Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

FINAL
HYDRAULIC ASSESSMENT REPORT

FOR

OLD CROSS CUT CANAL PARK

48th Street Between McDowell and Indian School Roads
Phoenix, Arizona

Prepared for:

City of Phoenix
Engineering & Architectural Services Department
200 West Washington Street
Phoenix, Arizona 85003-1611

Prepared by:

HNTB Corporation
Two Renaissance Square
40 North Central, Suite 1100
Phoenix, Arizona 85004
(602) 528-4300

August 15, 1995

Registered Professional Engineer (Civil)
CERTIFICATE NO.
20957
BAILANG
SUN
Date Signed 8/15/95
ARIZONA, U. S. A.

TABLE OF CONTENTS

SECTION	TITLE	PAGE NO.
LIST OF TABLES		i
I.	INTRODUCTION	1
II.	LINEAR PARK MASTER PLAN DESIGN	1
III.	MAINNING'S n VALUE ESTIMATION	2
IV.	HYDRAULIC ASSESSMENT	5
V.	CONCLUSIONS AND RECOMMENDATIONS	6
VI.	REFERENCES	7

APPENDICES

A. Manning's n Value Estimation
B. HEC-2 Model Results

LIST OF TABLES

TABLE NO.	TITLE	PAGE NO.
1	List of Base Manning's n Values Used	3
2	List of Adjusted Manning's n Values Used	5

I. INTRODUCTION

HNTB Corporation (HNTB) has been contracted by the City of Phoenix to develop and prepare a park master plan and construction documents of the Old Cross Cut Canal Park. This park is located at 48th Street from just north of McDowell Road to south of Indian School Road, Phoenix, Arizona. The Flood Control District of Maricopa County (FCDMC) has retained Greiner, Inc. to design channel improvements which consist of the replacement of the existing open channel with underground reinforced concrete box culverts (RCBCs), and associated spillways and inlet structures. The purpose of this park project is to prepare plans and specifications for construction of the proposed neighborhood park features in conjunction with the FCDMC's Canal improvements to accommodate flood protection needs and a new 48th Street alignment.

HNTB will develop a park master plan based upon the Greiner's proposed RCBCs, spillways, inlet grates and surface channel improvement (CHIMP) and prepare park construction documents. As a result, HNTB will provide Greiner with park grading and CHIMP section modifications based upon the proposed park landscape elements.

This hydraulic assessment report, as a part of the coordination documentation between Greiner and HNTB, addresses the proposed park features and discusses any potential hydraulic impacts to Greiner's CHIMP sections. The hydraulic assessment is made based upon the results of Manning's n value estimation on the proposed park elements and the HEC-2 water surface profile calculations of these modified CHIMP sections.

II. LINEAR PARK MASTER PLAN DESIGN

The master plan development of this two mile park includes the integration of a collector street (48th Street), flood control channel, a pedestrian/bike path with rest nodes, landscape, irrigation, and security lighting. Other design elements include drinking fountains, trash receptacles, low retaining walls, drainage grates, spillways, earth berms and ADA access ramps.

The 48th Street alignment allows the opportunity for the park to utilize the widest space available for the length of the corridor and provides separation between the automobile and park users. This enables the park to be pedestrian oriented with easy access at all major street intersections and minimal circulation conflicts. The overall concept of the master plan is to create a green belt with large, informal areas of open space for neighborhood recreation; however, the user's greatest experience is by movement through the park itself.

The pedestrian/bike path provides an important link in the Valley-wide canal system of recreational opportunities. Developed rest nodes along the path provide viewing areas with seating shade, water, and unique design features that reflect the neighborhood's scenic context.

Aesthetic landforms and channel edge configurations provide visual interest, landscape "pockets", and buffers to automobile traffic. Lighting and visibility into the park minimize safety and security concerns.

Aesthetic treatment of drainage components (spillways, grates, walls, berms, etc.) will integrate materials such as textured concrete formliners color to discourage graffiti. These components will also include seating and planting, and are appropriate to the local area.

The theme for the park master plan, developed by the collaboration of an artist, landscape architects, and engineers has been incorporated into many of the park elements for the purpose of unifying the overall park design. The result is a linear neighborhood park which offers high aesthetic value and strong visual continuity.

III. MANNING'S n VALUE ESTIMATION

The determination of Manning's n values in this assessment was estimated by use of the available text books and published design manuals (**Reference 1 through 6**).

The procedure outlined in Chow's book (**Reference 3**) was used to determine the roughness coefficient for the CHIMP sections in this study. The total n value was determined by assigning a base n value for the channel and applying adjustments for various roughness factors. These roughness factors considered consist of degree of irregularity, effects of obstruction, vegetation, and variations in channel cross section, and degree of meandering. The adjustments were made to the base value through addition or multiplying by a factor to arrive at a total value. The estimated n values were also checked against values found within the above references (**References 1 through 6**).

The total value of Manning's n was computed by:

$$n = (n_b + n_1 + n_2 + n_3 + n_4)m$$

Where: n_b = a base value of n for a straight uniform channel;

n_1 = a value for the degree of surface irregularities;

n_2 = a value for the effects of obstruction;

n_3 = a value for vegetation;

n_4 = a value for variations in shape and size of the channel cross section;

and m = a multiplier to correct for meandering of the channel.

Selection of Base n Values

Base Manning's n values for different channel materials were selected from Table 5.11 of the FCDMC Drainage Design Manual for Maricopa County, Arizona, Volume II-Hydraulics (**Reference 2**) and are listed in **Table 1**. In general, a base value ranging from 0.014 to 0.030 was assigned to the different segments of CHIMP sections.

Table 1
List of Base Manning's n Values Used

Channel Material	Manning's n Value
Paved Street (Asphalt Concrete)	0.016
Concrete (Open Channel)	0.014
Concrete (Spillway)	0.015
Earth with Grass	0.030
Earth	0.020

Adjustment Factors for Channels

Channel irregularities, obstructions, vegetation, variations, and meandering increase the roughness, and the value for n was adjusted accordingly. For study CHIMP sections, trees, rest nodes and ADA ramps create obstructions to the channel flow. The grass area is fairly uniform throughout the CHIMP sections. No meander adjustment was made to the total n value for this project, because the flow will not be confined to the low flow channel and the overbank flow is expected.

Subdivision of Cross Section

Each cross section was divided into left overflow, channel, and right overflow areas. Subdivision of channel cross sections was done in the areas of proposed landscaped features by increasing Manning's n values in the channel portion.

Results

Base Manning's n values for channel and left and right overflow areas of a typical CHIMP section were determined for this hydraulic assessment based upon a grass-lined channel. A base n value of .030 was estimated for the channel in **Appendix A**, while a value of .035 was determined for the overflow areas.

The channel n values were adjusted for trees and seating benches in rest areas in accordance with the vegetation-density method outlined in **Reference 6**. This method of analysis of the vegetation density to determine the equivalent Manning's n value was developed by Petryk and Bosmajian (1975). **Appendix A** shows the adjusted Manning's n values for the channel section consisting of trees and seating benches by direct technique of the vegetation density method. **Table 2** presents the adjusted Manning's n values for the CHIMP channel segments.

A list of potential tree types that may be used within the CHIMP was identified by the HNTB landscape architects. These trees may be Mesquite, Evergreen Elm and Ash. Approximated mature tree sizes will be a 12 inch diameter trunk size, a 7 foot clearance to the first scaffold of branches, canopies of about 30 feet wide, and overall height of 20 to 40 feet. Any shrub masses will most likely occur at the top of the banks, if at all.

Table 2
List of Adjusted Manning's n Values Used

Channel Section	Manning's n Value (XNCH)
Sections 12+00 to 14+00 (Avg. 11 trees per 100' with 3 trees in channel)	0.045
Sections 15+00 to 16+00 (Avg. 9 trees per 100')	0.044*
Sections 32+00 to 33+00 (Avg. 6 trees per 100' with 3 trees in channel)	0.041*
Sections 39+00 to 40+00 (Avg. 6 trees per 100' with 3 trees in channel)	0.041*
Sections 55+00 to 56+00 (Avg. 7 trees per 100' with 3 trees in channel)	0.036*

* **A value of 0.045 was used in HEC-2 model for conservative results.**

IV. HYDRAULIC ASSESSMENT

The hydraulic assessment was performed by modified the Greiner's HEC-2 input filename, CHFINMO3.DAT, dated March 1, 1995 to reflect the proposed landscape elements. The water surface profile for the 100-year storm event was performed using the U.S. Army Corps of Engineers' HEC-2 computer program, version 4.6.2, dated May 1991, as implemented by Haestad Methods, Inc. (**Reference 7**).

Manning's n values were assigned to proper CHIMP sections as shown in **Tables 1 and 2**. In **Table 2**, the resulting Manning's n values are less than the allowable n value of 0.045 based upon the proposed landscape plans. The resulting water surface elevations at the proposed spillway reach with NH cards are virtually the same as without the NH cards, therefore, no NH cards were used at spillway reaches. **Appendix B** shows the results of HEC-2 models, CHFINMO3.DAT developed by Greiner and also includes results of the HEC-2 model, XCUT.HC2, modified by the HNTB.

V. CONCLUSIONS AND RECOMMENDATIONS

Based on the results of HEC-2 hydraulic assessment, the following conclusions and recommendations are made for the proposed linear park master plan:

- The proposed trees and rest nodes along the Canal corridor will not adversely impact the hydraulic performance of the CHIMP. A maximum of three trees per 100 linear feet is proposed within the CHIMP channel bottom with other trees located at the channel bank slopes.

- The proposed concrete spillways, bike paths and ADA pedestrian ramps will also have very little effect to the CHIMP water surface elevations. The maximum increase in water surface elevation is 0.24 feet at Section 38+00 because of the proposed two ADA ramps at Oak Street.

- The proposed berms begin at Section 78+00 to north which are outside the CHIMP and will not impact to the CHIMP capacity.

VI. REFERENCES

1. **Flood Control District of Maricopa County**, "Estimated Manning's Roughness Coefficients for Stream Channels and Flood Plains in Maricopa County, Arizona," Prepared by the U.S. Geological Survey, April 1991.

2. **Flood Control District of Maricopa County**, "Drainage Design Manual for Maricopa County, Arizona, Volume II - Hydraulics," September 1, 1992.

3. **V.T. Chow**, "Open Channel Hydraulics," McGraw-Hill, 1959.

4. **U.S. Geological Survey**, "Roughness Characteristics of Natural Channels," Water-Supply paper 1849, Third Printing, 1987.

5. **U.S. Geological Survey**, "Roughness Coefficients for Stream Channels in Arizona," Open-File Report, 1973.

6. **Federal Highway Administration**, "Guide for Selecting Manning's Roughness Coefficients for Natural Channels and Flood Plains," Report No. FHWA-TS-84-204, April 1984.

7. **Haestad Methods Inc.**, "HEC-2 Water Surface Profiles, User's Manual and Computer Model, Version 4.6.2," developed by the U.S. Corps of Engineers, Hydrologic Engineering Center, May 1991.

XCUT.RPT

1

Determination of Manning's Roughness Coefficient

by CHOW'S METHOD

HNTB
ARCHITECTS ENGINEERS PLANNERS

Channel conditions		Values		L.B.	CH.	R.B.
Material involved	Earth	n_0	0.020	0.020	0.020	0.020
	Rock cut		0.025			
	Fine gravel		0.024			
	Coarse gravel		0.028			
Degree of irregularity	Smooth	n_1	0.000			
	Minor		0.005	0.005		0.005
	Moderate		0.010			
	Severe		0.020			
Variations of channel cross section	Gradual	n_2	0.000			
	Alternating occasionally		0.005	.005	.005	.0005
	Alternating frequently		0.010–0.015			
Relative effect of obstructions	Negligible	n_3	0.000			
	Minor		0.010–0.015	.010		.010
	Appreciable		0.020–0.030			
	Severe		0.040–0.060			
Vegetation	Low	n_4	0.005–0.010			
	Medium		0.010–0.025	0.010	0.010	0.010
	High		0.025–0.050			
	Very high		0.050–0.100			
Degree of meandering	Minor	m_5	1.000	1.00	1.00	1.00
	Appreciable		1.150			
	Severe		1.300	.050	.035	.050
$n = (n_0 + n_1 + n_2 + n_3 + n_4)m_5$				.035	.030	.035

Job No. : 14715
Community : Phoenix
Stream : Old x-Cut Canal
Section
Location :
Date : 6-6-94
Name : BGS
Photo No. :
Section Description :

Base Manning's n values ~~to~~ for a grass-lined channel CHIMP Section.

$$n = \left(\frac{.050 + .035 + .05}{3}\right)$$

n = .045" used by the the team

HNTB The HNTB Companies	Made by JJS	Date 8/8/95	Job Number 14715
	Checked by BGR	Date 8/10/95	Sheet Number 1/6
For OLD CROSS CUT CANAL	Backchecked by	Date	

COMPUTING n VALUE

$$n = n_0 \sqrt{1 + (Veg\,a)(C_*)\left(\frac{1.49}{n_0}\right)^2\left(\frac{1}{2g}\right)R^{4/3}}$$

$$(Veg\,d) = \frac{\Sigma A_i}{AL}$$

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2} \Rightarrow R = \left(\frac{Qn}{1.49 A S^{1/2}}\right)^{3/2}$$

STATION 12+00

$Q = 1170.0$ $\quad n = .045$

$A = 745.4$ $\quad S = .000278$ $\quad d = 8.29$

$$R = \left(\frac{1170.0 \times .045}{1.49(745.4)(.000278)^{1/2}}\right)^{3/2} = 4.79$$

FIG 3. $R = 4.79 \Rightarrow C_* = 4.50$

$$(Veg\,d) = \frac{8 \times \left(\frac{8.29}{2}\right) + 3 \times (8.29)}{745.4 \times 100} = .0007785$$

$n_0 = .030$

$$n = (.030)\sqrt{1 + (.0007785)(4.50)\left(\frac{1.49}{.030}\right)^2\left(\frac{1}{2 \times 32.2}\right)(4.79)^{4/3}}$$

$n = .04330$

ME101-0793

HNTB The HNTB Companies	Made by JJS	Date 8/8/95	Job Number 14715
For OLD CROSS CUT CANAL	Checked by BGS	Date 8/14/95	Sheet Number 210
	Backchecked by	Date	

STATION 13+00

$Q = 1170.0$ $\quad n = .045$

$A = 708.0$ $\quad S = .000322$ $\quad d = 8.07$

$$R = \left(\frac{1170.0 \times .045}{1.49 (708.0)(.000322)^{1/2}} \right)^{3/2} = 4.64$$

FIG 3 $\quad R = 4.64 \Rightarrow C_* = 4.92$

$$(V_{egd}) = \frac{7\left(\frac{8.07}{2}\right) + 4(8.07)}{708.0 \times 100} = .0008549$$

$n_0 = .030$

$$n = (.030)\sqrt{1 + (.0008549)(4.92)\left(\frac{1.49}{.030}\right)^2\left(\frac{1}{64.4}\right)(4.64)^{4/3}}$$

$\underline{\underline{n = .04497}}$

ME101-0793

HNTB The HNTB Companies	Made by JJS	Date 8/8/95	Job Number 14715
For OLD CROSS CUT CANAL	Checked by BGS	Date 8/14/95	Sheet Number 3/6
	Backchecked by	Date	

STATION 15+00

$Q = 1170.0$ $\quad n = .045$

$A = 639.5$ $\quad S = .000431$ $\quad d = 7.66$

$$R = \left(\frac{1170.0 \times .045}{1.49(639.5)(.000431)^{1/2}}\right)^{3/2} = 4.34$$

FIG 3 $\quad R = 4.34 \quad \Rightarrow \quad C_* = 6.40$

$$(V_{egd}) = \frac{7\left(\frac{7.66}{2}\right) + 2(7.66)}{639.50(100)} = .00065880$$

$n_0 = .030$

$$n = (.030)\sqrt{1 + (.00065880)(6.40)\underbrace{\left(\frac{1.49}{.030}\right)^2\left(\frac{1}{64.4}\right)}_{\text{CONSTANT} = 38.304}(4.34)^{4/3}}$$

$n = .04392$

ME101-0793

HNTB The HNTB Companies	Made by JLS	Date 8/8/95	Job Number 14715
For OLD CROSS CUT CANAL	Checked by BGB	Date 8/10/95	Sheet Number H10
	Backchecked by	Date	

STATION 32+00

$Q = 847.2$ $\quad n = .045$

$A = 279.0$ $\quad S = .002121$ $\quad d = 3.29$

$$R = \left(\frac{847.2 \times .045}{1.49(279.0)(.002121)^{1/2}} \right)^{3/2} = 2.81$$

FIG 3 $\quad R = 2.81 \Rightarrow C_x = 11.22$

$$(V_{gd}) = \frac{3\left(\frac{3.29}{2}\right) + 3(3.29)}{279.0 \times 100} = .00052097$$

$n = .030$

$$n = (.030)\sqrt{1 + (.00052097)(11.22)(38.304)(2.81)^{4/3}}$$

$n = .04122$

ME101-0793

HNTB The HNTB Companies	Made by JWS	Date 8/8/95	Job Number 14715
	Checked by BGS	Date	Sheet Number 5/6
For OLD CROSS CUT CANAL	Backchecked by	Date	

STATION 39+00

$Q = 611.6$ $\quad n = .045$

$A = 241.5$ $\quad S = .001523$ $\quad d = 3.27$

$$R = \left(\frac{611.6 \times .045}{1.49(241.5)(.001523)^{1/2}} \right)^{3/2} = 2.74$$

FIG 3 $\quad B = 2.74 \Rightarrow C_x = 11.35$

$$(V_{egd}) = \frac{3(3.27) + 2\left(\frac{3.27}{2}\right)}{241.5 \times 100} = .0005416$$

$n_o = .030$

$$n = (.030)\sqrt{1 + (.0005416)(11.35)(38.304)(2.74)^{4/3}}$$

$$\underline{\underline{n = .04140}}$$

ME101-0793

HNTB The HNTB Companies	Made by JJS	Date 8/8/93	Job Number 14715
	Checked by BGS	Date	Sheet Number 6/6
For OLD CROSS CUT CANAL	Backchecked by	Date	

STATION 55+00

$Q = 99.40$ $\quad n = .045$

$A = 102.50$ $\quad S = .000685$ $\quad d = 1.26$

$$R = \left(\frac{99.40 \times .045}{1.49(102.50)(.000685)^{1/2}} \right)^{3/2} = 1.18$$

FIG 3 $\quad R = 1.18 \Rightarrow C_x = 14.3$

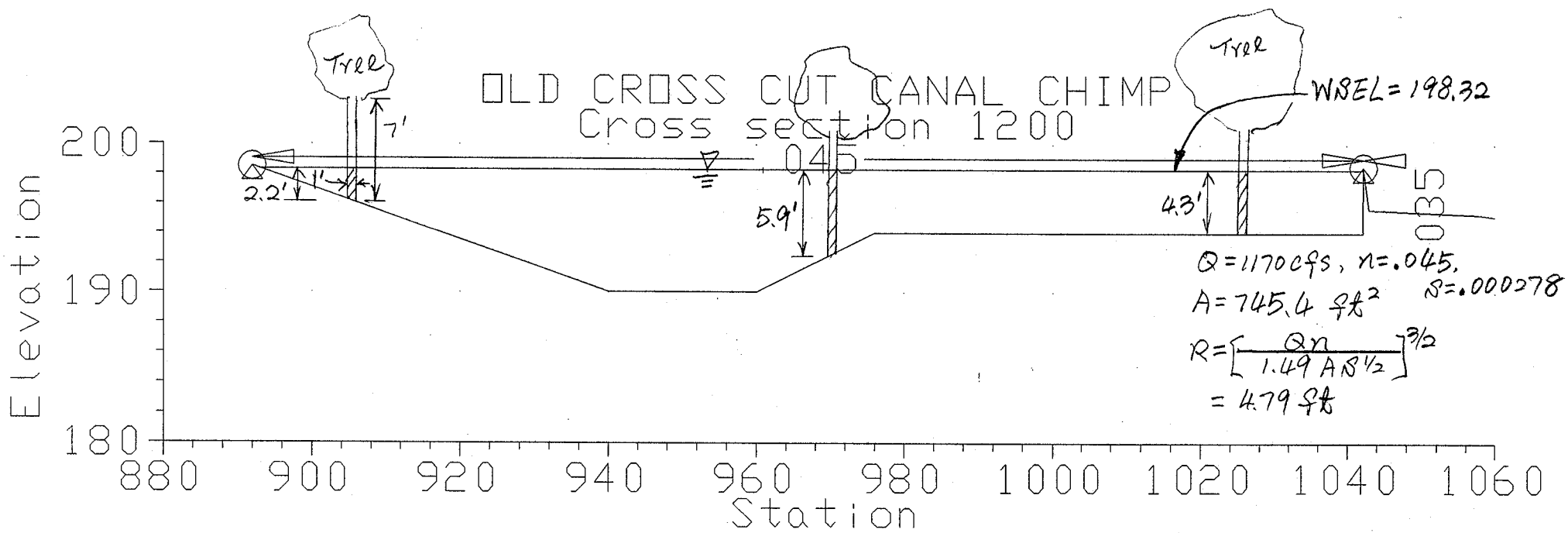
$$(Vegd) = \frac{4\left(\frac{1.26}{2}\right) + 3(1.26)}{102.50 \times 100} = .0006146$$

$n_o = .030$

$$n = (.030)\sqrt{1 + \frac{(.000799)}{6146}(14.3)(38.304)(1.18)^{4/3}}$$

$n = \cancel{.037298}$ $.0357$

ME101-0793


OLD CROSS CUT CANAL CHIMP
Cross section 1200
Tree
Tree
7'
1'
2.2'
5.9'
4.3'
WSEL = 198.32
045
035
Q = 1170 cfs, n = .045,
S = .000278
A = 745.4 ft²
R = [Qn / (1.49 A S^1/2)]^3/2
= 4.79 ft
Elevation
200
190
180
880
900
920
940
960
980
1000
1020
1040
1060
Station

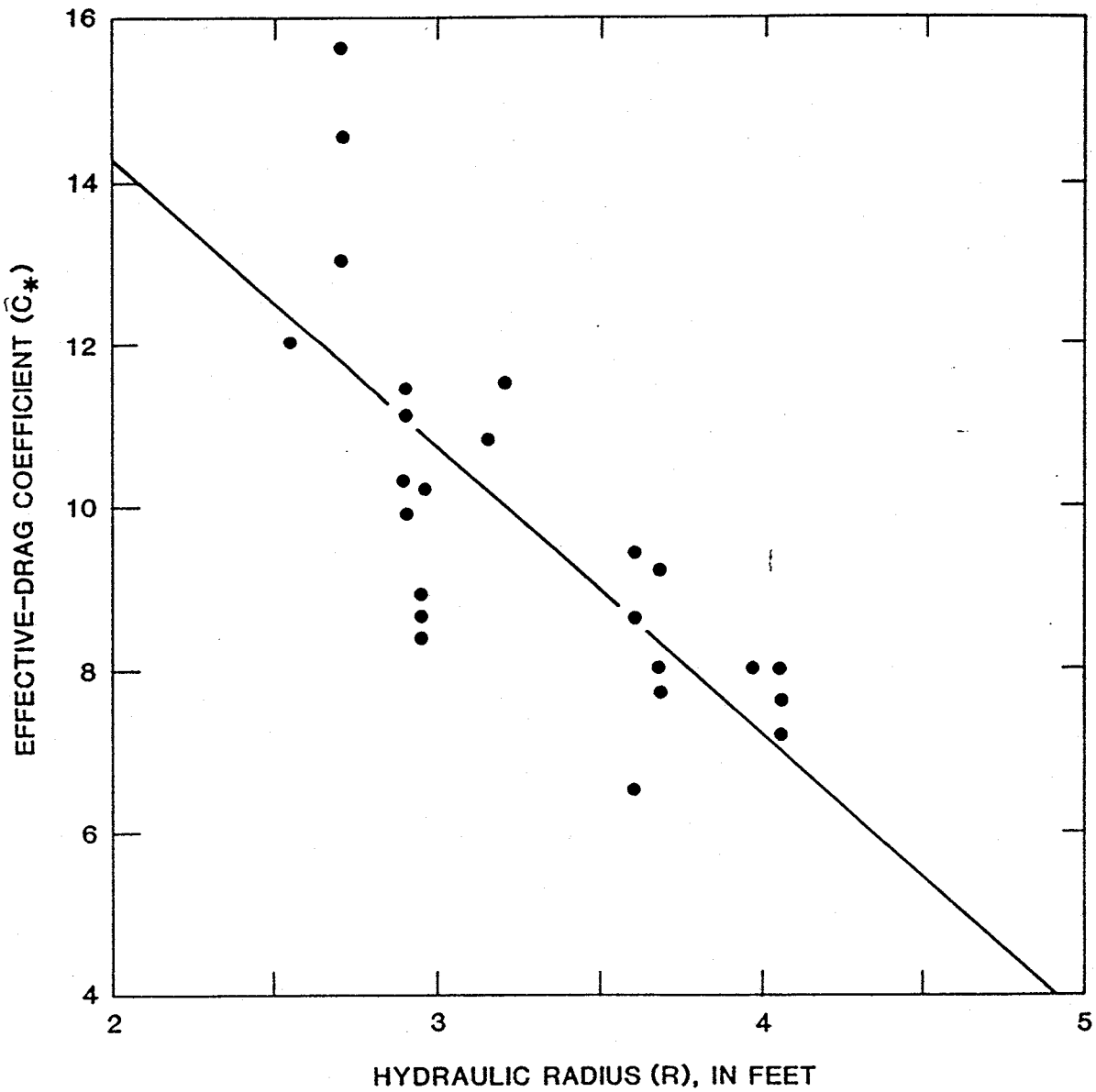


Figure 3.--Plot of effective-drag coefficient versus hydraulic radius for wide, wooded flood plains using verified n values.

Sampling area.--A representative-sample area must be chosen on the cross section to represent the roughness of the cross section accurately. The flood plain can be divided into subsections due to geometric and (or) roughness differences in the cross-section reach. The vegetation density is determined for each subsection.

APPENDIX B
HEC-2 Model Results

HEC2 S/N: 1363001034 HMVersion: 6.52 Data File: chfinmo3.hc2

```
*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE     8AUG95    TIME   10:52:29 *
*******************************************
```

```
****************************************
*  U.S. ARMY CORPS OF ENGINEERS        *
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 8AUG95 10:52:29

```
************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
************************************


T1      Old Cross Cut Canal - CHIMP FILE: CHFINMO3.DAT; n=0.045;
T2      Between 90% and 100% Grading Model with 4:1 Side Slopes,20' Notch
T3      Sta. 11+00 to Sta. 20+00 (6:1 Side Slope-East,4:1 Side Slope-West)
T4      Analysis for Stations 0+00 to 75+00 with weir flow @ Thomas Rd.
T5      CHIMP Analysis for Design Discharges (Draft Letter Q to FDCMC 10-7-93)
T6      Some of the cross sections are revised. McDowell Rd. weir = 1194.0
T7      Q @ 5270; Modeled from east R/W to west R/W; Conveyance area not to
T8      exceed west wall or east berm; For west top of bank elevation :
T9      Water surface to be contained upto Sta. 43+00 per existing condition.
T10     A 1' maximum freeboard is used upstream of Sta. 44+00.

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0        2        0        0    .00532       0        0        0      180       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       43       39        4       25       26       23       24        1       42
      3

J5  LPRNT    NUMSEC                 ********REQUESTED SECTION NUMBERS********

      0      -10

NC    .035     .035     .015      .1       .3
QT       1     5270
X1       0        7   999.99  1016.01        0        0        0
X3      10                     1000                 1016
GR  184.67   950.00   184.67   999.99   170.00  1000.00   169.67  1008.00   170.00  1016.00
GR  184.67  1016.01   184.67  1066.00

X1     384        7   999.99  1016.01      374      394      384
X3      10
GR  186.71   950.00   186.71   999.99   172.04  1000.00   171.71  1008.00   172.04  1016.00
GR  186.71  1016.01   186.71  1066.00
```

```
X1      434        7    999.99   1016.01       49       51       50
X3       10
GR    188.36   950.00    188.36    999.99   172.31  1000.00   171.98  1008.00   172.31  1016.00
GR    188.36  1016.01    188.36   1066.00

X1      484        7    999.99   1016.01       49       51       50
X3       10
GR    190.00   950.00    190.00    999.99   173.13  1000.00   172.80  1008.00   173.13  1016.00
GR    190.00  1016.01    190.00   1066.00

NC                            .3        .5
X1      684        7    999.99   1026.01      200      200      200
GR    190.00   950.00    190.00    999.99   176.50  1000.00   176.07  1013.00   176.50  1026.00
GR    190.00  1026.01    190.00   1076.00

X1      726        7      1000      1026       42       42       42
X3       10                                                      189       189
GR    192.00   950.00    189.00    999.99   177.11  1000.00   177.11  1013.00   177.11  1026.00
GR    189.00  1026.01    192.00   1076.00
  The discharges d/s of McDowell Road are 500, 750, 1000 cfs less than the u/s
     discharges for 25, 50, 100-yr event, respectively.  This is due to the
     assumption that those amount of discharges do not join the d/s channel
     flowing west along the McDowell Road.

SC    2.014       .2       2.6                10       12      274       9.2   179.85  177.11
X1     1000       11       987      1013      274      274      274
X2                           2    189.85
X3       10                                                      194       194
BT       -8      966    194.00               972   194.00               975   194.00
BT              985    194.00              1027   194.00              1041   194.00
BT             1070    194.00              1116   194.00
GR      193      970      193       979     193.9   984.99   193.89   986.9   179.80     987
GR   179.80     1013    193.89    1013.1     194     1024   193.90    1041   193.90    1070
GR   193.90     1099

X1     1099       11    981.4    1018.6      99       99       99
GR   195.80      900   191.00       930  190.00      935   190.00     964   191.79   981.4
GR   180.04    981.5   180.04      1000  180.04   1018.5   191.79  1018.6   194.50    1037
GR    195.0     1041

NC     .035     .035     .045        .1      .3
QT        1     1170
X1     1100       10      900      1041       1        1        1
X3       10
GR   198.50      900   191.00       930  190.00      935   190.00     964   191.79   981.5
GR   191.79     1000   191.79    1018.5  194.50     1037   195.00  1040.9    198.5    1041

X1     1200       10      892    1042.3     109       96      100
X3       10
GR   198.50      892   190.03       940  190.03      960   194.03     976   194.03    1000
GR   194.03   1042.2   198.50    1042.3  195.64  1043.00   195.30    1058   195.00    1063
```

X1	1300	9	894	1041.8	104	96	100			
X3	10									
GR	198.50	894	190.27	940	190.27	960	194.27	976	194.27	1000
GR	194.27	1041.7	198.50	1041.8	196.32	1042.7	195.9	1057.7		
X1	1400	9	895	1040.2	107	96	100			
X3	10									
GR	198.50	895	190.51	940	190.51	960	194.51	976	194.51	1000
GR	194.50	1040.1	198.50	1040.2	197.00	1041.1	196.70	1056.1		
X1	1500	9	895	1037.6	107	96	100			
X3	10									
GR	198.50	895	190.75	940	190.75	960	194.75	976	194.75	1000
GR	194.75	1037.5	198.50	1037.6	197.70	1038.5	197.60	1053.5		
X1	1600	9	901	1036.3	104	98	100			
X3	10									
GR	199.10	901	192.20	944.8	192.20	968.8	194.99	976	194.99	1000
GR	194.99	1036.2	198.64	1036.3	198.14	1037.2	198.30	1052.2		
X1	1700	15	927.4	1040.4	105	96	100			
X3	10									
GR	199.55	794.6	200.22	873.2	199.72	873.3	200.70	921.4	201.45	921.5
GR	201.45	927.4	193.60	959	193.60	967	195.00	984	195.73	986
GR	195.73	1000	195.73	1040.3	199.08	1040.4	198.58	1041.3	199.0	1056.3
X1	1800	14	940.4	1044.1	105	96	99			
X3	10									
GR	200.02	886.0	201.63	906.8	201.13	906.9	202.16	937.9	202.91	938.0
GR	202.91	940.4	195.10	964	195.10	970.5	196.47	976	196.47	1000
GR	196.47	1044	199.52	1044.1	199.02	1045	199.60	1060		
QT	1	950								
X1	1900	13	948.8	1046.8	104	96	100			
X3	10									
GR	200.50	894.0	203.42	913.5	202.92	913.6	202.76	944.7	203.51	944.8
GR	203.57	948.8	196.50	970	196.50	973	197.21	1000	197.21	1046.7
GR	199.96	1046.8	199.46	1047.7	199.80	1062.7				
X1	2000	12	954.96	1048.9	104	96	100			
X3	10									
GR	202.1	884.7	203.24	905.3	202.74	905.4	202.96	952.4	203.71	952.5
GR	203.71	954.96	197.95	978	197.95	1000	197.95	1048.8	200.71	1048.9
GR	200.21	1050	200.80	1065						
X1	2025	11	961.96	1049.3	27	24	25			
X3	10									
GR	203.0	938.1	202.79	954.1	203.54	954.2	202.27	961.96	198.01	979
GR	198.01	1000	198.01	1038.0	200.81	1049.2	201.0	1049.3	200.6	1050.3
GR	209.0	1066								

X1	2026	10	961.96	1049.2	1	1	1			
GR	203.0	938.1	202.78	954.1	203.53	954.2	202.27	961.96	198.01	979
GR	198.01	1000	198.01	1038.0	200.81	1049.2	200.6	1050.3	209.0	1066
X1	2100	12	960.72	1048	76	71	74			
GR	202.32	893.4	203.73	919.6	203.23	919.7	202.50	955.4	203.25	955.5
GR	203.26	960.72	198.19	981	198.19	1000	198.19	1036	201.20	1048
GR	201.20	1050	201.00	1067						
X1	2200	12	954.44	1053	102	97	100			
GR	203.0	898.0	204.06	919.1	203.56	919.1	202.82	950.1	203.57	950.2
GR	203.57	954.44	198.43	975	198.43	1000	198.43	1039.5	201.80	1053
GR	201.80	1055	201.00	1072						
X1	2300	11	952.16	1054	100	100	100			
GR	203.26	899.8	203.87	916.6	203.13	947.4	203.88	947.5	203.88	952.16
GR	198.67	973	198.67	1000	198.67	1039.5	202.20	1054	202.20	1056
GR	200.90	1071								
X1	2400	11	951.44	1053.5	100	100	100			
GR	203.86	901.7	203.77	914.1	203.04	945	203.79	945	203.80	951.44
GR	198.91	971	198.91	1000	198.91	1039.5	202.40	1053.5	202.40	1055.5
GR	201.60	1062								
X1	2500	13	948.44	1043	100	100	100			
GR	203.86	903.4	204.01	916.0	203.51	916.1	202.78	946.9	203.53	947
GR	203.54	948.44	199.15	966	199.15	1000	199.15	1014	199.15	1028
GR	202.80	1043	202.80	1045	201.60	1062				
X1	2600	11	950.44	1054	100	100	100			
GR	203.9	903.3	203.26	916.8	202.53	947.6	203.28	947.7	203.28	950.44
GR	199.39	966	199.39	1000	199.39	1039	203.20	1054	203.20	1056
GR	201.80	1062								
QT	1	880								
X1	2700	12	952.5	1054	100	100	100			
GR	204.1	880.5	204.07	895.7	203.57	895.8	202.28	948.4	203.03	948.5
GR	203.03	952.5	199.63	966	199.63	1000	199.63	1039	203.30	1054
GR	203.30	1056	201.90	1061						
X1	2800	12	952.44	1051.5	100	100	100			
GR	204.9	903.1	203.74	918.2	203.24	918.3	202.51	949.1	203.26	949.2
GR	203.26	952.44	199.87	966	199.87	1000	199.87	1037.5	203.40	1051.5
GR	203.40	1053.5	202.0	1060						
X1	2900	12	952.08	1052	100	100	100			
GR	204.4	903.0	204.06	918.9	203.56	919.0	202.83	949.8	203.58	949.8
GR	203.59	952.08	200.11	966	200.11	1000	200.11	1037.5	203.70	1052
GR	203.70	1054	202.00	1059						

X1	3000	12	951.8	1051.5	100	100	100			
GR	204.4	903.0	204.38	918.8	203.88	918.9	203.15	949.7	203.90	949.8
GR	203.90	951.8	200.35	966	200.35	1000	200.35	1037.5	203.90	1051.5
GR	203.90	1053.5	202.80	1058.5						
X1	3100	12	951.56	1051.5	100	100	100			
GR	204.5	902.9	204.7	917.9	204.2	918	203.45	948.8	204.2	948.9
GR	204.20	951.56	200.59	966	200.59	1000	200.59	1037.5	204.10	1051.5
GR	204.10	1053.5	202.60	1085						
X1	3200	12	950.9	1051	100	100	100			
GR	204.5	902.8	205.02	917.0	204.52	917.1	203.79	947.9	204.54	948
GR	204.54	950.9	200.83	966	200.83	1000	200.83	1037.5	204.2	1051
GR	204.20	1053	202.7	1084						
X1	3300	12	951.36	1051	100	100	100			
GR	205.0	902.7	205.2	917.1	204.7	917.2	203.97	948.1	204.72	948.1
GR	204.73	951.36	201.07	966	201.07	1000	201.07	1037.5	204.40	1051
GR	204.40	1053	203.50	1082.5						
X1	3400	12	952.44	1051	100	100	100			
GR	205.1	902.6	205.17	918.8	204.67	918.9	203.95	949.8	204.70	949.8
GR	204.70	952.44	201.31	966	201.31	1000	201.31	1037.5	204.70	1051
GR	204.70	1053	203.50	1082						
QT	1	810								
X1	3500	12	952.36	1051	100	100	100			
GR	204.8	902.5	205.43	919.1	204.93	919.2	204.21	951.4	204.96	951.5
GR	204.96	952.36	201.55	966	201.55	1000	201.55	1037.5	204.90	1051
GR	204.90	1053	203.40	1081						
X1	3600	12	955.2	1042.5	100	100	100			
GR	205.0	902.5	205.67	918.4	205.17	918.5	204.43	953.1	205.18	953.2
GR	205.18	955.2	201.79	969	201.79	1000	201.79	1029	205.10	1042.5
GR	205.10	1044.5	203.2	1061						
X1	3700	11	957.84	1042.5	100	100	100			
GR	204.96	904	204.91	918.7	204.07	954.8	204.82	954.9	204.82	957.84
GR	202.03	969	202.03	1000	202.03	1029	205.40	1042.5	205.40	1044.5
GR	203.80	1061								
X1	3800	12	957.08	1044.5	100	100	100			
GR	205.1	905.5	205.20	918.8	204.70	918.9	204.25	955.2	205.00	955.3
GR	205.00	957.08	202.27	968	202.27	1000	202.27	1031	205.60	1044.5
GR	205.60	1046.5	203.10	1086						
X1	3900	12	957.52	1045	100	100	100			
GR	205.1	905.7	205.45	922.9	204.95	923	204.38	955.4	205.13	955.5
GR	205.13	957.52	202.51	968	202.51	1000	202.51	1032	205.80	1045
GR	205.80	1047	202.40	1087						

X1	4000	12	959.48	1046	100	100	100			
GR	205.1	905.9	205.19	924.7	204.69	924.8	204.13	955.6	204.88	955.7
GR	204.88	959.48	202.75	968	202.75	1000	202.75	1032	206.00	1046
GR	206.00	1048	202.50	1087.5						
X1	4100	12	960.6	1046	100	100	100			
GR	205.1	906.1	205.16	924.9	204.66	925	204.09	955.8	204.84	955.9
GR	204.84	960.6	202.99	968	202.99	1000	202.99	1033	206.20	1046
GR	206.20	1048	202.45	1087						
X1	4200	12	960.56	1046	100	100	100			
GR	205.1	906.3	205.41	925.1	204.91	925.2	204.34	956	205.09	956.1
GR	205.09	960.56	203.23	968	203.23	1000	203.23	1033	206.40	1046
GR	206.40	1048	202.80	1088						
X1	4300	12	960.52	1046.5	100	100	100			
GR	205	906.5	205.66	925.3	205.16	925.3	204.59	956.2	205.34	956.3
GR	205.34	960.52	203.47	968	203.47	1000	203.47	1034	206.65	1046.5
GR	206.65	1048.5	202.50	1087.5						
X1	4400	12	962.24	1046.5	100	100	100			
GR	205.3	906.7	205.47	925.5	204.97	925.5	204.40	956.4	205.15	956.5
GR	205.15	962.24	203.71	968	203.71	1000	203.71	1036	205.85	1046.5
GR	205.85	1048.5	202.80	1088						
X1	4500	11	962.84	1044.5	100	100	100			
GR	205.5	906.9	205.09	926.1	204.49	956.9	205.24	957	205.24	962.84
GR	203.95	968	203.95	1000	203.95	1036	206.05	1044.5	206.05	1046.5
GR	203.50	1088								
X1	4600	12	962.56	1044.5	100	100	100			
GR	205.7	906.5	205.87	926.7	205.37	926.7	204.80	957.6	205.55	957.7
GR	205.55	962.56	204.19	968	204.19	1000	204.19	1036	206.25	1044.5
GR	206.25	1046.5	203.5	1088						
QT	1	740								
X1	4700	12	962.4	1045	100	100	100			
GR	205.9	907	206.15	927.3	205.65	927.4	205.08	958.2	205.83	958.3
GR	205.83	962.4	204.43	968	204.43	1000	204.43	1036	206.50	1045
GR	206.50	1047	203.2	1088.5						
X1	4800	12	962.24	1045	100	100	100			
GR	206.15	907.5	206.43	927.2	205.93	927.2	205.36	958.7	206.11	958.7
GR	206.11	962.24	204.67	968	204.67	1000	204.67	1036	206.70	1045
GR	206.70	1047	203.7	1088.5						
X1	4900	12	962.6	1045	100	100	100			
GR	206.0	908.0	206.58	922.7	206.08	922.8	205.51	958.4	206.26	958.5
GR	206.26	962.6	204.91	968	204.91	1000	204.91	1036	206.90	1045
GR	206.90	1047	203.95	1088.5						

X1	5000	11	964.56	1045	100	100	100			
GR	206.39	909.4	205.89	909.5	205.26	958.2	206.01	958.3	206.01	964.56
GR	205.15	968	205.15	1000	205.15	1037	207.10	1045	207.10	1047
GR	204.35	1088.5								
QT	1	130								
X1	5100	12	961.72	1043	100	100	100			
GR	206.9	901.8	206.62	917.3	206.12	917.4	205.46	954.5	206.21	954.5
GR	206.21	961.72	205.39	965	205.39	1000	205.39	1035	207.30	1043
GR	207.30	1045	204.7	1085						
X1	5200	12	951.24	1042.5	100	100	100			
GR	207.15	898.6	207.06	916.5	206.56	916.6	205.82	949	206.57	949.1
GR	206.57	951.24	205.63	955	205.63	1000	205.63	1036	207.30	1042.5
GR	207.30	1044.5	205.1	1082						
X1	5300	12	953.76	1047	100	100	100			
GR	207.4	898.4	207.41	918.5	206.91	918.6	206.18	949.4	206.93	949.5
GR	206.93	953.76	205.87	958	205.87	1000	205.87	1041	207.30	1047
GR	207.30	1049	205.9	1081						
X1	5400	12	954.28	1041	100	100	100			
GR	207.2	898.8	207.77	919.3	207.27	919.3	206.54	950.2	207.29	950.2
GR	207.29	954.28	206.11	959	206.11	1000	206.11	1036	207.35	1041
GR	207.35	1043	206.1	1081						
QT	1	120								
X1	5500	12	953.8	1040	100	100	100			
GR	207.9	899	208.13	919.9	207.63	920	206.90	950.8	207.65	950.9
GR	207.65	953.8	206.35	959	206.35	1000	206.35	1036	207.35	1040
GR	207.35	1042	206.8	1081						
X1	5600	12	953.6	1040	100	100	100			
GR	208.25	899.3	208.42	917.5	207.92	917.6	207.19	948.4	207.94	948.5
GR	207.94	953.6	206.59	959	206.59	1000	206.59	1036	207.40	1040
GR	207.40	1042	206.8	1081						
X1	5700	12	953.12	1041	100	100	100			
GR	208.6	894.1	208.78	915	208.28	915.1	207.55	945.9	208.30	946
GR	208.30	953.12	206.83	959	206.83	1000	206.83	1037	207.80	1041
GR	207.80	1043	207.4	1081						
X1	5800	12	951.64	1041.5	100	100	100			
GR	208.95	898.8	209.39	912.8	208.89	912.9	208.16	943.8	208.91	943.8
GR	208.91	951.64	207.07	959	207.07	1000	207.07	1037	208.20	1041.5
GR	208.20	1043.5	207.6	1081.5						
X1	5900	12	952.28	1041.5	100	100	100			
GR	209.3	900.1	209.72	912	209.22	912.1	208.49	950.8	209.24	950.9
GR	209.24	952.28	207.31	960	207.31	1000	207.31	1037	208.40	1041.5
GR	208.40	1043.5	207.5	1081						

```
X1     6000       12    960.24    1041.5       100       100       100
GR    209.7    900.4    209.97     911.2    209.47     911.3    208.74     959.1    209.49     959.2
GR   209.49   960.24    207.55       968    207.55      1000    207.55      1037    208.70    1041.5
GR   208.70   1043.5     208.1      1081

X1     6100       11    974.16      1028       100       100       100
GR    210.5    900.6    210.23     909.9    209.73     909.9    208.99     964.3    209.74     964.4
GR   209.74   974.16    207.79       982    207.79      1000    207.79      1018    209.50      1028
GR    208.9     1081

X1     6200       11     974.7      1028       100       100       100
GR    210.5    900.9    210.47     908.4    209.97     908.5     209.1     963.3    209.86     963.3
GR   209.86    974.7    208.03       982    208.03      1000    208.03      1018    210.20      1028
GR    209.3     1082

X1     6300       11       973      1030       100       100       100
GR    210.1      898    210.53     907.3    210.03     907.4    210.04     972.5    210.79    972.51
GR   210.79    973.0    210.68       990    210.51      1000    210.51      1013    210.30      1030
GR    210.1     1083
  The following 4 stations (6305,6307,6386 & 6387) are for the weir flow
     condition at Thomas Road.

X1     6305        9       972      1030         5         5         5
GR    210.5    893.2     210.5     904.1     210.0     904.2    210.20       972    210.66       990
GR   210.70     1000    210.66      1013    210.20      1030     210.0      1083

X1     6307        9       970      1030         2         2         2
GR    210.5    892.3     210.5     902.2     210.0     902.3    210.20       970    210.70       990
GR   210.74     1000    210.70    1010.8    210.20      1030     210.0      1083

X1     6386        9       970      1025        79        79        79
GR    211.1    885.8     211.1     897.2     210.6     897.3    210.10       970    210.60       980
GR   210.65     1000    210.60    1010.8     210.5      1025     210.0      1073

X1     6387        9       970      1025         1         1         1
GR    211.1    886.6     211.1     898.1     210.6     898.2    210.10       970    210.60       980
GR   210.63     1000    210.50      1018    210.45      1025     210.0      1073

QT        1       60
X1     6400       11     968.2      1027        13        13        13
GR    210.3      896    210.91     903.7    210.41     903.8    210.20     967.6    210.70     967.7
GR   210.70    968.2     210.0       991    209.30      1000    209.00      1018    209.50      1027
GR    209.5     1073

X1     6500       11     973.8      1026       100       100       100
GR    210.5    896.7    211.13     905.4    210.63     905.5    209.86     967.5    210.36     967.6
GR   210.55    973.8    208.75       981    208.75      1000    208.75      1018    210.60      1026
GR    209.7     1073
```

X1	6600	12	972.6	1026	100	100	100			
GR	213.0	899.2	211.5	907	211	907.1	210.09	966.6	210.59	966.7
GR	210.59	972.6	208.99	979	208.99	1000	208.99	1018	211.00	1026
GR	211.30	1035	211.9	1077						
X1	6700	11	973.3	1028	100	100	100			
GR	213	900.7	211.81	908.6	211.31	908.7	210.41	963.6	210.91	963.7
GR	210.91	973.3	209.23	980	209.23	1000	209.23	1018	211.40	1028
GR	212.5	1079								
X1	6800	11	972	1026	100	100	100			
GR	213.53	902.3	212.05	910.2	211.55	910.3	210.72	960.5	211.22	960.6
GR	211.22	972	209.47	979	209.47	1000	209.47	1018	211.50	1026
GR	212.8	1082								
X1	6900	11	969.6	1025	100	100	100			
GR	213.75	903.9	212.31	913.1	211.81	913.2	211.05	958.5	211.55	958.6
GR	211.55	969.6	209.71	977	209.71	1000	209.71	1018	211.50	1025
GR	212.5	1085								
X1	7000	11	969.4	1028	100	100	100			
GR	212.58	903.7	212.56	918.2	212.06	918.3	211.35	958.1	211.85	958.2
GR	211.85	969.4	209.95	977	209.95	1000	209.95	1018	212.50	1028
GR	212.1	1084								
QT	1	20								
X1	7100	11	970.4	1027	100	100	100			
GR	212.1	902.4	211.94	915.2	211.44	915.3	211.10	957.6	211.60	957.7
GR	211.60	970.4	210.19	976	210.19	1000	210.19	1018	212.40	1027
GR	212.0	1086								
X1	7200	11	970.2	1027	100	100	100			
GR	212.58	903.1	212.45	917.2	211.95	917.3	211.39	957.1	211.89	957.2
GR	211.89	970.2	210.43	976	210.43	1000	210.43	1018	212.60	1027
GR	213.8	1084								
X1	7300	11	967.5	1036	100	100	100			
GR	212.8	902.8	213.11	916.7	212.61	916.8	212.05	956.6	212.55	957.7
GR	212.55	967.5	210.67	975	210.67	1000	210.67	1018	212.30	1036
GR	212.0	1084								
X1	7400	13	965.8	1038	100	100	100			
GR	213.2	902.5	213.77	916.2	213.27	916.2	212.71	956.1	213.21	956.2
GR	213.21	965.8	210.91	975	210.91	1000	210.91	1018	212.20	1038
GR	214.0	1070	211.0	1085	209.0	1089				
X1	7500	13	963.2	1034	100	100	100			
GR	214	902.1	214.43	915.9	213.93	915.9	213.36	955.8	213.86	955.9
GR	213.86	963.2	211.15	974	211.15	1000	211.15	1023	212.30	1034
GR	212.80	1060	213.7	1078	211.0	1085				

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

*PROF 1

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= 0.100 CEHV= 0.300
*SECNO 0.000
3280 CROSS SECTION 0.00 EXTENDED 0.31 FEET

3470 ENCROACHMENT STATIONS= 1000.0 1016.0 TYPE= 1 TARGET= 16.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 100000.00 ELREA= 100000.00

0.000	15.31	184.98	184.82	180.00	192.33	7.34	0.00	0.00	100000.00
5270.0	0.0	5270.0	0.0	0.0	242.3	0.0	0.0	0.0	100000.00
0.00	0.00	21.75	0.00	0.000	0.015	0.000	0.000	169.67	1000.00
0.005253	0.	0.	0.	0	11	3	0.00	16.00	1016.00

*SECNO 384.000
3280 CROSS SECTION 384.00 EXTENDED 5.79 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.71

384.000	20.80	192.51	189.89	0.00	193.54	1.03	0.59	0.63	186.71
5270.0	988.0	3294.0	988.0	289.7	330.3	289.7	5.1	0.6	186.71
0.01	3.41	9.97	3.41	0.035	0.015	0.035	0.000	171.71	950.00
0.000718	374.	384.	394.	4	13	0	0.00	116.00	1066.00

*SECNO 434.000
3280 CROSS SECTION 434.00 EXTENDED 3.52 FEET

3301 HV CHANGED MORE THAN HVINS

434.000	19.90	191.88	191.01	0.00	193.88	2.00	0.05	0.29	188.36
5270.0	610.2	4049.6	610.2	176.1	316.0	176.1	6.0	0.7	188.36
0.02	3.46	12.81	3.46	0.035	0.015	0.035	0.000	171.98	950.00
0.001360	49.	50.	51.	3	12	0	0.00	116.00	1066.00

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

```
*SECNO 484.000
3280 CROSS SECTION    484.00 EXTENDED      2.35 FEET


3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   484.000     19.55    192.35    192.35      0.00    195.21      2.86      0.08      0.26    190.00
    5270.0     371.4    4527.1     371.4     117.5     310.4     117.5       6.7       0.8    190.00
      0.02      3.16     14.59      3.16     0.035     0.015     0.035     0.000    172.80    950.00
  0.001887       49.       50.       51.         0         8         0      0.00    116.00   1066.00


CCHV=    0.300 CEHV=    0.500
*SECNO 684.000
3280 CROSS SECTION    684.00 EXTENDED      5.07 FEET


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.24

   684.000     19.00    195.07    187.11      0.00    195.95      0.88      0.14      0.59    190.00
    5270.0     575.7    4118.6     575.7     253.2     488.5     253.2      10.2       1.4    190.00
      0.02      2.27      8.43      2.27     0.035     0.015     0.035     0.000    176.07    950.00
  0.000375      200.      200.      200.         4        11         0      0.00    126.00   1076.00


*SECNO 726.000
3280 CROSS SECTION    726.00 EXTENDED      2.86 FEET

   726.000     17.74    194.85    187.94      0.00    196.18      1.33      0.01      0.22    177.11
    5270.0     348.9    4572.2     348.9     217.8     461.4     217.8      11.1       1.5    177.11
      0.03      1.60      9.91      1.60     0.035     0.015     0.035     0.000    177.11    950.00
  0.000216       42.       42.       42.         2        11         0      0.00    126.00   1076.00
```

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

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	2	0.014	0.20	2.60	0.00	10.00	12.00	274.00	9	2	179.85	177.11

CHART 9 - BOX CULVERT WITH FLARED WINGWALL AND INLET TOP EDGE BEVEL
SCALE 2 - WINGWALL FLARED 18 TO 33.7 DEGREES; INLET TOP EDGE BEVEL = 0.083D

5135, EGOC= 206.92 ..MAY BE TOO LARGE IF OUTLET CONTROLS.
*SECNO 1000.000

SPECIAL CULVERT OUTLET CONTROL + WEIR FLOW EG = 197.68
3280 CROSS SECTION 1000.00 EXTENDED 2.25 FEET

3301 HV CHANGED MORE THAN HVINS

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
200.11	206.92	1.50	2752.	2550.	12.715	240.0	194.00	150.

1000.000	15.45	195.25	0.00	0.00	197.68	2.43	1.50	0.00	179.80
5270.0	43.0	5106.5	120.4	34.4	401.6	115.2	15.7	2.3	179.80
0.03	1.25	12.71	1.05	0.035	0.015	0.035	0.000	179.80	970.00
0.000428	274.	274.	274.	4	0	0	0.00	129.00	1099.00

*SECNO 1099.000
3280 CROSS SECTION 1099.00 EXTENDED 2.78 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.60

1099.000	17.75	197.79	188.59	0.00	198.29	0.50	0.03	0.58	191.79
5270.0	982.5	4148.2	139.3	513.6	658.9	97.5	17.8	2.6	191.79
0.04	1.91	6.30	1.43	0.035	0.015	0.035	0.000	180.04	900.00
0.000167	99.	99.	99.	3	11	0	0.00	141.00	1041.00

CCHV= 0.100 CEHV= 0.300
*SECNO 1100.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.23

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
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= 198.50 ELREA= 198.50

1100.000	8.30	198.30	192.68	0.00	198.33	0.03	0.00	0.05	198.50
1170.0	0.0	1170.0	0.0	0.0	866.7	0.0	17.8	2.6	198.50
0.04	0.00	1.35	0.00	0.000	0.045	0.000	0.000	190.00	900.78
0.000154	1.	1.	1.	2	20	0	0.00	140.21	1040.99

*SECNO 1200.000
3280 CROSS SECTION 1200.00 EXTENDED 3.32 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 198.50 ELREA= 198.50

1200.000	8.29	198.32	194.12	0.00	198.36	0.04	0.02	0.00	198.50
1170.0	0.0	1170.0	0.0	0.0	745.4	0.0	19.6	3.0	198.50
0.05	0.00	1.57	0.00	0.000	0.045	0.000	0.000	190.03	893.02
0.000278	109.	100.	96.	0	8	0	0.00	149.28	1042.30

*SECNO 1300.000
3280 CROSS SECTION 1300.00 EXTENDED 2.44 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 198.50 ELREA= 198.50

1300.000	8.07	198.34	194.37	0.00	198.39	0.04	0.03	0.00	198.50
1170.0	0.0	1170.0	0.0	0.0	708.0	0.0	21.3	3.3	198.50
0.07	0.00	1.65	0.00	0.000	0.045	0.000	0.000	190.27	894.90
0.000322	104.	100.	96.	0	8	0	0.00	146.90	1041.80

*SECNO 1400.000
3280 CROSS SECTION 1400.00 EXTENDED 1.67 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 198.50 ELREA= 198.50

1400.000	7.87	198.38	194.65	0.00	198.42	0.05	0.03	0.00	198.50
1170.0	0.0	1170.0	0.0	0.0	673.4	0.0	22.9	3.6	198.50
0.09	0.00	1.74	0.00	0.000	0.045	0.000	0.000	190.51	895.71
0.000372	107.	100.	96.	0	8	0	0.00	144.49	1040.20

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

*SECNO 1500.000
3280 CROSS SECTION 1500.00 EXTENDED 0.81 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 198.50 ELREA= 198.50

1500.000	7.66	198.41	194.70	0.00	198.46	0.05	0.04	0.00	198.50
1170.0	0.0	1170.0	0.0	0.0	639.5	0.0	24.4	4.0	198.50
0.10	0.00	1.83	0.00	0.000	0.045	0.000	0.000	190.75	895.52
0.000431	107.	100.	96.	0	9	0	0.00	142.08	1037.60

*SECNO 1600.000
3280 CROSS SECTION 1600.00 EXTENDED 0.15 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 199.10 ELREA= 198.64

1600.000	6.25	198.45	195.64	0.00	198.53	0.08	0.06	0.01	199.10
1170.0	0.0	1170.0	0.0	0.0	517.7	0.0	25.7	4.3	198.64
0.12	0.00	2.26	0.00	0.000	0.045	0.000	0.000	192.20	905.11
0.000784	104.	100.	98.	0	13	0	0.00	131.19	1036.29

*SECNO 1700.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.52

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 201.45 ELREA= 199.08

1700.000	4.89	198.49	196.87	0.00	198.70	0.21	0.14	0.04	201.45
1170.0	0.0	1170.0	0.0	0.0	315.9	0.0	26.7	4.6	199.08
0.12	0.00	3.70	0.00	0.000	0.045	0.000	0.000	193.60	939.27
0.002882	105.	100.	96.	1	11	0	0.00	101.11	1040.38

*SECNO 1800.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.58

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
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= 202.91 ELREA= 199.52

1800.000	3.69	198.79	198.07	0.00	199.23	0.44	0.46	0.07	202.91
1170.0	0.0	1170.0	0.0	0.0	218.7	0.0	27.3	4.8	199.52
0.13	0.00	5.35	0.00	0.000	0.045	0.000	0.000	195.10	952.86
0.008542	105.	99.	96.	2	14	0	0.00	91.22	1044.08

*SECNO 1900.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 203.57 ELREA= 199.96

1900.000	3.14	199.64	198.68	0.00	199.95	0.31	0.70	0.01	203.57
950.0	0.0	950.0	0.0	0.0	213.1	0.0	27.8	5.0	199.96
0.13	0.00	4.46	0.00	0.000	0.045	0.000	0.000	196.50	960.58
0.005691	104.	100.	96.	2	14	0	0.00	86.21	1046.79

*SECNO 2000.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 203.71 ELREA= 200.71

2000.000	2.32	200.27	199.69	0.00	200.73	0.46	0.74	0.04	203.71
950.0	0.0	950.0	0.0	0.0	175.4	0.0	28.2	5.2	200.71
0.14	0.00	5.42	0.00	0.000	0.045	0.000	0.000	197.95	968.71
0.009871	104.	100.	96.	2	11	0	0.00	80.18	1048.88

*SECNO 2025.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 202.27 ELREA= 201.00

2025.000	2.50	200.51	199.92	0.00	200.98	0.47	0.25	0.00	202.27
950.0	0.0	950.0	0.0	0.0	172.5	0.0	28.3	5.2	201.00
0.14	0.00	5.51	0.00	0.000	0.045	0.000	0.000	198.01	969.00
0.009917	27.	25.	24.	2	15	0	0.00	79.00	1048.00

*SECNO 2026.000

2026.000	2.51	200.52	199.92	0.00	200.99	0.47	0.01	0.00	202.27
950.0	0.0	950.0	0.0	0.0	173.3	0.0	28.3	5.2	200.81
0.14	0.00	5.48	0.00	0.000	0.045	0.000	0.000	198.01	968.96
0.009784	1.	1.	1.	0	15	0	0.00	79.08	1048.04

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

*SECNO 2100.000
3280 CROSS SECTION 2100.00 EXTENDED 0.21 FEET

2100.000	3.02	201.21	200.18	0.00	201.55	0.34	0.55	0.01	203.26
950.0	0.0	948.6	1.4	0.0	202.7	1.9	28.6	5.4	201.20
0.14	0.00	4.68	0.74	0.000	0.045	0.035	0.000	198.19	968.91
0.005798	76.	74.	71.	2	15	0	0.00	98.09	1067.00

*SECNO 2200.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2200.00 EXTENDED 0.77 FEET

2200.000	3.34	201.77	200.24	0.00	201.97	0.20	0.41	0.01	203.57
950.0	0.0	942.5	7.5	0.0	260.1	6.3	29.2	5.6	201.80
0.15	0.00	3.62	1.20	0.000	0.045	0.035	0.000	198.43	961.64
0.003014	102.	100.	97.	2	14	0	0.00	107.61	1072.00

*SECNO 2300.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2300.00 EXTENDED 1.18 FEET

2300.000	3.41	202.08	200.45	0.00	202.26	0.18	0.28	0.00	203.88
950.0	0.0	938.5	11.5	0.0	273.5	8.0	29.8	5.8	202.20
0.16	0.00	3.43	1.44	0.000	0.045	0.035	0.000	198.67	959.38
0.002635	100.	100.	100.	2	11	0	0.00	107.67	1071.00

*SECNO 2400.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2400.00 EXTENDED 0.75 FEET

2400.000	3.43	202.34	200.65	0.00	202.51	0.17	0.25	0.00	203.80
950.0	0.0	947.7	2.3	0.0	282.8	2.3	30.5	6.1	202.40
0.17	0.00	3.35	1.01	0.000	0.045	0.035	0.000	198.91	957.25
0.002468	100.	100.	100.	1	11	0	0.00	102.12	1062.00

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

*SECNO 2500.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2500.00 EXTENDED 0.99 FEET

2500.000	3.44	202.59	201.00	0.00	202.79	0.20	0.27	0.01	203.54
950.0	0.0	940.5	9.5	0.0	261.5	7.0	31.1	6.3	202.80
0.18	0.00	3.60	1.37	0.000	0.045	0.035	0.000	199.15	952.23
0.002892	100.	100.	100.	0	11	0	0.00	103.99	1062.00

*SECNO 2600.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2600.00 EXTENDED 1.08 FEET

2600.000	3.49	202.88	201.07	0.00	203.03	0.15	0.24	0.00	203.28
950.0	1.6	945.6	2.8	2.6	303.5	2.5	31.8	6.6	203.20
0.19	0.61	3.12	1.10	0.035	0.045	0.035	0.000	199.39	932.67
0.002069	100.	100.	100.	2	11	0	0.00	120.35	1062.00

*SECNO 2700.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2700.00 EXTENDED 1.20 FEET

2700.000	3.47	203.10	201.23	0.00	203.23	0.12	0.19	0.00	203.03
880.0	13.6	863.7	2.7	14.1	302.0	2.6	32.5	6.9	203.30
0.20	0.97	2.86	1.05	0.035	0.045	0.035	0.000	199.63	914.87
0.001752	100.	100.	100.	2	14	0	0.00	142.61	1061.00

*SECNO 2800.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2800.00 EXTENDED 1.29 FEET

2800.000	3.41	203.28	201.49	0.00	203.41	0.13	0.18	0.00	203.26
880.0	13.1	862.3	4.6	12.8	290.8	3.8	33.2	7.2	203.40
0.21	1.02	2.97	1.20	0.035	0.045	0.035	0.000	199.87	918.29
0.001929	100.	100.	100.	1	14	0	0.00	138.73	1060.00

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

*SECNO 2900.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2900.00 EXTENDED 1.47 FEET

2900.000	3.36	203.47	201.73	0.00	203.62	0.14	0.20	0.00	203.59
880.0	7.7	868.3	4.0	8.6	285.5	3.2	33.9	7.5	203.70
0.21	0.89	3.04	1.26	0.035	0.045	0.035	0.000	200.11	922.84
0.002075	100.	100.	100.	1	11	0	0.00	129.78	1059.00

*SECNO 3000.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3000.00 EXTENDED 0.87 FEET

3000.000	3.33	203.68	201.97	0.00	203.83	0.15	0.21	0.00	203.90
880.0	4.7	873.6	1.7	5.8	281.6	1.7	34.6	7.8	203.90
0.22	0.81	3.10	0.99	0.035	0.045	0.035	0.000	200.35	927.58
0.002182	100.	100.	100.	0	11	0	0.00	124.07	1058.50

*SECNO 3100.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3100.00 EXTENDED 1.30 FEET

3100.000	3.32	203.91	202.21	0.00	204.05	0.14	0.21	0.00	204.20
880.0	3.0	851.8	25.2	4.2	280.5	17.8	35.3	8.1	204.10
0.23	0.72	3.04	1.42	0.035	0.045	0.035	0.000	200.59	930.29
0.002103	100.	100.	100.	1	11	0	0.00	143.83	1085.00

*SECNO 3200.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3200.00 EXTENDED 1.42 FEET

3200.000	3.29	204.12	202.45	0.00	204.26	0.14	0.21	0.00	204.54
880.0	1.4	847.2	31.4	2.3	279.0	20.9	35.9	8.4	204.20
0.24	0.59	3.04	1.51	0.035	0.045	0.035	0.000	200.83	933.95
0.002121	100.	100.	100.	0	11	0	0.00	141.42	1084.00

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

*SECNO 3300.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3300.00 EXTENDED 0.83 FEET

3300.000	3.26	204.33	202.68	0.00	204.48	0.15	0.22	0.00	204.73
880.0	1.7	865.8	12.5	2.7	275.8	11.3	36.6	8.8	204.40
0.25	0.64	3.14	1.11	0.035	0.045	0.035	0.000	201.07	932.90
0.002291	100.	100.	100.	0	8	0	0.00	140.12	1082.50

*SECNO 3400.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3400.00 EXTENDED 1.06 FEET

3400.000	3.25	204.56	202.93	0.00	204.71	0.15	0.23	0.00	204.70
880.0	7.1	855.6	17.3	7.9	274.2	13.5	37.3	9.1	204.70
0.26	0.90	3.12	1.29	0.035	0.045	0.035	0.000	201.31	923.78
0.002272	100.	100.	100.	1	8	0	0.00	148.95	1082.00

*SECNO 3500.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3500.00 EXTENDED 1.39 FEET

3500.000	3.25	204.80	203.09	0.00	204.92	0.12	0.21	0.00	204.96
810.0	6.1	778.7	25.2	7.5	273.8	18.0	38.0	9.4	204.90
0.27	0.81	2.84	1.40	0.035	0.045	0.035	0.000	201.55	925.46
0.001893	100.	100.	100.	0	11	0	0.00	149.47	1081.00

*SECNO 3600.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3600.00 EXTENDED 1.80 FEET

3600.000	3.20	204.99	203.50	0.00	205.16	0.17	0.22	0.01	205.18
810.0	7.2	776.2	26.6	7.6	234.5	14.0	38.6	9.8	205.10
0.28	0.95	3.31	1.90	0.035	0.045	0.035	0.000	201.79	926.52
0.002677	100.	100.	100.	1	11	0	0.00	128.43	1061.00

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

*SECNO 3700.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3700.00 EXTENDED 1.46 FEET

3700.000	3.23	205.26	203.74	0.00	205.41	0.14	0.25	0.00	204.82
810.0	54.3	738.5	17.2	34.2	235.5	11.1	39.2	10.1	205.40
0.29	1.59	3.14	1.55	0.035	0.045	0.035	0.000	202.03	904.00
0.002311	100.	100.	100.	2	11	0	0.00	153.06	1061.00

*SECNO 3800.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3800.00 EXTENDED 2.41 FEET

3800.000	3.24	205.51	203.94	0.00	205.60	0.10	0.19	0.00	205.00
810.0	71.4	652.8	85.7	43.6	246.2	46.0	39.9	10.5	205.60
0.30	1.64	2.65	1.86	0.035	0.045	0.035	0.000	202.27	905.50
0.001631	100.	100.	100.	0	11	0	0.00	176.78	1086.00

*SECNO 3900.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3900.00 EXTENDED 3.27 FEET

3900.000	3.27	205.67	204.06	0.00	205.76	0.09	0.16	0.00	205.13
810.0	61.5	611.6	136.9	40.7	241.5	63.0	40.7	10.9	205.80
0.31	1.51	2.53	2.17	0.035	0.045	0.035	0.000	202.40	905.70
0.001523	100.	100.	100.	2	11	0	0.00	177.29	1087.00

*SECNO 4000.000

3265 DIVIDED FLOW

3280 CROSS SECTION 4000.00 EXTENDED 3.33 FEET

4000.000	3.33	205.83	204.29	0.00	205.91	0.08	0.15	0.00	204.88
810.0	109.5	568.1	132.4	60.4	234.7	62.6	41.5	11.3	206.00
0.32	1.81	2.42	2.12	0.035	0.045	0.035	0.000	202.50	905.90
0.001418	100.	100.	100.	0	11	0	0.00	176.94	1087.50

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

*SECNO 4100.000

3265 DIVIDED FLOW

3280 CROSS SECTION 4100.00 EXTENDED 3.52 FEET

4100.000	3.52	205.97	204.49	0.00	206.05	0.08	0.14	0.00	204.84
810.0	136.7	534.5	138.8	70.8	227.3	64.6	42.4	11.7	206.20
0.34	1.93	2.35	2.15	0.035	0.045	0.035	0.000	202.45	906.10
0.001368	100.	100.	100.	0	14	0	0.00	175.65	1087.00

*SECNO 4200.000

3265 DIVIDED FLOW

3280 CROSS SECTION 4200.00 EXTENDED 3.31 FEET

4200.000	3.31	206.11	204.75	0.00	206.20	0.09	0.15	0.00	205.09
810.0	132.4	541.8	135.8	66.6	218.7	60.9	43.2	12.1	206.40
0.35	1.99	2.48	2.23	0.035	0.045	0.035	0.000	202.80	906.30
0.001591	100.	100.	100.	0	11	0	0.00	175.29	1088.00

*SECNO 4300.000

3265 DIVIDED FLOW

3280 CROSS SECTION 4300.00 EXTENDED 3.77 FEET

4300.000	3.77	206.27	204.89	0.00	206.36	0.09	0.16	0.00	205.34
810.0	124.3	524.3	161.4	64.6	213.9	66.7	44.0	12.5	206.65
0.36	1.92	2.45	2.42	0.035	0.045	0.035	0.000	202.50	906.50
0.001612	100.	100.	100.	1	19	0	0.00	173.89	1087.50

*SECNO 4400.000

3280 CROSS SECTION 4400.00 EXTENDED 3.63 FEET

4400.000	3.63	206.43	205.06	0.00	206.50	0.07	0.14	0.00	205.15
810.0	157.4	459.7	192.9	81.2	214.0	84.4	44.8	12.9	205.85
0.37	1.94	2.15	2.29	0.035	0.045	0.035	0.000	202.80	906.70
0.001229	100.	100.	100.	0	14	0	0.00	181.30	1088.00

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

*SECNO 4500.000
3280 CROSS SECTION 4500.00 EXTENDED 3.06 FEET

4500.000	3.06	206.56	205.34	0.00	206.63	0.08	0.13	0.00	205.24
810.0	187.2	455.1	167.8	86.9	201.3	75.3	45.6	13.3	206.05
0.38	2.15	2.26	2.23	0.035	0.045	0.035	0.000	203.50	906.90
0.001418	100.	100.	100.	1	8	0	0.00	181.10	1088.00

*SECNO 4600.000
3280 CROSS SECTION 4600.00 EXTENDED 3.20 FEET

4600.000	3.21	206.71	205.54	0.00	206.79	0.09	0.15	0.00	205.55
810.0	158.6	463.0	188.4	74.0	193.1	76.6	46.5	13.7	206.25
0.40	2.14	2.40	2.46	0.035	0.045	0.035	0.000	203.50	906.50
0.001694	100.	100.	100.	1	23	0	0.00	181.50	1088.00

*SECNO 4700.000
3280 CROSS SECTION 4700.00 EXTENDED 3.67 FEET

4700.000	3.68	206.88	205.66	0.00	206.95	0.07	0.16	0.00	205.83
740.0	128.9	407.1	204.0	67.9	188.2	84.5	47.2	14.1	206.50
0.41	1.90	2.16	2.41	0.035	0.045	0.035	0.000	203.20	907.00
0.001441	100.	100.	100.	1	19	0	0.00	181.50	1088.50

*SECNO 4800.000
3280 CROSS SECTION 4800.00 EXTENDED 3.33 FEET

4800.000	3.33	207.03	205.93	0.00	207.11	0.08	0.16	0.00	206.11
740.0	120.7	426.3	193.1	61.6	182.2	76.7	48.0	14.6	206.70
0.42	1.96	2.34	2.52	0.035	0.045	0.035	0.000	203.70	907.50
0.001763	100.	100.	100.	0	14	0	0.00	181.00	1088.50

*SECNO 4900.000
3280 CROSS SECTION 4900.00 EXTENDED 3.25 FEET

4900.000	3.26	207.21	206.16	0.00	207.29	0.09	0.18	0.00	206.26
740.0	142.2	411.3	186.6	67.4	175.9	74.2	48.7	15.0	206.90
0.43	2.11	2.34	2.52	0.035	0.045	0.035	0.000	203.95	908.00
0.001834	100.	100.	100.	1	23	0	0.00	180.50	1088.50

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

*SECNO 5000.000
3280 CROSS SECTION 5000.00 EXTENDED 3.04 FEET

5000.000	3.03	207.38	206.23	0.00	207.46	0.08	0.16	0.00	206.01
740.0	231.9	357.1	151.0	97.2	170.6	69.5	49.5	15.4	207.10
0.44	2.39	2.09	2.17	0.035	0.045	0.035	0.000	204.35	909.40
0.001481	100.	100.	100.	0	14	0	0.00	179.10	1088.50

*SECNO 5100.000
3280 CROSS SECTION 5100.00 EXTENDED 2.82 FEET

5100.000	2.82	207.52	205.79	0.00	207.52	0.00	0.06	0.01	206.21
130.0	37.2	67.4	25.5	85.6	164.2	61.3	50.2	15.8	207.30
0.51	0.43	0.41	0.42	0.035	0.045	0.035	0.000	204.70	901.80
0.000061	100.	100.	100.	2	16	0	0.00	183.20	1085.00

*SECNO 5200.000
3280 CROSS SECTION 5200.00 EXTENDED 2.43 FEET

5200.000	2.43	207.53	206.03	0.00	207.53	0.00	0.01	0.00	206.57
130.0	24.8	80.9	24.3	53.2	166.0	50.2	50.9	16.2	207.30
0.57	0.47	0.49	0.48	0.035	0.045	0.035	0.000	205.10	898.60
0.000098	100.	100.	100.	2	21	0	0.00	183.40	1082.00

*SECNO 5300.000
3280 CROSS SECTION 5300.00 EXTENDED 1.64 FEET

5300.000	1.67	207.54	206.29	0.00	207.55	0.01	0.01	0.00	206.93
130.0	19.6	93.9	16.6	35.9	148.8	30.4	51.5	16.6	207.30
0.61	0.55	0.63	0.55	0.035	0.045	0.035	0.000	205.87	898.40
0.000197	100.	100.	100.	0	20	0	0.00	182.60	1081.00

*SECNO 5400.000

3265 DIVIDED FLOW

3280 CROSS SECTION 5400.00 EXTENDED 1.45 FEET

5400.000	1.46	207.56	206.54	0.00	207.57	0.01	0.03	0.00	207.29
130.0	13.1	94.5	22.5	23.4	119.4	31.9	51.9	17.0	207.35
0.65	0.56	0.79	0.70	0.035	0.045	0.035	0.000	206.10	898.80
0.000377	100.	100.	100.	0	14	0	0.00	174.45	1081.00

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

*SECNO 5500.000

3265 DIVIDED FLOW

3280 CROSS SECTION 5500.00 EXTENDED 0.80 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.68

5500.000	1.26	207.61	206.77	0.00	207.62	0.01	0.05	0.00	207.65
120.0	5.7	99.4	14.9	10.4	102.5	21.0	52.3	17.4	207.35
0.68	0.55	0.97	0.71	0.035	0.045	0.035	0.000	206.35	921.20
0.000685	100.	100.	100.	1	14	0	0.00	156.70	1081.00

*SECNO 5600.000

3265 DIVIDED FLOW

3280 CROSS SECTION 5600.00 EXTENDED 0.89 FEET

5600.000	1.10	207.69	207.01	0.00	207.71	0.02	0.08	0.00	207.94
120.0	2.8	95.8	21.5	5.3	89.8	23.5	52.5	17.8	207.40
0.71	0.52	1.07	0.91	0.035	0.045	0.035	0.000	206.59	927.35
0.000978	100.	100.	100.	2	17	0	0.00	147.52	1081.00

*SECNO 5700.000

3265 DIVIDED FLOW

3280 CROSS SECTION 5700.00 EXTENDED 0.42 FEET

5700.000	0.98	207.81	207.24	0.00	207.84	0.03	0.14	0.00	208.30
120.0	0.7	113.8	5.5	1.5	80.8	8.2	52.8	18.1	207.80
0.73	0.49	1.41	0.67	0.035	0.045	0.035	0.000	206.83	934.72
0.001983	100.	100.	100.	2	18	0	0.00	137.16	1081.00

*SECNO 5800.000

3265 DIVIDED FLOW

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

3280 CROSS SECTION 5800.00 EXTENDED 0.42 FEET

5800.000	0.96	208.03	207.49	0.00	208.06	0.03	0.21	0.00	208.91
120.0	0.0	115.9	4.1	0.0	78.1	5.7	53.0	18.4	208.20
0.75	0.00	1.48	0.72	0.000	0.045	0.035	0.000	207.07	955.18
0.002290	100.	100.	100.	2	14	0	0.00	112.53	1081.50

*SECNO 5900.000

3265 DIVIDED FLOW

3280 CROSS SECTION 5900.00 EXTENDED 0.75 FEET

5900.000	0.94	208.25	207.73	0.00	208.28	0.03	0.22	0.00	209.24
120.0	0.0	108.2	11.8	0.0	75.7	11.6	53.2	18.7	208.40
0.77	0.00	1.43	1.01	0.000	0.045	0.035	0.000	207.31	956.25
0.002182	100.	100.	100.	1	14	0	0.00	115.74	1081.00

*SECNO 6000.000

3265 DIVIDED FLOW

3280 CROSS SECTION 6000.00 EXTENDED 0.39 FEET

6000.000	0.95	208.50	208.00	0.00	208.54	0.04	0.26	0.00	209.49
120.0	0.0	116.3	3.7	0.0	68.4	4.8	53.4	18.9	208.70
0.78	0.00	1.70	0.79	0.000	0.045	0.035	0.000	207.55	964.24
0.003084	100.	100.	100.	1	11	0	0.00	100.86	1081.00

*SECNO 6100.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.68

6100.000	1.10	208.89	208.47	0.00	209.00	0.11	0.44	0.02	209.74
120.0	0.0	120.0	0.0	0.0	45.6	0.0	53.5	19.1	209.50
0.80	0.00	2.63	0.00	0.000	0.045	0.000	0.000	207.79	977.57
0.006623	100.	100.	100.	2	15	0	0.00	46.86	1024.44

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

*SECNO 6200.000

3265 DIVIDED FLOW

3280 CROSS SECTION 6200.00 EXTENDED 0.08 FEET

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

6200.000	1.36	209.39	208.71	0.00	209.45	0.07	0.45	0.00	209.86
120.0	1.5	118.4	0.0	2.4	56.3	0.2	53.6	19.2	210.20
0.81	0.64	2.10	0.27	0.035	0.045	0.035	0.000	208.03	945.88
0.003275	100.	100.	100.	0	14	0	0.00	69.59	1082.00

*SECNO 6300.000

3265 DIVIDED FLOW

3280 CROSS SECTION 6300.00 EXTENDED 0.33 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

6300.000	0.40	210.43	210.43	0.00	210.58	0.15	0.68	0.02	210.79
120.0	90.0	0.6	29.4	27.2	0.7	12.4	53.7	19.4	210.30
0.82	3.30	0.80	2.37	0.035	0.045	0.035	0.000	210.03	898.00
0.021625	100.	100.	100.	0	17	0	0.00	136.32	1083.00

*SECNO 6305.000

3265 DIVIDED FLOW

3280 CROSS SECTION 6305.00 EXTENDED 0.59 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.97

6305.000	0.59	210.59	210.41	0.00	210.64	0.06	0.05	0.01	210.20
120.0	65.2	4.7	50.1	33.9	5.7	25.7	53.7	19.5	210.20
0.82	1.92	0.82	1.95	0.035	0.045	0.035	0.000	210.00	893.20
0.005595	5.	5.	5.	2	5	0	0.00	161.15	1083.00

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

*SECNO 6307.000

3265 DIVIDED FLOW

3280 CROSS SECTION 6307.00 EXTENDED 0.61 FEET

6307.000	0.60	210.60	210.41	0.00	210.65	0.05	0.01	0.00	210.20
120.0	64.9	5.2	49.9	35.8	6.7	27.2	53.7	19.5	210.20
0.82	1.81	0.78	1.84	0.035	0.045	0.035	0.000	210.00	892.30
0.004629	2.	2.	2.	0	19	0	0.00	163.03	1083.00

*SECNO 6386.000
3280 CROSS SECTION 6386.00 EXTENDED 0.89 FEET

6386.000	0.89	210.89	210.62	0.00	210.92	0.03	0.27	0.00	210.10
120.0	56.3	14.9	48.8	39.1	18.3	30.6	53.9	19.8	210.50
0.83	1.44	0.81	1.59	0.035	0.045	0.035	0.000	210.00	897.24
0.002626	79.	79.	79.	2	5	0	0.00	175.76	1073.00

*SECNO 6387.000
3280 CROSS SECTION 6387.00 EXTENDED 0.90 FEET

6387.000	0.90	210.90	210.62	0.00	210.93	0.03	0.00	0.00	210.10
120.0	53.7	16.2	50.1	39.2	19.9	32.2	53.9	19.8	210.45
0.83	1.37	0.81	1.56	0.035	0.045	0.035	0.000	210.00	898.14
0.002347	1.	1.	1.	0	16	0	0.00	174.86	1073.00

*SECNO 6400.000
3280 CROSS SECTION 6400.00 EXTENDED 1.43 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.01

6400.000	1.93	210.93	209.67	0.00	210.93	0.00	0.00	0.00	210.70
60.0	10.3	21.8	27.9	42.5	71.8	65.7	53.9	19.8	209.50
0.84	0.24	0.30	0.42	0.035	0.045	0.035	0.000	209.00	896.00
0.000065	13.	13.	13.	0	14	0	0.00	177.00	1073.00

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

*SECNO 6500.000

3265 DIVIDED FLOW

3280 CROSS SECTION 6500.00 EXTENDED 1.24 FEET

6500.000	2.19	210.94	209.18	0.00	210.94	0.00	0.01	0.00	210.55
60.0	11.5	38.5	10.0	47.4	100.3	37.0	54.3	20.2	210.60
0.93	0.24	0.38	0.27	0.035	0.045	0.035	0.000	208.75	896.70
0.000057	100.	100.	100.	2	17	0	0.00	173.61	1073.00

*SECNO 6600.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.62

6600.000	1.95	210.94	209.40	0.00	210.95	0.00	0.01	0.00	210.59
60.0	7.6	52.4	0.0	26.0	91.2	0.0	54.7	20.6	211.00
0.98	0.29	0.58	0.00	0.035	0.045	0.000	0.000	208.99	910.75
0.000149	100.	100.	100.	0	21	0	0.00	115.02	1025.78

*SECNO 6700.000

6700.000	1.73	210.96	209.65	0.00	210.97	0.01	0.02	0.00	210.91
60.0	2.8	57.2	0.0	9.5	78.3	0.0	54.9	20.8	211.40
1.02	0.29	0.73	0.00	0.035	0.045	0.000	0.000	209.23	930.35
0.000291	100.	100.	100.	0	17	0	0.00	95.60	1025.95

*SECNO 6800.000

3265 DIVIDED FLOW

6800.000	1.53	211.00	209.88	0.00	211.01	0.01	0.04	0.00	211.22
60.0	0.5	59.5	0.0	2.2	68.5	0.0	55.1	21.0	211.50
1.05	0.24	0.87	0.00	0.035	0.045	0.000	0.000	209.47	944.12
0.000472	100.	100.	100.	1	14	0	0.00	67.51	1023.99

*SECNO 6900.000

6900.000	1.34	211.05	210.11	0.00	211.07	0.01	0.06	0.00	211.55
60.0	0.0	60.0	0.0	0.0	61.7	0.0	55.3	21.1	211.50
1.08	0.00	0.97	0.00	0.000	0.045	0.000	0.000	209.71	971.64
0.000688	100.	100.	100.	1	14	0	0.00	51.57	1023.21

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

*SECNO 7000.000
  7000.000      1.18     211.13     210.35       0.00     211.15       0.02       0.08       0.00     211.85
      60.0       0.0       60.0        0.0        0.0       54.0        0.0       55.4       21.2     212.50
      1.10      0.00       1.11       0.00      0.000      0.045      0.000      0.000     209.95     972.27
  0.001041      100.      100.       100.          2         17          0       0.00      50.36    1022.63

*SECNO 7100.000

3265 DIVIDED FLOW

  7100.000      1.02     211.21     210.38       0.00     211.21       0.00       0.06       0.00     211.60
      20.0       0.1       19.9        0.0        0.8       47.1        0.0       55.5       21.4     212.40
      1.17      0.08       0.42       0.00      0.035      0.045      0.000      0.000     210.19     943.65
  0.000180      100.      100.       100.          1         20          0       0.00      64.19    1022.16

*SECNO 7200.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  0.66

  7200.000      0.80     211.23     210.62       0.00     211.24       0.00       0.03       0.00     211.89
      20.0       0.0       20.0        0.0        0.0       36.3        0.0       55.6       21.5     212.60
      1.22      0.00       0.55       0.00      0.000      0.045      0.000      0.000     210.43     972.82
  0.000413      100.      100.       100.          2         21          0       0.00      48.51    1021.32

*SECNO 7300.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  0.67

  7300.000      0.62     211.29     210.86       0.00     211.30       0.01       0.06       0.00     212.55
      20.0       0.0       20.0        0.0        0.0       29.5        0.0       55.7       21.6     212.30
      1.26      0.00       0.68       0.00      0.000      0.045      0.000      0.000     210.67     972.53
  0.000909      100.      100.       100.          2         17          0       0.00      52.30    1024.83

*SECNO 7400.000

3265 DIVIDED FLOW

3280 CROSS SECTION   7400.00 EXTENDED      2.38 FEET
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
7400.000	2.38	211.38	211.07	0.00	211.39	0.01	0.10	0.00	213.21
20.0	0.0	13.4	6.6	0.0	22.5	5.9	55.8	21.7	212.20
1.30	0.00	0.60	1.12	0.000	0.045	0.035	0.000	209.00	973.11
0.001005	100.	100.	100.	2	24	0	0.00	58.12	1089.00

*SECNO 7500.000

3265 DIVIDED FLOW

3280 CROSS SECTION 7500.00 EXTENDED 0.54 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.56

7500.000	0.54	211.54	211.32	0.00	211.56	0.01	0.17	0.00	213.86
20.0	0.0	19.7	0.3	0.0	20.3	0.4	55.8	21.9	212.30
1.33	0.00	0.97	0.78	0.000	0.045	0.035	0.000	211.00	972.43
0.003197	100.	100.	100.	2	17	0	0.00	55.74	1085.00

THIS RUN EXECUTED 8AUG95 10:52:30

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
****

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

Sta. 11+00 to Sta. 20+00

SUMMARY PRINTOUT

	SECNO	Q	XLCH	TOPWID	AREA	VCH	XLBEL	RBEL	CWSEL	ELMIN	EG
	0.000	5270.00	0.00	16.00	242.32	21.75	100000.00	100000.00	184.98	169.67	192.33
*	384.000	5270.00	384.00	116.00	909.70	9.97	186.71	186.71	192.51	171.71	193.54
	434.000	5270.00	50.00	116.00	668.32	12.81	188.36	188.36	191.88	171.98	193.88
*	484.000	5270.00	50.00	116.00	545.31	14.59	190.00	190.00	192.35	172.80	195.21
*	684.000	5270.00	200.00	126.00	994.99	8.43	190.00	190.00	195.07	176.07	195.95
	726.000	5270.00	42.00	126.00	897.07	9.91	177.11	177.11	194.85	177.11	196.18
	1000.000	5270.00	274.00	129.00	551.21	12.71	179.80	179.80	195.25	179.80	197.68
*	1099.000	5270.00	99.00	141.00	1270.00	6.30	191.79	191.79	197.79	180.04	198.29
*	1100.000	1170.00	1.00	140.21	866.74	1.35	198.50	198.50	198.30	190.00	198.33
	1200.000	1170.00	100.00	149.28	745.44	1.57	198.50	198.50	198.32	190.03	198.36
	1300.000	1170.00	100.00	146.90	707.96	1.65	198.50	198.50	198.34	190.27	198.39
	1400.000	1170.00	100.00	144.49	673.41	1.74	198.50	198.50	198.38	190.51	198.42
	1500.000	1170.00	100.00	142.08	639.49	1.83	198.50	198.50	198.41	190.75	198.46
	1600.000	1170.00	100.00	131.19	517.74	2.26	199.10	198.64	198.45	192.20	198.53
*	1700.000	1170.00	100.00	101.11	315.89	3.70	201.45	199.08	198.49	193.60	198.70
*	1800.000	1170.00	99.00	91.22	218.68	5.35	202.91	199.52	198.79	195.10	199.23
	1900.000	950.00	100.00	86.21	213.15	4.46	203.57	199.96	199.64	196.50	199.95

SECNO	Q	XLCH	TOPWID	AREA	VCH	XLBEL	RBEL	CWSEL	ELMIN	EG
2000.000	950.00	100.00	80.18	175.41	5.42	203.71	200.71	200.27	197.95	200.73
2025.000	950.00	25.00	79.00	172.52	5.51	202.27	201.00	200.51	198.01	200.98
2026.000	950.00	1.00	79.08	173.29	5.48	202.27	200.81	200.52	198.01	200.99
2100.000	950.00	74.00	98.09	204.63	4.68	203.26	201.20	201.21	198.19	201.55
2200.000	950.00	100.00	107.61	266.40	3.62	203.57	201.80	201.77	198.43	201.97
2300.000	950.00	100.00	107.67	281.44	3.43	203.88	202.20	202.08	198.67	202.26
2400.000	950.00	100.00	102.12	285.09	3.35	203.80	202.40	202.34	198.91	202.51
2500.000	950.00	100.00	103.99	268.51	3.60	203.54	202.80	202.59	199.15	202.79
2600.000	950.00	100.00	120.35	308.65	3.12	203.28	203.20	202.88	199.39	203.03
2700.000	880.00	100.00	142.61	318.74	2.86	203.03	203.30	203.10	199.63	203.23
2800.000	880.00	100.00	138.73	307.39	2.97	203.26	203.40	203.28	199.87	203.41
2900.000	880.00	100.00	129.78	297.30	3.04	203.59	203.70	203.47	200.11	203.62
3000.000	880.00	100.00	124.07	289.14	3.10	203.90	203.90	203.68	200.35	203.83
3100.000	880.00	100.00	143.83	302.45	3.04	204.20	204.10	203.91	200.59	204.05
3200.000	880.00	100.00	141.42	302.16	3.04	204.54	204.20	204.12	200.83	204.26
3300.000	880.00	100.00	140.12	289.79	3.14	204.73	204.40	204.33	201.07	204.48
3400.000	880.00	100.00	148.95	295.53	3.12	204.70	204.70	204.56	201.31	204.71
3500.000	810.00	100.00	149.47	299.37	2.84	204.96	204.90	204.80	201.55	204.92
3600.000	810.00	100.00	128.43	256.09	3.31	205.18	205.10	204.99	201.79	205.16
3700.000	810.00	100.00	153.06	280.76	3.14	204.82	205.40	205.26	202.03	205.41
3800.000	810.00	100.00	176.78	335.79	2.65	205.00	205.60	205.51	202.27	205.60
3900.000	810.00	100.00	177.29	345.19	2.53	205.13	205.80	205.67	202.40	205.76
4000.000	810.00	100.00	176.94	357.65	2.42	204.88	206.00	205.83	202.50	205.91
4100.000	810.00	100.00	175.65	362.66	2.35	204.84	206.20	205.97	202.45	206.05
4200.000	810.00	100.00	175.29	346.19	2.48	205.09	206.40	206.11	202.80	206.20
4300.000	810.00	100.00	173.89	345.16	2.45	205.34	206.65	206.27	202.50	206.36

	SECNO	Q	XLCH	TOPWID	AREA	VCH	XLBEL	RBEL	CWSEL	ELMIN	EG
	4400.000	810.00	100.00	181.30	379.62	2.15	205.15	205.85	206.43	202.80	206.50
	4500.000	810.00	100.00	181.10	363.49	2.26	205.24	206.05	206.56	203.50	206.63
	4600.000	810.00	100.00	181.50	343.62	2.40	205.55	206.25	206.71	203.50	206.79
	4700.000	740.00	100.00	181.50	340.61	2.16	205.83	206.50	206.88	203.20	206.95
	4800.000	740.00	100.00	181.00	320.50	2.34	206.11	206.70	207.03	203.70	207.11
	4900.000	740.00	100.00	180.50	317.45	2.34	206.26	206.90	207.21	203.95	207.29
	5000.000	740.00	100.00	179.10	337.34	2.09	206.01	207.10	207.38	204.35	207.46
	5100.000	130.00	100.00	183.20	311.06	0.41	206.21	207.30	207.52	204.70	207.52
	5200.000	130.00	100.00	183.40	269.41	0.49	206.57	207.30	207.53	205.10	207.53
	5300.000	130.00	100.00	182.60	215.05	0.63	206.93	207.30	207.54	205.87	207.55
	5400.000	130.00	100.00	174.45	174.72	0.79	207.29	207.35	207.56	206.10	207.57
*	5500.000	120.00	100.00	156.70	133.97	0.97	207.65	207.35	207.61	206.35	207.62
	5600.000	120.00	100.00	147.52	118.64	1.07	207.94	207.40	207.69	206.59	207.71
	5700.000	120.00	100.00	137.16	90.46	1.41	208.30	207.80	207.81	206.83	207.84
	5800.000	120.00	100.00	112.53	83.83	1.48	208.91	208.20	208.03	207.07	208.06
	5900.000	120.00	100.00	115.74	87.33	1.43	209.24	208.40	208.25	207.31	208.28
	6000.000	120.00	100.00	100.86	73.18	1.70	209.49	208.70	208.50	207.55	208.54
*	6100.000	120.00	100.00	46.86	45.61	2.63	209.74	209.50	208.89	207.79	209.00
*	6200.000	120.00	100.00	69.59	58.85	2.10	209.86	210.20	209.39	208.03	209.45
*	6300.000	120.00	100.00	136.32	40.41	0.80	210.79	210.30	210.43	210.03	210.58
*	6305.000	120.00	5.00	161.15	65.30	0.82	210.20	210.20	210.59	210.00	210.64
	6307.000	120.00	2.00	163.03	69.67	0.78	210.20	210.20	210.60	210.00	210.65
	6386.000	120.00	79.00	175.76	88.06	0.81	210.10	210.50	210.89	210.00	210.92
	6387.000	120.00	1.00	174.86	91.26	0.81	210.10	210.45	210.90	210.00	210.93
*	6400.000	60.00	13.00	177.00	180.04	0.30	210.70	209.50	210.93	209.00	210.93
	6500.000	60.00	100.00	173.61	184.75	0.38	210.55	210.60	210.94	208.75	210.94

	SECNO	Q	XLCH	TOPWID	AREA	VCH	XLBEL	RBEL	CWSEL	ELMIN	EG
*	6600.000	60.00	100.00	115.02	117.19	0.58	210.59	211.00	210.94	208.99	210.95
	6700.000	60.00	100.00	95.60	87.86	0.73	210.91	211.40	210.96	209.23	210.97
	6800.000	60.00	100.00	67.51	70.72	0.87	211.22	211.50	211.00	209.47	211.01
	6900.000	60.00	100.00	51.57	61.70	0.97	211.55	211.50	211.05	209.71	211.07
	7000.000	60.00	100.00	50.36	53.98	1.11	211.85	212.50	211.13	209.95	211.15
	7100.000	20.00	100.00	64.19	47.91	0.42	211.60	212.40	211.21	210.19	211.21
*	7200.000	20.00	100.00	48.51	36.27	0.55	211.89	212.60	211.23	210.43	211.24
*	7300.000	20.00	100.00	52.30	29.48	0.68	212.55	212.30	211.29	210.67	211.30
	7400.000	20.00	100.00	58.12	28.36	0.60	213.21	212.20	211.38	209.00	211.39
*	7500.000	20.00	100.00	55.74	20.72	0.97	213.86	212.30	211.54	211.00	211.56

SUMMARY OF ERRORS AND SPECIAL NOTES

```
WARNING SECNO=    384.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=    484.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    484.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=    684.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   1099.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   1100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   1700.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   1800.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   5500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   6100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   6200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=   6300.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   6300.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=   6305.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   6400.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   6600.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   7200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   7300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   7500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```

HEC2 S/N: 1363001034 HMVersion: 6.52 Data File: xcut.hc2

```
*********************************************
*  HEC-2 WATER SURFACE PROFILES             *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE     8AUG95     TIME   13:27:56  *
*********************************************
```

```
****************************************
*  U.S. ARMY CORPS OF ENGINEERS        *
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 8AUG95 13:27:56

```
*************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
*************************************


T1      Old Cross Cut Canal - CHIMP FILE: CHFINMO3.DAT; n=0.045;
T2      Between 90% and 100% Grading Model with 4:1 Side Slopes,20' Notch
T3      Sta. 11+00 to Sta. 20+00 (6:1 Side Slope-East,4:1 Side Slope-West)
T4      Analysis for Stations 0+00 to 75+00 with weir flow @ Thomas Rd.
T5      CHIMP Analysis for Design Discharges (Draft Letter Q to FDCMC 10-7-93)
T6      Some of the cross sections are revised. McDowell Rd. weir = 1194.0
T7      Q @ 5270; Modeled from east R/W to west R/W; Conveyance area not to
T8      exceed west wall or east berm; For west top of bank elevation :
T9      Water surface to be contained upto Sta. 43+00 per existing condition.
T10     A 1' maximum freeboard is used upstream of Sta. 44+00.

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0         2         0         0    .00532         0         0         0       180         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        43        39         4        25        26        23        24         1        42
      3

J5  LPRNT    NUMSEC                    ********REQUESTED SECTION NUMBERS********

      0       -10

NC     .035      .035      .015        .1        .3
QT        1      5270
X1        0         7    999.99   1016.01         0         0         0
X3       10                          1000                  1016
GR   184.67    950.00    184.67    999.99    170.00   1000.00    169.67   1008.00    170.00   1016.00
GR   184.67   1016.01    184.67   1066.00

X1      384         7    999.99   1016.01       374       394       384
X3       10
GR   186.71    950.00    186.71    999.99    172.04   1000.00    171.71   1008.00    172.04   1016.00
GR   186.71   1016.01    186.71   1066.00
```

```
X1      434         7    999.99   1016.01        49        51        50
X3       10
GR   188.36    950.00    188.36    999.99    172.31   1000.00    171.98   1008.00    172.31   1016.00
GR   188.36   1016.01    188.36   1066.00

X1      484         7    999.99   1016.01        49        51        50
X3       10
GR   190.00    950.00    190.00    999.99    173.13   1000.00    172.80   1008.00    173.13   1016.00
GR   190.00   1016.01    190.00   1066.00

NC                                     .3        .5
X1      684         7    999.99   1026.01       200       200       200
GR   190.00    950.00    190.00    999.99    176.50   1000.00    176.07   1013.00    176.50   1026.00
GR   190.00   1026.01    190.00   1076.00

X1      726         7      1000      1026        42        42        42
X3       10                                                          189       189
GR   192.00    950.00    189.00    999.99    177.11   1000.00    177.11   1013.00    177.11   1026.00
GR   189.00   1026.01    192.00   1076.00
```

The discharges d/s of McDowell Road are 500, 750, 1000 cfs less than the u/s discharges for 25, 50, 100-yr event, respectively. This is due to the assumption that those amount of discharges do not join the d/s channel flowing west along the McDowell Road.

```
SC    2.014        .2       2.6                10        12       274       9.2    179.85    177.11
X1     1000        11       987      1013      274       274       274
X2                            2    189.85
X3       10                                                          194       194
BT       -8       966    194.00               972    194.00                 975    194.00
BT                985    194.00              1027    194.00                1041    194.00
BT               1070    194.00              1116    194.00
GR      193       970       193       979     193.9    984.99    193.89    986.9    179.80       987
GR   179.80      1013    193.89    1013.1       194      1024    193.90      1041    193.90      1070
GR   193.90      1099

X1     1099        11     981.4    1018.6        99        99        99
GR   195.80       900    191.00       930    190.00       935    190.00       964    191.79     981.4
GR   180.04     981.5    180.04      1000    180.04    1018.5    191.79    1018.6    194.50      1037
GR    195.0      1041

NC     .035      .035      .045        .1        .3
QT        1      1170
X1     1100        10       900      1041         1         1         1
X3       10
GR   198.50       900    191.00       930    190.00       935    190.00       964    191.79     981.5
GR   191.79      1000    191.79    1018.5    194.50      1037    195.00    1040.9     198.5      1041

X1     1200        10       892    1042.3       109        96       100
X3       10
GR   198.50       892    190.03       940    190.03       960    194.03       976    194.03      1000
GR   194.03    1042.2    198.50    1042.3    195.64    1043.00    195.30      1058    195.00      1063
```

```
X1    1300      9     894    1041.8     104      96     100
X3      10
GR  198.50    894  190.27       940  190.27     960  194.27     976  194.27    1000
GR  194.27 1041.7  198.50    1041.8  196.32  1042.7   195.9  1057.7

X1    1400      9     895    1040.2     107      96     100
X3      10
GR  198.50    895  190.51       940  190.51     960  194.51     976  194.51    1000
GR  194.50 1040.1  198.50    1040.2  197.00  1041.1  196.70  1056.1

X1    1500      9     895    1037.6     107      96     100
X3      10
GR  198.50    895  190.75       940  190.75     960  194.75     976  194.75    1000
GR  194.75 1037.5  198.50    1037.6  197.70  1038.5  197.60  1053.5

X1    1600      9     901    1036.3     104      98     100
X3      10
GR  199.10    901  192.20     944.8  192.20   968.8  194.99     976  194.99    1000
GR  194.99 1036.2  198.64    1036.3  198.14  1037.2  198.30  1052.2

X1    1700     15   927.4    1040.4     105      96     100
X3      10
GR  199.55  794.6  200.22     873.2  199.72   873.3  200.70   921.4  201.45     921.5
GR  201.45  927.4  193.60       959  193.60     967  195.00     984  195.73       986
GR  195.73   1000  195.73    1040.3  199.08  1040.4  198.58  1041.3   199.0    1056.3

X1    1800     14   940.4    1044.1     105      96      99
X3      10
GR  200.02  886.0  201.63     906.8  201.13   906.9  202.16   937.9  202.91     938.0
GR  202.91  940.4  195.10       964  195.10   970.5  196.47     976  196.47      1000
GR  196.47   1044  199.52    1044.1  199.02    1045  199.60    1060

QT       1    950
X1    1900     13   948.8    1046.8     104      96     100
X3      10
GR  200.50  894.0  203.42     913.5  202.92   913.6  202.76   944.7  203.51     944.8
GR  203.57  948.8  196.50       970  196.50     973  197.21    1000  197.21    1046.7
GR  199.96 1046.8  199.46    1047.7  199.80  1062.7

X1    2000     12  954.96    1048.9     104      96     100
X3      10
GR   202.1  884.7  203.24     905.3  202.74   905.4  202.96   952.4  203.71     952.5
GR  203.71 954.96  197.95       978  197.95    1000  197.95  1048.8  200.71    1048.9
GR  200.21   1050  200.80      1065

X1    2025     11  961.96    1049.3      27      24      25
X3      10
GR   203.0  938.1  202.79     954.1  203.54   954.2  202.27  961.96  198.01       979
GR  198.01   1000  198.01    1038.0  200.81  1049.2   201.0  1049.3   200.6    1050.3
GR   209.0   1066
```

```
X1    2026      10    961.96    1049.2       1       1       1
GR   203.0   938.1    202.78     954.1  203.53   954.2  202.27   961.96   198.01     979
GR  198.01    1000    198.01    1038.0  200.81  1049.2   200.6   1050.3    209.0    1066

X1    2100      12    960.72      1048      76      71      74
GR  202.32   893.4    203.73     919.6  203.23   919.7  202.50    955.4   203.25   955.5
GR  203.26  960.72    198.19       981  198.19    1000  198.19     1036   201.20    1048
GR  201.20    1050    201.00      1067

X1    2200      12    954.44      1053     102      97     100
GR   203.0   898.0    204.06     919.1  203.56   919.1  202.82    950.1   203.57   950.2
GR  203.57  954.44    198.43       975  198.43    1000  198.43   1039.5   201.80    1053
GR  201.80    1055    201.00      1072

X1    2300      11    952.16      1054     100     100     100
GR  203.26   899.8    203.87     916.6  203.13   947.4  203.88    947.5   203.88  952.16
GR  198.67     973    198.67      1000  198.67  1039.5  202.20     1054   202.20    1056
GR  200.90    1071

X1    2400      11    951.44    1053.5     100     100     100
GR  203.86   901.7    203.77     914.1  203.04     945  203.79     945   203.80  951.44
GR  198.91     971    198.91      1000  198.91  1039.5  202.40   1053.5   202.40  1055.5
GR  201.60    1062

X1    2500      13    948.44      1043     100     100     100
GR  203.86   903.4    204.01     916.0  203.51   916.1  202.78    946.9   203.53     947
GR  203.54  948.44    199.15       966  199.15    1000  199.15     1014   199.15    1028
GR  202.80    1043    202.80      1045  201.60    1062

X1    2509       8       950    1039.1       9       9       9
GR   203.7     948     203.5       950  199.21     967  199.21     1000   199.21  1023.8
GR   203.0    1039     203.5    1039.1   203.5    1049

        REM: ADDED NEW SECTIONS (2520 THRU 2606) FOR HUBBELL SIDEWALK ACCESS.
        REM: ASSUMED FLOW AREAS WITHIN THE RAMP WERE INEFFECTIVE.
X1    2522                                  13      13      13                 .01

X1    2540       8       950    1039.1      18      18      18
GR   203.7     948     203.5       950  199.24     967  199.24     1000   199.24    1030
GR   201.5    1039     202.0    1039.1   203.5    1049

X1    2546                                   6       6       6                 .01

X1    2564       8       950    1039.1      18      18      18
GR   203.7     948     203.5       950  199.26     967  199.26     1000   199.26    1030
GR   200.0    1039     200.5    1039.1   203.5    1049

X1    2577                                  13      13      13                 .01
```

```
REM: ADDED NEW SECTIONS (2572 THRU 2652) FOR HOLLY STREET ADA RAMP.
REM: ASSUMED FLOW AREAS WITHIN THE RAMP WERE INEFFECTIVE.
X1     2580       8     951    1049       3       3       3
GR    203.7     948   203.7     951   200.5   960.9   200.0     961  199.28     970
GR   199.28    1000  199.28    1030   203.5    1049

X1     2593                          13      13      13             .01

X1     2613       8     951    1055      20      20      20
GR    203.7     948   203.7     951   202.1   960.9   201.6     961  199.31   970.2
GR   199.31    1000  199.31  1038.2   203.4    1055

X1     2619                           6       6       6             .01

X1     2639       8     951    1055      20      20      20
GR    203.7     948   203.7     951   203.7   960.9   203.2     961  199.34   976.4
GR   199.34    1000  199.34  1038.8   203.4    1055

X1     2652                          13      13      13             .01

QT        1     880
X1     2700      12   952.5    1054      48      48      48
GR    204.1   880.5  204.07   895.7  203.57   895.8  202.28   948.4  203.03   948.5
GR   203.03   952.5  199.63     966  199.63    1000  199.63    1039  203.30    1054
GR   203.30    1056  201.90    1061

X1     2800      12  952.44  1051.5     100     100     100
GR    204.9   903.1  203.74   918.2  203.24   918.3  202.51   949.1  203.26   949.2
GR   203.26  952.44  199.87     966  199.87    1000  199.87  1037.5  203.40  1051.5
GR   203.40  1053.5   202.0    1060

X1     2900      12  952.08    1052     100     100     100
GR    204.4   903.0  204.06   918.9  203.56   919.0  202.83   949.8  203.58   949.8
GR   203.59  952.08  200.11     966  200.11    1000  200.11  1037.5  203.70    1052
GR   203.70    1054  202.00    1059

X1     3000      12   951.8  1051.5     100     100     100
GR    204.4   903.0  204.38   918.8  203.88   918.9  203.15   949.7  203.90   949.8
GR   203.90   951.8  200.35     966  200.35    1000  200.35  1037.5  203.90  1051.5
GR   203.90  1053.5  202.80  1058.5

X1     3100      12  951.56  1051.5     100     100     100
GR    204.5   902.9   204.7   917.9   204.2     918  203.45   948.8   204.2   948.9
GR   204.20  951.56  200.59     966  200.59    1000  200.59  1037.5  204.10  1051.5
GR   204.10  1053.5  202.60    1085

X1     3200      12   950.9    1051     100     100     100
GR    204.5   902.8  205.02   917.0  204.52   917.1  203.79   947.9  204.54     948
GR   204.54   950.9  200.83     966  200.83    1000  200.83  1037.5   204.2    1051
GR   204.20    1053   202.7    1084
```

```
X1    3300      12    951.36    1051      100      100      100
GR   205.0   902.7    205.2   917.1    204.7    917.2   203.97    948.1   204.72    948.1
GR  204.73  951.36   201.07     966   201.07     1000   201.07   1037.5   204.40     1051
GR  204.40    1053   203.50  1082.5

X1    3400      12    952.44    1051      100      100      100
GR   205.1   902.6   205.17   918.8   204.67    918.9   203.95    949.8   204.70    949.8
GR  204.70  952.44   201.31     966   201.31     1000   201.31   1037.5   204.70     1051
GR  204.70    1053   203.50    1082

QT       1     810
X1    3500      12    952.36    1051      100      100      100
GR   204.8   902.5   205.43   919.1   204.93    919.2   204.21    951.4   204.96    951.5
GR  204.96  952.36   201.55     966   201.55     1000   201.55   1037.5   204.90     1051
GR  204.90    1053   203.40    1081

X1    3600      12     955.2   1042.5      100      100      100
GR   205.0   902.5   205.67   918.4   205.17    918.5   204.43    953.1   205.18    953.2
GR  205.18   955.2   201.79     969   201.79     1000   201.79     1029   205.10   1042.5
GR  205.10  1044.5    203.2    1061

X1    3700      11    957.84   1042.5      100      100      100
GR  204.96     904   204.91   918.7   204.07    954.8   204.82    954.9   204.82   957.84
GR  202.03     969   202.03    1000   202.03     1029   205.40   1042.5   205.40   1044.5
GR  203.80    1061

        REM: ADDED NEW SECTIONS (3730 THRU 3815) FOR BOTH ADA RAMPS AT OAK ST.
        REM: ASSUMED FLOW AREAS WITHIN THE RAMP WERE INEFFECTIVE.
X1    3757       9       967   1040.1       57       57       57
GR     205     955       205     959    204.7      967   202.17    977.1   202.17     1000
GR  202.17    1040     205.5   1040.1    205.5     1050    205.5     1059

X1    3760       9       967   1040.1        3        3        3
GR   205.5     955     205.5     957    205.5      967   202.18    967.1   202.18     1000
GR  202.18    1040     205.5   1040.1    205.5     1050    205.5     1059

X1    3766                                    6        6        6                .02

X1    3773       9       967   1051.1        7        7        7
GR   205.5     955     205.5     957    205.5      967   202.22    967.1   202.22     1000
GR  202.22    1040     205.0   1051.1    205.0   1053.1    205.5     1059

X1    3797      10       967   1051.1       24       24       24
GR   205.5     955     205.5     957    203.5      967    203.0    967.1   202.29    975.5
GR  202.29    1000    202.29    1040    205.0   1051.1    205.0   1053.1    205.5     1059

X1    3800      12    957.08   1044.5      100      100      100
GR   205.1   905.5   205.20   918.8   204.70    918.9   204.25    955.2   205.00    955.3
GR  205.00  957.08   202.27     968   202.27     1000   202.27     1031   205.60   1044.5
GR  205.60  1046.5   203.10    1086
```

X1	3900	12	957.52	1045	100	100	100			
GR	205.1	905.7	205.45	922.9	204.95	923	204.38	955.4	205.13	955.5
GR	205.13	957.52	202.51	968	202.51	1000	202.51	1032	205.80	1045
GR	205.80	1047	202.40	1087						
X1	4000	12	959.48	1046	100	100	100			
GR	205.1	905.9	205.19	924.7	204.69	924.8	204.13	955.6	204.88	955.7
GR	204.88	959.48	202.75	968	202.75	1000	202.75	1032	206.00	1046
GR	206.00	1048	202.50	1087.5						
X1	4100	12	960.6	1046	100	100	100			
GR	205.1	906.1	205.16	924.9	204.66	925	204.09	955.8	204.84	955.9
GR	204.84	960.6	202.99	968	202.99	1000	202.99	1033	206.20	1046
GR	206.20	1048	202.45	1087						
X1	4200	12	960.56	1046	100	100	100			
GR	205.1	906.3	205.41	925.1	204.91	925.2	204.34	956	205.09	956.1
GR	205.09	960.56	203.23	968	203.23	1000	203.23	1033	206.40	1046
GR	206.40	1048	202.80	1088						
X1	4300	12	960.52	1046.5	100	100	100			
GR	205	906.5	205.66	925.3	205.16	925.3	204.59	956.2	205.34	956.3
GR	205.34	960.52	203.47	968	203.47	1000	203.47	1034	206.65	1046.5
GR	206.65	1048.5	202.50	1087.5						
X1	4400	12	962.24	1046.5	100	100	100			
GR	205.3	906.7	205.47	925.5	204.97	925.5	204.40	956.4	205.15	956.5
GR	205.15	962.24	203.71	968	203.71	1000	203.71	1036	205.85	1046.5
GR	205.85	1048.5	202.80	1088						
X1	4500	11	962.84	1044.5	100	100	100			
GR	205.5	906.9	205.09	926.1	204.49	956.9	205.24	957	205.24	962.84
GR	203.95	968	203.95	1000	203.95	1036	206.05	1044.5	206.05	1046.5
GR	203.50	1088								
X1	4600	12	962.56	1044.5	100	100	100			
GR	205.7	906.5	205.87	926.7	205.37	926.7	204.80	957.6	205.55	957.7
GR	205.55	962.56	204.19	968	204.19	1000	204.19	1036	206.25	1044.5
GR	206.25	1046.5	203.5	1088						
QT	1	740								
X1	4700	12	962.4	1045	100	100	100			
GR	205.9	907	206.15	927.3	205.65	927.4	205.08	958.2	205.83	958.3
GR	205.83	962.4	204.43	968	204.43	1000	204.43	1036	206.50	1045
GR	206.50	1047	203.2	1088.5						
X1	4800	12	962.24	1045	100	100	100			
GR	206.15	907.5	206.43	927.2	205.93	927.2	205.36	958.7	206.11	958.7
GR	206.11	962.24	204.67	968	204.67	1000	204.67	1036	206.70	1045
GR	206.70	1047	203.7	1088.5						

X1	4900	12	962.6	1045	100	100	100			
GR	206.0	908.0	206.58	922.7	206.08	922.8	205.51	958.4	206.26	958.5
GR	206.26	962.6	204.91	968	204.91	1000	204.91	1036	206.90	1045
GR	206.90	1047	203.95	1088.5						
X1	5000	11	964.56	1045	100	100	100			
GR	206.39	909.4	205.89	909.5	205.26	958.2	206.01	958.3	206.01	964.56
GR	205.15	968	205.15	1000	205.15	1037	207.10	1045	207.10	1047
GR	204.35	1088.5								
QT	1	130								
X1	5100	12	961.72	1043	100	100	100			
GR	206.9	901.8	206.62	917.3	206.12	917.4	205.46	954.5	206.21	954.5
GR	206.21	961.72	205.39	965	205.39	1000	205.39	1035	207.30	1043
GR	207.30	1045	204.7	1085						
X1	5200	12	951.24	1042.5	100	100	100			
GR	207.15	898.6	207.06	916.5	206.56	916.6	205.82	949	206.57	949.1
GR	206.57	951.24	205.63	955	205.63	1000	205.63	1036	207.30	1042.5
GR	207.30	1044.5	205.1	1082						
X1	5300	12	953.76	1047	100	100	100			
GR	207.4	898.4	207.41	918.5	206.91	918.6	206.18	949.4	206.93	949.5
GR	206.93	953.76	205.87	958	205.87	1000	205.87	1041	207.30	1047
GR	207.30	1049	205.9	1081						
X1	5400	12	954.28	1041	100	100	100			
GR	207.2	898.8	207.77	919.3	207.27	919.3	206.54	950.2	207.29	950.2
GR	207.29	954.28	206.11	959	206.11	1000	206.11	1036	207.35	1041
GR	207.35	1043	206.1	1081						
QT	1	120								
X1	5500	12	953.8	1040	100	100	100			
GR	207.9	899	208.13	919.9	207.63	920	206.90	950.8	207.65	950.9
GR	207.65	953.8	206.35	959	206.35	1000	206.35	1036	207.35	1040
GR	207.35	1042	206.8	1081						
X1	5600	12	953.6	1040	100	100	100			
GR	208.25	899.3	208.42	917.5	207.92	917.6	207.19	948.4	207.94	948.5
GR	207.94	953.6	206.59	959	206.59	1000	206.59	1036	207.40	1040
GR	207.40	1042	206.8	1081						
X1	5700	12	953.12	1041	100	100	100			
GR	208.6	894.1	208.78	915	208.28	915.1	207.55	945.9	208.30	946
GR	208.30	953.12	206.83	959	206.83	1000	206.83	1037	207.80	1041
GR	207.80	1043	207.4	1081						
X1	5800	12	951.64	1041.5	100	100	100			
GR	208.95	898.8	209.39	912.8	208.89	912.9	208.16	943.8	208.91	943.8
GR	208.91	951.64	207.07	959	207.07	1000	207.07	1037	208.20	1041.5
GR	208.20	1043.5	207.6	1081.5						

```
X1     5900       12    952.28    1041.5       100       100       100
GR    209.3    900.1    209.72       912    209.22     912.1    208.49     950.8    209.24     950.9
GR   209.24   952.28    207.31       960    207.31      1000    207.31      1037    208.40    1041.5
GR   208.40   1043.5     207.5      1081

X1     6000       12    960.24    1041.5       100       100       100
GR    209.7    900.4    209.97     911.2    209.47     911.3    208.74     959.1    209.49     959.2
GR   209.49   960.24    207.55       968    207.55      1000    207.55      1037    208.70    1041.5
GR   208.70   1043.5     208.1      1081

X1     6100       11    974.16       1028       100       100       100
GR    210.5    900.6    210.23     909.9    209.73     909.9    208.99     964.3    209.74     964.4
GR   209.74   974.16    207.79       982    207.79      1000    207.79      1018    209.50      1028
GR    208.9     1081

X1     6200       11     974.7       1028       100       100       100
GR    210.5    900.9    210.47     908.4    209.97     908.5     209.1     963.3    209.86     963.3
GR   209.86    974.7    208.03       982    208.03      1000    208.03      1018    210.20      1028
GR    209.3     1082

X1     6300       11       973       1030       100       100       100
GR    210.1      898    210.53     907.3    210.03     907.4    210.04     972.5    210.79    972.51
GR   210.79    973.0    210.68       990    210.51      1000    210.51      1013    210.30      1030
GR    210.1     1083
  The following 4 stations (6305,6307,6386 & 6387) are for the weir flow
     condition at Thomas Road.

X1     6305        9       972       1030         5         5         5
GR    210.5    893.2     210.5     904.1     210.0     904.2    210.20       972    210.66       990
GR   210.70     1000    210.66      1013    210.20      1030     210.0      1083

X1     6307        9       970       1030         2         2         2
GR    210.5    892.3     210.5     902.2     210.0     902.3    210.20       970    210.70       990
GR   210.74     1000    210.70    1010.8    210.20      1030     210.0      1083

X1     6386        9       970       1025        79        79        79
GR    211.1    885.8     211.1     897.2     210.6     897.3    210.10       970    210.60       980
GR   210.65     1000    210.60    1010.8     210.5      1025     210.0      1073

X1     6387        9       970       1025         1         1         1
GR    211.1    886.6     211.1     898.1     210.6     898.2    210.10       970    210.60       980
GR   210.63     1000    210.50      1018    210.45      1025     210.0      1073

QT        1       60
X1     6400       11     968.2       1027        13        13        13
GR    210.3      896    210.91     903.7    210.41     903.8    210.20     967.6    210.70     967.7
GR   210.70    968.2     210.0       991    209.30      1000    209.00      1018    209.50      1027
GR    209.5     1073
```

X1	6500	11	973.8	1026	100	100	100			
GR	210.5	896.7	211.13	905.4	210.63	905.5	209.86	967.5	210.36	967.6
GR	210.55	973.8	208.75	981	208.75	1000	208.75	1018	210.60	1026
GR	209.7	1073								
X1	6600	12	972.6	1026	100	100	100			
GR	213.0	899.2	211.5	907	211	907.1	210.09	966.6	210.59	966.7
GR	210.59	972.6	208.99	979	208.99	1000	208.99	1018	211.00	1026
GR	211.30	1035	211.9	1077						
X1	6700	11	973.3	1028	100	100	100			
GR	213	900.7	211.81	908.6	211.31	908.7	210.41	963.6	210.91	963.7
GR	210.91	973.3	209.23	980	209.23	1000	209.23	1018	211.40	1028
GR	212.5	1079								
X1	6800	11	972	1026	100	100	100			
GR	213.53	902.3	212.05	910.2	211.55	910.3	210.72	960.5	211.22	960.6
GR	211.22	972	209.47	979	209.47	1000	209.47	1018	211.50	1026
GR	212.8	1082								
X1	6900	11	969.6	1025	100	100	100			
GR	213.75	903.9	212.31	913.1	211.81	913.2	211.05	958.5	211.55	958.6
GR	211.55	969.6	209.71	977	209.71	1000	209.71	1018	211.50	1025
GR	212.5	1085								
X1	7000	11	969.4	1028	100	100	100			
GR	212.58	903.7	212.56	918.2	212.06	918.3	211.35	958.1	211.85	958.2
GR	211.85	969.4	209.95	977	209.95	1000	209.95	1018	212.50	1028
GR	212.1	1084								
QT	1	20								
X1	7100	11	970.4	1027	100	100	100			
GR	212.1	902.4	211.94	915.2	211.44	915.3	211.10	957.6	211.60	957.7
GR	211.60	970.4	210.19	976	210.19	1000	210.19	1018	212.40	1027
GR	212.0	1086								
X1	7200	11	970.2	1027	100	100	100			
GR	212.58	903.1	212.45	917.2	211.95	917.3	211.39	957.1	211.89	957.2
GR	211.89	970.2	210.43	976	210.43	1000	210.43	1018	212.60	1027
GR	213.8	1084								
X1	7300	11	967.5	1036	100	100	100			
GR	212.8	902.8	213.11	916.7	212.61	916.8	212.05	956.6	212.55	957.7
GR	212.55	967.5	210.67	975	210.67	1000	210.67	1018	212.30	1036
GR	212.0	1084								
X1	7400	13	965.8	1038	100	100	100			
GR	213.2	902.5	213.77	916.2	213.27	916.2	212.71	956.1	213.21	956.2
GR	213.21	965.8	210.91	975	210.91	1000	210.91	1018	212.20	1038
GR	214.0	1070	211.0	1085	209.0	1089				

X1	7500	13	963.2	1034	100	100	100			
GR	214	902.1	214.43	915.9	213.93	915.9	213.36	955.8	213.86	955.9
GR	213.86	963.2	211.15	974	211.15	1000	211.15	1023	212.30	1034
GR	212.80	1060	213.7	1078	211.0	1085				

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

*PROF 1

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= 0.100 CEHV= 0.300
*SECNO 0.000
3280 CROSS SECTION 0.00 EXTENDED 0.31 FEET

3470 ENCROACHMENT STATIONS= 1000.0 1016.0 TYPE= 1 TARGET= 16.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 100000.00 ELREA= 100000.00

0.000	15.31	184.98	184.82	180.00	192.33	7.34	0.00	0.00	100000.00
5270.0	0.0	5270.0	0.0	0.0	242.3	0.0	0.0	0.0	100000.00
0.00	0.00	21.75	0.00	0.000	0.015	0.000	0.000	169.67	1000.00
0.005253	0.	0.	0.	0	11	3	0.00	16.00	1016.00

*SECNO 384.000
3280 CROSS SECTION 384.00 EXTENDED 5.79 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.71

384.000	20.80	192.51	189.89	0.00	193.54	1.03	0.59	0.63	186.71
5270.0	988.0	3294.0	988.0	289.7	330.3	289.7	5.1	0.6	186.71
0.01	3.41	9.97	3.41	0.035	0.015	0.035	0.000	171.71	950.00
0.000718	374.	384.	394.	4	13	0	0.00	116.00	1066.00

*SECNO 434.000
3280 CROSS SECTION 434.00 EXTENDED 3.52 FEET

3301 HV CHANGED MORE THAN HVINS

434.000	19.90	191.88	191.01	0.00	193.88	2.00	0.05	0.29	188.36
5270.0	610.2	4049.6	610.2	176.1	316.0	176.1	6.0	0.7	188.36
0.02	3.46	12.81	3.46	0.035	0.015	0.035	0.000	171.98	950.00
0.001360	49.	50.	51.	3	12	0	0.00	116.00	1066.00

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

*SECNO 484.000
3280 CROSS SECTION 484.00 EXTENDED 2.35 FEET

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

484.000	19.55	192.35	192.35	0.00	195.21	2.86	0.08	0.26	190.00
5270.0	371.4	4527.1	371.4	117.5	310.4	117.5	6.7	0.8	190.00
0.02	3.16	14.59	3.16	0.035	0.015	0.035	0.000	172.80	950.00
0.001887	49.	50.	51.	0	8	0	0.00	116.00	1066.00

CCHV= 0.300 CEHV= 0.500
*SECNO 684.000
3280 CROSS SECTION 684.00 EXTENDED 5.07 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.24

684.000	19.00	195.07	187.11	0.00	195.95	0.88	0.14	0.59	190.00
5270.0	575.7	4118.6	575.7	253.2	488.5	253.2	10.2	1.4	190.00
0.02	2.27	8.43	2.27	0.035	0.015	0.035	0.000	176.07	950.00
0.000375	200.	200.	200.	4	11	0	0.00	126.00	1076.00

*SECNO 726.000
3280 CROSS SECTION 726.00 EXTENDED 2.86 FEET

726.000	17.74	194.85	187.94	0.00	196.18	1.33	0.01	0.22	177.11
5270.0	348.9	4572.2	348.9	217.8	461.4	217.8	11.1	1.5	177.11
0.03	1.60	9.91	1.60	0.035	0.015	0.035	0.000	177.11	950.00
0.000216	42.	42.	42.	2	11	0	0.00	126.00	1076.00

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

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	2	0.014	0.20	2.60	0.00	10.00	12.00	274.00	9	2	179.85	177.11

CHART 9 - BOX CULVERT WITH FLARED WINGWALL AND INLET TOP EDGE BEVEL
SCALE 2 - WINGWALL FLARED 18 TO 33.7 DEGREES; INLET TOP EDGE BEVEL = 0.083D

5135, EGOC= 206.92 ..MAY BE TOO LARGE IF OUTLET CONTROLS.
*SECNO 1000.000

SPECIAL CULVERT OUTLET CONTROL + WEIR FLOW EG = 197.68
3280 CROSS SECTION 1000.00 EXTENDED 2.25 FEET

3301 HV CHANGED MORE THAN HVINS

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
200.11	206.92	1.50	2752.	2550.	12.715	240.0	194.00	150.

1000.000	15.45	195.25	0.00	0.00	197.68	2.43	1.50	0.00	179.80
5270.0	43.0	5106.5	120.4	34.4	401.6	115.2	15.7	2.3	179.80
0.03	1.25	12.71	1.05	0.035	0.015	0.035	0.000	179.80	970.00
0.000428	274.	274.	274.	4	0	0	0.00	129.00	1099.00

*SECNO 1099.000
3280 CROSS SECTION 1099.00 EXTENDED 2.78 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.60

1099.000	17.75	197.79	188.59	0.00	198.29	0.50	0.03	0.58	191.79
5270.0	982.5	4148.2	139.3	513.6	658.9	97.5	17.8	2.6	191.79
0.04	1.91	6.30	1.43	0.035	0.015	0.035	0.000	180.04	900.00
0.000167	99.	99.	99.	3	11	0	0.00	141.00	1041.00

CCHV= 0.100 CEHV= 0.300
*SECNO 1100.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.23

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
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= 198.50 ELREA= 198.50

1100.000	8.30	198.30	192.68	0.00	198.33	0.03	0.00	0.05	198.50
1170.0	0.0	1170.0	0.0	0.0	866.7	0.0	17.8	2.6	198.50
0.04	0.00	1.35	0.00	0.000	0.045	0.000	0.000	190.00	900.78
0.000154	1.	1.	1.	2	20	0	0.00	140.21	1040.99

*SECNO 1200.000
3280 CROSS SECTION 1200.00 EXTENDED 3.32 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 198.50 ELREA= 198.50

1200.000	8.29	198.32	194.12	0.00	198.36	0.04	0.02	0.00	198.50
1170.0	0.0	1170.0	0.0	0.0	745.4	0.0	19.6	3.0	198.50
0.05	0.00	1.57	0.00	0.000	0.045	0.000	0.000	190.03	893.02
0.000278	109.	100.	96.	0	8	0	0.00	149.28	1042.30

*SECNO 1300.000
3280 CROSS SECTION 1300.00 EXTENDED 2.44 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 198.50 ELREA= 198.50

1300.000	8.07	198.34	194.37	0.00	198.39	0.04	0.03	0.00	198.50
1170.0	0.0	1170.0	0.0	0.0	708.0	0.0	21.3	3.3	198.50
0.07	0.00	1.65	0.00	0.000	0.045	0.000	0.000	190.27	894.90
0.000322	104.	100.	96.	0	8	0	0.00	146.90	1041.80

*SECNO 1400.000
3280 CROSS SECTION 1400.00 EXTENDED 1.67 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 198.50 ELREA= 198.50

1400.000	7.87	198.38	194.65	0.00	198.42	0.05	0.03	0.00	198.50
1170.0	0.0	1170.0	0.0	0.0	673.4	0.0	22.9	3.6	198.50
0.09	0.00	1.74	0.00	0.000	0.045	0.000	0.000	190.51	895.71
0.000372	107.	100.	96.	0	8	0	0.00	144.49	1040.20

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

*SECNO 1500.000
3280 CROSS SECTION 1500.00 EXTENDED 0.81 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 198.50 ELREA= 198.50

1500.000	7.66	198.41	194.70	0.00	198.46	0.05	0.04	0.00	198.50
1170.0	0.0	1170.0	0.0	0.0	639.5	0.0	24.4	4.0	198.50
0.10	0.00	1.83	0.00	0.000	0.045	0.000	0.000	190.75	895.52
0.000431	107.	100.	96.	0	9	0	0.00	142.08	1037.60

*SECNO 1600.000
3280 CROSS SECTION 1600.00 EXTENDED 0.15 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 199.10 ELREA= 198.64

1600.000	6.25	198.45	195.64	0.00	198.53	0.08	0.06	0.01	199.10
1170.0	0.0	1170.0	0.0	0.0	517.7	0.0	25.7	4.3	198.64
0.12	0.00	2.26	0.00	0.000	0.045	0.000	0.000	192.20	905.11
0.000784	104.	100.	98.	0	13	0	0.00	131.19	1036.29

*SECNO 1700.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.52

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 201.45 ELREA= 199.08

1700.000	4.89	198.49	196.87	0.00	198.70	0.21	0.14	0.04	201.45
1170.0	0.0	1170.0	0.0	0.0	315.9	0.0	26.7	4.6	199.08
0.12	0.00	3.70	0.00	0.000	0.045	0.000	0.000	193.60	939.27
0.002882	105.	100.	96.	1	11	0	0.00	101.11	1040.38

*SECNO 1800.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.58

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
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= 202.91 ELREA= 199.52

1800.000	3.69	198.79	198.07	0.00	199.23	0.44	0.46	0.07	202.91
1170.0	0.0	1170.0	0.0	0.0	218.7	0.0	27.3	4.8	199.52
0.13	0.00	5.35	0.00	0.000	0.045	0.000	0.000	195.10	952.86
0.008542	105.	99.	96.	2	14	0	0.00	91.22	1044.08

*SECNO 1900.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 203.57 ELREA= 199.96

1900.000	3.14	199.64	198.68	0.00	199.95	0.31	0.70	0.01	203.57
950.0	0.0	950.0	0.0	0.0	213.1	0.0	27.8	5.0	199.96
0.13	0.00	4.46	0.00	0.000	0.045	0.000	0.000	196.50	960.58
0.005691	104.	100.	96.	2	14	0	0.00	86.21	1046.79

*SECNO 2000.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 203.71 ELREA= 200.71

2000.000	2.32	200.27	199.69	0.00	200.73	0.46	0.74	0.04	203.71
950.0	0.0	950.0	0.0	0.0	175.4	0.0	28.2	5.2	200.71
0.14	0.00	5.42	0.00	0.000	0.045	0.000	0.000	197.95	968.71
0.009871	104.	100.	96.	2	11	0	0.00	80.18	1048.88

*SECNO 2025.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 202.27 ELREA= 201.00

2025.000	2.50	200.51	199.92	0.00	200.98	0.47	0.25	0.00	202.27
950.0	0.0	950.0	0.0	0.0	172.5	0.0	28.3	5.2	201.00
0.14	0.00	5.51	0.00	0.000	0.045	0.000	0.000	198.01	969.00
0.009917	27.	25.	24.	2	15	0	0.00	79.00	1048.00

*SECNO 2026.000

2026.000	2.51	200.52	199.92	0.00	200.99	0.47	0.01	0.00	202.27
950.0	0.0	950.0	0.0	0.0	173.3	0.0	28.3	5.2	200.81
0.14	0.00	5.48	0.00	0.000	0.045	0.000	0.000	198.01	968.96
0.009784	1.	1.	1.	0	15	0	0.00	79.08	1048.04

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

*SECNO 2100.000

3280 CROSS SECTION 2100.00 EXTENDED 0.21 FEET

2100.000	3.02	201.21	200.18	0.00	201.55	0.34	0.55	0.01	203.26
950.0	0.0	948.6	1.4	0.0	202.7	1.9	28.6	5.4	201.20
0.14	0.00	4.68	0.74	0.000	0.045	0.035	0.000	198.19	968.91
0.005798	76.	74.	71.	2	15	0	0.00	98.09	1067.00

*SECNO 2200.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2200.00 EXTENDED 0.77 FEET

2200.000	3.34	201.77	200.24	0.00	201.97	0.20	0.41	0.01	203.57
950.0	0.0	942.5	7.5	0.0	260.1	6.3	29.2	5.6	201.80
0.15	0.00	3.62	1.20	0.000	0.045	0.035	0.000	198.43	961.64
0.003014	102.	100.	97.	2	14	0	0.00	107.61	1072.00

*SECNO 2300.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2300.00 EXTENDED 1.18 FEET

2300.000	3.41	202.08	200.45	0.00	202.26	0.18	0.28	0.00	203.88
950.0	0.0	938.5	11.5	0.0	273.5	8.0	29.8	5.8	202.20
0.16	0.00	3.43	1.44	0.000	0.045	0.035	0.000	198.67	959.38
0.002635	100.	100.	100.	2	11	0	0.00	107.67	1071.00

*SECNO 2400.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2400.00 EXTENDED 0.75 FEET

2400.000	3.43	202.34	200.65	0.00	202.51	0.17	0.25	0.00	203.80
950.0	0.0	947.7	2.3	0.0	282.8	2.3	30.5	6.1	202.40
0.17	0.00	3.35	1.01	0.000	0.045	0.035	0.000	198.91	957.25
0.002468	100.	100.	100.	1	11	0	0.00	102.12	1062.00

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

*SECNO 2500.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2500.00 EXTENDED 0.99 FEET

2500.000	3.44	202.59	201.00	0.00	202.79	0.20	0.27	0.01	203.54
950.0	0.0	940.5	9.5	0.0	261.5	7.0	31.1	6.3	202.80
0.18	0.00	3.60	1.37	0.000	0.045	0.035	0.000	199.15	952.23
0.002892	100.	100.	100.	0	11	0	0.00	103.99	1062.00

*SECNO 2509.000

2509.000	3.37	202.58	201.17	0.00	202.83	0.25	0.03	0.02	203.50
950.0	0.0	950.0	0.0	0.0	236.8	0.0	31.2	6.3	203.50
0.18	0.00	4.01	0.00	0.000	0.045	0.000	0.000	199.21	953.64
0.003738	9.	9.	9.	2	11	0	0.00	83.68	1037.32

*SECNO 2522.000

REM: ADDED NEW SECTIONS (2520 THRU 2606) FOR HUBBELL SIDEWALK ACCESS.

REM: ASSUMED FLOW AREAS WITHIN THE RAMP WERE INEFFECTIVE.

2522.000	3.42	202.64	201.18	0.00	202.88	0.24	0.05	0.00	203.51
950.0	0.0	950.0	0.0	0.0	240.0	0.0	31.2	6.4	203.51
0.18	0.00	3.96	0.00	0.000	0.045	0.000	0.000	199.22	953.49
0.003591	13.	13.	13.	1	11	0	0.00	83.98	1037.47

*SECNO 2540.000

2540.000	3.50	202.74	201.08	0.00	202.94	0.20	0.05	0.00	203.50
950.0	0.0	948.0	2.0	0.0	266.6	1.8	31.3	6.4	202.00
0.18	0.00	3.56	1.11	0.000	0.045	0.035	0.000	199.24	953.02
0.002613	18.	18.	18.	2	11	0	0.00	90.98	1044.00

*SECNO 2546.000

2546.000	3.51	202.76	201.09	0.00	202.95	0.19	0.02	0.00	203.51
950.0	0.0	947.9	2.1	0.0	267.3	1.9	31.4	6.4	202.01
0.18	0.00	3.55	1.12	0.000	0.045	0.035	0.000	199.25	952.99
0.002590	6.	6.	6.	0	11	0	0.00	91.07	1044.06

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

*SECNO 2564.000
 2564.000      3.57     202.83     201.03       0.00     203.00       0.17       0.04       0.00     203.50
    950.0       0.0      931.0       19.0        0.0      279.4        8.9       31.5        6.5     200.50
     0.18      0.00       3.33       2.12      0.000      0.045      0.035      0.000     199.26     952.69
 0.002158       18.        18.        18.          2          8          0       0.00      94.09    1046.79

*SECNO 2577.000
 2577.000      3.59     202.86     201.04       0.00     203.03       0.17       0.03       0.00     203.51
    950.0       0.0      930.8       19.2        0.0      281.2        9.1       31.6        6.5     200.51
     0.18      0.00       3.31       2.11      0.000      0.045      0.035      0.000     199.27     952.61
 0.002114       13.        13.        13.          0          8          0       0.00      94.25    1046.85

*SECNO 2580.000
        REM: ADDED NEW SECTIONS (2572 THRU 2652) FOR HOLLY STREET ADA RAMP.
        REM: ASSUMED FLOW AREAS WITHIN THE RAMP WERE INEFFECTIVE.
 2580.000      3.58     202.86     201.10       0.00     203.04       0.18       0.01       0.00     203.70
    950.0       0.0      950.0        0.0        0.0      282.0        0.0       31.6        6.5     203.50
     0.18      0.00       3.37       0.00      0.000      0.045      0.000      0.000     199.28     953.58
 0.002396        3.         3.         3.          0          8          0       0.00      92.56    1046.14

*SECNO 2593.000
 2593.000      3.60     202.89     201.11       0.00     203.07       0.17       0.03       0.00     203.71
    950.0       0.0      950.0        0.0        0.0      283.3        0.0       31.7        6.5     203.51
     0.18      0.00       3.35       0.00      0.000      0.045      0.000      0.000     199.29     953.54
 0.002364       13.        13.        13.          0          8          0       0.00      92.67    1046.21

*SECNO 2613.000
 2613.000      3.65     202.96     201.07       0.00     203.11       0.16       0.04       0.00     203.70
    950.0       0.0      950.0        0.0        0.0      299.9        0.0       31.8        6.6     203.40
     0.19      0.00       3.17       0.00      0.000      0.045      0.000      0.000     199.31     955.65
 0.002090       20.        20.        20.          1         11          0       0.00      97.50    1053.15

*SECNO 2619.000
 2619.000      3.65     202.97     201.08       0.00     203.13       0.15       0.01       0.00     203.71
    950.0       0.0      950.0        0.0        0.0      301.1        0.0       31.8        6.6     203.41
     0.19      0.00       3.15       0.00      0.000      0.045      0.000      0.000     199.32     955.57
 0.002066        6.         6.         6.          0         11          0       0.00      97.63    1053.20
```

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

*SECNO 2639.000

2639.000	3.66	203.00	201.19	0.00	203.18	0.18	0.04	0.01	203.70
950.0	0.0	950.0	0.0	0.0	282.5	0.0	32.0	6.6	203.40
0.19	0.00	3.36	0.00	0.000	0.045	0.000	0.000	199.34	961.77
0.002342	20.	20.	20.	1	8	0	0.00	91.67	1053.43

*SECNO 2652.000

2652.000	3.68	203.03	201.20	0.00	203.21	0.17	0.03	0.00	203.71
950.0	0.0	950.0	0.0	0.0	283.6	0.0	32.1	6.6	203.41
0.19	0.00	3.35	0.00	0.000	0.045	0.000	0.000	199.35	961.72
0.002315	13.	13.	13.	0	8	0	0.00	91.76	1053.48

*SECNO 2700.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2700.00 EXTENDED 1.29 FEET

2700.000	3.56	203.19	201.23	0.00	203.30	0.12	0.09	0.01	203.03
880.0	17.1	859.8	3.1	17.5	310.7	3.0	32.4	6.8	203.30
0.19	0.98	2.77	1.05	0.035	0.045	0.035	0.000	199.63	911.37
0.001588	48.	48.	48.	2	14	0	0.00	146.78	1061.00

*SECNO 2800.000

3265 DIVIDED FLOW

3280 CROSS SECTION 2800.00 EXTENDED 1.35 FEET

2800.000	3.48	203.35	201.49	0.00	203.48	0.13	0.17	0.00	203.26
880.0	16.1	858.9	5.1	14.9	297.0	4.2	33.1	7.1	203.40
0.20	1.07	2.89	1.20	0.035	0.045	0.035	0.000	199.87	918.28
0.001790	100.	100.	100.	2	14	0	0.00	139.28	1060.00

*SECNO 2900.000

3265 DIVIDED FLOW

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

3280 CROSS SECTION 2900.00 EXTENDED 1.52 FEET

2900.000	3.42	203.53	201.73	0.00	203.67	0.14	0.19	0.00	203.59
880.0	9.3	866.5	4.3	10.2	291.0	3.4	33.9	7.4	203.70
0.21	0.91	2.98	1.25	0.035	0.045	0.035	0.000	200.11	920.52
0.001952	100.	100.	100.	1	14	0	0.00	132.71	1059.00

*SECNO 3000.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3000.00 EXTENDED 0.92 FEET

3000.000	3.38	203.73	201.97	0.00	203.87	0.14	0.20	0.00	203.90
880.0	5.7	872.4	1.9	6.8	285.8	1.9	34.5	7.7	203.90
0.22	0.83	3.05	1.00	0.035	0.045	0.035	0.000	200.35	925.78
0.002082	100.	100.	100.	0	11	0	0.00	126.42	1058.50

*SECNO 3100.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3100.00 EXTENDED 1.33 FEET

3100.000	3.35	203.94	202.21	0.00	204.08	0.14	0.21	0.00	204.20
880.0	3.6	850.1	26.4	4.8	283.7	18.7	35.2	8.0	204.10
0.23	0.74	3.00	1.41	0.035	0.045	0.035	0.000	200.59	928.93
0.002022	100.	100.	100.	1	11	0	0.00	146.16	1085.00

*SECNO 3200.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3200.00 EXTENDED 1.45 FEET

3200.000	3.31	204.14	202.45	0.00	204.28	0.14	0.20	0.00	204.54
880.0	1.6	846.0	32.4	2.7	281.4	21.6	35.9	8.4	204.20
0.24	0.61	3.01	1.50	0.035	0.045	0.035	0.000	200.83	932.91
0.002060	100.	100.	100.	0	11	0	0.00	143.18	1084.00

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

*SECNO 3300.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3300.00 EXTENDED 0.85 FEET

3300.000	3.28	204.35	202.69	0.00	204.50	0.15	0.21	0.00	204.73
880.0	2.0	864.9	13.1	3.0	277.6	11.8	36.6	8.7	204.40
0.25	0.65	3.12	1.11	0.035	0.045	0.035	0.000	201.07	932.11
0.002241	100.	100.	100.	0	11	0	0.00	141.68	1082.50

*SECNO 3400.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3400.00 EXTENDED 1.07 FEET

3400.000	3.27	204.58	202.92	0.00	204.72	0.15	0.22	0.00	204.70
880.0	7.5	854.7	17.8	8.3	275.6	13.9	37.3	9.0	204.70
0.26	0.91	3.10	1.29	0.035	0.045	0.035	0.000	201.31	923.16
0.002232	100.	100.	100.	1	8	0	0.00	150.05	1082.00

*SECNO 3500.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3500.00 EXTENDED 1.40 FEET

3500.000	3.26	204.81	203.08	0.00	204.93	0.12	0.20	0.00	204.96
810.0	6.3	778.1	25.6	7.8	274.8	18.3	38.0	9.4	204.90
0.27	0.81	2.83	1.40	0.035	0.045	0.035	0.000	201.55	902.50
0.001869	100.	100.	100.	0	14	0	0.00	150.22	1081.00

*SECNO 3600.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3600.00 EXTENDED 1.81 FEET

3600.000	3.21	205.00	203.50	0.00	205.16	0.16	0.22	0.01	205.18
810.0	7.4	775.8	26.8	7.8	235.2	14.2	38.6	9.7	205.10
0.28	0.95	3.30	1.89	0.035	0.045	0.035	0.000	201.79	902.50
0.002650	100.	100.	100.	1	11	0	0.00	129.09	1061.00

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

*SECNO 3700.000

3265 DIVIDED FLOW

3280 CROSS SECTION 3700.00 EXTENDED 1.47 FEET

3700.000	3.24	205.27	203.74	0.00	205.41	0.14	0.25	0.00	204.82
810.0	54.8	737.9	17.3	34.5	236.0	11.1	39.3	10.0	205.40
0.29	1.59	3.13	1.55	0.035	0.045	0.035	0.000	202.03	904.00
0.002292	100.	100.	100.	2	11	0	0.00	153.14	1061.00

*SECNO 3757.000

3280 CROSS SECTION 3757.00 EXTENDED 0.37 FEET

REM: ADDED NEW SECTIONS (3730 THRU 3815) FOR BOTH ADA RAMPS AT OAK ST.
REM: ASSUMED FLOW AREAS WITHIN THE RAMP WERE INEFFECTIVE.

3757.000	3.20	205.37	203.86	0.00	205.58	0.20	0.15	0.02	204.70
810.0	7.9	802.1	0.0	5.7	221.3	0.0	39.6	10.2	205.50
0.29	1.40	3.62	0.00	0.035	0.045	0.000	0.000	202.17	955.00
0.002923	57.	57.	57.	2	11	0	0.00	85.10	1040.10

*SECNO 3760.000

3760.000	3.22	205.40	203.74	0.00	205.59	0.18	0.01	0.00	205.50
810.0	0.0	810.0	0.0	0.0	235.2	0.0	39.6	10.2	205.50
0.29	0.00	3.44	0.00	0.000	0.045	0.000	0.000	202.18	967.00
0.002552	3.	3.	3.	2	11	0	0.00	73.09	1040.10

*SECNO 3766.000

3766.000	3.22	205.42	203.76	0.00	205.60	0.18	0.02	0.00	205.52
810.0	0.0	810.0	0.0	0.0	235.0	0.0	39.6	10.2	205.52
0.29	0.00	3.45	0.00	0.000	0.045	0.000	0.000	202.20	967.00
0.002562	6.	6.	6.	0	11	0	0.00	73.09	1040.10

*SECNO 3773.000

3773.000	3.25	205.47	203.76	0.00	205.62	0.15	0.02	0.00	205.50
810.0	0.0	807.9	2.1	0.0	257.7	2.2	39.7	10.2	205.00
0.29	0.00	3.14	0.93	0.000	0.045	0.035	0.000	202.22	967.00
0.002138	7.	7.	7.	2	11	0	0.00	91.64	1058.64

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

*SECNO 3797.000
3280 CROSS SECTION 3797.00 EXTENDED 0.03 FEET

3797.000	3.24	205.53	203.87	0.00	205.67	0.15	0.05	0.00	203.50
810.0	19.8	787.6	2.6	10.3	254.0	2.7	39.8	10.2	205.00
0.30	1.92	3.10	0.98	0.035	0.045	0.035	0.000	202.29	955.00
0.002043	24.	24.	24.	0	11	0	0.00	104.00	1059.00

*SECNO 3800.000
3280 CROSS SECTION 3800.00 EXTENDED 2.64 FEET

3800.000	3.48	205.75	203.94	0.00	205.83	0.08	0.15	0.01	205.00
810.0	87.7	626.9	95.4	55.5	266.4	55.4	40.6	10.6	205.60
0.31	1.58	2.35	1.72	0.035	0.045	0.035	0.000	202.27	905.50
0.001162	100.	100.	100.	1	11	0	0.00	180.50	1086.00

*SECNO 3900.000
3280 CROSS SECTION 3900.00 EXTENDED 3.47 FEET

3900.000	3.47	205.87	204.06	0.00	205.95	0.07	0.12	0.00	205.13
810.0	75.7	593.4	140.8	51.1	259.1	71.1	41.4	11.0	205.80
0.32	1.48	2.29	1.98	0.035	0.045	0.035	0.000	202.40	905.70
0.001144	100.	100.	100.	2	11	0	0.00	181.30	1087.00

*SECNO 4000.000

3265 DIVIDED FLOW

3280 CROSS SECTION 4000.00 EXTENDED 3.49 FEET

4000.000	3.49	205.99	204.29	0.00	206.06	0.07	0.11	0.00	204.88
810.0	120.4	555.5	134.1	68.9	248.3	68.7	42.3	11.4	206.00
0.33	1.75	2.24	1.95	0.035	0.045	0.035	0.000	202.50	905.90
0.001135	100.	100.	100.	0	11	0	0.00	179.41	1087.50

*SECNO 4100.000

3265 DIVIDED FLOW

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

3280 CROSS SECTION 4100.00 EXTENDED 3.65 FEET

4100.000	3.65	206.10	204.49	0.00	206.17	0.07	0.11	0.00	204.84
810.0	145.0	525.5	139.5	77.8	238.3	69.4	43.2	11.8	206.20
0.35	1.86	2.21	2.01	0.035	0.045	0.035	0.000	202.45	906.10
0.001139	100.	100.	100.	0	14	0	0.00	177.52	1087.00

*SECNO 4200.000

3265 DIVIDED FLOW

3280 CROSS SECTION 4200.00 EXTENDED 3.42 FEET

4200.000	3.42	206.22	204.74	0.00	206.30	0.08	0.12	0.00	205.09
810.0	139.9	533.5	136.6	72.5	227.9	64.9	44.1	12.2	206.40
0.36	1.93	2.34	2.10	0.035	0.045	0.035	0.000	202.80	906.30
0.001355	100.	100.	100.	0	11	0	0.00	176.94	1088.00

*SECNO 4300.000

3265 DIVIDED FLOW

3280 CROSS SECTION 4300.00 EXTENDED 3.85 FEET

4300.000	3.86	206.36	204.89	0.00	206.44	0.08	0.14	0.00	205.34
810.0	130.5	518.6	160.8	69.4	221.3	69.8	44.9	12.6	206.65
0.37	1.88	2.34	2.30	0.035	0.045	0.035	0.000	202.50	906.50
0.001415	100.	100.	100.	1	19	0	0.00	175.06	1087.50

*SECNO 4400.000
3280 CROSS SECTION 4400.00 EXTENDED 3.70 FEET

4400.000	3.70	206.50	205.06	0.00	206.57	0.07	0.12	0.00	205.15
810.0	160.7	456.3	193.1	84.9	219.6	87.2	45.8	13.0	205.85
0.39	1.89	2.08	2.22	0.035	0.045	0.035	0.000	202.80	906.70
0.001111	100.	100.	100.	0	14	0	0.00	181.30	1088.00

*SECNO 4500.000

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

3280 CROSS SECTION 4500.00 EXTENDED 3.12 FEET

4500.000	3.11	206.61	205.33	0.00	206.69	0.07	0.12	0.00	205.24
810.0	189.5	451.7	168.8	90.0	205.8	77.7	46.6	13.5	206.05
0.40	2.10	2.19	2.17	0.035	0.045	0.035	0.000	203.50	906.90
0.001297	100.	100.	100.	1	8	0	0.00	181.10	1088.00

*SECNO 4600.000
3280 CROSS SECTION 4600.00 EXTENDED 3.24 FEET

4600.000	3.25	206.75	205.54	0.00	206.83	0.08	0.14	0.00	205.55
810.0	161.1	460.0	188.9	76.5	196.7	78.5	47.5	13.9	206.25
0.41	2.10	2.34	2.41	0.035	0.045	0.035	0.000	203.50	906.50
0.001570	100.	100.	100.	1	14	0	0.00	181.50	1088.00

*SECNO 4700.000
3280 CROSS SECTION 4700.00 EXTENDED 3.70 FEET

4700.000	3.71	206.91	205.66	0.00	206.98	0.07	0.15	0.00	205.83
740.0	130.8	405.4	203.8	69.7	190.9	85.9	48.3	14.3	206.50
0.42	1.88	2.12	2.37	0.035	0.045	0.035	0.000	203.20	907.00
0.001363	100.	100.	100.	1	19	0	0.00	181.50	1088.50

*SECNO 4800.000
3280 CROSS SECTION 4800.00 EXTENDED 3.36 FEET

4800.000	3.35	207.05	205.93	0.00	207.14	0.08	0.15	0.00	206.11
740.0	122.1	424.8	193.1	62.8	184.1	77.7	49.0	14.7	206.70
0.44	1.94	2.31	2.48	0.035	0.045	0.035	0.000	203.70	907.50
0.001692	100.	100.	100.	0	14	0	0.00	181.00	1088.50

*SECNO 4900.000
3280 CROSS SECTION 4900.00 EXTENDED 3.27 FEET

4900.000	3.28	207.23	206.16	0.00	207.31	0.08	0.17	0.00	206.26
740.0	143.1	410.2	186.6	68.3	177.4	75.0	49.8	15.1	206.90
0.45	2.09	2.31	2.49	0.035	0.045	0.035	0.000	203.95	908.00
0.001774	100.	100.	100.	1	23	0	0.00	180.50	1088.50

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

*SECNO 5000.000
3280 CROSS SECTION 5000.00 EXTENDED 3.05 FEET

5000.000	3.05	207.40	206.23	0.00	207.47	0.07	0.16	0.00	206.01
740.0	232.0	356.7	151.3	97.8	171.6	70.1	50.5	15.5	207.10
0.46	2.37	2.08	2.16	0.035	0.045	0.035	0.000	204.35	909.40
0.001451	100.	100.	100.	0	14	0	0.00	179.10	1088.50

*SECNO 5100.000
3280 CROSS SECTION 5100.00 EXTENDED 2.83 FEET

5100.000	2.83	207.53	205.79	0.00	207.53	0.00	0.06	0.01	206.21
130.0	37.2	67.3	25.5	86.2	165.1	61.7	51.3	15.9	207.30
0.53	0.43	0.41	0.41	0.035	0.045	0.035	0.000	204.70	901.80
0.000060	100.	100.	100.	2	16	0	0.00	183.20	1085.00

*SECNO 5200.000
3280 CROSS SECTION 5200.00 EXTENDED 2.44 FEET

5200.000	2.44	207.54	206.03	0.00	207.54	0.00	0.01	0.00	206.57
130.0	24.9	80.7	24.4	53.7	167.0	50.7	52.0	16.4	207.30
0.58	0.46	0.48	0.48	0.035	0.045	0.035	0.000	205.10	898.60
0.000096	100.	100.	100.	2	21	0	0.00	183.40	1082.00

*SECNO 5300.000
3280 CROSS SECTION 5300.00 EXTENDED 1.65 FEET

5300.000	1.68	207.55	206.29	0.00	207.56	0.01	0.01	0.00	206.93
130.0	19.7	93.6	16.7	36.4	149.8	30.8	52.5	16.8	207.30
0.63	0.54	0.63	0.54	0.035	0.045	0.035	0.000	205.87	898.40
0.000191	100.	100.	100.	0	20	0	0.00	182.60	1081.00

*SECNO 5400.000

3265 DIVIDED FLOW

3280 CROSS SECTION 5400.00 EXTENDED 1.46 FEET

5400.000	1.47	207.57	206.54	0.00	207.58	0.01	0.03	0.00	207.29
130.0	13.3	94.2	22.6	23.9	120.3	32.3	53.0	17.2	207.35
0.67	0.55	0.78	0.70	0.035	0.045	0.035	0.000	206.10	898.80
0.000365	100.	100.	100.	0	14	0	0.00	174.82	1081.00

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

*SECNO 5500.000

3265 DIVIDED FLOW

3280 CROSS SECTION 5500.00 EXTENDED 0.81 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.68

5500.000	1.27	207.62	206.77	0.00	207.63	0.01	0.05	0.00	207.65
120.0	5.8	99.1	15.1	10.7	103.3	21.4	53.3	17.6	207.35
0.70	0.55	0.96	0.71	0.035	0.045	0.035	0.000	206.35	920.83
0.000665	100.	100.	100.	1	14	0	0.00	157.11	1081.00

*SECNO 5600.000

3265 DIVIDED FLOW

3280 CROSS SECTION 5600.00 EXTENDED 0.90 FEET

5600.000	1.11	207.70	207.01	0.00	207.71	0.02	0.08	0.00	207.94
120.0	2.8	95.6	21.6	5.4	90.4	23.8	53.6	17.9	207.40
0.73	0.52	1.06	0.91	0.035	0.045	0.035	0.000	206.59	927.08
0.000956	100.	100.	100.	2	17	0	0.00	147.81	1081.00

*SECNO 5700.000

3265 DIVIDED FLOW

3280 CROSS SECTION 5700.00 EXTENDED 0.42 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.70

5700.000	0.99	207.82	207.24	0.00	207.85	0.03	0.13	0.00	208.30
120.0	0.7	113.6	5.6	1.5	81.1	8.3	53.9	18.3	207.80
0.75	0.49	1.40	0.67	0.035	0.045	0.035	0.000	206.83	934.56
0.001953	100.	100.	100.	2	18	0	0.00	137.33	1081.00

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

*SECNO 5800.000

3265 DIVIDED FLOW

3280 CROSS SECTION 5800.00 EXTENDED 0.43 FEET

5800.000	0.96	208.03	207.49	0.00	208.06	0.03	0.21	0.00	208.91
120.0	0.0	115.9	4.1	0.0	78.2	5.8	54.1	18.5	208.20
0.77	0.00	1.48	0.72	0.000	0.045	0.035	0.000	207.07	955.18
0.002278	100.	100.	100.	2	14	0	0.00	112.62	1081.50

*SECNO 5900.000

3265 DIVIDED FLOW

3280 CROSS SECTION 5900.00 EXTENDED 0.75 FEET

5900.000	0.94	208.25	207.73	0.00	208.28	0.03	0.22	0.00	209.24
120.0	0.0	108.2	11.8	0.0	75.7	11.6	54.3	18.8	208.40
0.79	0.00	1.43	1.01	0.000	0.045	0.035	0.000	207.31	956.25
0.002181	100.	100.	100.	1	14	0	0.00	115.74	1081.00

*SECNO 6000.000

3265 DIVIDED FLOW

3280 CROSS SECTION 6000.00 EXTENDED 0.39 FEET

6000.000	0.95	208.50	208.00	0.00	208.54	0.04	0.26	0.00	209.49
120.0	0.0	116.2	3.8	0.0	68.4	4.8	54.4	19.0	208.70
0.80	0.00	1.70	0.79	0.000	0.045	0.035	0.000	207.55	964.24
0.003080	100.	100.	100.	1	11	0	0.00	100.88	1081.00

*SECNO 6100.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.68

6100.000	1.10	208.89	208.47	0.00	209.00	0.11	0.44	0.02	209.74
120.0	0.0	120.0	0.0	0.0	45.6	0.0	54.6	19.2	209.50
0.81	0.00	2.63	0.00	0.000	0.045	0.000	0.000	207.79	977.57
0.006621	100.	100.	100.	2	15	0	0.00	46.87	1024.44

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

*SECNO 6200.000

3265 DIVIDED FLOW

3280 CROSS SECTION 6200.00 EXTENDED 0.08 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.43

6200.000	1.35	209.38	208.71	0.00	209.45	0.07	0.45	0.00	209.86
120.0	1.6	118.3	0.1	2.5	56.5	0.2	54.7	19.4	210.20
0.83	0.65	2.09	0.28	0.035	0.045	0.035	0.000	208.03	945.58
0.003230	100.	100.	100.	1	14	0	0.00	70.23	1082.00

*SECNO 6300.000

3265 DIVIDED FLOW

3280 CROSS SECTION 6300.00 EXTENDED 0.33 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

6300.000	0.40	210.43	210.43	0.00	210.58	0.15	0.67	0.02	210.79
120.0	90.0	0.6	29.4	27.2	0.7	12.4	54.8	19.6	210.30
0.84	3.30	0.80	2.37	0.035	0.045	0.035	0.000	210.03	898.00
0.021652	100.	100.	100.	0	17	0	0.00	136.31	1083.00

*SECNO 6305.000

3265 DIVIDED FLOW

3280 CROSS SECTION 6305.00 EXTENDED 0.59 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.97

6305.000	0.59	210.59	210.41	0.00	210.64	0.06	0.05	0.01	210.20
120.0	65.2	4.7	50.1	33.9	5.7	25.7	54.8	19.6	210.20
0.84	1.92	0.82	1.95	0.035	0.045	0.035	0.000	210.00	893.20
0.005593	5.	5.	5.	2	5	0	0.00	161.15	1083.00

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

*SECNO 6307.000

3265 DIVIDED FLOW

3280 CROSS SECTION 6307.00 EXTENDED 0.61 FEET

6307.000	0.60	210.60	210.41	0.00	210.65	0.05	0.01	0.00	210.20
120.0	64.9	5.2	49.9	35.8	6.7	27.2	54.8	19.6	210.20
0.84	1.81	0.78	1.84	0.035	0.045	0.035	0.000	210.00	892.30
0.004627	2.	2.	2.	0	19	0	0.00	163.04	1083.00

*SECNO 6386.000
3280 CROSS SECTION 6386.00 EXTENDED 0.89 FEET

6386.000	0.89	210.89	210.62	0.00	210.92	0.03	0.27	0.00	210.10
120.0	56.3	14.9	48.8	39.1	18.3	30.6	55.0	19.9	210.50
0.85	1.44	0.81	1.59	0.035	0.045	0.035	0.000	210.00	897.24
0.002626	79.	79.	79.	2	5	0	0.00	175.76	1073.00

*SECNO 6387.000
3280 CROSS SECTION 6387.00 EXTENDED 0.90 FEET

6387.000	0.90	210.90	210.62	0.00	210.93	0.03	0.00	0.00	210.10
120.0	53.7	16.2	50.1	39.2	19.9	32.2	55.0	19.9	210.45
0.85	1.37	0.81	1.56	0.035	0.045	0.035	0.000	210.00	898.14
0.002347	1.	1.	1.	0	16	0	0.00	174.86	1073.00

*SECNO 6400.000
3280 CROSS SECTION 6400.00 EXTENDED 1.43 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.01

6400.000	1.93	210.93	209.67	0.00	210.93	0.00	0.00	0.00	210.70
60.0	10.3	21.8	27.9	42.5	71.8	65.7	55.0	20.0	209.50
0.86	0.24	0.30	0.42	0.035	0.045	0.035	0.000	209.00	896.00
0.000065	13.	13.	13.	0	14	0	0.00	177.00	1073.00

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

*SECNO 6500.000

3265 DIVIDED FLOW

3280 CROSS SECTION 6500.00 EXTENDED 1.24 FEET

6500.000	2.19	210.94	209.18	0.00	210.94	0.00	0.01	0.00	210.55
60.0	11.5	38.5	10.0	47.4	100.3	37.0	55.4	20.4	210.60
0.94	0.24	0.38	0.27	0.035	0.045	0.035	0.000	208.75	896.70
0.000057	100.	100.	100.	2	17	0	0.00	173.61	1073.00

*SECNO 6600.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.62

6600.000	1.95	210.94	209.40	0.00	210.95	0.00	0.01	0.00	210.59
60.0	7.6	52.4	0.0	26.0	91.2	0.0	55.8	20.7	211.00
1.00	0.29	0.58	0.00	0.035	0.045	0.000	0.000	208.99	910.76
0.000149	100.	100.	100.	0	21	0	0.00	115.02	1025.78

*SECNO 6700.000

6700.000	1.73	210.96	209.65	0.00	210.97	0.01	0.02	0.00	210.91
60.0	2.8	57.2	0.0	9.5	78.3	0.0	56.0	21.0	211.40
1.04	0.29	0.73	0.00	0.035	0.045	0.000	0.000	209.23	930.35
0.000291	100.	100.	100.	0	17	0	0.00	95.60	1025.95

*SECNO 6800.000

3265 DIVIDED FLOW

6800.000	1.53	211.00	209.88	0.00	211.01	0.01	0.04	0.00	211.22
60.0	0.5	59.5	0.0	2.2	68.5	0.0	56.2	21.1	211.50
1.07	0.24	0.87	0.00	0.035	0.045	0.000	0.000	209.47	944.12
0.000472	100.	100.	100.	1	14	0	0.00	67.51	1023.99

*SECNO 6900.000

6900.000	1.34	211.05	210.11	0.00	211.07	0.01	0.06	0.00	211.55
60.0	0.0	60.0	0.0	0.0	61.7	0.0	56.3	21.3	211.50
1.10	0.00	0.97	0.00	0.000	0.045	0.000	0.000	209.71	971.64
0.000688	100.	100.	100.	1	14	0	0.00	51.57	1023.21

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

*SECNO 7000.000
  7000.000      1.18     211.13     210.35       0.00     211.15       0.02       0.08       0.00     211.85
      60.0       0.0       60.0        0.0        0.0       54.0        0.0       56.5       21.4     212.50
      1.12      0.00       1.11       0.00      0.000      0.045      0.000      0.000     209.95     972.27
  0.001041      100.       100.       100.          2         17          0       0.00      50.36    1022.63

*SECNO 7100.000

3265 DIVIDED FLOW

  7100.000      1.02     211.21     210.38       0.00     211.21       0.00       0.06       0.00     211.60
      20.0       0.1       19.9        0.0        0.8       47.1        0.0       56.6       21.5     212.40
      1.19      0.08       0.42       0.00      0.035      0.045      0.000      0.000     210.19     943.65
  0.000180      100.       100.       100.          1         20          0       0.00      64.19    1022.16

*SECNO 7200.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  0.66

  7200.000      0.80     211.23     210.62       0.00     211.24       0.00       0.03       0.00     211.89
      20.0       0.0       20.0        0.0        0.0       36.3        0.0       56.7       21.7     212.60
      1.24      0.00       0.55       0.00      0.000      0.045      0.000      0.000     210.43     972.82
  0.000413      100.       100.       100.          2         21          0       0.00      48.51    1021.32

*SECNO 7300.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  0.67

  7300.000      0.62     211.29     210.86       0.00     211.30       0.01       0.06       0.00     212.55
      20.0       0.0       20.0        0.0        0.0       29.5        0.0       56.8       21.8     212.30
      1.28      0.00       0.68       0.00      0.000      0.045      0.000      0.000     210.67     972.53
  0.000909      100.       100.       100.          2         17          0       0.00      52.30    1024.83

*SECNO 7400.000

3265 DIVIDED FLOW

3280 CROSS SECTION   7400.00 EXTENDED      2.38 FEET
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
7400.000	2.38	211.38	211.07	0.00	211.39	0.01	0.10	0.00	213.21
20.0	0.0	13.4	6.6	0.0	22.5	5.9	56.8	21.9	212.20
1.31	0.00	0.60	1.12	0.000	0.045	0.035	0.000	209.00	973.11
0.001005	100.	100.	100.	2	24	0	0.00	58.12	1089.00

*SECNO 7500.000

3265 DIVIDED FLOW

3280 CROSS SECTION 7500.00 EXTENDED 0.54 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.56

7500.000	0.54	211.54	211.32	0.00	211.56	0.01	0.17	0.00	213.86
20.0	0.0	19.7	0.3	0.0	20.3	0.4	56.9	22.0	212.30
1.34	0.00	0.97	0.78	0.000	0.045	0.035	0.000	211.00	972.43
0.003197	100.	100.	100.	2	17	0	0.00	55.74	1085.00

THIS RUN EXECUTED 8AUG95 13:27:58

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
****

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

Sta. 11+00 to Sta. 20+00

SUMMARY PRINTOUT

	SECNO	Q	XLCH	TOPWID	AREA	VCH	XLBEL	RBEL	CWSEL	ELMIN	EG
	0.000	5270.00	0.00	16.00	242.32	21.75	100000.00	100000.00	184.98	169.67	192.33
*	384.000	5270.00	384.00	116.00	909.70	9.97	186.71	186.71	192.51	171.71	193.54
	434.000	5270.00	50.00	116.00	668.32	12.81	188.36	188.36	191.88	171.98	193.88
*	484.000	5270.00	50.00	116.00	545.31	14.59	190.00	190.00	192.35	172.80	195.21
*	684.000	5270.00	200.00	126.00	994.99	8.43	190.00	190.00	195.07	176.07	195.95
	726.000	5270.00	42.00	126.00	897.07	9.91	177.11	177.11	194.85	177.11	196.18
	1000.000	5270.00	274.00	129.00	551.21	12.71	179.80	179.80	195.25	179.80	197.68
*	1099.000	5270.00	99.00	141.00	1270.00	6.30	191.79	191.79	197.79	180.04	198.29
*	1100.000	1170.00	1.00	140.21	866.74	1.35	198.50	198.50	198.30	190.00	198.33
	1200.000	1170.00	100.00	149.28	745.44	1.57	198.50	198.50	198.32	190.03	198.36
	1300.000	1170.00	100.00	146.90	707.96	1.65	198.50	198.50	198.34	190.27	198.39
	1400.000	1170.00	100.00	144.49	673.41	1.74	198.50	198.50	198.38	190.51	198.42
	1500.000	1170.00	100.00	142.08	639.49	1.83	198.50	198.50	198.41	190.75	198.46
	1600.000	1170.00	100.00	131.19	517.74	2.26	199.10	198.64	198.45	192.20	198.53
*	1700.000	1170.00	100.00	101.11	315.89	3.70	201.45	199.08	198.49	193.60	198.70
*	1800.000	1170.00	99.00	91.22	218.68	5.35	202.91	199.52	198.79	195.10	199.23
	1900.000	950.00	100.00	86.21	213.15	4.46	203.57	199.96	199.64	196.50	199.95

SECNO	Q	XLCH	TOPWID	AREA	VCH	XLBEL	RBEL	CWSEL	ELMIN	EG	
2000.000	950.00	100.00	80.18	175.41	5.42	203.71	200.71	200.27	197.95	200.73	
2025.000	950.00	25.00	79.00	172.52	5.51	202.27	201.00	200.51	198.01	200.98	
2026.000	950.00	1.00	79.08	173.29	5.48	202.27	200.81	200.52	198.01	200.99	
2100.000	950.00	74.00	98.09	204.63	4.68	203.26	201.20	201.21	198.19	201.55	
2200.000	950.00	100.00	107.61	266.40	3.62	203.57	201.80	201.77	198.43	201.97	
2300.000	950.00	100.00	107.67	281.44	3.43	203.88	202.20	202.08	198.67	202.26	
2400.000	950.00	100.00	102.12	285.09	3.35	203.80	202.40	202.34	198.91	202.51	
2500.000	950.00	100.00	103.99	268.51	3.60	203.54	202.80	202.59	199.15	202.79	
2509.000	950.00	9.00	83.68	236.76	4.01	203.50	203.50	202.58	199.21	202.83	
2522.000	950.00	13.00	83.98	239.99	3.96	203.51	203.51	202.64	199.22	202.88	
2540.000	950.00	18.00	90.98	268.43	3.56	203.50	202.00	202.74	199.24	202.94	
2546.000	950.00	6.00	91.07	269.21	3.55	203.51	202.01	202.76	199.25	202.95	
2564.000	950.00	18.00	94.09	288.37	3.33	203.50	200.50	202.83	199.26	203.00	
2577.000	950.00	13.00	94.25	290.34	3.31	203.51	200.51	202.86	199.27	203.03	
2580.000	950.00	3.00	92.56	282.03	3.37	203.70	203.50	202.86	199.28	203.04	
2593.000	950.00	13.00	92.67	283.32	3.35	203.71	203.51	202.89	199.29	203.07	
2613.000	950.00	20.00	97.50	299.92	3.17	203.70	203.40	202.96	199.31	203.11	
2619.000	950.00	6.00	97.63	301.14	3.15	203.71	203.41	202.97	199.32	203.13	
2639.000	950.00	20.00	91.67	282.51	3.36	203.70	203.40	203.00	199.34	203.18	
2652.000	950.00	13.00	91.76	283.64	3.35	203.71	203.41	203.03	199.35	203.21	
								203.10			
2700.000	880.00	48.00	146.78	331.18	2.77	203.03	203.30	203.19	199.63	203.30	+.09
								203.28			
2800.000	880.00	100.00	139.28	316.12	2.89	203.26	203.40	203.35	199.87	203.48	+.07
								203.47			
2900.000	880.00	100.00	132.71	304.54	2.98	203.59	203.70	203.53	200.11	203.67	+.06
								203.68			
3000.000	880.00	100.00	126.42	294.49	3.05	203.90	203.90	203.73	200.35	203.87	+.05
								203.91			
3100.000	880.00	100.00	146.16	307.25	3.00	204.20	204.10	203.94	200.59	204.08	+.03
3200.000	880.00	100.00	143.18	305.67	3.01	204.54	204.20	204.14	200.83	204.28	+.02
								204.12			

SECNO	Q	XLCH	TOPWID	AREA	VCH	XLBEL	RBEL	CWSEL	ELMIN	EG	
3300.000	880.00	100.00	141.68	292.43	3.12	204.73	204.40	204.35	201.07	204.50	+.02 ok
3400.000	880.00	100.00	150.05	297.71	3.10	204.70	204.70	204.58	201.31	204.72	+.02 ok
3500.000	810.00	100.00	150.22	300.93	2.83	204.96	204.90	204.81	201.55	204.93	+.01 ok
3600.000	810.00	100.00	129.09	257.12	3.30	205.18	205.10	205.00	201.79	205.16	+.01 ok
3700.000	810.00	100.00	153.14	281.64	3.13	204.82	205.40	205.27	202.03	205.41	+.01 ok
3757.000	810.00	57.00	85.10	227.01	3.62	204.70	205.50	205.37	202.17	205.58	
3760.000	810.00	3.00	73.09	235.25	3.44	205.50	205.50	205.40	202.18	205.59	
3766.000	810.00	6.00	73.09	234.99	3.45	205.52	205.52	205.42	202.20	205.60	
3773.000	810.00	7.00	91.64	259.94	3.14	205.50	205.00	205.47	202.22	205.62	
3797.000	810.00	24.00	104.00	267.02	3.10	203.50	205.00	205.53	202.29	205.67	
3800.000	810.00	100.00	180.50	377.32	2.35	205.00	205.60	205.75	202.27	205.83	+.24
3900.000	810.00	100.00	181.30	381.21	2.29	205.13	205.80	205.87	202.40	205.95	+.20
4000.000	810.00	100.00	179.41	385.89	2.24	204.88	206.00	205.99	202.50	206.06	+.16
4100.000	810.00	100.00	177.52	385.52	2.21	204.84	206.20	206.10	202.45	206.17	+.13
4200.000	810.00	100.00	176.94	365.30	2.34	205.09	206.40	206.22	202.80	206.30	+.11
4300.000	810.00	100.00	175.06	360.46	2.34	205.34	206.65	206.36	202.50	206.44	+.09
4400.000	810.00	100.00	181.30	391.63	2.08	205.15	205.85	206.50	202.80	206.57	+.07
4500.000	810.00	100.00	181.10	373.53	2.19	205.24	206.05	206.61	203.50	206.69	+.05
4600.000	810.00	100.00	181.50	351.77	2.34	205.55	206.25	206.75	203.50	206.83	+.04
4700.000	740.00	100.00	181.50	346.58	2.12	205.83	206.50	206.91	203.20	206.98	+.03
4800.000	740.00	100.00	181.00	324.69	2.31	206.11	206.70	207.05	203.70	207.14	+.02
4900.000	740.00	100.00	180.50	320.72	2.31	206.26	206.90	207.23	203.95	207.31	+.02
5000.000	740.00	100.00	179.10	339.46	2.08	206.01	207.10	207.40	204.35	207.47	+.02
5100.000	130.00	100.00	183.20	313.08	0.41	206.21	207.30	207.53	204.70	207.53	+.01
5200.000	130.00	100.00	183.40	271.40	0.48	206.57	207.30	207.54	205.10	207.54	+.01
5300.000	130.00	100.00	182.60	217.00	0.63	206.93	207.30	207.55	205.87	207.56	+.01

205.51
205.67
205.83
205.97
206.11
206.27
206.43
206.56
206.71
206.88

	SECNO	Q	XLCH	TOPWID	AREA	VCH	XLBEL	RBEL	CWSEL	ELMIN	EG	
	5400.000	130.00	100.00	174.82	176.50	0.78	207.29	207.35	207.57	206.10	207.58	+.01
*	5500.000	120.00	100.00	157.11	135.34	0.96	207.65	207.35	207.62	206.35	207.63	+.01
	5600.000	120.00	100.00	147.81	119.56	1.06	207.94	207.40	207.70	206.59	207.71	+.01
*	5700.000	120.00	100.00	137.33	90.97	1.40	208.30	207.80	207.82	206.83	207.85	+.01
	5800.000	120.00	100.00	112.62	83.98	1.48	208.91	208.20	208.03	207.07	208.06	
	5900.000	120.00	100.00	115.74	87.34	1.43	209.24	208.40	208.25	207.31	208.28	
	6000.000	120.00	100.00	100.88	73.21	1.70	209.49	208.70	208.50	207.55	208.54	
*	6100.000	120.00	100.00	46.87	45.62	2.63	209.74	209.50	208.89	207.79	209.00	
*	6200.000	120.00	100.00	70.23	59.19	2.09	209.86	210.20	209.38	208.03	209.45	-.01
*	6300.000	120.00	100.00	136.31	40.40	0.80	210.79	210.30	210.43	210.03	210.58	
*	6305.000	120.00	5.00	161.15	65.31	0.82	210.20	210.20	210.59	210.00	210.64	
	6307.000	120.00	2.00	163.04	69.68	0.78	210.20	210.20	210.60	210.00	210.65	
	6386.000	120.00	79.00	175.76	88.06	0.81	210.10	210.50	210.89	210.00	210.92	
	6387.000	120.00	1.00	174.86	91.26	0.81	210.10	210.45	210.90	210.00	210.93	
*	6400.000	60.00	13.00	177.00	180.04	0.30	210.70	209.50	210.93	209.00	210.93	
	6500.000	60.00	100.00	173.61	184.75	0.38	210.55	210.60	210.94	208.75	210.94	
*	6600.000	60.00	100.00	115.02	117.19	0.58	210.59	211.00	210.94	208.99	210.95	
	6700.000	60.00	100.00	95.60	87.86	0.73	210.91	211.40	210.96	209.23	210.97	
	6800.000	60.00	100.00	67.51	70.72	0.87	211.22	211.50	211.00	209.47	211.01	
	6900.000	60.00	100.00	51.57	61.70	0.97	211.55	211.50	211.05	209.71	211.07	
	7000.000	60.00	100.00	50.36	53.98	1.11	211.85	212.50	211.13	209.95	211.15	
	7100.000	20.00	100.00	64.19	47.91	0.42	211.60	212.40	211.21	210.19	211.21	
*	7200.000	20.00	100.00	48.51	36.26	0.55	211.89	212.60	211.23	210.43	211.24	
*	7300.000	20.00	100.00	52.30	29.48	0.68	212.55	212.30	211.29	210.67	211.30	
	7400.000	20.00	100.00	58.12	28.36	0.60	213.21	212.20	211.38	209.00	211.39	
*	7500.000	20.00	100.00	55.74	20.72	0.97	213.86	212.30	211.54	211.00	211.56	

SUMMARY OF ERRORS AND SPECIAL NOTES

```
WARNING SECNO=    384.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=    484.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    484.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=    684.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   1099.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   1100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   1700.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   1800.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   5500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   5700.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   6100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   6200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=   6300.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   6300.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=   6305.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   6400.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   6600.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   7200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   7300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   7500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```