CLOMR Report

Laveen Elementary School

Prepared For:

Hess-Roundtree, Inc.

For Submittal To:

City of Phoenix

and

Federal Emergency Management Agency

Prepared By:

Erie And Associates, Inc.

3120 N. 24th St.

Phoenix, AZ 85016

Registered Professional Engineer (Civil)
CERTIFICATE NO. 10274
LEONARD J. ERIE, II
Date Signed 12 DEC 05
ARIZONA, U.S.A.

EA #1944.01

December 7, 2005

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

June 22, 2006

City of Phoenix

STREET TRANSPORTATION DEPARTMENT

FEMA DEPOT
3601 Eisenhower Avenue
Alexandria, Virginia 22304

ATTN: LOMR Depot

RE: CONDITIONAL LETTER OF MAP REVISION (CLOMR)
LAVEEN ELEMENTARY SCHOOL, PHOENIX, AZ
PANEL 04013C2115G, SEPTEMBER 30, 2005

Please find enclosed a Conditional Letter of Map Revision (CLOMR) application for Laveen Elementary School in Phoenix, Arizona. The following items are included with this application.

ITEMS:

1- Check for $4400.
2- Payment Information Form.
3- Overview & Concurrence Form (MT-2 Form 1)
4- Riverine Hydrology & Hydraulics Form (MT-2 Form 2).
5- Annotated copy of FIRM (Back Pocket).
6- CLOMR Report - Laveen Elementary School.

If you have any technical questions regarding this project, please contact Mr. Len Erie, P.E., Erie & Associates, Inc., phone number 602-954-6399, fax number 602-954-6601. For any other questions, please contact this office at 602-262-4960.

Sincerely,

Hasan Mushtaq, Ph.D., P.E., CFM
Floodplain Manager

Cc: Mr. Brian Cosson, CFM, Arizona Department of Water Resources
Mr. Tim Murphy, P.E., CFM, Flood Control District of Maricopa County
Mr. Len Erie, P.E., Erie & Associates, Inc.

200 West Washington Street, Fifth Floor, Phoenix, Arizona 85003-1611 • 602-262-6284 • Fax: 602-495-2016
Recycled Paper

FEDERAL EMERGENCY MANAGEMENT AGENCY

OVERVIEW & CONCURRENCE FORM

O.M.B No. 3067-0148
Expires September 30, 2005

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hour per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, SW, Washington DC 20472, Paperwork Reduction Project (3067-0148). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

A. REQUESTED RESPONSE FROM FEMA

This request is for a (check one):

☒ CLOMR: A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60, 65 & 72).

☐ LOMR: A letter from FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See Parts 60 & 65 of the NFIP Regulations.)

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Ex: 480301 480287	City of Katy Harris County	TX TX	480301 48201C	0005D 0220G	02/08/83 09/28/90
040051	City of Phoenix	AZ	04013C	2115G	09/30/05

2. Flooding Source: Salt River

3. Project Name/Identifier: Laveen Elementary School

4. FEMA zone designations affected: AE (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

5. Basis for Request and Type of Revision:

a. The basis for this revision request is (check all that apply)

☒ Physical Change ☐ Improved Methodology/Data

☐ Regulatory Floodway Revision ☐ Other (Attach Description)

Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following types of flooding and structures (check all that apply)

Types of Flooding: ☒ Riverine ☐ Coastal ☐ Shallow Flooding (e.g., Zones AO and AH)

☐ Alluvial fan ☐ Lakes ☐ Other (Attach Description)

Structures: ☐ Channelization ☐ Levee/Floodwall ☐ Bridge/Culvert

☐ Dam ☒ Fill ☐ Other, Attach Description

C. REVIEW FEE

Has the review fee for the appropriate request category been included? ☒ Yes Fee amount: $4,400

☐ No, Attach Explanation

Please see the FEMA Web site at http://www.fema.gov/fhm/frm_fees.shtm **for Fee Amounts and Exemptions.**

D. SIGNATURE

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

Name: Len Erie	Company: Erie & Associates	
Mailing Address: 3120 N. 24th St. Phoenix, AZ 85016	Daytime Telephone No.: 602-954-6399	Fax No.: 602-954-6601
	E-Mail Address: erie@waterwiz.net	
Signature of Requester (required):		Date: 20APR06

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirement that no fill be placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Hassan Mushtaq/Floodplain Administrator		Telephone No.: 602-262-4960
Community Name: City of Phoenix	Community Official's Signature (required):	Date: 6-22-06

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: Len Erie	License No.: 10274	Expiration Date: 12/31/07
Company Name: Erie & Associates	Telephone No.: 602-954-6399	Fax No.: 602-954-6601
Signature:		Date: 20APR06

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)	Required if ...
☒ Riverine Hydrology and Hydraulics Form (Form 2)	New or revised discharges or water-surface elevations
☐ Riverine Structures Form (Form 3)	Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam
☐ Coastal Analysis Form (Form 4)	New or revised coastal elevations
☐ Coastal Structures Form (Form 5)	Addition/revision of coastal structure
☐ Alluvial Fan Flooding Form (Form 6)	Flood control measures on alluvial fans

Registered Professional Engineer (Civil)
CERTIFICATE NO. 10274
LEONARD J. ERIE, II
Date Signed 20APR06
ARIZONA, U.S.A.
Seal (Optional)

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE HYDROLOGY & HYDRAULICS FORM

O.M.B No. 3067-0148
Expires September 30, 2005

PAPERWORK REDUCTION ACT

Public reporting burden for this form is estimated to average 3 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, SW, Washington DC 20472, Paperwork Reduction Project (3067-0148). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

Flooding Source: Salt River
Note: Fill out one form for each flooding source studied

A. HYDROLOGY

1. Reason for New Hydrologic Analysis (check all that apply)

☒ Not revised (skip to section 2) ☐ No existing analysis ☐ Improved data
☐ Alternative methodology ☐ Proposed Conditions (CLOMR) ☐ Changed physical condition of watershed

2. Comparison of Representative 1%-Annual-Chance Discharges

Location	Drainage Area (Sq. Mi.)	FIS (cfs)	Revised (cfs)

3. Methodology for New Hydrologic Analysis (check all that apply)

☐ Statistical Analysis of Gage Records ☐ Precipitation/Runoff Model [TR-20, HEC-1, HEC-HMS etc.]
☐ Regional Regression Equations ☐ Other (please attach description)

Please enclose all relevant models in digital format, maps, computations (including computation of parameters) and documentation to support the new analysis. The document, "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtm.

4. Review/Approval of Analysis

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review.

5. Impacts of Sediment Transport on Hydrology

Was sediment transport considered? ☐ Yes ☐ No If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation for why sediment transport was not considered.

B. HYDRAULICS

1. Reach to be Revised

	Description	Cross Section	Water-Surface Elevations (ft.) Effective	Proposed/Revised
Downstream Limit	1020' upstream of 75th Avenue	204.42	986.40	986.40
Upstream Limit	2150' upstream of 75th Avenue	204.78	990.01	990.01

2. Hydraulic Method Used

Hydraulic Analysis HEC-RAS [HEC-2 , HEC-RAS, Other (Attach description)]

B. HYDRAULICS (CONTINUED)

3. Pre-Submittal Review of Hydraulic Models

FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. These review programs verify that the hydraulic estimates and assumptions in the model data are in accordance with NFIP requirements, and that the data are comparable with the assumptions and limitations of HEC-2/HEC-RAS. CHECK-2 and CHECK-RAS identify areas of potential error or concern. These tools do not replace engineering judgment. CHECK-2 and CHECK-RAS can be downloaded from http://www.fema.gov/fhm/frm_soft.shtm. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS. If you disagree with a message, please attach an explanation of why the message is not valid in this case. Review of your submittal and resolution of valid modeling discrepancies will result in reduced review time.

HEC-2/HEC-RAS models reviewed with CHECK-2/CHECK-RAS? ☐ Yes ☒ No

4. Models Submitted

Duplicate Effective Model*	Natural File Name:	Floodway File Name:
Corrected Effective Model*	Natural File Name:	Floodway File Name:
Existing or Pre-Project Conditions Model	Natural File Name: REACH3.PRJ	Floodway File Name:
Revised or Post-Project Conditions Model	Natural File Name:	Floodway File Name:
Other - (attach description)	Natural File Name:	Floodway File Name:

*Not required for revisions to approximate 1%-annual-chance floodplains (Zone A) – for details, refer to the corresponding section of the instructions.

The document "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtm.

C. MAPPING REQUIREMENTS

A **certified topographic map** must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%- and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g., dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach **a copy of the effective FIRM and/or FBFM,** annotated to show the boundaries of the revised 1%- and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%- and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area of revision.

D. COMMON REGULATORY REQUIREMENTS

1. For CLOMR requests, do Base Flood Elevations (BFEs) increase? ☐ Yes ☒ No

For CLOMR requests, if either of the following is true, please submit evidence of compliance with Section 65.12 of the NFIP regulations:
- The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot.
- The proposed project encroaches upon a SFHA with BFEs established and would result in increases above 1.00 foot.

2. Does the request involve the placement or proposed placement of fill? ☒ Yes ☐ No

If Yes, the community must be able to certify that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets all of the standards of the local floodplain ordinances, and is reasonably safe from flooding in accordance with the NFIP regulations set forth at 44 CFR 60.3(a)(3), 65.5(a)(4), and 65.6(a)(14). Please see the MT-2 instructions for more information.

3. For LOMR requests, is the regulatory floodway being revised? ☐ Yes ☐ No

If Yes, attach evidence of regulatory floodway revision notification. As per Paragraph 65.7(b)(1) of the NFIP Regulations, notification is required for requests involving revisions to the regulatory floodway. (Not required for revisions to approximate 1%-annual-chance floodplains [studied Zone A designation] unless a regulatory floodway is being added. Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.)

4. For LOMR requests, does this request require property owner notification and acceptance of BFE increases? ☐ Yes ☐ No

If Yes, please attach proof of property owner notification and acceptance (if available). Elements of and examples of property owner notification can be found in the MT-2 Form 2 Instructions.

FEDERAL EMERGENCY MANAGEMENT AGENCY

PAYMENT INFORMATION FORM

Community Name: City of Phoenix

Project Identifier: Laveen School

THIS FORM MUST BE MAILED, ALONG WITH THE APPROPRIATE FEE, TO ONE OF TWO POST OFFICE BOXES (SEE BELOW) OR FAXED TO THE FAX NUMBER BELOW.

Type of Request:

MT-1 application fee
MT-2 application fee } (Insert **3173** as the P.O. Box number in the address below)

External Data Requests (EDRs) (Insert **398** as the P.O. Box number in the address below)

Federal Emergency Management Agency
Revisions Fee-Collection System Administrator
P.O. Box
Merrifield, Virginia 22116
Fax: (703) 849-0282

Request No.: (if known) Amount: 4,400.00

☐ INITIAL FEE* ☐ FINAL FEE ☐ FEE BALANCE** ☐ MASTER CARD ☐ VISA ☑ CHECK ☐ MONEY ORDER

*Note: Check only for EDR and/or Alluvial Fan requests (as appropriate).

**Note: Check only if submitting a corrected fee for an ongoing request.

COMPLETE THIS SECTION ONLY IF PAYING BY CREDIT CARD

EXP. DATE

1 2 3 4 — 5 6 7 8 — 9 10 11 12 — 13 14 15 16 Month — Year

CARD NUMBER

Date _____ Signature

NAME *(AS IT APPEARS ON CARD)*:
(please print or type)

ADDRESS:
(for your credit card receipt-please print or type)

DAYTIME PHONE:

THE FACE OF THIS DOCUMENT HAS A COLORED BACKGROUND & MICROPRINTING. THE BACK OF THIS DOCUMENT CONTAINS AN ARTIFICIAL WATERMARK - HOLD AT AN ANGLE TO VIEW. IF NOT PRESENT - DO NOT CASH

SCHOOL EXPENSE WARRANT
TREASURER OF MARICOPA COUNTY
PHOENIX, ARIZONA
THIS WARRANT DRAWS INTEREST FROM DATE MARKED "INSUFFICIENT FUNDS".
INTEREST STOPS ON DATE FUNDS AVAILABLE. (SEC. 11-635, 636 ARS 1956)

JPMorgan Chase Bank, N.A.
Phoenix, Arizona 85073
91-229 / 1221

460133876

DATE	CONTROL NO.
6/08/06	59009672

WARRANT AMOUNT
$4,400.00

LAVEEN ELEMENTARY SCHOOL DISTRICT #59

PAY EXACTLY 4,400 DOLLARS AND NO CENTS

VOID AFTER 365 DAYS

TO THE ORDER OF
Federal Emergency Management A
3601 Eisenhower Avenue
Alexandria VA 22304

Dr. Sandra E. Dowling
AUTHORIZED SIGNATURE

⑈460133876⑈ ⑆122102297⑆ 15479376⑈

MARICOPA COUNTY SCHOOLS • PHOENIX, ARIZONA

Account Number	Invoice	P/O #	Amount	Disc	Paid
69510042006451105530600 2	veen Farms	67562	4,400.00		4,400.00
Voucher - 06061	6/08/06	59009672	Check Total		4,400.00

NOT NEGOTIABLE

N13397 (03/05)

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Appendix A-Existing Conditions HEC-RAS Input/Output

Appendix B-Hess-Roundtree Site Drainage Report

2.0 List Of Plates

List of Plates

Plate 1-Location Map	4
Plate 2-Existing Fema Map	Pocket In Back
Plate 3-Proposed FEMA Map	Pocket In Back
Plate 4-Master Drainage Plan	Pocket in Back

AMERICAN INSTITUTE OF HYDROLOGY
Certificate Number
545
LEONARD J.
ERIE, II
Professional Hydrologist

Registered Professional Engineer (Civil)
CERTIFICATE NO.
10274
LEONARD J.
ERIE, II
Date Signed 12/06/08
ARIZONA, U.S.A.

3.0 Location And Description

The 12± acre Laveen Elementary School project is located within the City of Phoenix, Arizona and within the Laveen Farms residential development. More specifically, the site is within the west half of Section 36, Township 1 North, Range 1 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona and is at the southeast corner of Vineyard Road and 73rd Drive. The site is shown on *Plate 1-Location Map.*

This report is in support of a proposed CLOMR on the site with respect to the Salt River floodplain.

3.1 FEMA Information

The site is located on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map #04013C2115G, Maricopa County, Arizona, effective date September 30, 2005. Currently, the entire site is located within a FEMA zone "AE" which is defined as a special flood hazard area subject to inundation by the 1% annual chance flood with base flood elevations determined. The zone "AE" is due to flooding from the Salt River backing up into a previously mapped low area on the south side of the main channel. The FEMA FIRM map for the site is included as *Plate 2-Existing Conditions FEMA Map.*

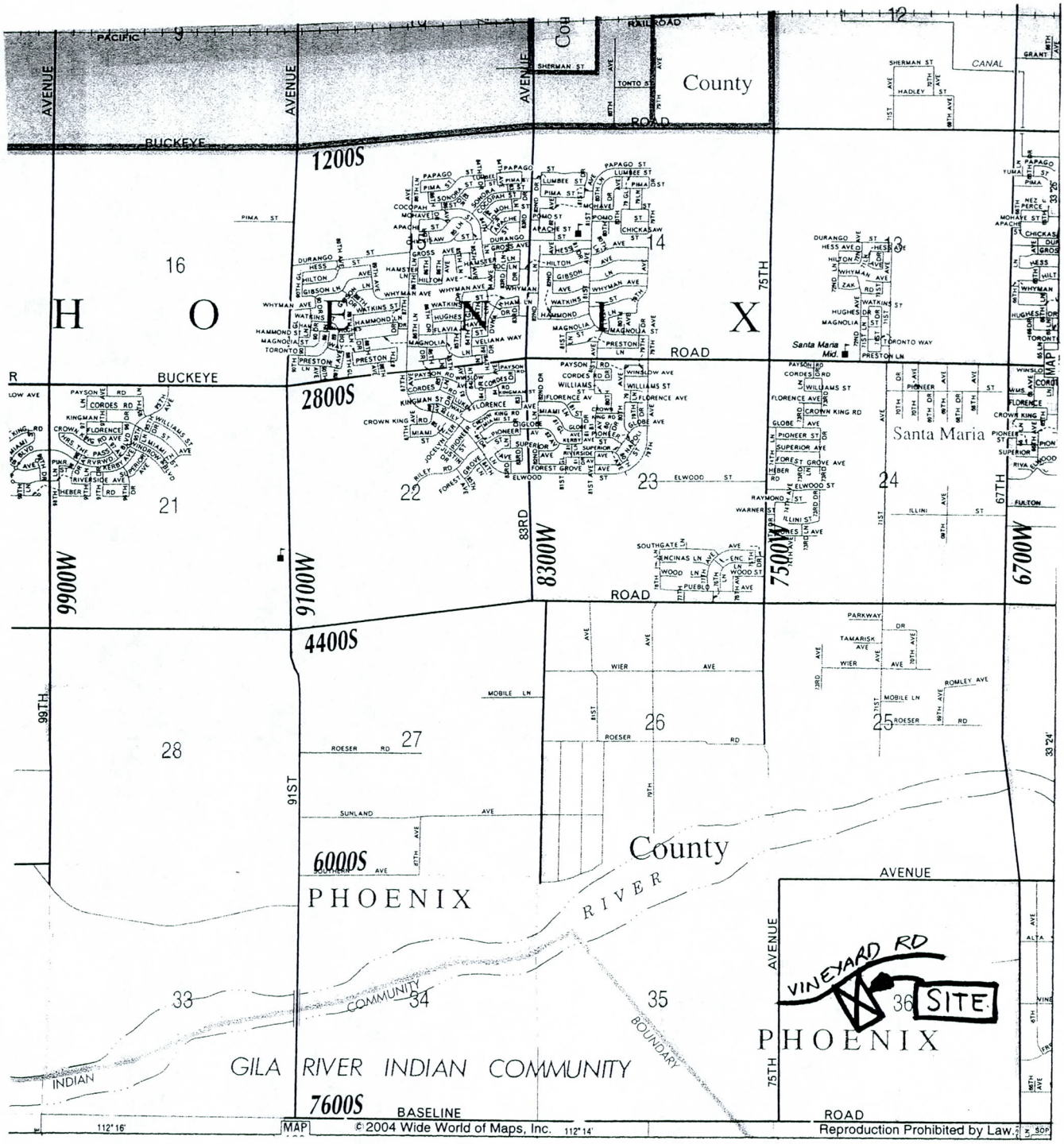
The proposed modification to the FEMA floodplain is shown on *Plate 3.*

3.2 Drainage Concept

Currently, the site is within an overbank (ineffective) flow area within the Salt River floodplain.

For developed conditions, the following concepts will be used.

- A portion of the south floodplain area of the Salt River will be removed from the floodplain by a FEMA CLOMR based on fill to 1' above the water surface on the effective study. The current FIRM panel is shown on *Plate 2-FEMA Floodplain Map.* The proposed modification is shown on *Plate 3.*
- The area to be removed from the floodplain will be removed by fill from retention basins proposed on the playfields of the school.



JOB NO. 1944

DATE: 12/02/05

SCALE: ------

ERIE AND ASSOCIATES, INC.
3120 N. 24th St.
PHOENIX, ARIZONA 85016
PH: (602) 954-6399

LAVEEN ELEMENTARY SCHOOL

PLATE 1 – LOCATION MAP

4.0 Hydrology

4.1 Salt River Hydrology

The existing hydrology was analyzed for the Flood Control District of Maricopa County's Flood Delineation Study of Salt-Gila Rivers, by Michael Baker Jr., Inc. The peak flow in this reach of the Salt River is 179,750 cfs. The hydrology will not be modified for this project.

4.2 On-site Hydrology

A separate drainage report that details the side drainage and on-site hydrology has been completed by Hess-Roundtree, Inc. That report is included as Appendix B.

5.0 Hydraulics

The existing hydraulic analysis of the Salt River is from the Flood Delineation Study of Salt-Gila Rivers by Michael Baker Jr., Inc. which is the effective study for this reach of the Salt River. The HEC-RAS input/output is included in *Appendix A.*

The water surface elevation varies from 986.5 to 990 across the site. The water surface at the upstream edge of the proposed buildings is 989.5; therefore, the finish floor elevations are set at 990.5 (one foot above the water surface). Those water surface elevations are projected across the site and shown on *Plate 3.*

Since the site is within an ineffective flow area, the developed project will not cause an increase in the water surface elevations.

The area to be removed from the floodplain is shown on *Plate 3-Proposed FEMA Map and Plate 4-Master Drainage Plan.*

Appendix A-Existing Conditions HEC-RAS Input/Output

HEC-RAS September 1998 Version 2.2
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street, Suite D
Davis, California 95616-4687
(916) 756-1104

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X       X   X     X  X    X
X     X  X        X            X   X    X    X   X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X            X  X     X    X       X
X     X  X        X    X       X   X    X    X       X
X     X  XXXXXX    XXXX        X    X   X    X   XXXXX
```

PROJECT DATA
Project Title: Salt Gila Reach 3 - Floodway
Project File : Reach3.prj
Run Date and Time: 12/12/2005 9:33:19 AM

Project in English units

PLAN DATA

Plan Title: Reach 3 - Method 1 Floodway
Plan File : d:\PROJECT FILES\1901-1950\1944-LAVEEN ELEMENTARY\FCDMC MODELS\Reach3\Reach3.p01

Geometry Title: with landfill
Geometry File : d:\PROJECT FILES\1901-1950\1944-LAVEEN ELEMENTARY\FCDMC MODELS\Reach3\Reach3.g02

Flow Title : Reach 3 - Floodway
Flow File : d:\PROJECT FILES\1901-1950\1944-LAVEEN ELEMENTARY\FCDMC MODELS\Reach3\Reach3.f01

Plan Summary Information:

Number of:	Cross Sections	= 161	Mulitple Openings	= 0
	Culverts	= 0	Inline Weirs	= 0
	Bridges	= 6		

Computational Information
Water surface calculation tolerance = 0.01
Critical depth calculaton tolerance = 0.01
Maximum number of interations = 20
Maximum difference tolerance = 0.3
Flow tolerance factor = 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

Encroachment Data
Equal Conveyance = True
Left Offset = 0
Right Offset = 0

River = 1 Reach = 1

RS	Profile	Method	Value1	Value2
214.14	PF#2		119654.9	720381.83
214.04	PF#2		119637.8	820371.77
213.95	PF#2		119586.5	420331.73
213.85	PF#2		119618.3	320320.92
213.75	PF#2		1	1964120297.35
213.74	PF#2		119641.87	20296.6
213.66	PF#2		119687.5	720253.56
213.57	PF#2		1	19484.520336.66
213.47	PF#2		1	19243.320266.42
213.38	PF#2		1	19346.120447.85
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213.26	PF#2		119497.1	820378.39

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213.25  PF#2                    119497.5520377.79
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211.31  PF#2                    119531.2120356.09
211.21  PF#2                    119528.7520521.25
211.12  PF#2                    119498.47   20610
211.02  PF#2                    119487.12   20550
210.93  PF#2                    119479.13   20530
210.83  PF#2                    119450.42   20530
210.74  PF#2                    119426.13   20560
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210.55  PF#2                    119322.17   21110
210.46  PF#2                    1   19377   21284
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210.26  PF#2                    119377.08 21331.8
210.17  PF#2                    1 19354.621334.72
210.07  PF#2                    1   19210   21225
209.98  PF#2                    119338.5921207.12
209.88  PF#2                    1   19513   21220
209.79  PF#2                    119483.04   21290
209.69  PF#2                    119460.1721335.01
209.6   PF#2                    1 19341.4 21003.8
209.54  PF#2                    1   19130   20521
209.535 PF#2                    1   19130   20521
209.53  PF#2                    1   19130   20521
209.42  PF#2                    1   1900020652.63
209.33  PF#2                    119122.27 20715.2
209.24  PF#2                    119212.28   20850
209.14  PF#2                    119200.21   21100
209.04  PF#2                    1   19220   21200
208.95  PF#2                    119141.04   21200
208.85  PF#2                    1 19199.7   21150
208.75  PF#2                    1 19192.9 20799.2
208.67  PF#2                    119118.2220908.11
208.57  PF#2                    119087.13   20640
208.48  PF#2                    118510.5620680.86
208.39  PF#2                    118462.9420748.79
208.29  PF#2                    1 18562.620944.07
208.19  PF#2                    118679.18 21343.2
208.1   PF#2                    118822.3721767.18
207.99  PF#2                    119093.0321934.42
207.9   PF#2                    1 19104.722137.55
207.8   PF#2                    1 19249.521871.22
207.71  PF#2                    1   1936021704.11
207.62  PF#2                    1 19510.121472.33
207.53  PF#2                    1 19502.9   21175
207.49  PF#2                    119473.7821053.15
207.48  PF#2                    119474.1421053.01
207.43  PF#2                    119253.23   20940
207.34  PF#2                    1   1923020798.77
207.27  PF#2                    1   18980 20597.9
207.16  PF#2                    1   19000 20734.5
207.07  PF#2                    118857.5720748.18
206.97  PF#2                    1   18850   20800
206.88  PF#2                    118838.93   20800
206.79  PF#2                    118806.0120895.15
206.7   PF#2                    118784.84 21138.8
```

206.6	PF#2	118675.5821066.25
206.51	PF#2	118561.35 20622.1
206.41	PF#2	118494.7120685.21
206.32	PF#2	118476.9420854.87
206.22	PF#2	1 1843520977.29
206.13	PF#2	1 1837020914.89
206.03	PF#2	1 18320 20772.6
205.94	PF#2	1 18200 20767
205.84	PF#2	1 18100 20535.7
205.75	PF#2	1 18048 20450.3
205.62	PF#2	1 18216 20450.1
205.52	PF#2	1 18591.6 20611.5
205.43	PF#2	1 18917.5 20770.4
205.4	PF#2	1 19020 20767.8
205.34	PF#2	1 1918020742.96
205.25	PF#2	1 19300 20782.3
205.15	PF#2	1 19385 20830
205.06	PF#2	1 19470 20905.3
204.97	PF#2	1 19445 20961.3
204.87	PF#2	1 19410 20952.2
204.78	PF#2	1 1921020830.43
204.68	PF#2	1 1896020546.37
204.61	PF#2	1 18880 20482.9
204.53	PF#2	1 18885 20495.9
204.42	PF#2	1 19025.420679.03
204.34	PF#2	1 1910020814.38
204.25	PF#2	1 1930020817.18
204.15	PF#2	1 1920021031.89
204.05	PF#2	118963.7821080.54
203.96	PF#2	118736.54 20787.3
203.86	PF#2	118542.4920734.27
203.77	PF#2	118232.4120743.68
203.67	PF#2	1 1813020697.43
203.58	PF#2	1 1802520701.39
203.48	PF#2	1 17932.620844.31
203.39	PF#2	1 17970.821036.47
203.29	PF#2	1 18065.621074.86
203.19	PF#2	1 18262.120951.24
203.09	PF#2	1 1843020905.85
202.99	PF#2	1 18469.4 20926.9
202.9	PF#2	1 18455.620967.31
202.8	PF#2	1 18390.821011.58
202.69	PF#2	1 18377.821080.23
202.59	PF#2	1 18416.7 21190.4
202.48	PF#2	1 18360 21302.7
202.37	PF#2	1 1827021577.77
202.29	PF#2	1 18197.4 21803
202.18	PF#2	1 18139.721936.54
202.09	PF#2	1 18212.921936.96
201.99	PF#2	1 18235.121861.56
201.9	PF#2	117992.63 21823.6
201.81	PF#2	117952.4821801.08
201.71	PF#2	118112.81 21528.5
201.62	PF#2	118235.69 21477.5
201.52	PF#2	118008.55 21391.4
201.43	PF#2	118053.86 21342.1
201.33	PF#2	118074.35 21381.8
201.24	PF#2	118069.92 21570
201.14	PF#2	118040.42 21721
201.05	PF#2	117950.48 21849
200.95	PF#2	117952.91 21954
200.86	PF#2	1 18000 22032
200.77	PF#2	1 17828.8 21951
200.67	PF#2	1 17640 21649.3
200.58	PF#2	1 17510 21450
200.49	PF#2	1 17380 21171
200.39	PF#2	1 17300 21041
200.3	PF#2	1 17205 20896
200.2	PF#2	1 17115 20744
200.1	PF#2	1 17030 20800
200	PF#2	1 16950 21050
199.91	PF#2	1 16800 21330
199.82	PF#2	1 16870 21650

FLOW DATA

Flow Title: Reach 3 - Floodway
Flow File : d:\PROJECT FILES\1901-1950\1944-LAVEEN ELEMENTARY\FCDMC MODELS\Reach3\Reach3.f01

Flow Data (cfs)

River	Reach	RS	PF#1	PF#2
1	1	214.14	169000	169000
1	1	213.21	166000	166000
1	1	205.4	164000	164000
1	1	200.3	179750	179750

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
1	1	PF#1		Known WS = 948.9
1	1	PF#2		Known WS = 949.9

GEOMETRY DATA

Geometry Title: with landfill
Geometry File : d:\PROJECT FILES\1901-1950\1944-LAVEEN ELEMENTARY\FCDMC MODELS\Reach3\Reach3.g02

CROSS SECTION RIVER: 1
REACH: 1 RS: 214.14

INPUT
Description: 214.14
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18555.4	1082.6	18577.7	1082.5	18586.5	1082.5	18650.6	1082	18678.8	1082.1
18707.4	1081.7	18729.5	1082	18771.6	1082.1	18793.7	1081.8	18836	1080.9
18859.7	1080.3	18935.6	1078.9	19050.6	1077.2	19056.7	1077.2	19059.9	1077.1
19062.9	1076.9	19063.3	1077	19067.8	1077.1	19071.9	1077.1	19078.2	1077.1
19188.3	1078.1	19249.7	1079.4	19290.2	1080.1	19298.1	1080.2	19313.1	1080.4
19327.5	1080.7	19358.6	1080.6	19391.6	1080.5	19412.8	1080.3	19520.8	1077.9
19554.8	1077.5	19580.2	1077.3	19610.8	1076.5	19651.9	1076.7	19697.7	1058.7
19715.9	1051.7	19732.8	1050.2	19750.7	1048.7	20032.7	1049	20292.3	1049.2
20350.9	1065.9	20388.3	1077.5	20405.5	1075.6	20406	1075.6	20439.7	1075.6
20637.3	1075.5	20899.6	1075.4	20920.6	1075.5	20941.8	1075.4	20947.4	1075.5
20962	1075.5	20980	1075.4	20989.9	1075.4	21074.1	1075.4	21119.6	1075.7
21168.7	1076.8	21222	1076.6	21326.8	1076.2	21327.4	1076.2	21342.2	1075
21390.6	1075	21428.8	1075	21455.3	1075.3	21502.1	1076.4	21502.4	1076.2
21505.4	1076.4	21551.9	1077.5	21591.8	1077.6	21726.3	1078.4	21759.2	1078.5
21766.3	1078.3	21792.4	1078.4	21884.6	1078.9	22013	1079.1	22034.3	1079.5
22101.6	1079.7	22156.1	1080.1	22201.4	1080	22204.6	1079.9	22217.3	1080.5
22235	1081.3	22238.1	1081.3	22264.5	1081	22267.7	1080.9	22269.4	1080.7
22269.9	1080.6	22272.4	1080.4	22280.3	1079.8	22341.9	1080.2	22431	1080.6
22501.3	1081.2	22591.2	1081.8	22602.9	1082	22619.7	1083	22686.6	1082.9
22710.3	1082.5								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
18555.4	.04	19651.9	.035	20388.3	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19651.9	20388.3	475	510.51	570	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
18555.4	19651.9	1082	20388.3	22710.3	1082

CROSS SECTION RIVER: 1
REACH: 1 RS: 214.04

INPUT
Description: 214.04
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
19072.9	1079.7	19093.4	1080.3	19132.2	1080.8	19189.9	1082.5	19193.8	1082.6
19198.4	1082.5	19239.2	1081	19288.1	1081.2	19324.4	1080.7	19371.7	1079.1
19395.9	1078.4	19428.8	1078	19449.6	1077.2	19490.6	1077.5	19513.1	1077.7
19544.1	1077.9	19555.9	1077.7	19588.8	1076.5	19610.7	1075.7	19613.2	1075.7
19632.1	1075.8	19635.6	1075.8	19636.8	1075.4	19702.8	1053	19711.2	1052.5
19718.8	1052.3	19726.8	1051.2	19735.4	1048.8	20175.7	1049	20286.6	1049
20298.5	1052.8	20376.6	1076.5	20387.2	1075.5	20390.3	1075.2	20574.2	1076

20667.2	1076.1	20825.6	1075.6	20839.5	1075.5	20839.8	1075.5	20855.8	1073
20864.2	1073.4	20909.3	1072.6	20914.5	1072.6	20915.6	1072.9	20928.6	1077
20951.8	1077	20990.8	1076.9	20996.8	1076.9	21016.8	1077.3	21040.9	1077.5
21130.4	1077.3	21234.3	1076.9	21246.3	1076.9	21256.8	1076.2	21294.9	1076.5
21366.4	1076.6	21461.4	1076.5	21539.2	1076.3	21557.9	1076.3	21565.1	1076.3
21586.9	1076.6	21607.7	1076.8	21639.2	1077.1	21662.1	1077.5	21690.5	1078.1
21711.2	1078.3	21774.8	1078.5	21799.9	1079.2	21800.4	1079.3	21942.9	1079.4
21971	1079.3	22001.7	1079.3	22020.7	1079.3	22177.7	1078.3	22203.1	1078.1
22217.2	1078.1	22226.8	1078	22231.1	1078	22238.5	1078	22248	1077.8
22357.9	1076.9	22384.7	1077.9	22394.1	1078.2	22399.6	1078.1	22400.9	1078.1
22428.8	1077.9	22430.1	1077.9	22450.6	1078.2	22542.8	1078.3	22554	1078.5
22667.1	1079.2	22667.7	1079.3	22717.7	1081.1	22725.6	1081.1	22727.3	1081.2
22747.1	1084								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
19072.9	.04	19636.8	.035	20376.6	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19636.8	20376.6	495	493.12	480	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
19072.9	19636.8	1083	20376.6	22747.1	1083

CROSS SECTION RIVER: 1
REACH: 1 RS: 213.95

INPUT
Description: 213.95
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
19012.2	1082.3	19071.8	1081.2	19072.8	1081.2	19073.5	1081.2	19172.6	1080
19176.1	1079.9	19177	1079.9	19191.6	1079.8	19233.8	1079.1	19245.6	1079.2
19283.7	1079.1	19366	1078.5	19459.9	1077.8	19508.7	1075.2	19510	1075.1
19510.4	1075.2	19511.8	1075.3	19534.7	1076.7	19583.1	1074.4	19622.2	1071.5
19627.4	1072.4	19631.4	1072.9	19699.3	1056.7	19729	1049.4	19783.8	1049.5
20255.4	1049.3	20277.7	1056.5	20337.1	1075.9	20360.3	1074.9	20361.6	1074.8
20403.2	1074.5	20653.5	1075.3	20691.9	1075.3	20740	1075.5	20772	1075.4
20775.5	1075.1	20784.4	1073.9	20808.5	1074.1	20840.9	1074.4	20844.2	1074.5
20853.7	1075.1	20870	1074.8	20875	1074.6	20914.9	1075.6	20922.3	1075.7
20949.7	1076.5	20960.6	1076.8	20964.2	1076.9	20966.3	1078.4	20973	1080.1
21108.8	1079.4	21171.4	1079.5	21176.1	1079.5	21183	1079.7	21200.9	1076.8
21203.1	1076.6	21232.6	1076.3	21271.1	1076	21272.6	1076	21274.1	1076
21377.7	1076.7	21386.9	1076.7	21400.8	1076.7	21470.9	1077.6	21502.4	1077.7
21528	1077.6	21534	1077.9	21534.2	1077.9	21537	1078	21542.7	1077.4
21542.9	1077.8	21554.1	1077.4	21695.2	1077.7	21731.7	1077.2	21736.1	1076.3
21743.3	1075.1	21752	1076.3	21753.2	1076.5	21753.7	1076.6	21759.1	1078.6
21760.3	1079.1	21763.3	1079.6	21764.1	1079.5	21772.7	1079.3	21784.7	1079.3
21791.6	1079.5	21806.1	1079.6	21832.6	1079.8	21918.1	1079.8	21918.4	1080.2
22000.8	1079.8	22342	1078.4	22351.4	1078.4	22362.3	1078.4	22373.8	1078.7
22391.3	1078.7								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
19012.2	.04	19534.7	.035	20337.1	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19534.7	20337.1	500	504.25	500	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
19012.2	19534.7	1082.3	20337.1	22391.3	1082.3

CROSS SECTION RIVER: 1
REACH: 1 RS: 213.85

INPUT
Description: 213.85
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17827.8	1078.7	17849.3	1078.5	17962.5	1078	17983.6	1077.8	18087.6	1077.7
18117.7	1077.6	18209	1077.4	18245.6	1077.6	18313.2	1077.9	18389.3	1078.8
18415.4	1078.8	18437.5	1078.2	18449	1078.3	18463.7	1078.2	18513.6	1077.6
18548.9	1077.6	18753.1	1077.6	18798.9	1077.6	18834.2	1077.6	18917.4	1077
19257.5	1075.3	19264.9	1075.1	19293.5	1075.6	19308	1069.8	19333.3	1060.1
19342.5	1063.1	19360.7	1068.8	19366.6	1068.9	19391	1069.1	19423.4	1069.4
19453.2	1068.8	19469.5	1068.4	19505	1067.4	19506.5	1067.3	19507.3	1067.3
19507.8	1067.3	19547.4	1067.3	19584.5	1067.6	19698.5	1068	19698.6	1068
19700.1	1067.8	19706.3	1067	19707.5	1066.9	19732.9	1066.7	19742.3	1067
19770.4	1067.6	19785.4	1067.6	19789.2	1066.5	19853.9	1048.1	19906.4	1048.1

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 20083.9  1048.2 20249.9  1048.3 20313.2  1069.1 20328.7  1074.2 20334.9  1074.2
   20586  1074.1 20640.3  1074.2 20781.1  1074.5 20824.2  1074.1   20842  1073.7
 20852.3  1073.7 20870.3  1073.9 20934.9  1073.8 20979.5  1074.4 21111.7  1075.1
 21125.5     1075 21144.4  1074.8 21152.1  1075.1 21185.5  1076.2 21224.6  1075.6
 21230.8  1075.4 21246.8  1077.2 21248.3  1077.3   21269  1076.4 21270.4  1076.3
 21272.5  1076.3 21337.9  1076.3 21381.5  1076.2 21384.6  1076.3 21498.8  1077.1
 21503.7  1077.1 21545.5  1077.1 21557.5  1077.1   21587  1077.2 21625.9  1077.3
 21671.9  1077.5 21707.6  1077.4 21723.9  1077.4 21767.4  1077.3 21770.2  1077.3
 21773.6  1077.4 21774.6  1077.4 21801.1  1079.6 21831.2  1078.8 21907.4  1079.1
 21970.5  1078.8

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 17827.8     .04 19785.4    .035 20328.7     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19785.4 20328.7              521  520.04     541              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 17827.819618.33    1078 20328.7 21970.5    1078

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 213.75

INPUT
Description: 213.75
Station Elevation Data    num=      28
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   18435    1076   19470    1076   19600    1080 19633.4 1080.84 19633.5 1074.13
 19633.6  1073.5 19636.5  1073.5   19709 1048.55   19764    1047 19769.5    1047
 19834.5 1047.15   19899  1046.6   19904  1046.6   19959    1047   20034 1044.61
   20039  1044.6   20104    1045   20169  1045.5   20174  1045.5 20240.5 1049.35
   20302  1073.8   20305  1073.8 20305.1  1074.8 20305.2  1081.5   20340    1080
   20490    1076   20925    1075   21465    1076

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   18435    .037 19633.5    .032 20305.1    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19633.5 20305.1              125  115.36     120              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   18435 19633.5 1074.13 20305.1   21465  1074.8

BRIDGE                 RIVER: 1
REACH: 1                  RS: 213.745

INPUT
Description: 7th Street Bridge
Distance from Upstream XS =       0
Deck/Roadway Width        =  115.36
Weir Coefficient          =     2.6
Bridge Deck/Roadway Skew  =
Upstream  Deck/Roadway Coordinates
    num=       6
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
 19633.5 1080.84 1074.13   19764 1084.56 1077.81   19899 1085.96 1079.23
   20039 1085.95  1079.2   20174 1084.45  1077.7   20305 1081.53 1074.82

Upstream Bridge Cross Section Data
Station Elevation Data    num=      28
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   18435    1076   19470    1076   19600    1080 19633.4 1080.84 19633.5 1074.13
 19633.6  1073.5 19636.5  1073.5   19709 1048.55   19764    1047 19769.5    1047
 19834.5 1047.15   19899  1046.6   19904  1046.6   19959    1047   20034 1044.61
   20039  1044.6   20104    1045   20169  1045.5   20174  1045.5 20240.5 1049.35
   20302  1073.8   20305  1073.8 20305.1  1074.8 20305.2  1081.5   20340    1080
   20490    1076   20925    1075   21465    1076

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   18435    .037 19633.5    .032 20305.1    .037

Bank Sta: Left   Right    Coeff Contr.   Expan.
       19633.5 20305.1              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   18435 19633.5 1074.13 20305.1   21465  1074.8
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Downstream  Deck/Roadway Coordinates
    num=        6
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
 19633.5 1080.84 1074.13   19764 1084.56 1077.81   19899 1085.96 1079.23
   20039 1085.95  1079.2   20174 1084.45  1077.7   20305 1081.53 1074.82

Downstream Bridge Cross Section Data
Station Elevation Data    num=      28
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   18435    1076   19470    1076   19600    1080 19633.4 1080.84 19633.5 1074.13
 19633.6  1073.5 19636.5  1073.5   19709 1048.55   19764    1047 19769.5    1047
 19834.5 1047.15   19899  1046.6   19904  1046.6   19959    1047   20034 1044.61
   20039  1044.6   20104    1045   20169  1045.5   20174  1045.5 20240.5 1049.35
   20302  1073.8   20305  1073.8 20305.1  1074.8 20305.2  1081.5   20340    1080
   20490    1076   20925    1075   21465    1076

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   18435    .037 19633.5    .032 20305.1    .037

Bank Sta: Left   Right    Coeff Contr.   Expan.
       19633.5 20305.1            .1        .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   18435 19633.5 1074.13 20305.1   21465  1074.8

Upstream Embankment side slope              =         horiz. to 1.0 vertical
Downstream Embankment side slope            =         horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .95
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Piers =  4

Pier Data
Pier Station     Upstream= 19766.5    Downstream= 19766.5
Upstream     num=       2
    Width   Elev    Width   Elev
        5    1047       5 1077.88
Downstream     num=       2
    Width   Elev    Width   Elev
        5    1047       5 1077.88

Pier Data
Pier Station     Upstream= 19901.5    Downstream= 19901.5
Upstream     num=       2
    Width   Elev    Width   Elev
        5  1046.6       5  1079.2
Downstream     num=       2
    Width   Elev    Width   Elev
        5  1046.6       5  1079.2

Pier Data
Pier Station     Upstream= 20036.5    Downstream= 20036.5
Upstream     num=       2
    Width   Elev    Width   Elev
        5  1044.6       5  1079.2
Downstream     num=       2
    Width   Elev    Width   Elev
        5  1044.6       5  1079.2

Pier Data
Pier Station     Upstream= 20171.5    Downstream= 20171.5
Upstream     num=       2
    Width   Elev    Width   Elev
        5  1045.5       5  1077.7
Downstream     num=       2
    Width   Elev    Width   Elev
        5  1045.5       5  1077.7

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
       Momentum                Cd   =     1.2
       Yarnell                 KVal =    1.05
```

Selected Low Flow Methods = Highest Energy Answer

High Flow Method
Energy Only

Additional Bridge Parameters
Add Friction component to Momentum
Add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION RIVER: 1
REACH: 1 RS: 213.74

INPUT
Description: 213.74
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18435	1076	19470	1076	19600	1080	19633.4	1080.84	19633.5	1074.13
19633.6	1073.5	19636.5	1073.5	19709	1048.55	19764	1047	19769.5	1047
19834.5	1047.15	19899	1046.6	19904	1046.6	19959	1047	20034	1044.61
20039	1044.6	20104	1045	20169	1045.5	20174	1045.5	20240.5	1049.35
20302	1073.8	20305	1073.8	20305.1	1074.8	20305.2	1081.5	20340	1080
20490	1076	20925	1075	21465	1076				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
18435	.037	19633.5	.032	20305.1	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19633.5	20305.1	391	373.47	361	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
18435	19633.5	1074.13	20305.1	21465	1074.8

CROSS SECTION RIVER: 1
REACH: 1 RS: 213.66

INPUT
Description: 213.66
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17026.7	1076.4	17035.9	1076.4	17047	1076.4	17057.3	1076.5	17212.3	1077.3
17306.5	1077.8	17311.3	1077.7	17325.2	1077.3	17326.2	1077.3	17343.4	1077.3
17442.9	1076.7	17474.5	1076.6	17571	1076	17573.6	1076	17595.6	1076.1
17610	1076.1	17705.1	1075	17741.5	1075.1	17947.8	1075.4	17953.1	1075.5
18038.8	1075.4	18185.8	1075.6	18234.4	1076.1	18300.9	1076.4	18318.8	1076.5
18414	1075.5	18414.6	1075.5	18415.1	1075.5	18415.7	1075.5	18448.6	1075.8
18455.1	1075.4	18472.5	1073.3	18527.9	1073.3	18683	1073	18718.7	1073
18832.1	1073.3	18873.8	1073.2	18878.4	1072.9	18881.8	1072.9	18892.6	1074.2
18901.3	1075.2	19033.1	1075.2	19131.6	1074.9	19140.9	1074.8	19157.1	1074.8
19235.1	1073.7	19291.4	1073.4	19291.9	1073.4	19292.2	1073.4	19391.8	1069.9
19418.5	1069.7	19442.4	1069.3	19496.9	1070	19532.6	1070.6	19537.6	1070.2
19543	1070.6	19572.3	1071.8	19605.3	1068.7	19616.1	1068.2	19621.3	1069.8
19633.2	1073.3	19663.1	1073.7	19675.2	1073.6	19689.7	1068.5	19748.8	1047.6
19750.4	1047.6	20010.7	1047.7	20194.9	1047.9	20235	1062.5	20260.3	1071.7
20270.2	1073.7	20288.3	1076.6	20297.7	1078.3	20387.2	1078.5	20416.3	1078.5
20457.1	1078.5	20464.9	1076.1	20469.4	1075.3	20825.5	1074.4	20828.5	1074.4
20828.8	1074.4	20830.9	1074.4	20837.2	1074.9	20839.2	1074.9	20870.3	1074.9
20871.4	1074.9	20872.6	1074.6	20872.8	1074.7	20900.8	1074.1	20901.5	1074
20908.4	1073.9	20912.4	1073.9	20915.4	1074	20927	1075.1	20951.2	1077.5
20999.4	1077.6								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
17026.7	.037	19675.2	.032	20297.7	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19675.2	20297.7	490	491.08	495	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17026.7	19675.2	1078.5	20297.7	20999.4	1078.5

CROSS SECTION RIVER: 1
REACH: 1 RS: 213.57

INPUT
Description: 213.57

Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17508.1	1075.8	17669.7	1076	17677.2	1076	17679.4	1076	17681.9	1075.9
17685.3	1075.9	17879.1	1077.7	17883.6	1077.7	17891.2	1077.7	17899.7	1077.7
17907.2	1077.7	18293.4	1077.1	18302.2	1077.1	18305.6	1077.2	18335	1077.2
18409.4	1076.8	18482.1	1076	18487.1	1075.3	18493.2	1074.6	18496.9	1074.6
18674	1073.2	18717	1073	18743.5	1072.8	18755.4	1072.8	18802	1072.6
18832.6	1072.6	18934.4	1072.7	18941.7	1072.7	18977	1069	18979.3	1068.7
18979.7	1068.7	18981.1	1068.6	19032.8	1069.7	19078.3	1069.3	19123.5	1069
19190.3	1068.3	19211.6	1068.4	19212.3	1068.4	19245	1068.5	19287.9	1069
19318.4	1068.9	19384.7	1069.1	19398.3	1068.6	19484.5	1068.5	19514.1	1067.2
19542.6	1063.6	19548	1062.9	19575	1062.8	19586.3	1062.5	19595.5	1063.8
19603.2	1064.4	19612.3	1065.2	19617.4	1064.5	19668.9	1061.9	19672.3	1061.7
19674.3	1061.7	19711.7	1060.1	19720	1057.4	19743.1	1047.9	20035.4	1047
20123.9	1046.7	20135.8	1048.3	20147.5	1050.1	20202.7	1051.3	20261.3	1052.3
20286.6	1053	20301.2	1052.6	20302.5	1052.5	20345.5	1073.5	20347.7	1074.6
20347.8	1074.6	20348.2	1074.6	20373.8	1075.7	20384.8	1075.5	20390.6	1075.6
20426.7	1075.7	20435.9	1075.7	20452.6	1075.3	20481.8	1075.4	20485.6	1075.2
20501.3	1076.7	20634	1076	20804.5	1073.3	20853.6	1072.8	20858.1	1072.8
20865.8	1073.1	20870.9	1073	20902.9	1071.5	20922.6	1075.2	20923.6	1075.4
20925.3	1075.3	20936.8	1075.1	20950.5	1074.7	21085.5	1074.8	21211.9	1075.1
21311.2	1074.8								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
17508.1	.037	19484.5	.032	20373.8	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19484.5	20373.8	650	500.37	390	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17508.1	19484.5	1077.7	20373.8	21311.2	1077.7

CROSS SECTION RIVER: 1
REACH: 1 RS: 213.47

INPUT
Description: 213.47
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17897	1072.3	17950.9	1072.3	17955.5	1073.1	17972.5	1074.8	18140.3	1074.1
18179.1	1074.1	18193.1	1074	18207.9	1073.9	18257.4	1074	18402.2	1073.7
18450.1	1073.2	18519.9	1072.6	18592.3	1071.7	18600.6	1071.6	18625.8	1071.9
18741.5	1071.7	18784.9	1071.7	18805.1	1070.7	18823.4	1069.4	18880.6	1067
18888.4	1066.7	18938.9	1066.6	18942.7	1066.6	18948.4	1066.6	18970.5	1067.2
19008	1068.2	19008.9	1068.2	19041.7	1068.5	19057.6	1068.6	19057.8	1068.6
19058.1	1068.6	19060.2	1068.6	19154.7	1068.1	19202.4	1067.9	19243.3	1067
19289	1066	19306.6	1065.6	19313.9	1065.3	19357.8	1064.8	19392.5	1064.4
19420.7	1063.8	19432.7	1063.5	19483.4	1062	19493.9	1061.7	19499.6	1061.8
19534.7	1062.6	19536.4	1062.5	19585.4	1061.2	19586.6	1061.2	19587.5	1061.2
19588.9	1061.1	19593.6	1060.6	19689.9	1051.5	19699.6	1050.5	19735.3	1047
19807.1	1046.8	19827.4	1046.8	19970.4	1046.6	19993.9	1046.3	20037.8	1046.2
20146.5	1045.8	20205.3	1048.7	20214.8	1049.3	20219.4	1049	20220.8	1048.9
20255.2	1063.1	20274.2	1072.4	20283.3	1072.6	20341.6	1072.5	20362.6	1072.6
20428.7	1074.9	20446.8	1074.9	20469.6	1074.9	20474.3	1074.9	20476.7	1075
20483.2	1074.9	20484.1	1074.9	20486.3	1074.9	20488.6	1074.7	20489.3	1074.7
20515.7	1073.2	20526.3	1073.3	20537.5	1073.5	20540.5	1073.4	20545	1073.8
20567.4	1075.2	20569.1	1075.4	20578.4	1075	20619.2	1074.5	20621.6	1074.4
20649.8	1074	20700.8	1074	20735.1	1074.2	20751.5	1074.5	20765.2	1074.8
20783.9	1075.1								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
17897	.037	19243.3	.032	20274.2	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19243.3	20274.2	500	493.66	485	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17897	19243.3	1075.4	20274.2	20783.9	1075.4

CROSS SECTION RIVER: 1
REACH: 1 RS: 213.38

INPUT
Description: 213.38
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17634.6	1070.7	17652.1	1070.7	17729.5	1071.2	17747.9	1072.2	17763.8	1073.1

17893.9	1073.4	17976.4	1073.1	18006.5	1072.7	18006.7	1072.7	18008	1072.7
18197.8	1072.8	18341.3	1071.5	18390.9	1071.3	18419.4	1070.9	18420.4	1070.9
18423.8	1070.9	18431	1071	18656.8	1070.5	18735	1070.6	18756.6	1070.9
18796.6	1071.1	18974.7	1070.8	19012.6	1070.8	19073.3	1070.8	19129.4	1069.7
19192.7	1068.9	19195.5	1068.8	19196.5	1068.5	19204.6	1068.3	19213.9	1068.2
19225.5	1067.5	19242.1	1066.8	19303.8	1064.4	19303.9	1064.4	19304.2	1064.4
19346.1	1064.6	19365.3	1061.2	19365.5	1061.2	19401.7	1061	19405.7	1060.8
19411.2	1060.6	19452.9	1058.9	19499.7	1059.7	19523.7	1060.4	19526.3	1060.4
19530.8	1060.5	19534.1	1060.4	19575.5	1058.6	19625.5	1054.4	19648.5	1052.9
19678.5	1053.7	19684.4	1053.8	19732.6	1049.4	19735.1	1049.2	19761.4	1050.8
19767.8	1050.7	19771.9	1050.2	19796.5	1046.2	19864.4	1045.8	20277.6	1045.7
20311.6	1045.6	20311.7	1045.4	20329.1	1049.4	20361.7	1051.6	20363.3	1052.8
20364.3	1052.8	20374	1053.5	20405.3	1054.8	20417	1056.5	20434.2	1065
20473	1075.2	20473.5	1075.2	20515.6	1074.3	20532	1073.2	20533.3	1073
20535.9	1073	20539.6	1072.9	20569.9	1072.5	20578	1072.1	20607.5	1072.2
20652.6	1074	20655.9	1074.1	20722.7	1075.3	20793.4	1076	20804.4	1076.4
20831.2	1076.4	20834	1075.7	20842.3	1072.9	20845.3	1072.1	20848.9	1072.1
20860.3	1072.3	20875.9	1072.3	20895.1	1072.4	20963.7	1072.4	20982.3	1071.9
20996.7	1072.4								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
17634.6	.037	19346.1	.032	20473	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19346.1	20473	210	290.06	395	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17634.6	19346.1	1076.4	20473	20996.7	1076.4

CROSS SECTION RIVER: 1
REACH: 1 RS: 213.33

INPUT
Description: 213.33
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17662.6	1072.6	17668	1072.6	17677	1072.6	17679.2	1072.7	17685.5	1072.7
17890.3	1072	17891.3	1072	17919.8	1071.9	18055.2	1071.9	18114.9	1071.9
18241.8	1071.2	18279.3	1070.9	18302.9	1070.9	18305.8	1070.8	18316.6	1070.7
18337.3	1070.5	18464.8	1070.6	18565.2	1070.8	18644.2	1071	18654.1	1071
18680.7	1070.7	18888.5	1070	18954.5	1069.6	19002.1	1069.7	19091.3	1069
19104.2	1069	19104.4	1069	19107.7	1069	19109.5	1068.5	19112.3	1067.7
19112.4	1067.7	19123.4	1067.3	19136.1	1067.1	19144.4	1069.1	19147.5	1069.9
19163.9	1070.3	19173.4	1070.7	19184.4	1069.5	19203.3	1068.1	19209.7	1067.1
19222.7	1066	19244.2	1064.1	19272.3	1063	19328.9	1063.5	19336.9	1063.4
19344.3	1063.4	19367.2	1062.3	19389	1062	19396.3	1061.9	19416.7	1061.3
19418.1	1060.9	19453.8	1059.7	19472.5	1059.2	19476.7	1057.5	19530.4	1058.7
19538.8	1058.7	19541	1058.6	19590	1056.9	19629.4	1054.2	19644.5	1053.7
19671.3	1051.4	19710.3	1047.2	19715.9	1046.8	19755.6	1046.4	19757.3	1046.3
19759.3	1046.3	19761.3	1046.3	19780.3	1046.2	20358.7	1045.4	20444.8	1048.7
20449.3	1048.9	20508	1066.2	20514.9	1068.7	20553.2	1069.1	20640.2	1069.7
20662.5	1069.4	20704	1068.4	20729.7	1068.7	20782.7	1069.1	20784.7	1069.2
20789.1	1069.5	20821.1	1071.4	20854.7	1073	20856.9	1073.1	20859.1	1073.1
20896	1072.7	20902.1	1072.7	20919.8	1072.5	20932.4	1072.6	20967.3	1072.5
21012.3	1072.8	21051.5	1073	21059.7	1073	21066	1073.1	21092.4	1073
21244.4	1073.1								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
17662.6	.037	19328.9	.032	20514.9	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19328.9	20514.9	266	316.41	426	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17662.6	19328.9	1073.1	20640.2	21244.4	1073.1

CROSS SECTION RIVER: 1
REACH: 1 RS: 213.26

INPUT
Description: 213.26
Station Elevation Data num= 45

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17300	1071.7	17670	1072	17850	1073.6	18250	1075.5	19180	1078.2
19488.1	1078.1	19488.2	1072.97	19495.2	1069.2	19517.2	1057.5	19564.2	1055.45
19584.2	1051.3	19586.9	1051	19589.4	1051	19638.2	1048.1	19686.9	1047.3
19689.4	1047.3	19704.2	1047.2	19743.2	1042.2	19786.9	1042.15	19789.4	1042.2

```
 19838.2  1042.8 19871.7  1042.9 19886.9 1043.85 19889.4  1043.8 19938.2  1044.1
 19986.9  1042.7 19989.4  1042.7 20038.2  1042.3 20086.9 1042.85 20089.4  1042.8
 20121.7  1043.3 20171.2 1041.05 20188.2  1040.9 20189.4  1040.9 20223.2  1040.4
 20248.7  1042.2 20286.9  1043.4 20289.4  1043.4 20307.7 1044.35 20382.7  1069.6
 20387.9  1070.4 20387.9  1072.9   20388 1078.19   20790  1078.3   21330  1075.5

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   17300    .037 19488.2    .032 20387.9    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19488.2 20387.9              155  151.22     155              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   17300 19488.2 1072.97 20387.9   21330  1070.4

BRIDGE                  RIVER: 1
REACH: 1                   RS: 213.255

INPUT
Description: Central Avenue Bridge
Distance from Upstream XS =       0
Deck/Roadway Width        =  151.22
Weir Coefficient          =     2.6
Bridge Deck/Roadway Skew  =
Upstream  Deck/Roadway Coordinates
    num=       10
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
 19488.2 1078.14 1072.97 19586.9  1078.5 1073.28 19686.9 1078.86 1073.64
 19786.9 1079.15 1073.93 19886.9 1079.37  1074.2 19989.4 1079.38  1074.2
 20086.9 1079.13 1073.93 20188.2 1078.89  1073.7 20286.9 1078.53 1073.32
 20387.9 1078.19 1072.98

Upstream Bridge Cross Section Data
Station Elevation Data    num=      45
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   17300  1071.7   17670    1072   17850  1073.6   18250  1075.5   19180  1078.2
 19488.1  1078.1 19488.2 1072.97 19495.2  1069.2 19517.2  1057.5 19564.2 1055.45
 19584.2  1051.3 19586.9    1051 19589.4    1051 19638.2  1048.1 19686.9  1047.3
 19689.4  1047.3 19704.2  1047.2 19743.2  1042.2 19786.9 1042.15 19789.4  1042.2
 19838.2  1042.8 19871.7  1042.9 19886.9 1043.85 19889.4  1043.8 19938.2  1044.1
 19986.9  1042.7 19989.4  1042.7 20038.2  1042.3 20086.9 1042.85 20089.4  1042.8
 20121.7  1043.3 20171.2 1041.05 20188.2  1040.9 20189.4  1040.9 20223.2  1040.4
 20248.7  1042.2 20286.9  1043.4 20289.4  1043.4 20307.7 1044.35 20382.7  1069.6
 20387.9  1070.4 20387.9  1072.9   20388 1078.19   20790  1078.3   21330  1075.5

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   17300    .037 19488.2    .032 20387.9    .037

Bank Sta: Left   Right    Coeff Contr.   Expan.
       19488.2 20387.9              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   17300 19488.2 1072.97 20387.9   21330  1070.4

Downstream  Deck/Roadway Coordinates
    num=       10
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
 19488.2 1078.14 1072.97 19586.9  1078.5 1073.28 19686.9 1078.86 1073.64
 19786.9 1079.15 1073.93 19886.9 1079.37  1074.2 19989.4 1079.38  1074.2
 20086.9 1079.13 1073.93 20188.2 1078.89  1073.7 20286.9 1078.53 1073.32
 20387.9 1078.19 1072.98

Downstream Bridge Cross Section Data
Station Elevation Data    num=      45
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   17300  1071.7   17670    1072   17850  1073.6   18250  1075.5   19180  1078.2
 19488.1  1078.1 19488.2 1072.97 19495.2  1069.2 19517.2  1057.5 19564.2 1055.45
 19584.2  1051.3 19586.9    1051 19589.4    1051 19638.2  1048.1 19686.9  1047.3
 19689.4  1047.3 19704.2  1047.2 19743.2  1042.2 19786.9 1042.15 19789.4  1042.2
 19838.2  1042.8 19871.7  1042.9 19886.9 1043.85 19889.4  1043.8 19938.2  1044.1
 19986.9  1042.7 19989.4  1042.7 20038.2  1042.3 20086.9 1042.85 20089.4  1042.8
 20121.7  1043.3 20171.2 1041.05 20188.2  1040.9 20189.4  1040.9 20223.2  1040.4
 20248.7  1042.2 20286.9  1043.4 20289.4  1043.4 20307.7 1044.35 20382.7  1069.6
 20387.9  1070.4 20387.9  1072.9   20388 1078.19   20790  1078.3   21330  1075.5

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
```

```
   17300     .037 19488.2     .032 20387.9     .037

Bank Sta: Left   Right    Coeff Contr.   Expan.
       19488.2 20387.9              .1       .3
Ineffective Flow     num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   17300 19488.2 1072.97 20387.9   21330  1070.4

Upstream Embankment side slope                =         horiz. to 1.0 vertical
Downstream Embankment side slope              =         horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .95
Elevation at which weir flow begins           =
Energy head used in spillway design           =
Spillway height used in design                =
Weir crest shape                              = Broad Crested

Number of Piers =  8

Pier Data
Pier Station     Upstream=19588.15    Downstream=19588.15
Upstream     num=        2
    Width   Elev    Width   Elev
     2.5    1051     2.5 1073.28
Downstream     num=        2
    Width   Elev    Width   Elev
     2.5    1051     2.5 1073.28

Pier Data
Pier Station     Upstream=19688.15    Downstream=19688.15
Upstream     num=        2
    Width   Elev    Width   Elev
     2.5  1047.3     2.5  1073.7
Downstream     num=        2
    Width   Elev    Width   Elev
     2.5  1047.3     2.5  1073.7

Pier Data
Pier Station     Upstream=19788.15    Downstream=19788.15
Upstream     num=        2
    Width   Elev    Width   Elev
     2.5 1042.15     2.5  1073.9
Downstream     num=        2
    Width   Elev    Width   Elev
     2.5 1042.15     2.5  1073.9

Pier Data
Pier Station     Upstream=19888.15    Downstream=19888.15
Upstream     num=        2
    Width   Elev    Width   Elev
     2.5  1043.8     2.5  1074.2
Downstream     num=        2
    Width   Elev    Width   Elev
     2.5  1043.8     2.5  1074.2

Pier Data
Pier Station     Upstream=19988.15    Downstream=19988.15
Upstream     num=        2
    Width   Elev    Width   Elev
     2.5  1042.7     2.5  1074.2
Downstream     num=        2
    Width   Elev    Width   Elev
     2.5  1042.7     2.5  1074.2

Pier Data
Pier Station     Upstream=20088.15    Downstream=20088.15
Upstream     num=        2
    Width   Elev    Width   Elev
     2.5  1042.8     2.5  1073.9
Downstream     num=        2
    Width   Elev    Width   Elev
     2.5  1042.8     2.5  1073.9

Pier Data
Pier Station     Upstream=20189.45    Downstream=20189.45
Upstream     num=        2
    Width   Elev    Width   Elev
     2.5  1040.9     2.5  1073.7
Downstream     num=        2
    Width   Elev    Width   Elev
```

```
     2.5  1040.9     2.5  1073.7

Pier Data
Pier Station     Upstream=20288.15    Downstream=20288.15
Upstream     num=       2
    Width   Elev    Width   Elev
     2.5  1043.4     2.5  1073.3
Downstream     num=       2
    Width   Elev    Width   Elev
     2.5  1043.4     2.5  1073.3

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
       Momentum                Cd   =     1.2
       Yarnell                 KVal =    1.05
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 213.25

INPUT
Description: 213.25
Station Elevation Data    num=      45
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   17300  1071.7   17670    1072   17850  1073.6   18250  1075.5   19180  1078.2
 19488.1  1078.1 19488.2 1072.97 19495.2  1069.2 19517.2  1057.5 19564.2 1055.45
 19584.2  1051.3 19586.9    1051 19589.4    1051 19638.2  1048.1 19686.9  1047.3
 19689.4  1047.3 19704.2  1047.2 19743.2  1042.2 19786.9 1042.15 19789.4  1042.2
 19838.2  1042.8 19871.7  1042.9 19886.9 1043.85 19889.4  1043.8 19938.2  1044.1
 19986.9  1042.7 19989.4  1042.7 20038.2  1042.3 20086.9 1042.85 20089.4  1042.8
 20121.7  1043.3 20171.2 1041.05 20188.2  1040.9 20189.4  1040.9 20223.2  1040.4
 20248.7  1042.2 20286.9  1043.4 20289.4  1043.4 20307.7 1044.35 20382.7  1069.6
 20387.9  1070.4 20387.9  1072.9   20388 1078.19   20790  1078.3   21330  1075.5

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   17300    .037 19488.2    .032 20387.9    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19488.2 20387.9              121  123.36     121              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   17300 19488.2 1072.97 20387.9   21330  1070.4

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 213.21

INPUT
Description: 213.21

Right Channel Bank Station Interpolated
Station Elevation Data    num=      96
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18330.9  1072.8   18364  1072.8 18412.8  1073.1 18447.9    1073 18475.1  1072.3
 18506.2    1072 18530.5  1071.1 18588.6    1070 18604.7  1069.8 18607.3    1070
 18638.6  1069.9 18645.2    1070 18646.8    1070   18647    1070 18648.3    1070
 18679.6  1070.4   18691  1070.2 18696.8  1070.3 18826.1  1070.2 18853.1  1069.7
 18879.8  1069.1   18990  1068.8 19004.3  1068.6 19030.8    1069 19071.8  1069.5
 19171.4  1069.4 19189.5  1069.4 19238.8  1069.2 19251.2    1070 19253.8    1070
 19283.8    1069 19284.7    1069   19384  1068.2 19385.3  1068.1 19387.8  1068.1
 19391.2  1068.1 19421.7  1067.9 19486.6  1066.6 19490.3  1065.6 19518.8  1054.9
 19533.4    1049 19535.9  1049.5 19545.6    1052 19551.4  1054.2 19576.8  1051.8
 19595.9  1047.4 19611.2  1046.8 19618.6  1046.7 19619.1  1046.6 19626.3  1045.5
   19627  1045.3   19697  1045.2 19802.7  1045.1 20377.2  1044.9 20380.6    1045
 20387.2  1045.1 20389.8  1045.1 20418.5  1045.3 20484.9  1046.3 20500.9  1046.4
 20506.4  1046.3 20545.8  1046.4   20547  1046.4 20573.1    1046   20581    1046
   20584  1054.4 20584.6  1058.9 20634.9  1062.9 20654.9  1064.2   20663  1064.8
```

20687	1065.1	20732.3	1064.9	20749.5	1065.1	20761.2	1066	20787.8	1066.2
20803.3	1066.3	20840	1066.3	20853.8	1066.3	20900.8	1066.8	20929.7	1067.2
20948.4	1067.8	20957.7	1070.3	20963.6	1072.1	20965.8	1071.9	20972.5	1072.2
20980.1	1072.5	21025.3	1072.2	21041.7	1072.4	21049	1072.4	21083	1072.6
21094.6	1072.7	21137.7	1072.7	21224.3	1073.6	21258.5	1074.2	21274.1	1074.3
21278.4	1074.5								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
18330.9	.037	19490.3	.032	20418.5	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19490.3	20418.5	450	531.57	745	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
18330.9	19253.8	1074	20418.5	21278.4	1074

CROSS SECTION RIVER: 1
REACH: 1 RS: 213.11

INPUT
Description: 213.11
Station Elevation Data num= 85

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17566.5	1070.1	17705.4	1071.3	17742.2	1071.6	17814.3	1070.1	17888.9	1069.6
17929.2	1069.8	17996.1	1072.7	18084.9	1073.4	18245.7	1073.1	18304.6	1073.3
18312.5	1071.8	18319.5	1069.3	18320.2	1069.1	18324.7	1069.1	18353.4	1069.6
18382.1	1068.8	18390	1068.3	18395.2	1069.2	18399.3	1071.7	18472.2	1071.2
18480.8	1071.2	18492.7	1070.4	18507.8	1070	18517.1	1069.2	18520.7	1069.6
18584	1071.9	18596.8	1072.2	18606	1072.4	18609.2	1072.4	18753.6	1072
18759.6	1071.8	18769.2	1073.7	18780.8	1075.5	18785.7	1075	18793.4	1074.4
18863.8	1073.8	18931.9	1074.1	18960.3	1074.3	18976.4	1074.4	19015.9	1075
19047.7	1075	19171.5	1072.4	19275.4	1071	19456	1071.1	19523.2	1069.3
19575	1067.9	19589.1	1068.3	19601.9	1071.4	19606.1	1072.1	19616.1	1067.5
19661.3	1047.6	20012.6	1047.6	20486.9	1047.9	20586.5	1081.1	20599.1	1086
20638.9	1086.2	20743.9	1086.8	20798.9	1087.3	20849	1087.5	20878.6	1087.6
20889.5	1087.8	20899.2	1087.8	20922	1087.5	21000.4	1087.3	21062.3	1085.9
21080.5	1084.4	21100.6	1083.3	21131.5	1083	21372.7	1078.3	21390.1	1077.6
21449.7	1073.9	21464.1	1073.6	21478.8	1073.9	21484.8	1073.8	21573.7	1073.9
21602.4	1073.9	21694.6	1073.6	21800.6	1072.4	21943.2	1070.8	22180.4	1070.9
22217.7	1071	22268.3	1071.4	22474.2	1073.6	22486.2	1076.3	22488.2	1077

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
17566.5	.037	19606.1	.032	20599.1	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19606.1	20599.1	425	459.38	565	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17566.5	18780.8	1087.8	20599.1	22488.2	1087.8

CROSS SECTION RIVER: 1
REACH: 1 RS: 213.03

INPUT
Description: 213.03
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16056.5	1068.9	16069.1	1068.8	16071.5	1068.8	16197.1	1069.2	16383.9	1070
16409	1070	16413.8	1070	16414.4	1070	16428.8	1070	16501.9	1070.2
16550	1070.3	16603.1	1070.5	16734.3	1069.9	16759	1069.9	16800.6	1069.5
16821.1	1069.8	16943.1	1070.1	16956.6	1070.5	16985.9	1070.6	17193.9	1070.8
17238.8	1069.8	17263.2	1069.3	17296.6	1068.7	17461.4	1069.1	17486.5	1069.2
17576.5	1069.4	17728.6	1070.6	17908.4	1072	17938.3	1071.6	17974.7	1070.1
17987.3	1069.9	18028.7	1068.5	18086.7	1069.1	18107.5	1068.9	18113.8	1068.9
18246.2	1068.5	18370.2	1068.2	18382.5	1068.2	18389	1068.3	18394.9	1068.3
18496	1070.4	18502.4	1070.5	18521.4	1070.6	18643.8	1071	18700.9	1071.3
18708.1	1071.2	18723.6	1071.3	18831.5	1070.9	18846.4	1070.8	18847.1	1070.8
18848.3	1070.8	18969.8	1071.4	19007.8	1071.8	19178.9	1073.7	19181.7	1073.7
19324.1	1073.1	19588.8	1066.9	19627.1	1066	19640.5	1066.2	19662.1	1067.2
19666.3	1067.8	19672.1	1066.574	19703.2	1060	19755.3	1050.7	19776.1	1048.9
19807.6	1047.8	19807.9	1047.8	19808.6	1047.8	19883.7	1046.8	19936.5	1046.7
19974.6	1046.7	20168.5	1046.8	20481.5	1047.5	20531.6	1047.5	20536.3	1047.6
20551.1	1052.6	20591.8	1066.575	20595.4	1067.8	20639.6	1083	20645.8	1085
20668.5	1085.5	20744.1	1085.4	20806.7	1086.1	20879.4	1082	20936.8	1078.5
20990.3	1075.5	21125.9	1073.2	21137.8	1072.9	21183.6	1072.1	21221	1072
21240.8	1071.7	21303.4	1071.3	21328.8	1071.1	21394.9	1071.7	21406.3	1071.8
21439	1071.7	21481.2	1071.9						

```
Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 16056.5    .037 19672.1    .03220591.83    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19672.120591.83              475     495     525             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 16056.5 19178.9  1086.1 20645.8 21481.2  1086.1

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 212.93

INPUT
Description: 212.93

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=      93
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18913.7  1067.5 18940.6  1066.4 18961.6  1067.4 18996.4  1069.5 19034.7  1069.3
 19121.7  1070.2 19158.8  1070.2 19269.6  1071.2 19362.4  1070.3 19381.3  1070.6
 19412.2  1072.5 19420.1  1072.9 19430.8  1073.3 19436.5  1073.5 19633.3  1068.7
   19645  1068.3 19645.7  1068.4 19645.9  1068.4 19653.4    1069 19673.1  1070.5
19690.761065.485 19697.4  1063.6 19757.3  1046.7 19779.3  1046.4 19826.6  1046.3
 19850.5  1046.5 19924.2  1047.4 19928.9  1047.5 19929.5  1047.4 19958.7  1045.5
 20129.7  1045.4 20271.7  1045.6 20345.4  1045.6 20426.9  1045.520489.751065.484
 20489.8  1065.5 20498.7  1068.1 20501.4    1068 20587.1  1066.5   20637  1066.5
 20655.9  1066.4 20685.9  1065.7 20749.1  1064.9 20804.3  1071.3   20847  1074.9
 20872.4  1075.1   20941  1074.1 20990.9    1073 21005.7  1072.8 21075.3  1071.3
 21079.7  1071.2   21083  1071.2   21113  1071.3 21246.3  1072.7 21249.5  1072.8
 21261.8  1072.9 21268.5  1072.9 21332.8  1073.1 21571.4  1072.7 21590.1  1072.7
 21815.9  1071.3 21853.1  1071.3 21982.5  1070.6 22017.6  1070.5 22314.9    1070
   22499  1068.8 22548.8  1068.9 22568.2  1068.4 22648.5  1068.9 22948.3  1069.7
 23054.9  1071.1 23121.6    1072 23140.9  1076.4 23143.5  1077.2 23151.2  1077.1
 23159.2    1077 23162.2  1077.3   23171  1077.8 23179.9  1081.1 23202.7  1089.6
 23248.6  1089.5 23303.8  1089.6 23327.8  1082.2 23331.1    1081 23333.2  1080.6
 23345.9  1077.9 23350.9  1077.9 23361.3  1078.1 23377.6  1073.6 23386.3  1070.8
 23389.2    1071   23392  1071.2   23394  1070.7

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 18913.7    .03719690.76    .03220489.75    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19690.7620489.75              495   501.9     535             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 18913.7 19673.1    1078 20498.7   23394    1078

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 212.84

INPUT
Description: 212.84

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=      66
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 16284.9  1068.4 16487.1  1068.9   16606  1069.3   16985  1071.2 17015.9  1071.4
 17038.7  1071.8 17089.2  1071.1 17339.8  1070.2 17519.4  1069.1 17554.9  1069.1
 17652.7    1069 17900.6  1068.7 18109.2  1068.8 18133.9    1069 19053.9  1067.7
 19203.8    1066 19229.6  1065.8 19232.1  1065.8 19238.5  1065.7 19242.2  1065.7
 19244.8  1065.8 19286.8  1067.4 19292.2  1069.2 19450.5  1067.9 19498.7  1067.5
 19560.8    1067   19586  1066.9 19671.4  1066.8 19692.2  1068.3 19695.5  1068.9
 19711.51063.544 19765.4  1045.5 19772.2  1043.1 19790.5  1043.1 19811.3  1043.2
 20298.7  1043.5 20314.2  1050.220347.251063.544 20367.7  1071.8 20367.9  1071.8
 20405.2  1072.8 20416.8  1072.7 20424.4  1072.7 20490.9  1070.9 20522.9  1069.8
 20629.8  1070.1 20679.7  1070.1 20767.5  1070.4 20793.1  1070.2 20818.2  1069.1
 20874.5  1068.7 20940.7  1070.4 20979.1  1070.3 21186.4  1069.3 21242.6  1069.1
 21449.2  1070.2 21488.8  1070.8 21502.4    1071 21582.5  1070.9 21684.9  1071.4
 21805.3  1070.7 21883.6  1070.5 21943.6  1070.2 22187.5  1070.4 22226.7  1070.2
 22398.2  1069.8

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 16284.9    .037 19711.5    .03220347.25    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
```

```
       19711.520347.25                565  538.19     480              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 16284.9 19695.5  1072.8 20367.7 22398.2  1072.8

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 212.74

INPUT
Description: 212.74

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=      70
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 15451.4  1067.1 15456.2  1067.3 15464.1  1067.8 15467.8  1068.3 15480.9  1067.9
 15619.6  1066.5 15997.3    1067 16142.7  1066.6   16235  1067.1 16317.5  1067.4
 16486.7  1067.9 16644.3  1068.2 16906.1  1067.7 17106.4  1067.8 17312.1  1069.3
 17351.4  1069.8 17392.8  1069.3 17578.5  1067.9   17799  1066.9 17906.3    1067
 18021.4  1067.4 18082.2  1066.6 18121.5  1067.1 18128.7    1067 19421.5    1067
 19430.3  1070.5 19440.7  1074.4 19464.5  1074.9 19479.6    1075 19498.8  1064.8
 19504.9  1062.5 19514.1  1062.5 19546.7  1062.8 19569.3    1066 19571.5  1066.5
 19577.2  1066.5 19641.5  1067.1 19653.8  1066.8 19678.6  1067.319690.611063.061
 19709.2  1056.5 19745.4  1042.1 19776.5  1041.9 20081.3  1041.6 20297.5  1041.8
 20311.1  1046.1   20335  1053.3 20367.21063.063 20372.6  1064.7 20387.5    1069
 20400.7    1069 20436.3    1069 20477.6  1068.5 20512.4  1068.7 20545.9  1068.9
 20612.1  1068.9 20630.4  1069.2 20677.9  1069.9 20719.8  1069.6 20764.1  1069.6
 20802.7  1069.4 20847.1  1068.9 20916.2  1069.1 20977.1  1068.7 21027.9  1068.8
 21126.4  1069.4   21156  1069.5 21203.9  1069.2 21326.9  1068.9 21421.2  1069.1

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 15451.4    .03719690.61    .032 20367.2    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19690.61 20367.2              296  242.17      66              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 15451.4 19678.6    1074 20387.5 21421.2    1074

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 212.68

INPUT
Description: 212.68
```

Upstream face of 7th Avenue bridge

```
Station Elevation Data    num=      34
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   18325  1064.219130.38    106819307.91    1072 19492.8 1073.0319492.89 1066.21
19501.071063.02319567.36  1037.219595.08  1037.519600.27  1037.519645.74  1037.8
19703.33 1037.8819708.52 1037.8819721.94  1039.119780.83  1037.619790.36    1040
19811.58  1039.419816.77  1039.419829.76  1037.219839.72    103819878.26  1039.3
19919.83  1037.519925.02  1037.519977.41  1036.920028.08  1038.120033.27  1038.1
20064.88  1037.5 20130.11063.02520137.19  1065.820137.28 1072.6620407.73    1072
20615.57    106820641.55  1067.620780.11    106821568.17  1069.3

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   18325    .03719501.07    .032 20130.1    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19501.07 20130.1              155  153.01     155              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   1832519492.89 1066.2120137.1921568.17  1065.8

BRIDGE                 RIVER: 1
REACH: 1                  RS: 212.675

INPUT
Description: 7th Avenue Bridge
Distance from Upstream XS =       0
```

```
Deck/Roadway Width          =  153.01
Weir Coefficient            =     2.6
Bridge Deck/Roadway Skew  =
Upstream  Deck/Roadway Coordinates
    num=       11
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   18325  1064.2  1064.219130.38    1068    106819307.91    1072    1072
 19492.8 1073.03 1073.0319492.89 1073.03 1066.2119595.08  1073.9 1067.07
19703.34 1074.35 1067.5219811.58 1074.48 1067.6419925.02 1074.24 1067.41
20033.27  1073.6 1066.7620137.19 1072.66 1065.84

Upstream Bridge Cross Section Data
Station Elevation Data    num=      34
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   18325  1064.219130.38    106819307.91    1072 19492.8 1073.0319492.89 1066.21
19501.071063.02319567.36  1037.219595.08  1037.519600.27  1037.519645.74  1037.8
19703.33 1037.8819708.52 1037.8819721.94  1039.119780.83  1037.619790.36    1040
19811.58  1039.419816.77  1039.419829.76  1037.219839.72    103819878.26  1039.3
19919.83  1037.519925.02  1037.519977.41  1036.920028.08  1038.120033.27  1038.1
20064.88  1037.5 20130.11063.02520137.19  1065.820137.28 1072.6620407.73    1072
20615.57    106820641.55  1067.620780.11    106821568.17  1069.3

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   18325    .03719501.07    .032 20130.1    .037

Bank Sta: Left   Right    Coeff Contr.   Expan.
      19501.07 20130.1             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   1832519492.89 1066.2120137.1921568.17  1065.8

Downstream  Deck/Roadway Coordinates
    num=       11
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   18325  1064.2  1064.219130.38    1068    106819307.91    1072    1072
 19492.8 1073.03 1073.0319492.89 1073.03 1066.2119595.08  1073.9 1067.07
19703.34 1074.35 1067.5219811.58 1074.48 1067.6419925.02 1074.24 1067.41
20033.27  1073.6 1066.7620137.19 1072.66 1065.84

Downstream Bridge Cross Section Data
Station Elevation Data    num=      34
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   18325  1064.219130.38    106819307.91    1072 19492.8 1073.0319492.89 1066.21
19502.331062.53319567.36  1037.219595.08  1037.519600.27  1037.519645.74  1037.8
19703.33 1037.8819708.52 1037.8819721.94  1039.119780.83  1037.619790.36    1040
19811.58  1039.419816.77  1039.419829.76  1037.219839.72    103819878.26  1039.3
19919.83  1037.519925.02  1037.519977.41  1036.920028.08  1038.120033.27  1038.1
20064.88  1037.520128.841062.53220137.19  1065.820137.28 1072.6620407.73    1072
20615.57    106820641.55  1067.620780.11    106821568.17  1069.3

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   18325    .03719502.33    .03220128.84    .037

Bank Sta: Left   Right    Coeff Contr.   Expan.
      19502.3320128.84             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   1832519492.89 1066.2120137.1921568.17  1065.8

Upstream Embankment side slope              =         horiz. to 1.0 vertical
Downstream Embankment side slope            =         horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .95
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Piers =  5

Pier Data
Pier Station     Upstream=19597.67    Downstream=19597.67
Upstream     num=       2
    Width   Elev    Width   Elev
     4.8    1036     4.8    1068
Downstream     num=       2
    Width   Elev    Width   Elev
     4.8    1036     4.8    1068
```

```
Pier Data
Pier Station     Upstream=19705.06    Downstream=19705.06
Upstream     num=       2
    Width   Elev    Width   Elev
     4.8    1036     4.8    1068
Downstream     num=       2
    Width   Elev    Width   Elev
     4.8    1036     4.8    1068

Pier Data
Pier Station     Upstream=19814.17    Downstream=19814.17
Upstream     num=       2
    Width   Elev    Width   Elev
     4.8    1036     4.8    1068
Downstream     num=       2
    Width   Elev    Width   Elev
     4.8    1036     4.8    1068

Pier Data
Pier Station     Upstream=19922.42    Downstream=19922.42
Upstream     num=       2
    Width   Elev    Width   Elev
     4.8    1036     4.8    1068
Downstream     num=       2
    Width   Elev    Width   Elev
     4.8    1036     4.8    1068

Pier Data
Pier Station     Upstream=20030.67    Downstream=20030.67
Upstream     num=       2
    Width   Elev    Width   Elev
     4.8    1036     4.8    1068
Downstream     num=       2
    Width   Elev    Width   Elev
     4.8    1036     4.8    1068

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
       Momentum                Cd   =     1.2
       Yarnell                 KVal =    1.05
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 212.67

INPUT
Description: 212.67

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=      34
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   18325  1064.219130.38    106819307.91    1072 19492.8 1073.0319492.89 1066.21
19502.331062.53319567.36  1037.219595.08  1037.519600.27  1037.519645.74  1037.8
19703.33 1037.8819708.52 1037.8819721.94  1039.119780.83  1037.619790.36    1040
19811.58  1039.419816.77  1039.419829.76  1037.219839.72    103819878.26  1039.3
19919.83  1037.519925.02  1037.519977.41  1036.920028.08  1038.120033.27  1038.1
20064.88  1037.520128.841062.53220137.19  1065.820137.28 1072.6620407.73    1072
20615.57    106820641.55  1067.620780.11    106821568.17  1069.3

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   18325    .03719502.33    .03220128.84    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19502.3320128.84              481  557.08     901             .1       .3
Ineffective Flow     num=       2
```

```
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   1832519492.89 1066.2120137.1921568.17  1065.8

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 212.56

INPUT
Description: 212.56

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=      84
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18526.6  1067.7 18605.6  1068.5 18672.9  1069.1 18686.4    1060 19108.7  1062.5
 19147.3  1066.2 19151.5  1066.4 19161.7  1067.6 19184.3  1068.9 19238.8  1068.8
 19249.1  1068.8 19264.6    1065 19289.8  1059.5   19333  1060.5 19374.1  1060.3
 19381.8  1063.3 19405.9  1071.5 19420.1  1070.7 19427.9  1069.3 19436.8    1069
 19464.9  1070.8   19474  1071.7 19488.9  1073.8 19506.5  1072.1 19530.4  1065.8
   19539  1066.2   19604  1065.9 19607.1  1065.3 19613.7  1065.3 19619.1  1065.7
 19619.8  1066.4 19637.7    1068 19655.3  1067.8 19692.8  1068.819731.051056.917
 19757.5  1048.7 19785.4  1039.9   19929  1039.8 20217.8  1039.320252.141056.916
   20264    1063 20269.6  1061.5 20279.7  1059.4 20318.1  1058.6 20372.9  1059.3
 20398.1  1060.1 20425.6  1066.2 20438.5  1062.1 20445.5  1059.5 20451.6  1056.8
 20575.6  1077.4 20581.9  1078.8 20601.9  1079.3 20671.6  1080.6 20698.7  1080.1
 20732.1  1079.9 20755.7  1079.5 20791.2  1077.6 20834.9  1075.6 20892.5  1079.5
   20896  1079.6 20938.4  1078.1 20958.4  1077.9 21004.8  1078.7 21029.1  1078.1
 21101.8  1077.3 21144.7  1078.4 21165.1  1078.9 21203.3  1079.8 21236.8  1080.1
   21329  1071.7 21351.9  1069.5 21384.8  1066.8 21396.7    1060 21632.6    1060
 21640.1  1063.9 21686.7  1065.4 21688.1  1065.4 21734.9  1066.2 21757.8  1066.7
 21833.3  1068.7 21846.1  1068.8 21931.4  1069.9 21952.1    1069

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 18526.6    .03719731.05    .03220252.14    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19731.0520252.14              495  502.71     525              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 18526.6 19692.8    1078   20301 21952.1    1078

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 212.46

INPUT
Description: 212.46

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=      66
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18753.5  1067.1 18827.8  1067.7 18877.5  1068.2 18898.4    1055 19357.3  1055.1
 19382.1  1053.4   19409  1053.9 19429.7  1053.3 19445.8  1054.1 19481.5  1054.3
   19531  1052.9 19550.5  1054.6 19656.6    1055 19684.4  1069.8   19700  1067.4
 19714.7  1067.819743.341056.289 19787.6  1038.5 19877.7  1038.3 20214.4  1037.2
 20270.9  1039.9 20290.3  1040.2   203011040.331 20380.4  1041.3 20415.6  1048.6
 20422.7  1048.9 20436.9  1047.2 20446.3  1048.4 20484.2  1055.6 20494.5    1057
 20510.9  1057.5 20553.9  1062.4 20563.5    1064 20616.9  1070.3 20661.5  1072.5
 20691.8  1074.7 20705.2  1075.2 20771.8  1073.9 20836.5  1073.6 20841.8  1073.2
 20893.4  1072.8 20932.3  1068.7 20999.5  1072.8 21028.4    1074 21091.5  1069.7
 21143.4  1069.4 21187.1  1070.2 21222.4  1071.9 21234.8  1070.7 21242.4  1070.9
 21265.3  1070.2 21277.9  1069.2   21302  1065.4 21326.5  1063.3 21392.1  1057.4
 21427.4  1052.9 21482.8  1061.6 21523.6  1061.6 21591.7  1061.2 21609.9  1060.7
 21657.5  1061.6   22674    1062 22695.3  1072.2 22728.6  1064.6 22746.1  1064.3
 22917.1  1063.8

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 18753.5    .03719743.34    .032   20301    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19743.34   20301              495  497.81     510              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 18753.5 19684.4  1075.2   20301 22917.1  1075.2

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 212.37

INPUT
Description: 212.37
```

```
Left and Right Channel Bank Stations Interpolated
Station Elevation Data     num=       53
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
 18816.9   1066.3 18818.6   1066.2 18822.9   1066.3    18834  1066.3 18957.9     1066
 18989.9   1065.8    19000  1065.6 19036.9   1065.2 19054.2   1064.9 19092.2   1064.1
 19112.5   1063.4 19137.4   1064.7 19138.3   1064.8 19139.3   1064.8 19195.1   1066.9
 19209.3     1061 19668.8     1061 19681.7   1066.2 19684.6   1067.4 19684.8   1067.3
 19685.1   1067.2 19692.2   1064.6 19715.3     1065 19717.4   1065.1 19722.1   1063.2
19744.061053.778 19782.7   1037.2 19926.2   1036.9 20272.4   1037.1 20284.2   1036.6
 20285.4   1036.6 20288.8   1038.620320.691053.776 20338.6   1062.3 20338.7   1062.3
 20369.5   1065.2 20396.5   1069.4 20454.4   1070.1 20471.3   1070.1 20508.4     1061
 22070.8     1061 22075.2   1062.9 22088.8   1064.3 22125.1   1067.6 22147.7   1068.9
 22155.8   1069.3 22177.3   1071.8 22222.4   1065.3 22242.6   1063.6 22252.8   1063.9
 22275.2   1064.6 22382.7   1065.6 22407.8   1066.1

Manning's n Values         num=        3
     Sta    n Val      Sta    n Val      Sta    n Val
 18816.9     .03719744.06     .03220320.69     .037

Bank Sta: Left   Right     Lengths: Left Channel   Right      Coeff Contr.    Expan.
      19744.0620320.69                500  495.84     485               .1        .3
Ineffective Flow      num=        2
   Sta L    Sta R     Elev    Sta L    Sta R     Elev
 18816.9 19684.6     1070 20396.5 22407.8     1070

CROSS SECTION           RIVER: 1
REACH: 1                   RS: 212.27

INPUT
Description: 212.27

Left and Right Channel Bank Stations Interpolated



Station Elevation Data     num=       95
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
 17693.1   1064.6 17697.9   1064.6 17734.8     1064 17740.4   1063.9 17785.6   1063.1
 17796.2   1063.1 17827.6   1062.5 17846.2   1062.4 17893.5   1062.2 18008.4   1061.5
 18061.8   1061.5 18108.5   1062.4 18180.8   1062.8 18221.3     1063 18239.7     1059
 18264.8   1054.5 18285.2     1054 18326.7   1048.1 18342.3   1046.2 18362.6   1053.4
 18380.3   1046.2 18395.3   1042.4 18405.4     1039 18415.2   1036.5 18431.2   1031.5
 18465.3   1023.5 18544.4   1025.1 18579.3   1015.6 18586.4   1013.2 18615.7     1013
 18649.7     1013 18693.4   1012.9 18782.3   1012.3 18931.2   1012.8 18976.1   1012.6
 18981.9   1012.7    19083  1012.1    19110  1012.1 19284.8   1012.2 19302.3   1012.4
 19314.3     1019 19342.1   1028.5 19385.1   1048.2 19442.6   1044.9 19457.4   1044.6
 19509.8   1062.9 19515.4     1063    19561  1063.7 19676.4   1065.419715.251052.334
 19754.6   1039.1 19765.4   1035.4 19935.2   1035.2 20003.5   1035.2 20097.2   1035.1
 20281.9   1035.120330.351052.334    20337  1054.7    20351  1059.5 20416.4   1037.6
   20457   1023.9 20721.5   1023.4 20766.6   1022.9 20810.1   1022.2 20848.4   1021.5
 20878.3   1023.7 20909.5   1025.8 20935.1   1026.2 20970.3   1026.8    20984  1027.2
 21016.1     1028 21073.4   1026.9 21105.5   1026.6 21138.2   1026.2 21189.1   1025.7
 21190.6   1025.7 21248.8   1040.7 21294.4   1051.5 21328.2   1059.6 21333.8   1060.2
 21373.3   1067.4 21415.5   1061.7 21426.9   1059.4 21439.1   1056.3 21473.7     1050
 21501.4   1044.9 21538.1   1038.9 21543.5   1037.9 21579.4   1046.2 21617.1   1054.3
 21626.5   1056.1 21660.7     1060 21745.2   1060.6 21930.8   1061.7 21968.2   1061.7

Manning's n Values         num=        3
     Sta    n Val      Sta    n Val      Sta    n Val
 17693.1     .04519715.25     .03320330.35     .04

Bank Sta: Left   Right     Lengths: Left Channel   Right      Coeff Contr.    Expan.
      19715.2520330.35                510     495     475               .1        .3
Ineffective Flow      num=        2
   Sta L    Sta R     Elev    Sta L    Sta R     Elev
 17693.1 19676.4   1065.4    20351 21968.2   1059.5

CROSS SECTION           RIVER: 1
REACH: 1                   RS: 212.18

INPUT
Description: 212.18

Left and Right Channel Bank Stations Interpolated
Station Elevation Data     num=       87
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
```

```
16867.12  1065.216906.93 1063.9117072.69 1063.6217369.21 1062.4817505.56 1062.52
17612.28  1062.917794.36 1062.3317881.75 1062.5817916.47 1062.3217948.21 1065.69
18039.48  1010.818149.75 1011.6918168.39 1016.6418177.08  1014.6   18188 1020.06
18220.51  1027.218252.71 1039.3418269.64 1041.1618292.43  1036.718335.96 1016.75
18454.36  1016.218568.19 1014.7218633.81 1016.1118764.91 1017.4618823.95 1017.09
19046.22  1017.719156.65 1019.3719198.34 1018.4419223.89 1018.4919248.34 1016.23
19311.18  1015.1 19393.8 1012.98   19433 1012.5219464.03 1021.8119488.46  1011.1
19574.96  1010.619614.98 1037.4219649.87 1059.81 19685.1 1058.8119706.851050.309
19749.09  1033.819960.28  1030.820229.47  1031.720272.48 1032.6720319.31 1039.88
20334.571050.30720340.72 1054.5120354.62  1060.320472.17 1061.55 20523.7 1061.62
20551.86 1053.0420622.11  1048.820687.56  1052.220928.11 1055.2921136.97 1058.41
21257.08 1058.6921362.76 1060.7121646.22  1067.221858.08 1068.1122054.43 1067.43
22158.98 1065.9622243.23 1064.32 22279.9  1062.822295.67 1065.5922307.88 1060.91
22324.63 1061.3922394.01 1058.4322480.34  1058.922555.28 1058.9222720.83 1059.92
22855.27 1061.5422949.17 1061.4922974.76    1060 23021.3  1058.523070.19 1058.44
23114.11 1060.29 23152.9 1060.0823260.95  1061.423486.25 1061.0523586.41 1061.15
23621.07 1061.4723789.79 1060.3723929.16  1060.4 24034.7  1061.824176.57 1062.42
24281.11 1062.3324460.33 1061.22

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
16867.12    .04519706.85    .03320334.57     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19706.8520334.57              500  502.53     485             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
16867.1219649.87    1068 20523.724460.33    1068

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 212.08

INPUT
Description: 212.08

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=     101
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 17052.4  1065.117093.98  1063.217330.91 1062.5917423.14 1062.2117562.97 1062.23
17854.31    106117952.67 1061.3917989.42  1061.1 18003.9 1064.7218053.78 1032.77
18092.97  1010.318121.67 1010.4218204.85 1011.4918218.51 1014.5318400.47 1013.68
18430.19  1013.718591.23 1012.7318717.39 1012.5518827.36 1012.71 18982.9 1014.44
19125.21  1014.119158.95 1014.27 19197.5 1013.7219237.59 1014.0519246.24 1012.73
19261.95  1013.819287.74 1011.5219294.56 1009.4419377.18 1009.8819458.03 1009.79
19560.86  1055.919603.52 1052.7719676.09 1052.9419681.091050.10619689.85 1045.14
19720.06 1031.7419729.83  1028.619835.59 1026.9819956.58 1026.4520018.74 1026.48
20046.86 1026.7120134.08  1025.920179.54 1025.9920234.17 1026.6520245.73 1033.13
20270.89  1050.120275.07 1052.9220290.81  1060.920335.45 1060.3720383.25 1044.65
20424.79 1044.3820442.88 1052.7920545.79  1055.720813.04 1061.3820956.27 1063.95
21082.72 1065.9821252.33 1068.1621359.98  1067.921436.79 1067.7621473.77 1066.77
21529.98 1066.4821607.29  1070.321676.41  1072.821730.28 1073.8421923.53 1073.03
22030.61 1073.7622091.57 1073.1322182.24  1073.622303.01 1072.0522453.89 1069.64
22595.45 1068.2222755.09 1066.8622966.16  1063.923129.47 1061.46 23222.4 1059.05
23255.36 1058.6423268.74 1055.5123278.67  1058.323295.59 1055.5423328.26  1058.3
23417.52  1058.423428.87  1058.123519.64  1059.323868.62 1059.1724082.28 1059.08
24280.77 1060.1224441.84 1061.9124594.59  1060.924688.74 1061.7424871.91 1061.24
 24970.8 1060.3325012.15 1058.2625172.94  1060.8 25399.4 1060.1425629.95 1059.85
25800.17 1059.4125815.84 1060.0725861.96  1079.725884.17 1080.2625963.83 1080.96
26004.82 1061.65

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 17052.4    .04519681.09    .03320270.89     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19681.0920270.89              510  519.85     475             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 17052.419560.86    1078 20290.826004.82    1078

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 211.99

INPUT
Description: 211.99

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=      97
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
```

```
17386.75    106217493.12 1060.3617883.55  1058.918026.04 1059.0818043.61 1064.43
18128.52  1011.918212.07 1010.04 18284.3 1009.4118375.77 1031.9918386.79 1034.99
18398.32  1031.618455.15 1010.4218634.29 1010.1518715.79 1026.1718726.98 1025.43
18746.82  1028.918793.14 1039.1118826.55 1047.2218835.49 1050.27 18880.3 1056.14
18928.65  1059.619023.07 1060.4719122.51 1058.69 19147.6 1056.9819172.92  1053.9
19222.57  1059.719306.36 1064.7519387.36 1066.2619419.32 1065.7319467.92  1063.3
19535.53  1055.9 19579.8  1052.519594.04 1050.0119626.09 1059.7519669.23 1060.17
19682.93  1052.119695.13  1051.719699.771048.63219734.91 1025.3919968.68 1025.66
 20018.4    102620129.78  1025.520175.87 1025.6620205.91  1027.820236.81 1047.09
20249.651048.632 20249.8 1048.6520268.39  1059.720319.37 1059.4520355.66 1049.61
20366.72 1051.1620380.34 1056.3120536.66  1059.720697.58 1062.9120861.07 1067.46
20969.05  1071.421086.46 1074.5421220.77  1077.821348.89 1078.3521519.24 1075.76
21606.23 1073.4221740.53 1069.1421834.91    106821936.77 1071.0222068.74 1077.26
22189.17 1082.4922398.45 1089.6222486.87  1090.322515.75 1089.9422616.83 1085.49
22698.81 1083.4322757.86 1080.0622899.81  1069.523059.97  1066.123300.96 1061.35
23457.95 1059.0923578.87 1055.29 23592.8  1052.823611.42  1057.123707.16 1057.71
23758.72 1057.8423837.72 1057.31   23902  1056.223950.13 1056.5724182.97 1056.91
24332.01 1056.0724582.04 1056.0124636.44    105924704.95 1057.5324865.28 1057.45
24966.74 1058.31 24996.3 1059.9325064.88  1059.825072.86 1059.0925171.62 1057.94
25224.27 1057.7525467.18 1058.61

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
17386.75    .04519699.77    .03320249.65     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19699.7720249.65              740  489.19     710              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
17386.7519669.23    1078 20268.325467.18    1078

CROSS SECTION           RIVER: 1
REACH: 1                   RS: 211.89

INPUT
Description: 211.89

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=      95
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
17673.64  1059.917830.52  1057.818075.45 1057.5918106.59 1061.3918156.21 1060.92
18181.64    105718268.15  1057.418570.49 1056.27 18656.7 1057.3718734.79  1059.4
18854.83  1058.1 18903.9 1058.6218933.75 1056.2618954.51  1054.319026.15 1059.53
19074.67  1064.519130.02 1067.6619166.92 1067.8219220.33 1064.2519291.97 1056.93
19339.05  1053.2 19355.5 1049.4119383.94 1051.7719506.58 1049.7319568.03 1052.09
19611.95  1052.419640.96 1059.4519668.79 1059.3319685.751048.02319719.16 1025.75
19877.45 1024.19   19996  1024.820046.95 1024.9420149.18 1025.3420215.53 1026.87
20231.37 1035.8620250.74 1048.0220268.71  1059.320317.76 1059.25 20347.9 1053.02
20357.11 1053.8720365.64 1057.4620503.92  1061.220587.79 1062.3220715.42 1064.82
20808.25 1066.4820898.25 1068.17 21050.2    107021240.42  1069.721365.85 1067.31
21444.39 1066.6721597.69 1066.8121747.36  1066.621837.61 1066.0122018.21 1062.79
22078.36 1061.7622206.84  1065.222377.75  1068.122579.85 1068.7522814.63 1068.78
22947.07 1067.96 23029.4 1068.0923191.51  1066.423528.26  1059.523662.78 1056.72
23775.83 1055.5423829.73 1054.1523844.87  1051.223876.82 1056.0923920.99    1057
23995.44 1056.4724052.85  1056.124082.77  1056.624140.98 1058.2724165.07 1058.25
24271.91 1056.4524411.05 1053.1724579.36  1053.324759.09 1054.04 24774.1 1055.28
24840.04 1057.6924883.78 1058.2624920.88  1055.825041.94 1055.2925284.44  1056.1
25336.01 1057.1325359.39 1058.3225402.51  1057.3 25726.4 1058.2326172.96 1058.11
 26295.6  1059.626333.92 1078.1726470.33  1078.826504.14  1058.926569.17 1059.94

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
17673.64    .04519685.75    .03320250.74     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19685.7520250.74              507  527.46     640              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
17673.6419640.96    1068 20268.726569.17    1068

CROSS SECTION           RIVER: 1
REACH: 1                   RS: 211.79

INPUT
Description: 211.79

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=      85
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
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18158.31  1058.118521.37 1057.9218711.98 1053.2918821.22 1049.9719332.48  1038.9
 19421.9  1034.719443.13 1034.6819494.83 1031.4519529.82 1033.8919593.73 1053.47
19613.84  1059.219631.93 1059.1219649.871047.18219683.64 1024.7119868.29 1023.84
19990.11 1024.4520071.01  1024.2   20181 1025.03 20210.4 1042.5420217.711047.186
20234.96 1058.1520266.77 1058.9620288.34  1058.220317.07 1049.6420327.91 1051.41
20334.62 1054.8620544.02 1058.1120748.52  1061.320960.89 1062.1921136.74 1063.31
21355.67 1062.99 21514.2 1062.9221680.46  1061.621736.21 1061.7621809.47 1060.69
21912.92 1059.5422164.31 1055.8622183.26  1055.422365.65 1059.3522456.33 1059.66
22607.29 1061.0722697.85 1061.2422757.13    106222877.22 1061.9822997.38 1061.21
23058.71 1061.6923238.58 1060.2923378.99  1059.623483.49 1059.3723694.55 1056.44
23766.47 1056.3523904.99 1053.8723939.63  1052.523954.41 1049.7323974.63 1054.92
24066.57 1057.0124104.95 1055.7224159.03  1054.924203.29 1053.77 24226.8 1054.13
24410.42 1054.11 24588.5 1054.8124806.33  1056.924857.28 1056.9224892.35 1056.25
 24937.4 1056.2724992.53 1057.9125025.07  1054.525154.69 1054.6325336.45 1057.87
25508.23 1059.0125689.64 1058.1825912.41  1058.826025.53 1058.4626235.18 1058.51
26315.33    105826360.96 1059.1426386.48  1071.426401.46 1071.61 26423.9  1078.8
26526.56 1078.9226547.02 1071.3226569.39  1067.826599.18 1058.2826670.85 1059.87

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
18158.31    .04519649.87    .03320217.71     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19649.8720217.71              680  450.74     290              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
18158.3119613.84    1068 20266.726670.85    1068

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 211.71

INPUT
Description: 211.71

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=      82
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
18356.24  1056.618403.32 1056.5118836.53 1046.2619011.11 1054.3319170.81  1053.8
19462.94  1052.519478.82 1053.0919497.62 1060.06   19533 1043.2819551.37 1045.32
19595.29    105919611.46 1057.8119628.43 1046.4719661.32 1024.4919846.96 1023.81
19928.43 1023.1919998.17  1023.220045.76 1023.2120158.51 1023.3920197.84 1046.47
20216.14 1057.2120266.22 1057.7620314.99  1042.620325.03 1043.14 20337.2 1046.87
20568.24 1050.2520851.05 1051.3120962.88  1051.521206.35 1051.6421388.45 1051.42
21419.92 1051.2321727.44 1052.6221848.61  1053.521981.25 1052.7822130.55 1052.51
22220.26 1051.5322459.24 1054.3422578.82  1055.122876.18 1055.9323025.66 1056.21
23117.46 1056.8923238.24 1055.61 23357.2  1054.623446.32 1054.2323535.13 1054.99
23685.75 1053.2823748.15 1053.5423836.62  1056.423904.67 1055.7524029.98 1052.16
24046.15  1048.724064.65 1054.8424297.11  1054.624417.85 1054.0824709.66 1055.58
 24914.5 1057.2724949.53 1057.2425042.76  1055.725080.42 1056.7725117.12  1053.8
25243.64 1054.8825321.41 1057.3325361.74    105825507.43 1059.54 25610.8 1058.49
25724.65 1059.9825796.42 1060.0825841.82  1059.625987.23  1060.326062.01 1060.39
26081.09 1058.8926241.81 1058.1126377.22  1057.126422.65 1058.2926467.41 1067.88
26493.74 1078.7726570.07 1078.7926595.33    1080 26627.3 1065.29 26661.5 1058.87
26693.27 1058.2226725.34 1059.01

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
18356.24    .04519628.43    .03320197.84     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19628.4320197.84              780  392.06     500              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
18356.24 19595.3    1068 20266.226725.34    1068

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 211.64

INPUT
Description: 211.63

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=      74
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
18455.22  1055.618870.41 1054.6119083.17 1054.4919308.22 1054.2519426.55 1053.86
 19582.2  1054.119594.16 1050.2119604.79 1050.3319629.34 1057.4119639.51  1057.5
 19657.71045.60119689.19    102519804.58  1023.319911.42 1022.65 19986.5 1022.75
20036.19 1022.9320060.82  1023.620181.08 1022.5820196.63 1031.17 20219.81045.602
20238.13 1057.0220265.94 1057.5920288.34  1056.820321.05 1046.9420343.65 1039.08
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20371.71 1043.95 20510.4 1045.0120712.01  1046.120789.36 1046.9121038.61 1047.48
21208.66 1048.1421454.04 1047.8221685.69  1048.521805.81 1048.0822092.18 1048.45
22242.98 1048.2222332.89 1048.1922513.12  1050.222770.05 1051.0723054.32  1051.7
23295.42 1051.6523472.95 1051.1123700.42  1052.523820.77 1054.7623926.54 1054.04
23949.21 1052.3623981.01 1052.4624008.88  1047.424037.13 1053.1124090.43 1054.01
24133.79 1054.5824302.75 1054.0624347.21  1053.624484.04    105424904.87 1055.84
 25102.6 1055.6325165.57 1054.9925293.65  1054.325400.67 1057.0625522.25 1059.22
25597.17 1058.4125713.85 1057.9825824.69  1060.625850.02 1060.9225980.05 1061.02
26040.31 1060.2826085.96 1060.1626115.36  1058.626378.37 1057.1726385.52 1058.22
26496.95 1078.6826605.38 1079.6726703.24  1058.126712.22 1058.41

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
18455.22    .045 19657.7    .033 20219.8     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19657.7 20219.8              481  521.13     221             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
18455.2219639.51    1068 20265.926712.22    1068

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 211.54

INPUT
Description: 211.54



Station Elevation Data    num=      24
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   18557    105619498.08 1062.8819570.11  1056.919585.13  1056.719633.01  1023.1
19866.76  1021.920100.43  1023.220148.29  1056.820163.32    105720195.23  1056.3
 20223.6  1049.320265.59  1046.120326.25  1049.420339.59  1050.820360.21  1052.5
20374.03  1055.420382.33  1055.9 20385.6  1055.9 20412.1  1057.320434.96  1056.7
20443.92  1057.120456.54  1061.420479.34  1060.721248.52  1053.6

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   18557    .03719498.08    .03220163.32    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19498.0820163.32              125  124.49     120             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   1855719498.08    107020163.3221248.52    1070

BRIDGE                 RIVER: 1
REACH: 1                  RS: 211.525

INPUT
Description: 19th Avenue Bridge
Distance from Upstream XS =       0
Deck/Roadway Width        =  124.49
Weir Coefficient          =     2.6
Bridge Deck/Roadway Skew  =
Upstream  Deck/Roadway Coordinates
    num=      11
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   18557    1056    105619498.08 1062.88 1062.8819498.08 1062.88 1056.33
19617.96  1065.1 1058.4319732.91  1067.4 1060.6819853.66 1068.72 1062.03
19974.41 1069.18 1062.5120095.16 1068.67 1061.9720215.91 1067.18 1060.46
20336.66 1064.77 1058.0320456.45  1061.4 1054.73

Upstream Bridge Cross Section Data
Station Elevation Data    num=      24
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   18557    105619498.08 1062.8819570.11  1056.919585.13  1056.719633.01  1023.1
19866.76  1021.920100.43  1023.220148.29  1056.820163.32    105720195.23  1056.3
 20223.6  1049.320265.59  1046.120326.25  1049.420339.59  1050.820360.21  1052.5
20374.03  1055.420382.33  1055.9 20385.6  1055.9 20412.1  1057.320434.96  1056.7
20443.92  1057.120456.54  1061.420479.34  1060.721248.52  1053.6

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   18557    .03719498.08    .03220163.32    .037
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Bank Sta: Left   Right    Coeff Contr.   Expan.
      19498.0820163.32              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   1855719498.08    107020163.3221248.52    1070

Downstream  Deck/Roadway Coordinates
    num=      11
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   18557    1056    105619498.08 1062.88 1062.8819498.08 1062.88 1056.33
19617.96  1065.1 1058.4319732.91  1067.4 1060.6819853.66 1068.72 1062.03
19974.41 1069.18 1062.5120095.16 1068.67 1061.9720215.91 1067.18 1060.46
20336.66 1064.77 1058.0320456.45  1061.4 1054.73

Downstream Bridge Cross Section Data
Station Elevation Data    num=      22
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   18577    105619498.08 1062.8819510.11    105119579.82  1056.719594.75  1056.5
19642.62    102319876.38  1021.820110.04    102320157.91  1056.620172.93  1056.8
20204.85  1056.120210.17  1055.920249.54  1049.420344.26  1054.820347.44  1054.8
20366.65  1054.320380.75  1054.620418.55    105520428.15    105520456.54  1061.4
20479.34  1060.721248.52  1053.6

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   18577    .03719579.82    .03220172.93    .037

Bank Sta: Left   Right    Coeff Contr.   Expan.
      19579.8220172.93              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   1857719579.82  1056.720172.9321248.52  1056.8

Upstream Embankment side slope              =         horiz. to 1.0 vertical
Downstream Embankment side slope            =         horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .95
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Piers =  7

Pier Data
Pier Station     Upstream=19615.06    Downstream=19615.06
Upstream     num=       2
    Width   Elev    Width   Elev
     5.8  1046.9     5.8 1058.51
Downstream     num=       2
    Width   Elev    Width   Elev
     5.8  1046.9     5.8 1058.51

Pier Data
Pier Station     Upstream=19735.81    Downstream=19735.81
Upstream     num=       2
    Width   Elev    Width   Elev
     5.8    1022     5.8 1060.77
Downstream     num=       2
    Width   Elev    Width   Elev
     5.8    1022     5.8 1060.77

Pier Data
Pier Station     Upstream=19856.56    Downstream=19856.56
Upstream     num=       2
    Width   Elev    Width   Elev
     5.8 1020.85     5.8 1062.07
Downstream     num=       2
    Width   Elev    Width   Elev
     5.8 1020.85     5.8 1062.07

Pier Data
Pier Station     Upstream=19977.31    Downstream=19977.31
Upstream     num=       2
    Width   Elev    Width   Elev
     5.8 1028.55     5.8 1062.51
Downstream     num=       2
    Width   Elev    Width   Elev
     5.8 1028.55     5.8 1062.51
```

```
Pier Data
Pier Station     Upstream=20098.06    Downstream=20098.06
Upstream     num=       2
    Width   Elev    Width   Elev
     5.8 1033.84     5.8 1062.02
Downstream     num=       2
    Width   Elev    Width   Elev
     5.8 1033.84     5.8 1062.02

Pier Data
Pier Station     Upstream=20218.81    Downstream=20218.81
Upstream     num=       2
    Width   Elev    Width   Elev
     5.8 1039.95     5.8 1060.55
Downstream     num=       2
    Width   Elev    Width   Elev
     5.8 1039.95     5.8 1060.55

Pier Data
Pier Station     Upstream=20339.56    Downstream=20339.56
Upstream     num=       2
    Width   Elev    Width   Elev
     5.8 1045.78     5.8 1058.17
Downstream     num=       2
    Width   Elev    Width   Elev
     5.8 1045.78     5.8 1058.17

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
       Momentum                Cd   =     1.2
       Yarnell                 KVal =    1.05
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 211.51

INPUT
Description: 211.51



             Begin 19th Ave Landfill channelization


Station Elevation Data    num=      22
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   18577    105619498.08 1062.8819510.11    105119579.82  1056.719594.75  1056.5
19642.62    102319876.38  1021.820110.04    102320157.91  1056.620172.93  1056.8
20204.85  1056.120210.17  1055.920249.54  1049.420344.26  1054.820347.44  1054.8
20366.65  1054.320380.75  1054.620418.55    105520428.15    105520456.54  1061.4
20479.34  1060.721248.52  1053.6

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   18577    .03719579.82    .03220172.93    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19579.8220172.93              541  562.88     606              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   1857719579.82  1056.720172.9321248.52  1056.8

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 211.41
```

```
INPUT
Description: 211.41

Left and Right Channel Bank Stations Interpolated
Station Elevation Data     num=      98
      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
18573.85  1055.518621.78 1056.6118655.14 1053.7918722.99 1053.2518902.93  1052.9
19132.77  1051.619320.33 1050.8719480.47 1049.5819533.31 1047.7219566.92  1049.4
 19611.4  1046.919634.53 1044.0819638.09 1041.7819668.43 1022.1819702.69 1018.56
19754.63 1019.6519786.92  1018.319889.98 1020.7419930.16 1020.8119994.45 1020.82
20076.61 1020.9120167.45  1021.220192.38 1033.0120195.55 1039.3220206.061041.777
20220.36 1045.1220236.46 1054.7820293.62    105620331.24 1065.2220351.37 1065.23
20357.03 1066.6220414.04 1056.96 20436.1  1062.220445.88 1058.7420504.13 1060.74
20521.21 1060.7920557.16 1066.5820578.69  1061.620603.37 1060.3620654.05 1060.04
20689.25 1058.2320722.97 1060.5820735.67  1057.720828.84 1057.0620846.13 1057.59
20898.33 1070.2520938.86 1063.6420980.02    106321017.32 1057.9221060.66 1055.82
21097.07 1055.5321119.44 1056.16 21132.9  1055.121181.47  1054.221283.06  1053.8
21298.44 1058.2121320.94 1060.3521339.43  1062.821380.38 1060.3221406.09 1052.45
21459.74 1053.4821477.97 1059.9821533.47    106121555.62 1081.8121619.68 1081.91
21644.09  1080.121655.42 1076.4821707.29  1075.321720.18 1072.1521749.96 1071.27
21770.47 1076.9921793.84 1054.8221802.85  1056.121842.36    105621864.05 1053.48
21891.41 1052.6921905.23 1051.4321991.71  1051.822210.76 1052.0622373.03 1052.78
22531.21 1052.1722650.75 1052.0922819.43  1052.522919.43 1053.1423211.23 1053.67
23252.71 1054.2423349.12 1054.0823463.55  1053.123574.33 1051.7923680.61 1051.32
23891.22 1051.5624133.09 1051.4824212.43  1051.924237.65 1050.3224284.73 1050.32
24320.22    105124361.59 1050.58 24444.1    1052

Manning's n Values         num=        3
     Sta   n Val      Sta   n Val      Sta   n Val
18573.85    .03719638.09    .03220206.06    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19638.0920206.06              500  501.53     505              .1       .3

CROSS SECTION           RIVER: 1
REACH: 1                   RS: 211.31

INPUT
Description: 211.31

Left and Right Channel Bank Stations Interpolated
Station Elevation Data     num=      98
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
 19209.8     1054 19309.4  1053.9    19371  1052.4 19415.6     1052 19462.5  1051.5
 19496.2   1050.5 19510.1  1050.5 19528.9  1041.9 19531.21040.766 19571.7  1020.8
   19614   1021.1 19677.8  1021.1 19724.1  1021.3 19888.2     1022 19928.3  1022.1
 19954.9   1021.8 19973.9    1032 19980.4  1029.8 19994.7   1027.2   20059  1026.6
   20112   1026.2 20123.3    1028 20158.9  1030.9 20198.7   1033.6 20212.5  1034.3
 20267.3   1034.5 20269.1  1035.1 20281.8  1034.8 20323.2   1035.6 20338.5  1037.1
   20343     1038 20356.11040.765 20425.9  1055.5 20434.4   1057.4 20457.3    1049
   20499   1049.5 20549.5  1051.1 20551.5    1051 20571.1   1052.5 20575.3  1055.6
 20584.2   1059.5   20614  1060.7 20625.4    1057   20636   1051.6 20682.5  1051.6
 20692.1   1051.6 20699.2    1055 20718.1  1055.1 20723.4   1052.3 20725.3  1052.3
 20778.6   1052.4   20806  1052.5 20808.3  1053.2 20835.4   1052.5 20836.7  1052.2
 20884.1   1051.7   20893  1051.9 20922.6  1067.4 20930.4   1067.8   20944  1066.2
 20964.4   1055.2 20970.5  1050.2 21010.5  1050.3 21036.1     1052 21040.8  1052.7
   21082   1053.8 21083.4  1053.5 21093.1  1049.5 21124.5   1050.5 21134.6  1050.2
 21141.3   1051.6 21160.1  1051.2 21201.6  1048.9 21204.4   1049.1 21219.3  1052.5
 21236.3   1049.8 21240.9  1049.4 21293.9    1049 21338.4   1048.2 21394.2  1047.1
   21457   1046.7 21459.4  1046.7 21510.1  1046.2 21538.8   1046.8   21571  1046.8
 21576.7   1047.8 21607.4  1058.3 21626.3  1059.1 21651.1   1060.7 21661.7  1060.9
 21672.8     1062 21684.6  1057.7 21696.7  1051.4 21740.6   1053.4 21745.1  1054.1
 21754.3   1054.6 21757.7    1053   21786  1052.5

Manning's n Values         num=        3
     Sta   n Val      Sta   n Val      Sta   n Val
 19209.8    .037 19531.2    .032 20356.1    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19531.2 20356.1              540  523.28     460              .1       .3
Ineffective Flow      num=        1
   Sta L   Sta R    Elev
 20434.4   21786    1060

CROSS SECTION           RIVER: 1
REACH: 1                   RS: 211.21

INPUT
```

Description: 211.21

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 88

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
19418.7	1050	19432.3	1049.9	19486.6	1051	19504.4	1050.9	19507.4	1051.4
19520	1044.7	19528.74	1040.216	19566	1021.1	19781.8	1021.6	19997.4	1022.1
20060.3	1022.2	20076.2	1032.8	20080	1035	20082.4	1032.7	20093.4	1024.4
20174.8	1026.6	20183.9	1027.6	20204.6	1029.5	20217.4	1030.4	20229.3	1030.7
20232.4	1030.9	20272.7	1031.9	20335.2	1032.6	20395.1	1032	20413.6	1031.7
20425.2	1031.3	20429.3	1031.7	20447.4	1035.2	20472.4	1032.1	20501.4	1030.2
20521.26	1040.216	20521.28	1040.226	20524.4	1041.8	20544	1051.9	20563.3	1064.6
20571.8	1065.7	20580.9	1066	20589.3	1061.5	20605.5	1058.5	20622.4	1060.1
20646.3	1062.6	20659.3	1063.4	20674.4	1064.8	20683.8	1065.5	20692.9	1064.2
20760.3	1066	20772	1068	20791.6	1063.6	20814.8	1059	20846.6	1053
20876.7	1045.5	20891.6	1044.9	20916.6	1044.2	20944.9	1044.5	20964.5	1044.9
21002.8	1046.7	21028.1	1048.6	21034.5	1044.8	21035.5	1044	21113.8	1044.6
21130.1	1044.6	21249.3	1044	21250	1044.1	21260.5	1047.3	21288	1046.8
21324.8	1046.7	21359.3	1046.9	21432.1	1048	21449.9	1048.7	21452.1	1049.4
21462.5	1051.8	21469.8	1052.8	21533.8	1052	21595.7	1051.9	21614.5	1051.8
21642.6	1057.9	21645.8	1056.1	21673.8	1046.4	21698	1040.9	21967.4	1041
21972	1044.7	21983.2	1052.6	21984.7	1051.9	21991.1	1050.7	21999	1051.3
22028.7	1051	22088.3	1051.4	22171	1051.7				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
19418.7	.037	19528.74	.032	20521.26	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19528.74	20521.26	495	493.11	475	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
20571.8	22171	1068

CROSS SECTION RIVER: 1
REACH: 1 RS: 211.12

INPUT
Description: 211.12

Left Channel Bank Station Interpolated
Station Elevation Data num= 63

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
19314	1050.6	19321.1	1050.6	19403.5	1050.4	19415.2	1050.5	19470.9	1050.5
19482.5	1051.2	19483.7	1050.5	19498.46	1040.58	19527.6	1021	19600.2	1021.1
20090.7	1021	20239.6	1020.4	20259	1020.1	20267	1022.5	20276.5	1019.8
20287.8	1020	20321.5	1020.6	20364.3	1020.4	20406.5	1019.8	20438.1	1015.7
20453.3	1015.7	20484.3	1015.7	20510.9	1015.7	20526.1	1023.8	20540.7	1029.4
20572.2	1046.4	20577.1	1044.9	20591.9	1040.2	21035.6	1040.2	21045.7	1040.3
21082.9	1041.6	21123	1041.5	21166	1041.6	21189.7	1041.5	21228.3	1041
21264.3	1041.1	21277.3	1040.7	21299.3	1040.6	21311.7	1043.9	21321.5	1044.1
21335.9	1046.9	21349.5	1046.7	21377.3	1046.7	21389.3	1045.7	21395.8	1044.6
21409	1041.7	21414.3	1040.2	21431.9	1040.1	21441.7	1040.6	21511.5	1043.7
21564.5	1044.7	21580.3	1044.8	21593	1044.6	21597	1042	22094.6	1042
22111.5	1053.1	22112.9	1051.5	22113.7	1050.9	22123	1051.4	22146.6	1051.4
22200.7	1051.7	22225.6	1051.6	22293.4	1051.7				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
19314	.037	19498.46	.032	20572.2	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19498.46	20572.2	500	505.73	500	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
21335.9	22293.4	1050

CROSS SECTION RIVER: 1
REACH: 1 RS: 211.02

INPUT
Description: 211.02

Left Channel Bank Station Interpolated
Station Elevation Data num= 58

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
19239	1049.4	19253.3	1049.2	19318.8	1049.3	19330	1049.2	19381.9	1049.5
19409.6	1049.3	19472.3	1049	19487.12	1039.375	19515.1	1021.2	19977.7	1020.4
20111.7	1020.1	20119.2	1025.6	20133.2	1024.1	20136.2	1022.2	20140	1019.4

20202.9	1020.4	20228.3	1020.7	20238.9	1022.4	20243.6	1025.6	20270.1	1025.5
20279.9	1025.7	20343.8	1026.1	20394.3	1041.3	20424.2	1040	20434	1040.5
20448.3	1038.4	20459.5	1037.9	20468.8	1038.2	20484.1	1038	20494.6	1038.7
20501.7	1038.2	21087.6	1039.1	21102.9	1037.2	21124.7	1036.8	21132.2	1033
21144.9	1032.5	21184.2	1034.3	21243.7	1036.3	21300.5	1038.4	21315.9	1038.7
21353.2	1040	21399.5	1041.4	21439	1042.3	21480	1043.6	21514.7	1043.6
21524.4	1043.8	21535.1	1043.6	21559.7	1042.3	21570.6	1042.2	22151.3	1042
22163.4	1052.1	22174.7	1052.9	22226.3	1051.5	22239.2	1051.3	22318	1051.9
22324.3	1052	22393.8	1052.8	22399.8	1052.7				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
19239	.037	19487.12	.032	20394.3	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19487.12	20394.3	485	493.19	495	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
21500	22399.8	1050

CROSS SECTION RIVER: 1
REACH: 1 RS: 210.93

INPUT
Description: 210.93

Left Channel Bank Station Interpolated
Station Elevation Data num= 50

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
19200.1	1048.6	19256.6	1048.1	19323.4	1048.3	19376.7	1048.6	19414.5	1048
19464.2	1048.3	19479.12	1039.255	19508.9	1021.2	19821.8	1022.3	20131.9	1023.4
20138.8	1028	20162.4	1029.4	20166.3	1026.3	20172.8	1019.1	20212	1018.7
20278.3	1019.9	20290	1025.6	20331.4	1025	20349.2	1032.1	20351.6	1031.2
20355.1	1030.5	20397.8	1031.3	20406.9	1035.2	20414.8	1039.6	20431.2	1039.4
20455.9	1039.7	20458.7	1037.8	20465.5	1037.9	20470.4	1034.9	20474.7	1032.7
21343.1	1032.7	21350.5	1032.5	21376.3	1035.6	21390.1	1033.4	21395.9	1033.7
21424.3	1033.9	21484.4	1034.5	21494.9	1034.3	21537	1034.4	22171.3	1034.4
22195.5	1049.6	22217.9	1047.5	22260.9	1035	22263.6	1034.9	22291.1	1051
22312.1	1051.8	22326.6	1051.4	22375.7	1051.7	22388.8	1051.5	22397.4	1050.6

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
19200.1	.037	19479.12	.032	20414.8	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19479.12	20414.8	505	505.14	505	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
21576	22397.4	1048

CROSS SECTION RIVER: 1
REACH: 1 RS: 210.83

INPUT
Description: 210.83

Left Channel Bank Station Interpolated
Station Elevation Data num= 61

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
19202.3	1047.9	19230.6	1048.2	19316.1	1047.1	19412.4	1046.5	19438.4	1046.4
19450.41	1038.8	19469.9	1026.5	19479.2	1021.2	19797.6	1021	19923.9	1020.9
19961.4	1020.6	19972.9	1027.1	19981.7	1030.2	20023.7	1029.7	20030.1	1028.5
20042.7	1023.3	20047.1	1022.6	20060.1	1021.5	20068	1019.1	20084.8	1019.4
20164.7	1020.3	20209.2	1020.4	20210.1	1020.8	20276.6	1019.8	20285.1	1022.2
20306.6	1025.2	20309	1026.8	20312.4	1026.3	20316.8	1024.7	20372.8	1023.5
20408.7	1043.6	20410.4	1042.5	20412	1040	20434.3	1040.8	20448.6	1034
21423.7	1034.1	21433.7	1033	21527.5	1031.1	21554.4	1029.7	21577.9	1029.4
21646.5	1030.2	21704.4	1029.9	21742.9	1046.2	21761.3	1040	21807.2	1041.3
21814	1044.7	21818.3	1046.4	21862.5	1045.9	21879.4	1037.5	21883.7	1035
21887.9	1033.8	21911.6	1035.9	21937.9	1050.1	21957.5	1042.6	22341.8	1042.6
22364.7	1049.8	22372.9	1048.2	22423	1049.3	22443.3	1049.3	22494.1	1045.8
22499.7	1044.9								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
19202.3	.037	19450.41	.032	20410.4	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19450.41	20410.4	505	505.61	500	.1	.3

```
Ineffective Flow     num=       1
   Sta L   Sta R·   Elev
 21742.9 22499.7    1048

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 210.74

INPUT
Description: 210.74

Left Channel Bank Station Interpolated
Station Elevation Data    num=      63
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 19243.9  1048.6 19252.9  1048.6 19306.8  1048.4 19320.5  1047.9 19400.4  1046.9
 19417.4  1044.519426.121038.473 19455.3  1018.3 19887.7  1018.2 19910.2  1018.2
 19912.1  1019.4 19926.7  1020.6 19947.1  1020.5 19971.2  1029.9 19999.5  1024.8
 20005.9  1025.6 20026.7  1018.2 20095.6  1018.8   20149  1019.3 20154.3  1019.5
 20159.1  1018.6 20206.5  1019.2 20250.3  1018.3 20256.9  1020.6 20263.3  1021.3
 20281.7  1020.8 20318.1    1022 20333.5  1021.2 20349.8  1021.8 20361.7  1025.8
 20373.2  1024.1 20404.6  1025.2 20432.5  1037.6 20433.7  1039.4 20462.4  1039.5
 20468.2  1036.5 21389.5  1036.5 21394.6  1032.8   21404  1032.7 21513.7    1032
 21520.3  1033.6 21537.2  1027.8 21587.9  1027.7 21638.9  1028.2 21695.6    1029
 21747.1  1028.9   21771  1029.8 21801.8    1041 21813.2  1040.9 22057.2  1040.9
 22066.5  1043.5 22085.1  1044.1 22096.2  1047.4 22123.7  1048.7 22156.7  1040.5
 22272.5  1040.5 22293.7  1049.5 22308.5  1048.9 22356.6  1048.4 22365.3  1048.1
   22369  1048.8 22377.5  1053.2 22399.8  1048.3

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 19243.9    .03719426.12    .032 20433.7    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19426.12 20433.7              495  503.39     500              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev
 21801.8 22399.8    1048

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 210.64

INPUT
Description: 210.64
Station Elevation Data    num=      56
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 19062.1  1046.2 19142.3  1046.5 19216.9  1046.5 19239.3  1046.6 19313.3  1046.3
 19339.3  1045.9 19359.9  1044.7 19388.6  1036.7 19405.4  1034.5 19435.6  1017.8
 19522.4  1017.9   19688  1018.2 19812.5  1018.5 19845.7  1021.7 19854.2  1021.6
 19868.7  1023.2 19885.6  1022.9 19894.1  1026.4 19926.9  1018.1   19954  1018.1
 20029.3  1018.2 20100.6  1018.3 20159.1  1018.4 20163.7  1019.2 20174.9  1019.6
 20183.1  1020.8 20192.3  1019.6 20214.4  1021.7 20234.8  1024.3 20242.8  1022.1
 20298.5    1024 20323.5  1025.5   20335  1029.1 20359.6  1019.1 20427.6  1017.8
 20430.1  1017.7 20460.6  1039.9 20483.4  1039.5 20493.5  1033.2 21394.6  1033.2
 21442.1  1031.4 21449.1  1028.1 21453.5  1025.3 21460.9  1025.2 21472.1    1026
 21483.6  1028.3 21519.7  1032.5 22411.4  1032.5 22434.2  1045.9 22446.8  1049.8
 22496.5  1049.4 22507.7  1051.3   22521  1044.2 22524.9  1044.1 22586.3    1043
 22591.1  1043.3

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 19062.1    .037 19388.6    .032 20460.6    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19388.6 20460.6              520  515.29     495              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev
   21800 22591.1    1048

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 210.55

INPUT
Description: 210.55

Left Channel Bank Station Interpolated
Station Elevation Data    num=      55
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   19008  1045.1 19023.1  1045.1 19106.6  1045.2 19117.1  1045.2 19188.7  1045.4
 19198.2  1045.3 19263.2    1046 19303.5  1044.219322.161037.828   19365  1023.2
 19375.9  1018.6 19396.7  1018.7 19519.3  1018.6   19791  1018.3 19813.4  1028.8
```

19857.3	1026.7	19886.1	1038.1	19909.3	1027.2	19915.5	1030.7	19959.6	1020
20002.1	1018	20058.3	1018.1	20175.7	1018.1	20440.7	1018.3	20476.7	1037.4
20483.2	1040.3	20500.3	1039.7	20507.6	1034.3	21313.5	1033.6	21372.5	1032.4
21406.9	1033	21409.3	1032.1	21417.2	1027.2	21429	1026.3	21456.2	1025.4
21459.3	1026.4	21468.1	1028.2	21496.9	1030.2	21548.3	1034.3	21557.5	1034.9
21626.2	1036.3	21634.2	1035.7	21643.8	1035.7	21713	1035.7	21771.2	1036
22449.6	1036	22451.9	1037.8	22455.6	1040	22484.4	1044.7	22494.2	1046.8
22499.9	1046	22506.9	1046.2	22537.1	1043.6	22580.7	1043.5	22585	1043

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
19008	.037	19322.16	.032	20483.2	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19322.16	20483.2	475	473.19	495	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
21300	22585	1046.8

CROSS SECTION RIVER: 1
REACH: 1 RS: 210.46

INPUT
Description: 210.46

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 74

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18491.3	1044.8	18509.6	1044.4	18559.8	1045.8	18571.1	1045.5	18584.8	1043.3
18607.7	1045	18678	1044.8	18723.7	1044.2	18801	1044.1	18803.4	1044.1
18891.1	1043.9	18897.1	1043.9	18962.7	1043.6	19022.5	1043.3	19024.4	1043.3
19078.3	1042.4	19136.1	1042.2	19176.5	1042.5	19201.9	1040.9	19233.8	1028.3
19266.3	1021.8	19276.2	1021.1	19328.5	1018.7	19351.6	1018.1	19377	1018.33
19395.8	1018.5	19810.2	1018.3	19863.8	1018.1	19922	1018.2	20015.9	1018.2
20094.1	1018.1	20114.1	1018.1	20127.6	1022.4	20129.6	1023.9	20150.4	1023.9
20174.1	1021.6	20197.2	1018.1	20239.9	1018.1	20295.4	1018.2	20303	1018.6
20351.5	1018	20390.4	1018.4	20443.9	1018.4	20502.8	1018.5	20565.4	1018.8
20656.3	1018.8	20722.5	1019	20743	1019.6	20798.1	1019.8	20867.2	1019.1
20920.3	1019.3	20973.2	1019.2	21047.3	1019.3	21120.7	1021.1	21123	1021.2
21136.1	1016.3	21211.7	1018.4	21228.5	1018.3	21261.8	1036.3	21280.4	1034.9
21284	1038.08	21290.7	1044	21292.3	1046	21334.2	1043	21405.2	1043.3
21443.5	1044.5	21454	1047.4	21465.5	1044.1	22456.6	1042.9	22498.8	1045.3
22515	1046.9	22564.7	1048.3	22637.2	1048.5	22652	1048.3		

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
18491.3	.037	19176.5	.032	20150.4	.037	21292.3	.037	21454	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19377	21284	520	522.28	505	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
18491.3	19377	1048	21292.3	22652	1048

CROSS SECTION RIVER: 1
REACH: 1 RS: 210.36

INPUT
Description: 210.36

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 99

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
19224.5	1050.4	19284.3	1050.7	19305	1051	19357.1	1049.61	19375.16	1037.787
19404.8	1018.4	19463.3	1018.3	19612.3	1018.1	19621.3	1018.1	19634.8	1021.9
19667.3	1022.1	19733.3	1021.4	19790.5	1022.1	19802.9	1021.9	19818.6	1026.5
19827	1026.5	19834.6	1028.4	19890.9	1029	19964.7	1027.7	19973.5	1027.6
19985.2	1023	19997.6	1019.2	20010.7	1019.2	20032.2	1022.5	20039.2	1024.8
20087.1	1023	20111.8	1024.6	20144.4	1023.1	20153.9	1025.4	20168.7	1024.3
20191.7	1024.2	20273.6	1021.2	20346.9	1017.4	20363.5	1017.6	20425.8	1018.5
20437.5	1019.6	20442.7	1017.4	20510.8	1017.5	20526.1	1018	20581.3	1024.2
20636.5	1025.3	20692.9	1026.1	20742.9	1025.6	20769.6	1031.4	20776.7	1032.1
20797.4	1031.2	20811.3	1023.1	20868.1	1020.3	20886.8	1019.8	21012.2	1019.3
21017.9	1019.4	21027	1020.7	21039.6	1017.6	21095.8	1017.7	21149.8	1018
21208.9	1018.7	21245	1019.62	1291.171	1037.786	21291.23	1037.81	21303.9	1042.8
21368	1043.7	21407.5	1045.3	21418.5	1048.3	21429.5	1045.3	21450.9	1041.3
21516.4	1042.2	21531.8	1042.1	21606.4	1042.3	21664.8	1042.2	21728.4	1042.1
21735.8	1042.3	21795.8	1042.1	21853	1041.4	21904.7	1040.9	21945.9	1041.5
22007.4	1043.5	22067.8	1044.3	22085.5	1044.9	22124.1	1042.5	22213.9	1042.6

```
   22278  1043.1 22282.5    1043 22318.4  1050.8 22330.1  1051.8   22376  1061.9
 22399.2  1062.6 22410.6  1059.4 22438.3  1043.7   22476  1043.3 22498.2  1043.9
 22517.5  1047.5 22554.5  1047.8 22615.4  1044.3 22685.5  1043.5 22715.7  1043.9
 22733.2  1052.6 22752.7  1056.6 22761.2  1057.6 22797.5    1059

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 19224.5    .032 19357.1    .037 20776.7    .025 21303.9    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19375.1621291.17              480  487.62     480             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev
 21303.9 22797.5    1058

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 210.26

INPUT
Description: 210.26

Left and Right Channel Bank Stations Interpolated
Station Elevation Data    num=      75
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   18518  1039.8 18554.5  1039.8 18657.8    1042 18741.9  1041.6   18818  1041.2
 18898.6  1041.1 18982.3  1040.1 19077.8  1039.4   19162  1039.9 19268.1  1040.3
 19363.8  1039.3 19372.2  1040.419377.071037.672 19408.8  1019.9 19682.2  1018.6
 19755.3  1018.2 19759.5    1026   19769  1023.5 19813.4  1021.7   19816  1022.7
 19816.8    1022 19849.2  1020.9 19871.6  1022.5 19881.3  1022.3 19909.8  1024.5
 19932.2  1024.7 19991.1  1027.6 20032.1  1025.3 20063.9  1021.9 20070.8    1022
 20075.8    1024 20075.9  1020.9 20082.4    1025 20120.1  1032.8 20142.9  1027.4
 20152.1  1027.4   20162  1021.5 20166.1    1020 20257.3  1025.2 20290.7  1026.3
 20327.7  1020.7   20449  1018.6 20490.7  1017.8 20521.6  1018.3 20541.8  1020.7
 20564.4  1016.9 20641.9  1017.2 20694.8  1022.3 20718.8  1018.4 20789.5  1018.3
 20862.3  1019.1   20960  1018.2 20989.1  1018.9 21058.3  1018.1   21141    1018
 21241.8  1017.5 21265.8  1018.4 21280.3  1023.521331.821037.672 21342.1  1040.5
 21367.6  1040.4 21378.7    1044 21393.2    1047 21408.2  1043.8 21433.3  1036.1
 21453.3  1036.5 21462.7  1039.8 21481.6    1041 22697.5    1041 22726.9  1046.8
 22740.7  1043.8 22748.5    1041 22815.8    1041 22841.3    1048   22891  1057.7

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
   18518    .037 19372.2    .032 20694.8    .037 21342.1    .037 21393.2    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19377.0721331.82              505  512.65     520             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   18518   19162    1050 21393.2   22891    1050

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 210.17

INPUT
Description: 210.17


Right Channel Bank Station Interpolated
Station Elevation Data    num=      81
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18525.7    1038 18530.7    1038 18532.2  1038.8 18540.9    1039 18542.7  1038.3
 18559.1  1038.3 18583.6  1039.8 18667.3    1040 18672.2    1040 18771.1  1039.9
 18843.2  1039.2 18918.6  1039.2 18975.6  1038.6 19067.9  1036.2 19141.4  1035.5
 19159.7  1029.9 19162.1  1028.2 19206.3  1023.5 19232.4  1025.6 19237.8  1026.9
 19267.8  1029.3 19288.9  1028.6 19327.1    1031 19354.6  1031.5 19359.6  1019.6
 19498.4  1019.3 19752.3  1018.6 19761.8  1021.9 19768.4  1019.7 19807.9  1021.1
 19826.4  1023.3 19861.6  1026.2 19939.7  1026.1 20019.7  1026.2 20040.5    1026
   20047  1026.8   20077  1025.5 20173.1  1021.8 20204.7  1022.1 20221.8  1027.9
 20260.5  1027.9 20289.3  1020.1 20308.5  1019.1   20310    1020 20324.5  1021.7
 20336.8  1017.9 20348.1  1016.4 20392.6  1014.7 20407.8  1014.9 20421.1  1019.4
 20505.4  1021.6 20584.7    1020 20677.5  1020.6   20713  1019.7 20811.2  1021.5
 20931.9  1023.3 20991.7    1025 21079.4  1022.7 21093.5  1022.3 21106.3  1024.9
 21181.2  1023.5   21223    1023   21231  1018.7 21249.3  1020.1 21260.4  1023.1
 21302.8  1025.121334.72 1037.43 21339.3  1039.2 21359.2  1038.4 21371.3    1044
 21385.9  1046.9 21435.8  1035.7 21473.1    1040 22703.8  1040.5 22737.6  1046.8
 22750.2  1044.1 22757.2  1040.5 22826.4  1040.5   22854  1049.8 22873.2  1052.2
 22897.3    1057

Manning's n Values        num=       4
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     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 18525.7    .037 19354.6    .032 20991.7    .037 21339.3    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19354.621334.72              505  497.78     495             .1       .3
Ineffective Flow     num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 18525.7 19354.6    1050 21385.9 22897.3    1050

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 210.07

INPUT
Description: 210.07

Left Channel Bank Station Interpolated
Station Elevation Data    num=      71
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18501.7  1037.5 18541.3  1037.3 18564.5  1038.8 18619.1  1038.6 18704.2  1038.7
 18760.6  1038.9 18769.9  1038.8 18829.1  1038.5   18842  1038.3 18894.1  1038.1
 18959.6  1037.3 18970.3    1037 18978.8  1029.1 18997.2  1018.5 19080.1  1018.5
   19143  1018.7 19188.2  1018.7   192101018.946 19241.4  1019.3 19299.9  1019.1
 19351.1  1019.1 20002.2  1019.3 20010.8  1019.3 20015.9  1021.6 20017.6  1021.9
 20043.4  1020.3 20109.3  1021.6 20149.1  1018.8 20241.7  1019.6 20301.9  1019.6
 20319.7  1020.4 20385.2  1020.2   20395  1020.3 20523.6    1020   20576  1020.4
 20689.9  1019.9 20746.4  1020.1 20785.8    1020 20842.9  1018.9 20851.6  1018.9
 20907.6  1018.8 20909.5  1018.7 20945.5  1031.5 20951.8  1031.4 21011.2  1029.6
 21065.6  1030.2 21073.1  1030.3 21098.1  1026.3 21164.8  1026.1 21186.9  1026.4
 21207.2  1024.8 21212.4  1026.6 21220.7  1028.3 21237.2  1024.7 21246.8  1023.1
 21286.7  1032.7 21315.8  1034.4 21346.3  1039.3 21383.5  1047.6 21397.9  1044.6
 21428.3  1035.2 21444.5  1036.3 21455.5  1040.2   21470  1040.9 22716.5  1040.5
 22744.1  1046.7 22757.9  1043.7 22766.1  1040.5 22836.3  1040.5 22861.9  1049.1
 22885.1  1052.1

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 18501.7    .032 18959.6    .037 19241.4    .037 20945.5    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         19210 20945.5              495  490.15     505             .1       .3
Ineffective Flow     num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 18501.7   19210    1048 21383.5 22885.1    1048

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 209.98

INPUT
Description: 209.98

Left Channel Bank Station Interpolated
Station Elevation Data    num=      67
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 19210.8  1039.8 19216.4  1039.8 19229.3  1040.8 19256.1  1038.3 19270.9  1038.7
 19289.9  1043.3 19303.8  1043.6 19320.1  1041.9 19336.2  1037.1 19338.51036.916
 19338.7  1036.9 19361.5  1021.9 19388.1  1021.9 19515.6  1021.3 19713.1  1021.7
 20015.3  1021.9 20072.9  1024.3 20080.8  1022.9 20118.2    1022 20369.3  1021.1
 20445.2  1020.9 20458.4  1022.8 20481.8  1021.8   20518  1023.6 20568.6  1034.4
   20571  1034.9 20616.8  1035.6 20623.9  1035.8 20628.3  1035.5 20657.3  1035.7
 20663.4  1034.3 20694.7  1018.1 20723.3  1020.3 20793.2  1020.9 20799.7  1020.9
 20854.2  1020.7 20860.4  1020.9 20904.8  1021.1 20914.5  1020.7 20955.4  1020.7
 20961.5  1020.8 21001.9  1019.9 21007.1  1019.6 21059.6  1018.5 21066.6  1018.2
 21088.4  1019.4 21090.3  1020.1 21106.6  1019.5 21139.4  1019.9 21169.2  1019.4
 21191.2  1020.3 21230.7  1019.2   21293  1018.8 21312.7  1018.3 21356.9  1043.1
 21366.5  1044.5 21383.9  1044.8 21395.6  1044.5   21426  1037.6   21435  1036.5
 21453.5  1042.5 21466.6  1042.2 21474.1    1040 22740.4    1043 22767.4    1043
 22845.4    1040 22872.1  1049.7

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 19210.8    .032 19303.8    .037 20623.9    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19338.5 20623.9              500   502.4     480             .1       .3
Ineffective Flow     num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 19210.8 19303.8    1045 21383.9 22872.1    1045

CROSS SECTION          RIVER: 1
```

REACH: 1 RS: 209.88

INPUT
Description: 209.88
Station Elevation Data num= 72

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18501.6	1042.1	18528.8	1043.1	18537.8	1042.9	18574.3	1040.8	18652	1040.5
18739.9	1040.3	18813.4	1040.8	18852.6	1040.6	18874.1	1040.1	18934.3	1040.2
18997.1	1040.3	19062.4	1039.9	19081	1040.1	19142.2	1041	19204	1042
19256.5	1042.2	19318.4	1040.5	19374.2	1039.8	19432.9	1040	19434	1040
19465.8	1025.8	19472.7	1026	19513	1039.1	19517.5	1038.2	19551.2	1024.4
19557.7	1019.9	19669.3	1020.3	19783.1	1020.9	20065	1021.8	20083.9	1021.8
20276.7	1020.6	20381.4	1019.6	20422	1019.3	20445.6	1026.2	20472.5	1035
20535.1	1035.1	20607	1034.4	20691	1033.1	20702.5	1033.3	20710.2	1031.7
20764.2	1029.4	20784.7	1021.7	20827.3	1021.8	20907.6	1017.4	20952.7	1017.1
20986.8	1017.4	21010.4	1016.5	21045.1	1016.6	21090.8	1018.4	21114.2	1018.7
21168.8	1021.5	21185.4	1014.7	21210.8	1016.2	21223.3	1019.8	21245.7	1019
21292.7	1018.9	21317.4	1019.5	21351	1043	21366.2	1042.6	21378.1	1042.9
21392.6	1042.6	21430.3	1035.8	21448.3	1041.7	21461.5	1041.4	22746.5	1041.7
22760	1042	22773.5	1041.7	22844.9	1040.4	22853.4	1040.1	22878.2	1047.9
22883.5	1049.9	22895.7	1051						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
18501.6	.037	19513	.032	20472.5	.037	21351	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19513	20472.5	500	504.74	500	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
18501.6	19256.5	1045	21351	22895.7	1045

CROSS SECTION RIVER: 1
REACH: 1 RS: 209.79

INPUT
Description: 209.79

Left Channel Bank Station Interpolated
Station Elevation Data num= 69

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
19302.1	1037	19390.4	1037.7	19422.4	1037.9	19450.6	1038.6	19469.8	1042
19475.2	1039.5	19483.02	1036.471	19511.6	1025.4	19544.2	1024.3	19568.5	1024
19585.1	1022.1	19604	1021.3	19652	1021.9	19659.2	1022.5	19704.1	1023.9
19743.6	1023.4	19758.3	1023.6	19804.1	1021.8	19848.4	1022	19854.6	1022.4
19903.2	1022.6	19907.9	1022.3	19977.4	1021.3	20009.8	1021.4	20048.6	1022.3
20058.7	1024	20073.2	1024.3	20081.6	1025.8	20102.4	1022	20112.8	1020.9
20156.2	1020.9	20256.4	1020.9	20405.6	1020.8	20467	1020.8	20496.1	1035.7
20514.4	1034.2	20550.2	1023.5	20623.5	1023.8	20694.6	1023.6	20727.9	1023.3
20733.7	1025.1	20747.4	1030.6	20772.1	1029.7	20812.6	1013.1	20821.9	1011.1
20921.1	1007.3	21031.7	1007.2	21102	1008.3	21146.2	1010.3	21153.2	1011.1
21167.6	1011.6	21181.9	1014.5	21219.7	1013.4	21280.6	1014.9	21300.5	1014.6
21345.1	1038.3	21349	1039.6	21388.2	1041.1	21398.1	1036.5	21724.8	1037
22053.9	1038.7	22084.9	1038.7	22412.8	1037.5	22736.4	1036.5	22750.8	1040.4
22851	1040	22880.8	1050.9	22891.5	1049.4	22896	1050.7		

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
19302.1	.037	19469.8	.032	20496.1	.037	21349	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19483.02	20496.1	500	500.44	510	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
19302.1	19469.8	1048	21388.2	22896	1048

CROSS SECTION RIVER: 1
REACH: 1 RS: 209.69

INPUT
Description: 209.69

Left Channel Bank Station Interpolated
Station Elevation Data num= 72

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18487.6	1037.1	18511.5	1038.9	18512.2	1038.3	18570	1037.1	18609.5	1037.4
18675.1	1037.2	18686.5	1037.2	18757.5	1036.9	18831.1	1037	18905.3	1036.6
18942.8	1036.5	19014.6	1036.3	19080.4	1036.9	19089.1	1039.2	19093.3	1038.7
19097.6	1036	19108.2	1036.5	19117.9	1041	19129.1	1036.3	19223.8	1037

```
 19236.2  1036.9 19306.7  1037.1 19377.2  1036.8 19448.9  1038.8 19451.6  1039.2
19460.141035.952 19494.2    1023 19567.3  1019.4 19601.3  1019.8 19663.7  1024.7
 19744.5  1029.8 19834.4  1031.8 19911.5  1032.7 19977.6  1032.7 20055.2    1034
 20101.5  1021.7 20107.4  1021.1 20162.6    1021 20498.8  1020.7 20560.9  1034.8
 20578.5  1035.8 20646.6  1035.2 20702.4  1031.7 20717.4  1031.4 20730.1  1030.1
 20773.2  1013.3 20782.5  1013.1 20845.5  1011.4 20929.9  1011.3 20963.9  1011.2
 21028.3  1011.1 21095.9  1010.7 21179.3  1010.6 21186.8  1010.4 21201.5  1014.3
 21206.7  1012.8   21290  1013.8 21325.4    1034 21344.7  1037.9   21377  1040.8
   21396    1036 21716.5    1037 22044.5  1037.5 22075.5  1037.5 22405.9  1036.3
 22732.5    1036   22744  1038.7 22773.1  1038.3 22776.8    1039 22845.1    1039
 22868.7  1048.8 22887.2  1047.3

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 18487.6    .037 19451.6    .032 20578.5    .037   21290    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19460.14 20578.5              495  494.38     510              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 18487.6 19451.6    1046   21377 22887.2    1046

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 209.6

INPUT
Description: 209.6
Station Elevation Data    num=      77
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18471.1  1035.6 18496.7  1038.3 18607.4    1038 18680.1  1039.8 18741.6  1037.7
 18879.8    1037 19015.9  1036.1 19028.2  1034.8 19152.5  1033.5 19250.6  1034.5
 19341.4  1037.2 19351.9  1034.1 19365.8  1031.7 19374.9  1033.6 19412.8  1028.7
 19427.6  1022.5 19468.8  1016.4 19481.8  1016.4 19564.4  1022.8 19578.3  1019.6
 19597.1  1016.9 19698.6  1019.2 19729.4  1022.5 19836.1  1021.7 19930.5  1022.3
 19965.1  1019.8 19965.5  1020.6 19987.2  1019.5 20055.5  1019.5 20413.3  1020.2
 20534.4  1020.5   20578  1028.4 20664.2    1027   20687  1029.2 20784.5  1026.4
 20818.2  1025.3 20877.5  1031.3 20903.8  1029.2 20919.4  1025.4 20952.7  1027.2
 21034.7    1012 21184.6    1013 21197.5  1013.3 21214.7  1021.1 21253.6  1021.8
 21259.3  1025.3   21285  1031.8 21303.5  1032.2 21376.6  1040.1 21388.5  1035.5
 21712.8  1036.1 22038.2    1036   22062  1038.1 22071.3  1037.9 22400.5  1035.8
 22736.6  1038.6 22771.4    1038 22816.3  1035.5 22817.7  1036.3 22900.7  1032.1
 23002.2  1032.7 23120.7  1033.1 23129.8  1033.1 23156.7  1038.2 23258.8    1038
 23383.7  1037.9 23478.9  1038.9 23571.2  1038.9 23695.4  1038.7   23813    1038
 23927.9  1038.6 23944.9  1036.6   24036  1038.4 24127.3  1038.3 24217.5  1039.5
 24260.3  1040.4 24277.2  1039.6

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 18471.1    .037 19341.4    .032   20578    .037 21376.6    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19341.4   20578              311  344.14     446              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 18471.1   19130    1040 21003.8 24277.2    1040

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 209.54

INPUT
Description: 209.54
Station Elevation Data    num=      31
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18558.3  1035.9 18953.3    1031 19413.3    1031 19568.3    1036 19713.3    1040
 19863.3    104219945.14 1044.0120000.32 1043.6720022.38  1039.820036.91 1033.42
 20102.91018.25120139.23  1009.9 20153.9 1009.6620165.29 1004.3220283.58   998.4
 20352.9   995.320409.65  992.3120445.78 1004.7520453.49 1008.7320473.79 1014.13
 20531.4 1031.9820551.27 1040.6920587.06 1042.78 20763.7    1040 20898.7    1036
 21233.7    1031 22228.7    1031 22578.7    1031 22988.7    1036 23038.7    1037
 23838.7  1038.3

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 18558.3    .03719945.14    .037 20102.9    .03220587.06    .037 20763.7    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19945.1420587.06            46.58   46.58   46.58              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
```

```
 18558.3   19130    1050   20521 23838.7    1050

BRIDGE                    RIVER: 1
REACH: 1                     RS: 209.535

INPUT
Description: 35th Avenue Bridge
Distance from Upstream XS =       0
Deck/Roadway Width        =   46.58
Weir Coefficient          =     2.6
Bridge Deck/Roadway Skew  =
Upstream  Deck/Roadway Coordinates
    num=       18
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
 18558.3  1035.9  1035.9 18953.3    1032    1032 19413.3    1032    1032
 19568.3    1036    1036 19713.3    1040    1040 20020.9 1043.87 1037.09
 20147.9 1043.74 1036.96 20272.9  1043.5 1036.72 20397.9 1043.02 1036.23
   20521 1042.46 1035.68 20521.1 1042.42 1042.42 20763.7    1040    1040
 20898.7    1036    1036 21233.7    1032    1032 22578.7    1032    1032
 22988.7    1036    1036 23038.7    1037    1037 23838.7  1038.3  1038.3

Upstream Bridge Cross Section Data
Station Elevation Data    num=      31
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18558.3  1035.9 18953.3    1031 19413.3    1031 19568.3    1036 19713.3    1040
 19863.3    104219945.14 1044.0120000.32 1043.6720022.38  1039.820036.91 1033.42
 20102.91018.25120139.23  1009.9 20153.9 1009.6620165.29 1004.3220283.58   998.4
 20352.9   995.320409.65  992.3120445.78 1004.7520453.49 1008.7320473.79 1014.13
 20531.4 1031.9820551.27 1040.6920587.06 1042.78 20763.7    1040 20898.7    1036
 21233.7    1031 22228.7    1031 22578.7    1031 22988.7    1036 23038.7    1037
 23838.7  1038.3

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 18558.3    .03719945.14    .037 20102.9    .03220587.06    .037 20763.7    .025

Bank Sta: Left   Right    Coeff Contr.   Expan.
      19945.1420587.06            .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 18558.3   19130    1050   20521 23838.7    1050

Downstream  Deck/Roadway Coordinates
    num=       18
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
 18558.3  1035.9  1035.9 18953.3    1032    1032 19413.3    1032    1032
 19568.3    1036    1036 19713.3    1040    1040 20020.9 1043.87 1037.09
 20147.9 1043.74 1036.96 20272.9  1043.5 1036.72 20397.9 1043.02 1036.23
   20521 1042.46 1035.68 20521.1 1042.42 1042.42 20763.7    1040    1040
 20898.7    1036    1036 21233.7    1032    1032 22578.7    1032    1032
 22988.7    1036    1036 23038.7    1037    1037 23838.7  1038.3  1038.3

Downstream Bridge Cross Section Data
Station Elevation Data    num=      33
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18558.3  1035.9 18953.3    1030 19413.3    1030 19568.3    1036 19713.3    1040
 19863.3    104219967.01  1043.420002.05 1042.91 20020.91038.21120034.22 1034.89
 20102.91020.23520147.21 1010.7820164.84 1009.7320171.51 1007.4920222.65 1006.24
 20279.2 1001.7520351.65  995.9320410.25  992.8220447.48 1001.0320457.97 1008.48
20469.59 1010.87   20521 1027.9520536.71 1033.1720558.02 1040.2320593.88 1041.57
 20763.7    1040   20898    1036 21233.7    1031 22228.7    1031 22578.7    1031
 22988.7    1036 23038.7    1037 23838.7  1038.3

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 18558.3    .03720002.05    .037 20102.9    .03220593.88    .037   20898    .025

Bank Sta: Left   Right    Coeff Contr.   Expan.
      20002.0520593.88            .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 18558.3   19130    1048   20521 23838.7    1048

Upstream Embankment side slope              =         horiz. to 1.0 vertical
Downstream Embankment side slope            =         horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .95
Elevation at which weir flow begins         =    1032
Energy head used in spillway design         =
Spillway height used in design              =
```

```
Weir crest shape                          = Broad Crested

Number of Piers =  3

Pier Data
Pier Station     Upstream= 20145.9    Downstream= 20145.9
Upstream     num=       2
    Width   Elev    Width   Elev
       4     990       4 1036.96
Downstream     num=       2
    Width   Elev    Width   Elev
       4     990       4 1036.96

Pier Data
Pier Station     Upstream= 20270.9    Downstream= 20270.9
Upstream     num=       2
    Width   Elev    Width   Elev
       4     990       4 1036.72
Downstream     num=       2
    Width   Elev    Width   Elev
       4     990       4 1036.72

Pier Data
Pier Station     Upstream= 20395.9    Downstream= 20395.9
Upstream     num=       2
    Width   Elev    Width   Elev
       4     990       410036.23
Downstream     num=       2
    Width   Elev    Width   Elev
       4     990       410036.23

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
       Momentum                Cd   =     1.2
       Yarnell                 KVal =    1.05
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream water surface

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 209.53

INPUT
Description: 209.53
Station Elevation Data    num=      33
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18558.3  1035.9 18953.3    1030 19413.3    1030 19568.3    1036 19713.3    1040
 19863.3    104219967.01  1043.420002.05 1042.91 20020.91038.21120034.22 1034.89
 20102.91020.23520147.21 1010.7820164.84 1009.7320171.51 1007.4920222.65 1006.24
 20279.2 1001.7520351.65  995.9320410.25  992.8220447.48 1001.0320457.97 1008.48
20469.59 1010.87   20521 1027.9520536.71 1033.1720558.02 1040.2320593.88 1041.57
 20763.7    1040   20898    1036 21233.7    1031 22228.7    1031 22578.7    1031
 22988.7    1036 23038.7    1037 23838.7  1038.3

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 18558.3    .03720002.05    .037 20102.9    .03220593.88    .037   20898    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      20002.0520593.88              486  541.77     601              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 18558.3   19130    1048   20521 23838.7    1048

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 209.42

INPUT
Description: 209.42
```

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 98

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18513.1	1035.5	18574.6	1035.9	18632.5	1034.6	18635.6	1035.4	18680.9	1036
18687.8	1038.5	18701.4	1035.2	18765.3	1035.2	18835.1	1035.1	18900.1	1034.7
18961.3	1033.7	19000	1032.138	19025.7	1031.1	19065.8	1027.8	19104.1	1022.3
19120.6	1022.6	19125.1	1023.7	19197.6	1025.3	19246	1026	19272.2	1027.8
19302.1	1027.8	19321.9	1026.7	19328.1	1029.6	19343.4	1022.9	19375.4	1021.5
19391.1	1023	19460.5	1022.9	19564.6	1022.1	19568.3	1022.2	19574.4	1019.8
19580.4	1022.5	19651.1	1021.3	19734.5	1021.9	19816.3	1021.1	19912.2	1021
19990.4	1020.5	20054.5	1019.6	20101.7	1020.2	20105.2	1019.7	20498.9	1020
20581.2	1020	20630.2	1030.4	20651.6	1032.2	20652.67	1032.771	20678.6	1046.6
20730.3	1043.9	20738.4	1042.7	20748.3	1044.1	20763.6	1040.6	20779.3	1040.7
20848.4	1041.7	20859.5	1041.4	20872	1043.7	20881.6	1043.1	20905.4	1030.8
20920.2	1032.2	21002.8	1031.3	21074.4	1031.3	21080.4	1031.3	21145.3	1031.6
21189.4	1031.7	21251.9	1031.7	21253.8	1031.7	21327.8	1030.8	21328.7	1030.8
21393	1029.7	21454.5	1029.5	21522.8	1029.1	21585.4	1028.8	21633.2	1028.1
21668.4	1029.3	21781.5	1029.2	21786.8	1029.4	21861.9	1030.7	21866.8	1030.8
21933.5	1032	21950.3	1032.1	22025.9	1032.4	22032.2	1032.3	22104.7	1032.3
22114.7	1032.3	22183.6	1032.3	22249.7	1032.4	22313.6	1032.4	22379.4	1031.3
22445.2	1031.7	22506.8	1031.2	22573.5	1031.3	22646.8	1031.1	22725.1	1032.8
22749.8	1033.1	22763.4	1030.6	22774	1030.6	22784.2	1034.4	22794.1	1035.3
22860.8	1035.8	22923.3	1036.2	22993	1036.4				

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
18513.1	.037	18900.1	.037	19197.6	.032	20581.2	.037	20678.6	.037
20872	.025								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19000	20652.67	510	510.73	575	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
18513.1	19000	1046.6	20678.6	22993	1046.6

CROSS SECTION RIVER: 1
REACH: 1 RS: 209.33

INPUT
Description: 209.33

Left Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18805.6	1034.2	18877.6	1035.1	18915.6	1036.2	18919.2	1035	18988.3	1034.4
19048	1034.3	19090.2	1033.6	19122.27	1031.972	19129.6	1031.6	19136.7	1028.7
19151.1	1021.4	19214	1024.9	19263.6	1023.8	19325.2	1019.4	19353.4	1019.1
19384.8	1021.1	19397.4	1023.8	19407.5	1019.8	19479	1021.1	19544.8	1020.6
19627.3	1020.2	19659.1	1019.7	19722.2	1021.3	19783.5	1021.9	19849	1021.7
19908.4	1021.2	19998.6	1019.8	20012.1	1019.2	20028.7	1019.6	20037.7	1019.1
20132.6	1019	20227.8	1018.9	20304.8	1018.9	20368.5	1018.9	20451.7	1018.9
20508.2	1018.9	20535	1021.9	20556.6	1021.9	20587.2	1013.4	20625	1012
20631.7	1016.7	20643.4	1021.5	20674.2	1024.9	20676.3	1025.7	20686.3	1024.9
20715.2	1031	20732.6	1031	20771.2	1028.9	20789.7	1027.4	20819.3	1030.9
20832.1	1031.7	20895.5	1031.2	20926.6	1030.4	20939	1035.1	20961.5	1031.1
20974.4	1026.4	20989.2	1025.5	21018	1031.1	21089.8	1030.1	21150.5	1030.1
21211.3	1030	21276.9	1030	21335.5	1030.1	21401.9	1030.6	21492.3	1030.3
21555.6	1029.6	21661.6	1029.4	21712.9	1029.6	21772.4	1028.9	21843.8	1027.8
21878.8	1026.3	21894.4	1028.8	21895.8	1027.9	21909.1	1026.8	21928.4	1027.9
21993.8	1028.7	22054.9	1028.5	22110.2	1032.3	22203.3	1030.7	22272.4	1030.5
22282.8	1030.5	22295.7	1027.1	22353.6	1028.2	22386.4	1027.1	22399.1	1029.7
22428.3	1030.6	22439.8	1026.5	22461	1027.5	22530.6	1027.3	22561.2	1030.1
22572.6	1032.3	22585	1027.9	22616.3	1032.3	22642.1	1032.3	22728.7	1032.7
22817.3	1033.5	22913	1034.5						

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
18805.6	.037	19090.2	.037	19263.6	.032	20535	.037	20715.2	.037
21018	.025								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19122.27	20715.2	485	487.54	495	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
20715.2	22913	1036.2

CROSS SECTION RIVER: 1
REACH: 1 RS: 209.24

INPUT
Description: 209.24
Station Elevation Data num= 65

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18800.9	1031.5	18845.2	1031.7	18853.7	1034.8	18869.6	1030.2	18915.9	1030.2
18963.2	1027.6	19026.2	1018.3	19072.6	1022.7	19145.5	1025.3	19204.5	1026.7
19228	1027.1	19267.6	1026.7	19336.8	1018.5	19401	1018	19469	1019
19559.6	1018.9	19600.3	1019	19664.3	1019	19693.2	1019.3	19751.6	1019.2
19788.9	1019.1	19833.6	1020.4	19858.1	1020.3	19886.4	1017.7	19971	1017.4
19982.5	1021.6	19990.5	1025.8	20018.6	1018.6	20042.8	1017.5	20058.4	1018.8
20077.7	1018.9	20090.4	1015.2	20111.7	1010.3	20135.2	1012.6	20140.8	1010.2
20203.6	1008.9	20268.9	1009.4	20288	1010.6	20307.3	1010.4	20312	1013.8
20352.1	1014.9	20376.3	1025.5	20383.4	1023.4	20390.2	1026.6	21913	1027.4
21918.5	1026.2	21937.9	1023.9	21950.8	1023.6	21971.5	1026.2	21995	1024
22089.4	1024.8	22140	1026	22164.3	1024.1	22247.4	1026.7	22301.3	1026.2
22321.1	1026.6	22357.4	1030.1	22379.9	1031.6	22389.9	1027.4	22399.6	1028.2
22408.1	1030.8	22473.3	1030.9	22546.1	1031.4	22631	1032.1	22690	1032.8

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
18800.9	.037	19228	.032	19267.6	.032	20312	.037	20390.2	.037
21913	.025								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19267.6	20390.2	510	515	525	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
18800.9	18853.7	1034.8	20850	22690	1034.8

CROSS SECTION RIVER: 1
REACH: 1 RS: 209.14

INPUT
Description: 209.14
Station Elevation Data num= 61

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18530.6	1030.2	18647.3	1030.8	18717.7	1031	18799.9	1030.8	18812.7	1030.6
18900	1029.5	18932.6	1029.3	18944.6	1034.8	18957.8	1027.8	18961.9	1027.7
19022.8	1026.2	19085	1025.9	19166	1017.5	19223.3	1022.8	19272.5	1024.6
19338.9	1024.1	19386.4	1017.7	19425.6	1016.4	19503.5	1016.6	19527.4	1016.6
19538.6	1021.6	19565.5	1014.5	19580.5	1016.2	19601.3	1015.8	19617.1	1017.3
19620.4	1016	19621.3	1017	19649.1	1016.3	19715.5	1017.1	19791	1016.6
19861	1016.8	19939.6	1017	20018.5	1017.5	20098.7	1018.4	20136.8	1016.4
20159	1021.8	20163.8	1021.6	20169.1	1022.8	20184	1018.8	20211.5	1019.1
20235.1	1012.1	20271.8	1010.6	20284.5	1010.9	20305.9	1016.4	20368.5	1013.7
20394.9	1013.1	20413.2	1023.8	20418.3	1025.4	20439.5	1025	20471.6	1026.6
21987.9	1026.6	21999.2	1033.7	22018.9	1024.5	22092.4	1030.2	22094.4	1030.3
22100.9	1026.3	22162.2	1027.1	22231.7	1027.3	22248.2	1030.6	22261	1029.5
22293.3	1030.2								

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
18530.6	.037	19338.9	.032	20418.3	.037	21999.2	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19338.9	20418.3	500	504.56	485	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
18530.6	18944.6	1034	21100	22293.3	1034

CROSS SECTION RIVER: 1
REACH: 1 RS: 209.04

INPUT
Description: 209.04
Station Elevation Data num= 63

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17502.1	1032.3	17560.1	1032.9	17609.7	1031.6	17636.5	1033.4	17744.6	1031.9
17770	1031	17784.7	1027.9	17886.2	1029	17976	1029.5	18087	1029.7
18189.2	1028.4	18278	1028.5	18371.6	1028.9	18408.2	1029.7	18494.9	1028.9
18579.6	1028.4	18720.8	1029	18831.6	1028.7	18921.3	1028.4	19009.8	1028.1
19029.7	1029.9	19039.2	1026.5	19129.8	1025.1	19156.1	1023.5	19206.7	1017.7
19260.8	1016.5	19291.9	1022.9	19315.3	1025.6	19358.3	1024.5	19381.5	1014.5
19410.3	1014.2	19515.9	1015.1	19568.7	1015.3	19609.7	1014.2	19715.7	1014.2
19776	1013.5	19864.4	1016	19951.2	1016.3	20000.4	1015.1	20015.4	1013.4
20144.8	1012.2	20171.9	1012.3	20307.8	1014.7	20330.1	1015.1	20379.3	1022.7
20387.8	1020.9	20406	1020.1	20427.2	1023	20461.4	1023.2	20591	1024.2
22074.8	1024	22077.6	1027.6	22104.8	1036.3	22120.5	1030.7	22123.6	1027.7

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 22179.3  1027.5 22209.6  1031.1   22217  1033.3   22254  1026.2 22313.5  1029.2
 22366.7  1029.7 22453.1  1030.2   22468  1030.4

Manning's n Values         num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 17502.1    .037 19315.3    .037 19410.3    .032 20461.4    .037   22254    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19315.3 20461.4              495  493.26     500              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 17502.1 19029.7    1035   21200   22468    1035

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 208.95

INPUT
Description: 208.95
Station Elevation Data     num=      47
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 17388.1  1030.8   17406  1030.7 17453.4  1039.3 17470.9  1039.4   17498  1031.1
 17600.7  1030.9   17686  1030.7 17760.7  1027.3 17869.1  1027.3 17947.5  1027.5
 18034.7  1027.8 18122.9  1027.9 18229.8    1028 18362.5  1027.6 18483.7  1027.2
   18571  1026.4 18659.7  1025.6 18802.8  1026.1 18871.2  1029.7 18908.6  1028.7
 18928.4  1025.8 19016.8  1024.1 19035.5  1027.7 19114.2  1024.9 19137.7  1030.4
 19142.2  1025.8 19205.2  1023.5 19276.9  1018.7 19293.7  1013.8 19408.9  1014.5
 19496.9  1014.1   19543  1014.4 19646.8  1014.7 19794.8  1014.5 19910.6  1015.8
 19987.9  1016.6 20028.6  1018.7 20113.7  1020.6 20123.6  1024.6 21531.3  1025.2
   22092  1024.6 22101.4  1027.9 22119.6  1027.7   22135  1034.4 22141.9  1036.4
 22162.1  1026.4   22186  1026.7

Manning's n Values         num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 17388.1    .037 19137.7    .037 19276.9    .032 20123.6    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19137.7 20123.6              505  506.69     505              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 17388.1 19137.7    1038   21200   22186    1038

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 208.85

INPUT
Description: 208.85
Station Elevation Data     num=      69
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   17667  1028.3 17683.4  1029.5   17702  1037.2 17712.6  1036.7 17732.2  1028.9
 17793.4  1029.3 17794.3  1028.1 17811.4  1029.7 17884.4  1029.8 17954.5  1029.5
 18021.3    1029 18086.8  1028.4 18155.5  1027.6 18253.7  1026.5 18321.5  1026.3
 18395.4  1025.8 18469.1  1025.7   18517  1025.4 18547.8  1030.6 18614.6  1029.1
 18653.1  1029.8 18743.2  1028.7 18829.7  1028.9 18902.2  1028.7 18950.5  1028.5
 18968.7  1029.4 19052.5    1028   19118  1027.5 19183.9  1025.1 19199.7  1025.2
 19210.3  1021.6 19228.4  1014.1 19243.7  1013.4 19285.7  1013.5 19404.4  1013.7
 19442.3  1013.8 19550.1  1014.4 19628.8  1015.9 19695.2  1016.5 19784.8  1017.1
 19851.9  1017.7 19926.2    1019 20020.7  1019.9 20118.1  1019.8 20148.7  1019.8
 20176.3  1018.8 20233.8  1020.2 20291.9  1019.7 20357.5  1017.6   20426  1016.4
 20472.5  1017.1 20530.5  1016.5 20568.5  1021.6 20573.6  1019.4   20598  1014.9
 20615.5  1016.2 20685.2  1014.7 20701.9  1014.6 20716.4    1019 20745.8  1021.2
 21590.5  1021.2 21595.5  1023.1 21612.9  1023.6 21620.3  1024.7 21935.6  1028.7
   21943  1025.9 22047.6  1025.8 22056.8  1030.6   22086  1042.9

Manning's n Values         num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
   17667    .037 19199.7    .032 20701.9    .037 20745.8    .037

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19199.7 20745.8              510  519.42     530              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   17667 18968.7    1035   21150   22086    1035

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 208.75

INPUT
Description: 208.75
Station Elevation Data     num=      81
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Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17694.2	1021.1	17763.9	1027.7	17785	1036	17797.3	1035.5	17818.9	1026.8
17862.3	1027.5	17876.4	1028.3	17879.6	1027	17887.5	1027.8	17976.5	1027.4
18069.6	1028.1	18129.1	1026.6	18227.5	1026	18358.7	1025	18492.4	1025.2
18601.8	1024.8	18699.9	1024.5	18819.7	1024.6	18852.6	1024.6	18949.1	1024.4
19044.9	1024	19145.7	1024.3	19192.9	1024.4	19220.5	1014.1	19251.3	1012.8
19259.2	1013.5	19469.4	1013.5	19559.7	1013.6	19581	1014.6	19605.6	1018.3
19624.1	1017.7	19644.9	1018.4	19739.6	1018.2	19808.7	1018.7	19912.6	1019.8
20031.3	1019	20124.1	1018.4	20199.4	1018.2	20239.9	1014.1	20370.8	1011.9
20423	1008.1	20441.8	1007.4	20459.1	1008.5	20487.2	1008.9	20517.6	1007.6
20545.9	1007.6	20574.1	1007.6	20616.3	1007.6	20685.5	1007.6	20704.1	1009.9
20720.5	1009	20737	1005.2	20763.6	1011.5	20774.6	1011	20799.2	1019.7
20826.5	1020	21626	1022.7	21706	1024.3	21714.3	1025.4	21770	1027.2
21800.9	1044.1	21813.2	1039.1	21842.4	1033.1	21857.2	1027.1	21893.8	1028.4
22015.3	1028.8	22117.6	1027.6	22189.1	1026	22214.4	1028.5	22251.7	1027.8
22282.9	1029.1	22304.2	1030.9	22314.1	1036.1	22336.1	1034.2	22354	1031.3
22395.9	1029.6	22417.9	1030.2	22426.2	1025.2	22438.2	1024.8	22447	1027
22490.7	1026.9								

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17694.2	.037	19192.9	.032	20799.2	.037	22314.1	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19192.9	20799.2	440	443.83	450	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17694.2	19192.9	1038	20799.2	22490.7	1038

CROSS SECTION RIVER: 1
REACH: 1 RS: 208.67

INPUT
Description: 208.67

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 88

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17786.1	1022.3	17843.6	1026.5	17855.3	1034.5	17872.2	1033.9	17892.4	1025.1
17923.9	1026.9	17935.3	1026.9	17946.1	1029.5	17954.2	1026.8	17960.6	1028.1
18085.3	1025.9	18175.8	1025.5	18284.1	1025.1	18393	1024.3	18536.6	1023.2
18662.6	1023.3	18777.1	1023.6	18913.6	1023.9	19013.8	1024.8	19102.8	1025.9
19116.6	1024.6	19118.22	1023.942	19145.2	1013	19150.7	1014.2	19263.7	1013.6
19374.5	1013.1	19435.1	1013.5	19572.8	1013.6	19645.9	1014.5	19689.8	1017.6
19797.8	1018.5	19923.6	1018.8	20022.9	1016	20112.6	1014.2	20119.4	1013.9
20139.2	1008.8	20180.9	1009.7	20203.7	1007.6	20293	1010.5	20307.2	1007.8
20372	1009.4	20399.2	1008.8	20452.2	1010.5	20523.1	1009.4	20536.1	1014.1
20548.6	1010.7	20639.2	1014.5	20652.7	1013.5	20665.3	1010.4	20713.7	1010.2
20725.6	1013.6	20738.6	1020.7	20826	1023.1	20841.3	1024.7	20857.6	1022.8
20866.3	1014.9	20871.8	1016.1	20881.2	1020.9	20902	1018.8	20908.11	1023.942
20912.1	1027.3	20915.2	1025.5	21808.2	1025.7	21897.3	1025.4	21995.2	1025.3
22131.2	1026.1	22205.3	1026.2	22276.6	1027.7	22393.1	1027.2	22428	1027.2
22464.1	1025.6	22496.5	1027	22518.1	1024.1	22529.5	1026	22649	1025.9
22747.7	1025.2	22864.8	1024.7	22963.7	1025.8	23106.8	1026.4	23231	1026.5
23328.6	1027.2	23422.1	1026.4	23522.3	1028.3	23562.9	1027.2	23612.4	1030.4
23634.1	1030.7	23767.5	1029.2	23789.9	1028.4				

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17786.1	.037	19102.8	.037	19116.6	.032	20826	.037	20912.1	.037
22428	.025								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19118.22	20908.11	495	511.45	475	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17786.1	19102.8	1033	21150	23789.9	1033

CROSS SECTION RIVER: 1
REACH: 1 RS: 208.57

INPUT
Description: 208.57

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 86

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17892.9	1023.8	17920.6	1025.8	17926.7	1033.6	17946	1032.8	17966.2	1024.2
18010.1	1026	18022	1028.4	18027.2	1025.8	18036.6	1027.8	18048.7	1025

18090.2	1023.6	18189.1	1023.8	18284.4	1023.8	18378.8	1023.6	18492.2	1023.9
18502.6	1023.9	18575.4	1024.1	18681.9	1023.6	18705.6	1023.6	18777.9	1023.5
18853.8	1023.6	18935.4	1023.8	19041.2	1023.8	19080.9	102519087.131021.839		
19101.4	1014.6	19184.3	1012.9	19255.1	1011.9	19315.3	1011.9	19368.2	1010.4
19435.4	1013.3	19524.5	1013.8	19585.9	1012	19676.3	1014	19772.4	1014.4
19846.2	1014.8	19900.7	1016.3	19982.9	1016.5	20023.8	1014.7	20071.3	1014.9
20086.3	1012.9	20123	1013.5	20146	1011	20220.3	1007.6	20240.8	1007.6
20261.8	1009.9	20276.9	1008.4	20361	1010.1	20458.8	1010.7	20541.8	1012.1
20584.9	1012.3	20595.3	1014.5	20599.2	1013.9	20607.5	1016.1	20614.3	1015
20623.9	1016	206401016.203		20647.7	1016.3	20654.4	1017.4	20724.7	1017.3
20827.2	1020	20901.1	1020.7	20951.9	1021	20965.4	1016.5	20974.8	1017
21000.4	1025.7	21032.4	1026.3	21033.8	1024	21616	1024.8	21707.7	1024.4
21817.1	1024.3	21913.4	1023.7	21991.5	1023.8	22065.5	1024.5	22100	1024.9
22243.4	1025.1	22248	1025.1	22334.2	1026.7	22341.3	1026.8	22434.5	1027.5
22499.8	1026.8	22523.2	1026.9	22552.2	1028.3	22565.8	1024.5	22577.9	1025.6
22585	1027.8								

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17892.9	.037	19080.9	.037	19101.4	.032	21000.4	.032	21032.4	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19087.13	20640	560	514.75	370	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17892.9	19080.9	1028	20640	22585	1028

CROSS SECTION RIVER: 1
REACH: 1 RS: 208.48

INPUT
Description: 208.48

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 72

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18038.2	1024.5	18107.3	1024	18176.8	1026.3	18180.6	1023.6	18220	1024.2
18231.5	1030.8	18253	1040.2	18276.7	1045.8	18279.2	1045.4	18325.3	1023.2
18350.1	1034.9	18383.7	1036.5	18431.8	1022.6	18508.9	1022.118510.561021.363		
18528.5	1013.4	18574.3	1009.5	18585	1009.5	18656.1	1009.7	18723.8	1009.2
18751.4	1011.9	18757.6	1013.2	18773.9	1012	18790	1012.6	18811.4	1014.6
18894	1015.4	18935.3	1016.3	18976.7	1016	18993.7	1009.2	19033.2	1007.6
19073.1	1010.5	19142.7	1010.5	19210.3	1011.2	19297.6	1012.4	19357.3	1014.5
19432.9	1014	19515.6	1015.2	19565.3	1016.2	19630.9	1012.6	19702.1	1013.3
19791.9	1013	19865.2	1012.2	19956.6	1011.4	20027.1	1011	20099.9	1011
20112.3	1011	20178.6	1011.1	20248.4	1011.1	20312.8	1010.9	20383.8	1010.5
20479.2	1009.8	20529.6	1009.2	20545.1	1017	20627.3	1012.2	20656.3	1012
20680.861021.362		20694.6	1026.6	20705.7	1021.5	20806.1	1023.8	21024.6	1028.4
21084	1028.5	21102.7	1031.8	21472.3	1022.1	21971.9	1021.8	22046.1	1022.2
22091.6	1023	22109.6	1026.2	22178.4	1024.8	22198	1027	22264.7	1026.9
22377	1027.5	22430	1027.5						

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
18038.2	.043	18508.9	.043	18585	.032	20545.1	.037	20694.6	.037
22377	.025								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18510.5620680.86		500	476.54	525	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
18038.2	18508.9	1038	20694.6	22430	1038

CROSS SECTION RIVER: 1
REACH: 1 RS: 208.39

INPUT
Description: 208.39

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 72

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18033.7	1024.2	18048.9	1023.9	18052.4	1029.4	18060.9	1031.1	18078.5	1028.7
18083.6	1026.5	18089.9	1022.5	18176.1	1021.5	18253.5	1021.3	18379.7	1022.4
18417.8	1035.8	18447	1022.618462.941020.436			18469.1	1019.6	18494.4	1010.7
18597.1	1007.9	18699.5	1009.4	18760.1	1011.4	18779.9	1010	18820.5	1010.6
18843.1	1015.2	18914.5	1016.3	18932.1	1009.7	19018.2	1006.1	19063.1	1005.6
19094.9	1009.1	19184.7	1010.4	19213.8	1010.9	19266.1	1013.3	19343.9	1014.9
19411.9	1013.9	19452.4	1014.4	19493.3	1016.2	19593.6	1015.6	19647.5	1014.8

19744.6	1015.5	19808.5	1013.7	19910.3	1013.1	20054	1012.2	20156.8	1011.7
20242.7	1010.5	20343.9	1010	20449.6	1010.3	20484.4	1010.8	20718.2	1010.6
20748.79	1020.435	20754.9	1022.4	20802.7	1021.3	20917.8	1022	20992.6	1024
21004.2	1019	21264.2	1022.8	21271.1	1021.2	21710.3	1019	21734.9	1021.9
21769.9	1021.9	21817.5	1020.2	21841.4	1017.4	21869.1	1018.9	21889.9	1018.1
21894.1	1020.2	21908.6	1017.2	21928.1	1016.5	21932.5	1018.5	22018.7	1019.9
22082.6	1021.4	22098.4	1024.6	22134	1025.4	22198	1023.8	22317.1	1023.6
22352.6	1025.6	22382	1025.9						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
18033.7	.043	18417.8	.043	18597.1	.032	20718.2	.037	20754.9	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18462.94	20748.79	505	512.19	480	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
18033.7	18417.8	1030	20754.9	22382	1030

CROSS SECTION RIVER: 1
REACH: 1 RS: 208.29

INPUT
Description: 208.29

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 71

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17002.6	1020.8	17033.1	1020.7	17130	1020.6	17223.7	1020.7	17316.5	1020.8
17410	1021	17443.4	1021	17527.8	1021.3	17612.8	1021.5	17700	1022.8
17725.5	1028.3	17746	1019	18278.7	1023.8	18304.6	1033.9	18306.7	1033.7
18430.1	1023.3	18444.4	1021.3	18480	1020.6	18525.3	1021.4	18545.4	1030.1
18562.61	1019.523	18580.2	1008.7	18645.9	1006.9	18729.8	1008.2	18813.6	1008
18846.3	1006.7	18858.5	1011.3	18964	1010.4	19046.3	1010.7	19068	1009.9
19095.1	1004.7	19192.2	1007.2	19204.4	1008	19237.6	1005	19274.3	1005.1
19293.9	1010.7	19341.5	1011.4	19389.6	1015	19461.9	1012.7	19548.6	1016.1
19665.7	1014.5	19730.4	1012.3	19830.2	1012.9	19905.4	1012.6	19969.1	1014.2
20073.7	1013.1	20194.6	1010.4	20258.7	1012.5	20359.4	1011.5	20498.8	1009.7
20566.1	1009.2	20843.2	1010.4	20909.3	1011.22	20944.07	1019.521	20944.4	1019.6
20975	1023	21021.7	1024	21130.5	1022.9	21208.2	1021.6	21306.6	1021.3
21351.8	1021.1	21367	1020	21795	1020	21802.7	1023.1	21891.9	1019.9
21966.6	1016.6	21987.4	1019.1	22088.4	1021	22160.2	1022.7	22169.6	1026.3
22197	1026								

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17002.6	.025	17725.5	.043	18545.4	.043	18645.9	.032	20909.3	.037
20975	.037	21987.4	.025						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18562.62	20944.07	490	501.01	510	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17002.6	18545.4	1033.9	21021.7	22197	1033.9

CROSS SECTION RIVER: 1
REACH: 1 RS: 208.19

INPUT
Description: 208.19

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 73

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16738.4	1022.5	16814.9	1021.3	16821.2	1024.1	16826.8	1024.4	16846	1022.6
16869.2	1018.1	16892.4	1020.2	17011.8	1018.9	17149.6	1018.8	17287.4	1019
17387.1	1019.5	17473.6	1019.4	17580.5	1019.5	17670	1020.5	17703.3	1019.8
17715.2	1023.4	17720.4	1019.5	18540.1	1019.5	18545.5	1021.5	18598.6	1019.7
18675.6	1020	18679.18	1018.788	18707.5	1009.2	18726.3	1010.8	18788	1007.7
18875.7	1008.8	18927.6	1008.9	18995.2	1007.2	19040	1004.7	19071.5	1004.8
19117	1012.1	19221.7	1012.6	19293	1010.3	19310.2	1006.5	19415.1	1005.7
19433	1005.7	19473.9	1008.3	19506.7	1017.8	19594.5	1018.2	19623.8	1016.2
19711.7	1018.6	19793	1010.9	19904.1	1011.6	19997.4	1011.8	20089.1	1012.4
20178.1	1013.8	20250.4	1007.3	20363.1	1007.4	20433.4	1005.7	20559.2	1006.9
20626.2	1007.7	20641.6	1005.9	20704.7	1010	20807.3	1012.1	20891.1	1011
21007.8	1008.2	21027.6	1007.7	21114.3	1011	21201.9	1010.7	21231.6	1010
21232	1010.8	21278.3	1014.9	21343.21	1018.788	21348.4	1019.1	21818.1	1019.2
21871.3	1019.6	22068.3	1019.1	22125.4	1020	22187	1022.1	22200.2	1026.3
22310.7	1025.1	22415.4	1025	22486	1024.5				

```
Manning's n Values          num=        5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 16738.4    .025 17715.2    .043 18675.6    .043 18707.5    .032 21348.4    .032

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      18679.18 21343.2              550  514.57     505              .1       .3
Ineffective Flow     num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 16738.4 18675.6    1024 21348.4   22486    1024

CROSS SECTION           RIVER: 1
REACH: 1                   RS: 208.1

INPUT
Description: 208.1

Left and Right Channel Bank Stations Interpolated
Station Elevation Data     num=       69
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 16819.7    1020 16911.7    1020 16920.8  1021.8 17013.5  1018.3 17181.5  1017.7
 17278.5  1017.9 17421.8  1018.4 17530.4  1018.9 17672.5    1019 17700.9  1021.1
   17741  1041.2 17785.3  1019.8 17794.9  1019.4 18660.8  1020.4 18677.2    1019
 18756.4  1019.4 18786.9  1024.5 18805.9  1022.218822.371018.025 18827.2  1016.8
 18834.8  1016.8   18846    1012 18862.1  1009.8 18895.6  1011.5 18990.9  1008.1
 19103.9  1008.1 19211.4  1009.5 19294.1    1007 19344.4  1005.3 19402.2  1005.6
 19441.1  1001.9 19492.5  1001.4 19507.6  1005.4 19538.7  1004.2 19589.1  1004.9
 19611.9  1009.1 19719.5  1009.4 19730.1  1011.2 19842.8  1011.2 19883.7  1010.5
 19981.4    1014 20076.5    1014 20186.6  1011.8 20200.6  1004.4 20293.1  1005.3
   20440  1005.6 20518.6  1005.6 20579.1    1016 20684.7  1017.1 20777.7  1016.5
 20898.9  1016.6 20918.1  1016.7   20993  1011.1 21084.2  1010.3 21202.2  1009.9
 21318.2  1011.4 21438.8  1010.4 21535.9    1009 21597.7  1011.1 21698.8  1010.3
 21706.3  1012.821767.181018.025 21783.2  1019.4 21878.3  1019.5 21970.4  1019.6
 22184.8  1019.5 22249.1  1022.6 22375.9  1023.7   22460  1023.8

Manning's n Values          num=        5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 16819.7    .025   17741    .043 18786.9    .043 18805.9    .032 21783.2    .032

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      18822.3721767.18              640  558.37     480              .1       .3
Ineffective Flow     num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 16819.7 18786.9    1030 21783.2   22460    1030

CROSS SECTION           RIVER: 1
REACH: 1                   RS: 207.99

INPUT
Description: 207.99

Left and Right Channel Bank Stations Interpolated
Station Elevation Data     num=       98
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 17809.3  1018.5 17815.5  1018.4 17825.2  1016.2 17906.9  1016.7 18020.3  1016.6
 18102.9  1017.1 18116.8  1017.8 18121.1  1019.2   18156  1021.3 18162.3  1018.5
 18168.8  1017.5 18272.9  1016.7 18288.2  1016.8 18385.1    1017 18430.3  1017.1
 18440.8  1018.3 18447.7  1016.2 18501.8  1016.4 18510.3    1018 18514.6  1015.5
 18538.2  1015.7 18541.7  1014.1 18552.7  1006.7 18579.2  1006.9 18660.4  1004.5
 18672.2  1007.9 18695.7  1012.5 18709.9  1013.9 18790.3  1015.9 18865.8  1016.8
 18884.7  1023.5 18901.5  1024.9 18919.6  1017.9 18933.3  1017.3   19008  1016.5
 19025.7  1016.3 19034.2  1018.6 19040.9  1016.9 19083.8  1019.819093.031016.923
 19108.5  1012.1 19169.3    1009   19252  1007.4   19308    1009 19330.7  1003.7
 19355.3  1004.7 19441.2  1004.1 19496.6  1000.7 19571.6   999.9 19628.3  1003.8
 19657.1  1004.6 19679.9  1006.9   19709  1005.7 19786.5  1006.6 19863.9  1009.8
 19926.2    1011 19969.4  1002.6 20043.2  1002.9 20123.4  1004.2 20199.1  1003.3
 20291.6  1005.7   20354  1006.7 20409.8  1008.7 20448.4  1011.1 20498.1  1016.9
   20579  1017.6 20660.5  1016.3 20726.3  1014.2 20743.2  1010.4 20801.5  1014.5
 20874.6  1015.4 20955.4    1016 21051.7  1015.4 21137.2  1014.3 21215.8  1012.8
 21233.3  1012.4 21267.9  1009.1 21316.4  1007.5 21351.9  1005.2 21379.5  1005.3
 21468.2  1009.5 21567.9  1011.4 21676.9  1011.6 21738.1  1010.6   21759  1009.1
 21849.9  1013.1   21881  1015.521934.421016.922 21967.4  1017.8 22054.7  1017.9
 22077.8    1018 22085.6  1018.9 22160.9  1020.4 22188.5  1022.7 22281.8  1022.9
 22357.5  1022.4   22442  1022.2 22476.6  1022.2

Manning's n Values          num=        4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 17809.3    .043 19083.8    .043 19108.5    .032 22085.6    .032
```

```
Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19093.0321934.42              475  482.29     500              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev
 17809.3 19083.8    1021

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 207.9

INPUT
Description: 207.9

Right Channel Bank Station Interpolated
Station Elevation Data    num=      89
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18318.7  1015.8 18394.8  1015.8 18463.1  1016.2 18469.7  1018.1 18472.9    1015
 18724.1    1015 18761.1  1014.3 18777.9  1016.8 18795.6  1016.9 18860.1  1015.9
 18896.1  1016.3 18904.8  1019.7 18929.3  1019.8 18940.1  1015.2 19033.5  1016.1
 19047.9    1016 19059.8  1017.2 19066.9  1015.1 19104.7    1016 19116.7  1011.7
 19126.7  1007.1 19193.6  1007.4   19285  1009.3 19371.2    1009 19445.7  1007.1
 19492.9  1005.5 19566.8  1005.1   19594  1005.6 19624.6  1005.2 19638.3  1006.4
   19689  1001.1   19766  1000.8 19843.4  1001.2 19860.6  1000.8 19947.8  1001.8
 19955.3  1001.9 20050.4  1001.4 20071.1  1001.6 20089.1  1003.2 20118.3  1004.3
   20156  1007.1 20190.3    1008 20289.9  1007.9 20381.4  1008.9 20427.9  1010.5
 20531.5  1011.1 20544.8  1011.1 20560.1  1011.9 20586.4  1015.8 20608.7  1016.9
 20680.6  1014.6 20727.2  1013.8 20735.8  1014.5 20764.9  1009.7 20788.6  1011.6
 20822.1  1012.5 20927.9  1011.9   20963  1010.7 20994.1  1008.3 21051.7  1014.1
 21082.2  1013.7 21131.1  1014.8 21213.2  1014.5 21238.4  1013.9 21256.2  1007.6
 21259.2  1007.2 21307.5  1008.3 21334.5    1010 21416.2  1010.9 21507.7  1009.2
 21598.5  1005.8 21681.1  1006.9 21719.6  1007.7 21776.6  1006.7 21793.9  1004.3
 21872.6  1005.5 21939.8    1009 21972.8  1010.5 22032.5  1008.8 22046.3  1006.6
   22111  1005.922137.551016.374 22143.7  1018.8 22212.8  1020.7 22232.2  1021.2
 22300.9    1021 22378.9  1020.5 22421.5  1020.6 22488.9  1019.9

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 18318.7    .043 19047.9    .032 19104.7    .032 22143.7    .032

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19104.722137.55               505  509.52     585              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev
 18318.7 19059.8    1020

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 207.8

INPUT
Description: 207.8

Right Channel Bank Station Interpolated
Station Elevation Data    num=      73
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 16720.8  1015.6   16820    1018 16844.2  1018.7 16848.8  1017.5 16856.8    1019
 16867.4  1017.3 16875.2  1017.8   16895  1016.2 16996.6  1015.8 17124.1  1015.3
 17221.3  1014.7 17233.7  1014.6 17327.7  1014.3 17428.5  1014.5 17461.8  1014.4
   17509  1014.7 17520.5  1015.7 17546.1  1014.2 18739.7  1014.2 18794.2  1014.4
 18801.9  1012.7 18900.8  1014.4   18913  1018.5 18934.2  1018.4 18945.1  1013.9
 19039.6  1013.5 19178.5  1013.1   19235  1013.5 19249.5    1015 19270.9  1008.6
 19304.9  1007.2 19435.5  1007.2 19520.8  1006.1 19559.8  1004.3 19673.3  1005.3
 19780.3  1005.6 19820.2  1000.5 19919.9  1000.6 20045.1  1000.2   20073  1001.1
 20160.5  1002.9   20209  1001.4 20279.2  1004.6 20310.6  1008.1 20429.9  1009.7
 20529.9  1009.3 20571.6  1009.6 20646.2    1007 20667.3  1010.8 20787.7  1013.1
 20898.5  1015.2   20915  1015.8 20928.8  1011.5   21033  1009.7   21101  1010.3
 21126.1  1013.2 21165.5  1011.3 21182.3  1008.2 21287.6  1007.8 21332.6  1005.8
 21365.6  1009.5 21456.3  1009.3 21581.9    1009 21695.3  1007.9 21776.1  1006.6
 21795.3  1002.4 21834.5   999.1 21842.9  1003.521871.221015.405 21881.2  1019.6
 21991.4  1019.8 22085.9  1019.5   22180  1020.6

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 16720.8    .025 17520.5    .043 19039.6    .032 19249.5    .032 21881.2    .032

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19249.521871.22               495   494.8     505              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 16720.8   18913    1019 21881.2   22180    1019
```

CROSS SECTION RIVER: 1
REACH: 1 RS: 207.71

INPUT
Description: 207.71

Right Channel Bank Station Interpolated
Station Elevation Data num= 69

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16626.2	1015.3	16668.1	1016.9	16690.7	1017.7	16699.2	1016.4	16733.9	1017.7
16740.2	1016.3	16747.5	1017.3	16818.1	1015.6	16927.6	1015.4	17021	1015.3
17153.4	1014.4	17242.5	1014.4	17313.4	1014.7	17424.4	1012.2	17499	1011
17545	1013	17556.4	1015	18768.1	1013.7	18795	1011.6	18818.9	1011.4
18826.3	1012.5	18837.7	1011	18904.5	1010.8	18932.9	1017.1	18948.7	1016.5
18965.2	1012.7	18981.8	1010.9	19105.3	1010.4	19195.8	1010.5	19272.7	1010.8
19360	1012.7	19373.3	1012.3	19388.1	1010.3	19485.7	1009.8	19579.6	1007.5
19626	1005.9	19656.3	1007	19724.1	1004.1	19825	1001.9	19865.5	1001.1
20033.4	1000.7	20147.9	1000.3	20249.8	1001.7	20337.9	1005	20425.2	1009.8
20449	1011	20553.3	1008.9	20639.2	1006.4	20687.9	1004.5	20738.5	1010.7
20781.1	1011.2	20925.4	1010.6	21010.9	1010.5	21099.7	1007.8	21189.9	1007.3
21251.6	1004.6	21350.8	1006.6	21434.6	1006	21545.1	1002.4	21640.9	1004.3
21652.1	1006	21660.7	1004.2	21704.1	1014.399	21725.4	1019.4	21784.6	1016.6
21889.9	1018.1	21992.7	1019.3	22114.5	1018.7	22157	1018.7		

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16626.2	.025	17556.4	.043	18981.8	.032	19360	.032	21725.4	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19360	21704.11	485	487.91	485	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16626.2	18932.9	1018	21725.4	22157	1018

CROSS SECTION RIVER: 1
REACH: 1 RS: 207.62

INPUT
Description: 207.62

Right Channel Bank Station Interpolated
Station Elevation Data num= 85

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16251.6	1013	16315.4	1013.5	16374.7	1014.7	16377.5	1015.5	16395.5	1014.6
16421.5	1015.7	16422	1014.7	16556.1	1013.9	16632.1	1014	16716.9	1014
16809.1	1014.3	16813.5	1014.3	16896.9	1014.4	16907.1	1014.4	16991.8	1014.6
17078.6	1013.2	17168.3	1009.6	17287	1010.1	17414.8	1010.3	17522.4	1010.6
17591.1	1013.4	17609.8	1011.4	17662	1012.1	17679.1	1013.9	17688.4	1011.8
17788.8	1010.9	17868.6	1012.4	17910.4	1011.6	17996.3	1008.9	18009.6	1010.7
18035.1	1010.4	18045.1	1011.9	18138.2	1012.6	18185.4	1012.3	18195	1014.2
18263.6	1011.9	18647.5	1012.1	18732.3	1011.6	18815.2	1006.9	18891.8	1011.1
18961.7	1011	18978.7	1015.9	18991.8	1016.8	19005.5	1010.9	19115.1	1011.1
19173.3	1010.9	19236.3	1009.2	19351.7	1010.9	19441.1	1010.7	19518.1	1010.9
19536.8	1005.8	19551.7	1003.6	19572.3	1011.7	19592.2	1007	19618.9	1009.2
19629.6	1005.5	19641.4	1008.7	19649.6	1006.2	19667.1	1010.9	19710.7	1009
19801.1	1007.5	19885.1	1000.9	20012.8	1000.7	20210.2	1000.2	20295.5	1002.1
20395.7	1005.1	20429.1	1005.7	20464.4	1011.5	20549.3	1010.6	20664.2	1007.1
20756.4	1006	20844.7	1004.1	20964.8	1003.4	21097.7	1002.5	21189.6	1001.6
21272.9	1002.2	21361.2	1003.4	21445.5	1003.8	21449.7	1003.9	21472.33	1012.741
21484	1017.3	21597.8	1018	21670.5	1017.5	21682.6	1018.4	21786	1017.2

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16251.6	.025	17591.1	.043	19005.5	.032	19518.1	.032	21484	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19518.12	21472.33	460	465	515	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
16251.6	18991.8	1018.4

CROSS SECTION RIVER: 1
REACH: 1 RS: 207.53

INPUT
Description: 207.53

Right Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16022.7	1011.1	16143.3	1011.7	16215.8	1011.5	16221.1	1014.1	16232.7	1013.9
16241.1	1012.7	16266.4	1013.7	16266.5	1014.9	16268.8	1013.2	16273.6	1014.2
16372.5	1014.1	16429	1014.9	16432.3	1013.6	16526.5	1013	16542.7	1012.9
16638.5	1012.9	16738.7	1012.6	16828.5	1012.8	16854.4	1014.1	16891.5	1014.1
16896.5	1014.8	17034.3	1011.1	17122	1009.6	17238.3	1009.7	17332.6	1009.9
17423.9	1010.1	17511.1	1010.4	17604.5	1010.7	17620.2	1013.7	17629.7	1010.7
17643.4	1009.3	17724	1010	17812.5	1010.1	17954	1010	18065.4	1010.1
18155.9	1010.1	18267.1	1010.5	18354.5	1010.5	18454.3	1011.5	18527.2	1011.5
18611.5	1010	18724.9	1010	18789.3	1010.5	18796.9	1011.3	18812.1	1007.4
18898.8	1008.9	18986.9	1010	18999.5	1010.7	19027.1	1017.5	19046.3	1011.3
19124.1	1011.5	19133.7	1010.3	19137.2	1008.4	19148.2	1008.1	19240.4	1009.9
19257.7	1010.8	19302.9	1009.2	19305.5	1008.3	19314.2	1008.5	19319	1010.3
19329.6	1007.9	19386.1	1006.6	19502.9	1006.4	19603.8	1004.2	19684.4	1002.8
19763.2	1001.2	19791	999.1	19817.3	1000.3	19986.4	1000.3	20057	1000.3
20190.1	1000.3	20256.8	1001.2	20303.8	999.8	20452.2	999.9	20549.1	1000.2
20636.9	1000.2	20732.4	1000.1	20823	1000.7	20885.5	1001.5	20917.4	1004.8
20933.9	1001.4	20947	1004	20965	1000.8	21002.6	1002.6	21159.7	1002.9
21175	1003.865	21269.1	1009.8	21336	1012.1	21366.8	1015.8	21376.8	1013.2
21407.7	1013.3	21446.9	1014.6	21511.1	1014.3	21572.1	1017.7	21609.7	1014
21754.4	1013.1	21798	1013.8						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16022.7	.025	17620.2	.043	19124.1	.032	19502.9	.032	21336	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19502.9	21175	231	227	201	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16022.7	19027.1	1015	21175	21798	1015

CROSS SECTION RIVER: 1
REACH: 1 RS: 207.49

INPUT
Description: 207.49
Station Elevation Data num= 55

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16210	1013.8	17338.3	1010.47	18388.3	1010.34	18888.3	1010.64	18938.3	1011
18988.3	1011.5	19038.3	1012.3	19088.3	1013.2	19138.3	1014.3	19188.3	1015.6
19288.3	1018.2	19388.3	1020.56	19455	1022.05	19465.2	1020.4	19465.3	1014.7
19468.2	1013.7	19522.3	997.9	19560.3	997.3	19564.3	997.3	19660.3	997
19664.3	997	19760.3	996.4	19764.3	996.4	19860.3	999.5	19864.3	999.5
19960.3	997.4	19964.3	997.4	20060.3	994.6	20064.3	994.6	20160.3	995.5
20164.3	995.5	20260.3	999.6	20264.3	999.6	20360.3	998.5	20364.3	998.5
20460.3	998.9	20464.3	998.9	20560.3	996.7	20564.3	996.7	20660.3	997.9
20664.3	997.9	20760.3	998	20764.3	998	20860.3	999.9	20864.3	999.9
20960.3	998	20964.3	998	21027.8	992.2	21056.5	1014.7	21059.4	1014.7
21059.5	1020.4	21080	1020.7	21115	1020	21280	1016	21875	1013.8

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
16210	.032	19455	.032	21059.4	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19465.3	21059.4	50	53	35	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16210	19465.3	1020	21059.4	21875	1020

BRIDGE RIVER: 1
REACH: 1 RS: 207.485

INPUT
Description: 51st Avenue Bridge
Distance from Upstream XS = 0
Deck/Roadway Width = 50.71
Weir Coefficient = 2.6
Bridge Deck/Roadway Skew =
Upstream Deck/Roadway Coordinates
num= 28

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
17338.3	1010.47	1010.47	18388.3	1010.34	1010.34	18888.3	1010.64	1010.64
18938.3	1011	1011	18988.3	1011.5	1011.5	19038.3	1012.3	1012.3
19088.3	1013.2	1013.2	19138.3	1014.3	1014.3	19188.3	1015.6	1015.6
19288.3	1018.2	1018.2	19388.3	1020.56	1020.56	19445	1022.05	1020.2
19560.3	1023.4	1017.77	19660.3	1025.18	1019.47	19760.3	1026.58	1020.87
19860.3	1027.68	1022	19960.3	1028.58	1022.87	20060.3	1029.28	1023.59

20160.3	1029.68	1023.99	20260.3	1029.78	1024.09	20360.3	1029.68	1024
20460.3	1029.28	1023.59	20560.3	1028.68	1023.01	20660.3	1027.88	1022.21
20760.3	1026.68	1021	20860.3	1025.41	1019.67	20960.3	1023.68	1018.03
21059.4	1020.6	1014.92						

Upstream Bridge Cross Section Data
Station Elevation Data num= 55

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16210	1013.8	17338.3	1010.47	18388.3	1010.34	18888.3	1010.64	18938.3	1011
18988.3	1011.5	19038.3	1012.3	19088.3	1013.2	19138.3	1014.3	19188.3	1015.6
19288.3	1018.2	19388.3	1020.56	19455	1022.05	19465.2	1020.4	19465.3	1014.7
19468.2	1013.7	19522.3	997.9	19560.3	997.3	19564.3	997.3	19660.3	997
19664.3	997	19760.3	996.4	19764.3	996.4	19860.3	999.5	19864.3	999.5
19960.3	997.4	19964.3	997.4	20060.3	994.6	20064.3	994.6	20160.3	995.5
20164.3	995.5	20260.3	999.6	20264.3	999.6	20360.3	998.5	20364.3	998.5
20460.3	998.9	20464.3	998.9	20560.3	996.7	20564.3	996.7	20660.3	997.9
20664.3	997.9	20760.3	998	20764.3	998	20860.3	999.9	20864.3	999.9
20960.3	998	20964.3	998	21027.8	992.2	21056.5	1014.7	21059.4	1014.7
21059.5	1020.4	21080	1020.7	21115	1020	21280	1016	21875	1013.8

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
16210	.032	19455	.032	21059.4	.032

Bank Sta: Left	Right	Coeff Contr.	Expan.
19465.3	21059.4	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16210	19465.3	1020	21059.4	21875	1020

Downstream Deck/Roadway Coordinates
num= 28

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
17338.3	1010.47	1010.47	18388.3	1010.34	1010.34	18888.3	1010.64	1010.64
18938.3	1011	1011	18988.3	1011.5	1011.5	19038.3	1012.3	1012.3
19088.3	1013.2	1013.2	19138.3	1014.3	1014.3	19188.3	1015.6	1015.6
19288.3	1018.2	1018.2	19388.3	1020.56	1020.56	19445	1022.05	1020.2
19560.3	1023.4	1017.77	19660.3	1025.18	1019.47	19760.3	1026.58	1020.87
19860.3	1027.68	1022	19960.3	1028.58	1022.87	20060.3	1029.28	1023.59
20160.3	1029.68	1023.99	20260.3	1029.78	1024.09	20360.3	1029.68	1024
20460.3	1029.28	1023.59	20560.3	1028.68	1023.01	20660.3	1027.88	1022.21
20760.3	1026.68	1021	20860.3	1025.41	1019.67	20960.3	1023.68	1018.03
21059.4	1020.6	1014.92						

Downstream Bridge Cross Section Data
Station Elevation Data num= 55

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16210	1013.8	17338.3	1010.47	18388.3	1010.34	18888.3	1010.64	18938.3	1011
18988.3	1011.5	19038.3	1012.3	19088.3	1013.2	19138.3	1014.3	19188.3	1015.6
19288.3	1018.2	19388.3	1020.56	19455	1022.05	19465.2	1020.4	19465.3	1014.7
19468.2	1013.7	19522.3	997.9	19560.3	997.3	19564.3	997.3	19660.3	997
19664.3	997	19760.3	996.4	19764.3	996.4	19860.3	999.5	19864.3	999.5
19960.3	997.4	19964.3	997.4	20060.3	994.6	20064.3	994.6	20160.3	995.5
20164.3	995.5	20260.3	999.6	20264.3	999.6	20360.3	998.5	20364.3	998.5
20460.3	998.9	20464.3	998.9	20560.3	996.7	20564.3	996.7	20660.3	997.9
20664.3	997.9	20760.3	998	20764.3	998	20860.3	999.9	20864.3	999.9
20960.3	998	20964.3	998	21027.8	992.2	21056.5	1014.7	21059.4	1014.7
21059.5	1020.4	21080	1020.7	21115	1020	21280	1016	21875	1013.8

Manning's n Values num= 2

Sta	n Val	Sta	n Val
16210	.032	21059.4	.032

Bank Sta: Left	Right	Coeff Contr.	Expan.
19465.3	21059.4	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16210	19465.3	1020	21059.4	21875	1020

Upstream Embankment side slope = horiz. to 1.0 vertical
Downstream Embankment side slope = horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .95
Elevation at which weir flow begins = 1010.34
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Piers = 15

```
Pier Data
Pier Station     Upstream= 19562.3    Downstream= 19562.3
Upstream     num=        2
    Width   Elev    Width   Elev
        4   997.3       4  1017.8
Downstream     num=        2
    Width   Elev    Width   Elev
        4   997.3       4  1017.8

Pier Data
Pier Station     Upstream= 19662.3    Downstream= 19662.3
Upstream     num=        2
    Width   Elev    Width   Elev
        4     997       4 1019.54
Downstream     num=        2
    Width   Elev    Width   Elev
        4     997       4 1019.54

Pier Data
Pier Station     Upstream= 19762.3    Downstream= 19762.3
Upstream     num=        2
    Width   Elev    Width   Elev
        4   996.4       4 1020.94
Downstream     num=        2
    Width   Elev    Width   Elev
        4   996.4       4 1020.94

Pier Data
Pier Station     Upstream= 19862.3    Downstream= 19862.3
Upstream     num=        2
    Width   Elev    Width   Elev
        4   999.5       4    1022
Downstream     num=        2
    Width   Elev    Width   Elev
        4   999.5       4    1022

Pier Data
Pier Station     Upstream= 19962.3    Downstream= 19962.3
Upstream     num=        2
    Width   Elev    Width   Elev
        4   997.4       4  1022.9
Downstream     num=        2
    Width   Elev    Width   Elev
        4   997.4       4  1022.9

Pier Data
Pier Station     Upstream= 20062.3    Downstream= 20062.3
Upstream     num=        2
    Width   Elev    Width   Elev
        4   994.6       4  1023.6
Downstream     num=        2
    Width   Elev    Width   Elev
        4   994.6       4  1023.6

Pier Data
Pier Station     Upstream= 20162.3    Downstream= 20162.3
Upstream     num=        2
    Width   Elev    Width   Elev
        4   995.5       4    1024
Downstream     num=        2
    Width   Elev    Width   Elev
        4   995.5       4    1024

Pier Data
Pier Station     Upstream= 20262.3    Downstream= 20262.3
Upstream     num=        2
    Width   Elev    Width   Elev
        4   999.6       4  1024.1
Downstream     num=        2
    Width   Elev    Width   Elev
        4   999.6       4  1024.1

Pier Data
Pier Station     Upstream= 20362.3    Downstream= 20362.3
Upstream     num=        2
    Width   Elev    Width   Elev
        4   998.5       4    1024
Downstream     num=        2
    Width   Elev    Width   Elev
```

```
       4   998.5       4    1024

Pier Data
Pier Station     Upstream= 20462.3    Downstream= 20462.3
Upstream     num=       2
    Width   Elev    Width   Elev
       4   998.9       4  1023.6
Downstream     num=       2
    Width   Elev    Width   Elev
       4   998.9       4  1023.6

Pier Data
Pier Station     Upstream= 20562.3    Downstream= 20562.3
Upstream     num=       2
    Width   Elev    Width   Elev
       4   996.7       4    1023
Downstream     num=       2
    Width   Elev    Width   Elev
       4   996.7       4    1023

Pier Data
Pier Station     Upstream= 20662.3    Downstream= 20662.3
Upstream     num=       2
    Width   Elev    Width   Elev
       4   997.9       4  1022.2
Downstream     num=       2
    Width   Elev    Width   Elev
       4   997.9       4  1022.2

Pier Data
Pier Station     Upstream= 20762.3    Downstream= 20762.3
Upstream     num=       2
    Width   Elev    Width   Elev
       4     998       4    1021
Downstream     num=       2
    Width   Elev    Width   Elev
       4     998       4    1021

Pier Data
Pier Station     Upstream= 20862.3    Downstream= 20862.3
Upstream     num=       2
    Width   Elev    Width   Elev
       4   999.9       4  1019.7
Downstream     num=       2
    Width   Elev    Width   Elev
       4   999.9       4  1019.7

Pier Data
Pier Station     Upstream= 20962.3    Downstream= 20962.3
Upstream     num=       2
    Width   Elev    Width   Elev
       4     998       4    1018
Downstream     num=       2
    Width   Elev    Width   Elev
       4     998       4    1018

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
       Momentum                Cd   =     1.2
       Yarnell                 KVal =    1.05
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Pressure and Weir flow
           Submerged Inlet Cd           =
           Submerged Inlet + Outlet Cd =       .8
           Max Low Cord                 =

Additional Bridge Parameters
       Add Friction component to Momentum
       Add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 207.48
```

INPUT
Description: 207.48
Station Elevation Data num= 55

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16210	1013.8	17338.3	1010.47	18388.3	1010.34	18888.3	1010.64	18938.3	1011
18988.3	1011.5	19038.3	1012.3	19088.3	1013.2	19138.3	1014.3	19188.3	1015.6
19288.3	1018.2	19388.3	1020.56	19455	1022.05	19465.2	1020.4	19465.3	1014.7
19468.2	1013.7	19522.3	997.9	19560.3	997.3	19564.3	997.3	19660.3	997
19664.3	997	19760.3	996.4	19764.3	996.4	19860.3	999.5	19864.3	999.5
19960.3	997.4	19964.3	997.4	20060.3	994.6	20064.3	994.6	20160.3	995.5
20164.3	995.5	20260.3	999.6	20264.3	999.6	20360.3	998.5	20364.3	998.5
20460.3	998.9	20464.3	998.9	20560.3	996.7	20564.3	996.7	20660.3	997.9
20664.3	997.9	20760.3	998	20764.3	998	20860.3	999.9	20864.3	999.9
20960.3	998	20964.3	998	21027.8	992.2	21056.5	1014.7	21059.4	1014.7
21059.5	1020.4	21080	1020.7	21115	1020	21280	1016	21875	1013.8

Manning's n Values num= 2

Sta	n Val	Sta	n Val
16210	.032	21059.4	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19465.3	21059.4	251	245.54	316	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16210	19465.3	1020	21059.4	21875	1020

CROSS SECTION RIVER: 1
REACH: 1 RS: 207.43

INPUT
Description: 207.43

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 79

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16001	1012.1	16131.4	1012.2	16228.7	1013.1	16320.3	1013.5	16407.2	1012.9
16462.7	1013	16534.7	1009.5	16622	1009.9	16771.3	1010.1	16811.7	1010.1
16903.6	1009.9	17000.5	1009.7	17064.3	1009.5	17157.6	1009.6	17168	1009.6
17254.7	1009.5	17423.7	1009.1	17535	1009.1	17611.5	1010	17646.2	1011.6
17670.8	1009.4	17760.3	1009.7	17874.6	1010.1	17964.8	1011.6	17984.9	1012
17997.8	1016.3	18045.8	1011.1	18059.4	1010.8	18090.3	1019.1	18104.6	1011.8
18153.8	1012.3	18156.2	1012	18391.4	1012.4	18596.1	1016.3	18654.3	1014.9
18908.3	1012	19012	1011.9	19027.1	1014.5	19083.8	1014.7	19094.4	1012.4
19147.4	1018.1	19153.2	1017.8	19176.4	1012.1	19237.2	1010.4	19250.8	1011.8
19253.3	1010.962	19268.1	1006	19370.6	1006.3	19448.3	1005	19562.2	1000.2
19660.1	999.2	19729.8	999	19896.9	999.1	20054.8	999.2	20143.1	999.3
20241.9	1000.1	20361.6	1000.3	20453.3	1000.3	20539.4	999.9	20632.9	1001.1
20689.8	1003.1	20747.1	1003	20818	999.4	20892	1000.8	20911.4	1002.3
20940	1001.503	20940.1	1001.5	20958.5	1009.2	21053.7	1010.9	21146.5	1011.2
21244.1	1013	21380.1	1013.7	21490.2	1010.1	21618.6	1011	21731	1013.6
21751.5	1014.2	21777.8	1011.3	21912.6	1011.5	21985	1012.4		

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16001	.025	17611.5	.043	19012	.032	19250.8	.032	21053.7	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19253.3	20940	450	471	575	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16001	19250.8	1015	20940	21985	1015

CROSS SECTION RIVER: 1
REACH: 1 RS: 207.34

INPUT
Description: 207.34

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 65

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16035.2	1011.8	16177.7	1012.1	16280.1	1013	16403.9	1013.3	16481.2	1012
16521.9	1009.6	16702.7	1009.6	16804.9	1009.5	16839.4	1009.4	16942.2	1010.3
16976.4	1010.3	17093.8	1008.9	17125.8	1008.8	17242.3	1008.6	17266.9	1008.4
17385.6	1008.6	17409.9	1008.6	17524	1008.8	17624.3	1009.1	17632.4	1009.2
17642.3	1011.1	17673.2	1011.4	17693.3	1008.6	17801.9	1009	17911.5	1008.1
17944	1007.7	17970.8	1008.9	18420.5	1010.8	18468.8	1010.2	18518.8	1009.3
19089.4	1009.3	19158.1	1010.6	19180.5	1009.1	19194.8	1003.1	19196.9	1003.1

19214.8	1010.1	19221.2	1005.7	19228.6	1002.1	192301001.961		19238.7	1001.1
19249	1002.5	19288.5	997	19326.4	995.9	19381	999.5	19392.5	1002.2
19404.7	999	19437.8	1000.9	19593.3	1002.4	19706.7	1001.8	19842	1000.3
19946.7	998.7	20191.8	998.9	20302.5	998.8	20382.5	998.4	20416.2	996.5
20521.3	998.7	20631.1	998.6	20696.7	998.2	20735.2	1000.8	20761.1	1007.9
20798.761	009.511	20824.2	1010.6	20847.7	1013.3	20977	1014.8	20997	1014.1

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16035.2	.025	17693.3	.043	19196.9	.032	19214.8	.032	20847.7	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19230	20798.76	370	393.75	530	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
16035.2	19230	1013

CROSS SECTION RIVER: 1
REACH: 1 RS: 207.27

INPUT
Description: 207.27
Station Elevation Data num= 73

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16209.3	1012.6	16252.8	1013.2	16284.2	1012	16383.8	1012.6	16415.5	1012.9
16480.2	1009.2	16601.8	1009.4	16722.1	1009.3	16901.6	1009.1	17028	1008.9
17034.7	1008.9	17132.7	1008.7	17256.4	1008.5	17345.1	1009.7	17477.8	1009
17574.2	1008.9	17623.2	1008.9	17640.8	1010.6	17654.3	1009.2	17776.8	1009.2
17890	1009.9	18017.7	1009.2	18033.8	1009.3	18373.9	1009.8	18428.4	1009.8
18529.9	1009.9	18634.4	1008.2	18686.7	1008.6	18936.9	1006.8	18965	1004.2
18981	1000.1	18990.9	999.5	19008.8	996.4	19021	989.6	19047.9	988.8
19072	996.4	19107.5	995	19123.5	989.3	19162.8	987.6	19190	994.7
19301.3	1002.1	19428.8	1005	19561.5	1003.7	19676.8	1002	19820.6	999.3
19940.6	998.8	19971.8	997.8	19986.7	993.8	20109.9	993.3	20119.1	995.5
20215.4	998.5	20300.7	998.8	20305.8	1000.2	20322.6	1001.4	20345.1	998.6
20382.4	998.7	20402.9	1000.7	20414.9	1000.4	20429.2	1001.7	20526.1	1000.4
20597.9	1002.6	20662.2	1037.1	20670.6	1034	20727.4	1003.5	20805.4	1006.4
20813.3	1010.3	20822.2	1008.4	20916.8	1009.6	21025	1009.2	21122.8	1010.2
21233.4	1010.9	21356.4	1011	21463	1011.1				

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16209.3	.025	17640.8	.043	19008.8	.032	19428.8	.032	20597.9	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19428.8	20597.9	575	572.72	585	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16209.3	18980	1037.1	20662.2	21463	1037.1

CROSS SECTION RIVER: 1
REACH: 1 RS: 207.16

INPUT
Description: 207.16
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16210.1	1011.7	16309.9	1011.9	16344.7	1012.7	16358.1	1011.8	16364.1	1013.5
16438.5	1011.6	16493.9	1011.9	16557.8	1010.7	16585.8	1008.3	16700.8	1008.1
16756.6	1008.6	16852.6	1008.6	16969	1008.6	17076	1008.4	17204.5	1008.7
17321.8	1008.1	17421.3	1007.7	17541.4	1007.5	17638.7	1007.7	17755.6	1007.6
17773.4	1007.2	17787.5	1009.2	17904.3	1007.5	17925	1006.5	18023.9	1007.4
18085.4	1008	18140	1009.4	18201.1	1007.7	18218.4	1008.1	18321.4	1005
18342.3	1005.4	18407.3	1003.8	18456.1	1009.9	18484.8	1008.2	18498.7	1005.3
18523.8	1008.7	18528.7	1008.4	18529.5	1007.2	18545.1	1003.7	18570.4	1008.1
18605.9	1007.9	18638.7	1000.3	18663.3	997.6	18680.3	997.7	18717	996.2
18733.2	994.8	18778.6	996.9	18811.7	999.5	18924.2	1002.3	19046.2	1002.4
19107	1000.2	19209.6	1000.7	19329.8	1002.2	19395.2	1003.5	19404.5	1002.1
19419.4	1003.2	19521.4	1003.3	19614.6	1002	19721.9	1001.4	19815.6	999.6
19920.9	996.2	19994.2	994.9	20008.7	992.7	20062.5	992.7	20094.8	994.3
20106.3	993.1	20160.3	993	20395.5	993	20413	995	20418.4	997.1
20436.9	1001.5	20463.3	996.6	20488.6	995.2	20609.4	995.2	20655.2	996
20660.9	995.4	20697	996.6	20734.5	1007.6	20838.6	1008.7	20985.3	1010.1
21116.5	1009.9	21223.5	1009.3	21316.4	1008.4	21471.6	1007.6	21595.3	1007.5
21624	1007.5	21725.6	1009.3	21731.8	1008.9	21782.9	1010.9	21783	1010.3
21812.5	1010	21872.1	1013.5	21911.2	1012.7	21930.8	1006	21952.5	1011.3
21998	1010.9								

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16210.1	.025	17204.5	.043	18605.9	.032	19521.4	.032	20734.5	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19521.4	20734.5	475	463.31	475	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16210.1	18605.9	1013	20734.5	21998	1013

CROSS SECTION RIVER: 1
REACH: 1 RS: 207.07

INPUT
Description: 207.07

Right Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16445.4	1010.8	16477.5	1010.8	16492.9	1010.8	16495.3	1012.4	16612.3	1012.1
16706.3	1012.4	16731.4	1011.4	16754.5	1011.7	16775.6	1010.8	16823.5	1006
16897.1	1007.2	16996.9	1007.2	17084.4	1008.1	17118	1007.2	17130.1	1007.9
17215.3	1007.5	17296.8	1005.9	17391.8	1005.8	17473.1	1006.2	17581.5	1006.7
17688.2	1006.9	17793.8	1007.5	17860.3	1007.8	17918.6	1006.5	17937.7	1009.2
17950.5	1008.4	18054.6	1008.5	18145.7	1009.4	18249.2	1008.8	18339.2	1006.2
18409	1004.8	18416.3	1003.9	18490.8	1003.4	18511.6	998.8	18578.1	997.6
18602.7	998.8	18624	998.9	18705.2	1001.4	18768.4	1001.7	18825	999.3
18843.9	997.7	18938	998.1	19029.9	1000.3	19121	1004.5	19134.1	1007.4
19200.4	1009.2	19224.9	1008.7	19244.6	1006.5	19312.8	1004.4	19414.2	1003.2
19443.8	1001.8	19521.9	1001.9	19538.7	1003.4	19547.9	1003.2	19557.9	1004.4
19673.5	1001.7	19761.8	1001.1	19774.6	1001.9	19789.4	1004.7	19852.9	995.2
19935.8	993.4	19939.1	993.8	19945.4	992.8	19998	992.8	20099	992.9
20181.6	993	20237.1	993	20335	993.1	20381.8	993.2	20403	998.8
20417.1	996.1	20529.1	995.5	20635.3	995.9	20719.4	996.3	20720.5	998.7
20734.9	1003.5	20748.22	1004.3	20786.5	1006.6	20840.1	1007	20851.3	1007.9
20926.4	1009.4	21006.6	1009.9	21089.4	1010	21172.8	1009.7	21301.4	1008.9
21383.6	1008.7	21497.8	1007.9	21578.8	1007.1	21613.2	1007.3	21673.3	1011.2
21705.2	1010.3	21732.7	1013.7	21818.2	1013	21896.1	1014.4	21908.3	1013.5
21967.3	1014.4	21999.5	1014.1						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16445.4	.043	18490.8	.032	19789.4	.032	20926.4	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19789.4	20748.22	510	514.11	520	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16445.4	18145.7	1013	20926.4	21999.5	1013

CROSS SECTION RIVER: 1
REACH: 1 RS: 206.97

INPUT
Description: 206.97

Right Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16303.3	1009.9	16422	1010.3	16524.8	1010.6	16626.6	1010.6	16719.6	1011.3
16794.5	1009.6	16836.4	1004.7	16959	1004.6	17073.2	1004.7	17198.7	1004.8
17241.8	1005.5	17390.7	1004.8	17512.3	1005.1	17603.3	1005.3	17704.7	1005.3
17836.9	1005.5	17965	1005.2	18085.7	1005.8	18094.8	1005.9	18105	1008
18196	1007.4	18235.2	1007.2	18260.5	1005.9	18283.2	1007.6	18372.2	1006.3
18390.1	1005.1	18407.6	999.1	18518.7	997.7	18623.3	996.9	18669.1	995.6
18742.3	996.3	18834	1000.5	18925.1	1002.3	19025.7	1004.4	19072.3	1003.7
19086.7	1001.2	19181.7	1005.8	19197	1005.7	19217.7	1002.3	19234.5	1008.4
19316.9	1001.8	19405.1	1002.1	19456.4	1006.1	19566.5	1005.4	19666.3	1005.2
19736.5	1004.4	19776.5	998.7	19783.2	1000.5	19808.3	994.1	19822.1	992.8
19919.1	992.9	20108.8	993.1	20124.9	999	20128.8	998.6	20159.3	982.1
20170.6	981.8	20265.5	981.8	20360.8	981.8	20399.3	981.8	20400.1	981.8
20443.8	981.8	20457.3	981.8	20522.8	981.8	20543.7	981.8	20552.2	981.8
20558.1	981.8	20559.2	981.8	20645	981.8	20661.9	981.7	20684.6	981.8
20778.2	981.8	20792.8	981.8	20800	984.2432	20814.9	989.3	20826.8	991.9
20829.6	993.6	20832.1	993.2	20841.1	988	20882.9	981.8	20888	981.8
20995.1	981.8	21051.7	981.8	21053.6	981.8	21086.6	1009	21114.5	1010.4
21124.9	1008.4	21145.7	1009.1	21151.2	1011.2	21171.8	1014.5	21174	1009.3
21270.2	1009.8	21364.9	1009.2	21463.9	1009.1	21469.9	1008.9	21475.8	1010.8
21486.9	1008.5	21498	1009.8						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16303.3	.025	16719.6	.043	18407.6	.032	19736.5	.032	21086.6	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19736.5	20800	480	491.78	480	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
20800	21498	1010

CROSS SECTION RIVER: 1
REACH: 1 RS: 206.88

INPUT
Description: 206.88

Right Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16205.8	1008.1	16348.5	1008.4	16441.8	1008.4	16531.3	1008.2	16598.3	1009.2
16605	1008.5	16606.3	1010.2	16696.6	1005.4	16819.2	1004.3	16908.4	1004.4
17006	1004.7	17092.4	1003.2	17182	1004	17323.7	1003.7	17415.5	1003.8
17503.8	1003.9	17603.8	1003.9	17703.9	1004.6	17815.8	1005.9	17930.5	1006.3
18057.4	1006.3	18152.5	1006	18216	1005.3	18267.1	1005.9	18292.7	1007.3
18373.6	999.7	18386.3	996.3	18470	995.7	18533.8	995.1	18593.4	996.7
18657.8	996.4	18748.4	998	18835.7	998.9	18932.3	1000.4	18993.2	1000.9
19018.7	1003.6	19101.5	1004	19119.7	1002.9	19166.7	1006	19168.3	1006.9
19251.9	1004.5	19258.4	1005	19341.6	1001.3	19360.8	1001.1	19415.8	1004.9
19507.2	1001.3	19566.3	1004.7	19645.5	1003.4	19728.8	1003.5	19781.8	993.3
19833	992.7	19942.2	993	19947.1	996.6	19996.5	982.3	20008.3	981.8
20016.1	981.8	20105.7	981.8	20143	981.8	20146.6	981.8	20221.6	981.8
20334.4	981.8	20459.7	981.8	20546.8	981.8	20641.2	981.8	20760.8	981.8
20800	981.8	20820.9	981.8	20832	984	20842.1	983.1	20850.4	981.8
20851.4	981.8	20928.6	981.8	20948.4	981.8	21002.4	999.3	21012.9	997
21041.1	997	21047.1	998.2	21081.4	998.4	21113.7	986.4	21142	981.7
21162.6	990	21181.8	991.8	21199.6	1001.3	21208.2	1003.8	21233.9	1006.9
21251.5	1012.2	21270.1	1006.2	21313.5	1006.5	21327.6	1009.1	21361.8	1011.6
21394.4	1008.9	21440.9	1009.7	21454	1011.6	21546.5	1009	21569.8	1012.6
21605	1009.6	21674.6	1010.5						

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16205.8	.025	16696.6	.043	18386.3	.032	19728.8	.032	21251.5	.032
21605	.025								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19728.8	20800	480	487.71	505	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16205.8	18292.7	1007.3	20800	21674.6	1012

CROSS SECTION RIVER: 1
REACH: 1 RS: 206.79

INPUT
Description: 206.79

Right Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16211.1	1006.9	16286.9	1006.9	16364.1	1007.5	16379.7	1007.6	16449.9	1007.6
16525.2	1007.8	16538.6	1008.9	16619.3	1008.5	16666.4	1006.2	16699.6	1001.9
16769.7	1002.3	16840	1002.4	16905.7	1002.4	16989.2	1002.5	17055.4	1002.7
17133	1002.7	17230.9	1002.5	17245.4	1002.4	17322.6	1003	17404	1003.7
17419.6	1003.8	17484.7	1004.3	17553	1004.8	17588.7	1004.8	17631.2	1003
17670.6	1002.9	17748.9	1006.3	17834.7	1006.5	17871.1	1006.6	17919.1	1005.8
17921.7	1005.2	17948.4	1004.4	18036.8	1004.9	18106	1004.9	18182.5	1004.5
18301.7	1004.4	18337	1004.5	18378.4	997.7	18439.7	995.6	18517.1	995.3
18604.7	996.5	18674.2	996.8	18740.3	995.7	18770.1	994.8	18841.6	996.3
18882	997.5	18920.6	1006.8	19010.4	1005.9	19096.2	1003.2	19138.3	1000.6
19186.5	1000.9	19206.9	1002.3	19281.9	1002	19360.7	1002.6	19391.1	1000
19450.2	1002.2	19485	1002.5	19519.3	1004	19570	1004.1	19626.2	1001.8
19645.2	1001.4	19653.2	1002.5	19663.1	1005.3	19671.5	1001	19690.4	994.6
19711.8	993	19766	993.3	19929.9	994	19943.3	996.8	19952.4	996.3
19962.3	992.6	19991	990.7	20007.7	991.1	20032.9	987.2	20042.3	985
20082.5	982.2	20100.2	981.8	20136.1	981.8	20140	981.8	20180.6	981.8
20309.2	981.8	20331	981.8	20390.5	981.8	20420.7	981.8	20422.7	981.8
20425	981.8	20501.8	981.8	20576.6	981.8	20625.3	981.8	20832.1	981.8
20847	981.8	20851.9	981.8	20865.4	988.82	0895.15	1003.436	20902.8	1007.2

```
 20935.6  1019.6   20986  1019.6

Manning's n Values          num=        5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 16211.1    .025 16525.2    .043 18378.4    .032 19663.1    .032 20935.6    .032

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19663.120895.15              495  489.96     520             .1       .3
Ineffective Flow     num=        1
   Sta L   Sta R    Elev
 16211.1 17871.1    1015

CROSS SECTION           RIVER: 1
REACH: 1                   RS: 206.7

INPUT
Description: 206.7
Station Elevation Data     num=       96
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 16235.4  1006.6 16247.5  1006.6 16320.8  1007.1 16332.7    1007 16402.3  1007.2
 16479.2    1008 16505.8  1007.5 16527.3    1008 16552.4    1002 16640.8  1001.4
 16727.5  1001.8 16815.4  1001.7 16889.1  1001.5 16902.1  1001.5 16968.1  1001.2
 17043.4  1001.3   17155  1000.9 17251.1  1001.1 17317.4  1002.1 17335.4  1002.3
 17401.1  1002.9 17430.7  1003.1 17519.9  1003.5 17616.5  1003.3 17699.9    1004
 17823.5  1005.8 17891.6  1004.8 17962.7  1005.6 18043.4  1006.2 18125.2  1006.2
 18207.9  1005.3 18257.6    1003 18280.3   995.2 18285.8   995.2 18301.4   997.1
 18329.6   998.9 18423.4   998.8 18488.5     996 18559.6   995.2 18629.1   994.8
 18690.8   994.6 18728.6   993.3 18746.4   994.2 18779.5   994.4 18815.2   996.6
 18848.2  1004.6 18945.8    1005 19021.2  1004.8 19092.1  1004.4 19150.1  1003.8
 19192.4  1001.5 19285.5  1002.1 19293.9  1002.1 19370.4   999.7 19431.5   999.7
 19468.9  1000.2 19510.1  1003.7 19543.9  1002.8 19624.5   994.6 19647.2   992.9
 19711.3   993.2 19814.1   993.4 19871.2   993.4 19882.5   995.3 19901.9   992.6
 19941.1   991.3 20015.4   991.6 20098.2   993.9 20143.5     994 20167.9   992.9
 20185.2  1000.4 20197.8   994.4 20212.7   993.7 20259.6   993.7 20275.9   991.3
 20314.8   981.8 20318.5   981.8 20393.8   981.8 20691.8   981.8 20713.3   981.8
 20963.1   981.8 21002.8   981.8 21076.8   981.8 21102.7   981.8   21120   988.8
   21131   999.6 21138.8  1004.7 21146.9  1002.8   21207  1004.5 21234.3  1006.1
 21262.4  1006.4   21329  1008.1 21422.5  1007.5 21452.5  1018.4 21484.3  1017.2
   21488  1018.6

Manning's n Values          num=        5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 16235.4    .025 16640.8    .043 18329.6    .032 19510.1    .032 21138.8    .032

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19510.1 21138.8              500  500.23     500             .1       .3
Ineffective Flow     num=        1
   Sta L   Sta R    Elev
 16235.4   18110    1015

CROSS SECTION           RIVER: 1
REACH: 1                   RS: 206.6

INPUT
Description: 206.6

Right Channel Bank Station Interpolated
Station Elevation Data     num=       97
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 15752.8  1005.9   15777  1004.9 15795.8    1006   15801  1003.8 15809.3  1007.3
 15819.9  1006.1 15842.8  1009.5 15850.1    1008 15855.5  1009.8 15868.1  1009.5
 15879.9  1006.9 15895.6  1008.4 15904.2  1005.4 15941.1  1007.3 16035.3  1006.2
 16155.5  1005.7 16243.9  1005.6 16347.4  1004.9 16444.6  1004.9 16555.6  1004.8
   16645  1004.4 16756.4  1003.6 16845.8  1003.1 16944.2  1003.4 17049.2  1002.3
 17143.6  1001.7 17249.3  1001.2 17366.6    1001 17501.5  1003.7 17624.2  1003.7
 17723.3  1004.1 17790.8    1004   17818   998.9 17847.9  1003.1 17937.7  1002.9
 17956.2  1002.7 17971.4   998.8 17988.6  1001.2 18083.6  1001.7 18173.1  1001.7
 18217.2  1001.9 18242.2   997.1 18334.4   996.5 18436.5     995 18542.1   993.8
 18633.3   993.9 18742.2   997.5 18817.7   997.8 18852.6  1003.9 18965.8  1004.2
 19055.2  1003.8 19184.3  1003.1 19243.2    1000 19325.9   998.4   19358   993.4
 19395.9   993.2 19452.5   996.6 19546.1   997.7 19580.1   996.6 19611.2   993.1
   19679   993.4   19778   993.3 19846.4   993.3 19854.8   995.6 19874.7   992.9
 19953.8   992.1 20043.5   994.5 20146.1   995.4 20262.3   995.5 20371.5   995.1
 20435.5   995.1 20475.7   981.8 20489.7   981.8 20608.9   981.8   20609   981.8
 20738.4   981.8 20854.4   981.8 20866.2   981.8 20903.7   981.8 20931.2   981.8
   20996   981.8 21003.4   981.8   21042   988.8 21050.2     995 21066.251002.898
 21069.1  1004.3 21182.2  1006.4 21270.7  1006.8 21401.9  1007.6 21495.5    1008
 21503.1    1008 21594.4  1008.1   21688  1008.4 21840.4  1008.8 21940.4  1009.3
 21957.8  1009.5   21998  1007.2
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Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
15752.8	.025	16944.2	.043	18334.4	.032	19546.1	.032	21069.1	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19546.1	21066.25	515	504.63	520	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
15752.8	17847.9	1009

CROSS SECTION RIVER: 1
REACH: 1 RS: 206.51

INPUT
Description: 206.51
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
15913.8	1005.6	15956.7	1007.2	15960.5	1006.2	15969.2	1008	16053.6	1008.2
16067.4	1005.5	16150.9	1004.8	16244	1004.8	16317.6	1004.8	16358.5	1004.6
16454.2	1004.5	16463	1004.5	16544	1004.3	16655.6	1003.2	16728.4	1002.6
16756.4	1002.5	16830	1001.9	16942.4	1001.6	16965.9	1001.5	17053.8	1001.7
17131.5	1001.6	17218.7	1001.1	17306.1	1000.9	17382.1	1001.5	17467	1001.9
17537	1002.2	17549.6	1001.2	17642.5	1001.4	17732.1	999	17805.5	999.3
17867.7	1000	17906.8	1001.8	17982.4	1001.1	18024.8	1000	18113.4	1001
18197.5	1001.3	18210.2	1000.8	18235.8	995.8	18284.9	994.8	18353.6	996.2
18430.7	989.4	18472.3	992.6	18563.8	993.1	18633.6	994.5	18690.9	995.9
18720.1	998	18725.5	999	18780.9	997.9	18793	996.9	18839.1	995.7
18912.5	997.1	18936.6	997.3	18950.4	998.8	18982	1000.3	19017.4	998.8
19041	995.2	19046.4	993.8	19117.4	994.6	19184.9	992.6	19190.6	992.6
19209.6	996.5	19283.6	998.8	19380.8	997	19450	996.8	19458	996.8
19546.2	997.4	19586.4	996.5	19645.9	993.2	19653.5	993.3	19813.4	992.5
19869.8	992.3	19881.5	997.9	19911.8	995.3	19937.5	994.2	19964.8	991.9
19978.6	992.1	20019.7	990.5	20038.1	988.7	20070.3	987.9	20113.5	982.4
20192.5	982	20272.4	981.8	20353.1	981.8	20395.6	982.6	20485.4	993.1
20530.4	997	20546.7	997.4	20554.3	995.6	20599.9	998.6	20622.1	999.3
20634.8	998.6	20716.6	1000	20819.1	1001.3	20897.8	1001.5	20989.4	1002.8
21021	1008								

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
15913.8	.025	17218.7	.043	18235.8	.032	19546.2	.032	20622.1	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19546.2	20622.1	495	496.45	500	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
15913.8	17700	1008	20615	21021	1008

CROSS SECTION RIVER: 1
REACH: 1 RS: 206.41

INPUT
Description: 206.41

Right Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16072.3	1004.6	16106.4	1006.4	16110	1005.1	16145.4	1008.7	16171	1008.7
16201.9	1005.9	16207.2	1004	16245.8	1004.3	16311.3	1003.5	16339	1003.3
16410.7	1003.1	16479.2	1003.2	16504.4	1003.2	16587.4	1003	16660.5	1002.5
16723.1	1001.7	16801.8	1001.5	16828.5	1001.3	16901.2	1001.1	16957.6	1001.1
17046.4	1001	17111	1001.2	17185.4	1001	17248.3	1000.1	17325.6	999.8
17339.6	999.7	17404.5	999.4	17486.4	999.7	17508.2	999.5	17572.4	999.3
17623.9	997.5	17651.1	1000.3	17677.5	1000.2	17744.8	1000	17841.4	1000
17924.2	1000	17975.5	1001.6	18054.4	997.3	18144.7	995.9	18247.4	997.4
18279.8	997.6	18300.2	993.9	18302.9	992.5	18313.4	993.5	18405.6	991.3
18469.8	989.6	18495.7	988.3	18533.5	989.6	18556.8	987.7	18575.5	988.9
18582.4	987.8	18584.3	989.6	18620.5	992.5	18634.5	992.5	18697.7	996.9
18786	998.9	18861.4	999.4	18929.1	999.3	18999.1	996.6	19037	995.4
19069.4	992.6	19082.5	992.4	19169.3	990.8	19285.4	995	19369.2	996.5
19395.7	996.5	19466.6	996.5	19539.8	996.4	19622.9	997.3	19694.4	996.7
19720.5	996.5	19730.2	994.5	19748.7	992.6	19835.1	990.8	19895.8	991.8
19904.5	990.4	19996.1	990.2	20002.5	990.4	20015.5	997.7	20035	990
20091.8	991.6	20171.9	991.2	20269.1	991.6	20343.1	990.4	20356.9	990
20360	988.9	20373.3	988	20379.2	986.7	20421	985.4	20490.4	985.8
20544.3	985.8	20576.7	983.8	20636.9	982.5	20685.22	1001.416	20690.8	1003.6
20719.8	1001.5	20729	1007.4						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16072.3	.025	17185.4	.043	18300.2	.032	19622.9	.032	20690.8	.032

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
19622.920685.22 495 494.64 490 .1 .3

Ineffective Flow num= 1

Sta L	Sta R	Elev
16072.3	17111	1008

CROSS SECTION RIVER: 1
REACH: 1 RS: 206.32

INPUT
Description: 206.32

Right Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16817.7	1002.2	16831.7	1004.4	16847.7	1000.1	16903	997.6	16998.5	999.5
17015.9	999.8	17073.2	995.7	17113.2	998.3	17193.6	998.2	17277.8	999.4
17336.8	998.4	17343.9	998.8	17416.7	997.2	17461	999.1	17530.2	1000
17612	1000.6	17634.8	999.5	17703.3	1001.3	17735.8	1000.4	17761.4	998.4
17843.7	998.5	17853.7	998	17875.9	994.2	17903.4	993.9	17962.9	996.3
18028.7	995.2	18096.2	993.6	18102.6	993.3	18134.8	1001.1	18154.4	1000.2
18192.6	1000.1	18243.3	992.5	18301.4	992.6	18329.8	993.4	18404.3	989.6
18429.4	987.7	18495.6	987.8	18512.7	986.5	18544.6	986.5	18577	989.5
18647	992.5	18707.1	997.1	18782.1	996.8	18869.6	997.5	18885	997.8
18895.7	996.8	18922.1	996.8	18939.9	995.3	18961.5	991.6	18990.7	990
19055.1	991.9	19120.2	992.7	19199.6	995.3	19288	998.1	19351.7	998.3
19433.6	998.5	19488.7	998.2	19527.8	996.5	19535	995.3	19546.5	994.9
19619.6	996.5	19696.3	996.5	19801.3	996.5	19818	996	19830.1	994.5
19917.7	993.3	19992.8	991.2	20076.4	989.2	20107.3	989	20181.4	989.5
20194.5	994.9	20217.3	987.2	20265.3	989.9	20314.9	990.8	20362.4	989.9
20372.9	988.8	20409.1	988.6	20435	986.4	20447.1	986.7	20565.6	989.2
20589.2	986.1	20647.7	982.8	20703.3	983.2	20732.7	988.7	20805.2	991
20816.2	997.6	20847.3	998.3	20854.91	000.773	20855.6	1001	20889.3	1002
20959.7	1001.8	20988.9	1002.7	21076.4	1002.8	21150.5	1002.8	21226.3	1002.8
21295.2	1002.7	21368	1003.3						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16817.7	.043	18404.3	.032	19488.7	.032	20889.3	.032	20988.9	.025

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
19488.7 20854.9 515 513.83 520 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16817.7	17150	1004	20899.3	21368	1004

CROSS SECTION RIVER: 1
REACH: 1 RS: 206.22

INPUT
Description: 206.22

Right Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16557.5	1004.3	16639.4	1004	16713.7	1003.6	16806.6	1001.8	16878.4	999
16892.3	998.9	16946.1	1002.9	16955.9	1004.8	16975.7	997.5	16981.9	999.4
16987.4	998.1	17046.8	996.8	17159.7	997	17260.1	998.5	17320.1	997.5
17343.9	994.5	17380.4	994.5	17400.6	996.8	17408	996.8	17477.4	998.9
17541.1	999.5	17596.5	998.4	17631.6	996.8	17724.8	998.9	17740.4	998.5
17771.5	991.4	17846.4	992.8	17904.5	993.5	17940	995.6	18004.2	995.6
18016.1	997.5	18035.4	995.9	18079.4	996.3	18103.6	997.7	18147.1	997.6
18161.3	993.8	18238.9	993.7	18321.5	992.4	18333.6	991.4	18443.6	991.4
18455.9	991.4	18507.4	994.4	18550.2	989.5	18634.4	989.6	18723.2	987.6
18759.4	986.3	18833.1	991.5	18933.1	991.9	18987.8	992.5	19058	994.5
19110.4	996.4	19138.8	999.5	19223.6	1000.6	19278.4	1001.5	19361.2	1000.2
19370.9	998.6	19381.6	1000.1	19456.3	999.5	19512.1	996.4	19583	994.5
19660.7	994.4	19691.9	994.4	19781.3	994.4	19826.6	994.4	19870	992.6
19877.4	990.6	19912.2	990	20004.6	991.9	20079	991.3	20117.2	990.7
20188.2	986.9	20282	986.7	20306.6	994.7	20332.7	985.9	20338.2	985.9
20423.1	985.1	20525.8	983	20611.1	984.7	20700.7	989.7	20755.5	992.3
20766.6	995.9	20807.8	996.5	20844.2	994.9	20887.6	996.6	20898.1	998.3
20968.3	999	20974.6	999.12	0977.35	999.8423	20990.9	1003.5	21017.9	1001.7
21148.3	1002.6	21222.8	1003.1	21294.4	1003.3	21307.8	1003.3	21385.2	1003.5
21467.9	1003.9	21480	1004						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16557.5	.043	19278.4	.043	19583	.032	20990.9	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19278.4	20977.35	500	502.44	460	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16557.5	16955.9	1004	21480	21480	1004

CROSS SECTION RIVER: 1
REACH: 1 RS: 206.13

INPUT
Description: 206.13

Right Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16722.1	1002.8	16785.1	1002.2	16877.3	1002.1	16908.3	1000.9	16979.6	1000.9
17014.5	1000.3	17057.5	998.5	17070.3	997.5	17183.2	997.5	17222.6	994.5
17342.3	992.1	17417.8	994.4	17490.8	994.6	17494	994.7	17613.2	996.3
17668.4	995.8	17699.1	991.3	17790.1	992.3	17861.7	993.7	17934.2	993.6
17996.1	993.2	18017.5	997.2	18080.8	996.1	18121.2	996.9	18147.1	992.3
18166.8	991.3	18235.4	991.3	18302.6	991.3	18386	991.3	18421.8	989.5
18432	988.4	18469.5	988.4	18475.1	989.5	18500.2	989.3	18504.2	988.4
18568.5	987.1	18688.1	988.4	18765.4	989.5	18782.8	992.5	18860.9	996.5
18915	999.2	18980.4	995.4	19020.4	994.5	19089.1	997.3	19153.9	1000.5
19162	1001.6	19203	1003.8	19205.7	1003.2	19223.2	1003	19263.9	1000.5
19294	999.3	19352.5	999.3	19369.3	998.5	19381.9	996.4	19450.5	995.7
19547.3	995.6	19615.3	994.4	19675.1	990.6	19753.3	990.5	19774.8	990.4
19852.5	988.3	19926.3	986.6	19938.1	987.1	19943.1	987.8	19956	986.6
19959	986.7	20036.9	986.5	20105.4	986.3	20129.5	986.8	20164.8	990.8
20183.5	987.1	20270.6	987.9	20276.8	988.6	20297.8	988.6	20342.4	987.5
20366.8	987.4	20431.3	985.5	20458.7	984.6	20505.9	984.6	20523.1	985.6
20557.7	986.6	20563.2	987.2	20637	987.5	20656	988.4	20660.4	988
20685	996.6	20699.6	998	20710.6	997.6	20766.4	997.9	20788.2	997
20848.3	996.7	20868.5	996	20903.4	995.7	20914.9	9998.8	712 20934.1	1004.1
20964.8	1000.3	20989.1	1000.6						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
16722.1	.043	19203	.033	20934.1	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19203	20914.99	490	483.44	540	.1	.3

CROSS SECTION RIVER: 1
REACH: 1 RS: 206.03

INPUT
Description: 206.03
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16802.9	1002.4	16810.4	1002	16813.6	1000.9	16824	1002.4	16844.6	1000.6
16890.3	1000.8	16957.6	998.6	16974.2	996.3	17051	996.3	17118.7	996
17158.8	996.3	17238.1	994.4	17268.4	993.9	17337.7	992.2	17429.7	992.2
17531.5	992.2	17538.3	993.5	17547.2	994.4	17602.5	996.5	17662	996.6
17711.8	998.8	17753.6	997.9	17811.8	999.7	17868.4	998.8	17876	996.8
17888.6	992.2	17921.7	991.3	17955.9	991.3	18046.3	991.3	18129	992.2
18208.5	993.4	18309.7	993.6	18420.9	993.3	18447.9	989.4	18457.8	986.4
18517.5	985.1	18549.4	986.9	18588	984	18644.4	992.4	18712.4	995.4
18774.2	998.9	18830	995.4	18904.6	994.2	18908.3	994.2	18995.9	996.3
19086.5	1000.5	19177	1002.9	19201.9	1004.4	19226.8	1002.9	19249.6	1003.2
19274.5	1000.5	19281.8	998.5	19300.1	995.7	19315.7	994.3	19390.1	994.3
19400.5	994.3	19413.5	991.2	19424.9	989.1	19482.5	986.8	19510.1	986.8
19554.4	985.8	19658.8	985.8	19753.3	985.9	19822.1	985.9	19854.2	986.9
19870.5	986.6	19902.2	987.2	19919.6	986.6	19994.1	987.8	20078.9	988.1
20133.4	987.5	20176.6	991.9	20201.4	992.1	20216.4	992.9	20292.1	994.2
20354	993	20378.4	992	20392	989.3	20410.4	989.1	20427.7	986.6
20479.5	986.9	20548	985.1	20601.3	984.5	20610.2	984.8	20660.5	989.4
20711.9	992.7	20772.6	995.4	20851.6	995.1	20876.8	995	20972.6	994.7
21099.7	995.7	21122.5	995.9	21132.1	998.6	21160.4	1005.3	21175.8	999.9
21184.2	999.9								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
16802.9	.043	19201.9	.033	20772.6	.032

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19201.9	20772.6	590	513.6	510	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
16802.9	16900	1003

CROSS SECTION RIVER: 1
REACH: 1 RS: 205.94

INPUT
Description: 205.94
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16903.8	1000.5	16909.4	1000	16920.9	1001.6	16972.5	1001.2	16975.5	1000.3
16985.1	1001.6	17007.6	998.7	17082.9	996.3	17151.6	996.3	17234	996.3
17267.9	996.3	17336.5	996.2	17426	996.4	17508.2	996.2	17592.3	996.3
17688.9	994.4	17733.4	994	17754.7	991.9	17830.3	991.2	17928	993.4
17928.3	993.4	18000.5	993.2	18041.8	993.1	18116.7	993.3	18216.4	993.4
18279.7	991.1	18294.7	987.3	18302.5	986.7	18362.5	986.9	18376.8	985.1
18407.6	986.2	18496.1	984.1	18565.5	985.4	18614.9	987.2	18629.5	988.4
18642.1	988.5	18669.8	994.1	18756.5	994.7	18817.1	995.6	18869.8	993.4
18916.1	992.8	18941.2	994.2	19004.1	991	19053.5	981.9	19123.4	981.8
19199.3	982	19250	981.9	19337.5	981.5	19354.9	982.2	19448.6	985
19535.3	985	19613.6	984.8	19703.6	985.4	19775.9	989.5	19831.1	990.2
19926.3	989.4	19994.7	989.1	20082.6	988.9	20106.6	989.1	20111.2	988.5
20149.5	990.4	20183.7	994.3	20237	990.7	20262.2	991.4	20291.7	989.3
20345	989.3	20445.6	986.5	20507.2	982.5	20519.9	982.9	20520.2	982.1
20569.1	981	20589.6	984	20612	989.6	20643	991.1	20662.1	992.9
20686.6	992.8	20704.4	994.4	20767	996.6	20871.9	997.4	20903.2	996.9
20938.8	991.7	20969.6	993.5	21038.9	995.4	21103	995.9	21150.3	993.9
21195.3	994.9	21265.8	994.7	21288.8	994	21309.9	995.5	21385.6	995.9
21402.4	995.6	21473.1	995.1	21527.7	994.8	21551	998.8	21641.3	999.1
21683	1001.6								

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16903.8	.043	18817.1	.033	20767	.032	20938.8	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18817.1	20767	505	506.69	510	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
21215	21683	999

CROSS SECTION RIVER: 1
REACH: 1 RS: 205.84

INPUT
Description: 205.84
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17154.7	999.5	17167.6	998.3	17173.7	999	17242.7	999.3	17319.2	999.3
17395.4	998.8	17445.8	998.6	17482.3	997.2	17534.1	997.5	17544.3	997.1
17572.5	997.3	17612.4	996.5	17644.3	993.7	17719.4	994.2	17735.7	993.6
17775	993.6	17842.8	992.3	17862.2	987.5	17958.9	987.6	17969.5	989.4
18029.4	989.1	18042.3	990.1	18085.3	986.5	18121.7	984.6	18194.4	985
18242.1	986.4	18267.7	987.9	18304.8	988.6	18343.6	988.3	18423.5	987.9
18487.6	987.3	18519.2	980.3	18575.4	985.3	18594.1	984.3	18599.2	983
18611.3	981.7	18624.5	979.5	18698.1	979.6	18782.8	980.6	18852.2	980.4
18868.5	982.8	18970.3	982.9	19086.6	984.3	19137.9	986	19161.5	987.5
19244.2	986.1	19262.6	985.8	19339.3	985.7	19420.2	986.1	19521.7	987.3
19606.4	989.5	19664.7	990.4	19734.4	992	19762.4	991.1	19876.6	990.8
19965.5	989.4	20028.7	988.2	20132.7	984.3	20147.5	983.5	20176	983
20199.7	984.8	20287.6	984.2	20364.3	982.3	20417.7	981.2	20446.2	981.5
20481.4	989.8	20508	994.7	20535.7	996	20575.3	996.4	20613.9	995.2
20691.5	994.7	20737.2	994.6	20809.8	995.7	20816.4	996	20875	995.1
20909.1	992.8	20953.5	994.7	21021.3	995.7	21074.7	995.5	21087.2	993.8
21126.7	992.2	21139.8	993.2	21222.1	993.7	21281.4	994.3	21334.2	993
21367.3	994.1	21398.1	992.4	21450.5	994.8	21460	991.6	21508.8	993.1
21563.2	993.7	21607.4	993.3	21622.3	993.7	21634.1	995.7	21671.2	996.7
21696	999.5								

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17154.7	.043	18487.6	.043	18575.4	.032	20535.7	.032	20875	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18487.6	20535.7	495	496	480	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
21450	21696	999

CROSS SECTION RIVER: 1
REACH: 1 RS: 205.75

INPUT
Description: 205.75
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17305.3	998.9	17323.7	996.7	17395.5	996.8	17486.9	996.4	17509.8	996.4
17581.1	996.2	17666.5	995.9	17680.3	996	17753.1	996.5	17853.4	996.5
17864.9	996.5	17966.3	996	18048	994.8	18136.2	989.8	18199.9	985.9
18204.5	985.7	18238.3	975.2	18303	975.1	18340.9	977.7	18362.6	983.3
18414.2	984.2	18425.5	978.9	18465.2	978.9	18482	983.4	18487.5	980.6
18502.7	981.5	18551.9	977.5	18634.1	978.7	18705.8	979.9	18783.7	983.6
18852.2	983.7	18938.1	983.3	19031.5	983.4	19132.6	984.5	19156	984.8
19231.1	986.4	19292.3	989.2	19362.3	991.3	19410.6	989.7	19510.1	990.4
19547	990.4	19564.3	991.1	19608.3	991.1	19685.9	990.7	19759.4	989.7
19806.7	989.9	19819.8	990.5	19830.2	990.2	19906.7	988.4	19984.6	988.8
20051.4	988.1	20065.4	987.5	20101.2	975.7	20131.5	973.9	20148.4	974.7
20183.3	981	20265.9	982.2	20296.1	983.6	20320.1	985.5	20338.8	985.9
20373.3	988.6	20450.3	990	20500.5	990.7	20583.6	992.4	20674.8	995.6
20691.1	996.1	20754.7	995.2	20833.9	994.8	20900.7	994.8	20927.8	993.3
20929.3	994.1	20943.9	991.9	20951.5	991.7	20989	994	21037.1	991.6
21060.1	993.2	21120.9	992.7	21131.3	991.3	21198.6	991.5	21306.4	993.9
21377	994.4	21386.2	994.7	21449.8	995	21502.3	995.3	21567.5	995.7
21648.1	996.3	21682	996.5	21789	996.8	21807.7	996.8	21902.8	997.4
21921	997.6	22001	997.7	22076.6	997.7	22142.9	997.7	22143.7	999
22145	998.9								

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17305.3	.043	18048	.043	20583.6	.043	21131.3	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18048	20450.3	825	642	490	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
21400	22145	999

CROSS SECTION RIVER: 1
REACH: 1 RS: 205.62

INPUT
Description: 205.62
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16987.1	998.1	17010.8	998	17131	997.7	17220.3	997.9	17312.3	997.2
17337.5	997.1	17349.7	993.8	17415.9	993.4	17452.1	994.5	17456	993.6
17462.6	995.4	17470.7	993.9	17481.8	995.3	17536.8	995.9	17541.4	995
17548.6	996.6	17570.5	992.9	17606.9	994.3	17705.6	994.3	17778.6	994
17854.3	993.6	17935.8	992.6	18000.5	991.8	18066.9	989.1	18154.7	990.1
18182.6	989.5	18216	991.5	18272.9	988.7	18345.5	987	18362.3	985.3
18364.3	986.4	18412.4	980.4	18471.7	977.8	18582.6	976.6	18682.4	977.6
18758.9	978.6	18831.8	982	18915	981.6	18928.4	981.8	18994.8	981.7
19088.8	983.1	19188.8	983.9	19260.2	983.8	19272.1	983.6	19307.3	987.6
19315.9	987.5	19391.2	986.5	19461.1	986.8	19526.5	987.3	19591.7	987.7
19623.7	987.9	19690.2	986.9	19701.7	986.9	19732.4	983.9	19808.3	985.5
19928.6	988.8	19968.4	987.6	20009.8	976	20075.5	976.6	20117.2	979
20204.9	979.7	20242.3	978.4	20253.8	980.5	20285.7	981	20339.5	984.7
20409.9	988.4	20450.1	989.3	20468.3	987	20504.3	986.9	20542.3	986
20605.7	986.7	20698.9	989.9	20708.2	990.1	20715.6	995	20780.9	994.9
20847	991.9	20932.4	991	21003.2	991.1	21102.3	991.6	21194.4	992
21286.6	992.7	21318.6	992.9	21388	993.6	21473.6	994.3	21596.5	994.7
21668.5	995	21758.9	995.6	21817	996.1	21920.7	996.9	21963.3	997.1
22043.7	997.1	22107.3	997.1	22215.9	997.1	22261	998.1	22277.9	997.6
22288.5	999.4								

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16987.1	.025	17481.8	.043	18216	.043	18471.7	.032	20715.6	.032
20847	.025								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18216	20450.1	560	523	510	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev

16987.1 17548.6 999.4 21480 22288.5 999.4

CROSS SECTION RIVER: 1
REACH: 1 RS: 205.52

INPUT
Description: 205.52
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17458.9	998.2	17496.2	998.1	17528.6	993.9	17537	994	17538.2	993.3
17605.2	993.8	17611.5	994.9	17615.9	993.3	17622.8	995	17635.1	992.9
17665.3	993	17698.1	994.2	17701.5	993.5	17707.3	995.3	17718.9	995
17731.8	991.3	17820.7	991.9	17894	991.4	17966.9	990.6	18049.9	988.1
18115.3	988.8	18176.3	990.1	18241.5	990	18289.2	989.7	18376.9	989.8
18458.3	990.2	18560.9	990.7	18591.6	991.1	18628.8	988.9	18702.3	978.1
18778	976.8	18843.9	975.9	18919.8	976.6	19003.3	977.9	19078	982
19149.6	982.2	19216.6	981.8	19294.8	981.6	19381.8	980.6	19438.9	979.8
19513.6	979.7	19597.1	981.3	19627.4	982.2	19649.8	981.4	19768.3	982.9
19791.5	982.7	19851.9	983.6	19974.7	981.4	20083.4	978.3	20118	977.6
20126.6	978.1	20161.7	976.5	20215.1	976.5	20237.4	983.2	20307.8	986.1
20375.9	986.4	20411.3	986.8	20436.2	983.2	20454.8	985.7	20472.6	986.8
20567.5	986.1	20573.3	986	20590.7	989.7	20611.5	992.8	20623.9	992.6
20656.5	990.1	20672.2	990.7	20688.3	988.5	20695.2	989.1	20701.5	986.9
20769.2	978.7	20789.2	977.6	20827.6	986.2	20844.7	988.1	20936.4	989.8
21007.2	990.9	21024.7	991.2	21032.1	992.9	21046.7	990.6	21139.1	991.6
21236.4	992	21330.9	992.2	21420.6	992.8	21530.8	993.2	21637.9	993.3
21722.2	993.8	21801	994.3	21909.2	994.5	22026.9	995.2	22127.5	995.8
22175.4	995.9	22246.4	996.2	22303.2	996.7	22383	996.1	22389.5	996.1
22400	997.5								

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17458.9	.043	18591.6	.043	18628.8	.032	20611.5	.032	21032.1	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18591.6	20611.5	430	470	400	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17458.9	17650	998.2	21400	22400	998.2

CROSS SECTION RIVER: 1
REACH: 1 RS: 205.43

INPUT
Description: 205.43
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17577.6	999	17651.4	999	17676.6	993.3	17745.1	993.5	17753.8	994.9
17756.2	993	17761.9	994.1	17779.1	992.9	17827.8	993.4	17837	994.7
17842	993.6	17850.1	995.1	17856.3	994.6	17874.1	989.8	17945.8	990.5
18015.5	989.2	18089	988.6	18171.5	988.1	18272	989	18345.2	989.6
18417.8	988.9	18513.1	989.6	18555.5	988.8	18590.9	983.9	18653.7	980.2
18675.6	981.9	18718.1	992.1	18755	996.2	18831.5	994	18917.5	994.6
18981	993.6	18995.7	991.7	19013.2	983.5	19029.3	979.6	19078	977.3
19159.1	977.1	19235.8	977	19329.8	976.7	19401.3	976.1	19408.1	977.1
19408.2	976.1	19472.5	977.8	19481.8	976.1	19482.8	979.9	19504.5	976.3
19572.1	976.7	19685.1	976.7	19752	976.5	19776.2	976.6	19871.8	985.4
19922.1	984.5	19948.6	982.8	19969.8	979	19994.4	976.5	20009.7	976.5
20115.4	976.5	20173.1	982	20198.5	982.2	20281.7	985.3	20371.1	985.5
20444.6	985.5	20542.7	985.9	20552.8	986	20628.8	985.9	20672.4	986.4
20739.7	988.8	20745.5	988.9	20770.4	996.3	20821.2	987.3	20830.8	986.4
20857.3	988.8	20888.7	988.5	20910.3	984	20959.4	986.1	21024	983.6
21078.8	987.2	21088.9	990.3	21171.4	991.7	21190.4	992.1	21193.4	991.5
21282.9	992	21368	992.7	21454.5	993.1	21528.9	993.3	21613.1	993.6
21695.1	993.6	21768.9	993.9	21849.3	994.3	21923.6	994.4	21927.2	994.4
21997.3	994.6	22016.9	994.6	22089.4	994.6	22155	995.4	22231.3	997.7
22285	998.6								

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17577.6	.043	18917.5	.043	18981	.032	20770.4	.032	21088.9	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18917.5	20770.4	175	171.89	125	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17577.6	17800	999	21400	22285	999

CROSS SECTION RIVER: 1

REACH: 1 RS: 205.4

INPUT
Description: 205.4
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17511.1	996.9	17519.9	996.9	17605.2	997.3	17609	997.3	17712.9	997.8
17756.7	992.2	17854.3	993.8	17914.6	991.3	17916.5	991.2	17968.9	990.2
18031	989.2	18084.1	988.8	18154.5	988.3	18213.4	988.3	18281.7	988.2
18304.7	988.2	18362.5	988.2	18388.7	988.6	18461.3	988.1	18529.4	988.4
18564.6	988.5	18633.4	988.7	18712.8	988.5	18774.2	988.2	18787.4	988.1
18843.8	987.9	18915.9	985.1	18943.3	984.3	19013.3	982.5	19020	982.2985
19079.8	980.5	19133	979.1	19154.8	978.5	19196.1	978.7	19231.1	977.1
19260.1	977.2	19291.7	976.5	19304.1	976.8	19364.1	975.5	19377.1	975.5
19436	975.7	19498.9	975.9	19564	975.7	19635.3	976.2	19694.9	976.3
19718.4	976.2	19774.1	976.1	19840.5	976	19902.9	976	19988.4	976
20047.6	976.1	20060.4	976.2	20120.1	976.4	20173.6	976.9	20230.4	977.5
20290.1	977.8	20348.4	979	20391.6	980.6	20448.9	982.1	20522.8	983.7
20592.3	985.3	20647.3	986.7	20692.4	987.2	20767.8	987.4	20829.1	987.4
20894.3	987.9	20922.5	988.1	20978.2	988.9	21055.7	989.4	21057.2	989.4
21142	989.4	21212	990.9	21270.2	991	21321.8	991.1	21338.9	991.2
21394.1	991.7	21407.6	991.9	21469.8	992.7	21547.3	993.5	21598.6	992.6
21619.5	993.7	21690.3	993.7	21721.2	993.7	21811.7	993.8	21872.4	994.2
21923.6	995.3	21941	995.5	22005.1	996.1	22017	996.2	22078.7	996.7
22181.1	997.7	22194.2	997.8	22249.3	998.6	22318.8	999	22386.3	999.2
22404.4	998.5	22455.6	999.3						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17511.1	.043	18843.8	.043	19079.8	.032	20767.8	.032

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
19020 20767.8 305 315 370 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17511.1	17800	999.3	21450	22455.6	999.3

Blocked Obstructions num= 1

Sta L	Sta R	Elev
17511.1	19020	988

CROSS SECTION RIVER: 1
REACH: 1 RS: 205.34

INPUT
Description: 205.34
Station Elevation Data num= 268

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13687.27	990.7	13918.08	990.68	13941.26	990.7	14074.31	990.74	14097.95	990.77
14379.8	991.2	14502.02	991.27	14504.17	991.32	14654.78	991.45	14667.42	991.12
14692.66	993	14709.75	992.96	14715.8	991.19	14721	993.28	14723.16	993.14
14738.13	990.9	14750.87	991.89	14755.59	992.5	14795.12	991.6	14806.23	991.16
14847.09	991.6	15017.82	991.67	15028.83	991.05	15074.2	990.9	15389.93	990.38
15426.63	990.4	15457.08	991.76	15497.69	991.91	15548.79	991.74	15599.83	990.06
15624.82	992.5	15632.81	992.18	15645.65	991.27	15655.09	992.74	15660.02	991.59
15665.1	993.6	15682.98	994.84	15701.37	993.32	15707.96	993.32	15720.14	993.51
15863.53	993.4	15962.36	993.78	16143.17	993.7	16302.48	993.53	16434.69	994
16540.11	994.5	16630.9	994.03	16710.83	993.42	16732.11	994.29	16741.14	994.53
16755.65	994.8	16763.06	993.99	16780.42	993.76	16789.57	993.4	16811.41	992.38
16945.01	992.9	17037.42	993.38	17118.17	992.9	17138.04	992.78	17279.36	992.27
17420.37	992.1	17527.98	992.75	17560.1	992.78	17728.5	991.33	17729.54	991.26
17753.81	988.5	17789.02	988.8	17833.72	989.1	17845.57	991.95	17853.64	990.8
17860.73	992	17869.58	992	17881.45	991.84	17895.69	992.13	17897.64	994.57
17904.21	994.5	17909.94	991.82	17920.11	988.79	17940.57	989.61	17986.35	989.54
18002.56	989.7	18065.95	989.16	18080.07	988.83	18116.41	988.38	18122.12	987.76
18187.93	987.4	18195.48	987.36	18246.02	987.58	18264.37	987.64	18314.54	986.65
18327.91	986.8	18350.36	988.11	18365.79	988.58	18392.98	988.65	18415.65	990.57
18418	991	18432.37	990.82	18481.36	991.38	18548.7	990.72	18596.12	990.95
18645.9	995	18660.36	994.98	18676.98	995.06	18724.18	991.47	18772.07	990.61
18787.28	990.3	18822.48	988.85	18833.8	988.79	18853.31	988.48	18883.89	988.52
18895.6	987.7	18912.2	992.12	18970.58	990.16	19022.37	991.35	19035.55	989.07
19043.96	988.6	19066.14	988.56	19076.9	991.33	19096.79	993.07	19099.41	993.11
19116.55	988.4	19170.12	987.7	19232.28	987.2	19252.59	986.66	19258.9	986.61
19276.73	986.1	19284.34	985.99	19293.57	985.39	19297.05	984.94	19318.57	978.71
19328.6	976.9	19337.34	976	19422.11	976.18	19470.05	976.22	19524.9	976.33
19562.89	976.7	19632.66	976.09	19705.72	976.43	19754.05	976.63	19843.53	976.95
19853.47	977	19865.48	976.5	19880.46	976.36	19890.89	975.81	19912.96	977.83
19933.5	976.9	19947.42	976.6	19979.26	976.26	20010.7	976.08	20051.63	975.84
20062.33	975.7	20073.85	975.57	20119.54	976.87	20199.2	978.29	20212.26	978.81
20258.32	980.9	20264.39	980.66	20329.9	980.64	20332.62	980.41	20369.18	979.74

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   20375   980.1 20380.1  980.6320381.06  981.0320388.75  983.0320395.38  983.51
20436.76   985.120502.38  985.6120525.59   985.520561.61  985.7420587.94  985.95
20626.14   985.820644.89  985.7420678.28  985.5520707.29  986.1820742.96     987
20746.96   986.620752.64  985.5420762.54  985.0520787.99  983.0120822.69  985.52
20836.01   987.120844.69  986.9620890.92  987.1920931.14  987.6220978.97  988.36
 21006.5   988.721057.23  989.3821083.41   989.721100.77  990.25 21161.6  990.89
21172.71     99121247.07  990.97 21252.7  990.9921266.22  990.7621277.98  990.73
21290.76   992.8   21299  991.1421333.63  991.1321435.22   991.221524.43  991.65
21554.31   991.6 21567.7  991.7221625.82   992.321657.32  992.4221684.03  992.58
21782.19   993.421851.31  993.7221863.14   993.921872.38  994.1621891.44  994.52
21949.81   994.621975.44  994.9221995.48  994.9122007.76  995.2522037.54  996.24
22051.44   996.622075.07  997.6322125.13  998.6122139.54  998.9522159.57  998.78
22179.58   998.822264.13   998.322280.55  998.0322353.16  997.9122369.37  997.91
22404.01     99822463.45  998.2722491.06   998.822531.57  998.5222560.64  998.76
22593.64   998.8 22617.2  999.0722646.25  999.1222676.56  998.9422686.88  999.19
22731.76  1000.522770.23 1000.7922779.44 1001.3422789.67 1000.9722824.65 1001.12
22886.17  1001.722901.04 1001.6722978.01 1002.0623003.78 1002.23 23080.5 1002.51
23154.45  1002.823270.34 1003.4323291.75 1003.5623364.66 1004.1223410.89 1004.31
23481.28  1004.623504.95 1004.7623548.34 1004.8523582.71 1004.8423645.08 1005.05
 23678.1  1005.223738.97 1005.2323762.47 1005.11 23813.7 1005.1223872.53 1005.28
23908.97  1005.423920.45 1005.5423934.72 1004.9423951.14 1004.4623976.71 1005.57
23998.12  1003.624004.04 1002.9424049.64 1002.74

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
13687.27    .04318481.36    .04320931.14    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      19284.3420742.96              485     492     450              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
13687.27   17900    1000   2140024049.64    1000

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 205.25

INPUT
Description: 205.25
Station Elevation Data     num=      96
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 16580.4     994 16657.1     994 16708.3   993.9 16776.5   993.6 16819.1   994.5
 16845.8   992.8 16892.9   992.2 16971.6   992.3 17154.1   993.1 17172.8   993.1
 17289.2   992.5 17431.5   991.8 17455.8   991.6 17644.6   992.5 17718.9   992.3
 17808.9   991.8 17842.7   989.1 17907.9   989.9 17920.6   992.1 17926.4   990.6
 17933.2   992.4 17964.3   990.4 17989.2   990.3 17999.1   987.6   18061   989.2
 18108.7   990.1   18179   988.3 18216.3     987 18244.2   987.5 18311.6   987.2
 18329.2   987.8 18392.2   987.8 18457.1   988.6 18493.2   989.2 18509.7   988.5
 18583.8     989 18614.2   989.1 18647.4     988 18708.8   987.6 18775.5   989.5
 18807.1     990 18886.3   989.2 18946.4     989 18990.4   988.1 19012.5   989.2
   19101   990.2 19156.3   989.9 19179.1   987.1 19186.7   985.4 19228.7   983.3
 19242.4     982 19306.5   983.4 19368.3   983.9 19442.9   983.5 19503.3   984.6
   19563   981.8 19581.1   985.9 19632.5   986.1 19671.9   987.3 19726.2   975.8
 19815.7   975.6 19878.1   976.2   19957   975.9   20042   975.5 20112.8   975.3
 20121.8   975.7 20160.5   973.8   20242   973.4 20260.5   974.6 20329.5     975
 20404.8   975.5 20471.4   978.3 20486.8   979.5 20522.9   977.9   20526   975.8
 20552.9   975.9 20584.6   974.1 20632.4   973.9   20697   975.7   20712   975.7
 20738.9   981.7 20741.5   980.7 20782.3   986.4 20848.1   987.4 20923.8   989.9
 21014.3   990.6 21121.3   991.6 21201.7   992.1 21283.6   992.1 21338.5   993.1
 21347.9   993.8 21358.2   992.2 21370.3   995.6 21409.5   995.7   21424   994.5
 21499.5   993.3

Manning's n Values         num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 16580.4    .025 18108.7    .037 19671.9    .037 20782.3    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       19671.9 20782.3              505     506     485              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 16580.4   17950   995.7 21347.9 21499.5   995.7

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 205.15

INPUT
Description: 205.15
Station Elevation Data     num=      96
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 18001.2     994 18008.5   992.8 18015.6   994.9 18038.3   990.9 18047.4   991.8
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18061.5	992.1	18077.6	991.6	18146.4	988.8	18170.1	988.9	18200.6	988.3
18243	988.8	18269.7	988.5	18292.3	988.8	18341.7	989.8	18374.9	990.2
18415.6	990.6	18438.3	991.1	18547.3	991	18558.8	991.1	18618.4	991.8
18625.4	991.9	18687.7	991.3	18696.2	991.3	18745.4	991.4	18794.1	991.1
18810	991.2	18866.4	991	18894.1	991.2	18920.9	990.7	18973.2	990.3
19018.9	989.8	19055.8	989.7	19109.2	989.4	19141.8	988.8	19181.8	988.8
19228.5	988.7	19285.2	989.2	19335.5	988.1	19346.3	987.8	19386.8	986.1
19394.2	985.9	19440.1	984.4	19443.6	984.3	19490	983.7	19506.7	983.8
19532.2	982.8	19587.2	983.3	19612.4	983.6	19619.1	984.1	19660.7	983.9
19705.1	983.1	19747.1	983.7	19787.1	984.9	19805.2	976.8	19822.3	973.4
19827.6	974.7	19829.5	974.2	19853	974.2	19880.4	973.6	19881.2	973.1
19908.4	980	19918.9	982.2	19934	984.3	19978.1	984.9	20006.4	984.1
20054.3	983.8	20064.2	983.5	20106.6	982	20110.7	981.8	20166.7	979
20196.8	978.1	20246.3	976.6	20250.4	976.4	20298.9	975.4	20340.8	975.5
20371.6	975.7	20436.2	974	20495	974.1	20608.2	975.2	20651	975.7
20691.5	977.2	20705.2	979.5	20746.3	987.3	20793.1	987.9	20838	988.7
20896.6	989.6	20910.7	990.1	20968.3	990.3	20999	990.6	21039.8	990.8
21107	991.7	21127.2	991.3	21170.3	994.1	21206.9	995.7	21258.6	996.3
21293	996.4								

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
18001.2	.025	18146.4	.037	19787.1	.037	20746.3	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19787.1	20746.3	495	495.39	495	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
18001.2	18061.5	995	21293	21293	996.4

CROSS SECTION RIVER: 1
REACH: 1 RS: 205.06

INPUT
Description: 205.06
Station Elevation Data num= 129

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17971	990.9	18065.3	988.6	18104.6	990.4	18115.6	988.2	18128.9	991.2
18143.2	991.5	18167.1	990.4	18222.4	988.9	18239	988.9	18268	988.1
18295.2	989	18314.3	988.5	18358.9	987.5	18410.5	986.7	18435.8	988.1
18478.4	994.2	18515	994	18541.2	993.6	18567.7	993	18668.2	993.4
18694.6	996.3	18716.8	994.1	18733	990.9	18773.1	991.2	18799	993.8
18844	996.4	18879.8	994	18912.8	991.3	18929.6	990.6	18948.8	990.9
18974.6	992.4	18989	991.8	18996.9	990.8	19026.5	996.8	19033.3	997.5
19038.3	998.5	19071.8	995.8	19078.5	994.1	19097.2	986.1	19133.8	987
19136.4	990.2	19142.8	992.6	19151.6	994.3	19202.7	994.1	19217.4	994.9
19226.3	988.3	19230.3	986.5	19252.3	985.8	19287.1	985.9	19329.2	986.2
19380.3	987.3	19388.1	987.3	19434.5	987.8	19445.1	987.8	19500.6	988.4
19538.9	988.7	19598.7	988.7	19648.7	990	19669.4	989.9	19722.7	988.3
19771.5	986.5	19803.6	986.4	19827.5	985.6	19841.3	984.7	19887	983.6
19904.2	973.1	19931.3	971.2	19981.6	971.1	19982.8	971.1	20027.4	970.5
20053.2	971.3	20073.5	976.1	20120.4	976.2	20137.3	976.4	20147.5	981
20155.4	983.6	20196	987.3	20208.9	986.1	20221.7	985.3	20253.8	981
20275.4	981	20301.5	975.4	20306.9	975.1	20315.2	975.1	20365	974.5
20425.5	974.6	20470.1	974.5	20497.9	974.4	20563.5	973.5	20601.9	973.2
20671.9	974	20850.2	976	20856.8	977.9	20880.3	977.7	20892.4	984.3
20905.3	990.8	20927.2	991.2	20971.3	992	21020.6	993	21062.7	993.2
21101.6	993.3	21146	993.7	21204.6	993.9	21256.1	994.5	21300.3	994.8
21336.3	994.9	21378.2	995	21414.7	995.2	21457.8	995.2	21484.8	995.4
21512.4	994.7	21514.5	995.9	21516.2	996.3	21518.9	995.5	21525.9	994.3
21532.1	994.6	21537.4	995.2	21546	995	21560.5	995.3	21575	995
21602.5	996.4	21628.8	996.3	21672.8	996.3	21709.9	996.5	21754.4	996.4
21826.9	996.1	21895.5	996.5	21951.4	996.6	21997.9	996.4		

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17971	.037	19026.5	.037	19669.4	.037	20905.3	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19669.4	20905.3	505	505	530	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17971	18080	998.5	21997.9	21997.9	998.5

CROSS SECTION RIVER: 1
REACH: 1 RS: 204.97

INPUT
Description: 204.97

Left Channel Bank Station Interpolated
Station Elevation Data num= 86

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16000	993.3	16025.7	992.1	16060.7	991.7	16273.1	992.3	16303.1	992.4
16597.7	992.1	16613.7	992	16818.7	992	16912.8	992.3	17061.4	992.3
17169.3	991.7	17232.9	991.8	17259.7	989	17316.4	990.2	17470.6	990.2
17483.4	990.2	17700.5	989.9	17786.2	989.2	17832.4	989	17894.5	988.9
17924.8	989.2	17933.3	990.5	17979.7	992.1	17985.3	991.5	17994.8	988.7
18008.6	988.7	18105.1	987.6	18137.2	986.9	18189.2	987.8	18201.2	986.8
18216.4	989.2	18243.6	989.2	18301.9	989	18377.5	989.6	18462.9	990.2
18523.7	988.6	18573.9	986	18643	986.6	18672	985.8	18672.9	984.9
18697.7	984.3	18729.6	988.3	18807.2	987.9	18833	984	18865.3	987.3
18888.3	985.4	18917	987.8	18955.4	987.9	18987.3	984.9	19046.8	987.1
19093.5	986.8	19152.6	983.5	19285.8	983.8	19317.6	981.5	19332.9	979.1
19418.6	978	19438.3	978.8	19545	978.843	19934.7	979	19938.2	981.1
19945.9	981.9	20008.7	980.8	20068.2	980.2	20091.8	979.6	20151.8	979.3
20225.8	978.1	20300.7	979	20367.2	979.3	20442.3	978.7	20509.6	977.2
20568	974.8	20659.1	973.3	20662.9	973.3	20925.5	975.4	20961.3	988.6
20999.4	990.2	21056.8	990.8	21126.2	991.7	21187	992.8	21200.2	992.9
21265.2	993	21340.5	993	21356.1	993	21427.5	993.4	21492.8	993.1
21496	993.1								

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16000	.025	18301.9	.037	19046.8	.037	20961.3	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19545	20961.3	510	503	550	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
16000	18200	993.4

CROSS SECTION RIVER: 1
REACH: 1 RS: 204.87

INPUT
Description: 204.87

Right Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17067.4	991.5	17111.3	991.5	17255	990.6	17291.2	991.6	17298.2	992.1
17315.9	991	17328.2	990.9	17345.3	988.6	17426.3	988	17520.6	988.2
17594.7	988.5	17781.4	988.6	17822.3	988.5	17925.1	988.2	18001	987.2
18108.5	987.1	18221.3	987.3	18261.7	986.3	18269.2	986.9	18279.6	985.4
18296.9	986.8	18325.5	986.8	18352.2	985.5	18429.1	985.3	18501.3	985.6
18553	984.4	18559.8	986.3	18565.9	988.9	18578.6	987.7	18604.1	983.9
18645.9	981.4	18657.3	984	18678.8	986.2	18730	987.6	18832.5	987.5
18855.2	985.7	18859.7	984.6	18874.5	986.6	18920.1	984.6	18942.9	980.4
18960	980.8	18970.7	982.4	19015.9	985.9	19104.6	986.7	19209.9	985.7
19234.9	985	19264.2	982.7	19275.4	983.5	19297.4	981	19382.3	981.4
19462.8	981	19532.8	979	19555.4	979.1	19566	978.5	19579.4	978.5
19588.4	976.2	19598.7	976.3	19623.4	978.5	19628	979.5	19642.3	981
19714.7	981	19730.8	981	19759.9	975.9	19765	976.4	19772.7	975.9
19854.5	975.9	19859.5	975.9	19861.3	977.3	19877.6	980.8	19890	975.9
19903.3	969.9	19909.9	970	19919.2	968.1	20001	968.1	20022.9	968.1
20059.2	975.3	20126.4	976.2	20213.9	975.3	20298.1	974.9	20351	974.8
20377.2	977.3	20393.3	977.5	20505.4	975.8	20559.1	974.3	20612	976.5
20624.2	974.6	20654.3	973.2	20826.7	974.3	20919.3	974.9	20939.9	984.7
20954.34	991.1405	20961.2	994.2	20981.5	994.3	21037.9	989.4	21047	990.3
21137.3	991.2	21197.6	991.4						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17067.4	.025	18221.3	.037	19462.8	.037	20961.2	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19462.82	20954.34	495	499	505	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17067.4	18300	994.3	20961.2	21197.6	994.3

CROSS SECTION RIVER: 1
REACH: 1 RS: 204.78

INPUT
Description: 204.78

Right Channel Bank Station Interpolated
Station Elevation Data num= 87

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16026.1	987.6	16094.8	987.3	16113.5	986.9	16143.6	989.2	16147.7	990.2
16176.4	990.8	16200.6	988.8	16231.8	988.4	16338.9	988.8	16416.1	988.9
16579.2	988.9	16686	989.1	16786.7	989.1	16866.8	989.3	17093.1	989.3
17192.6	989.3	17283.5	988	17369.3	988	17407.5	989.7	17420.2	988
17479.3	987	17521.2	986.9	17670.9	988	17754.2	987.8	17912.8	987.4
17952.6	987.1	18028.5	987	18174.7	986.5	18221.6	986.3	18279.6	986.1
18350.4	984.9	18361.8	983	18373.6	985.9	18402.3	985.9	18413.2	983.6
18427.5	987.2	18487.5	986.4	18504	984.4	18585.3	983.7	18598.2	984.9
18667.6	983.9	18753.3	984.6	18756.1	984.9	18767.8	981.3	18836.7	981
19173.1	979.8	19219.1	979.8	19295.8	977.2	19323.7	977.5	19337.5	981
19356.4	981	19398.6	983	19409.2	982.4	19419.8	979.2	19429.6	977.4
19432.3	975.9	19489.4	975.9	19561.1	974.8	19621.6	973	19660.7	972.1
19667.7	970.8	19677.1	967.6	19767.4	968.8	19768	968.8	19935.5	968
19986.5	968	20033.8	975.7	20056.9	977.8	20073.7	975.3	20160.4	975
20170.8	975.3	20229.5	975	20246.7	975	20324.8	974.9	20340	975
20452	975.9	20510.9	973	20530.9	973.1	20662.3	973.7	20706.1	973.8
20782.6	974.9	20801.8	975.1	20832.3	3990.9	976 20840.4	995.2	20866.6	994.5
20921.2	988.9	20982.7	988.3						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16026.1	.025	18427.5	.037	19398.6	.037	20840.4	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19398.6	20832.33	505	515	550	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16026.1	18400	995.2	20840.4	20982.7	995.2

CROSS SECTION RIVER: 1
REACH: 1 RS: 204.68

INPUT
Description: 204.68

Right Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17501.1	986.1	17554.2	985.7	17607.9	985.5	17645.5	987.6	17657	986.8
17668.8	987.1	17674.9	990.2	17682.2	987.8	17691	985.7	17742.4	986.2
17748.2	986.3	17778	988.7	17792.2	990.8	17806.1	988.7	17807.3	988.9
17839.5	987.8	17848.5	986.9	17867.4	986.8	17881.2	986.2	17970.4	985.8
18016.4	985.9	18087.9	985.4	18189.8	985	18231.2	984.8	18295.5	984.9
18354.5	984.6	18412.6	984.3	18437.1	982.9	18472.2	984	18491.1	983.4
18518.9	981.6	18530.8	984.6	18531.9	985.1	18550.1	982.9	18601.2	983.1
18621.4	983.6	18662.6	982.9	18685.1	983	18736.6	981.7	18767.6	980.4
18849.4	980.3	18886.2	980.2	18950.6	980	19029.6	979.9	19057.5	983
19071.2	980.7	19099.7	980.9	19114	981.6	19143.3	981.3	19197.1	981.7
19249.9	983.3	19284.9	981.9	19308.1	982.1	19314.7	984.6	19321.8	985
19357.4	981	19361.7	979.6	19368.2	980.1	19394.4	978.2	19398.6	975.9
19415.9	975.9	19458.6	973.3	19479.3	973.1	19513.5	971.9	19564.9	971.9
19621.8	972.2	19668.2	973.2	19691.4	975.5	19719	976.9	19734.6	976.2
19779.1	971.8	19814.3	971.4	19869.4	971.6	19901	972.5	19927.9	972.8
19942.8	973.9	20011.2	975.3	20053.7	976.3	20121.8	976.1	20137.2	975.6
20206.4	975.5	20256.1	973.7	20273.3	974.7	20295	973	20348.3	973.2
20369.6	973.3	20516.3	974.1	20548.6	1990.5	028 20548.8	990.6	20582.8	991.5
20647	987.5	20715.7	987.8	20786.9	988	20814	988	20872.4	988.2
20904.2	988.1	20971	988.4						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17501.1	.025	18472.2	.037	19321.8	.037	20548.8	.037	20582.8	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19321.8	20548.61	325	407	570	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17501.1	18455	991.5	20582.8	20971	991.5

CROSS SECTION RIVER: 1
REACH: 1 RS: 204.61

INPUT
Description: 204.61
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

14501.4	987.8	14573.3	990	14582.2	987.6	14618.2	988.2	14777.3	988.3
14862.5	988	15060	988.1	15169	988.1	15293.6	988.1	15349.5	988
15354.3	989.1	15407.2	987.7	15581	987.7	15683.1	987.7	15895.1	987.7
15973.3	987.8	16138.5	987.8	16253	987.3	16305.2	988.9	16356.5	986.6
16502.7	987	16642.3	986.6	16753.7	986.8	16913.6	986.7	17015.2	986.4
17201.6	986.5	17292.3	986.1	17385	986.2	17492.5	986.6	17525.7	986
17544.8	987	17555.9	984.9	17607.1	987.6	17733.4	988	17760.1	988.2
17907	986.4	17945.4	985.9	18071.1	985.8	18171.7	984.9	18250.5	986.1
18300.1	984.4	18402.9	984.9	18466.2	984.6	18493.6	983.5	18498.9	981.8
18563.6	983.3	18578.3	983	18591.3	980.7	18665.2	981.8	18677.5	983.2
18687.3	985.4	18775.1	988.2	18821.3	988.9	18834.2	979.9	18973.9	980.4
19090.8	980.1	19180.1	979.7	19288	980.1	19386.4	980.8	19428.1	982.7
19471.3	983.1	19479.7	979.4	19500.4	973.3	19642.8	973.3	19760.9	972.7
19781	972.7	19928.9	973.4	20022	973.4	20085.3	975.2	20097.7	972.6
20188.3	973	20275.9	973.4	20374.8	973.9	20426.1	974.2	20456.1	987.8
20482.9	988.5	20507	986.5	20620.9	986.8	20726.9	987	20849.8	987.1
20944.2	987.1	21033.3	987.2	21060.5	987.3	21176.6	986.9	21261.7	986.8
21362.3	986.7	21489.6	987	21584.7	987.7	21599.3	987.7	21697.6	987.5
21835.5	987.5	21887.1	988.6	21890.1	987.2	21897.8	989.2	21930.6	990.8
21963.1	990.8								

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
14501.4	.025	18498.9	.037	19471.3	.037	20482.9	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19471.3	20482.9	395	449	545	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
14501.4	18570	990.8	20482.9	21963.1	990.8

CROSS SECTION RIVER: 1
REACH: 1 RS: 204.53

INPUT
Description: 204.53
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17504.9	987.8	17516.3	987.9	17522.8	987.1	17597	987.9	17615.7	987.3
17634.6	987.5	17637.7	988.1	17645.9	986.3	17657.9	988	17704.2	989.7
17740.1	1006.3	17784.7	1004.7	17850.8	1006.5	17875.5	988.5	17970.4	986.9
18011.9	987.2	18027.9	986.1	18091.1	986.1	18155.5	985.2	18204.4	984.7
18283.5	984.5	18320.2	984.4	18443	984.3	18501.9	983.9	18579.8	983.6
18647	982.6	18678.7	980.4	18706.4	982.9	18747	982.6	18757	983.3
18815.9	983.6	18827.1	980.6	18916.2	981.2	18927.3	982	19007.2	982.5
19073.9	982.8	19175.3	983.2	19185.4	983.5	19240.3	981	19276	975.9
19293	975	19359.2	979.5	19386	976	19409.2	976.4	19468.7	973.1
19520.6	973	19547.6	973.9	19571.2	975.5	19585.1	972.9	19610.7	972.7
19729.3	972.9	19787.3	973	19805.5	973.5	19860.6	976.1	19930.7	975.8
19979.8	973.4	19994.9	973.6	20150.7	974	20174.8	974	20434.3	974.4
20443.5	974.5	20465.7	985.2	20495.9	987.1	20550.8	986.4	20566	984.8
20629.6	984.7	20701.1	984.8	20780.4	985	20872.2	985	20943	985.1
21022.1	985.1	21052.3	985	21118.4	984.9	21183.9	984.8	21260.2	985
21337.7	986.1	21351.7	986.3	21381.4	984.7	21472.3	984.9	21564.8	985.3
21626.7	986.2	21653.6	986.5	21678.1	985.5	21716.4	985.3	21781	984.7
21817.6	987.6	21875.1	987.3	21880.1	988.5	21884.2	988.1	21885	988.9
21887.9	987.2	21894.1	988.4	21914.7	989.1	21935.1	988.6	21999.2	989.8
22011	990.1								

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17504.9	.025	18647	.037	19185.4	.037	20495.9	.037	20566	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19185.4	20495.9	570	552	525	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17504.9	18730	1000	20495.9	22011	1000

CROSS SECTION RIVER: 1
REACH: 1 RS: 204.42

INPUT
Description: 204.42

Right Channel Bank Station Interpolated
Station Elevation Data num= 90

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17576	985.4	17608.5	985.2	17708	984.7	17783.2	985.9	17832.4	987.2

17853.5	986.1	17871.5	986.6	17926.9	986	17956.8	985.7	18023.8	985.6
18149.3	988.2	18169.7	988.1	18191.3	988.5	18226.7	987.2	18239	992.9
18240.3	993.2	18241.4	992.8	18249.3	987	18255.2	986.8	18279.8	990.2
18308.3	987.7	18322.1	985.5	18347.4	985.3	18488.4	983.7	18517.8	983
18560.8	983.8	18635.1	982.4	18650.1	983	18667.7	983	18723.8	982.5
18733.2	982.4	18795.2	981.7	18839.1	981.2	18874.1	983.2	18899.1	981.9
18955.6	982.5	18998.6	983.3	19025.4	984.6	19040.4	981.3	19045	980.6
19052.9	980.4	19095.4	981.9	19166.1	982.1	19255.9	982	19280.2	982
19341.8	981.8	19381.9	981.6	19437	981.1	19475.3	981	19500.2	980.6
19543.1	978.9	19552.9	979.1	19561.9	978.3	19576.9	979.5	19599.7	980.5
19616.5	980.7	19649.2	979.5	19653	978.6	19672.9	972.5	19732	972.5
19781.3	972.6	19794.7	975.8	19805.4	972.9	19824.4	972.6	19905.9	971.4
19930	972.8	19954.4	972.4	19966.8	973.5	19992	972.4	20006.4	972.1
20057.7	972.3	20101.5	973	20150.5	972	20162.2	972.1	20303.9	972.1
20322.7	972.1	20397.5	972.3	20434.6	971.9	20454.2	972.5	20468.3	973.3
20548.4	973.9	20577.1	973.9	20609.6	973.2	20616.9	972.5	20646	972.8
20682.0	9987.6	656 20689.7	990.8	20701.7	992.2	20714.4	988.5	20967	988.5

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17576	.025	18839.1	.037	19025.4	.037	20689.7	.037	20701.7	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19025.4	20682.09	430	453	500	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17576	18874.1	993.2	20689.7	20967	993.2

CROSS SECTION RIVER: 1
REACH: 1 RS: 204.34

INPUT
Description: 204.34

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 74

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18066.2	985.2	18081.3	985	18158.1	983.7	18200	983.2	18226	984
18228.2	983.4	18283.2	983.4	18339.1	987.8	18395.4	986.8	18498.7	986.6
18514.4	986.2	18516	986.7	18586.8	985.6	18638.2	981.3	18678.3	981
18721.9	979.9	18774.5	984.6	18806.4	982.8	18806.6	981.1	18864.9	982.2
18888.3	975.4	18906.9	980.7	18919.1	979.8	18932.5	981.8	18936.3	983.3
18988.6	982.9	19004.9	982.1	19086.4	981.7	19100	981.6	723 19184.5	981.5
19245.5	981	19310.8	980.7	19329.3	980.7	19389.4	980.3	19453.4	979.8
19487.9	979.5	19552	979.2	19615.6	978.7	19689.1	978.5	19736.5	978.7
19757.1	988.9	19782.1	971.2	19783.9	970.6	19819.5	969.3	19835.1	971.8
19891	971	19954.9	970.8	20009.4	971.2	20054.1	972.9	20100.5	973.1
20107.5	972.7	20175.2	972.5	20253	971.7	20324.6	971.9	20395.6	971.7
20465.2	971.4	20539.7	971.3	20603.2	971.5	20661.9	971.9	20671.8	972
20743.2	970.2	20773.2	970	20795.3	976.9	20816.23	986.0	935 20827.4	991
20878.6	990.5	20887.2	987	22239.1	987.1	22248.4	987.2	22254.3	988.2
22259.5	985.8	22266.1	987.7	22287.1	988.3	22317.8	988		

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
18066.2	.025	18774.5	.037	20827.4	.037	20878.6	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19100	20816.23	495	488	480	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
18066.2	19100	991	20827.4	22317.8	991

CROSS SECTION RIVER: 1
REACH: 1 RS: 204.25

INPUT
Description: 204.25

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 202

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13993.51	986.9	14130.56	987.4	114486.44	987.43	14755.8	987.0	314937.72	987.04
15050.6	988.1	15090.94	987.5	715102.07	987.5	715109.44	988.6	415116.98	989.38
15128.77	988.1	15132.01	987.97	15140	988.4	715148.98	986.9	315153.86	985.73
15173.36	986.2	15690.75	986.1	815878.25	985.1	815889.67	986.2	815904.51	988.05
15907.38	988.1	15919.42	987.92	15924.1	987.4	715931.02	985.8	315970.22	986.25
16049	986.1	16175.22	986.0	216450.56	986.1	616463.91	986.2	916480.31	987.87
16486.56	987.4	16495.93	987.1	16504.19	987.7	916511.66	987.9	16518.49	987.78

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16535.99   985.816542.09  985.62   16555  985.5516564.89  984.2816584.86  984.26
16687.99   984.816810.65  985.2916823.94  985.32 16873.9  984.7316893.09  984.53
16922.74   984.6 16941.4  984.2616960.75  984.6616990.05  984.3317020.18  984.79
17048.94   986.617091.64  985.2817177.92     98517208.14   985.117249.69  984.95
17398.31   984.317414.87  984.49 17522.6  984.3917556.82  984.2117600.03  984.35
17721.19   984.217812.48  984.25 17851.5  984.8117861.89  984.59 17867.1  984.93
17880.92     98517892.56  984.3517898.26  983.9217932.23  986.4917944.09  986.98
 17988.7   986.718005.49  986.89 18050.6  987.5718083.28  987.6218106.23  986.76
18158.97   986.818174.45   987.118185.88  987.1218240.34  986.9218277.05  986.27
18300.85   986.118323.52  985.5518372.65  985.1418410.49  985.0818449.87  985.08
18490.27   985.5 18520.4  985.1518569.61   985.8 18587.9  985.7618609.93   985.4
18633.73   984.818652.28  984.25 18660.4  983.8518672.96  983.4118703.66  978.51
18719.46   976.218724.94   975.718730.59  976.2818765.73  981.3818788.83  981.86
18812.39     98218851.86  982.6718856.84  982.0218876.79  980.9318917.58  980.72
18958.37   980.818990.64  980.15 19005.3   981.3   19038  982.5519054.34  981.71
19061.47   981.919088.33  981.0319097.24  980.6119117.27  982.08 19126.5  981.33
19134.63   980.819139.73  980.7919178.34  980.9919189.92  980.9119237.27  980.78
19263.33   980.219297.08  979.95   19300 979.93619332.52  979.7819361.32  979.52
19438.75  979.41 19458.3   979.519506.35   978.719519.13  978.8519527.66  978.72
19542.19  978.7319623.64   978.619631.41   978.619649.23  978.6319696.73  978.82
19703.53  975.7119717.53   970.2   19739   971.319747.27  974.51 19771.1  974.27
20035.47  970.8820227.56   972.420273.64  972.3620297.51  972.19 20307.7  971.98
20309.92  971.7420357.54   969.8 20436.7  969.4420448.29  969.4520499.51  969.22
20526.05  969.29 20588.3   969.720612.99  970.1420643.57  971.0820655.61  971.37
20680.85  971.2420705.02   971.520710.67  971.3720740.01  974.1420776.89  977.31
20818.53981.025320830.46  982.09 20922.2   989.620964.06  989.9520995.89  990.41
21004.86  987.3921018.73  981.0821052.72   981.121087.73  980.7921108.33  980.92
21157.66   981.421178.54  981.5221210.73   981.221262.99  982.6321279.42  982.45
21290.06  979.4521361.92  980.42 21408.6   981.221446.51   981.421456.08  981.58
21481.84  981.6121499.03  981.7121649.19   981.921681.55  982.0721787.28  982.66
21862.63   982.921876.61  982.9521939.71   983.421983.01  983.3822043.39  983.78
22083.67  984.1722130.05  984.4322172.04   984.422225.83  984.5822265.02  984.87
22339.34  986.3522389.33  985.4622416.26   985.922438.79  986.0322474.98  986.32
22486.29  987.5222500.35  987.24

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
13993.51    .03518812.39    .03221290.06    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         1930020818.53              510     508     500              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
13993.51   19300     990 20922.222500.35     990

CROSS SECTION           RIVER: 1
REACH: 1                   RS: 204.15

INPUT
Description: 204.15

Left and Right Channel Bank Stations Interpolated
Station Elevation Data     num=      80
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 16507.2   984.4   16600     985 16650.2   986.1 16657.8   983.8 16666.8     986
 16708.7   983.2 16800.2   983.6 16895.3   983.8 16963.7   983.3 17111.7   982.5
 17141.8   982.4 17289.1   982.7   17397   983.7 17427.8   983.8 17571.9   983.4
 17609.8   983.3 17719.7   983.5 17833.6     983 17949.9   982.8 18031.8   984.3
 18081.2   983.6   18087   981.9 18093.6   985.1 18094.5   983.7 18130.3     986
 18214.6   985.6 18280.4   986.6 18357.2   984.7 18446.1   985.5 18578.2   984.4
 18725.8   984.7 18824.1   985.3 18862.3   983.1 18888.3   980.6   18907   981.1
 18955.1     980 19045.1   979.6 19065.5   979.9 19074.1   976.8   19104     969
 19192.6   971.7   19200   971.7 19310.3   971.7 19331.3   970.9 19446.3   971.9
 19486.8   971.6 19501.3   966.1   19595     966 19644.2   966.2   19661   973.6
   19681   970.2 19769.8   971.6 19860.6   972.7 19968.4   974.8 20027.5   972.3
 20066.1   967.9 20074.7   967.9 20209.5     968 20337.2   968.2 20441.7   967.7
 20540.9   966.7 20554.5   966.5 20580.4   968.8 20679.7   967.8 20753.2   967.1
 20790.2   968.9 20795.8   969.9 20814.5   969.5 20911.6   969.2   20940   967.1
 20986.5   968.321033.38981.5872 21042.6   984.2 21131.4   985.3 21379.2   985.3
 22652.4   985.2 22684.9   986.3   22693   983.9 22700.1   985.5 22708.9   985.4

Manning's n Values         num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 16507.2    .035 18824.1    .032 21131.4    .025 21379.2    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         1920021033.38              510     509     510              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev
```

16507.2 19200 986.6

CROSS SECTION RIVER: 1
REACH: 1 RS: 204.05

INPUT
Description: 204.05

Left and Right Channel Bank Stations Interpolated
Station Elevation Data num= 73

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18304.1	982.1	18322.9	981.3	18412.7	981.2	18490.1	981.1	18499.9	981.4
18523	980.8	18527.4	981.7	18530.5	980.8	18552.5	980.6	18585.3	987.2
18649.8	986.5	18710.4	987.1	18782.2	985.8	18858.9	986.9	18882.3	985.9
18903.8	986.2	18952	984.5	18962.59	980.697	18970.1	978	18992.5	968.5
19020.9	971.4	19097.5	973.6	19099.9	973.6	19168.9	971.6	19234.1	970.7
19315.1	973.1	19401.3	974.1	19432.4	974.2	19453	972.9	19510.9	971.5
19570.9	965.6	19644.7	967.7	19662	968.9	19741.3	971.7	19784.3	975.1
19860.9	975.2	19946.2	976.1	20026.3	975.5	20061.6	973.5	20142.4	974.9
20200.7	974.3	20222.7	972.5	20272.6	972.8	20286.9	973.4	20327.7	971.7
20354.5	969.2	20434.3	970.9	20491.6	971.4	20536	969.7	20605	969.1
20618.5	968.7	20679.5	965	20701.3	965.4	20715.6	967	20746.4	966
20828.1	965.9	20914.2	966.5	20930	968.1	20994	968.4	21024.5	966.7
21045.1	967	21067.8	975.8	21081.76	980.6981	21090.6	983.8	21160.1	983.8
22668.7	984.2	22676.7	984.2	22773.1	984.3	22829	984.6	22836.3	985.6
22843	983.5	22852.2	986	22860.7	985.9				

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
18304.1	.05	18552.5	.035	18858.9	.032	21090.6	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18962.59	21081.76		510	505	520	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
18304.1	18750	987.2

CROSS SECTION RIVER: 1
REACH: 1 RS: 203.96

INPUT
Description: 203.96

Right Channel Bank Staion Interpolated
Station Elevation Data num= 91

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16511.6	983.5	16713.4	983.8	16774.3	983.9	16908.7	984.4	16963.5	986.3
16968.1	982.5	16973.8	984.3	17039.3	980.6	17126.9	980	17138.9	980
17175.8	974.9	17222.8	980.2	17277.4	983.2	17284.8	982.3	17330	982.5
17366.5	984.4	17465.6	982.2	17576.8	981.2	17680.4	980.6	17774.7	979.6
17869.9	981.4	17958.4	981.2	18010.3	980.8	18015.8	982.2	18024.6	982.8
18047.1	980.2	18070.6	981.5	18128.1	982.9	18242.5	983.3	18284.4	984.3
18384	982.4	18469.6	983.6	18481.1	980.9	18496.2	979.1	18583.4	978
18607.3	975.5	18626.7	976.9	18657.9	976	18690	978.1	18723.2	976.2
18730.8	978.5	18760	974.5	18783.2	969.3	18801.2	968.9	18811.7	967.4
18891.8	971.9	18902.5	971.8	18997.2	971.4	19057.4	972	19069.5	973.6
19145.7	973.5	19201.5	971.8	19284.9	973.5	19375	977.1	19427.1	976
19471.7	976.7	19531.2	976.1	19556.4	976.8	19606.4	965.6	19696.9	968.3
19784.2	968.9	19847.3	971.5	19965.6	970.7	19998.5	972.3	20089.8	973.2
20179.8	972.3	20254.9	970.6	20367	970.8	20411.5	970.7	20421.4	969.4
20435.9	965.4	20451.7	964.7	20529.6	965	20554.9	967	20642.7	965.7
20735.2	964.2	20738.9	964.1	20767.7	971.2	20790.38	978.7393	20803.5	983.1
20835.5	994.9	20850.3	995.2	20872.5	997.5	20910.1	984.2	20997.3	981.9
21108.2	981.9	21539.6	982	21552	986.1	21559.4	984.2	21657.7	986.4
21694	988.5								

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16511.6	.025	17175.8	.043	18469.6	.043	18902.5	.032	20835.5	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18730.82	20790.38		495	502	505	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16511.6	18730.8	997.5	20835.5	21694	997.5

CROSS SECTION RIVER: 1
REACH: 1 RS: 203.86

INPUT
Description: 203.86

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17504.9	979.4	17555	980.7	17589.4	982.1	17613.5	980.8	17620.6	979.8
17657.6	978.3	17694.3	979.8	17718.4	978.9	17729	980.8	17762.1	977.4
17780.7	978.7	17821.9	984.3	17861.6	984.2	17888.2	982.4	17897.5	983.2
17930.6	983.2	17969.6	984.1	17989.1	983.6	18013.3	984	18044.9	981.7
18064.4	979.2	18096.7	981.5	18136.8	979.8	18171.7	980	18207.5	982
18243.1	982.7	18290.8	981.3	18353.7	982	18421.5	981.7	18458.6	982.1
18488.1	978.2	18540.3	978.5	18564	971	18599.5	968.8	18660.4	971
18700.2	971.8	18760.2	970	18806.7	971.3	18853.4	969.4	18891.2	969
18974.3	973.5	19064.8	976.5	19077.3	975.8	19161.8	973.4	19223.1	970.5
19246.5	967.4	19268.5	965.8	19288.8	962.4	19365.2	962.6	19365.7	962.6
19450.7	962.8	19451.6	962.8	19539.2	963.1	19611.5	963	19690.6	962.4
19743.6	962.3	19811.2	962.7	19858.2	963.1	19928.9	963.6	19992.8	963.8
20013.5	963.8	20076.4	964	20099.2	964	20196.1	964.2	20254.4	964.2
20298.4	964.5	20318.1	968.2	20429.2	967.6	20486.9	967.6	20543.1	968.6
20555	966.5	20576	964.2	20634.3	964.2	20650.7	964.2	20663.3	965.7
20676.9	965.8	20697.7	967.2	20730.9	976.1	20735.9	978.6323	20761.9	991.8
20803.3	981	20878.5	982.5	20946.4	982.5	20965.7	981.1	21031.2	980.5
21099.9	980.6	21167.6	980.7	21198.2	981	21258.8	981.1	21324.9	981
21359.8	980.5	21368.4	981	21395.8	980.4	21405.9	982.4	21411.7	980.4
21482.6	980.2	21488.8	980.2						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17504.9	.043	18243.1	.043	18891.2	.032	20761.9	.037

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18488.1	20735.9	505	498	480	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17504.9	18243.1	991.8	20761.9	21488.8	991.8

CROSS SECTION RIVER: 1
REACH: 1 RS: 203.77

INPUT
Description: 203.77

Left and Right Channel Bank Staions Interpolated
Station Elevation Data num= 98

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
15516.5	980.4	15611.3	979.8	15668.7	980.9	15700.1	979.6	15734.7	982.9
15797.9	987.2	15835	986	15865.2	981.2	15920	981.4	15937.6	976.9
15947.6	978.2	15969.6	982.9	15985.2	984.3	16056.9	984.3	16076.8	983.7
16103.9	981.6	16184.4	981.2	16265.9	982.1	16312.5	981.7	16348.3	982.1
16366.7	978.9	16400.4	980.3	16452.6	980.5	16569.1	980.4	16622.2	980.5
16857.6	980.3	17032.7	979.9	17052.5	979.9	17220.4	979.9	17326.1	979.2
17424.8	979	17450	979.3	17461.6	980.3	17495.9	980.1	17515.6	978.2
17558.9	979.2	17678.1	978.7	17709.3	979.1	17747.1	977.4	17826.8	982.9
17879.9	983.7	17902.1	982.1	17924.4	981.6	18003.9	982.8	18091.9	980.7
18117.2	979.8	18191	981.8	18222.6	1978.2686	18227.7	977.7	18281.9	974.6
18343.8	974.4	18371.2	970.5	18451.7	968.1	18515.7	969.6	18591.7	968.7
18603.5	969.7	18721.8	967.3	18770.9	970.5	18803.6	971.5	18834.8	974.6
18888.2	976.1	18941.5	973.8	18956.3	972.3	18974.2	976.6	18983.5	976.3
19032.5	965.6	19113.9	965.1	19224	964.8	19282.2	964.6	19290.6	969.7
19307.6	974.2	19313.1	973.7	19322.8	969.5	19338.6	967.2	19345.7	964.7
19426.8	964.5	19492.9	964.4	19606.6	964.2	19685.9	964.3	19717.5	964.1
19865.4	964.1	19957	963.3	20019.3	964.3	20221.9	964.3	20253.9	964.3
20282.3	966.5	20325.8	965.1	20328.7	964.2	20338.6	965.4	20430	966.2
20524.9	966.2	20609.1	966.4	20684.8	966.7	20728.9	97120745.61	978.2692	
20746.6	978.7	20820.8	981.2	20854	997.6				

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
15516.5	.025	17495.9	.043	18191	.043	18803.6	.032	20820.8	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18222.6	120745.61	490	498	480	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
15516.5	18191	997.6	20820.8	20854	997.6

CROSS SECTION RIVER: 1
REACH: 1 RS: 203.67

INPUT
Description: 203.67

Right Channel Bank Staion Interpolated
Station Elevation Data num= 74

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
15401.1	982.5	15424.7	984.1	15508.1	982.3	15591.4	979.1	15681.8	979.9
15787.8	979.3	15920	979.3	16055.7	978.9	16157.5	979.1	16260.6	979.3
16282.2	979.2	16477	979.1	16627.1	979.9	16750.8	980.1	16865.7	979.3
16957.3	981.3	16980.5	980.6	17002.4	977.7	17014.1	979.2	17103.7	973.3
17179.5	973.2	17215.7	975.7	17267.4	969.7	17366.5	975.6	17541.8	974.3
17694.8	973.7	17837.2	974.1	17962.6	973.8	17982.5	973.7	18104.5	972.8
18289.3	972.9	18348.9	975.3	18350.2	973.2	18394.8	968.7	18516.9	971.1
18627.3	969.9	18690.1	970.4	18740.2	966.8	18787.4	966.3	18802.9	968.2
18941.9	973.8	19049	974.1	19155.9	972.4	19180.7	975.8	19211.3	962.3
19411.4	963.8	19519	963.9	19654.3	964.2	19798.6	964.3	19832.9	964.3
20036.1	964.3	20137.2	965.3	20302.2	963	20432.8	965.2	20537.5	965.2
20656.2	965.3	20661.5	965.6	20693.5	975.1	20699.3	977.8	097 20708.7	982.2
20796	983.8	20827.7	980.1	20837	982.9	20858.2	981.6	21858.6	983.5
21904.3	982.5	23520.4	980	23527.3	982.8	23545.1	983.5	23556.1	980.2
23584.2	981.5	23593	977.2	23603.5	980.1	23621	979.7		

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
15401.1	.025	16957.3	.037	18348.9	.037	18941.9	.032	20708.7	.032
20796	.025								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18348.9	20699.3	470	490	505	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
15401.1	17837.2	984.1	20708.7	23621	984.1

CROSS SECTION RIVER: 1
REACH: 1 RS: 203.58

INPUT
Description: 203.58

Right Channel Bank Staion Interpolated
Station Elevation Data num= 75

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
15526.8	983.1	15573.8	984.7	15577.9	981.7	15586.4	984.8	15648.9	982.8
15684.7	983.7	15735.5	978.7	15806.7	977.9	15925.6	978.3	15954.8	978.2
16031.7	974.4	16204.9	973.9	16321.4	974.3	16490.9	975.4	16570	975.3
16706.6	974.9	16819.9	975.7	16971.3	975.7	17120	975.1	17136.9	976.6
17168.4	976.1	17202.6	978.2	17251.4	973.9	17388.1	976	17458.2	974.6
17489	971.8	17596.3	976.7	17707.8	975.2	17790.7	972.4	17873.7	975.6
17978	974.3	18064.9	975.2	18204	975.9	18355.4	971.3	18433.8	971.3
18553.6	967.4	18636	970.5	18664.8	967.3	18681	970.8	18724	969.1
18765.5	971	18876.6	970.7	18988.9	970	19101.4	968.2	19228.7	965.4
19261.3	964.2	19337.3	967.8	19426.3	965.2	19456.9	967.4	19474	963.9
19482.9	963.9	19725.9	963.6	19842.5	963.6	19929.1	963.8	20222.2	963.5
20355.7	963.9	20380	963.9	20543.8	963.6	20636	963.9	20645.5	962.1
20704.9	8977.3	8 20706.2	977.7	20767.4	979.5	20782.3	981.3	20788.1	979.3
20818.3	979.5	20825.7	982.3	20859.8	981.5	22062.2	983.3	22098	982.2
23711.2	980	23724.5	982.4	23738.8	982.8	23750.9	979.2	23783	979.2

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
15526.8	.025	17202.6	.037	18204	.037	18681	.032	20782.3	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18204	20704.98	560	513	495	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
15526.8	17707.8	984.8	20782.3	23783	984.8

CROSS SECTION RIVER: 1
REACH: 1 RS: 203.48

INPUT
Description: 203.48

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
15578.8	977.1	15693.5	976.9	15717.9	977	15814.4	976.9	15880.9	978.5

15900.7	978.2	15967.5	973.1	16013.9	973.9	16068.7	973.5	16168.1	973.8
16324.7	974	16419.6	974.1	16584.4	974.1	16657.7	974.3	16810.8	974.5
16932.4	974.5	17066.5	974.6	17177.1	974.2	17201.7	974.2	17312.2	975.1
17331.6	976	17341.7	975.7	17369.6	978.2	17434.9	970.7	17473.9	969.3
17535.6	971.3	17609.4	970.9	17714.8	972.8	17721.6	972.8	17841.5	973.7
17932.6	974	18016.7	972.4	18039.3	972.1	18120.3	973.5	18171.8	968
18184	969.1	18267.5	973.4	18353.5	970.9	18380.1	969.8	18439	969.7
18521.1	965.52	18538.6	965.3	18561.3	969.6	18571.7	970	18619.2	968.6
18635.6	969.2	18675.5	973.1	18730.7	972.2	18817.1	970.9	18956	969.1
18991.1	970.6	19035.5	973.7	19082.7	974.1	19116.8	968.9	19177.6	972.2
19217.3	970.5	19332.9	970.5	19399.6	962.9	19491.7	962.7	19584.5	965.1
19624.3	962.2	19645.8	962.3	19669.3	965	19679.4	965.3	19794.5	963.4
19884.7	963.3	19987.2	964.5	20013.9	964.4	20199.2	964	20220.6	964.7
20227.4	967.6	20231.3	963.9	20325.6	963.9	20342.5	963.9	20345.7	965.5
20353.5	967.3	20358.6	964.3	20404	963.2	20433.1	965.2	20458.7	965
20480	963.1	20588.9	964.7	20638.4	966.8	20725.1	968.7	20785.1	971.2
20856.76	976.9083	20866.7	977.7	20886.7	979.4	20901.8	978.6	20909.2	979.5
20915.7	978.5	20925.9	979.4	20953.9	979.4	20960.7	978.7	20985.4	978.7
20989.2	980.3	20999	981.2						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
15578.8	.025	17369.6	.037	17932.6	.037	18619.2	.032	20886.7	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17932.62	0856.76	500	505.82	515	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
15578.8	17369.6	981.2	20999	20999	981.2

CROSS SECTION RIVER: 1
REACH: 1 RS: 203.39

INPUT
Description: 203.39
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
15500	974.4	15548.5	978.1	15604.9	974.8	15609.8	975.3	15717.3	976.3
15722.2	976.3	15836.5	975.1	15864.7	976.6	15875.6	973	15888.1	975.4
15914.3	976.1	16076.8	976.1	16271.9	976.2	16290.8	976.1	16376.9	976.2
16390.2	976.2	16520.6	976	16549.4	977.1	16694.9	973.2	16751.5	970.2
16832.2	968.6	16901	973.2	17053.7	971.4	17105.6	971.5	17120	974.9
17136.1	970.9	17147.5	974.3	17212	975.5	17260.9	972.8	17296.2	974.2
17353	971.2	17382.3	974.9	17417.1	974.8	17453.9	976.4	17519.2	968.1
17602.4	973.1	17694.4	971.8	17733.8	970.7	17815.5	973	17901.2	972.3
17947.7	972.1	17970.8	973	18042	972.8	18114	969.5	18199.7	969.1
18207.5	968.6	18224.3	964.4	18259.9	963.8	18330.5	967.6	18418.7	967.4
18507.8	969.8	18601.7	972.8	18629.1	974.7	18686.7	980.9	18738	974.3
18773.9	975.9	18902.4	975	19023.2	970.3	19056.6	971.7	19105.2	965.4
19218.1	968.3	19268.2	972	19346.8	971.4	19370.8	969.4	19397.9	965.7
19418.4	960.4	19479.4	959.9	19491.4	962	19633	960.6	19736.1	965
19770.9	965.7	19800.9	963.8	19816.1	965.5	19916.4	965	20010.4	963.8
20159.5	964.6	20260.9	963.8	20303.7	964.2	20330.3	963.1	20346	964.4
20389.8	962.9	20483.7	964.2	20485.1	964.9	20576.8	964.7	20682.1	965.3
20789.2	969.4	20834.2	971.9	20922.2	969.5	20993.5	968.3	21038.8	975.6
21082.9	975.6	21098.5	976.5	21138.2	977.4	21143.6	978.2	21153.1	976.5
21223	978.3								

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
15500	.025	16832.2	.037	17970.8	.037	18601.7	.032	21038.8	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17970.8	21038.8	500	505	500	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
15500	17519.2	980.9	21223.3	21223	980.9

CROSS SECTION RIVER: 1
REACH: 1 RS: 203.29

INPUT
Description: 203.29

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
14306.7	975.2	14398.4	975.7	14462.6	975.2	14487	977.9	14491.6	976.6
14498.9	977.7	14515.3	976.7	14528	974	14553.9	972.7	14670.7	972.7

14687.5	972.7	14856.4	972.7	14867.5	972.7	15002.5	972.7	15006.1	972.7
15100.1	972.9	15122.5	975.2	15172.8	972.4	15364.8	972.7	15484.5	974
15649.2	973.6	15701.1	973.4	15710	975.9	15724.5	974.3	15776.8	976.4
15815.8	974	15918.9	974.9	15999.4	974.9	16112.9	975.4	16114.8	975.5
16293.6	975.5	16301	975.5	16411.1	976	16465.5	976	16664.1	976
16733.3	975.8	16808.3	976.1	16968.8	976.1	17062.2	976.1	17153	976.2
17251.7	975.1	17286.9	974.6	17327.4	969.3	17410.1	970.5	17467.7	974.5
17469.8	973.6	17539	974.4	17590	968.4	17649.5	971.4	17775.2	971.1
17888.5	970.4	17987.9	968.4	18065.6	972.5	18117.7	969.6	18146.3	971.6
18204.1	968.8	18247.3	971.6	18266.5	967.8	18378.2	963.9	18464	968.2
18535.2	966.5	18593.9	967.2	18627.7	974.8	18719.2	971.5	18838.7	974.7
18920	973.9	18947.9	969.3	19046.6	972.7	19166.7	971.8	19269	971.6
19295.1	965.4	19325.9	960.7	19447.7	960.9	19552.4	961.6	19655.6	961.1
19756.7	962.1	19849.6	963.4	19945.3	963	20028	965.9	20124.9	965.7
20226	965.2	20297.8	963.6	20378.8	964.4	20396.1	961.9	20494.8	962.8
20586	966.7	20676.2	969.1	20796.8	969	20894.8	969.2	20935.1	968.4
20981.6	969.2	21027.6	966.6	21082.58	975.7	482 1088.3	976.7	21155	977.1
21257.1	975.6	21295	976.3						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
14306.7	.025	16968.8	.037	18065.6	.037	18535.2	.032	21088.3	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18065.621	082.58	620	535	420	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
14306.7	17590	977.9	21088.3	21295	977.9

CROSS SECTION RIVER: 1
REACH: 1 RS: 203.19

INPUT
Description: 203.19

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16639.2	974.6	16696.5	974.6	16879.5	976.3	16960.6	976.7	16982.2	976.1
16987.1	975.2	16999.5	976.6	17045.2	975.2	17145.4	975	17180.8	974.8
17306.9	974	17389.7	974.5	17513.2	972.9	17539	972.7	17596.6	969.7
17650.2	971	17690.3	968.3	17762.5	967.5	17781.9	968.4	17812.7	966.2
17893.5	967.8	17945.6	971.7	18023.5	971.3	18058.7	964.6	18099.2	971.6
18139.8	972.1	18185.8	967.2	18251.5	970.8	18282.1	971.9	18338.2	971.3
18384.4	969	18406.2	969.7	18445.9	965.2	18495.1	966.4	18521	969
18558.4	964.7	18605.8	963.2	18623.9	961.2	18659	961.4	18701.5	965.4
18712.2	964.5	18734.5	964.5	18797.4	970	18848.7	968.9	18911.7	969.9
18983.1	969.7	19009.9	968.7	19025	967.1	19031	968.2	19080.8	968.8
19095.4	970.3	19159	970.9	19191.3	967.9	19256	967.2	19294.3	960.1
19346.5	959	19442.2	956.7	19471.8	962.7	19542.3	963	19643.7	963.4
19644.6	963.4	19721.9	962.3	19788.7	962.7	19870	964.6	19925.6	962.6
19971.9	966.8	20041.3	966	20111.2	965.3	20142.5	963.8	20233.9	963.3
20336.2	963.2	20384.6	963.4	20398.2	962.6	20462.1	962.2	20541.1	965.2
20570.6	966.9	20635.2	967.1	20669.2	965.5	20696.2	966.5	20752.9	964.7
20795.4	967.4	20825.2	966.9	20848.9	967.5	20865.3	966.7	20898.7	966.8
20928.5	970.1	20952.6	973.8	20965.39	974.9	827 20981.8	976.5	20999	975.6
21013	977.9	21075.8	975.9	21096.9	975.8	21174.9	976.1	21273.9	975.8
21344.5	975.8	21380	975.6						

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16639.2	.025	17762.5	.043	18282.1	.043	18734.5	.037	20981.8	.025
21013	.025								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18282.120	965.39	535	520	485	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
16639.2	17587	978

CROSS SECTION RIVER: 1
REACH: 1 RS: 203.09

INPUT
Description: 203.09

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

16077.3	972.6	16108.8	973.2	16114.5	973.9	16141.2	974.9	16147	976.1
16177.1	975.5	16186.3	974.5	16217.9	974.3	16296.3	973.5	16396.3	973.6
16495.1	973.6	16619.4	973.4	16649.6	973.4	16802.2	973.6	16847.8	974.3
16927.3	974.4	16967.8	974.4	17063.1	975.3	17138.5	975.2	17150.2	974.9
17158.9	972.7	17171.5	974	17175.5	975.3	17183.4	974.2	17268	973.7
17382	973.8	17583.9	974.5	17588.1	974.4	17656.3	973	17724.5	971.9
17787.2	966	17835	968.2	17878.2	968.6	17889.9	967.6	17960.8	969
18034.5	970.7	18151.5	966.1	18178.5	966.8	18202.2	966.1	18277.6	970
18313.5	969.4	18321.1	969.7	18364.1	965.2	18437	969.5	18507	971.4
18541.2	970.5	18605.3	962.2	18681.6	963	18770.4	960.8	18814.5	971
18875.7	969	18992.4	969.2	19035.2	968.4	19104.8	968.6	19136.4	968
19190.2	961.9	19211.5	961.8	19247.1	964	19266.9	960.3	19282.4	958.7
19461.8	959.9	19573.5	959.6	19585.9	960.2	19653.1	960.1	19682.3	962.4
19752.6	963.1	19757	963.1	19865.5	961.3	19934.1	962.2	20005.1	964.6
20113.7	965.7	20184.3	965.7	20264.8	966	20287.7	966.2	20364.7	966.6
20397.2	966.4	20469.2	966.1	20498.9	964.4	20517.6	961.6	20546.5	960.5
20610.5	960.6	20636.9	964.4	20681.6	965.4	20709.6	964.4	20742.1	962.1
20765.3	962.2	20780	963.2	20812.8	959.6	20837.9	961.3	20914.8	2973.8939
20917.3	974.3	20926.9	975.4	20942.8	974.2	20972.4	973.4	21023.3	975.3
21111.6	973.6	21171	974.1						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16077.3	.025	17588.1	.043	18507	.043	18814.5	.037	20917.3	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18507	20914.82	520	518	500	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
16077.3	17583.9	976.1	20917.3	21171	976.1

CROSS SECTION RIVER: 1
REACH: 1 RS: 202.99

INPUT
Description: 202.99
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17058.5	973.2	17114.3	973.5	17267.7	973.8	17289	973.9	17305.6	974.4
17316.7	973.3	17329.5	974.7	17397.2	973.4	17508.3	973.5	17530.6	972.5
17571.7	973.2	17646.3	973.1	17659.9	972.5	17696.1	969.8	17713.5	970
17723.9	969.1	17781.1	967.5	17850.9	965.7	17864.6	967.2	17879.9	968
17893	968.2	17922	965.3	17941	964	17984.7	968.4	18035.6	970
18091.7	969.9	18126.6	969.7	18186.5	969.9	18238.3	970	18288.7	964.3
18293.1	963.9	18346.5	968.2	18360.3	967.9	18420.8	969.3	18469.4	969.3
18497.6	968.2	18580.4	968.7	18586.2	968.9	18608.3	967.1	18619.4	964.4
18650.8	965	18666.5	962.2	18686.7	961.6	18748.1	962.5	18789.2	962.8
18875	962.8	18906.3	963.4	18945.7	961.5	18988.8	963.5	19005.4	963.6
19058	964.4	19119.4	964.2	19128.8	964.3	19182	965.3	19208.5	964.3
19269.4	961.7	19318.8	960.3	19334.7	959.8	19391.3	959.8	19415.3	959.6
19435.9	960	19527.6	959.5	19609.2	959.5	19725.7	959.2	19759.9	960.9
19828.4	961.4	19945.2	960.7	19948	960.7	20028.5	959.3	20090	960.7
20131.7	963.1	20172.8	964.1	20227.9	965.4	20241.1	965.3	20304	965
20364.7	965.9	20422.1	964.9	20460.6	964.9	20528.6	963.3	20552.5	959.7
20558.2	959.8	20619.9	962.6	20665.6	962	20682.4	960.6	20692.5	959.3
20713.5	960.1	20748.9	960	20773.8	959.3	20789	960.3	20808	960.6
20818.5	963.8	20841.7	963.9	20894.5	963.1	20926.9	970.2	20960.7	976.4
20976	975.9								

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17058.5	.025	17646.3	.043	18469.4	.043	19058	.037	20926.9	.043

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18469.4	20926.9	480	456	424	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
17058.5	17646.3	976

CROSS SECTION RIVER: 1
REACH: 1 RS: 202.9

INPUT
Description: 202.9

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16149.3	972.1	16219	972.6	16381.4	973.3	16446.1	973.3	16495.7	974.5

16526.4	971.9	16579.2	972.6	16597.9	974.5	16618	973.6	16631.4	972.3
16699.5	972.9	16755	974.1	16804	971.3	16823.8	973.1	16887.1	972.5
16957.5	972.2	16968.8	972.6	17046.9	971.4	17089.7	971.9	17151.8	972
17172.3	972.1	17235.7	971.8	17304.6	971.3	17369.1	970.9	17440.5	971.3
17504.7	971	17572.9	970.6	17644	970	17676.2	972.2	17699.3	970.6
17772.5	968.5	17815	965.7	17875.4	965.2	17896.7	963.8	17966.8	965.8
18000.2	967.5	18046.2	967	18087.7	964.4	18148.3	968.4	18203.5	967.3
18258.7	965	18308.6	967.1	18383	966.5	18433.6	966.6	18455.6	968.2
18517.5	967.7	18563	962.4	18611.6	961.8	18646	958.2	18714	961.6
18808.1	961.6	18872.7	961.1	18917	963.4	18971.7	963.8	19054.2	965.2
19121.2	965.8	19211.2	964.4	19215.4	966	19303.3	961.5	19368.9	960.3
19378.2	959.7	19431.8	961.6	19460.5	960.1	19592.2	957.9	19666.6	958.3
19722.9	960.9	19833.6	959	19903.1	959.5	19944.9	961	20063.7	959.6
20145.5	959.8	20206.7	960.4	20250.7	959.4	20318.7	958.5	20412.7	962.7
20460.7	961.4	20488.5	963.8	20502.9	964	20545	960.1	20596	959.7
20624.3	960.6	20694.4	959	20754.9	958.5	20806.5	956.5	20831.6	957.9
20858.2	961.1	20861.7	962.3	20936.5	969.5	20988.5	971.9	20993.5	972.3
21011	973.7	21025.1	975.7	21027.9	980.1	21042.4	977	21052.5	978.4
21066.1	978.5	21080	974.2						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16149.3	.025	17815	.043	18455.6	.043	18872.7	.037	21011	.043

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18455.6	20993.5	575	538	460	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
16149.3	17500	980.1

CROSS SECTION RIVER: 1
REACH: 1 RS: 202.8

INPUT
Description: 202.8

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16524.8	970.3	16556.4	971.5	16586.6	971.3	16591.4	972.2	16622.9	972.3
16660.4	974.1	16671.5	973.8	16699.8	970.7	16750	971.8	16768.2	970.7
16810	971.7	16908.3	970.6	16968.5	970.2	16997.3	973.4	17058.9	971.8
17081	970.9	17148.9	971	17188.6	970.2	17279.5	971.1	17348.6	971
17423	970.4	17488.6	969.6	17496.3	969.7	17556.3	970.2	17607.5	969.3
17662.7	971.7	17678.2	969.4	17755.1	968.2	17771.4	968.3	17836.1	965.5
17897.9	964.9	17974.2	962.8	18017.4	962.7	18037.3	963.4	18039.7	964
18135.1	964.3	18137.8	964.2	18205	963.3	18273.4	965.1	18313.6	965.5
18348.1	967.5	18390.8	968.8	18406.9	966.2	18434.5	959.9	18478	958.9
18492.5	956.4	18526.7	958.4	18618	960.3	18696.7	962.9	18716.3	963.1
18761.6	962.1	18858.8	963.6	18897.8	963.7	18966.5	960.9	18996.3	959.9
19072.2	959.5	19083	959.6	19151.4	960.5	19243.7	960.1	19333.5	960.5
19396.1	960.6	19435.5	960.4	19525.6	959.5	19621.8	960.4	19685.6	961.9
19750.9	962.5	19813.5	963.5	19828.2	963.6	19893.3	963.5	19985.3	961.5
20027.7	961	20127.3	961.5	20220.9	962	20261.5	962.8	20325.2	962.5
20339.8	963.1	20397.5	960.8	20461	959.3	20525.1	958.4	20576.6	957.1
20634.6	957.7	20682.6	958.4	20759.8	957.1	20823.5	956.8	20855.2	957.6
20859.5	958.4	20873	957.9	20906.1	958.3	20955.4	956.8	20983.8	959.2
20987.6	962.6	21013.7	971	21014.96	971.6	307 21019.3	973.8	21057.4	987.6
21082.8	986	21093	986.3						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
16524.8	.025	17771.4	.043	18390.8	.043	19243.7	.037	21019.3	.043

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18390.8	21014.96	600	555.5	450	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
16524.8	17279.5	987.6

CROSS SECTION RIVER: 1
REACH: 1 RS: 202.69

INPUT
Description: 202.69

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

17011.6	967.7	17023.5	967.7	17027.5	969.7	17103.8	970.9	17146.9	971.1
17176.2	972.4	17191.8	969.4	17194.6	968.5	17229	967.1	17294.2	968.5
17355.9	968.4	17445.9	967	17473.9	966.6	17539	968.1	17612.5	967.1
17670.9	967.5	17744.3	967.8	17814.2	967.3	17864	971	17864.9	969.3
17868	967.6	17892.1	965.9	17941.9	963.7	18000.1	961.6	18034.8	963.6
18086.5	962.2	18149.2	965.2	18155.1	964.6	18181.7	966.5	18238.5	967.5
18278.8	966.4	18296.3	967	18357.8	968.5	18371.8	972.9	18377.8	973.6
18394.4	971.5	18484.4	971	18522.7	971.5	18539.1	964.7	18552.9	960.1
18644.5	957.3	18707	953.7	18734.1	956.4	18813.8	956	18848.2	955.5
18893.1	956.3	18953	954.8	19004.8	957.3	19084.1	957.6	19157.7	958.3
19178.7	958.5	19240.7	959.5	19322.9	960.8	19365.9	962.7	19411.4	962.6
19474.6	962.5	19548.6	961.5	19628.5	961.4	19720.2	962.7	19779.3	961
19788.6	961.1	19848.4	962	19949.8	964.6	20005.6	961.1	20016.8	961.1
20083.2	961	20101.5	960.8	20164.7	959.6	20249.5	962.2	20340.4	963
20436.6	963.5	20463.4	963.4	20522.8	963.7	20592.1	963.4	20658.5	962.2
20698.9	961.2	20768.7	958.6	20856.6	958.8	20890.1	958.6	21023.8	956.8
21070.8	960.8	21077.4	967.1	21081.8970.8403		21085.4	973.9	21098	980.8
21103.6	981.6	21111.1	978.1	21139.5	981.1	21166.7	979.8	21198.8	976.9
21211.8	978.5	21216.7	978.5	21220.2	977.8	21223.7	977.9	21225.4	978.5
21238.2	975.1	21274	973.3						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17011.6	.025	17868	.043	18377.8	.043	19084.1	.037	21103.6	.043

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18377.8	21081.8	585	566.1	510	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17011.6	17176.2	981.6	21274.4	21274	981.6

CROSS SECTION RIVER: 1
REACH: 1 RS: 202.59

INPUT
Description: 202.59

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17002.6	972.3	17024.4	972.3	17044.5	970.3	17059.2	968	17094.8	969.6
17174.4	971.6	17206.5	971.5	17240	970.3	17269.6	966.5	17294.8	968.3
17332.9	969.6	17346.3	969	17365.3	965.5	17382.1	965.5	17399.6	966.6
17456.2	967.4	17523.1	966.7	17531.4	966.1	17557.2	966	17651.6	966.7
17719.5	967.2	17792.8	966.6	17824.5	966	17874.3	968.6	17886.2	967.6
17905.4	963.2	17965.1	963.4	18022.2	961.6	18100.5	965.1	18174.1	965.7
18210.5	964.5	18233.1	965.7	18298.3	968.6	18346.1	966.9	18416.7	969.6
18505.8	969.5	18556.9	967.5	18622.3	970	18641.7	970	18695.8	961.6
18704.2	959.5	18757.3	962	18789.4	959.6	18857.2	957.4	18891.5	955.7
18960	953.7	18984.2	957.3	19041.9	957.5	19094.7	960.1	19217.7	959.4
19264.1	960.3	19322.3	963.2	19396.6	964.3	19407.1	961.9	19425.6	960
19426	960.9	19488.2	960.7	19564.4	961.7	19640.1	961.8	19698.4	962.2
19757.8	961.8	19850.5	959.2	19935.3	960.1	19956.2	961	19994.3	961.1
20000.8	960.6	20005.1	959.6	20026.1	957.7	20112.1	958.6	20156.3	960.2
20218.5	960.8	20291.8	962.8	20371.5	961.1	20441.9	962	20501.9	959.5
20592.8	959.1	20699	957.2	20711	957	20803.1	957	20825.8	957.1
20901.9	957.5	20941	958.6	20978.1	956.7	21025	956.8	21152.1	957.5
21195.09969.8993		21199.6	971.2	21234.1	969.1	21236.8	970.4	21264.7	967.7
21299.7	971.3	21305.5	967.6	21325.7	957.4	21362.7	958.8	21403.9	974
21429.1	977	21478	977.8						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17002.6	.025	18022.2	.043	18416.7	.043	19217.7	.037	21403.9	.043

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18416.7	21195.09	400	561.2	640	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17002.6	17332.9	977.8	21200	21478	977.8

CROSS SECTION RIVER: 1
REACH: 1 RS: 202.48

INPUT
Description: 202.48

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17009.6	967.6	17022.6	967.5	17087.4	968.9	17103.6	970.4	17112.7	969.9
17147.3	972	17156.9	971.8	17158.2	972.3	17178.9	971	17194.4	968
17247.5	968.9	17346.9	969.1	17398.9	969.9	17439.3	968.6	17487.9	968.6
17510.1	966.5	17588.4	966.2	17656.6	965	17699.5	965.1	17766.7	963.2
17818.3	961.3	17890	963.8	17903.9	964.7	17928.8	961.3	17945.4	959.8
17990.2	960.1	18038.4	959.4	18049.4	960.1	18123	963.9	18190.8	965.8
18202.9	966.1	18268.8	964.1	18281.9	963.4	18373.9	966.8	18446.2	967.8
18518.9	965.4	18575.8	971.2	18611.2	970.9	18639.1	969.5	18713	961.6
18741.6	959.3	18784.7	961.7	18862.1	959	18930.8	954.4	19044.5	952.5
19074.6	956.5	19142.6	957.5	19190.4	959.1	19212.4	958.4	19300.6	961.8
19319.9	962.4	19391.1	961.2	19413.8	960.8	19449.5	958.2	19532.2	958.9
19643.4	959	19750	959.8	19755	959.8	19836.5	958.7	19940.1	961.4
20015	957.1	20042.9	956.5	20093.3	957.6	20148	959.8	20169.8	958.7
20238.1	957.7	20350.9	956.9	20382.1	955.8	20443.3	956.5	20518.7	957.1
20582.5	957.3	20605	956.3	20635.4	956.3	20720.3	959.3	20738.9	959.4
20761.4	962.7	20791.3	965.4	20855.9	962.6	20874.6	962	20962.4	963.2
21037.1	963.2	21067	962.7	21100.7	957.5	21141.9	956.9	21226.2	955.6
21274.2	959.7	21307.36	968.958	21309.3	969.5	21365.5	967.8	21385.7	965.3
21411.6	965.6	21424.5	960.8	21433.2	956.4	21477.4	957.2	21505.2	969
21532	978.5	21590.9	977.9						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17009.6	.043	18575.8	.043	19074.6	.037	21532	.043

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18575.82	21307.36	700	576.2	385	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17009.6	17398.9	978.5	21309.3	21590.9	978.5

CROSS SECTION RIVER: 1
REACH: 1 RS: 202.37

INPUT
Description: 202.37

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17046.5	966	17144.2	966.4	17159.7	966.4	17174.6	968.6	17199.8	968.8
17234.1	972.8	17240.1	970.8	17243.5	970.9	17244.9	973.1	17262.2	972
17288.2	966.3	17339.4	966.6	17390.7	968.1	17480.2	967.1	17572.6	967.5
17609.6	965.2	17687.4	964.4	17729	964.2	17762.4	962.8	17818.6	964.2
17908.4	962.3	17967.5	961.6	18000.2	964	18038.7	964.1	18072.2	959.7
18099.8	957.9	18104.7	958.4	18151.6	958.4	18194.7	959.1	18243.6	962.8
18315.7	961.8	18394.4	965.8	18412.7	966.2	18470.8	964.2	18481.7	964.7
18501.3	969.1	18508.1	970	18598.8	969.5	18602.7	969.6	18648.3	963.8
18679.8	963.2	18704	957.9	18743.6	960.5	18769.5	961.1	18842.5	955.2
18917.4	955.9	18993.6	955.2	19026.1	956.5	19078.6	954.6	19116.4	956.7
19134.5	956.6	19275.2	955.9	19317.5	959.5	19392.9	961.2	19411.7	961.2
19457.9	957.5	19505.5	956.4	19577.4	956.1	19580.5	956.2	19670.2	956.8
19746.9	961.5	19839.2	958.9	19936.5	957.1	20045	956.9	20086.7	957.3
20169.3	956.2	20237.2	955.3	20328.5	958	20334.1	957.4	20399.8	957
20463.4	959.2	20513.6	962	20602.6	959.9	20704.3	960.7	20742.9	961
20844.4	960.5	20908.1	960.2	20950.1	961.7	21049.7	960.9	21054.1	960.9
21135.1	960.3	21179.1	960.2	21212.7	956.8	21338.5	957.1	21366.3	957.1
21382.6	961.2	21402.5	967.3	21411.9	966.7	21431.9	963.9	21452.4	962.7
21480	964.4	21496.8	956	21544.1	956.6	21581.78	968.008	21601.9	974.1
21642.4	975	21693	974.4						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17046.5	.025	17390.7	.043	18508.1	.043	18743.6	.037	21601.9	.043

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18508.12	21581.78	430	400.7	360	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
17046.5	17390.7	975

CROSS SECTION RIVER: 1
REACH: 1 RS: 202.29

INPUT
Description: 202.29
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

17300	969.4	17300.2	969.4	17310.5	971.8	17342.5	971.5	17346.7	971.3
17352.1	970.9	17359.3	970.4	17377.2	970.2	17388.5	970.1	17410.3	969.8
17443.6	969.4	17469.5	969.2	17494.3	969	17512.1	968.3	17537.2	968.2
17551.3	968.6	17580.1	968.2	17588.6	968.1	17610.9	968	17662.1	967.6
17695.1	967.2	17731.2	966.7	17756	966.3	17772.6	965.6	17783.7	965.5
17806	965.9	17845.1	965.4	17859.1	965.2	17870.8	965.1	17909	964.8
17939.7	964.2	17948.3	964	17978	963.3	17983.9	963.1	18035.9	962.8
18043.8	962.7	18050.9	962.7	18093.6	962.3	18093.8	962.8	18107.2	962.7
18151	961.8	18180	961.8	18197.4	961.8	18203.9	961.7	18212.7	961.5
18297.3	960.6	18444	959	18520.4	958	18577.3	957.8	18667.8	958.1
18744.1	957.7	18943.8	956.4	18989.6	956.6	19224.4	957.4	19228.7	957.4
19485.5	956.7	19523.1	956.9	19553.4	956.9	19827.7	956.8	19864.8	956.1
19898	956.1	20171.5	956.3	20383.2	955.7	20442.4	955.9	20499.8	957.2
20499.9	957.2	20696.8	957.3	20777.7	957.4	20879.1	956.5	20964	956.5
21129.5	956.9	21176.5	956.6	21222.8	956.1	21262.9	955.8	21273.6	955.5
21305.8	956.3	21343.7	957	21400.4	957.2	21410.8	957.3	21495.3	956.7
21550.9	957.9	21563.4	959.3	21703.1	961	21803	962.3	21973.7	964.9
22093.3	966.9	22138.1	968.1	22178	968.7	22302.7	970.7	22344.1	970.7
22388.8	970.9	22553.3	971.9	22676.5	971.2	22717.7	971.3	22766.5	972.1
22785.4	971.9								

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17300	.025	17469.5	.043	18197.4	.043	18989.6	.037	21563.4	.043
21803	.043								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18197.4	21803	590	583.1	600	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
21803	22785.4	972.1

CROSS SECTION RIVER: 1
REACH: 1 RS: 202.18

INPUT
Description: 202.18

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17052.9	966.6	17168.5	966	17288.7	965.2	17328.5	965.5	17342.3	968
17346	967	17354.3	968	17364.1	966.7	17396.2	967.4	17415.4	969
17507.1	967.7	17613.8	965.1	17631.5	964.7	17747.4	962.9	17748.5	962.9
17865.9	962.4	17961.7	963.1	18017.5	963.4	18100.5	963.8	18139.7	964.7
18194.4	960.2	18256	959.9	18292.6	958.2	18331.5	958.9	18344.2	960.8
18389	961.7	18415.9	960.6	18473.5	964.7	18525.3	966.1	18612.9	966.4
18643.2	962.4	18672.1	961.3	18707.1	957.3	18769	952.6	18804.3	955.4
18910.2	957.1	18976	956.3	19019.3	958.4	19048.9	958.7	19085.4	956.1
19142.3	957	19169.3	958.6	19183.3	960.5	19235.6	960.8	19285.1	963
19369.7	960.1	19472.8	957.3	19559.8	955.6	19630.4	954.7	19686.5	951.8
19727.7	955.4	19747.8	950.7	19844.5	951.9	19893.9	954	19954	950
20009	954	20067.8	952	20110.4	954.4	20177.3	963.5	20231.5	963.4
20240.9	962.3	20277.5	960.8	20351.6	962	20380	959.9	20405.9	959.3
20492.4	961.5	20578.7	962.9	20684.9	962.3	20769.5	960.5	20826.3	963.1
20876.8	962.2	20900.3	963.5	20997.2	958.5	21014.5	957.4	21075.2	957.9
21127.2	959.8	21207.6	957.2	21255	956.2	21287.8	957.6	21353.8	957.8
21374.8	961.6	21414.6	960.9	21415.3	960.1	21444.1	956.6	21527.2	959.6
21591.2	960.1	21643.6	958.8	21685.6	954	21737.8	955.1	21787.2	954.7
21808.8	955.3	21829.3	951.8	21869.4	951.7	21919.3	955.9	21938.4	1966.7695
21957.1	977.4	21992	978.3						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
17052.9	.025	17415.4	.043	18139.7	.043	18976	.037	21957.1	.043

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18139.7	21938.41	525	511.84	500	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
17052.9	17415.4	978.3

CROSS SECTION RIVER: 1
REACH: 1 RS: 202.09

INPUT
Description: 202.09

Right Channel Bank Staion Interpolated

Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12423.7	965.6	17099.8	965.6	17186	965.4	17264.6	965.3	17349.3	965
17358.9	964.8	17418	967.1	17422.9	965.6	17428.2	966.9	17452	965.9
17476.4	966.1	17491.8	967.5	17574.4	967	17614.9	967.2	17693.5	967.2
17814.7	961.1	17920.2	960.8	17951.8	961.2	18050.9	963.8	18132.1	964.1
18212.9	964.4	18247.5	964.7	18306	959.3	18322.2	960.3	18340.5	958.1
18363.8	957.3	18389.5	962.4	18475.1	961.1	18485.9	960.9	18523.3	964.1
18558.3	962.3	18573.3	963.2	18621.2	963.3	18652.7	957.8	18708.8	958.1
18748.7	952.2	18769.9	955.2	18859.3	957.7	18962.1	957.3	18975.3	957.3
19086	957.5	19165.3	959.6	19217.9	961	19287.9	955.2	19344.8	963
19434.4	961.7	19513.8	958.9	19564.6	953.8	19623.2	957.6	19686.2	956.9
19738.7	957.5	19783.4	954.5	19908.5	952.6	19947.2	952	20093.1	950
20106.3	950	20143.3	952.6	20167.6	955.5	20187.3	956.2	20207.9	958
20254	956.6	20271.4	957.6	20297.7	960.4	20396.6	960.4	20472.8	959.6
20529.3	963.3	20613.6	962.6	20698	962.2	20720.5	961.5	20787.7	964.2
20816.2	959.4	20866.2	961.1	20916.3	960.7	20996.8	963.3	21047.5	963.6
21101.6	961.6	21155	960.7	21221.6	961.5	21280.8	956.9	21370.9	957.5
21444.4	956.7	21456.1	957.6	21466.3	959.4	21503.9	959	21516.7	956.6
21530.5	955.5	21561.3	958	21627.9	959.2	21709	959.7	21751.4	954.3
21825.3	953.8	21856.2	951.2	21912.9	951.7	21928.2	955.7	21938.26	965.332
21947	973.7	21985	973.7						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12423.7	.025	17491.8	.043	18212.9	.043	19086	.037	21947	.043

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18212.92	21938.26	510	509.32	500	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
12423.7	17491.8	973.7

CROSS SECTION RIVER: 1
REACH: 1 RS: 201.99

INPUT
Description: 201.99

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12423.7	962.9	12792.3	963.8	13061.9	964.2	13286.8	963.1	13510.3	962
13746.9	961.3	13984	962.2	14217.9	962.9	14443.4	963.1	14690.7	964.7
14908.9	964.6	14956.9	968.1	14966.2	964.3	15216	964.5	15450.3	964.3
15717.5	963.6	15947.7	963	16170.3	962.3	16226.7	962.5	16243.5	964.4
16481.8	963.7	16706	964.8	16931.9	964.5	17163.9	965	17409.1	965.4
17507.7	965.1	17760.7	967.9	18000.5	959.7	18235.1	962.5	18353.1	960.5
18417.7	956.5	18440	960.5	18639.2	962	18674	954.8	18737.7	957.9
18818.4	957.6	18843.9	951.9	18894.5	956	19104.7	956.3	19162.4	959.4
19182	952.7	19244.4	958.4	19290	953.9	19357.8	953.9	19392.3	959.4
19476.2	956.3	19599.7	958.8	19757.3	956.9	19806.8	958.1	19854.1	952.5
20078.1	951.3	20095.8	953	20192.9	950.6	20250.9	959.6	20290.2	950.4
20347.4	962.9	20368.6	965.8	20433.1	963	20465.1	950.1	20577.2	949.5
20589	951.7	20619.5	951.7	20638.1	949.5	20700.3	949.5	20727.6	954.8
20735.3	964.1	20750.8	961.1	20862.1	965.2	20904	975.7	20956.4	975.3
20989.8	964.1	21038.3	963.3	21074.1	972.2	21105.1	970	21109	967.5
21138.5	968.2	21163.6	953.1	21180.4	949.1	21267.5	949.1	21538.3	949.1
21555.3	949.1	21578	958.4	21595.4	955.8	21617.3	955.7	21641.7	951.9
21676.1	954.4	21726.5	948.7	21821.2	953.2	21862.8	963.6	21892.71	964.4166
21991	967.1	22006.5	964	22019.9	967.9	22243.3	966.9	22585.6	967
22917.2	966.9	23024.3	966.9						

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12423.7	.025	17507.7	.043	17760.7	.043	19357.8	.032	20250.9	.037
21991	.037	22006.5	.025						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18235.12	21892.71	470	477.46	490	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
12423.7	17760.7	975.7	21990.9	23024.3	975.7

CROSS SECTION RIVER: 1
REACH: 1 RS: 201.9

INPUT
Description: 201.9

Right Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12498	962.4	12680.7	963	12847.7	963.1	13015.1	963.3	13199.8	963.2
13361.7	963.7	13371.9	960.2	13574.5	962.7	13724.8	961.4	13908.8	961.8
14082.1	962.6	14282	963.2	14504.3	963.3	14674.9	963	14875.2	963.6
15026	967.2	15036.6	963.6	15225.9	964.3	15398.3	964.4	15600.8	964.2
15790.8	963.8	15996.8	963.9	16181.7	962.7	16294.9	962.8	16309.4	964.3
16331.6	962	16525.6	962.6	16699.1	963.6	16881.9	964.4	17117.4	963.7
17353.6	965.3	17563.8	966.2	17569	964.3	17769.9	966.6	17941.7	966
17954.3	963.8	18181.9	958.7	18226.6	955.3	18260.2	960.7	18291.8	960.5
18303.9	958.6	18480.2	961.7	18648.9	961.8	18745.5	962	18798.7	956.2
18820.8	957.2	18854.3	951.8	18909.2	955.3	19138.4	956.3	19200	953.3
19336.3	962.3	19389.1	958.9	19449.9	951.5	19624.1	955.9	19782.3	957.2
19911.4	951.6	20081.9	950.6	20221.5	952.6	20269.4	959.3	20331.6	955.1
20356	957.7	20398.9	948.7	20567.7	948.5	20744.7	949.1	20888.3	947.2
20954.4	949.9	21000.8	949	21037.1	957.5	21099.1	956	21139.7	949.7
21300.7	952.4	21411.2	949.7	21444.1	955.9	21487.9	956.1	21503.4	949
21546.8	949	21556.2	952.2	21567.4	960.5	21588	955.9	21628.6	952.2
21667.7	955.7	21698.6	949	21736.9	950	21748.7	952.4	21786.7	952.8
21827.4	1963.9898	21842	968	21955.2	963.2	21982.2	967.4	22181.8	966
22228.4	965.8	22400.7	965.8	22432.3	965.9	22634.3	966.5	22801.2	966.1
23008.7	966	23096	965.3						

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12498	.025	17569	.043	17769.9	.043	19389.1	.032	20331.6	.037
21842	.037	21982.2	.025						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17954.32	1827.41	500	495.8	500	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
12498	17769.9	968	21842.1	23096	968

CROSS SECTION RIVER: 1
REACH: 1 RS: 201.81

INPUT
Description: 201.81

Left and Right Channel Bank Staions Interpolated
Station Elevation Data num= 98

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12574.1	961.8	12761.8	962	12923.9	962.6	13108.8	962.8	13276.3	963
13435.2	962.8	13461.6	960.9	13640.2	962.7	13758.3	961.2	13887.4	962.7
14049.5	962.4	14230.8	962.1	14408	962.7	14585.1	963.8	14774.2	962.7
14940.9	962.1	15056.2	964.1	15099	967.8	15104.2	963.1	15275.2	964.2
15444.5	964.1	15610.6	963.9	15771.8	963.8	15946.1	963.3	16142.1	962.7
16322.1	962	16382.5	963.6	16475.3	960.8	16709.7	962.1	16947.6	962.4
17136	963	17301	963.8	17538.6	963.1	17700.9	964.2	17890.2	965.6
17935.7	965.6	17946.8	9963.6227	17964	960.6	18130	958	18246.7	956.1
18277.1	959.5	18483.2	960.9	18556.4	960.8	18619.6	964.6	18716.1	963.4
18765	964.3	18860.5	957.6	18955	958.4	19006.4	951.6	19072.9	957.9
19139.8	953.9	19294.5	954.6	19378.9	957.7	19550.9	954.4	19605.4	951.1
19693.5	953.4	19720.4	950.1	19883.7	950.2	20049.4	953	20182.8	953.5
20285.8	953.2	20377.1	957.6	20392.1	962.6	20421.1	948.6	20597	946.8
20665	946.7	20832.3	946.1	20846.8	951.1	20855.6	956.4	20869.8	954.4
20881.2	950.3	20908.5	949.6	20924	952.5	20962.6	950.9	21000.7	946.6
21169.8	946	21187.6	953.2	21244.2	956.3	21263.5	960.4	21295.1	951.3
21322.9	946.6	21496.1	948.5	21522.9	951.7	21690.5	950.7	21775	950.9
21803.2	7963.6213	21811	967.1	21860	969.2	21904.1	961.6	21929.9	965
21975.7	963.6	22175.4	965.3	22352.1	965	22654	963.5	22715.1	963.5
22875.2	962.8	23093.9	964.4	23169.5	964.2				

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12574.1	.025	17700.9	.065	17935.7	.065	19378.9	.032	20392.1	.037
21860	.025	21975.7	.025						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17946.89	21803.27	535	511.61	515	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
12574.1	17935.7	969.2	21859.6	23169.5	969.2

CROSS SECTION RIVER: 1
REACH: 1 RS: 201.71

INPUT
Description: 201.71

Left Channel Bank Staion Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12659.2	961.6	12855.6	961	13000	961	13129.9	960.8	13180.2	962.1
13187.7	959.3	13371.2	960	13521.5	960.3	13689.3	960.5	13844.9	960.6
13979.7	960.3	14193.8	960.9	14324.5	960.9	14461	961	14593.2	960.9
14774.5	961.4	14909.4	960.6	15132.5	961.7	15192.9	963.1	15384.5	962.1
15537.8	962.3	15716.6	961.2	15856.1	961.1	16082.6	960.9	16210.7	961.2
16383	961	16543.7	961	16684.4	961.3	16813.5	961.2	16941.4	961.7
17106.2	961.5	17255.2	962	17388.3	961.5	17585.2	961.5	17706.7	962.1
17766.4	963.8	17769.2	962.5	17794.4	964.5	17957.8	964.3	18096.3	964.8
18107.05	962.8899	18140.2	957	18197.6	953.2	18356.6	956.6	18441.5	961.3
18556.1	957.7	18600.1	958.6	18651.3	956.4	18676.1	956.9	18707	951.3
18764	957	18831.5	958.2	19007.5	955.3	19076.4	952	19279.5	954.1
19409.2	953.7	19475.6	949.9	19555.7	955.6	19660.9	959	19739.3	954.2
19763.1	949.4	19910.3	951	19978.4	951.1	20023.1	954.8	20199	956
20304.5	951.4	20347.1	954.9	20447.3	951.1	20499.8	956.3	20554.9	954.5
20692.6	956.1	20848.5	954.8	20899.8	950.2	20984.5	949.7	21011.3	946
21148.8	948.4	21186.8	951.7	21268.1	954.5	21355	953.1	21433.7	954.9
21490.6	959.4	21528.5	960.3	21661.1	959.7	21837.7	959.7	21975.8	962.2
22098	963.6	22111.4	961.1	22160.6	964.1	22190.7	962.9	22353.1	963.4
22385.7	963.3	22516.6	964.2	22615.8	964.3	22832.1	963.4	22981.6	963.4
23127.8	962.8	23246	962						

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12659.2	.025	17706.7	.065	18096.3	.065	19660.9	.032	20554.9	.037
21355	.025	21528.5	.025						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18107.05	21528.5	505	489.63	495	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
12659.2	18096.3	966	22098	23246	966

CROSS SECTION RIVER: 1
REACH: 1 RS: 201.62

INPUT
Description: 201.62

Left Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12723.6	960.1	12862.6	960.3	13017.9	960.4	13156.4	960.4	13253.3	961.5
13267.4	959	13436.1	959.9	13621.5	960.4	13766.2	960.5	13909.8	960.4
14075.1	960.4	14269.1	960.4	14410.3	960.9	14542.3	960.9	14677.4	961
14845.4	961.8	15072.7	961	15207.9	961.9	15344.9	961.6	15510.2	961.6
15676.2	961	15821	960.6	15995.5	960.4	16157.9	960.8	16296	961.1
16491.6	961.1	16630.4	960.7	16799.9	960.5	16987.6	960.1	17022.4	962
17197.5	958.5	17331.6	959.3	17350.4	962.3	17555	961.1	17693.7	961.5
17788.7	963.5	17792.9	962.2	17963.6	963.3	18107	962.8	18229.7	963.9
18233.5	962.1533	18253.2	953.1	18417.5	953.4	18563.5	953.4	18723.5	952.3
18864.3	951.9	18956.1	956.6	19045.2	956.9	19129.4	952.1	19159.3	954.5
19237.7	952.1	19435.3	953.3	19483	951.6	19522	953.4	19577	948.8
19677.3	954.6	19737.2	953.8	19772.7	949.2	19918.1	949.3	20064.6	953.2
20213.3	953.8	20358.7	952.9	20472.9	952	20509.2	950	20584.5	955.3
20619.5	953.2	20653.6	948.7	20723.6	953.3	20794.2	955.3	20904.8	954.6
20962.2	949.9	20990.6	945.6	21150.5	945.9	21165.2	946.9	21199.1	955.3
21351	951.4	21457.3	955.6	21477.5	960.2	21514.2	959.4	21654.6	959.9
21824	959.8	21964.5	960.6	22074.2	961	22085	959.8	22090.5	961.3
22197.1	961.9	22233.4	963.7	22249.4	962.1	22301	963.2	22456.6	963.4
22491.4	963.3	22714.7	962.8	22775.6	962.8	22945.1	962.7	23131.5	962.5
23268.1	960.6	23318.4	961.5						

Manning's n Values num= 9

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12723.6	.025	16799.9	.15	17197.5	.025	17792.9	.065	18229.7	.065
19577	.032	20509.2	.037	21351	.025	21477.5	.025		

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18233.5	21477.5	485	486.48	510	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
12723.6	18229.7	965	22233.4	23318.4	963.9

CROSS SECTION RIVER: 1
REACH: 1 RS: 201.52

INPUT
Description: 201.52

Left Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12786.6	960.2	12939.6	960.1	13099	960.1	13244.9	960.2	13300.5	962.8
13357.3	959.7	13501.3	960.4	13678.7	959.8	13830.9	960	14035.1	959.9
14185.2	959.4	14386.6	959.8	14539	959.6	14722.7	959.3	14894.1	959.5
15114.2	959.2	15254.5	962.1	15427.2	959.8	15592.7	959.9	15779.1	959.7
15959.1	959.6	16138.8	959.3	16313.2	960.4	16492.7	958.5	16665.8	959
16834.1	958	17009.5	957.5	17081.3	959.5	17261.7	956	17408.3	957.9
17566	960	17731.1	959.6	17842.3	960.3	17845.2	962.91	7943.73	961.3971
18009.1	960.4	18087.6	959.9	18104.5	954	18264.9	951.7	18427.6	949.5
18577.1	948.4	18651.6	946.4	18699.1	952.7	18753.8	949	18784.8	949.1
18848.6	953.1	18893.8	954	18925.3	958	19065.9	958.5	19153	954.3
19223.7	956.3	19377	949.7	19404.1	948.6	19480.7	949.5	19540.9	947.7
19607.6	951.7	19748	954.6	19781.1	954.1	19818.6	949.6	19876.6	948.4
19936	956.7	20100.5	954.2	20244	952.7	20403.3	950.4	20550.4	948.2
20608.4	948	20715.6	953.3	20891.6	948.2	20923.4	941.8	20972.4	940.9
20990.6	945.3	21048.3	948	21178	947.3	21216.5	954.8	21254.9	957
21391.4	958.4	21554.4	958	21596.8	958.1	21777.9	958.2	21934.4	958.6
21995.7	958.3	22004.2	960.1	22157.3	959.4	22212.5	961.1	22218.9	959.2
22225.8	961.6	22299.7	963.1	22311.3	960.4	22338.4	962.5	22478.8	962.4
22674.4	962.5	22848.1	961.1	22905.9	961.6	23058.8	963.2	23081.5	963.2
23263.4	961.3	23370	959.8						

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12786.6	.025	17009.5	.15	17261.7	.025	17845.2	.15	19480.7	.032
20244	.037	21391.4	.025						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17943.73	21391.4	495	492.06	495	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
12786.6	17845.2	963.2	22212.5	23370	963.2

CROSS SECTION RIVER: 1
REACH: 1 RS: 201.43

INPUT
Description: 201.43

Left Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12790.4	959.2	12931.7	959.4	13106.1	959.5	13261.9	959.6	13426.6	960.3
13574.8	960.1	13719.2	960	13863.6	960.3	14015.4	959.4	14162.1	960.1
14260	960.7	14418.2	961.9	14556.8	961.4	14697.8	960.6	14846.1	959.1
15008.5	959.1	15194.6	958.6	15331.7	959.1	15511.6	959.4	15657.5	959.5
15799.1	959.9	15827.9	961.5	15973.4	960.8	16110.8	960.5	16254.2	959.9
16478.5	958.1	16617.9	958	16780.3	959.8	16924.1	959.3	17061.9	956
17202.1	956.4	17374.3	959	17594.2	959.4	17734	959.4	17844.3	960.3
17853.5	961.9	17859.2	959.6	18001.4	960.7	18014.99	60.4907	18053	959.9
18066.9	952.8	18179.7	952.8	18317	950.6	18459.7	949.9	18597.4	947.5
18738.8	948.8	18799.8	954.8	18924.3	958	19076.8	958.9	19195.5	956.6
19253.6	950.7	19403.4	947	19416.1	948.3	19450.8	947.6	19528.4	954.4
19671.9	955.8	19712.9	955.8	19744.1	948.3	19847.5	947.6	19851.7	953.1
19996.8	955.1	20141.7	954.2	20303.2	954.8	20474.6	951.5	20649	946.3
20689.8	947.9	20719.5	943.8	20747.5	947.5	20911.6	947	20951.8	947.8
20976.3	941.3	21080.6	942.7	21100.4	945.1	21136.4	946.2	21179.1	944.6
21271.5	950.5	21342.1	957.5	21353.3	959.8	21363.1	957.2	21516.4	957.7
21676.7	958.3	21814.1	958.7	21883	958.4	22035.4	957.9	22182.8	959.4
22322.3	960.9	22328.9	958.7	22340	962.3	22362.8	960.4	22606.3	961.2
22648.5	961.2	22787	960.2	22945.6	960.3	23094.6	961.1	23289.3	961
23341.9	960.2	23387.4	958.8						

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12790.4	.043	15827.9	.065	17202.1	.025	17853.5	.15	19253.6	.032
20649	.037	21342.1	.025						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18014.9	21342.1	555	519.88	505	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
12790.4	18000	962.3	22322.3	23387.4	962.3

CROSS SECTION RIVER: 1
REACH: 1 RS: 201.33

INPUT
Description: 201.33

Left ChannelBank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12785.7	957.8	12951.9	958.1	13134.4	958.1	13293.5	958.1	13493.4	958.4
13649.5	958.9	13744.1	960.9	13758.6	959.4	13925.5	959	14085.7	958.6
14255.8	961.3	14420.6	961.4	14593.6	961.2	14794.8	960.7	14992.6	959.3
15164	957.6	15345.7	958.5	15520.6	959.3	15694.3	959.9	15854.4	959.9
16014.9	960.3	16184.1	960.4	16362.7	960.3	16517.9	960.6	16680.1	958.6
16837.4	958.7	16937	956.7	17109.2	956.2	17266.3	958.7	17288.5	957.8
17465.9	959.2	17667.7	959	17831.2	959.5	17862	961.6	17929.5	961.8
17948.2	960.4	18049.5	2959.5026	18072.4	959.3	18086.6	953	18242.2	954.4
18398.7	954.5	18556.7	954.3	18607.2	952.5	18626.2	948.5	18634.2	950
18715.7	949.6	18791	954.8	18874.7	955.9	18937.2	954.7	18984.3	948
19116.8	949.1	19140.9	943	19269.7	945.9	19315	948.3	19489.9	950.7
19565.6	952.4	19588.8	955.2	19608.2	948.1	19752.9	948	19806.6	953
19969.5	952.2	20134.6	953.3	20171.4	952.2	20226.7	955.4	20293.9	954.2
20341.3	955.5	20424.9	951.7	20512.5	950.6	20548.8	944.7	20652.6	950
20769.7	946.7	20843.2	955	21006.1	948.3	21057.8	946.6	21076.8	943.6
21236.1	944.8	21304.1	946.3	21310.7	945	21357	957.5	21381.8	958.1
21545.7	957.7	21548.3	957.8	21799.8	956.8	21810.6	956.8	22056.9	957.1
22107.8	957.3	22115	958.6	22356.1	957.9	22513.8	959.5	22624.6	962.2
22794.7	960.7	22966.1	961	23037.1	962.1	23192.4	961.3	23366.6	961.5
23397.6	960.4	23444	960.7						

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12785.7	.043	15854.4	.065	17266.3	.025	17929.5	.15	19116.8	.032
19315	.037	21381.8	.025						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18049.52	21381.8	515	514.62	515	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
12785.7	17929.5	962.2	22624.6	23444	962.2

CROSS SECTION RIVER: 1
REACH: 1 RS: 201.24

INPUT
Description: 201.24

Left Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12806	955.8	12962.7	956.3	13145.6	957.3	13331.4	956.5	13517.2	956.2
13697.1	957.3	13855.5	957.4	14010.3	957	14164.7	956.7	14318.4	958.2
14482	958.5	14660	956.8	14688.4	957.7	14821.8	955.2	14989	957.8
15156	956.9	15324.8	957.6	15476.8	959	15632.7	959.6	15787	959.8
15939.5	959	16132.2	958.4	16296.2	957.9	16464.6	957.9	16632.1	958.1
16801.9	956.7	16986.8	954.6	17117.8	954.3	17180.2	958.7	17353.5	957.6
17566.1	957.4	17719.1	957.9	17947.6	957.8	18063.5	959.9	18067.3	6958.4367
18084.6	951.9	18123.2	954.4	18273.7	954.7	18463.7	954.1	18640.4	954.1
18769.1	951.5	18834.7	946.6	18852.7	947.7	18957	944.8	19101.5	944.9
19190.4	949.6	19365.4	949.8	19479.4	950.7	19501.5	945.5	19659.5	947.2
19709.9	951	19861.9	951.5	20036.3	950.6	20116.5	953	20174.4	956.4
20272.4	956.3	20322.3	953.3	20397.8	952.3	20534.1	946.8	20728.3	949.3
20901.9	952.6	21060.4	953.1	21108.8	948.4	21143.3	943.1	21322.6	943
21477	945.1	21515.7	945.4	21547.4	956.4	21570	957.6	21573.6	955.3
21742.9	955.8	21840.8	955.8	22073.6	956.2	22315.2	956.6	22474.6	957.8
22660.5	959.5	22837.1	960.3	23006	960.7	23189	960.3	23372.7	959.3
23535.3	958.6	23693.7	960.2	23701.8	958.7	23728.6	959.3	23733.9	957.9
23745.1	960.6	23895.9	959.5	24055.3	959.7	24212	959	24364.3	958.6
24523.2	960	24683.9	959.1	24867.9	960.4	25044.2	960.6	25240.9	961.6
25449.6	962.7	25490	964.7						

Manning's n Values num= 9

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12806	.043	16132.2	.065	17180.2	.025	17947.6	.15	18063.5	.15
18957	.037	19659.5	.032	20174.4	.037	21570	.025		

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Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      18067.36   21570              485  488.56     490             .1        .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   12806 18063.5   964.7   23006   25490   964.7

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 201.14

INPUT
Description: 201.14

Left Channel Bank Station Interpolated
Station Elevation Data    num=      97
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 12823.9   955.7 12999.4   956.2 13212.7   955.6 13428.9     956 13645.2   955.7
 13816.9   955.8 13992.2     956 14163.4   956.5 14335.2   955.8 14527.3   956.5
 14708.6   956.3 14909.6   955.2 15093.8   955.5   15267   954.8 15439.6   956.4
 15609.9   956.4   15791   956.8 15950.3     959 16129.2   957.7 16303.6     956
   16475   953.7 16660.8     955 16839.9   953.5 17004.5   951.4 17082.5   958.8
 17162.8   956.1 17184.4   958.7 17362.4   957.4 17598.4   957.1 17832.2   956.8
 18017.1     960   18032   960.218037.86957.9083 18056.8   950.5 18241.1   949.4
 18415.6   950.8 18585.7   951.8 18725.4   952.4 18733.1   949.9 18790.6   949.1
 18818.8   941.6 18850.4   943.3 18986.4   943.9 19077.9   949.8 19149.1   948.9
 19305.2     951 19389.8   945.3 19562.7   946.4   19610   949.5 19790.7   949.7
   19961   950.3 20069.8   955.8 20203.6   953.6 20241.8   949.2 20445.4   947.5
 20553.6     952 20738.9   949.5 20840.4   947.3 20887.4   943.5 20941.4   948.4
 20992.7   949.8 21019.8     942 21063.4   942.9 21079.7   945.4 21128.6     946
   21160   941.1 21202.5   940.4 21278.6   945.6 21455.1   945.3 21569.3   940.9
 21644.4   944.5 21697.9   954.5   21721   955.2 21725.6   953.1 21741.2     955
 22051.3   955.9 22155.8   956.1 22389.7   956.4 22512.4   956.8 22725.1   956.9
 22832.8     959 22857.1     957 23030.8     959 23238.6   958.8   23414   958.9
 23606.9   957.7 23803.1     958 24052.9   958.2 24291.1   958.1 24471.3   958.5
 24625.1   958.9 24632.8   957.3 24637.8   958.9 24815.7   959.6 25013.4   960.6
 25215.4   961.6 25365.2   962.4

Manning's n Values        num=       8
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
 12823.9    .043 16303.6    .065 17184.4    .025   18032     .15 18850.4    .037
   19610    .032 20553.6    .037   21721    .025

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      18037.86   21721              480  481.53     485             .1        .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
 12823.9   18032   962.4 22832.8 25365.2   962.4

CROSS SECTION          RIVER: 1
REACH: 1                  RS: 201.05

INPUT
Description: 201.05

Left Channel Bank Station Interpolated
Station Elevation Data    num=      97
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 12848.3   954.5 13055.4   953.7 13276.2   955.4 13483.1   957.1 13684.3   954.7
 13886.2   954.5 14079.9     955 14267.8   955.7 14489.3   955.5   14686   954.3
 14893.9   954.8 15093.5   953.8 15286.8     955   15508   955.8 15694.8   955.4
 15890.9   955.3 16093.3   955.3 16296.5   955.9 16489.7   956.3 16687.2   954.3
 16876.1   953.1 17029.6   951.4   17090   955.6 17177.7   953.2 17211.7   959.1
 17239.8   956.7 17474.3   956.9 17712.8   956.3 17920.1   957.3 17947.8   957.7
17948.21 957.514 17963.9   950.4 18149.7   948.9 18366.7   949.3 18552.6   947.7
   18642   947.2 18662.5   941.8 18877.7   942.9 18965.7   942.8 19025.5   948.9
 19069.3   949.7   19115     948 19146.2   943.8 19305.4   944.7 19341.4   942.6
 19450.5   944.4   19486   951.1 19656.3   948.4 19742.2   949.2 19800.5   946.7
 19926.9     951 19979.4   950.2 20027.5   955.4 20105.3   953.3 20157.5   947.1
 20233.6   946.1 20272.3   948.2 20302.6   946.7 20402.5   950.2 20615.4   948.5
 20746.4   950.2 20793.3     949 20816.3   941.7 20964.1   941.5 20993.4   945.9
 21193.9   949.2 21384.8   948.9 21582.1     946 21750.2   942.4 21815.9   945.1
   21849   955.5 21881.2   953.7 21901.6   955.1   21907   953.3 21990.8   953.6
 22189.8   954.8 22244.5   955.2 22537.9   955.5 22570.5   955.5   22835   955.8
 22894.6   957.1 22905.9     959 22934.1   957.4 23165.2   957.6   23380     958
   23414     957 23451.8   959.3 23684.3   956.6 23933.2     957 24126.1   957.5
   24400   957.7 24595.1   958.4 24603.3   957.1 24622.7   959.8 24638.5   957.6
 24836.5   959.9 24997.1   961.2

Manning's n Values        num=       8
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Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12848.3	.043	16687.2	.15	17177.7	.025	17947.8	.15	18965.7	.037
19486	.032	20402.5	.037	21849	.025				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
17948.21 21849 520 512.89 510 .1 .3
Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
12848.3	17947.8	961.2	22905.9	24997.1	961.2

CROSS SECTION RIVER: 1
REACH: 1 RS: 200.95

INPUT
Description: 200.95

Left Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12874.8	952.5	13039.9	952	13212.3	952.3	13372.8	953.5	13537.8	953.7
13708.5	953.7	13872.8	954	14042.5	953.4	14205.3	953.3	14401.9	953.5
14603.1	953.1	14762	954.2	14934	952.2	15127.8	952.8	15312.6	953.8
15422.3	957.2	15583	954.7	15746.4	955	15906.8	956.3	15988.2	955.4
16164.6	957.4	16332.4	957.6	16504.4	956.6	16673	957.2	16861.4	956.7
17049	953.4	17207.8	951.7	17274	955.6	17440.2	954.4	17613.5	957.4
17631.7	953.8	17653.9	958.1	17824.4	958	17905.8	956.9189	17952.4	956.3
17964.6	951.3	18135.4	946.6	18219.9	947	18317.2	949.6	18410.9	946.7
18428.8	949	18651.9	947.8	18690.8	946.2	18729.3	940.1	18914	943.4
19040.9	943.9	19102.9	941.9	19126.2	943.3	19190.9	941.9	19216.4	943.8
19237.2	941.5	19420.9	944.3	19517.6	943.7	19555.3	947.7	19758.1	946.5
19818.9	950.2	19947.1	951.5	20006.8	955.9	20184.2	954.1	20323.1	951.3
20414.3	945.7	20527.8	944.2	20653.3	949.4	20684.2	940.5	20842.4	942.7
20989.1	947.8	21069.4	948.4	21262.3	947.7	21448.8	948.8	21631.4	946.7
21802	942.6	21869.1	939.8	21909.3	943.4	21954	953.2	22148.5	954.1
22306.3	954	22378	955.4	22594.8	954	22757.8	954.9	22935.8	954.8
23107.3	956.2	23275.4	955.9	23411.6	954.8	23573.4	957.7	23629.1	956.7
23796.3	955.8	23971.7	955.8	24129.8	956	24294.4	955.8	24466.5	955.4
24623.6	955.4	24630	955.3	24639.7	957.8	24648.4	954.6	24662.5	958.2
24836.4	959.8	24988.3	960.7						

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12874.8	.043	17824.4	.15	18729.3	.037	19517.6	.032	20323.1	.037
21954	.035								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
17905.8 21954 475 474.38 480 .1 .3
Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
12874.8	17824.4	960.7	23100	24988.3	960.7

CROSS SECTION RIVER: 1
REACH: 1 RS: 200.86

INPUT
Description: 200.86

Left Channel Bank Station Interpolated
Station Elevation Data num= 98

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12893	952.7	13071.4	952.1	13217.7	954.6	13366.3	951.7	13513.8	953.9
13666	954.4	13820.1	953.4	13963.2	953.3	14149	953.3	14333.5	952.5
14509.1	952.1	14688.3	953.1	14861.7	952.4	15054.1	951.6	15210.6	951.7
15424.6	955	15571.3	952.8	15782.9	955.2	16020.2	955.6	16192.2	953.9
16399.2	952.8	16559.9	953	16714.8	953.3	16760.5	954.7	16916.6	953.9
17003.1	954.6	17168.1	950.1	17285.1	949.5	17360.5	954.6	17520.2	953
17694.7	956	17869.8	957	17934.1	958.11	7992.44	956.5698	17995.1	956.5
17996	956.3408	18052.8	946.3	18288.3	948.1	18449.5	947.1	18628.5	947.7
18762	951.3	18912.7	950.4	19061.6	946.8	19092	945.3	19141.3	938.5
19175.6	940.7	19336.6	941.9	19619.6	944.7	19730.8	944.7	19826.2	949.9
19922.8	951.3	20011.5	955.4	20112.1	951.4	20184.7	943.1	20254	952.1
20308.4	952.8	20438.4	949.3	20464.9	944.1	20568.6	943.9	20744.1	941.1
20840.6	941.3	20896.7	945.9	20979.1	947.3	21100	946.2	21279.3	951.2
21459.1	946.8	21602.1	945.3	21642.4	941.5	21792.5	940.9	21831.9	940.3
21865.4	942.7	21898	952	22032	954.1	22187.6	953.7	22377.3	953.4
22522.7	953.4	22725.4	952.8	22947.9	954.9	23137.5	955	23294.6	956.1
23413.1	955.8	23420	954.5	23482.2	956.5	23641.6	956.7	23647.7	954.4
23806	955.4	23951.6	954.9	24112	954.8	24269.9	954.6	24426.7	954.8
24604.6	954.9	24656.8	954.3	24670.5	956.8	24680.8	954	24693.9	958.2

24856.4	958.5	25029.7	959	25175	960.2

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12893	.043	17934.1	.15	19619.6	.032	20308.4	.037	21898	.035
22032	.035								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17996	22032	525	523.32	525	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
12893	17750	960.2	23360	25175	960.2

CROSS SECTION RIVER: 1
REACH: 1 RS: 200.77

INPUT
Description: 200.77
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12925.1	950.1	13101.8	952.3	13250.4	951	13436.7	950.7	13651.1	951.4
13804.4	951.9	14027	953.4	14249.5	951.8	14401.1	950.7	14592.6	949.7
14752.3	950.6	14873.3	950.3	15006	952.1	15110.8	950.9	15249.1	953.3
15443.8	954.5	15631.2	955.3	15702.9	951.3	15936.9	951	16108.8	954.5
16172	955.8	16295.1	951.4	16462	950.7	16530.6	949.9	16652.3	952.8
16854.8	954	17022.2	952.1	17185.4	949.9	17349.4	948.1	17402.8	955.2
17473.6	951.6	17660.6	954.4	17828.8	955.3	17926.5	954	17969.3	948
18147.9	944.4	18302.9	946.4	18524.1	946.1	18650.9	949	18815.8	948.8
18902.5	949.8	18913.4	952	19097	950.8	19277	951.3	19280.8	951.9
19280.9	949.5	19321.8	951.3	19557.8	943.7	19720.4	945.1	19857.8	946.5
19911.9	942.9	19989.5	951.1	20140.5	950.2	20288.5	945.2	20339.4	948.6
20362.3	944.7	20388.7	942.6	20487.8	944	20788	936.9	20804.9	937.1
20829.2	942.4	20906.3	944.7	21056	944.4	21222.9	942.6	21375.1	940.2
21524.6	940.4	21559.7	941	21581	950.6	21785.8	951.3	21951	952.4
22102.3	952.1	22329.8	953.2	22461	953	22651.4	953.3	22824.9	954.7
23050.7	954.8	23217.5	954.9	23380.5	954.5	23421.7	954.3	23434.6	956
23439.7	954.3	23489.2	957.2	23506.4	952.5	23514.1	955.4	23706.9	954.3
23876.7	954.3	24057.8	954.4	24216.1	954.4	24385.4	954.2	24554.4	953.9
24685.3	953.1	24698.2	956.8	24704.7	952.7	24723.6	958.6	24886.7	958.9
24978	959.5								

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12925.1	.043	17828.8	.15	19321.8	.032	19857.8	.037	21785.8	.025
21951	.035								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17828.8	21951	500	495.64	520	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
12925.1	17630	960	23630	24978	960

CROSS SECTION RIVER: 1
REACH: 1 RS: 200.67

INPUT
Description: 200.67
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12952.7	947.8	13129.5	948.3	13308.2	948.8	13483.1	949.2	13641	952.6
13766	952	13870.6	949.3	14073.7	950.3	14282	951.5	14535.6	948.8
14746.4	948.7	14899.4	949.8	15045.4	950.6	15138.5	953.1	15312.3	952.8
15471.5	952.2	15651.1	951.4	15730.3	949.9	15964.5	954	16199.7	953.8
16438.6	948.9	16643.2	952.3	16796.2	954	17002.3	953.9	17133.8	952.2
17211.9	946.7	17315.9	947	17376.2	954.8	17384.7	952.3	17551.8	953.1
17732.2	954.1	17919.3	952.9	17950	943.8	18101.5	944.9	18330.6	947.4
18498.9	943.9	18565	943.8	18742.3	948.8	18888.2	952	18925.4	946.6
18962.8	948.9	19023.7	947.4	19040.9	949.6	19238.5	952.4	19366.3	948.8
19569.2	947.1	19719.3	940.8	19796.7	942.1	19832.7	943.8	19969	943
20047.1	949	20111	948.4	20263	939.8	20444.8	942.7	20609	942.6
20782.8	941.1	20963.8	942.2	20998.9	941.8	21090.6	944.3	21256.2	942.8
21298.3	943.3	21316	950.6	21367.7	945.7	21427.5	950.4	21604	951.9
21649.3	952.3	21939.5	952.7	21971.5	952.7	22194	953.4	22217.8	954.7
22233.1	953	22256.3	952.8	22476.8	953.9	22513.4	953.9	22711.5	955.1
22773.4	955.2	22873.4	959.1	23051.6	959.3	23158.6	956.6	23168.5	958.8
23393.6	957.5	23430	957.4	23431.7	955.9	23584.2	954.6	23749.1	953.9
23939.2	954	24125.4	954.8	24292.4	954.6	24492.9	954.3	24643.7	954.1
24725.3	954.1	24731.8	955.7	24741.4	953.7	24755.2	960.7	24923	959.7
24996.7	960								

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12952.7	.043	17919.3	.15	18962.8	.032	19040.9	.15	19366.3	.032
20263	.043	21604	.025	21649.3	.025				

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17919.3	21649.3	500	503.34	510	.1	.3

Ineffective Flow num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
12952.7	17540	960	22230	23500	960	23915	24996.7	960

CROSS SECTION RIVER: 1
REACH: 1 RS: 200.58

INPUT
Description: 200.58

Right Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13004.2	946.1	13252.7	946	13406.6	945.2	13565.9	944.9	13774.2	944.6
13943.1	945.5	14116.9	945	14279.1	946.6	14438.8	947.7	14609	948.4
14768.3	947.1	14929	947.1	15050.5	947.2	15202.4	950.2	15286.6	950.1
15344.6	952	15501.3	950.2	15638.8	948.6	15758.4	951.1	15992.6	950.5
16109.8	952.6	16227.7	949.4	16451.3	948.4	16610.1	950.8	16708	953.4
16925.1	953.5	17149.3	953.1	17163.9	953.3	17234.2	944.5	17318.9	945.5
17387.8	953.1	17544.8	952.5	17768	953.3	17947	953.3	18120.4	944.7
18239.5	947	18479.6	944.5	18689.4	943	18899.8	947.1	18982.6	947.4
19060.5	950.5	19193.4	946.5	19239.2	951	19272	950.3	19281	947.8
19435	949.5	19481.5	950.8	19780.1	939.9	19839	939.1	20105.5	937.6
20341.3	941.2	20411.6	945.7	20456.8	943.9	20469.2	941.9	20590	941.2
20660	946.3	20712.1	943.5	20803.5	943.1	20830.7	941.2	21002.3	943.4
21117.8	946.3	21272	946.4	21425	950.4	21450	950.6778	21452	950.7
21643	952.3	21667.2	952.4	21820.3	952	21847.8	952	22017.1	952.7
22213.8	952.2	22244.2	960.6	22257.8	957.2	22270.2	958.5	22289.1	952.8
22392.9	953.3	22566.6	953.5	22797.3	954.2	22998.5	955.3	23151	955.4
23322.6	954.9	23399.1	953.2	23498	953.6	23506	952.3	23516.9	955.5
23555.1	955.9	23578.4	953.2	23779.1	953.4	23989.5	954.5	24174.8	954.3
24351.4	954.1	24538.2	953.8	24699.8	953.7	24771.3	955.3	24776.5	952.9
24795.5	960.4	24969.5	959.5						

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
13004.2	.15	14609	.043	17947	.15	19481.5	.032	20105.5	.043
21425	.025	21643	.025						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17947	21450	475	479.55	530	.1	.3

Ineffective Flow num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
13004.2	17460	960	22800	23380	960	24200	24969.5	960

CROSS SECTION RIVER: 1
REACH: 1 RS: 200.49

INPUT
Description: 200.49
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13048.9	945.6	13261.8	944.9	13471.4	944.9	13640.6	945.6	13821.9	945.7
13998.1	945.5	14204.4	944.8	14399.4	943.8	14586.6	943.4	14763.6	943
14951.3	943.1	15156.1	943.2	15371.2	945.2	15548.1	948.1	15769.6	946.9
15979.3	948.4	16200.3	947.6	16375.3	947.1	16493.4	953	16719	952.8
16949.5	951	17106.4	951.7	17132.4	947.4	17168	952.5	17198.4	950.8
17234.4	945.1	17404.6	947.6	17536.5	952.7	17719.3	953.3	17750.3	952.7
17791.5	947.5	17816.7	949.6	17852.9	949	17862.5	950.8	18012.9	951.3
18153.1	947.1	18273.7	941.6	18480.3	943.2	18739.9	945	18856.4	944.7
19028.1	939.7	19085	944.7	19190.4	945.3	19261.7	948.1	19342.5	943.7
19490.6	939.8	19542	943.5	19650.1	948.1	19854.1	940.8	19947.1	937.5
20192	936.9	20201.4	940.9	20275.4	939.8	20324.1	944	20367.7	939.3
20425.1	937.8	20452	941.7	20573.6	946.4	20608.5	941.9	20627	944.1
20638.3	940.9	20706.1	939.4	20811.1	939.3	20837.1	942.5	20956.7	943.3
20975.1	941.9	21136.8	944.8	21171	950.3	21342.1	950.2	21559.3	950.8
21830.5	950.9	21861.8	951.1	21876.9	959.1	21891.8	959	21905.4	951.7
22133.6	952.2	22336	952.4	22590.8	952.7	22633.1	952.7	22813.2	952.3
23018.2	953.8	23185.8	954.6	23401.6	954.5	23519	954	23540.6	951.9
23589.4	954.7	23609.6	952	23780.4	952.4	23946.1	952.4	24145	952.4
24343.4	952.9	24514.6	953.3	24725.8	953.2	24810.9	953.5	24835.6	958

24956.8 957.1

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
13048.9	.15	15548.1	.043	17719.3	.043	18273.7	.15	19342.5	.032
20192	.043	21171	.025						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17719.3	21171	510	497.59	510	.1	.3

Ineffective Flow num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
13048.9	17380	960	21840	22160	960	22950	23300	960
24485	24956.8	960						

CROSS SECTION RIVER: 1
REACH: 1 RS: 200.39

INPUT
Description: 200.39
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13083.9	945.2	13254.6	945.3	13486.8	945.5	13742.8	945.8	14008.5	946
14273.9	945.9	14454.3	945.6	14637.7	945.4	14834.7	945.2	15022.8	944.7
15192.5	944.4	15417.5	944.4	15642.9	944.4	15819.7	943.9	16016.8	943.5
16254.5	943.6	16478.3	943.8	16652.7	943.9	16819.7	947.8	16875.2	949.8
16928.9	948.8	16992.7	951.1	17168.8	950.1	17242.1	945	17439	948.6
17484.9	949	17507.9	946.2	17527.7	949.5	17682.5	952.2	17714.9	945.6
17726.7	949.9	17781	947.5	17966.7	946.8	18026.8	945.7	18050.3	941.5
18183	941.3	18379.8	942.6	18534.2	941	18751.2	942.5	18800.2	941.7
18918.7	944.9	19025.6	941.5	19161.9	944.8	19220.8	943.5	19267.5	947.7
19444.5	940.9	19506.7	939	19763.7	940.6	19785	940.5	20110.3	939.9
20152.6	937	20199	940.6	20240.6	941.7	20272.3	938.7	20460.6	948.4
20515.5	946.8	20585.3	946.5	20659.8	939.5	20714.2	938.7	20742	943.3
20788.5	938.9	20812.7	939.9	20854.3	937.8	20978.7	940.9	21041	951.3
21062	949.6	21134.2	949.8	21326.6	949.6	21342.1	949.6	21606.3	951
21865.7	950.7	21893.4	950.9	21911.5	958	21918.5	956.7	21925.9	957.8
21937.7	950.6	22152.6	950.7	22336.4	951.5	22566.3	951.6	22807.6	951.9
23031.4	952.1	23203.3	953.2	23429.6	953.3	23573.8	952	23600	955.9
23653.9	951.2	23829	950.5	24004.5	950.7	24185.9	951.4	24362.4	951.7
24572.6	951.5	24742.1	951.6	24842.9	953.7	24848.9	951.1	24857.3	956.6
24952.5	957.6								

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
13083.9	.15	16875.2	.043	17682.5	.043	18751.2	.15	19506.7	.032
20199	.043	21041	.025						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17682.5	21041	550	506.5	480	.1	.3

Ineffective Flow num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
13080	17300	960	21400	22680	960	24775	24952.5	960

CROSS SECTION RIVER: 1
REACH: 1 RS: 200.3

INPUT
Description: 200.3
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13125.5	945.5	13316	945.5	13495.7	945.7	13687.9	945.9	13882.5	945.7
14123.9	945.2	14361.2	945.8	14546.2	945.8	14737.5	945.3	14938.1	945.4
15122.2	945.1	15335	945.6	15433	945.6	15567.6	939.4	15743.1	943.1
15926.3	943.9	16194.5	945.4	16429.4	944.1	16628.2	944	16879.3	943.5
17113.8	942.4	17377.6	941.9	17498.6	943.3	17607.2	938.9	17628.8	936.3
17658.3	936.3	17675	944.5	17697.5	951.2	17780.4	950.6	17838.1	947
17867.7	942.5	17967.1	945	18084.3	942	18261.2	944.6	18437.1	945.1
18628.2	943.1	18829.4	943.7	19025	944.9	19214.9	946.9	19248.3	947.6
19276.7	941.7	19395.7	940.8	19474.4	946.5	19525.1	941.1	19863.4	942.3
20078.8	940.7	20263.9	939.9	20310.8	939.3	20322.1	942.6	20372.8	938
20488.5	939.3	20499.7	937.7	20594.1	938.9	20626.9	940.5	20657.3	939.8
20690.1	946.3	20711.8	945.7	20725.9	942.7	20819.1	942.7	20861.5	948.6
20879.4	947.5	20896	957	20906	955	20980	955.9	20990	954.6
21051.2	955.9	21071.8	953.9	21206.4	955	21247.3	956.9	21438.7	956
21607.6	952.1	21652.6	956.5	21832	957.6	22017.2	957.7	22136.9	954
22358.1	956.8	22480.5	957.8	22661.3	957.9	22684.8	957.8	22918.3	956.9
22985.5	956.5	23086.3	950.7	23165.3	950.8	23400.3	954	23576.8	954.1
23691	953.2	23717.5	950.5	23919.1	949.7	24108.8	949.5	24379.6	950.1
24590.3	950.3	24795.9	950.7	24878.3	952.9	24883.6	950.7	24903	957.1

24983.7 956.7

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
13125.5	.15	17780.4	.15	18261.2	.065	19395.7	.032	20263.9	.043
20896	.043	21206.4	.053						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17780.4	20896	520	515.72	560	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev
13125	17205	960

CROSS SECTION RIVER: 1
REACH: 1 RS: 200.2

INPUT
Description: 200.2

Left Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13153.3	944.6	13349.8	941	13453.5	941.7	13506.2	944.4	13667.2	944.5
13896.4	944.4	14116.1	944.3	14330.9	944.2	14491.6	944.1	14677.3	943.8
14757.1	939.6	14939.8	944.1	15110.7	943.8	15278.6	943.3	15461.1	943.2
15632.4	943.3	15866.9	943.9	16084.9	943.3	16260.8	943.4	16458.2	942.6
16696.4	943.8	16928.4	942.2	17115	942.0292	17146.9	942	17406.4	942.7
17643.4	942.6	17703.7	941.7	17728.1	936.2	17754.7	936.2	17774.2	941
17960.5	949.6	18052.3	948	18086.8	939.2	18113.1	940.7	18233.7	939.8
18402.1	943	18511.7	944.8	18531.7	941.8	18707.3	944.7	18794.8	941.3
19017.2	943.2	19081.1	945.2	19247.5	944.2	19313.2	945.7	19482.3	942.9
19591.6	942.6	20062.3	940.4	20235.8	940	20296.5	940.6	20329.2	937.6
20402.2	940.4	20578.4	937.9	20633	938.7	20676	937	20686.1	939.7
20744	948	20822.3	948	20949.1	954.9	21027.6	947.5	21215	947.3
21338.5	947.2	21527.5	948.5	21746	948.8	21841.7	948.3	22059	949.1
22185.4	949.1	22507.1	948.8	22551.2	949	22836.7	949.8	22992.3	949.2
23156.3	950.7	23327.5	950.2	23492.3	951.2	23633.4	950.7	23641.6	948.8
23667.9	953.3	23785.4	949.4	23980	949	24145.7	948.5	24326	947.5
24336.6	946.6	24353.9	949.4	24529.6	949.2	24626.1	949.5	24679.5	947.3
24861.6	949.3	24983.4	948.5	24990.2	949.6	24999.2	947	25138.6	950
25169.5	955.5	25202.4	950.9	25239.2	950	25434.2	953.6	25474.7	955.9
25481.6	954.7	25498.7	958.4						

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
13153.3	.15	17960.5	.15	18233.7	.065	19482.3	.032	20235.8	.043
20744	.043	21215	.025	23667.9	.053				

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17960.5	20744	535	525.73	515	.1	.3

Ineffective Flow num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
13150	17115	960	20744	23100	960	25169.5	25498.7	960

CROSS SECTION RIVER: 1
REACH: 1 RS: 200.1

INPUT
Description: 200.1
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13401.5	961.6	13404.9	959.9	13406.7	957.2	13436.1	949.3	13438.3	947.2
13608.9	944.8	13771.4	944.1	13861.6	946.2	14093.6	944.2	14363	943.5
14599.1	944	14804.9	943.5	14985.6	943.6	15188.8	942.7	15425.2	942.8
15650.8	942.8	15834.1	942.9	16015.4	942.8	16214.7	941.9	16467.4	941.6
16641.3	942.8	16821.1	944	17077.9	942.2	17313	941.7	17523.7	941.6
17672.5	940.7	17733.3	943.5	17903.5	943	18097	942	18197	940.9
18244	934.9	18278.2	934.7	18280	936.9	18289	936.2	18327.6	941.8
18505.3	941.8	18602	941.2	18752.8	944.8	18927.6	940.3	19044.3	938.9
19072.3	941.3	19130.7	943	19301.3	943.1	19402.1	944.8	19524.2	937.7
19631.9	945.9	19875.1	939.3	20104.9	934.9	20306.5	934.5	20329.5	935.2
20520.9	935.5	20604.1	936.7	20643	947.2	20857.2	946.5	21112.6	946.5
21165.6	945.5	21339.7	946.3	21499.9	947.4	21673.2	947.4	21692.7	947.4
21938.1	947.6	21976.2	947.6	22310	947.7	22366.6	947.7	22620.5	948
22748	948.7	23104.3	950.4	23323.4	950.8	23521	950.1	23671.5	950.7
23677.2	948.1	23730.1	951.6	23754.2	948.1	23760.8	950.1	23949.5	948.5
24132.7	948.8	24309.4	949	24354.9	949.5	24372.1	946.9	24561.3	948.7
24717.9	946.9	24773.6	949.1	24952.8	948.5	25016.6	946.2	25028.8	948.4
25039.1	944.7	25073.4	947.5	25256.1	949.3	25287.2	954.4	25301	949.1

25375.9	953.1	25528.9	956	25539.2	957.4	25551.8	955.4	25735.3	957.8
25963	960								

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
13401.5	.15	15425.2	.043	16821.1	.15	18752.8	.15	19524.2	.032
20643	.043	21165.6	.025	23730.1	.053				

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17733.3	20643	490	491.65	495	.1	.3

Ineffective Flow num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
13400	17030	960	20800	23000	960	25287.2	25965	960

CROSS SECTION RIVER: 1
REACH: 1 RS: 200

INPUT
Description: 200
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13751.9	957.5	13774.9	950.4	13899.2	945.3	14075.2	943.6	14247.4	943.4
14390.2	944.1	14410.8	941.9	14489.5	944.7	14707.6	944.7	14871.6	945
15032.5	944.4	15300.2	944.1	15460.8	944.8	15628	944.3	15784.9	944.2
15958.7	943.4	16114	943.3	16279	942.4	16452	942.3	16652.4	942.7
16843.9	942.3	17008.1	943.8	17197.2	943.5	17388.9	942.5	17552.5	941.8
17738.6	942.2	17904	942.1	18074.8	942.9	18250.5	943.4	18433.6	942.2
18601	942.2	18626	940.2	18638.8	934	18658.5	933.4	18693.5	940.2
18768.9	944.3	18874.7	940.2	19043.7	940.6	19233.3	941.2	19416.4	942.6
19566.9	941.6	19720.1	935.8	19796.8	938.8	19975	934.4	20272.3	934.1
20276.6	934.2	20626.2	936.3	20790.5	935.3	20829	944.5	21085.6	944
21172.7	942.8	21329.4	945.1	21406.2	952.7	21433.8	946.6	21513.2	947.1
21713.7	947	21747.4	947	21906.5	946.8	21920.3	946.8	22147.8	946
22206.3	945.8	22451.9	946.8	22701.3	947.9	22901.9	948.3	23151.7	949.3
23234.2	950.1	23323.5	948.7	23510.9	949.9	23672.1	949.6	23707.3	949.9
23712.7	946.9	23720.9	949.2	23769.1	950.4	23820.8	947.8	23989.1	947.8
24020.6	947.1	24029.2	945.6	24038	947.6	24198.6	947	24361	947.2
24513.5	945.6	24672.5	946.4	24863.2	946.6	25018.9	946.3	25064.3	946
25075.8	943.9	25087.5	947.1	25163.5	947.5	25181.3	953.2	25200.7	953.7
25211	947.8	25384.8	952.1	25573.3	956	25602.8	956.1	25616.3	960.7
25622.7	961.4								

Manning's n Values num= 9

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
13751.9	.15	15628	.043	17008.1	.15	18601	.15	19566.9	.032
20829	.032	21329.4	.043	21713.7	.025	23769.1	.053		

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17008.1	20829	520	521.67	525	.1	.3

Ineffective Flow num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
13751	16950	960	21350	23200	960	25200.7	25625	960

CROSS SECTION RIVER: 1
REACH: 1 RS: 199.91

INPUT
Description: 199.91
Station Elevation Data num= 96

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
14357	952	14390.5	944.3	14519.8	944.3	14639.2	944	14799.9	943.3
14919	943.3	15064.9	943.3	15201.6	943.3	15338.6	943.4	15454.7	943.3
15584.5	943.3	15701.7	943.3	15826.7	943	15946.8	942.7	16066.9	942.8
16186	942.4	16318.5	941.2	16444.9	941.2	16595	941.2	16734.2	941.2
16862.4	941.9	16985.5	941.6	17123.4	941.2	17256.1	940.2	17418.5	940.8
17583.3	941.1	17747.3	940.1	17924.2	940.7	18048.2	942.2	18185	942.2
18189.1	942.2	18396.1	942.1	18544.2	943.4	18752.1	941	18756.5	940.1
18757.1	941.1	18776.4	938.5	18875.1	932.1	19009.5	940.1	19154.1	941.2
19274.4	940.6	19412.9	940.1	19433.2	938.2	19665	944.1	19683.4	944.3
20122	935.3	20357	935.3	20396.2	935.2	20513.6	938.9	20603.3	938.2
20817.6	934.9	20841.2	934.9	21013	935.1	21078.3	935.1	21141.2	941.5
21181.1	941.5	21315.9	945	21377.5	952.3	21405.6	945.7	21555.3	946.7
21673.9	946.5	21886.3	946.2	22065.2	946.2	22189.8	945.7	22354.3	945.2
22462	946.4	22675.7	948.1	22731	948.3	22992.2	947.3	23079.5	947.2
23195.8	947.1	23332.1	947.2	23499	947.4	23628.6	947.3	23678.5	948.1
23685.3	950.9	23692.1	948.2	23702.9	950.2	23747.7	949.7	23766.7	947.4
23890.2	946.9	24000	946.9	24127.8	946.1	24323.2	945.3	24446.3	945.3
24602.1	944.4	24749.8	944.2	24887.7	943.5	25018.7	945.8	25033.6	942.4
25046.9	947.2	25137.9	947.1	25214.4	951.6	25285.5	947.1	25444.7	950.8

25559.1 953.2

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
14357	.15	16318.5	.043	17747.3	.15	18544.2	.15	19433.2	.032
21013	.043	21315.9	.043	21377.5	.025	23702.9	.053	25018.7	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
16862.4	21315.9	465	466.41	465	.1	.3

Ineffective Flow num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
14357	16800	960	21330	23050	960	25200	25559.1	960

CROSS SECTION RIVER: 1
REACH: 1 RS: 199.82

INPUT
Description: 199.82

Left Channel Bank Station Interpolated
Station Elevation Data num= 97

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
14626.5	957.7	14665	955.3	14714.8	947.7	14731.9	943.6	14878.2	942.2
15038.4	942.1	15177.1	942.1	15312	942.9	15442.8	943.5	15572.5	942.6
15710.4	942.1	15843.3	942.2	15981.6	942	16111.7	941.9	16269.4	941.3
16337.7	941.1	16490	941.8	16647.8	941.2	16807.1	940.1	16870	940.1
16937.5	940.1	17070.8	940.1	17202.5	940.1	17339.2	940.1	17503.8	940.1
17635.5	940.1	17774.7	939.1	17955.5	939.8	18107	939.8	18236.3	940.2
18376.6	941.1	18554.9	941.8	18684.9	940.6	18768.3	940	18787.7	931.4
18818.1	931.2	18845.4	938.1	18894.5	940	19032.4	940.6	19165.1	939.3
19236.6	938.1	19354.5	941.6	19458.6	938.6	20124.2	939.3	20322.3	939.2
20533.6	938.6	20766.2	939.3	20910.7	936.7	20926	937.9	21009.9	936.6
21146.9	939.7	21241.8	942.2	21405.4	944.5	21551.8	945.7	21756.1	945.8
21937.2	945.7	22121.7	945.7	22347.1	945.6	22491.6	945.9	22657.2	946.2
22790.5	945.6	22925.1	946.5	23055.8	946.4	23218.3	946.1	23364.5	946.1
23514.8	945.8	23642	948.2	23655.7	947.2	23663.6	949.2	23669.7	947
23724.8	949.5	23780.9	946.5	23947	945	24077.1	944.4	24199.5	945.5
24210.3	943.6	24214.2	944.9	24354.9	943.6	24545.8	943	24742.9	943.3
24928.6	944	25002.7	943.7	25010.2	942.2	25023.6	945.4	25153.6	945.8
25304.8	946.9	25434.7	948.1	25588.5	950.5	25663.5	951.7	25798.3	956.3
25810.1	957.9	25834.3	954.9	25859.3	957.7	25991.9	960.7	26149.5	962.1
26241.6	962.1	26277	964.4						

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
14626.5	.15	18554.9	.15	19165.1	.065	21405.4	.025	23724.8	.053
25002.7	.025								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
16870	21405.4	0	0	0	.1	.3

Ineffective Flow num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
14626.5	16870	960	21650	22900	960	25350	26127	960

SUMMARY OF MANNING'S N VALUES

River:1

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9	n10
1	214.14	.04	.035	.04							
1	214.04	.04	.035	.04							
1	213.95	.04	.035	.04							
1	213.85	.04	.035	.04							
1	213.75	.037	.032	.037							
1	213.745	Bridge									
1	213.74	.037	.032	.037							

1	213.66	.037	.032	.037
1	213.57	.037	.032	.037
1	213.47	.037	.032	.037
1	213.38	.037	.032	.037
1	213.33	.037	.032	.037
1	213.26	.037	.032	.037
1	213.255	Bridge		
1	213.25	.037	.032	.037
1	213.21	.037	.032	.037
1	213.11	.037	.032	.037
1	213.03	.037	.032	.037
1	212.93	.037	.032	.037
1	212.84	.037	.032	.037
1	212.74	.037	.032	.037
1	212.68	.037	.032	.037
1	212.675	Bridge		
1	212.67	.037	.032	.037
1	212.56	.037	.032	.037
1	212.46	.037	.032	.037
1	212.37	.037	.032	.037
1	212.27	.045	.033	.04
1	212.18	.045	.033	.04
1	212.08	.045	.033	.04
1	211.99	.045	.033	.04
1	211.89	.045	.033	.04
1	211.79	.045	.033	.04
1	211.71	.045	.033	.04
1	211.64	.045	.033	.04
1	211.54	.037	.032	.037
1	211.525	Bridge		
1	211.51	.037	.032	.037
1	211.41	.037	.032	.037
1	211.31	.037	.032	.037
1	211.21	.037	.032	.037
1	211.12	.037	.032	.037
1	211.02	.037	.032	.037
1	210.93	.037	.032	.037
1	210.83	.037	.032	.037
1	210.74	.037	.032	.037
1	210.64	.037	.032	.037

1	210.55	.037	.032	.037				
1	210.46	.037	.032	.037	.037	.025		
1	210.36	.032	.037	.025	.025			
1	210.26	.037	.032	.037	.037	.025		
1	210.17	.037	.032	.037	.025			
1	210.07	.032	.037	.037	.025			
1	209.98	.032	.037	.025				
1	209.88	.037	.032	.037	.025			
1	209.79	.037	.032	.037	.025			
1	209.69	.037	.032	.037	.025			
1	209.6	.037	.032	.037	.025			
1	209.54	.037	.037	.032	.037	.025		
1	209.535	Bridge						
1	209.53	.037	.037	.032	.037	.025		
1	209.42	.037	.037	.032	.037	.037	.025	
1	209.33	.037	.037	.032	.037	.037	.025	
1	209.24	.037	.032	.032	.037	.037	.025	
1	209.14	.037	.032	.037	.025			
1	209.04	.037	.037	.032	.037	.025		
1	208.95	.037	.037	.032	.037			
1	208.85	.037	.032	.037	.037			
1	208.75	.037	.032	.037	.025			
1	208.67	.037	.037	.032	.037	.037	.025	
1	208.57	.037	.037	.032	.032	.037		
1	208.48	.043	.043	.032	.037	.037	.025	
1	208.39	.043	.043	.032	.037	.037		
1	208.29	.025	.043	.043	.032	.037	.037	.025
1	208.19	.025	.043	.043	.032	.032		
1	208.1	.025	.043	.043	.032	.032		
1	207.99	.043	.043	.032	.032			
1	207.9	.043	.032	.032	.032			
1	207.8	.025	.043	.032	.032	.032		
1	207.71	.025	.043	.032	.032	.032		
1	207.62	.025	.043	.032	.032	.032		
1	207.53	.025	.043	.032	.032	.032		
1	207.49	.032	.032	.032				
1	207.485	Bridge						
1	207.48	.032	.032					
1	207.43	.025	.043	.032	.032	.032		

1	207.34	.025	.043	.032	.032	.032	
1	207.27	.025	.043	.032	.032	.032	
1	207.16	.025	.043	.032	.032	.032	
1	207.07	.043	.032	.032	.032		
1	206.97	.025	.043	.032	.032	.032	
1	206.88	.025	.043	.032	.032	.032	.025
1	206.79	.025	.043	.032	.032	.032	
1	206.7	.025	.043	.032	.032	.032	
1	206.6	.025	.043	.032	.032	.032	
1	206.51	.025	.043	.032	.032	.032	
1	206.41	.025	.043	.032	.032	.032	
1	206.32	.043	.032	.032	.032	.025	
1	206.22	.043	.043	.032	.025		
1	206.13	.043	.033	.032			
1	206.03	.043	.033	.032			
1	205.94	.043	.033	.032	.037		
1	205.84	.043	.043	.032	.032	.037	
1	205.75	.043	.043	.043	.025		
1	205.62	.025	.043	.043	.032	.032	.025
1	205.52	.043	.043	.032	.032	.025	
1	205.43	.043	.043	.032	.032	.025	
1	205.4	.043	.043	.032	.032		
1	205.34	.043	.043	.025			
1	205.25	.025	.037	.037	.025		
1	205.15	.025	.037	.037	.025		
1	205.06	.037	.037	.037	.025		
1	204.97	.025	.037	.037	.025		
1	204.87	.025	.037	.037	.025		
1	204.78	.025	.037	.037	.025		
1	204.68	.025	.037	.037	.037	.025	
1	204.61	.025	.037	.037	.025		
1	204.53	.025	.037	.037	.037	.025	
1	204.42	.025	.037	.037	.037	.025	
1	204.34	.025	.037	.037	.025		
1	204.25	.035	.032	.025			
1	204.15	.035	.032	.025	.025		
1	204.05	.05	.035	.032	.025		
1	203.96	.025	.043	.043	.032	.037	
1	203.86	.043	.043	.032	.037		
1	203.77	.025	.043	.043	.032	.025	

1			203.67	.025	.037	.037	.032	.032	.025	
1			203.58	.025	.037	.037	.032	.025		
1			203.48	.025	.037	.037	.032	.025		
1			203.39	.025	.037	.037	.032	.025		
1			203.29	.025	.037	.037	.032	.025		
1			203.19	.025	.043	.043	.037	.025	.025	
1			203.09	.025	.043	.043	.037	.025		
1			202.99	.025	.043	.043	.037	.043		
1			202.9	.025	.043	.043	.037	.043		
1			202.8	.025	.043	.043	.037	.043		
1			202.69	.025	.043	.043	.037	.043		
1			202.59	.025	.043	.043	.037	.043		
1			202.48	.043	.043	.037	.043			
1			202.37	.025	.043	.043	.037	.043		
1			202.29	.025	.043	.043	.037	.043	.043	
1			202.18	.025	.043	.043	.037	.043		
1			202.09	.025	.043	.043	.037	.043		
1			201.99	.025	.043	.043	.032	.037	.037	.025
1			201.9	.025	.043	.043	.032	.037	.037	.025
1			201.81	.025	.065	.065	.032	.037	.025	.025
1			201.71	.025	.065	.065	.032	.037	.025	.025
1	.025	.025	201.62	.025	.15	.025	.065	.065	.032	.037
1			201.52	.025	.15	.025	.15	.032	.037	.025
1			201.43	.043	.065	.025	.15	.032	.037	.025
1			201.33	.043	.065	.025	.15	.032	.037	.025
1	.037	.025	201.24	.043	.065	.025	.15	.15	.037	.032
1	.025		201.14	.043	.065	.025	.15	.037	.032	.037
1	.025		201.05	.043	.15	.025	.15	.037	.032	.037
1			200.95	.043	.15	.037	.032	.037	.035	
1			200.86	.043	.15	.032	.037	.035	.035	
1			200.77	.043	.15	.032	.037	.025	.035	
1	.025		200.67	.043	.15	.032	.15	.032	.043	.025
1			200.58	.15	.043	.15	.032	.043	.025	.025
1			200.49	.15	.043	.043	.15	.032	.043	.025
1			200.39	.15	.043	.043	.15	.032	.043	.025
1			200.3	.15	.15	.065	.032	.043	.043	.053
1	.053		200.2	.15	.15	.065	.032	.043	.043	.025
1	.053		200.1	.15	.043	.15	.15	.032	.043	.025
1	.025	.053	200	.15	.043	.15	.15	.032	.032	.043

1		199.91	.15	.043	.15	.15	.032	.043	.043	.025
.053	.025									
1		199.82	.15	.15	.065	.025	.053	.025		

SUMMARY OF REACH LENGTHS

River: 1

Reach	River Sta.	Left	Channel	Right
1	214.14	475	510.51	570
1	214.04	495	493.12	480
1	213.95	500	504.25	500
1	213.85	521	520.04	541
1	213.75	125	115.36	120
1	213.745	Bridge		
1	213.74	391	373.47	361
1	213.66	490	491.08	495
1	213.57	650	500.37	390
1	213.47	500	493.66	485
1	213.38	210	290.06	395
1	213.33	266	316.41	426
1	213.26	155	151.22	155
1	213.255	Bridge		
1	213.25	121	123.36	121
1	213.21	450	531.57	745
1	213.11	425	459.38	565
1	213.03	475	495	525
1	212.93	495	501.9	535
1	212.84	565	538.19	480
1	212.74	296	242.17	66
1	212.68	155	153.01	155
1	212.675	Bridge		
1	212.67	481	557.08	901
1	212.56	495	502.71	525
1	212.46	495	497.81	510
1	212.37	500	495.84	485
1	212.27	510	495	475
1	212.18	500	502.53	485
1	212.08	510	519.85	475
1	211.99	740	489.19	710
1	211.89	507	527.46	640
1	211.79	680	450.74	290
1	211.71	780	392.06	500
1	211.64	481	521.13	221
1	211.54	125	124.49	120
1	211.525	Bridge		
1	211.51	541	562.88	606
1	211.41	500	501.53	505
1	211.31	540	523.28	460
1	211.21	495	493.11	475
1	211.12	500	505.73	500
1	211.02	485	493.19	495
1	210.93	505	505.14	505
1	210.83	505	505.61	500
1	210.74	495	503.39	500
1	210.64	520	515.29	495
1	210.55	475	473.19	495
1	210.46	520	522.28	505
1	210.36	480	487.62	480
1	210.26	505	512.65	520
1	210.17	505	497.78	495
1	210.07	495	490.15	505
1	209.98	500	502.4	480
1	209.88	500	504.74	500
1	209.79	500	500.44	510
1	209.69	495	494.38	510
1	209.6	311	344.14	446
1	209.54	46.58	46.58	46.58
1	209.535	Bridge		
1	209.53	486	541.77	601
1	209.42	510	510.73	575
1	209.33	485	487.54	495
1	209.24	510	515	525

1	209.14	500	504.56	485
1	209.04	495	493.26	500
1	208.95	505	506.69	505
1	208.85	510	519.42	530
1	208.75	440	443.83	450
1	208.67	495	511.45	475
1	208.57	560	514.75	370
1	208.48	500	476.54	525
1	208.39	505	512.19	480
1	208.29	490	501.01	510
1	208.19	550	514.57	505
1	208.1	640	558.37	480
1	207.99	475	482.29	500
1	207.9	505	509.52	585
1	207.8	495	494.8	505
1	207.71	485	487.91	485
1	207.62	460	465	515
1	207.53	231	227	201
1	207.49	50	53	35
1	207.485	Bridge		
1	207.48	251	245.54	316
1	207.43	450	471	575
1	207.34	370	393.75	530
1	207.27	575	572.72	585
1	207.16	475	463.31	475
1	207.07	510	514.11	520
1	206.97	480	491.78	480
1	206.88	480	487.71	505
1	206.79	495	489.96	520
1	206.7	500	500.23	500
1	206.6	515	504.63	520
1	206.51	495	496.45	500
1	206.41	495	494.64	490
1	206.32	515	513.83	520
1	206.22	500	502.44	460
1	206.13	490	483.44	540
1	206.03	590	513.6	510
1	205.94	505	506.69	510
1	205.84	495	496	480
1	205.75	825	642	490
1	205.62	560	523	510
1	205.52	430	470	400
1	205.43	175	171.89	125
1	205.4	305	315	370
1	205.34	485	492	450
1	205.25	505	506	485
1	205.15	495	495.39	495
1	205.06	505	505	530
1	204.97	510	503	550
1	204.87	495	499	505
1	204.78	505	515	550
1	204.68	325	407	570
1	204.61	395	449	545
1	204.53	570	552	525
1	204.42	430	453	500
1	204.34	495	488	480
1	204.25	510	508	500
1	204.15	510	509	510
1	204.05	510	505	520
1	203.96	495	502	505
1	203.86	505	498	480
1	203.77	490	498	480
1	203.67	470	490	505
1	203.58	560	513	495
1	203.48	500	505.82	515
1	203.39	500	505	500
1	203.29	620	535	420
1	203.19	535	520	485
1	203.09	520	518	500
1	202.99	480	456	424
1	202.9	575	538	460
1	202.8	600	555.5	450
1	202.69	585	566.1	510
1	202.59	400	561.2	640
1	202.48	700	576.2	385
1	202.37	430	400.7	360
1	202.29	590	583.1	600
1	202.18	525	511.84	500
1	202.09	510	509.32	500

1	201.99	470	477.46	490
1	201.9	500	495.8	500
1	201.81	535	511.61	515
1	201.71	505	489.63	495
1	201.62	485	486.48	510
1	201.52	495	492.06	495
1	201.43	555	519.88	505
1	201.33	515	514.62	515
1	201.24	485	488.56	490
1	201.14	480	481.53	485
1	201.05	520	512.89	510
1	200.95	475	474.38	480
1	200.86	525	523.32	525
1	200.77	500	495.64	520
1	200.67	500	503.34	510
1	200.58	475	479.55	530
1	200.49	510	497.59	510
1	200.39	550	506.5	480
1	200.3	520	515.72	560
1	200.2	535	525.73	515
1	200.1	490	491.65	495
1	200	520	521.67	525
1	199.91	465	466.41	465
1	199.82	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: 1

Reach	River Sta.		Contr.	Expan.
1	214.14		.1	.3
1	214.04		.1	.3
1	213.95		.1	.3
1	213.85		.1	.3
1	213.75		.1	.3
1	213.745	Bridge		
1	213.74		.1	.3
1	213.66		.1	.3
1	213.57		.1	.3
1	213.47		.1	.3
1	213.38		.1	.3
1	213.33		.1	.3
1	213.26		.1	.3
1	213.255	Bridge		
1	213.25		.1	.3
1	213.21		.1	.3
1	213.11		.1	.3
1	213.03		.1	.3
1	212.93		.1	.3
1	212.84		.1	.3
1	212.74		.1	.3
1	212.68		.1	.3
1	212.675	Bridge		
1	212.67		.1	.3
1	212.56		.1	.3
1	212.46		.1	.3
1	212.37		.1	.3
1	212.27		.1	.3
1	212.18		.1	.3
1	212.08		.1	.3
1	211.99		.1	.3
1	211.89		.1	.3
1	211.79		.1	.3
1	211.71		.1	.3
1	211.64		.1	.3
1	211.54		.1	.3
1	211.525	Bridge		
1	211.51		.1	.3
1	211.41		.1	.3
1	211.31		.1	.3
1	211.21		.1	.3
1	211.12		.1	.3
1	211.02		.1	.3
1	210.93		.1	.3
1	210.83		.1	.3

1	210.74		.1	.3
1	210.64		.1	.3
1	210.55		.1	.3
1	210.46		.1	.3
1	210.36		.1	.3
1	210.26		.1	.3
1	210.17		.1	.3
1	210.07		.1	.3
1	209.98		.1	.3
1	209.88		.1	.3
1	209.79		.1	.3
1	209.69		.1	.3
1	209.6		.1	.3
1	209.54		.1	.3
1	209.535	Bridge		
1	209.53		.1	.3
1	209.42		.1	.3
1	209.33		.1	.3
1	209.24		.1	.3
1	209.14		.1	.3
1	209.04		.1	.3
1	208.95		.1	.3
1	208.85		.1	.3
1	208.75		.1	.3
1	208.67		.1	.3
1	208.57		.1	.3
1	208.48		.1	.3
1	208.39		.1	.3
1	208.29		.1	.3
1	208.19		.1	.3
1	208.1		.1	.3
1	207.99		.1	.3
1	207.9		.1	.3
1	207.8		.1	.3
1	207.71		.1	.3
1	207.62		.1	.3
1	207.53		.1	.3
1	207.49		.1	.3
1	207.485	Bridge		
1	207.48		.1	.3
1	207.43		.1	.3
1	207.34		.1	.3
1	207.27		.1	.3
1	207.16		.1	.3
1	207.07		.1	.3
1	206.97		.1	.3
1	206.88		.1	.3
1	206.79		.1	.3
1	206.7		.1	.3
1	206.6		.1	.3
1	206.51		.1	.3
1	206.41		.1	.3
1	206.32		.1	.3
1	206.22		.1	.3
1	206.13		.1	.3
1	206.03		.1	.3
1	205.94		.1	.3
1	205.84		.1	.3
1	205.75		.1	.3
1	205.62		.1	.3
1	205.52		.1	.3
1	205.43		.1	.3
1	205.4		.1	.3
1	205.34		.1	.3
1	205.25		.1	.3
1	205.15		.1	.3
1	205.06		.1	.3
1	204.97		.1	.3
1	204.87		.1	.3
1	204.78		.1	.3
1	204.68		.1	.3
1	204.61		.1	.3
1	204.53		.1	.3
1	204.42		.1	.3
1	204.34		.1	.3
1	204.25		.1	.3
1	204.15		.1	.3
1	204.05		.1	.3
1	203.96		.1	.3

1	203.86	.1	.3
1	203.77	.1	.3
1	203.67	.1	.3
1	203.58	.1	.3
1	203.48	.1	.3
1	203.39	.1	.3
1	203.29	.1	.3
1	203.19	.1	.3
1	203.09	.1	.3
1	202.99	.1	.3
1	202.9	.1	.3
1	202.8	.1	.3
1	202.69	.1	.3
1	202.59	.1	.3
1	202.48	.1	.3
1	202.37	.1	.3
1	202.29	.1	.3
1	202.18	.1	.3
1	202.09	.1	.3
1	201.99	.1	.3
1	201.9	.1	.3
1	201.81	.1	.3
1	201.71	.1	.3
1	201.62	.1	.3
1	201.52	.1	.3
1	201.43	.1	.3
1	201.33	.1	.3
1	201.24	.1	.3
1	201.14	.1	.3
1	201.05	.1	.3
1	200.95	.1	.3
1	200.86	.1	.3
1	200.77	.1	.3
1	200.67	.1	.3
1	200.58	.1	.3
1	200.49	.1	.3
1	200.39	.1	.3
1	200.3	.1	.3
1	200.2	.1	.3
1	200.1	.1	.3
1	200	.1	.3
1	199.91	.1	.3
1	199.82	.1	.3

HEC-RAS Plan: Plan 05 River: 1 Reach: 1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	214.14	169000.00	1048.70	1075.49	1062.65	1077.00	0.000805	9.84	17174.59	1271.14	0.36
1	214.14	169000.00	1048.70	1075.50	1062.65	1077.00	0.000804	9.84	17178.85	726.86	0.36
1	214.04	169000.00	1048.80	1075.03	1062.61	1076.57	0.000847	9.96	16971.35	813.47	0.36
1	214.04	169000.00	1048.80	1075.04	1062.61	1076.58	0.000846	9.96	16976.01	733.89	0.36
1	213.95	169000.00	1049.30	1074.15	1063.64	1076.04	0.001219	11.05	15299.30	776.02	0.43
1	213.95	169000.00	1049.30	1074.15	1063.64	1076.05	0.001218	11.04	15304.93	745.19	0.43
1	213.85	169000.00	1048.10	1071.64	1065.13	1075.07	0.002237	15.00	11752.62	1017.51	0.58
1	213.85	169000.00	1048.10	1071.65	1065.13	1075.08	0.002235	14.99	11757.42	702.59	0.58
1	213.75	169000.00	1044.60	1071.95	1060.87	1073.92	0.000921	11.26	15011.57	656.36	0.41
1	213.75	169000.00	1044.60	1071.96	1060.87	1073.93	0.000920	11.25	15017.17	656.35	0.41
1	213.745	Bridge									
1	213.74	169000.00	1044.60	1071.65	1060.88	1073.67	0.000959	11.41	14815.19	654.73	0.42
1	213.74	169000.00	1044.60	1071.66	1060.88	1073.68	0.000958	11.40	14821.02	654.73	0.42
1	213.66	169000.00	1047.60	1069.25	1063.58	1072.98	0.002201	15.51	10895.83	586.02	0.62
1	213.66	169000.00	1047.60	1069.26	1063.58	1072.99	0.002196	15.50	10902.25	565.99	0.62
1	213.57	169000.00	1046.70	1069.18	1063.01	1071.60	0.001833	12.49	13529.99	1273.72	0.55
1	213.57	169000.00	1046.70	1069.19	1063.01	1071.61	0.001830	12.48	13540.81	852.16	0.55
1	213.47	169000.00	1045.80	1068.59	1061.30	1070.60	0.001697	11.36	14877.93	1418.72	0.52
1	213.47	169000.00	1045.80	1068.61	1061.30	1070.61	0.001695	11.35	14892.05	1023.12	0.52
1	213.38	169000.00	1045.40	1068.59	1059.33	1069.80	0.000810	8.83	19129.90	1251.64	0.37
1	213.38	169000.00	1045.40	1068.60	1059.33	1069.81	0.000812	8.83	19142.95	1101.75	0.37
1	213.33	169000.00	1045.40	1068.56	1057.64	1069.52	0.000607	7.87	21471.41	1370.78	0.33
1	213.33	169000.00	1045.40	1068.57	1057.64	1069.53	0.000609	7.87	21484.29	1185.62	0.33
1	213.26	169000.00	1040.40	1068.15	1055.56	1069.32	0.000569	8.67	19486.07	881.21	0.33
1	213.26	169000.00	1040.40	1068.16	1055.56	1069.33	0.000568	8.67	19495.54	881.21	0.32
1	213.255	Bridge									
1	213.25	169000.00	1040.40	1067.95	1055.57	1069.14	0.000585	8.75	19309.64	880.24	0.33
1	213.25	169000.00	1040.40	1067.96	1055.57	1069.15	0.000584	8.75	19319.43	880.24	0.33
1	213.21	166000.00	1044.90	1067.99	1055.85	1069.02	0.000510	8.17	20358.42	1540.71	0.31
1	213.21	166000.00	1044.90	1068.00	1055.85	1069.03	0.000528	8.17	20311.62	928.20	0.31
1	213.11	166000.00	1047.60	1067.16	1058.35	1068.63	0.000913	9.73	17065.84	927.79	0.40
1	213.11	166000.00	1047.60	1067.16	1058.35	1068.63	0.000913	9.73	17068.22	927.79	0.40
1	213.03	166000.00	1046.70	1066.57	1058.28	1068.17	0.001032	10.14	16390.75	965.54	0.42
1	213.03	166000.00	1046.70	1066.58	1058.28	1068.17	0.001032	10.14	16378.19	919.74	0.42
1	212.93	166000.00	1045.40	1065.48	1057.98	1067.55	0.001316	11.53	14401.40	850.10	0.48
1	212.93	166000.00	1045.40	1065.49	1057.98	1067.55	0.001316	11.52	14404.13	798.99	0.48
1	212.84	166000.00	1043.10	1063.54	1057.53	1066.65	0.001931	14.14	11736.64	635.75	0.58
1	212.84	166000.00	1043.10	1063.55	1057.53	1066.65	0.001929	14.14	11739.66	635.75	0.58
1	212.74	166000.00	1041.60	1063.06	1055.49	1065.57	0.001466	12.71	13063.85	721.70	0.51
1	212.74	166000.00	1041.60	1063.07	1055.49	1065.57	0.001464	12.70	13067.49	676.59	0.51
1	212.68	166000.00	1036.90	1063.02	1052.63	1065.16	0.001030	11.74	14139.23	629.02	0.44
1	212.68	166000.00	1036.90	1063.03	1052.69	1065.17	0.001029	11.74	14142.60	629.03	0.44
1	212.675	Bridge									
1	212.67	166000.00	1036.90	1062.53	1052.64	1064.77	0.001102	12.00	13830.45	626.50	0.45
1	212.67	166000.00	1036.90	1062.54	1052.64	1064.77	0.001101	12.00	13834.20	626.51	0.45

HEC-RAS Plan: Plan 05 River: 1 Reach: 1 (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	210.55	166000.00	1018.00	1037.82	1028.53	1038.76	0.000667	7.93	23013.20	3103.29	0.34
1	210.55	166000.00	1018.00	1038.04	1028.53	1038.98	0.000654	7.91	22610.09	1763.14	0.33
1	210.46	166000.00	1016.30	1038.08	1025.03	1038.40	0.000227	4.59	36203.79	2074.95	0.19
1	210.46	166000.00	1016.30	1038.31	1025.03	1038.63	0.000222	4.53	36640.04	1907.00	0.18
1	210.36	166000.00	1017.40	1037.78	1027.52	1038.24	0.000357	5.46	30410.01	1915.99	0.24
1	210.36	166000.00	1017.40	1038.02	1027.52	1038.47	0.000340	5.38	30870.54	1915.99	0.24
1	210.26	166000.00	1016.90	1037.67	1026.44	1038.06	0.000308	5.05	32878.57	1983.15	0.22
1	210.26	166000.00	1016.90	1037.91	1026.45	1038.30	0.000293	4.98	33360.09	1954.72	0.21
1	210.17	166000.00	1014.70	1037.42	1027.93	1037.88	0.000373	5.44	30534.52	2336.50	0.24
1	210.17	166000.00	1014.70	1037.68	1027.94	1038.13	0.000355	5.35	31046.71	1980.12	0.24
1	210.07	166000.00	1018.70	1037.31	1026.27	1037.68	0.000333	4.95	33837.15	2402.36	0.21
1	210.07	166000.00	1018.70	1037.56	1026.26	1037.94	0.000333	4.97	33560.89	2015.00	0.21
1	209.98	166000.00	1020.90	1036.91	1028.12	1037.48	0.000395	4.65	29373.24	2011.88	0.22
1	209.98	166000.00	1020.90	1037.07	1028.53	1037.71	0.000474	5.14	27472.13	1868.53	0.24
1	209.88	166000.00	1019.30	1036.53	1027.52	1037.22	0.000670	7.30	25545.53	1889.70	0.33
1	209.88	166000.00	1019.30	1036.56	1027.96	1037.40	0.000788	7.93	23336.61	1698.51	0.36
1	209.79	166000.00	1020.80	1036.46	1026.08	1036.91	0.000358	5.09	31103.87	1858.60	0.24
1	209.79	166000.00	1020.80	1036.57	1026.19	1037.03	0.000367	5.18	30614.92	1806.96	0.24
1	209.69	166000.00	1019.40	1035.94	1025.98	1036.64	0.000665	5.63	25358.06	1874.85	0.31
1	209.69	166000.00	1019.40	1036.08	1026.00	1036.76	0.000644	5.59	25614.16	1874.84	0.31
1	209.6	166000.00	1016.40	1035.16	1028.98	1036.21	0.000976	8.49	21081.84	2531.34	0.40
1	209.6	166000.00	1016.40	1035.31	1028.95	1036.34	0.000948	8.42	21173.26	1656.01	0.39
1	209.54	166000.00	992.31	1033.17	1020.15	1035.72	0.000916	12.88	13468.79	2865.75	0.44
1	209.54	166000.00	992.31	1033.35	1020.15	1035.87	0.000907	12.78	13625.48	840.07	0.44
1	209.535	Bridge									
1	209.53	166000.00	992.82	1032.53	1021.67	1035.48	0.001314	13.87	12618.67	2757.01	0.49
1	209.53	166000.00	992.82	1032.73	1021.67	1035.63	0.001295	13.74	12789.59	830.63	0.48
1	209.42	166000.00	1019.60	1032.75	1028.88	1034.19	0.001853	9.62	17253.24	3517.10	0.52
1	209.42	166000.00	1019.60	1032.99	1028.88	1034.37	0.001721	9.40	17654.70	1652.63	0.51
1	209.33	166000.00	1012.00	1032.01	1027.34	1033.29	0.001515	9.05	18335.40	3444.06	0.47
1	209.33	166000.00	1012.00	1032.32	1027.34	1033.53	0.001390	8.82	18829.09	1592.93	0.45
1	209.24	166000.00	1008.90	1031.38	1026.04	1032.61	0.001227	9.33	20229.02	3674.06	0.44
1	209.24	166000.00	1008.90	1031.37	1025.96	1032.83	0.001390	9.92	18113.97	1637.72	0.47
1	209.14	166000.00	1010.60	1030.73	1025.72	1031.97	0.001259	9.46	20506.87	3565.39	0.45
1	209.14	166000.00	1010.60	1030.65	1025.98	1032.10	0.001438	10.07	18668.10	1899.79	0.48
1	209.04	166000.00	1012.20	1030.49	1023.82	1031.36	0.000805	7.98	24184.19	4634.40	0.36
1	209.04	166000.00	1012.20	1030.44	1024.28	1031.39	0.000873	8.29	22795.18	1980.00	0.38
1	208.95	166000.00	1013.80	1026.98	1026.98	1030.33	0.004364	15.12	12615.26	3473.19	0.82
1	208.95	166000.00	1013.80	1026.98	1026.98	1030.33	0.004367	15.13	12611.74	2058.95	0.82
1	208.85	166000.00	1013.40	1025.83	1024.09	1027.72	0.003277	11.30	15515.18	2707.19	0.67
1	208.85	166000.00	1013.40	1025.84	1024.09	1027.72	0.003274	11.30	15511.35	1950.30	0.67
1	208.75	166000.00	1005.20	1024.77	1021.22	1026.30	0.002008	9.91	16750.51	3136.98	0.54
1	208.75	166000.00	1005.20	1024.78	1021.22	1026.30	0.002013	9.90	16762.08	1606.30	0.54
1	208.67	166000.00	1007.60	1023.94	1020.38	1025.37	0.002030	9.59	17307.31	2277.36	0.54
1	208.67	166000.00	1007.60	1023.95	1020.38	1025.38	0.002025	9.58	17320.43	1776.29	0.54

HEC-RAS Plan: Plan 05 River: 1 Reach: 1 (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	208.57	166000.00	1007.60	1021.84	1019.78	1023.98	0.003382	11.74	14140.69	1901.92	0.69
1	208.57	166000.00	1007.60	1021.86	1019.78	1023.99	0.003380	11.72	14163.44	1552.87	0.68
1	208.48	166000.00	1007.60	1021.36	1017.83	1022.45	0.001742	8.36	19846.32	2170.30	0.49
1	208.48	166000.00	1007.60	1021.38	1017.83	1022.46	0.001731	8.35	19884.20	2170.30	0.49
1	208.39	166000.00	1005.60	1020.44	1017.30	1021.56	0.002009	8.49	19556.15	2917.03	0.51
1	208.39	166000.00	1005.60	1020.47	1017.30	1021.58	0.001987	8.46	19621.86	2285.85	0.51
1	208.29	166000.00	1004.70	1019.52	1016.22	1020.55	0.001815	8.14	20401.16	2550.02	0.49
1	208.29	166000.00	1004.70	1019.57	1016.22	1020.58	0.001783	8.09	20507.99	2381.47	0.49
1	208.19	166000.00	1004.70	1018.79	1014.90	1019.66	0.001564	7.49	22151.23	2675.20	0.46
1	208.19	166000.00	1004.70	1018.85	1014.90	1019.71	0.001524	7.44	22324.40	2664.02	0.45
1	208.1	166000.00	1001.40	1018.03	1014.24	1018.84	0.001569	7.22	22975.85	3169.07	0.46
1	208.1	166000.00	1001.40	1018.12	1014.24	1018.91	0.001507	7.14	23256.96	2944.81	0.45
1	207.99	166000.00	999.90	1016.92	1013.04	1017.87	0.001846	7.82	21223.83	3550.29	0.49
1	207.99	166000.00	999.90	1017.08	1013.04	1017.99	0.001750	7.66	21658.35	2749.15	0.48
1	207.9	166000.00	1000.80	1016.38	1012.11	1017.07	0.001249	6.69	24841.00	3677.89	0.41
1	207.9	166000.00	1000.80	1016.58	1012.11	1017.24	0.001159	6.53	25411.26	3016.24	0.40
1	207.8	166000.00	999.10	1015.41	1011.91	1016.32	0.001667	7.69	21968.54	4716.85	0.47
1	207.8	166000.00	999.10	1015.66	1011.89	1016.54	0.001545	7.54	22027.76	2617.37	0.46
1	207.71	166000.00	1000.30	1014.41	1011.58	1015.43	0.001885	8.24	20769.38	3875.09	0.50
1	207.71	166000.00	1000.30	1014.58	1011.45	1015.67	0.001906	8.39	19781.23	2344.11	0.51
1	207.62	166000.00	1000.20	1012.76	1010.41	1014.28	0.002780	9.99	17275.70	4261.90	0.61
1	207.62	166000.00	1000.20	1012.97	1010.37	1014.53	0.002704	10.01	16587.59	1962.23	0.61
1	207.53	166000.00	999.10	1012.09	1008.06	1013.25	0.001487	8.78	19695.68	4480.12	0.47
1	207.53	166000.00	999.10	1012.24	1007.97	1013.50	0.001558	9.02	18411.17	1672.10	0.48
1	207.49	166000.00	992.20	1012.07	1004.70	1012.92	0.000745	7.40	22425.63	3807.62	0.35
1	207.49	166000.00	992.20	1012.32	1004.70	1013.14	0.000704	7.28	22815.94	1579.37	0.34
1	207.485	Bridge									
1	207.48	166000.00	992.20	1011.97	1004.71	1012.83	0.000763	7.46	22258.79	3764.72	0.35
1	207.48	166000.00	992.20	1012.22	1004.71	1013.05	0.000720	7.33	22658.14	1578.87	0.34
1	207.43	166000.00	999.00	1010.99	1007.62	1012.48	0.002056	9.80	16943.36	3420.48	0.54
1	207.43	166000.00	999.00	1011.34	1007.62	1012.73	0.001849	9.47	17532.76	1686.77	0.52
1	207.34	166000.00	995.90	1009.51	1006.68	1011.35	0.002647	10.88	15263.20	3295.01	0.61
1	207.34	166000.00	995.90	1010.15	1006.68	1011.77	0.002158	10.21	16261.88	1568.77	0.56
1	207.27	166000.00	993.30	1008.39	1006.05	1010.28	0.002803	10.35	15199.13	2022.03	0.62
1	207.27	166000.00	993.30	1009.39	1006.00	1010.93	0.002033	9.44	16771.91	1617.90	0.54
1	207.16	166000.00	992.70	1007.64	1004.53	1008.85	0.001701	9.41	19343.36	2942.53	0.50
1	207.16	166000.00	992.70	1008.32	1005.05	1009.81	0.001829	10.16	17440.53	1734.50	0.53
1	207.07	166000.00	992.80	1004.30	1004.30	1007.37	0.005285	15.05	12697.66	2120.20	0.86
1	207.07	166000.00	992.80	1004.75	1004.75	1008.25	0.005380	15.64	11761.96	1711.46	0.88
1	206.97	166000.00	981.70	1003.73	995.20	1004.80	0.000773	8.53	21353.06	2153.05	0.36
1	206.97	166000.00	981.70	1004.63	995.18	1005.77	0.000760	8.62	19950.23	1567.62	0.36
1	206.88	166000.00	981.80	1003.59	993.25	1004.41	0.000528	7.55	24355.01	2551.49	0.31
1	206.88	166000.00	981.80	1004.48	993.25	1005.39	0.000533	7.71	22621.96	1800.83	0.31
1	206.79	166000.00	981.80	1003.43	992.79	1004.13	0.000488	6.93	26344.34	3026.58	0.29
1	206.79	166000.00	981.80	1004.34	992.76	1005.10	0.000478	7.08	24759.74	1934.30	0.29

HEC-RAS Plan: Plan 05 River: 1 Reach: 1 (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	206.7	166000.00	981.80	1003.32	993.99	1003.85	0.000441	6.03	29832.40	3518.91	0.27
1	206.7	166000.00	981.80	1004.25	993.99	1004.82	0.000429	6.14	27986.00	2093.11	0.27
1	206.6	166000.00	981.80	1002.90	996.86	1003.56	0.000710	6.91	26877.89	3305.87	0.33
1	206.6	166000.00	981.80	1003.79	996.65	1004.54	0.000695	7.14	24927.43	2185.34	0.33
1	206.51	166000.00	981.80	1002.02	998.45	1003.04	0.001348	8.99	22110.89	4076.31	0.45
1	206.51	166000.00	981.80	1002.84	998.98	1004.02	0.001341	9.36	20115.41	2060.75	0.46
1	206.41	166000.00	982.50	1001.41	997.86	1002.32	0.001436	8.71	23370.73	3862.04	0.46
1	206.41	166000.00	982.50	1002.21	998.34	1003.30	0.001436	9.12	20568.72	2190.50	0.47
1	206.32	166000.00	982.80	1000.76	997.01	1001.56	0.001495	8.05	24553.13	3961.08	0.46
1	206.32	166000.00	982.80	1001.56	997.75	1002.55	0.001499	8.50	21188.61	2377.93	0.47
1	206.22	166000.00	983.00	999.83	996.52	1000.70	0.001856	8.54	24921.60	3819.70	0.52
1	206.22	166000.00	983.00	1000.69	996.67	1001.72	0.001735	8.70	21234.64	2441.69	0.51
1	206.13	166000.00	984.60	998.84		999.71	0.002097	8.44	24241.28	3610.68	0.52
1	206.13	166000.00	984.60	999.43		1000.65	0.002540	9.44	19323.50	2386.30	0.57
1	206.03	166000.00	984.50	997.19	995.38	998.47	0.002920	10.05	20468.49	3627.32	0.61
1	206.03	166000.00	984.50	997.37	995.37	999.15	0.003548	11.22	16111.43	2131.13	0.67
1	205.94	166000.00	981.00	996.28	992.59	997.17	0.001782	8.09	23804.44	3972.72	0.48
1	205.94	166000.00	981.00	996.85	992.21	997.71	0.001519	7.77	22932.78	2567.00	0.45
1	205.84	166000.00	979.50	995.78	991.08	996.43	0.001006	6.80	27802.29	3933.87	0.38
1	205.84	166000.00	979.50	996.39	991.09	997.06	0.000928	6.78	25656.90	2435.70	0.36
1	205.75	166000.00	973.90	995.10	989.65	995.78	0.001766	6.71	25677.48	3323.81	0.37
1	205.75	166000.00	973.90	995.83	989.63	996.48	0.001497	6.46	25689.30	2402.30	0.35
1	205.62	166000.00	976.00	994.55	988.64	995.07	0.000680	5.99	30115.46	4036.29	0.31
1	205.62	166000.00	976.00	995.25	988.61	995.85	0.000671	6.18	26878.26	2234.10	0.31
1	205.52	166000.00	975.90	994.29	987.04	994.75	0.000496	5.67	33142.91	4244.93	0.28
1	205.52	166000.00	975.90	994.95	987.25	995.53	0.000543	6.12	27121.30	2019.90	0.29
1	205.43	166000.00	976.10	994.00	986.90	994.50	0.000544	6.04	31497.52	3841.72	0.29
1	205.43	166000.00	976.10	994.53	986.93	995.24	0.000647	6.76	24572.33	1842.37	0.33
1	205.4	164000.00	975.50	993.99	984.66	994.40	0.000362	5.41	35918.83	4097.72	0.24
1	205.4	164000.00	975.50	994.56	984.66	995.10	0.000413	5.90	27793.38	1747.80	0.26
1	205.34	164000.00	975.57	993.64	986.68	994.20	0.001005	6.45	29524.11	7349.09	0.30
1	205.34	164000.00	975.57	993.98	986.65	994.85	0.001336	7.53	22084.44	1562.96	0.35
1	205.25	164000.00	973.40	993.26	985.26	993.82	0.000623	6.64	30541.56	4512.59	0.28
1	205.25	164000.00	973.40	993.49	985.17	994.34	0.000817	7.64	22668.04	1482.30	0.32
1	205.15	164000.00	973.10	991.75	987.56	993.21	0.002039	10.40	19447.44	3049.13	0.49
1	205.15	164000.00	973.10	992.25	987.59	993.69	0.001820	10.06	17454.16	1445.00	0.47
1	205.06	164000.00	970.50	990.84	984.94	992.22	0.001876	9.62	18538.21	2210.49	0.47
1	205.06	164000.00	970.50	991.36	984.91	992.79	0.001795	9.65	17327.86	1435.30	0.46
1	204.97	164000.00	973.30	990.56	984.94	991.30	0.001134	7.35	24818.70	3736.07	0.36
1	204.97	164000.00	973.30	990.76	985.03	991.87	0.001485	8.49	19456.22	1516.30	0.42
1	204.87	164000.00	968.10	990.19	982.85	990.80	0.000767	6.60	27860.37	3635.73	0.31
1	204.87	164000.00	968.10	990.36	982.79	991.20	0.000942	7.37	22408.61	1542.20	0.34
1	204.78	164000.00	967.60	990.01	980.95	990.45	0.000477	5.68	31874.44	4837.50	0.25
1	204.78	164000.00	967.60	990.13	980.72	990.77	0.000611	6.47	25927.86	1620.43	0.28
1	204.68	164000.00	971.40	989.36	982.88	990.10	0.000903	7.28	24862.18	3375.80	0.33

HEC-RAS Plan: Plan 05 River: 1 Reach: 1 (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	204.68	164000.00	971.40	989.32	982.76	990.31	0.001151	8.21	20999.34	1586.28	0.38
1	204.61	164000.00	972.60	988.59	983.50	989.64	0.001360	8.79	20900.50	7282.55	0.41
1	204.61	164000.00	972.60	988.61	983.45	989.78	0.001463	9.12	19538.66	1602.90	0.42
1	204.53	164000.00	972.70	987.68	983.01	988.93	0.001814	9.22	18845.59	4061.33	0.46
1	204.53	164000.00	972.70	987.68	982.93	989.02	0.001920	9.48	18002.63	1610.90	0.47
1	204.42	164000.00	971.40	986.40	982.73	987.76	0.002432	9.40	17715.45	2778.70	0.51
1	204.42	164000.00	971.40	986.38	982.70	987.80	0.002535	9.58	17122.72	1653.56	0.52
1	204.34	164000.00	969.30	985.28	981.49	986.65	0.002470	9.39	17463.06	2452.20	0.52
1	204.34	164000.00	969.30	985.28	981.49	986.65	0.002474	9.39	17469.40	1701.97	0.52
1	204.25	164000.00	969.22	980.90	980.90	984.46	0.007743	15.13	10836.17	1993.71	1.00
1	204.25	164000.00	969.22	980.90	980.90	984.46	0.007749	15.13	10836.17	1517.18	1.00
1	204.15	164000.00	966.00	981.17	975.80	982.09	0.001058	7.72	21240.53	2149.48	0.40
1	204.15	164000.00	966.00	981.18	975.80	982.11	0.001059	7.71	21274.52	1831.89	0.40
1	204.05	164000.00	965.00	980.27	976.82	981.39	0.001759	8.49	19320.24	2116.76	0.50
1	204.05	164000.00	965.00	980.29	976.82	981.41	0.001744	8.47	19370.37	2116.76	0.49
1	203.96	164000.00	964.10	977.71	976.68	979.86	0.005221	11.77	13938.27	2225.51	0.80
1	203.96	164000.00	964.10	977.98	976.68	979.97	0.004601	11.33	14478.25	2050.76	0.75
1	203.86	164000.00	962.30	977.81	971.81	978.53	0.000902	6.82	24032.33	2201.57	0.36
1	203.86	164000.00	962.30	978.06	971.81	978.75	0.000838	6.67	24588.70	2191.78	0.35
1	203.77	164000.00	963.30	977.43	971.55	978.06	0.000873	6.37	25745.47	2518.53	0.35
1	203.77	164000.00	963.30	977.72	971.55	978.32	0.000799	6.19	26473.22	2511.27	0.34
1	203.67	164000.00	962.30	976.93	971.55	977.61	0.000940	6.66	25645.00	3648.90	0.37
1	203.67	164000.00	962.30	977.23	971.55	977.89	0.000885	6.58	25406.98	2567.43	0.36
1	203.58	164000.00	962.10	976.47	971.51	977.14	0.000946	6.64	25339.57	4630.90	0.37
1	203.58	164000.00	962.10	976.81	971.51	977.46	0.000858	6.46	25596.50	2676.39	0.36
1	203.48	164000.00	962.20	975.92	972.02	976.58	0.001248	6.66	25617.02	4863.74	0.41
1	203.48	164000.00	962.20	976.25	971.95	976.94	0.001196	6.68	24567.62	2911.71	0.40
1	203.39	164000.00	959.90	975.22	971.09	975.93	0.001331	6.81	24861.02	4207.55	0.42
1	203.39	164000.00	959.90	975.62	971.08	976.32	0.001254	6.69	24519.97	2930.04	0.41
1	203.29	164000.00	960.70	974.46	970.77	975.20	0.001572	6.98	24302.16	4967.77	0.45
1	203.29	164000.00	960.70	974.88	970.68	975.63	0.001478	6.94	23633.34	3009.26	0.44
1	203.19	164000.00	956.70	973.59	969.95	974.28	0.001787	6.81	25046.62	3491.38	0.42
1	203.19	164000.00	956.70	973.95	970.00	974.74	0.001849	7.13	23041.46	2689.14	0.43
1	203.09	164000.00	958.70	972.42	969.11	973.25	0.002112	7.51	23337.60	3213.89	0.46
1	203.09	164000.00	958.70	972.75	969.01	973.69	0.002162	7.79	21163.71	2475.85	0.46
1	202.99	164000.00	959.20	971.50	967.55	972.24	0.001726	7.08	24615.47	3260.60	0.42
1	202.99	164000.00	959.20	971.87	967.53	972.66	0.001673	7.15	22949.57	2457.50	0.41
1	202.9	164000.00	956.50	970.92	966.30	971.52	0.001285	6.37	27288.69	3419.55	0.36
1	202.9	164000.00	956.50	971.28	966.23	971.95	0.001315	6.59	24881.97	2511.71	0.37
1	202.8	164000.00	956.40	970.32	965.59	970.84	0.001157	5.94	29050.58	3577.43	0.34
1	202.8	164000.00	956.40	970.64	965.53	971.25	0.001223	6.25	26258.80	2620.78	0.35
1	202.69	164000.00	953.70	969.50	965.19	970.12	0.001416	6.45	27012.35	3716.99	0.37
1	202.69	164000.00	953.70	969.79	965.25	970.49	0.001483	6.73	24380.37	2553.41	0.38
1	202.59	164000.00	953.70	968.55	964.72	969.23	0.001710	6.76	25202.05	3795.69	0.40
1	202.59	164000.00	953.70	968.77	964.70	969.56	0.001831	7.10	23100.95	2606.67	0.42

HEC-RAS Plan: Plan 05 River: 1 Reach: 1 (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	202.48	164000.00	952.50	967.66	963.72	968.30	0.001617	6.64	26504.11	3830.27	0.40
1	202.48	164000.00	952.50	967.77	963.77	968.54	0.001788	7.04	23416.96	2826.21	0.42
1	202.37	164000.00	954.60	966.79	962.95	967.38	0.001486	6.30	27727.47	4026.49	0.39
1	202.37	164000.00	954.60	966.83	963.03	967.52	0.001673	6.70	24845.97	3165.43	0.41
1	202.29	164000.00	955.50	966.51	961.29	966.88	0.000809	4.90	34229.30	4327.56	0.29
1	202.29	164000.00	955.50	966.59	961.29	966.97	0.000812	4.93	33284.94	3605.60	0.29
1	202.18	164000.00	950.00	965.70	961.77	966.23	0.001544	5.88	28642.05	4356.29	0.38
1	202.18	164000.00	950.00	965.77	961.77	966.31	0.001558	5.94	27622.02	3692.09	0.38
1	202.09	164000.00	950.00	964.09	961.97	965.01	0.003848	7.74	21594.75	4052.05	0.57
1	202.09	164000.00	950.00	964.16	961.93	965.09	0.003803	7.75	21163.39	3682.20	0.57
1	201.99	164000.00	948.70	963.29	958.62	963.87	0.001252	6.13	27234.15	5331.46	0.38
1	201.99	164000.00	948.70	963.38	958.62	963.96	0.001241	6.12	26811.01	3219.77	0.37
1	201.9	164000.00	947.20	962.94	957.26	963.35	0.000785	5.15	31873.70	5241.54	0.31
1	201.9	164000.00	947.20	963.05	957.26	963.45	0.000756	5.08	32284.29	3830.97	0.31
1	201.81	164000.00	946.00	962.64	955.82	962.99	0.000619	4.79	34251.95	5916.44	0.28
1	201.81	164000.00	946.00	962.75	955.82	963.10	0.000597	4.73	34684.20	3650.46	0.27
1	201.71	164000.00	946.00	961.87	958.14	962.46	0.001826	6.22	26657.90	8308.13	0.40
1	201.71	164000.00	946.00	961.98	958.14	962.58	0.001807	6.24	26277.08	3415.69	0.40
1	201.62	164000.00	945.60	961.15	956.72	961.66	0.001385	5.78	28772.90	7614.59	0.35
1	201.62	164000.00	945.60	961.28	956.72	961.80	0.001343	5.74	28552.42	3241.81	0.34
1	201.52	164000.00	940.90	960.41	955.35	960.87	0.001854	5.50	30262.27	8984.44	0.33
1	201.52	164000.00	940.90	960.53	955.35	961.02	0.001898	5.61	29242.21	3382.85	0.34
1	201.43	164000.00	941.30	959.46	954.84	960.01	0.001619	5.99	27970.54	6525.63	0.37
1	201.43	164000.00	941.30	959.60	954.84	960.15	0.001604	6.00	27333.41	3288.24	0.37
1	201.33	164000.00	943.00	958.44	954.84	959.06	0.002024	6.40	26133.80	5744.84	0.41
1	201.33	164000.00	943.00	958.60	954.84	959.23	0.001959	6.36	25784.52	3307.45	0.40
1	201.24	164000.00	943.00	957.46	953.56	958.06	0.001852	6.23	26885.10	6935.04	0.40
1	201.24	164000.00	943.00	957.66	953.56	958.26	0.001790	6.21	26419.43	3500.08	0.40
1	201.14	164000.00	940.40	956.91	952.04	957.32	0.001090	5.20	32069.63	8631.40	0.31
1	201.14	164000.00	940.40	957.15	952.04	957.55	0.001017	5.10	32149.23	3680.58	0.30
1	201.05	164000.00	941.50	956.49	950.96	956.80	0.000974	4.50	37111.35	9250.10	0.26
1	201.05	164000.00	941.50	956.74	950.96	957.06	0.000928	4.48	36618.42	3898.52	0.26
1	200.95	164000.00	939.80	956.09	949.86	956.38	0.000668	4.33	39058.09	10045.49	0.25
1	200.95	164000.00	939.80	956.38	949.86	956.66	0.000629	4.27	38407.23	4001.09	0.24
1	200.86	164000.00	938.50	955.63	949.69	955.94	0.001346	4.48	37608.27	11080.63	0.27
1	200.86	164000.00	938.50	955.94	949.69	956.24	0.001276	4.46	36762.42	4032.00	0.26
1	200.77	164000.00	936.90	955.02	949.21	955.35	0.000950	4.62	36841.44	11450.00	0.28
1	200.77	164000.00	936.90	955.38	949.21	955.70	0.000875	4.52	36283.11	4122.20	0.27
1	200.67	164000.00	939.80	954.42	948.96	954.80	0.001288	4.96	33785.32	10368.40	0.30
1	200.67	164000.00	939.80	954.84	948.96	955.20	0.001158	4.82	34280.89	4009.30	0.28
1	200.58	164000.00	937.60	953.76	948.28	954.14	0.001313	5.04	33542.78	10091.43	0.30
1	200.58	164000.00	937.60	954.23	948.28	954.60	0.001187	4.91	33793.10	3940.00	0.28
1	200.49	164000.00	936.90	953.28	946.93	953.59	0.000940	4.59	37371.56	10978.72	0.26
1	200.49	164000.00	936.90	953.77	946.93	954.10	0.000893	4.59	36177.60	3791.00	0.25
1	200.39	164000.00	937.00	952.89	946.22	953.17	0.000738	4.35	39815.16	11315.80	0.24
1	200.39	164000.00	937.00	953.40	946.22	953.69	0.000702	4.37	38316.82	3741.00	0.23

HEC-RAS Plan: Plan 05 River: 1 Reach: 1 (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	200.3	179750.00	937.70	952.12	947.15	952.61	0.001603	5.79	36488.30	9118.96	0.34
1	200.3	179750.00	937.70	952.73	947.16	953.18	0.001382	5.57	36217.50	3683.53	0.31
1	200.2	179750.00	937.00	951.10	946.76	951.67	0.002027	6.37	35619.57	11857.73	0.37
1	200.2	179750.00	937.00	951.83	946.76	952.38	0.001732	6.15	34725.75	3629.00	0.35
1	200.1	179750.00	934.50	950.19	945.21	950.66	0.001730	5.74	37659.50	11254.10	0.32
1	200.1	179750.00	934.50	951.11	945.19	951.53	0.001392	5.36	38392.25	3770.00	0.29
1	200	179750.00	933.40	949.74	944.16	950.01	0.000864	4.29	44537.34	11193.60	0.24
1	200	179750.00	933.40	950.70	944.11	950.98	0.000792	4.23	42550.11	4100.00	0.23
1	199.91	179750.00	932.10	949.39	943.35	949.60	0.000668	3.83	50254.95	10846.61	0.22
1	199.91	179750.00	932.10	950.39	943.35	950.61	0.000573	3.75	48102.12	4530.00	0.20
1	199.82	179750.00	931.20	948.90	943.28	949.09	0.002007	3.30	51778.97	10752.57	0.19
1	199.82	179750.00	931.20	949.90	943.25	950.14	0.002185	3.68	47698.04	4780.00	0.20

Appendix B-Hess-Roundtree Site Drainage Report

DRAINAGE REPORT

FOR

NEW LAVEEN FARMS K-8 SCHOOL

at

Southeast Corner of Vineyard Road and 73rd Drive
Phoenix, Arizona

For

LAVEEN ELEMENTARY SCHOOL DISTRICT NO. 59
9401 S. 51ST Avenue
Laveen, Arizona 85339-0029
Phone: (623)237-9100

Registered Professional Engineer (Civil)
CERTIFICATE NO.
11302
JOHN DWIGHT
HESS
Date Signed 11/28/05
ARIZONA, U.S.A.

Prepared by:

HESS-ROUNTREE, INC.
9831 South 51st Street, Suite C110
Phoenix, Arizona 85044
(480) 496-0244

H-R #0505-10

November 28, 2005

Registered Professional Engineer (Civil)
CERTIFICATE NO.
11302
JOHN DWIGHT
HESS
Date Signed 11/28/05
ARIZONA, U.S.A.

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APPENDIX A

Drainage Area Map – Proposed New School Site
Retention Calculations
Dissipation of Retention Calculations

APPENDIX B

Portions of "Drainage Report for Laveen Farms Infrastructure I, Phoenix, Arizona", prepared by Coe and Van Loo Consultants, Inc. Revised July 31, 2003. (KIVA 02-2395, SDEV No. 0201059)

APPENDIX C

Portions of "Geotechnical Engineering Report, Laveen Farms Elementary School, Vineyard Road and 73rd Avenue, Phoenix, Arizona" Prepared by Richer Atkinson Mcbee and Associates, dated 10/05/05, RAM Project No. G12332, Percolation Rate Results

A. SITE LOCATION

The project site is in a portion of Section 36, T1N, R1E, at the southeast corner of Vineyard Road and 73rd Drive, Phoenix, Arizona, with a net area of 12.06 acres more or less.

B. SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The site is currently undeveloped and has an existing retention basin at the northwest corner of the site that retains drainage from the adjacent Vineyard Road.

The site is generally flat. A portion of the northwest corner of the site, adjacent to the existing basin, is depressed ±1.5 feet.

The proposed improvements consist of four new buildings with their associated parking lots, a fire lane, concrete sidewalks, playcourts, playfields, storm drain system and retention facilities.

C. FLOODPLAIN INFORMATION

The site is located within Flood Zone "AE" , Flood Insurance Rate Map Panel 2115, Map No. 04013C2115 F, effective date July 19, 2001.

Said zone "AE" is in a special flood hazard area inundated by a 100-year flood (base flood elevations are determined).

D. OFFSITE DRAINAGE

The site does not receive offsite drainage from adjacent parcels.

The site receives offsite drainage from the adjacent Vineyard Road. 73rd Drive is currently under construction. 73rd Drive was designed by Coe and Van Loo Consultants, Inc. The paving plans for 73rd Drive show drainage on 73rd Drive eventually flows into valley gutters located at the Darrel Road and Glass lane intersections with 73rd Drive, then flow westerly away from the site.

E. ONSITE STORM DRAINAGE

The proposed site drainage is generated by three drainage areas. The existing retention basin located at the northwest corner of the site will be enlarged to retain offsite flows from Vineyard Road plus a portion of the north side of the school site, labeled as Area A.

A portion of the northeast corner of the school site, or Area B, drains into Retention Basin B.

The remaining school site, or Area C, drains to and is retained within the playfield/Retention Basin C.

A drainage map of the school site is contained in Appendix A.

F. RETENTION REQUIREMENTS

The required retention volume was calculated using the rational method and the 100 yr-2 hr rainfall depth (P= 2.8 in.).

The retained volume will be dissipated within 36 hours.

Retention calculations and Dissipation of Retention Calculations are contained in Appendix A.

G. FINISH FLOOR ELEVATIONS

The outfall elevation for Area A and Basin A is 986.71 and located at the gutter elevation of an existing curb opening catch basin located on the southside of Vineyard Road, at the northwest corner of Basin A. The 100-year high water elevation of Basin A is 985.00.

The outfall elevation for the Area B and Basin B is 986.60 and is located at the southeast corner of Area B. Drainage will flow into Area C at this point. The 100-year high water elevation of Basin B is 986.60.

The outfall elevation for Area C and Basin C is 986.70 and is located at the southeast corner of Basin C, near the turn in 73rd Drive. The 100-year high water elevation for Basin C is 985.35.

The high curb elevation is 988.40 (northwest corner of site) and the low curb elevation is 986.51 (within proposed 73rd Drive, north of northern most driveway entrance).

The proposed finish floor elevations are 990.50.

APPENDIX A

Area Drainage Map – Proposed New School Site
Retention Calculations
Dissipation of Retention Calculations

RETENTION CALCULATIONS

AREA A

TOTAL AREA = 110,188 sf

RUNOFF COEFFICIENT

Area (Concrete, buildings and pavement areas) (C = 0.95) = 54,952 sf

Area (Granite Landscape) (C = 0.75) = 55,236 sf

$$C_W = \frac{(54{,}952)(0.95) + (55{,}236)(0.75)}{110{,}188}$$

$$= 0.850$$

RETENTION REQUIRED

$$V_R = CDA$$
$$= 0.850\left(\frac{2.8}{12}\right)(110{,}188)$$

$$= 21{,}854 \text{ cf}$$

+ 0.45 Acre - ft (19,602 cf) from Laveen Farms Infrastructure Retention Basin
Volume Calculations, by Coe and Van Loo Consultants, Inc.

= 41,456 cf

RETENTION PROVIDED

Basin "A"

Bottom Area	=	13,462 sf
HWL Area	=	20,220 sf
Depth	=	3.00 ft

$$V_{PROVIDED} = \tfrac{1}{2}(13{,}462 + 20{,}220)(3.00')$$

$$= 50{,}523 \text{ cf} > 41{,}456 \text{ cf}$$

AREA B

TOTAL AREA = 24,510 sf

RUNOFF COEFFICIENT

Area (Concrete, buildings and pavement areas) (C = 0.95) = 8,731 sf

Area (Granite Landscape) (C = 0.75) = 15,779 sf

$$C_W = \frac{(8{,}731)(0.95) + (15{,}779)(0.75)}{24{,}510}$$

$$= 0.821$$

RETENTION REQUIRED

$$V_R = CDA$$
$$= 0.821\left(\frac{2.8}{12}\right)(24{,}510)$$

$$= 4{,}695 \text{ cf}$$

RETENTION PROVIDED

Basin "B"

Bottom Area	=	2,658 sf
HWL Area	=	4,966 sf
Depth	=	0.60 ft

$V_{PROVIDED}$ = ½(2,658 + 4,966)(0.60')

= 2,287 cf < 4,695 cf

2,408 cf overflows into Area C and Basin C

AREA C

TOTAL AREA = 384,003 sf

RUNOFF COEFFICIENT

Area (Concrete, buildings and pavement areas) (C = 0.95) = 183,021 sf

Area (Grass Landscape) (C = 0.30) = 200,982 sf

$$C_W = \frac{(183{,}021)(0.95) + (200{,}982)(0.30)}{384{,}003}$$

$$= 0.610$$

RETENTION REQUIRED

$$V_R = CDA$$
$$= 0.061\left(\frac{2.8}{12}\right)(384{,}003)$$

$$= 54{,}656 \text{ cf}$$

+ 2,408 cf, overflow from Area B

$$= 57{,}064 \text{ cf}$$

RETENTION PROVIDED

Basin "C"

Bottom Area	=	167,763sf
HWL Area	=	170,512 sf
Depth	=	0.35 ft

$$V_{PROVIDED} = \tfrac{1}{2}(167{,}763 + 170{,}512)(0.35')$$

$$= 59{,}198 \text{ cf} > 57{,}064 \text{ cf}$$

DISSIPATION OF RETENTION CALCULATIONS

Per City of Phoenix Code, 0.10 cfs shall be used as a percolation rate for each drywell.

The dissipation time calculations for all retention basins show that stored water will dissipate in less than 36 hours.

Dissipation times for each basin are as follows:

Basin A:

Dissipation rate = 0.10 cfs (Per City of Phoenix Municipal Code) for each drywell.

There are two existing drywells in Basin A so 0.20 cfs will be used.

$$\text{Volume Dissipated in 36 hours} = \frac{0.20\ \text{cf}}{\text{s}} \times \frac{3600\ \text{s}}{1\ \text{hr}} \times 36\ \text{hr}$$

$$= 25{,}920\ \text{cf}$$

Retention Required to Percolate = (41,456 cf – 25,920 cf)
= 15,536 cf

Depth of Ponding = Retention Required to percolate/ Bottom area of Basin
= 15,536 cf/13,462 sf x 12 in/1 ft.
= 13.85 inches

Percolation Rate = 65 min/inch (Worst rate of percolation tests from soils report, copy attached, in Appendix C)

Reduce percolation rate by 75% due to silting of Basin.

Time to Dissipate foot of water

$$T = 13.85\ \text{inches} \times \frac{113.75\ \text{min}}{\text{Inch}} \times \frac{1\ \text{hr}}{60\ \text{min}}$$

$$T = 26.26\ \text{hours} < 36\ \text{hours OKAY}$$

Basin B:

Depth of Ponding = Retention Required to percolate/ Bottom area of Basin
= 2,287 cf/2,658 sf x 12 in/1 ft.
= 10.33 inches

Percolation Rate = 65 min/inch (Worst rate of percolation tests from soils report, copy attached, in Appendix C)

Reduce percolation rate by 75% due to silting of Basin.

Time to Dissipate foot of water

$$T = 10.33 \text{ inches} \times \frac{113.75 \text{ min}}{\text{Inch}} \times \frac{1 \text{ hr}}{60 \text{ min}}$$

$$T = 19.58 \text{ hours} < 36 \text{ hours OKAY}$$

Basin C:

Dissipation rate = 0.40 cfs (Per City of Phoenix Municipal Code) for each drywell.

There are four new drywells in Basin C so 0.40 cfs will be used.

Volume Dissipated in 36 hours $= \frac{0.40\ cf}{s} \times \frac{3600\ s}{1\ hr} \times 36\ hr$

= 51,840 cf

Retention Required to Percolate = (57,064 – 51,840) cf
= 5,224 cf

Depth of Ponding = Retention Required to percolate/ Bottom area of Basin
= 5,224 cf/167,763 sf x 12 in/1 ft.
= 0.374 inches

Percolation Rate = 65 min/inch (Worst rate of percolation tests from soils report, copy attached, in Appendix C)

Reduce percolation rate by 75% due to silting of Basin.

Time to Dissipate foot of water

$$T = 0.374\ \text{inches} \times \frac{113.75\ \text{min}}{\text{Inch}} \times \frac{1\ \text{hr}}{60\ \text{min}}$$

T = 0.71 hours < 36 hours OKAY

APPENDIX B

Portions of "Drainage Report for Laveen Farms Infrastructure I, Phoenix, Arizona", prepared by Coe and Van Loo Consultants, Inc. Revised July 31, 2003. (KIVA 02-2395, SDEV No. 0201059)

DRAINAGE REPORT
FOR
LAVEEN FARMS
INFRASTRUCTURE I
PHOENIX, ARIZONA

June 12, 2003
Revised: July 31, 2003

KIVA #02-2395
SDEV No. 0201059

Coe & Van Loo Consultants, Inc.
4550 North 12th Street
Phoenix, Arizona 85014

CVL #02-7027-03-19

DRAINAGE REPORT FOR LAVEEN FARMS INFRASTRUCTURE I PHOENIX, ARIZONA

June 12, 2003
Revised: July 31, 2003

Prepared for:

Centex Homes
8665 E. Hartford, Suite 200
Scottsdale, Arizona 85255
(480) 889-0900
Contact: Doug Pike

Prepared by:

Coe & Van Loo Consultants, Inc.
4550 North 12th Street
Phoenix, AZ 85014
(602) 264-6831

CVL #02-7027-03-19

CVL

Drainage Report
for
Laveen Farms
Infrastructure I

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FIGURES

Figure 1 Vicinity Map
Figure 2 Location Map
Figure 3 Flood Insurance Rate Map (FIRM)
Figure 4 Retention Requirement Map

Registered Professional Engineer (Civil)
CERTIFICATE NO.
37325
RYAN
WEED
Date Signed 7/31/03
ARIZONA, U.S.A.

APPENDICES

Appendix A Hydrology and Street Hydraulics
Appendix B Catch Basin and Storm Drain Calculations
Appendix C Channel and Culvert Calculations
Appendix D Retention Basin and Drywell Calculations
Appendix E Excerpts from *Master Drainage Report for Laveen Farms* (Reference 6)

PLATE

Plate 1 Infrastructure I Drainage Plan

CVL

APPENDIX D

Retention Basin and Drywell Calculations

CVL

Laveen Farms Infrastructure
(Job Number 027027-01)
Retention Basin Volume Calculations

Concentration Point Identification	Area (acres) A	Storm Requirement	Weighted C value C	Intensity (inches/hr) i	Volume Required[1] (acre · ft) Volume V_{req}	Volume Provided (acre · ft) Retention Basin ID	Depth 100-yr (ft)	Top Area A_t (ac)	Bot. Area A_b (ac)	Volume V_p
1	2.2	100-yr 2hr	0.95	1.25	0.43	R1-A	3	0.07	0.01	0.12
						R1-B	3	0.15	0.03	0.27
Subtotal	2.21					R1-C	3	0.12	0.02	0.21
					0.43					0.60
3	0.38	100-yr 2hr	0.95	1.25	0.07	R-2	3	0.78	0.35	1.70
V1	0.38	100-yr 2hr	0.95	1.25	0.07	R-3	3	0.60	0.30	1.35
V5	0.89	100-yr 2hr	0.95	1.25	0.17	R-5	3	0.10	0.01	0.17
V6	2.30	100-yr 2hr	0.95	1.25	0.45	R-6	3	0.24	0.14	0.57
Subtotal	3.57				0.63					0.74
V4	4.70	100-yr 2hr	0.95	1.25	0.92	R-4	3	0.08	0.01	0.14
O14	50.15	100-yr 2hr	0.65	1.25	6.74	R-7	3	2.47	1.59	6.09
						R-8	3	12.48	11.09	35.36
Subtotal	54.85				7.66					41.58
Totals	61.39				8.87					45.96

(1) V_{req} for the 100-yr, 2hr storm = 7200CIA per Reference 1.
(2) Excess flows drain to Retention M-1

Laveen Farms Infrastructure
Job # (02-027027-03)
Retention Basin Drain Time and Drywell Calculations

Retention Basin ID	Bottom Area (ft^2)	Volume Required (ft^3)	Percolation Rate (1) ($ft^3/hr/ft^2$)	Drain Time (2) (hr)	Need Dry Well (3)	Volume Required to Drain By Dry Well (4) (ft^3)	Flowrate Required to Drain Within 36 hrs (5) (cfs)	Dry Well Flowrate Capacity (cfs)	Number Of Dry Wells Required (6)	Number Of Dry Wells Provided (7)
R-1A	436	6250	0.25	115	Yes	4288	0.033	0.1	1	1
R1-B	1310	6250	0.25	38	Yes	355	0.003	0.1	1	1
R1-C	870	6250	0.25	57	Yes	2335	0.018	0.1	1	1
R-2	15250	3050	0.25	2	No	0	0.000	0.1	0	0
R-3	13070	3050	0.25	2	No	0	0.000	0.1	0	0
R-4	440	6098	0.25	111	Yes	4118	0.032	0.1	1	1
R-5	440	7405	0.25	135	Yes	5425	0.042	0.1	1	1
R-6	6100	19602	0.25	26	No	0	0.000	0.1	0	0
R-7	69260	146797	0.25	17	No	0	0.000	0.1	0	0
R-8	483080	146797	0.25	2	No	0	0.000	0.1	0	0

Notes:
(1) Percolation rates are assumed.
(2) Drain Time= (Volume Required)/[0.5 x (Percolation Rate)]/(Bottom Area of Basin)
(3) Dry well is required if the drain time by basin itself exceeds 36 hours.
(4) (Volume To Be Drained By Dry Well)= (Retention Volume Required)-(Volume To Be Drained By Basin Itself)
= (Retention Volume Required)-[0.5 x (Percolation Rate) x 36 x (Bottom Area Of Basin)]
(5) Flowrate Required to Drain Basin Within 36 hrs = (Volume To Be Drained By Dry Well)/(36 x 3600)
(6) (Number Of Dry Well(s) Required)=(Flowrate Required to Drain Basin Within 36 hrs) x 2/(Dry Well Flowrate Capacity)
(7) Total number of drywells provided includes drywell at outfall of the storm drain systems.

* Retention basins connected with equalizer pipes.

PLATE

CVL

INFRASTRUCTURE 1 DRAINAGE PLAN FOR LAVEEN FARMS

ZONING CASE # Z-36-00-7

PREPARED FOR:

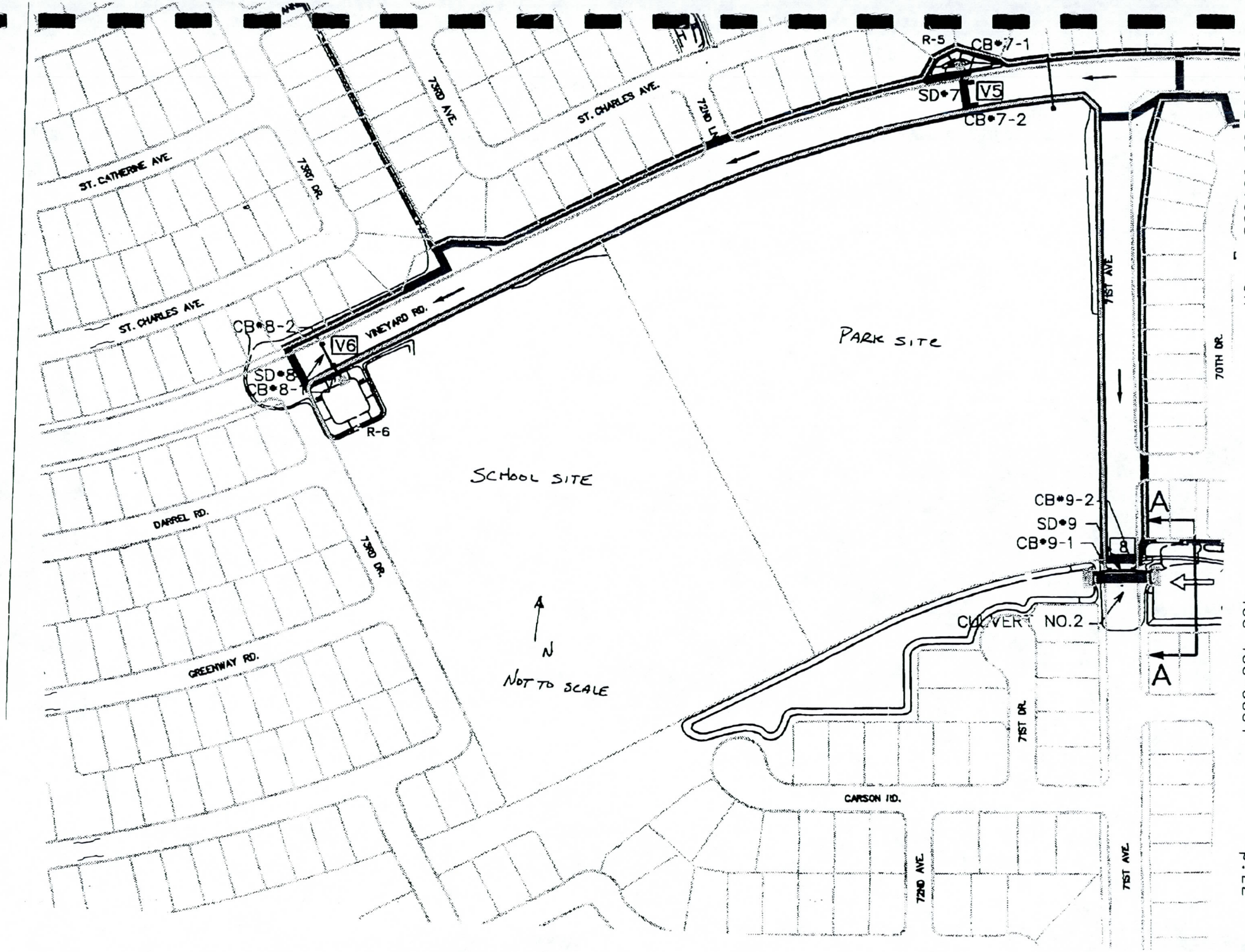
CENTEX HOMES
8665 E. HARTFORD #200
SCOTTSDALE, AZ 85255
(480) 889-0900
(480) 889-0948 FAX

ENGINEER:

COE & VAN LOO CONSULTANTS, INC.
4550 NORTH 12TH STREET
PHOENIX, ARIZONA 85014
(602) 264-6831
(602) 264-0928 (FAX)

KEY TO SYMBOLS

- DRAINAGE AREA BOUNDARY
- DIRECTION OF OFF-SITE FLOW
- DIRECTION OF ON-SITE FLOW
- CB* CATCH BASIN (CB* YY-ZZ)
- STORM DRAIN (SD* YY)
- 1 CONCENTRATION POINT (CP)
- 6" VERTICAL CURB LOCATION


R-5
CB#7-1
SD#7
V5
CB#7-2
ST. CATHERINE AVE.
73RD DR.
73RD AVE.
ST. CHARLES AVE.
72ND LN.
ST. CHARLES AVE.
CB#8-2
V6
VINEYARD RD.
SD#8
CB#8-1
R-6
PARK SITE
71ST AVE.
70TH DR.
SCHOOL SITE
CB#9-2
SD#9
CB#9-1
8
A
A
CULVERT NO.2
DARREL RD.
73RD DR.
N
NOT TO SCALE
GREENWAY RD.
71ST DR.
CARSON RD.
72ND AVE.
71ST AVE.

APPENDIX C

Portions of "Geotechnical Engineering Report, Laveen Farms Elementary School, Vineyard Road and 73rd Avenue, Phoenix, Arizona", prepared by Richer Atkinson Mcbee and Associates, dated October 05,2005, RAM Project No. G12332, Percolation Rate Results

R·A·M

RECEIVED
OCT 05 2005
HESS-ROUNTREE, INC

Geotechnical Engineering Report
Laveen Farms Elementary School
Vineyard Road and 73rd Avenue
Phoenix, Arizona
R.A.M. Project No. G12332

Registered Professional Engineer (Civil)
CERTIFICATE NO.
10971
KENNETH L.
RICKER
Date Signed 10-5-05
ARIZONA U.S.A.

RICKER • ATKINSON • McBEE & ASSOCIATES, INC.

Geotechnical Engineering • Construction Materials Testing

The drilling equipment and crew were provided by D&S Drilling, Inc. The test boring locations were determined in the field by a geologist. The field work was directed by a field technician from our firm. During the field explorations, representative disturbed and undisturbed samples were obtained, the test borings logged and soils field classified by our field technician. The relatively undisturbed samples were obtained by driving a 3-inch diameter, ring-lined, open-end sampler into the soil with a 140-pound hammer dropping 30 inches. In addition to drilling and sampling, continuous penetration tests using a 2-inch diameter rod and the 140-pound hammer dropping 30 inches were performed and extended to depths of 9.0 to 10.0 feet adjacent to four of the test boring locations in the building areas. The results of the field explorations are presented on the Test Boring Logs in Appendix A. After presoaking, the following field percolation tests were measured:

Test Boring	Percolation Rate (minutes/inch)
13	57
14	65

LABORATORY ANALYSIS

Representative samples obtained during the field exploration were subjected to the following laboratory tests.

Type of Test	Type of Sample	Number of Samples Tested
Compression	Undisturbed	3
Swell	Remolded	4
Percent Passing No. 200 Sieve and Atterberg Limits	Representative	4
Moisture Content/Dry Density *	Undisturbed	10

* Reported in the Test Boring Logs

The results of the laboratory tests are presented in Appendix B.

City of Phoenix

Pick up
for Tim Murphy

August 7, 20(

FEMA DEP(
3601 Eisenh(
Alexandria, '

Attention: L(

Re: Condi R)
10th S nix, AZ
Panel 04013C1665J, anel 04013C1665J,
September 30, 2005, and Panel 04013C1670G, September 30, 2005

Please find enclosed Conditional Letter of Map Revision (CLOMR) application for 10th Street Wash Storm Drain in Phoenix, Arizona. The following items are included with this application.

Items:

1. Check in the amount of $4,000.00
2. Overview & Concurrence Form (Form 1)
3. Riverine Hydrology & Hydraulics Form (Form 2)
4. Riverine Structures Form (Form 3)
5. Annotated Floodway Data Table (Section 7)
6. Annotated Flood Insurance Rate Maps (Section 7)
7. Annotated Flood Profile 336P from FIS (Section 7)
8. Drainage Area Map of 10th Street Wash and ACDC Watersheds (Appendix D)
9. Effective Hydraulic Model (Appendix E 5)
10. Proposed Hydraulic Model (Appendix E 5)
11. Hydraulic Computations for catch basin and inlet structure
12. Hydraulic Calculations on CD
13. Annotated Hydraulic Work Map

City of Phoenix

August 7, 2006

FEMA DEPOT
3601 Eisenhower Avenue
Alexandria, Virginia 22304

Attention: LOMR Depot

Re: Conditional Letter of Map Revision (CLOMR)
10th Street Wash Improvement Project, Phoenix, AZ
Panel 04013C1660H, September 30, 2005, Panel 04013C1665J, September 30, 2005, and Panel 04013C1670G, September 30, 2005

Please find enclosed Conditional Letter of Map Revision (CLOMR) application for 10th Street Wash Storm Drain in Phoenix, Arizona. The following items are included with this application.

Items:

1. Check in the amount of $4,000.00
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12. Hydraulic Calculations on CD
13. Annotated Hydraulic Work Map

14.Full size plan sheets (separate from notebook)

If you have any technical questions regarding this CLOMR, please contact Jeff Holzmeister, J2 Engineering and Environmental Design, LLC, phone number 602-438-2221. For any other questions, please contact City of Phoenix Floodplain Management office at (602) 262-4960.

Sincerely,

Hasan Mushtaq, Ph.D., P.E., CFM
Floodplain Manager

Cc:

Jeff Holzmeister, J2 Engineering and Environmental Design, LLC
Mr. Brian Cosson, CFM, Arizona Department of Water Resources
Mr. Tim Murphy, P.E., CFM, Flood Control District of Maricopa County

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles, Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' National Geodetic Vertical Datum of 1929 (NGVD 29). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was *Arizona State Plane Zone 3170 (central Arizona)*. The **horizontal datum** was *NAD 83, GRS80 spheroid*. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the *National Geodetic Vertical Datum of 1929*. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by Maricopa County. Orthophoto images were produced at a scale of 1:6000 using HARN for control. Aerial photography is dated December 2000 to December 2002.

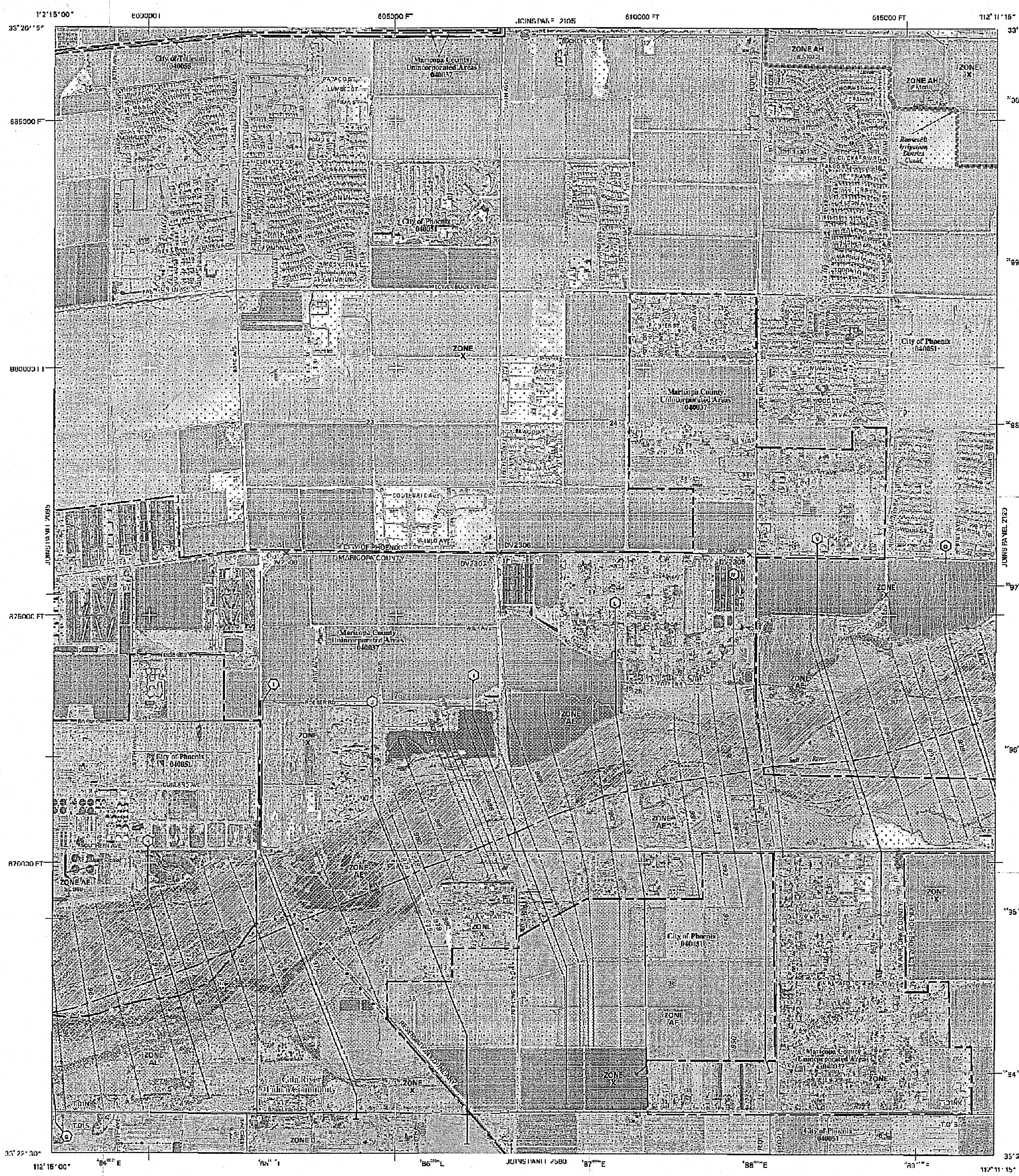
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov/

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
~~513~~~	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the National Geodetic Vertical Datum of 1929

(A) (A)	Cross section line
(2)------(2)	Transect line
112°07'06", 33°25'14"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere.
76000 E	1000-meter Universal Transverse Mercator grid values, zone 12.
875000 FT	5000-foot grid ticks values: Arizona State Plane coordinate system, central zone (FIPSZONE 3170), NAD 83 (Transverse Mercator)
X DV2313	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORY

Refer to Repositories Listing on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

April 15, 1988

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

September 4, 1991, July 19, 2001

September 30, 2005 - to update corporate limits, to change Base Flood Elevations, to add Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to change zone designations, to add roads and road names, to incorporate previously issued Letters of Map Revision, and to incorporate previously issued Letters of Map Amendment.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

NFIP

PANEL 2115G

FIRM
FLOOD INSURANCE RATE MAP
MARICOPA COUNTY, ARIZONA
AND INCORPORATED AREAS

PANEL 2115 OF 4350

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	[illegible]	[illegible]	[illegible]
PHOENIX, CITY OF	[illegible]	[illegible]	[illegible]
TOLLESON, CITY OF	[illegible]	[illegible]	[illegible]

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 04013C2115G

MAP REVISED SEPTEMBER 30, 2005

Federal Emergency Management Agency

PLATE 2 – EXISTING FEMA MAP

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

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Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was *Arizona State Plane Zone 3176 (central Arizona).* The horizontal datum was *NAD83, GRS80 spheroid.* Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the *National Geodetic Vertical Datum of 1929.* These flood elevations must be compared to structure and ground elevations referenced to the **same vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242,** or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by Maricopa County. Orthophoto images were produced at a scale of 1:6000 using HARN for control. Aerial photography is dated December 2000 to December 2002.

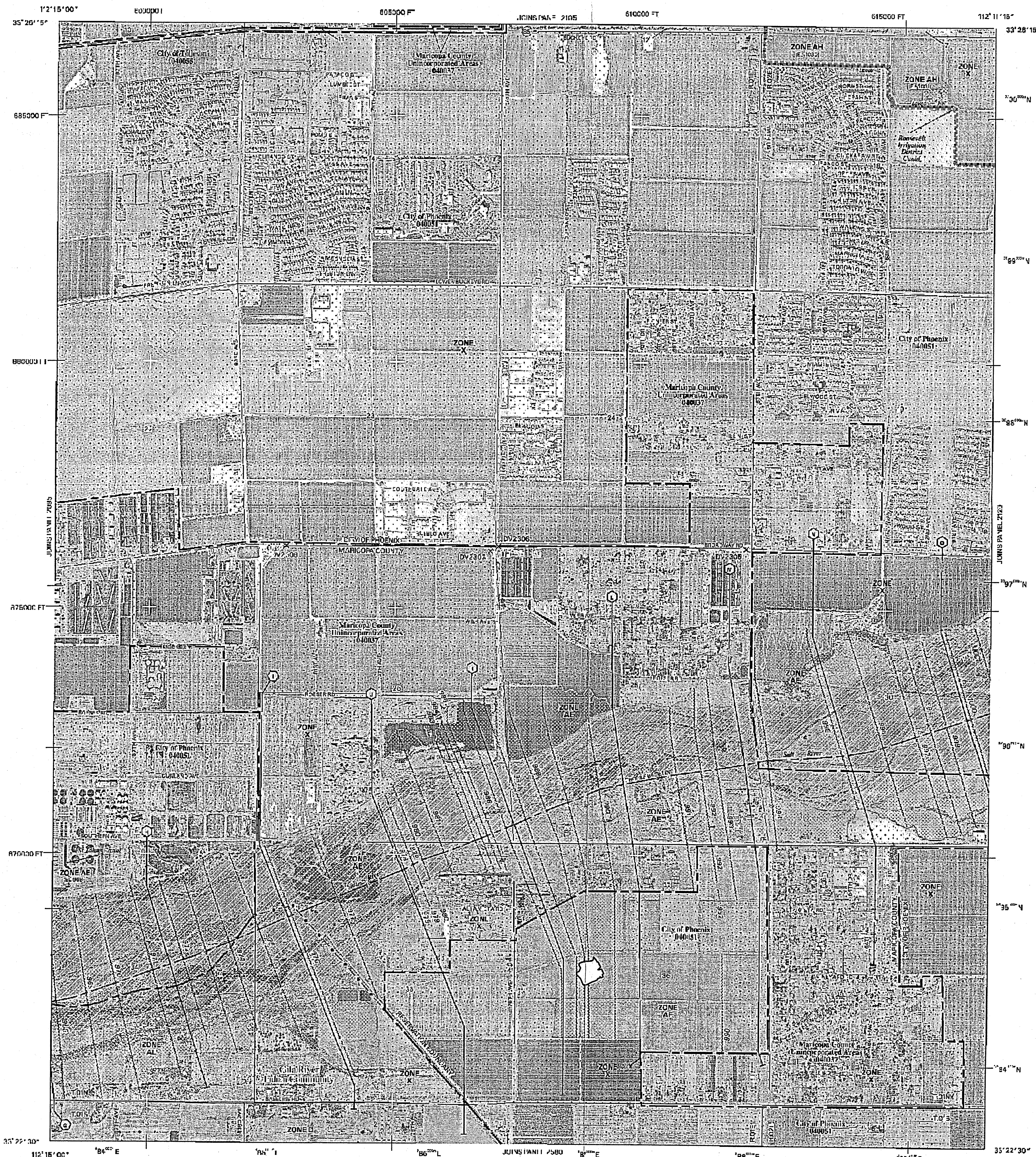
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov/.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
~~513~~~	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the National Geodetic Vertical Datum of 1929

(A)——(A)	Cross section line
(23)-----(23)	Transect line
112°07'08", 33°25'41"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
^{37}76^{000m}E	1000-meter Universal Transverse Mercator grid ticks, zone 12
875000 FT	5000-foot grid ticks: Arizona State Plane coordinate system, central zone (FIPSZONE 0202), Transverse Mercator
X DV2313	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORY
Refer to Repositories Listing on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
April 15, 1988

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
September 4, 1991 July 19, 2001

September 30, 2005 - to update corporate limits, to change Base Flood Elevations, to add Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to change zone designations, to update road and street names, to incorporate previously issued Letters of Map Revision, and to incorporate previously issued Letters of Map Amendment.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

NFIP

PANEL 2115G

FIRM
FLOOD INSURANCE RATE MAP
MARICOPA COUNTY, ARIZONA
AND INCORPORATED AREAS

PANEL 2115 OF 4350

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	2115	G
PHOENIX, CITY OF	040051	2115	G
TOLLESON, CITY OF	040055	2115	G

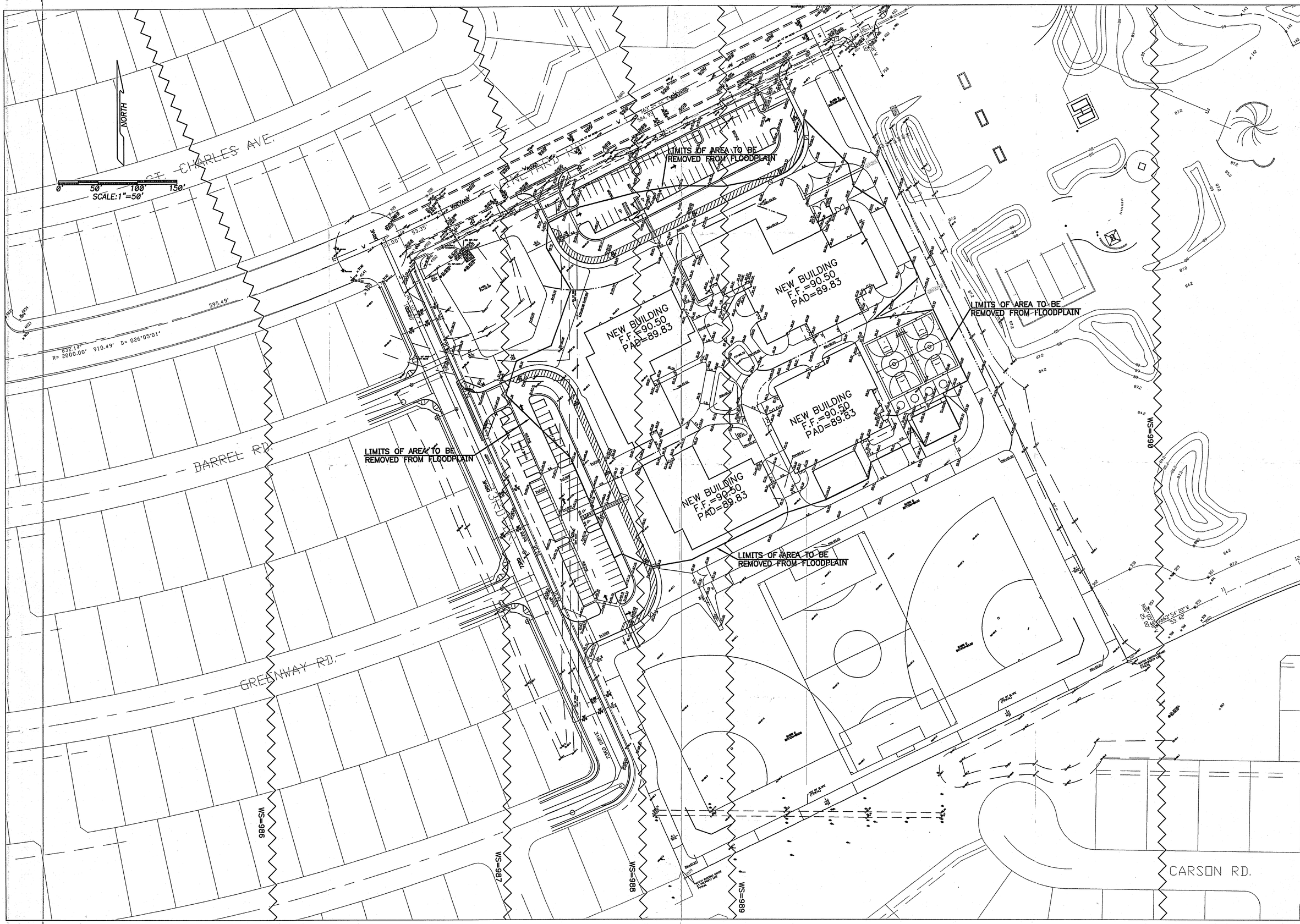
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
04013C2115G

MAP REVISED
SEPTEMBER 30, 2005

Federal Emergency Management Agency

PLATE 3 – PROPOSED FEMA MAP



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3120 N. 24th ST.
PHOENIX, ARIZONA 85016
(602) 954-6399

JOB NO.	1944.01
DATE:	12/12/2005
SCALE:	1"=50'
DRAWN:	J.A.I.
DESIGN:	L.J.E.
CHECKED:	L.J.E.
SHEET NO.	PLATE 4