	.17	.03	163.73	22.13	4.87	80.00	1.37	.56
	6100.000	175.75	173.58	176.74	.43	.06	164.41	25.80	3.49	195.00	1.01	.56
	6100.000	177.24	174.88	178.56	.46	.06	164.41	26.74	3.49	195.00	1.26	.59
	6100.000	178.04	175.48	179.56	.47	.07	164.41	27.24	3.49	195.00	1.41	.61
	6100.000	179.14	176.44	180.95	.48	.07	164.41	27.52	3.49	195.00	1.61	.62

SUMMARY OF ERRORS AND SPECIAL NOTES

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WARNING SECNO=  4640.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  5672.100  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  5672.100  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  5672.100  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  5672.100  PROFILE=  2  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  5672.100  PROFILE=  3  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  5672.100  PROFILE=  3  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  5672.100  PROFILE=  4  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  5672.100  PROFILE=  4  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  5750.100  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5750.100  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5750.100  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5750.100  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  5825.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5825.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5825.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5825.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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INDIAN BEND WASH

HEC-2 INPUT/OUTPUT FOR LEVEL I

FLOOD CONTROL DISTRICT
RECEIVED
AUG 15 '90

	CH ENG		P & PM
	DEP		HYDRO
	ADMIN		LMGT
	FINANCE		FILE
	C & O		
	ENGR		

REMARKS

August 15, 1990

sla Simons, Li & Associates, Inc.
Water Resources & Civil Engineering Consultants

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*****************************************************
*  WATER SURFACE PROFILES                           *
*  VERSION OF SEPTEMBER 1988                        *
*  ERROR: 01,02,03                                  *
*  UPDATED:  SEPTEMBER 1989                         *
*  RUN DATE     8/15/90    TIME    11:32:57         *
*****************************************************
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*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  THE HYDROLOGIC ENGINEERING CENTER *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616-4687     *
*          (916) 756-1104           *
*************************************
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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
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END OF BANNER

THIS RUN EXECUTED 8/15/90 11:32:57

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HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -

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T1     SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1     INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1     PROFILE BEGINS AT LEVEL I OF THE RIO SALADO, IBW DROP STRUCTURE
T2     STRT BASED ON CRITICAL DEPTH
T3     IBW1RIO.DAT            PAZ-DMJM03-13

J1  ICHECK   INQ     NINV    IDIR    STRT    METRIC   HVINS    Q      WSEL    FQ

       0       0       0       0      -1       0        0   30000   161.81    0

J2  NPROF   IPLOT   PRFVS   XSECV   XSECH    FN     ALLDC    IBW    CHNIM   ITRACE

       1       0      -1       0       0      0      -1       0       0       0

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

      38       1      55      26      55      13      14      15       8       4
      53      54       0      38       1       2       3      11      12      42
       5      33      21      22      39

J6  IHLEQ   ICOPY   SUBDIV  STRTDS   RMILE

       1


NC   0.040    0.040    0.032     0.1      0.3
X1  4235.0        5        0     646        0        0        0        0        0        0
GR   168.0      0.0    159.5    25.0    156.5    323.0    159.5    621.0    168.0    646.0

X1  4435.0       12        0     635      200      200      200        0        0        0
GR   168.0      0.0    162.0    40.0    160.0    210.0    158.0    240.0    157.1    255.0
GR   157.1    380.0    158.0   390.0    160.0    410.0    161.0    460.0    161.0    580.0
GR   162.0    600.0    168.0   635.0

X1    4640        8   9687.6  10312.5     205      205      205        0        0        0
GR  169.74   9687.6   162.67   9730.0  162.67   9885.0    157.6   9900.0    157.6  10020.0
GR  162.67  10035.0   162.67  10270.0  169.74  10312.5
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X1	4980	8	9690.1	10309.9	340	340	340	0	0	0
GR	171.21	9690.1	164.56	9730.0	164.56	9852.0	158.4	9870.0	158.4	9990.0
GR	164.56	10008.0	164.56	10270.0	171.21	10309.9				
X1	5320	8	9692.7	10307.4	340	340	340	0	0	0
GR	172.67	9692.7	166.45	9730.0	166.45	9838.0	159.2	9860.0	159.2	9980.0
GR	166.45	10002.0	166.45	10270.0	172.67	10307.4				
X1	5600	8	9682.0	10318.0	280	280	280	0	0	0
GR	176.0	9682.0	168.0	9730.0	168.0	9836.0	159.9	9860.0	159.9	9980.0
GR	168.0	10004.0	168.0	10270.0	176.0	10318.0				
X1	5670	8	9622	10258	70	70	70	0	0	0
GR	176.4	9622.0	168.4	9670.0	168.4	9846.0	160.0	9880.0	160.0	10000.0
GR	168.4	10034.0	168.4	10210.0	176.4	10258.0				
X1	5672.1	19	9682.0	10318.0	2	2	2	0	0	0
BT	-9	9714.4	171.00	171.00	9730.0	170.18	168.40	9791.0	169.12	168.40
BT		9895.4	168.94	168.40	9895.5	168.94	166.94	10034.5	168.94	166.94
BT		10034.6	168.94	168.40	10270.0	170.42	168.40	10285.6	171.00	171.00
GR	176.40	9682.0	171.00	9714.4	168.40	9730.0	168.40	9791.0	168.40	9895.4
GR	162.72	9895.5	162.72	9937.0	166.94	9937.1	166.94	9938.9	162.72	9939.0
GR	162.72	9991.0	166.94	9991.1	166.94	9992.9	162.72	9993.0	162.72	10034.5
GR	168.40	10034.6	168.40	10270.0	171.00	10285.6	176.40	10318.0		
X1	5750.1	19	9682.0	10318.0	78	78	78	0	0	0
BT	-9	9717.0	171.00	171.00	9730.0	170.57	168.83	9791.0	169.54	168.83
BT		9895.4	169.36	168.83	9895.5	169.36	167.36	10034.5	169.36	167.36
BT		10034.6	169.36	168.83	10270.0	170.80	168.83	10283.0	171.00	171.00
GR	176.83	9682.0	171.00	9717.0	168.83	9730.0	168.83	9791.0	168.83	9895.4
GR	163.19	9895.5	163.19	9937.0	167.36	9937.1	167.36	9938.9	163.19	9939.0
GR	163.19	9991.0	167.36	9991.1	167.36	9992.9	163.19	9993.0	163.19	10034.5
GR	168.83	10034.6	168.83	10270.0	171.00	10283.0	176.83	10318.0		
X1	5825	8	9683.5	10316.5	75	75	75	0	0	0
GR	177.01	9683.5	169.25	9730.0	169.25	9916.0	163.34	9940.0	163.34	10060.0
GR	169.25	10084.0	169.25	10270.0	177.01	10316.5				
X1	5905	8	9685.0	10315.0	80	80	80	0	0	0
GR	177.20	9685.0	169.70	9730.0	169.70	9916.0	163.73	9940.0	163.73	10060.0
GR	169.70	10084.0	169.70	10270.0	177.20	10315.0				
X1	6100	8	9688.1	10311.9	195	195	195	0	0	0
GR	177.76	9688.1	170.78	9730.0	170.78	9915.0	164.41	9940.0	164.41	10060.0
GR	170.78	10085.0	170.78	10270.0	177.76	10311.9				

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

*PROF 1

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300

*SECNO 4235.000

3720 CRITICAL DEPTH ASSUMED

4235.000	5.76	162.26	162.26	161.81	164.39	2.13	.00	.00	168.00
30000.	0.	30000.	0.	0.	2563.	0.	0.	0.	168.00
.00	.00	11.71	.00	.000	.032	.000	.000	156.50	16.88
.009439	0.	0.	0.	0	7	0	.00	612.25	629.12

*SECNO 4435.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

4435.000	7.11	164.21	164.21	.00	166.42	2.20	1.89	.02	168.00
30000.	0.	30000.	0.	0.	2518.	0.	12.	3.	168.00
.00	.00	11.91	.00	.000	.032	.000	.000	157.10	25.26
.009473	200.	200.	200.	0	11	0	.00	587.65	612.90

*SECNO 4640.000

4640.000	8.63	166.23	165.91	.00	168.17	1.94	1.73	.03	169.74
30000.	0.	30000.	0.	0.	2684.	0.	24.	6.	169.74
.01	.00	11.18	.00	.000	.032	.000	.000	157.60	9708.64
.007596	205.	205.	205.	2	11	0	.00	582.78	10291.42

*SECNO 4980.000

3301 HV CHANGED MORE THAN HVINS

4980.000	10.33	168.73	167.49	.00	170.09	1.36	1.86	.06	171.21
30000.	0.	30000.	0.	0.	3207.	0.	47.	10.	171.21
.02	.00	9.36	.00	.000	.032	.000	.000	158.40	9704.98
.004274	340.	340.	340.	2	8	0	.00	590.05	10295.02

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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 5320.000
 5320.000   10.99   170.19   169.30      .00   171.61     1.42     1.50      .02   172.67
   30000.      0.   30000.      0.       0.    3132.       0.      72.      15.   172.67
      .03     .00     9.58     .00     .000     .032     .000     .000   159.20  9707.58
  .004571    340.     340.     340.        3        6        0      .00   584.89 10292.48


*SECNO 5600.000
 5600.000   11.56   171.46   170.50      .00   172.91     1.45     1.29      .01   176.00
   30000.      0.   30000.      0.       0.    3109.       0.      92.      18.   176.00
      .04     .00     9.65     .00     .000     .032     .000     .000   159.90  9709.22
  .004655    280.     280.     280.        2       10        0      .00   581.56 10290.78


*SECNO 5670.000
 5670.000   11.91   171.91   170.73      .00   173.22     1.31      .30      .01   176.40
   30000.      0.   30000.      0.       0.    3264.       0.      97.      19.   176.40
      .04     .00     9.19     .00     .000     .032     .000     .000   160.00  9648.93
  .003955     70.      70.      70.        2       10        0      .00   582.15 10231.07


*SECNO 5672.100

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE, NRD=   9 MIN ELTRD=   168.94 MAX ELLC=   171.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 5672.100   10.08   172.80   172.80      .00   175.01     2.21      .03      .26   176.40
   30000.      0.   30000.      0.       0.    2515.       0.      97.      19.   176.40
      .04     .00    11.93     .00     .000     .032     .000     .000   162.72  9703.60
  .016641      2.       2.       2.        0        9        0  -751.23   592.79 10296.40


*SECNO 5750.100

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.59
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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

3370 NORMAL BRIDGE, NRD= 9 MIN ELTRD= 169.36 MAX ELLC= 171.00

5750.100	11.40	174.59	173.19	.00	175.84	1.25	.74	.10	176.83
30000.	0.	30000.	0.	0.	3343.	0.	102.	20.	176.83
.04	.00	8.97	.00	.000	.032	.000	.000	163.19	9695.44
.006599	78.	78.	78.	3	12	0	-736.07	609.12	10304.56

*SECNO 5825.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.03

5825.000	12.02	175.36	172.18	.00	176.09	.73	.19	.05	177.01
30000.	0.	30000.	0.	0.	4372.	0.	109.	22.	177.01
.05	.00	6.86	.00	.000	.032	.000	.000	163.34	9693.41
.001599	75.	75.	75.	2	19	0	.00	613.19	10306.59

*SECNO 5905.000

5905.000	11.71	175.44	172.62	.00	176.25	.81	.14	.02	177.20
30000.	0.	30000.	0.	0.	4158.	0.	117.	23.	177.20
.05	.00	7.21	.00	.000	.032	.000	.000	163.73	9695.55
.001872	80.	80.	80.	2	19	0	.00	608.91	10304.45

*SECNO 6100.000

6100.000	11.34	175.75	173.58	.00	176.74	.99	.43	.06	177.76
30000.	0.	30000.	0.	0.	3754.	0.	134.	25.	177.76
.06	.00	7.99	.00	.000	.032	.000	.000	164.41	9700.18
.002580	195.	195.	195.	2	19	0	.00	599.63	10299.82

T1 SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1 INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1 PROFILE BEGINS AT LEVEL I OF THE RIO SALADO, IBW DROP STRUCTURE
T2 STRT BASED ON CRITICAL DEPTH
T3 IBW1RIO.DAT PAZ-DMJM03-13

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	0	0	0	-1	0	0	43000	164.35	0
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	2	0	-1	0	0	0	-1	0	0	0

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300

*SECNO 4235.000

3720 CRITICAL DEPTH ASSUMED

4235.000	6.92	163.42	163.42	164.35	166.10	2.67	.00	.00	168.00
43000.	0.	43000.	0.	0.	3277.	0.	0.	0.	168.00
.00	.00	13.12	.00	.000	.032	.000	.000	156.50	13.47
.008682	0.	0.	0.	0	10	0	.00	619.07	632.53

*SECNO 4435.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

4435.000	8.31	165.41	165.41	.00	168.16	2.75	1.75	.01	168.00
43000.	0.	43000.	0.	0.	3231.	0.	15.	3.	168.00
.00	.00	13.31	.00	.000	.032	.000	.000	157.10	17.27
.008768	200.	200.	200.	0	11	0	.00	602.62	619.89

*SECNO 4640.000

4640.000	9.62	167.22	167.19	.00	169.92	2.70	1.76	.01	169.74
43000.	0.	43000.	0.	0.	3262.	0.	30.	6.	169.74
.01	.00	13.18	.00	.000	.032	.000	.000	157.60	9702.75
.008374	205.	205.	205.	1	8	0	.00	594.56	10297.31

*SECNO 4980.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.42

4980.000	11.76	170.16	168.72	.00	171.90	1.74	1.88	.10	171.21
43000.	0.	43000.	0.	0.	4065.	0.	59.	10.	171.21
.02	.00	10.58	.00	.000	.032	.000	.000	158.40	9696.38
.004141	340.	340.	340.	2	8	0	.00	607.25	10303.62

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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 5320.000
 5320.000   12.36   171.56   170.27      .00   173.40     1.84     1.47      .03   172.57
   43000.      0.   43000.      0.       0.    3947.       0.      90.      15.   172.67
      .03     .00    10.90     .00     .000     .032     .000     .000   159.20  9699.35
  .004511    340.     340.     340.        3       11        0      .00   601.39 10300.74


*SECNO 5600.000
 5600.000   12.91   172.81   171.66      .00   174.70     1.88     1.28      .01   176.00
   43000.      0.   43000.      0.       0.    3904.       0.     115.      19.   176.00
      .03     .00    11.01     .00     .000     .032     .000     .000   159.90  9701.12
  .004642    280.     280.     280.        2       12        0      .00   597.75 10298.88


*SECNO 5670.000
 5670.000   13.29   173.29   171.74      .00   175.01     1.73      .30      .02   176.40
   43000.      0.   43000.      0.       0.    4076.       0.     122.      20.   176.40
      .03     .00    10.55     .00     .000     .032     .000     .000   160.00  9640.67
  .004023     70.      70.      70.        2       15        0      .00   598.65 10239.33


*SECNO 5672.100

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE, NRD=   9 MIN ELTRD=   168.94 MAX ELLC=   171.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 5672.100   11.25   173.97   173.97      .00   176.74     2.78      .03      .30   176.40
   43000.      0.   43000.      0.       0.    3215.       0.     122.      20.   176.40
      .04     .00    13.37     .00     .000     .032     .000     .000   162.72  9696.59
  .015383      2.       2.       2.        0       12        0  -751.23   606.81 10303.41


*SECNO 5750.100

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.52
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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

3370 NORMAL BRIDGE, NRD= 9 MIN ELTRD= 169.36 MAX ELLC= 171.00

5750.100	12.74	175.93	174.43	.00	177.58	1.66	.73	.11	176.83
43000.	0.	43000.	0.	0.	4165.	0.	128.	21.	176.83
.04	.00	10.32	.00	.000	.032	.000	.000	163.19	9687.44
.006668	78.	78.	78.	3	12	0	-736.07	625.12	10312.56

*SECNO 5825.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.92

5825.000	13.49	176.83	173.40	.00	177.86	1.03	.21	.06	177.01
43000.	0.	43000.	0.	0.	5291.	0.	137.	22.	177.01
.04	.00	8.13	.00	.000	.032	.000	.000	163.34	9684.56
.001808	75.	75.	75.	2	15	0	.00	630.88	10315.44

*SECNO 5905.000

5905.000	13.20	176.93	173.84	.00	178.04	1.11	.15	.03	177.20
43000.	0.	43000.	0.	0.	5075.	0.	146.	23.	177.20
.04	.00	8.47	.00	.000	.032	.000	.000	163.73	9686.64
.002058	80.	80.	80.	2	19	0	.00	526.72	10313.36

*SECNO 6100.000

6100.000	12.83	177.24	174.88	.00	178.56	1.32	.46	.06	177.76
43000.	0.	43000.	0.	0.	4565.	0.	168.	26.	177.76
.05	.00	9.22	.00	.000	.032	.000	.000	164.41	9691.20
.002674	195.	195.	195.	2	16	0	.00	617.60	10308.80

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T1      SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1      INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1      PROFILE BEGINS AT LEVEL I OF THE RIO SALADO, IBW DROP STRUCTURE
T2      STRT BASED ON CRITICAL DEPTH
T3      IBW1RIO.DAT             PAZ-DMJM03-13
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J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	0	0	0	-1	0	0	51000	165.60	0
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	3	0	-1	0	0	0	-1	0	0	0

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 4235.000
3720 CRITICAL DEPTH ASSUMED

4235.000	7.55	164.05	164.05	165.60	167.05	3.00	.00	.00	168.00
51000.	0.	51000.	0.	0.	3669.	0.	0.	0.	168.00
.00	.00	13.90	.00	.000	.032	.000	.000	156.50	11.60
.008444	0.	0.	0.	0	14	0	.00	622.79	634.40

*SECNO 4435.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

4435.000	8.98	166.08	166.08	.00	169.13	3.05	1.69	.01	168.00
51000.	0.	51000.	0.	0.	3639.	0.	17.	3.	168.00
.00	.00	14.01	.00	.000	.032	.000	.000	157.10	12.78
.008450	200.	200.	200.	0	11	0	.00	611.04	623.82

*SECNO 4640.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

4640.000	10.26	167.86	167.86	.00	170.89	3.04	1.69	.02	169.74
51000.	0.	51000.	0.	0.	3647.	0.	34.	6.	169.74
.01	.00	13.98	.00	.000	.032	.000	.000	157.60	9698.89
.008258	205.	205.	205.	0	8	0	.00	602.30	10301.19

*SECNO 4980.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.41

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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


 4980.000    12.51   170.91   169.40      .00   172.88     1.98     1.88      .11   171.21
   51000.       0.   51000.       0.       0.    4520.       0.      66.      10.   171.21
      .02      .00    11.28      .00     .000     .032     .000     .000   158.40  9691.91
  .004169     340.     340.     340.        2        8        0      .00   616.18 10308.09


*SECNO 5320.000
 5320.000    13.10   172.30   170.95      .00   174.39     2.09     1.48      .03   172.67
   51000.       0.   51000.       0.       0.    4397.       0.     101.      15.   172.67
      .02      .00    11.60      .00     .000     .032     .000     .000   159.20  9694.89
  .004515     340.     340.     340.        3       11        0      .00   610.32 10305.21


*SECNO 5600.000
 5600.000    13.65   173.55   172.25      .00   175.69     2.13     1.28      .01   176.00
   51000.       0.   51000.       0.       0.    4351.       0.     129.      19.   176.00
      .03      .00    11.72      .00     .000     .032     .000     .000   159.90  9696.68
  .004643     280.     280.     280.        2       11        0      .00   606.65 10303.32


*SECNO 5670.000
 5670.000    14.04   174.04   172.44      .00   176.01     1.97      .30      .02   176.40
   51000.       0.   51000.       0.       0.    4533.       0.     136.      20.   176.40
      .03      .00    11.25      .00     .000     .032     .000     .000   160.00  9636.13
  .004055      70.      70.      70.        2       15        0      .00   607.73 10243.87


*SECNO 5672.100

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE, NRD=   9 MIN ELTRD=   168.94 MAX ELLC=   171.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 5672.100    11.97   174.69   174.69      .00   177.71     3.02      .03      .31   176.40
   51000.       0.   51000.       0.       0.    3658.       0.     136.      20.   176.40
      .03      .00    13.94      .00     .000     .032     .000     .000   162.72  9692.25
  .014261       2.       2.       2.        0       12        0  -751.23   615.51 10307.75
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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 5750.100

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.45

3370 NORMAL BRIDGE, NRD= 9 MIN ELTRD= 169.36 MAX ELLC= 171.00

5750.100	13.45	176.64	175.05	.00	178.54	1.90	.72	.11	176.83
51000.	0.	51000.	0.	0.	4610.	0.	143.	21.	176.83
.03	.00	11.06	.00	.000	.032	.000	.000	163.19	9683.20
.006772	78.	78.	78.	3	15	0	-736.07	633.60	10316.80

*SECNO 5825.000
3280 CROSS SECTION 5825.00 EXTENDED .62 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.89

5825.000	14.29	177.63	174.08	.00	178.83	1.20	.22	.07	177.01
51000.	0.	51000.	0.	0.	5793.	0.	152.	22.	177.01
.04	.00	8.80	.00	.000	.032	.000	.000	163.34	9683.50
.001893	75.	75.	75.	2	15	0	.00	633.00	10316.50

*SECNO 5905.000
3280 CROSS SECTION 5905.00 EXTENDED .52 FEET

5905.000	13.99	177.72	174.52	.00	179.02	1.30	.16	.03	177.20
51000.	0.	51000.	0.	0.	5576.	0.	163.	24.	177.20
.04	.00	9.15	.00	.000	.032	.000	.000	163.73	9685.00
.002136	80.	80.	80.	2	19	0	.00	630.00	10315.00

*SECNO 6100.000
3280 CROSS SECTION 6100.00 EXTENDED .28 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
6100.000	13.63	178.04	175.48	.00	179.56	1.52	.47	.07	177.76
51000.	0.	51000.	0.	0.	5162.	0.	187.	26.	177.76
.05	.00	9.88	.00	.000	.032	.000	.000	164.41	9688.10
.002724	195.	195.	195.	2	15	0	.00	623.80	10311.90

T1 SIMONS, LI & ASSOCIATES, INC. — TEMPE, ARIZONA
T1 INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1 PROFILE BEGINS AT LEVEL I OF THE RIO SALADO, IBW DROP STRUCTURE
T2 STRT BASED ON CRITICAL DEPTH
T3 IBW1RIO.DAT PAZ-DMJM03-13

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	0	0	0	-1	0	0	63000	168.01	0
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15	0	-1	0	0	0	-1	0	0	0

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300

*SECNO 4235.000

3720 CRITICAL DEPTH ASSUMED

4235.000	8.46	164.96	164.96	168.01	168.39	3.43	.00	.00	168.00
63000.	0.	63000.	0.	0.	4238.	0.	0.	0.	168.00
.00	.00	14.86	.00	.000	.032	.000	.000	156.50	8.93
.008066	0.	0.	0.	0	18	0	.00	628.14	637.07

*SECNO 4435.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

4435.000	9.93	167.03	167.03	.00	170.48	3.46	1.61	.01	168.00
63000.	0.	63000.	0.	0.	4221.	0.	19.	3.	168.00
.00	.00	14.93	.00	.000	.032	.000	.000	157.10	6.50
.008075	200.	200.	200.	0	11	0	.00	622.81	629.31

*SECNO 4640.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

4640.000	11.20	168.80	168.80	.00	172.26	3.46	1.63	.01	169.74
63000.	0.	63000.	0.	0.	4218.	0.	39.	6.	169.74
.01	.00	14.93	.00	.000	.032	.000	.000	157.60	9693.26
.007957	205.	205.	205.	0	8	0	.00	613.58	10306.83

*SECNO 4980.000

3280 CROSS SECTION 4980.00 EXTENDED .70 FEET

3301 HV CHANGED MORE THAN HVINS

4980.000	13.51	171.91	170.36	.00	174.24	2.33	1.86	.11	171.21
63000.	0.	63000.	0.	0.	5143.	0.	76.	11.	171.21
.02	.00	12.25	.00	.000	.032	.000	.000	158.40	9690.10
.004183	340.	340.	340.	2	8	0	.00	619.80	10309.90

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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 5320.000
3280 CROSS SECTION   5320.00 EXTENDED      .63 FEET

 5320.000    14.10   173.30   171.92      .00   175.75     2.46     1.48      .04   172.67
   63000.       0.   63000.       0.       0.   5008.       0.     115.      15.   172.67
      .02      .00    12.58      .00     .000     .032     .000     .000   159.20  9692.70
  .004520     340.     340.     340.        3       11        0      .00   614.70 10307.40


*SECNO 5600.000
 5600.000    14.66   174.56   173.22      .00   177.06     2.50     1.29      .01   176.00
   63000.       0.   63000.       0.       0.   4964.       0.     147.      19.   176.00
      .03      .00    12.69      .00     .000     .032     .000     .000   159.90  9690.67
  .004687     280.     280.     280.        2       11        0      .00   618.66 10309.33


*SECNO 5670.000
 5670.000    15.07   175.07   173.40      .00   177.38     2.31      .31      .02   176.40
   63000.       0.   63000.       0.       0.   5166.       0.     156.      20.   176.40
      .03      .00    12.19      .00     .000     .032     .000     .000   160.00  9629.94
  .004110      70.      70.      70.        2       15        0      .00   620.11 10250.06


*SECNO 5672.100

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE, NRD=   9 MIN ELTRD=   168.94 MAX ELLC=   171.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 5672.100    12.85   175.57   175.57      .00   179.06     3.48      .03      .34   176.40
   63000.       0.   63000.       0.       0.   4206.       0.     156.      20.   176.40
      .03      .00    14.98      .00     .000     .032     .000     .000   162.72  9686.96
  .013883       2.       2.       2.        0       15        0  -751.23   626.09 10313.04


*SECNO 5750.100
3280 CROSS SECTION   5750.10 EXTENDED      .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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.44

3370 NORMAL BRIDGE, NRD= 9 MIN ELTRD= 169.36 MAX ELLC= 171.00

5750.100	14.48	177.67	176.00	.00	179.89	2.22	.70	.13	176.83
63000.	0.	63000.	0.	0.	5268.	0.	164.	22.	176.83
.03	.00	11.96	.00	.000	.032	.000	.000	163.19	9682.00
.006661	78.	78.	78.	4	15	0	-736.07	636.00	10318.00

*SECNO 5825.000
3280 CROSS SECTION 5825.00 EXTENDED 1.72 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.83

5825.000	15.39	178.73	175.04	.00	180.19	1.46	.23	.08	177.01
63000.	0.	63000.	0.	0.	6493.	0.	174.	23.	177.01
.03	.00	9.70	.00	.000	.032	.000	.000	163.34	9683.50
.001984	75.	75.	75.	2	15	0	.00	633.00	10316.50

*SECNO 5905.000
3280 CROSS SECTION 5905.00 EXTENDED 1.63 FEET

5905.000	15.09	178.82	175.47	.00	180.39	1.57	.17	.03	177.20
63000.	0.	63000.	0.	0.	6271.	0.	186.	24.	177.20
.04	.00	10.05	.00	.000	.032	.000	.000	163.73	9685.00
.002213	80.	80.	80.	2	19	0	.00	630.00	10315.00

*SECNO 6100.000
3280 CROSS SECTION 6100.00 EXTENDED 1.38 FEET

6100.000	14.73	179.14	176.44	.00	180.95	1.80	.48	.07	177.76
63000.	0.	63000.	0.	0.	5849.	0.	213.	27.	177.76
.04	.00	10.77	.00	.000	.032	.000	.000	164.41	9688.10
.002752	195.	195.	195.	2	15	0	.00	623.80	10311.90

THIS RUN EXECUTED 8/15/90 11:33:54

****
HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

IBW1RIO.DAT

SUMMARY PRINTOUT

	SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
*	4235.000	162.26	.00	11.71	.00	.00	30000.00	.00	5.76	612.25	16.88	629.12
*	4235.000	163.42	.00	13.12	.00	.00	43000.00	.00	6.92	619.07	13.47	632.53
*	4235.000	164.05	.00	13.90	.00	.00	51000.00	.00	7.55	622.79	11.60	634.40
*	4235.000	164.96	.00	14.86	.00	.00	63000.00	.00	8.46	628.14	8.93	637.07
*	4435.000	164.21	.00	11.91	.00	.00	30000.00	.00	7.11	587.65	25.26	612.90
*	4435.000	165.41	.00	13.31	.00	.00	43000.00	.00	8.31	602.62	17.27	619.89
*	4435.000	166.08	.00	14.01	.00	.00	51000.00	.00	8.98	611.04	12.78	623.82
*	4435.000	167.03	.00	14.93	.00	.00	63000.00	.00	9.93	622.81	6.50	629.31
	4640.000	166.23	.00	11.18	.00	.00	30000.00	.00	8.63	582.78	9708.64	10291.42
	4640.000	167.22	.00	13.18	.00	.00	43000.00	.00	9.62	594.56	9702.75	10297.31
*	4640.000	167.86	.00	13.98	.00	.00	51000.00	.00	10.26	602.30	9698.89	10301.19
*	4640.000	168.80	.00	14.93	.00	.00	63000.00	.00	11.20	613.58	9693.26	10306.83
	4980.000	168.73	.00	9.36	.00	.00	30000.00	.00	10.33	590.05	9704.98	10295.02
*	4980.000	170.16	.00	10.58	.00	.00	43000.00	.00	11.76	607.25	9696.38	10303.62
*	4980.000	170.91	.00	11.28	.00	.00	51000.00	.00	12.51	616.18	9691.91	10308.09
	4980.000	171.91	.00	12.25	.00	.00	63000.00	.00	13.51	619.80	9690.10	10309.90
	5320.000	170.19	.00	9.58	.00	.00	30000.00	.00	10.99	584.89	9707.58	10292.48
	5320.000	171.56	.00	10.90	.00	.00	43000.00	.00	12.36	601.39	9699.35	10300.74
	5320.000	172.30	.00	11.60	.00	.00	51000.00	.00	13.10	610.32	9694.89	10305.21
	5320.000	173.30	.00	12.58	.00	.00	63000.00	.00	14.10	614.70	9692.70	10307.40
	5600.000	171.46	.00	9.65	.00	.00	30000.00	.00	11.56	581.56	9709.22	10290.78
	5600.000	172.81	.00	11.01	.00	.00	43000.00	.00	12.91	597.75	9701.12	10298.88
	5600.000	173.55	.00	11.72	.00	.00	51000.00	.00	13.65	606.65	9696.68	10303.32
	5600.000	174.56	.00	12.69	.00	.00	63000.00	.00	14.66	618.66	9690.67	10309.33
	5670.000	171.91	.00	9.19	.00	.00	30000.00	.00	11.91	582.15	9648.93	10231.07
	5670.000	173.29	.00	10.55	.00	.00	43000.00	.00	13.29	598.65	9640.67	10239.33
	5670.000	174.04	.00	11.25	.00	.00	51000.00	.00	14.04	607.73	9636.13	10243.87
	5670.000	175.07	.00	12.19	.00	.00	63000.00	.00	15.07	620.11	9629.94	10250.06

	SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
*	5672.100	172.80	.00	11.93	.00	.00	30000.00	.00	10.08	592.79	9703.60	10296.40
*	5672.100	173.97	.00	13.37	.00	.00	43000.00	.00	11.25	606.81	9696.59	10303.41
*	5672.100	174.69	.00	13.94	.00	.00	51000.00	.00	11.97	615.51	9692.25	10307.75
*	5672.100	175.57	.00	14.98	.00	.00	63000.00	.00	12.85	626.09	9686.96	10313.04
*	5750.100	174.59	.00	8.97	.00	.00	30000.00	.00	11.40	609.12	9695.44	10304.56
*	5750.100	175.93	.00	10.32	.00	.00	43000.00	.00	12.74	625.12	9687.44	10312.56
*	5750.100	176.64	.00	11.06	.00	.00	51000.00	.00	13.45	633.60	9683.20	10316.80
*	5750.100	177.67	.00	11.96	.00	.00	63000.00	.00	14.48	636.00	9682.00	10318.00
*	5825.000	175.36	.00	6.86	.00	.00	30000.00	.00	12.02	613.19	9693.41	10306.59
*	5825.000	176.83	.00	8.13	.00	.00	43000.00	.00	13.49	630.88	9684.56	10315.44
*	5825.000	177.63	.00	8.80	.00	.00	51000.00	.00	14.29	633.00	9683.50	10316.50
*	5825.000	178.73	.00	9.70	.00	.00	63000.00	.00	15.39	633.00	9683.50	10316.50
	5905.000	175.44	.00	7.21	.00	.00	30000.00	.00	11.71	608.91	9695.55	10304.45
	5905.000	176.93	.00	8.47	.00	.00	43000.00	.00	13.20	626.72	9686.64	10313.36
	5905.000	177.72	.00	9.15	.00	.00	51000.00	.00	13.99	630.00	9685.00	10315.00
	5905.000	178.82	.00	10.05	.00	.00	63000.00	.00	15.09	630.00	9685.00	10315.00
	6100.000	175.75	.00	7.99	.00	.00	30000.00	.00	11.34	599.63	9700.18	10299.82
	6100.000	177.24	.00	9.22	.00	.00	43000.00	.00	12.83	617.60	9691.20	10308.80
	6100.000	178.04	.00	9.88	.00	.00	51000.00	.00	13.63	623.80	9688.10	10311.90
	6100.000	179.14	.00	10.77	.00	.00	63000.00	.00	14.73	623.80	9688.10	10311.90

IBW1RIO.DAT

SUMMARY PRINTOUT

	SECNO	CWSEL	CRIWS	EG	HL	OLOSS	ELMIN	10*KS	K*CHSL	STCHL	STCHR	XLCH
*	4235.000	162.26	162.26	164.39	.00	.00	156.50	94.39	.00	.00	646.00	.00
*	4235.000	163.42	163.42	166.10	.00	.00	156.50	86.82	.00	.00	646.00	.00
*	4235.000	164.05	164.05	167.05	.00	.00	156.50	84.44	.00	.00	646.00	.00
*	4235.000	164.96	164.96	168.39	.00	.00	156.50	80.66	.00	.00	646.00	.00
*	4435.000	164.21	164.21	166.42	1.89	.02	157.10	94.73	3.00	.00	635.00	200.00
*	4435.000	165.41	165.41	168.16	1.75	.01	157.10	87.68	3.00	.00	635.00	200.00
*	4435.000	166.08	166.08	169.13	1.69	.01	157.10	84.50	3.00	.00	635.00	200.00
*	4435.000	167.03	167.03	170.48	1.61	.01	157.10	80.75	3.00	.00	635.00	200.00
	4640.000	166.23	165.91	168.17	1.73	.03	157.60	75.96	2.44	9687.60	10312.50	205.00
	4640.000	167.22	167.19	169.92	1.76	.01	157.60	83.74	2.44	9687.60	10312.50	205.00
*	4640.000	167.86	167.86	170.89	1.69	.02	157.60	82.58	2.44	9687.60	10312.50	205.00
*	4640.000	168.80	168.80	172.26	1.63	.01	157.60	79.57	2.44	9687.60	10312.50	205.00
	4980.000	168.73	167.49	170.09	1.86	.06	158.40	42.74	2.35	9690.10	10309.90	340.00
*	4980.000	170.16	168.72	171.90	1.88	.10	158.40	41.41	2.35	9690.10	10309.90	340.00
*	4980.000	170.91	169.40	172.88	1.88	.11	158.40	41.69	2.35	9690.10	10309.90	340.00
	4980.000	171.91	170.36	174.24	1.86	.11	158.40	41.83	2.35	9690.10	10309.90	340.00
	5320.000	170.19	169.30	171.61	1.50	.02	159.20	45.71	2.35	9692.70	10307.40	340.00
	5320.000	171.56	170.27	173.40	1.47	.03	159.20	45.11	2.35	9692.70	10307.40	340.00
	5320.000	172.30	170.95	174.39	1.48	.03	159.20	45.15	2.35	9692.70	10307.40	340.00
	5320.000	173.30	171.92	175.75	1.48	.04	159.20	45.20	2.35	9692.70	10307.40	340.00
	5600.000	171.46	170.50	172.91	1.29	.01	159.90	46.55	2.50	9682.00	10318.00	280.00
	5600.000	172.81	171.66	174.70	1.28	.01	159.90	46.42	2.50	9682.00	10318.00	280.00
	5600.000	173.55	172.25	175.69	1.28	.01	159.90	46.43	2.50	9682.00	10318.00	280.00
	5600.000	174.56	173.22	177.06	1.29	.01	159.90	46.87	2.50	9682.00	10318.00	280.00
	5670.000	171.91	170.73	173.22	.30	.01	160.00	39.55	1.43	9622.00	10258.00	70.00
	5670.000	173.29	171.74	175.01	.30	.02	160.00	40.23	1.43	9622.00	10258.00	70.00
	5670.000	174.04	172.44	176.01	.30	.02	160.00	40.55	1.43	9622.00	10258.00	70.00
	5670.000	175.07	173.40	177.38	.31	.02	160.00	41.10	1.43	9622.00	10258.00	70.00
*	5672.100	172.80	172.80	175.01	.03	.26	162.72	166.41	1360.00	9682.00	10318.00	2.00
*	5672.100	173.97	173.97	176.74	.03	.30	162.72	153.83	1360.00	9682.00	10318.00	2.00
*	5672.100	174.69	174.69	177.71	.03	.31	162.72	142.61	1360.00	9682.00	10318.00	2.00
*	5672.100	175.57	175.57	179.06	.03	.34	162.72	138.83	1360.00	9682.00	10318.00	2.00
*	5750.100	174.59	173.19	175.84	.74	.10	163.19	65.99	6.03	9682.00	10318.00	78.00
*	5750.100	175.93	174.43	177.58	.73	.11	163.19	66.68	6.03	9682.00	10318.00	78.00
*	5750.100	176.64	175.05	178.54	.72	.11	163.19	67.72	6.03	9682.00	10318.00	78.00
*	5750.100	177.67	176.00	179.89	.70	.13	163.19	66.61	6.03	9682.00	10318.00	78.00

	SECNO	CWSEL	CRIWS	EG	HL	OLOSS	ELMIN	10*KS	K*CHSL	STCHL	STCHR	XLCH
*	5825.000	175.36	172.18	176.09	.19	.05	163.34	15.99	2.00	9683.50	10316.50	75.00
*	5825.000	176.83	173.40	177.86	.21	.06	163.34	18.08	2.00	9683.50	10316.50	75.00
*	5825.000	177.63	174.08	178.83	.22	.07	163.34	18.93	2.00	9683.50	10316.50	75.00
*	5825.000	178.73	175.04	180.19	.23	.08	163.34	19.84	2.00	9683.50	10316.50	75.00
	5905.000	175.44	172.62	176.25	.14	.02	163.73	18.72	4.87	9685.00	10315.00	80.00
	5905.000	176.93	173.84	178.04	.15	.03	163.73	20.58	4.87	9685.00	10315.00	80.00
	5905.000	177.72	174.52	179.02	.16	.03	163.73	21.36	4.87	9685.00	10315.00	80.00
	5905.000	178.82	175.47	180.39	.17	.03	163.73	22.13	4.87	9685.00	10315.00	80.00
	6100.000	175.75	173.58	176.74	.43	.06	164.41	25.80	3.49	9688.10	10311.90	195.00
	6100.000	177.24	174.88	178.56	.46	.06	164.41	26.74	3.49	9688.10	10311.90	195.00
	6100.000	178.04	175.48	179.56	.47	.07	164.41	27.24	3.49	9688.10	10311.90	195.00
	6100.000	179.14	176.44	180.95	.48	.07	164.41	27.52	3.49	9688.10	10311.90	195.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=  4235.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4235.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4235.000  PROFILE=  3  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4235.000  PROFILE=  4  CRITICAL DEPTH ASSUMED

CAUTION SECNO=  4435.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4435.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  4435.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4435.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  4435.000  PROFILE=  3  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4435.000  PROFILE=  3  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  4435.000  PROFILE=  4  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4435.000  PROFILE=  4  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  4640.000  PROFILE=  3  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4640.000  PROFILE=  3  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  4640.000  PROFILE=  4  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4640.000  PROFILE=  4  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  4980.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  4980.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  5672.100  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  5672.100  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  5672.100  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  5672.100  PROFILE=  2  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  5672.100  PROFILE=  3  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  5672.100  PROFILE=  3  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  5672.100  PROFILE=  4  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  5672.100  PROFILE=  4  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  5750.100  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5750.100  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5750.100  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5750.100  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  5825.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5825.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5825.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  5825.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```

INDIAN BEND WASH

HEC-2 INPUT/OUTPUT FOR LEVEL II

August 15, 1990

sla Simons, Li & Associates, Inc.
Water Resources & Civil Engineering Consultants

```
*****************************************************
* WATER SURFACE PROFILES                            *
* VERSION OF SEPTEMBER 1988                         *
* ERROR: 01,02,03                                   *
* UPDATED:  SEPTEMBER 1989                          *
* RUN DATE     8/15/90   TIME   11:44:10            *
*****************************************************
```

```
*************************************
* U.S. ARMY CORPS OF ENGINEERS      *
* THE HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET, SUITE D        *
* DAVIS, CALIFORNIA 95616-4687      *
*          (916) 756-1104           *
*************************************
```

```
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
```

END OF BANNER

THIS RUN EXECUTED 8/15/90 11:44:11

```
**************************************************
 HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989


 ERROR CORR -  01,02,03
 MODIFICATION -
**************************************************


T1      SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1      INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1      LEVEL II OF THE RIO SALADO, IBW DROP STRUCTURE
T2      STRT BASED ON CRITICAL DEPTH
T3      IBW2RIO.DAT            PAZ-DMJM03-13

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0        0        0        0       -1        0        0    30000   161.81        0

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

      1        0       -1        0        0        0       -1        0        0        0


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38        1       55       26       56       13       14       15        8        4
     53       54        0       38        1        2        3       11       12       42
      5       33       21       22       39

J6  IHLEQ    ICOPY    SUBDIV   STRTDS   RMILE

      1


NC   0.040    0.040    0.032    0.1      0.3
X1  4163.0       7        0      646        0        0        0        0        0        0
GR   168.0      0.0    159.5     25.0    154.5     35.0    151.5    323.0    154.4    611.0
GR   159.5    621.0    168.0    646.0
```

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 4163.000
3720 CRITICAL DEPTH ASSUMED

4163.000	5.85	157.35	157.35	161.81	159.52	2.17	.00	.00	168.00
30000.	0.	30000.	0.	0.	2537.	0.	0.	0.	168.00
.00	.00	11.82	.00	.000	.032	.000	.000	151.50	29.30
.009247	0.	0.	0.	0	10	0	.00	587.49	616.79

```
T1     SIMONS, LI & ASSOCIATES, INC. — TEMPE, ARIZONA
T1     INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1     LEVEL II OF THE RIO SALADO, IBW DROP STRUCTURE
T2     STRT BASED ON CRITICAL DEPTH
T3     IBW2RIO.DAT            PAZ-DMJM03-13

J1  ICHECK   INQ     NINV    IDIR    STRT    METRIC  HVINS   Q       WSEL    FQ

      0       0       0       0      -1       0       0    43000   164.35    0

J2  NPROF    IPLOT   PRFVS   XSECV   XSECH   FN      ALLDC   IBW     CHNIM   ITRACE

      2       0      -1       0       0       0      -1       0       0       0
```

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 4163.000
3720 CRITICAL DEPTH ASSUMED

4163.000	7.02	158.52	158.52	164.35	161.28	2.76	.00	.00	168.00
43000.	0.	43000.	0.	0.	3225.	0.	0.	0.	168.00
.00	.00	13.33	.00	.000	.032	.000	.000	151.50	26.97
.008641	0.	0.	0.	0	10	0	.00	592.11	619.07

```
T1     SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1     INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1     LEVEL II OF THE RIO SALADO, IBW DROP STRUCTURE
T2     STRT BASED ON CRITICAL DEPTH
T3     IBW2RIO.DAT            PAZ-DMJM03-13

J1  ICHECK   INQ    NINV    IDIR    STRT    METRIC  HVINS   Q       WSEL    FQ

      0      0      0       0      -1       0       0     51000   165.60   0

J2  NPROF    IPLOT  PRFVS   XSECV   XSECH   FN      ALLDC   IBW     CHNIM   ITRACE

      3      0     -1       0       0       0      -1       0       0       0
```

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 4163.000
3720 CRITICAL DEPTH ASSUMED

4163.000	7.68	159.18	159.18	165.60	162.26	3.08	.00	.00	168.00
51000.	0.	51000.	0.	0.	3618.	0.	0.	0.	168.00
.00	.00	14.09	.00	.000	.032	.000	.000	151.50	25.64
.008336	0.	0.	0.	0	10	0	.00	594.73	620.37

```
T1      SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1      INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1      LEVEL II OF THE RIO SALADO, IBW DROP STRUCTURE
T2      STRT BASED ON CRITICAL DEPTH
T3      IBW2RIO.DAT             PAZ-DMJM03-13

J1  ICHECK    INQ     NINV    IDIR    STRT    METRIC  HVINS   Q       WSEL    FQ

      0       0       0       0      -1       0       0   63000   168.01    0

J2  NPROF     IPLOT   PRFVS   XSECV   XSECH   FN      ALLDC   IBW     CHNIM   ITRACE

     15       0      -1       0       0       0      -1       0       0       0
```

SECNO	DEPTH	OWSEL	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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CBHV= .300
*SECNO 4163.000
3720 CRITICAL DEPTH ASSUMED

4163.000	8.61	160.11	160.11	168.01	163.65	3.54	.00	.00	168.00
63000.	0.	63000.	0.	0.	4174.	0.	0.	0.	168.00
.00	.00	15.09	.00	.000	.032	.000	.000	151.50	23.21
.007996	0.	0.	0.	0	10	0	.00	599.59	622.79

THIS RUN EXECUTED 8/15/90 11:44:16

****

HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -

****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

IBW2RIO.DAT

SUMMARY PRINTOUT

	SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
*	4163.000	157.35	.00	11.82	.00	.00	30000.00	.00	5.85	587.49	29.30	616.79
*	4163.000	158.52	.00	13.33	.00	.00	43000.00	.00	7.02	592.11	26.97	619.07
*	4163.000	159.18	.00	14.09	.00	.00	51000.00	.00	7.68	594.73	25.64	620.37
*	4163.000	160.11	.00	15.09	.00	.00	63000.00	.00	8.61	599.59	23.21	622.79

IBW2RIO.DAT

SUMMARY PRINTOUT

	SECNO	CWSEL	CRIWS	EG	HL	OLOSS	ELMIN	10*KS	K*CHSL	STCHL	STCHR	XLCH
*	4163.000	157.35	157.35	159.52	.00	.00	151.50	92.47	.00	.00	646.00	.00
*	4163.000	158.52	158.52	161.28	.00	.00	151.50	86.41	.00	.00	646.00	.00
*	4163.000	159.18	159.18	162.26	.00	.00	151.50	83.36	.00	.00	646.00	.00
*	4163.000	160.11	160.11	163.65	.00	.00	151.50	79.96	.00	.00	646.00	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=  4163.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4163.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4163.000  PROFILE=  3  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4163.000  PROFILE=  4  CRITICAL DEPTH ASSUMED
```

INDIAN BEND WASH

HEC-2 INPUT/OUTPUT FOR LEVEL III

August 15, 1990

sla Simons, Li & Associates, Inc.
Water Resources & Civil Engineering Consultants

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*****************************************************
* WATER SURFACE PROFILES                            *
* VERSION OF SEPTEMBER 1988                         *
* ERROR: 01,02,03                                   *
* UPDATED:  SEPTEMBER 1989                          *
* RUN DATE     8/15/90   TIME   11:45:26            *
*****************************************************
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*****************************************
* U.S. ARMY CORPS OF ENGINEERS          *
* THE HYDROLOGIC ENGINEERING CENTER     *
* 609 SECOND STREET, SUITE D            *
* DAVIS, CALIFORNIA 95616-4687          *
*          (916) 756-1104               *
*****************************************
```

```
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
```

END OF BANNER

THIS RUN EXECUTED 8/15/90 11:45:26

```
*****************************************************
 HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989


 ERROR CORR -  01,02,03
 MODIFICATION -
*****************************************************


T1      SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1      INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1      LEVEL III OF THE RIO SALADO, IBW DROP STRUCTURE
T2      STRT BASED ON CRITICAL DEPTH
T3      IBW3RIO.DAT             PAZ-DMJM03-13

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0        0        0        0       -1        0        0    30000   161.81        0

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

      1        0       -1        0        0        0       -1        0        0        0


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38        1       55       26       56       13       14       15        8        4
     53       54        0       38        1        2        3       11       12       42
      5       33       21       22       39


J6  IHLEQ     ICOPY    SUBDIV   STRTDS   RMILE

      1


NC    0.040    0.040    0.032    0.1      0.3
X1    4091.0       7        0      646        0        0        0        0        0        0
GR    168.0      0.0    159.5     25.0    148.0     44.0    145.0    323.0    148.0    602.0
GR    159.5    621.0    168.0    646.0
```

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	IOC	ICONT	CORAR	TOPWID	ENDST

*PROF 1

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 4091.000
3720 CRITICAL DEPTH ASSUMED

4091.000	5.95	150.95	150.95	161.81	153.19	2.24	.00	.00	168.00
30000.	0.	30000.	0.	0.	2496.	0.	0.	0.	168.00
.00	.00	12.02	.00	.000	.032	.000	.000	145.00	39.13
.009341	0.	0.	0.	0	21	0	.00	567.74	606.87

```
T1      SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1      INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1      LEVEL III OF THE RIO SALADO, IBW DROP STRUCTURE
T2      STRT BASED ON CRITICAL DEPTH
T3      IBW3RIO.DAT            PAZ-DMJM03-13

J1  ICHECK   INQ     NINV    IDIR    STRT    METRIC  HVINS   Q       WSEL    FQ

      0      0       0       0      -1       0       0    43000   164.35    0

J2  NPROF    IPLOT   PRFVS   XSECV   XSECH   FN      ALLDC   IBW     CHNIM   ITRACE

      2      0      -1       0       0       0      -1       0       0       0
```

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 4091.000
3720 CRITICAL DEPTH ASSUMED

4091.000	7.15	152.15	152.15	164.35	154.99	2.83	.00	.00	168.00
43000.	0.	43000.	0.	0.	3183.	0.	0.	0.	168.00
.00	.00	13.51	.00	.000	.032	.000	.000	145.00	37.14
.008626	0.	0.	0.	0	21	0	.00	571.72	608.86

```
T1     SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1     INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1     LEVEL III OF THE RIO SALADO, IBW DROP STRUCTURE
T2     STRT BASED ON CRITICAL DEPTH
T3     IBW3RIO.DAT            PAZ-DMJM03-13

J1  ICHECK   INQ     NINV    IDIR    STRT    METRIC  HVINS   Q       WSEL    FQ

      0       0       0       0      -1       0       0    51000   165.60    0

J2  NPROF    IPLOT   PRFVS   XSECV   XSECH   FN      ALLDC   IBW     CHNIM   ITRACE

      3       0      -1       0       0       0      -1       0       0       0
```

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 4091.000
3720 CRITICAL DEPTH ASSUMED

4091.000	7.84	152.84	152.84	165.60	156.00	3.16	.00	.00	168.00
51000.	0.	51000.	0.	0.	3574.	0.	0.	0.	168.00
.00	.00	14.27	.00	.000	.032	.000	.000	145.00	36.01
.008291	0.	0.	0.	0	17	0	.00	573.98	609.99

T1 SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1 INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1 LEVEL III OF THE RIO SALADO, IBW DROP STRUCTURE
T2 STRT BASED ON CRITICAL DEPTH
T3 IBW3RIO.DAT PAZ-OMJM03-13

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	0	0	0	-1	0	0	63000	168.01	0
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15	0	-1	0	0	0	-1	0	0	0

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 4091.000
3720 CRITICAL DEPTH ASSUMED

4091.000	8.79	153.79	153.79	168.01	157.42	3.63	.00	.00	168.00
63000.	0.	63000.	0.	0.	4122.	0.	0.	0.	168.00
.00	.00	15.28	.00	.000	.032	.000	.000	145.00	34.44
.007931	0.	0.	0.	0	17	0	.00	577.13	611.56

THIS RUN EXECUTED 8/15/90 11:45:32

****
HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

IBW3RIO.DAT

SUMMARY PRINTOUT

	SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
*	4091.000	150.95	.00	12.02	.00	.00	30000.00	.00	5.95	567.74	39.13	606.87
*	4091.000	152.15	.00	13.51	.00	.00	43000.00	.00	7.15	571.72	37.14	608.86
*	4091.000	152.84	.00	14.27	.00	.00	51000.00	.00	7.84	573.98	36.01	609.99
*	4091.000	153.79	.00	15.28	.00	.00	63000.00	.00	8.79	577.13	34.44	611.56

IBW3RIO.DAT

SUMMARY PRINTOUT

	SECNO	CWSEL	CRIWS	EG	HL	OLOSS	ELMIN	10*KS	K*CHSL	STCHL	STCHR	XLCH
*	4091.000	150.95	150.95	153.19	.00	.00	145.00	93.41	.00	.00	646.00	.00
*	4091.000	152.15	152.15	154.99	.00	.00	145.00	86.26	.00	.00	646.00	.00
*	4091.000	152.84	152.84	156.00	.00	.00	145.00	82.91	.00	.00	646.00	.00
*	4091.000	153.79	153.79	157.42	.00	.00	145.00	79.31	.00	.00	646.00	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=  4091.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4091.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4091.000  PROFILE=  3  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  4091.000  PROFILE=  4  CRITICAL DEPTH ASSUMED
```

INDIAN BEND WASH

HEC-2 INPUT/OUTPUT FOR LEVEL IV

August 15, 1990

sla Simons, Li & Associates, Inc.
Water Resources & Civil Engineering Consultants

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*****************************************************
* WATER SURFACE PROFILES                            *
* VERSION OF SEPTEMBER 1988                         *
* ERROR: 01,02,03                                   *
* UPDATED:  SEPTEMBER 1989                          *
* RUN DATE     8/15/90   TIME   11:47:19            *
*****************************************************
```

```
*************************************
* U.S. ARMY CORPS OF ENGINEERS      *
* THE HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET, SUITE D        *
* DAVIS, CALIFORNIA 95616-4687      *
*          (916) 756-1104           *
*************************************
```

```
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
```

END OF BANNER

THIS RUN EXECUTED 8/15/90 11:47:20

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*****************************************
 HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989


 ERROR CORR -  01,02,03
 MODIFICATION -
*****************************************


T1      SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1      INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1      LEVEL IV OF THE RIO SALADO, IBW DROP STRUCTURE
T2      STRT BASED ON CRITICAL DEPTH
T3      IBW4RIO.DAT            PAZ-DMJM03-13

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0        0        0        0       -1        0        0    30000   161.81     0

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

      1        0       -1        0        0        0       -1        0        0        0

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38        1       55       26       56       13       14       15        8        4
     53       54        0       38        1        2        3       11       12       42
      5       33       21       22       39

J6  IHLEQ     ICOPY    SUBDIV   STRTDS   RMILE

      1


NC   0.040    0.040    0.032    0.1      0.3
X1   3973.0      7        0     646        0        0        0        0        0        0
GR   168.0     0.0     159.5    25.0     142.0     54.0    139.0    323.0    142.0    592.0
GR   159.5    621.0    168.0    646.0
```

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 3973.000
3720 CRITICAL DEPTH ASSUMED

3973.000	6.06	145.06	145.06	161.81	147.35	2.30	.00	.00	168.00
30000.	0.	30000.	0.	0.	2468.	0.	0.	0.	168.00
.00	.00	12.16	.00	.000	.032	.000	.000	139.00	48.93
.009258	0.	0.	0.	0	13	0	.00	548.13	597.07

T1 SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1 INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1 LEVEL IV OF THE RIO SALADO, IBW DROP STRUCTURE
T2 STRT BASED ON CRITICAL DEPTH
T3 IBW4RIO.DAT PAZ-OMJM03-13

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	0	0	0	-1	0	0	43000	164.35	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	2	0	-1	0	0	0	-1	0	0	0

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 3973.000
3720 CRITICAL DEPTH ASSUMED

3973.000	7.32	146.32	146.32	164.35	149.19	2.87	.00	.00	168.00
43000.	0.	43000.	0.	0.	3164.	0.	0.	0.	168.00
.00	.00	13.59	.00	.000	.032	.000	.000	139.00	46.83
.008403	0.	0.	0.	0	13	0	.00	552.33	599.17

T1 SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1 INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1 LEVEL IV OF THE RIO SALADO, IBW DROP STRUCTURE
T2 STRT BASED ON CRITICAL DEPTH
T3 IBW4RIO.DAT PAZ-DMJM03-13

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	0	0	0	-1	0	0	51000	165.60	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	3	0	-1	0	0	0	-1	0	0	0

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 3973.000
3720 CRITICAL DEPTH ASSUMED

3973.000	7.99	146.99	146.99	165.60	150.23	3.24	.00	.00	168.00
51000.	0.	51000.	0.	0.	3531.	0.	0.	0.	168.00
.00	.00	14.44	.00	.000	.032	.000	.000	139.00	45.74
.008250	0.	0.	0.	0	16	0	.00	554.53	600.26

T1 SIMONS, LI & ASSOCIATES, INC. -- TEMPE, ARIZONA
T1 INDIAN BEND WASH IMPACT ANALYSIS FOR THE EAST PAPAGO FREEWAY
T1 LEVEL IV OF THE RIO SALADO, IBW DROP STRUCTURE
T2 STRT BASED ON CRITICAL DEPTH
T3 IBW4RIO.DAT PAZ-DMJM03-13

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	0	0	0	-1	0	0	63000	168.01	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15	0	-1	0	0	0	-1	0	0	0

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

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 3973.000
3720 CRITICAL DEPTH ASSUMED

3973.000	8.96	147.96	147.96	168.01	151.68	3.71	.00	.00	168.00
63000.	0.	63000.	0.	0.	4074.	0.	0.	0.	168.00
.00	.00	15.46	.00	.000	.032	.000	.000	139.00	44.12
.007886	0.	0.	0.	0	16	0	.00	557.76	601.88

THIS RUN EXECUTED 8/15/90 11:47:25

****
HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

IBW4RIO.DAT

SUMMARY PRINTOUT

	SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
*	3973.000	145.06	.00	12.16	.00	.00	30000.00	.00	6.06	548.13	48.93	597.07
*	3973.000	146.32	.00	13.59	.00	.00	43000.00	.00	7.32	552.33	46.83	599.17
*	3973.000	146.99	.00	14.44	.00	.00	51000.00	.00	7.99	554.53	45.74	600.26
*	3973.000	147.96	.00	15.46	.00	.00	63000.00	.00	8.96	557.76	44.12	601.88

IBW4RIO.DAT

SUMMARY PRINTOUT

	SECNO	CWSEL	CRTWS	EG	HL	OLOSS	ELMIN	10*KS	K*CHSL	STCHL	STCHR	XLCH
*	3973.000	145.06	145.06	147.35	.00	.00	139.00	92.58	.00	.00	646.00	.00
*	3973.000	146.32	146.32	149.19	.00	.00	139.00	84.03	.00	.00	646.00	.00
*	3973.000	146.99	146.99	150.23	.00	.00	139.00	82.50	.00	.00	646.00	.00
*	3973.000	147.96	147.96	151.68	.00	.00	139.00	78.86	.00	.00	646.00	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=  3973.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  3973.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  3973.000  PROFILE=  3  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  3973.000  PROFILE=  4  CRITICAL DEPTH ASSUMED
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