

HEC-RAS Version 4.0.0 March 2008
 U.S. Army Corps of Engineers
 Hydrologic Engineering Center
 609 Second Street
 Davis, California

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X      X XXXXXX   XXXX       XXXX       XX       XXXX
X      X X       X   X       X X       X X       X
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PROJECT DATA

Project Title: Wapping Road Dam_Dec08
 Project File : WappingRoadDam_De.prj
 Run Date and Time: 12/31/2008 10:13:49 AM

Project in English units

Project Description:

Project: Wapping Road Dam Feasibility Study
 Start Date: 06-25-08
 By: Raju
 V

Base Model:

FEMA HEC-2 Model Paper Copy dated April 1980.

PLAN DATA

Plan Title: EC - one reach
 Plan File : h:\3574-01\H & H\HEC-RAS\WappingRoadDam_De.p29

Geometry Title: Existing Conditions Model - (One Reach)
 Geometry File : h:\3574-01\H & H\HEC-RAS\WappingRoadDam_De.g14

Flow Title : Proposed Flows (No Split Flow)
 Flow File : h:\3574-01\H & H\HEC-RAS\WappingRoadDam_De.f14

Plan Summary Information:

Number of: Cross Sections =	38	Multiple Openings =	0
Culverts =	1	Inline Structures =	1
Bridges =	3	Lateral Structures =	0

Computational Information

Water surface calculation tolerance = 0.01
 Critical depth calculation tolerance = 0.01
 Maximum number of iterations = 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: Mixed Flow

FLOW DATA

Flow Title: Proposed Flows (No Split Flow)
 Flow File : h:\3574-01\H & H\HEC-RAS\WappingRoadDam_De.f14

Flow Data (cfs)

* River	Reach	RS	*	Mean April	Mean Aug	1.5 YR	2 YR
FEMA 100 *							
* Jones River	Main Channel	3.919	*	.8	.2	38	45.3
70 *							
* Jones River	Main Channel	3.312	*	.8	.2	38	45.3
116 *							
* Jones River	Main Channel	2.740	*	35.6	11	125.3	149.7
650 *							
* Jones River	Main Channel	1.394	*	46.6	14.4	152.8	182.5
821 *							
* Jones River	Main Channel	0.598	*	55	17	174	207.8
940 *							
* Jones River	Bypass Channel	0.8980	*				
*							
* Jones River	At the Dam	0.910	*				
*							
* Jones River	Below bypass	0.803	*				
*							
* Jones River	Below bypass	0.598	*	55	17	174	207.8
940 *							

Boundary Conditions

* River	Reach	Profile	*	Upstream	Downstream	*
* Jones River	Main Channel	Mean April	*	Normal S = 0.01	Known WS = 18.1	*
* Jones River	Main Channel	Mean Aug	*	Normal S = 0.01	Known WS = 18.2	*

GEOMETRY DATA

Geometry Title: Existing Conditions Model - (One Reach)
Geometry File : h:\3574-01\H & H\HEC-RAS\WappingRoadDam_De.g14

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 3.919

INPUT

Description: FEMA XS-W

Station Elevation Data		num= 14	
Sta	Elev	Sta	Elev
1650	55	1750	50
1994	33.8	2000	33
2065	36	2160	40

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
1650	.08	1990	.04
		2010	.08

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	1990	2010		100	100	100		.1	.3

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 3.900

INPUT

Description:

Station Elevation Data		num= 10	
Sta	Elev	Sta	Elev
1770	55	1865	45.9
1998.8	33	2002	33

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
1770	.08	1956	.04
		2008	.08

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	1956	2008		62	62	62		.1	.3
Ineffective Flow	num=		2						
Sta L	Sta R	Elev	Permanent						
1770	1956	37.4	F						
2008	2400	37.4	F						

BRIDGE

RIVER: Jones River
 REACH: Main Channel RS: 3.889

INPUT

Description: GROVE ST
 Distance from Upstream XS = .1
 Deck/Roadway Width = 61.8
 Weir Coefficient = 2.6
 Upstream Deck/Roadway Coordinates

num=	7													
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord

1865	45.9			1964.9	42.9			37	1965	42.9			37	
1982	37.4		37	2000	42.3			37	2000.1	42.3			0	
2100	42													

Upstream Bridge Cross Section Data

Station Elevation Data	num= 10										
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

1770	55	1865	45.9	1956	35.6	1965	34	1967.4	34		
1998.8	33	2002	33	2008	35.8	2100	42	2400	50		

Manning's n Values

num= 3					
Sta	n Val	Sta	n Val	Sta	n Val

1770	.08	1956	.04	2008	.08

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	1956	2008		.1	.3

Ineffective Flow	num=		2						
Sta L	Sta R	Elev	Permanent						
1770	1956	37.4	F						
2008	2400	37.4	F						

Downstream Deck/Roadway Coordinates

num=	7													
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord

1865	45.9			1964.9	42.9			37	1965	42.9			37	
1982	37.4		37	2000	42.3			37	2000.1	42.3			0	
2100	42													

Downstream Bridge Cross Section Data

Station Elevation Data	num= 10										
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

1770	55	1865	45.9	1956	35.6	1965	34	1967.4	34		
1998.8	33	2002	33	2008	35.8	2100	42	2400	50		

Manning's n Values

num= 3					
Sta	n Val	Sta	n Val	Sta	n Val

1770	.08	1956	.025	2008	.08

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	1956	2008		.3	.5

Ineffective Flow	num=		2						
Sta L	Sta R	Elev	Permanent						
1770	1956	37	F						
2008	2400	37	F						

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .95
 Elevation at which weir flow begins = 37.4
 Energy head used in spillway design =
 Spillway height used in design =

Weir crest shape = Broad Crested

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data

Energy

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 = 37

Additional Bridge Parameters

Add Friction component to Momentum
Do not 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: Jones River
REACH: Main Channel RS: 3.888

INPUT

Description:

Station Elevation Data num= 10
Table with 10 columns: Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev. Data rows include 1770, 1998.8, 1865, 2002, 45.9, 33, 1956, 2008, 35.6, 35.8, 1965, 2100, 34, 42, 1967.4, 2400, 34, 50.

Manning's n Values num= 3
Table with 6 columns: Sta, n Val, Sta, n Val, Sta, n Val. Data rows include 1770, 1956, 2008, .08, .025, .08.

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
Table with 7 columns. Data rows include 1956, 2008, 26.4, 26.4, 26.4, .3, .5.

Ineffective Flow num= 2
Table with 5 columns: Sta L, Sta R, Elev, Permanent. Data rows include 1770, 1956, 2008, 1956, 2400, 37, F, 37, F.

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 3.883

INPUT

Description:

Station Elevation Data num= 14
Table with 10 columns: Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev. Data rows include 1770, 1961.5, 2022, 55, 35.9, 34.2, 1800, 1963.5, 2086.5, 50, 34.2, 36.8, 1830, 1965, 2270, 45, 33.5, 40, 1900, 1990, 2400, 40, 32.6, 50, 1911.5, 2010, 38.7, 32.6.

Manning's n Values num= 3
Table with 6 columns: Sta, n Val, Sta, n Val, Sta, n Val. Data rows include 1770, 1965, 2010, .08, .025, .08.

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
Table with 7 columns. Data rows include 1965, 2010, 30, 30, 30, .3, .5.

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 3.877

INPUT

Description:

Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1800	60	1900	55.2	1994.5	39.5	1997	33.8	2000	32.2
2003.6	32.5	2005.5	39.9	2100	55				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1800	.08	1997	.04	2003.6	.08

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

Left	Right	Left	Channel	Right	Coeff	Contr.	Expan.
1997	2003.6	61	61	61	.1	.3	

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
1800	1997	43.5	F
2003.6	2100	43.5	F

BRIDGE

RIVER: Jones River
 REACH: Main Channel RS: 3.870

INPUT

Description: RAILROAD BRIDGE
 Distance from Upstream XS = .1
 Deck/Roadway Width = 60.8
 Weir Coefficient = 2.7

Upstream Deck/Roadway Coordinates num= 7

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
1900	55.2				1996.9	55.2	0			1997	55.2	36.9		
2000	55.2	36.9			2003.6	55.2	36.9			2003.7	55.2	0		
2100	55													

Upstream Bridge Cross Section Data

Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1800	60	1900	55.2	1994.5	39.5	1997	33.8	2000	32.2
2003.6	32.5	2005.5	39.9	2100	55				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1800	.08	1997	.04	2003.6	.08

Bank Sta: Left Right Coeff Contr. Expan.

Left	Right	Coeff	Contr.	Expan.
1997	2003.6	.1	.3	

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
1800	1997	43.5	F
2003.6	2100	43.5	F

Downstream Deck/Roadway Coordinates num= 7

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
1900	55.2				1996.9	55.2	0			1997	55.2	36.9		
2000	55.2	36.9			2003.6	55.2	36.9			2003.7	55.2	0		
2100	55													

Downstream Bridge Cross Section Data

Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1800	60	1900	55.2	1994.5	39.5	1997	33.8	2000	32.2
2003.6	32.5	2005.5	39.9	2100	55				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1800	.1	1997	.03	2003.6	.1

Bank Sta: Left Right Coeff Contr. Expan.

Left	Right	Coeff	Contr.	Expan.
1997	2003.6	.1	.3	

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
1800	1997	43.5	F
2003.6	2100	43.5	F

1800 1997 36.9 F
 2003.6 2100 36.9 F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .95
 Elevation at which weir flow begins = 43.5
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data

Energy

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 = 36.9

Additional Bridge Parameters

Add Friction component to Momentum
 Do not 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: Jones River
 REACH: Main Channel RS: 3.865

INPUT

Description:

Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1800	60	1900	55.2	1994.5	39.5	1997	33.8	2000	32.2
2003.6	32.5	2005.5	39.9	2100	55				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1800	.1	1997	.03	2003.6	.1

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 1997 2003.6 100 100 100 .1 .3
 Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
1800	1997	36.9	F
2003.6	2100	36.9	F

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 3.846

INPUT

Description: 100' D/S OF RAILROAD BRIDGE (FEMA XS-V)

Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1800	50	1850	35	1940	34.3	1990	35.6	1992	33.3
2000	33.1	2004	33	2010	35.9	2060	36.2	2170	40
2300	50								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1800	.1	1990	.03	2010	.1

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 1990 2010 940 1100 1140 .1 .3


```
*****
1500      40      1700      35      1943      31      1980      29.3      1983      31.8
1987      32.3     1993      29      2000      27.3     2005      28      2013      29.8
2063      30.2     2450      40
```

```
Manning's n Values          num=      3
Sta  n Val      Sta  n Val      Sta  n Val
*****
1500      .1      1987      .03      2013      .1
```

```
Bank Sta: Left  Right  Lengths: Left Channel  Right  Coeff Contr.  Expan.
          1987    2013          820    820    820          .1      .3
```

CROSS SECTION

```
RIVER: Jones River
REACH: Main Channel      RS: 2.740
```

INPUT

```
Description: FEMA XS-Q
Station Elevation Data  num=      9
Sta  Elev      Sta  Elev      Sta  Elev      Sta  Elev      Sta  Elev
*****
1600      40      1941      34.6     1991      31.1     1993      28.8     2000      28.8
2008      28.9     2009      30.4     2059      30.8     2380      40
```

```
Manning's n Values          num=      3
Sta  n Val      Sta  n Val      Sta  n Val
*****
1600      .1      1991      .03      2009      .1
```

```
Bank Sta: Left  Right  Lengths: Left Channel  Right  Coeff Contr.  Expan.
          1991    2009          100    100    100          .1      .3
```

CROSS SECTION

```
RIVER: Jones River
REACH: Main Channel      RS: 2.721
```

INPUT

```
Description:
Station Elevation Data  num=     10
Sta  Elev      Sta  Elev      Sta  Elev      Sta  Elev      Sta  Elev      Sta  Elev
*****
1600      40      1900      31.4     1994.7     32.5     1994.8     28.4     1997.2     28.2
2000      28      2005.4     28.6     2005.5     32.5     2100      31      2380      40
```

```
Manning's n Values          num=      3
Sta  n Val      Sta  n Val      Sta  n Val
*****
1600      .1     1994.7      .03     2005.5      .1
```

```
Bank Sta: Left  Right  Lengths: Left Channel  Right  Coeff Contr.  Expan.
          1994.7  2005.5          10.6   10.6   10.6          .1      .3
```

```
Ineffective Flow  num=      2
Sta L  Sta R      Elev Permanent
1600   1994.7     31      F
2005.5 2380      31      F
```

BRIDGE

```
RIVER: Jones River
REACH: Main Channel      RS: 2.720
```

INPUT

```
Description: UNKNOWN STRUCTURE
Distance from Upstream XS =      .1
Deck/Roadway Width      =     10.4
Weir Coefficient        =      2.8
Upstream Deck/Roadway Coordinates
num=      7
Sta Hi Cord Lo Cord      Sta Hi Cord Lo Cord      Sta Hi Cord Lo Cord
*****
1900      31.4          1995.24      32.4      31 1995.25      32.4      31
2000      32.5      31 2004.75      32.4      31 2004.76      32.4      31
2100      31
```

Upstream Bridge Cross Section Data

Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1600	40	1900	31.4	1994.7	32.5	1994.8	28.4	1997.2	28.2
2000	28	2005.4	28.6	2005.5	32.5	2100	31	2380	40

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1600	.1	1994.7	.03	2005.5	.1

Bank Sta: Left Right Coeff Contr. Expan.

1994.7	2005.5	.1	.3
--------	--------	----	----

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
1600	1994.7	31	F
2005.5	2380	31	F

Downstream Deck/Roadway Coordinates num= 7

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
1900	31.4		1995.24	32.4	31	1995.25	32.4		31
2000	32.5	31	2004.75	32.4	31	2004.76	32.4		31
2100	31								

Downstream Bridge Cross Section Data

Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1600	40	1900	31.4	1994.7	32.5	1994.8	28.4	1997.2	28.2
2000	28	2005.4	28.6	2005.5	32.5	2100	31	2380	40

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1600	.1	1994.7	.015	2005.5	.1

Bank Sta: Left Right Coeff Contr. Expan.

1994.7	2005.5	.3	.5
--------	--------	----	----

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
1600	1994.7	31	F
2005.5	2380	31	F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .95
 Elevation at which weir flow begins = 32
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Piers = 1

Pier Data

Pier Station Upstream= 2000 Downstream= 2000

Upstream num= 2

Width	Elev	Width	Elev
.5	28	.5	31

Downstream num= 2

Width	Elev	Width	Elev
.5	28	.5	31

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
 Energy
 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 = 31

Additional Bridge Parameters

Add Friction component to Momentum
Do not 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: Jones River
REACH: Main Channel RS: 2.719

INPUT

Description:

Table with 10 columns: Station, Elev, Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev. Data points include 1600, 2000, 1900, 2005.4, 1994.7, 2005.5, 1994.8, 2100, 1997.2, 2380.

Table with 6 columns: Manning's n Values, Sta, n Val, Sta, n Val, Sta, n Val. Data points include 1600, 1994.7, 2005.5.

Table with 7 columns: Bank Sta, Left, Right, Lengths, Left Channel, Right, Coeff Contr., Expan. Data points include 1994.7, 2005.5, 100, 100, 100, .3, .5.

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 2.700

INPUT

Description: FEMA XS-P

Table with 10 columns: Station, Elev, Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev. Data points include 1600, 2004, 1944, 2006, 1994, 2054, 1998, 2380, 2000, 26.9.

Table with 6 columns: Manning's n Values, Sta, n Val, Sta, n Val, Sta, n Val. Data points include 1600, 1994, 2006.

Table with 7 columns: Bank Sta, Left, Right, Lengths, Left Channel, Right, Coeff Contr., Expan. Data points include 1994, 2006, 1500, 1640, 1800, .3, .5.

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 2.390

INPUT

Description: FEMA XS-O

Table with 10 columns: Station, Elev, Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev. Data points include 1800, 2004, 1850, 2005, 1996, 2150, 1997, 2220, 2000, 2350.

Table with 6 columns: Manning's n Values, Sta, n Val, Sta, n Val, Sta, n Val. Data points include 1800, 1996, 2005.

Table with 7 columns: Bank Sta, Left, Right, Lengths, Left Channel, Right, Coeff Contr., Expan. Data points include 1996, 2005, 1720, 1600, 1040, .1, .3.

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 2.087

INPUT

Description: FEMA XS-N

Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1450	50	1650	45	1800	35	1936	30.9	1986	28.5
1988	26.3	2000	24.8	2013	26.9	2015	28.3	2018	27.4
2044	27.2	2094	28.7	2350	35	2450	50		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1450	.1	1986	.03	2015	.1

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

Left	Right	Left	Channel	Right	Coeff	Contr.	Expan.
1986	2015	1880	2240	1320		.1	.3

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 1.663

INPUT

Description: FEMA XS-M

Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1500	50	1550	40	1680	30	1967	25.5	1970	24
2000	22.8	2030	24	2037	25.5	2150	26.5	2200	30
2800	50								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1500	.1	1967	.03	2037	.1

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

Left	Right	Left	Channel	Right	Coeff	Contr.	Expan.
1967	2037	1200	1420	1320		.1	.3

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 1.394

INPUT

Description: FEMA XS-L

Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1600	35	1750	30	2000	20.5	2017	20.6	2021	22.9
2043	24.9	2071	25.3	2350	30	2450	35		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1600	.1	2000	.03	2021	.1

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

Left	Right	Left	Channel	Right	Coeff	Contr.	Expan.
2000	2021	1280	1720	1100		.1	.3

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 1.068

INPUT

Description: FEMA XS-K, revised per aerial topo

Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35	78	30	89	29	100	28	111	27

131	26	204	25.9	218	26.005	354	27.03	373	26.5
390	26.94	397	26.627	411	26	449	27	494	28
540	29	582	30	595	35				

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

 0 .1 218 .03 397 .1

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 218 397 840 640 440 .1 .3

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 0.947

INPUT
 Description: FEMA XS-J (Revised to match MMI Survey)

Station Elevation Data num= 35
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev

 0 36 22 35 37 34 48 33 59 32
 149 31 177 30 190 29 211 28 248 27
 253 26 259 25 265 24 271 23 276 22
 284 21 287 20 290 19 301 19 304 20
 307 21 316 22 323 23 347 24 358 25
 369 26 381 27 397 28 406 29 497 30
 503 31 520 32 534 33 545 34 561 35

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

 0 .1 259 .03 358 .1

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 259 358 100 100 100 .1 .3

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 0.928

INPUT
 Description: U/S FACE OF WAPPING ROAD (FEMA XS-I)

Station Elevation Data num= 28
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev

 0 32 53 31 150 30 185 29 207 28
 242 27 302 26 303 25 304 24 305 23
 306 22 307 21 308 20 316 20 317 21
 318 22 319 23 320 24 321 25 322 26
 323 27 325.9 27 326 31 502 31 510 32
 516 33 522 34 540 34.8

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

 0 .1 242 .03 323 .1

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 242 323 61 61 61 .1 .3

CULVERT

RIVER: Jones River
 REACH: Main Channel RS: 0.920

INPUT
 Description: WAPPING ROAD
 Distance from Upstream XS = .1
 Deck/Roadway Width = 57.4
 Weir Coefficient = 2.7

Upstream Deck/Roadway Coordinates
 num= 8
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord

53	31	1980	30.8	1988	32.4
1989	36.66	2012	36.49	2013	32.2
2020	30.8	2100	30.1		

Upstream Bridge Cross Section Data

Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	32	53	31	150	30	185	29	207	28
242	27	302	26	303	25	304	24	305	23
306	22	307	21	308	20	316	20	317	21
318	22	319	23	320	24	321	25	322	26
323	27	325.9	27	326	31	502	31	510	32
516	33	522	34	540	34.8				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.1	242	.03	323	.1

Bank Sta: Left Right Coeff Contr. Expan.

242	323	.1	.3
-----	-----	----	----

Downstream Deck/Roadway Coordinates

num= 8

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
1900	31.5				1980	30.8			
1989	34.57				2012	34.68			
2020	30.8				2100	30.1			

Downstream Bridge Cross Section Data

Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1500	35	1520	32	1900	31.5	1984.5	30	1984.5	31.23
1986	31.26	1986	19.06	1992	19.02	1996.5	19.47	1998.5	19
2003	19.05	2013	19.51	2013	31.4	2014.5	31.4	2014.5	30
2100	30.1	2500	35						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1500	.08	1986	.03	2013	.08

Bank Sta: Left Right Coeff Contr. Expan.

1986	2013	.3	.5
------	------	----	----

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .95
 Elevation at which weir flow begins = 30.1
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 2

Culvert Name	Shape	Rise	Span			
Culvert #1	Box	8	12			
FHWA Chart # 8 - flared wingwalls						
FHWA Scale # 1 - Wingwall flared 30 to 75 deg.						
Solution Criteria = Highest U.S. EG						
Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
.5	60	.011	.011	0	.5	1
Upstream Elevation = 19						
Centerline Station = 309						
Downstream Elevation = 19						
Centerline Station = 1993						

Culvert Name	Shape	Rise	Span			
Culvert #2	Box	8	12			
FHWA Chart # 8 - flared wingwalls						
FHWA Scale # 1 - Wingwall flared 30 to 75 deg.						
Solution Criteria = Highest U.S. EG						
Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
.5	60	.011	.011	0	.5	1
Upstream Elevation = 19						

Centerline Station = 322
 Downstream Elevation = 19
 Centerline Station = 2006

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 0.917

INPUT

Description: D/S FACE OF WAPPING ROAD

Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1500	35	1520	32	1900	31.5	1984.5	30	1984.5	31.23
1986	31.26	1986	19.06	1992	19.02	1996.5	19.47	1998.5	19
2003	19.05	2013	19.51	2013	31.4	2014.5	31.4	2014.5	30
2100	30.1	2500	35						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1500	.08	1986	.03	2013	.08

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1986	2013		100	65		.3	.5

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 0.912

INPUT

Description: 65' D/S OF WAPPING ROAD

Station Elevation Data num= 12

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1972.5	45	1972.5	28.24	1973.5	28.24	1974.5	26.1	1984.5	20.61
1996.5	19.98	2006.5	20.75	2015.5	21.18	2037.5	26.52	2045	30
2081	30	2500	35						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1972.5	.025	1974.5	.03	2037.5	.08

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1974.5	2037.5		16	16		.1	.3

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 0.910

INPUT

Description: 80' D/S OF WAPPING ROAD

Station Elevation Data num= 12

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1972.5	45	1972.5	28.24	1973.5	28.24	1974.5	26.1	1984.5	20.61
1996.5	19.98	2006.5	20.75	2015.5	21.18	2037.5	26.52	2045	30
2081	30	2500	35						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1972.5	.025	1974.5	.03	2037.5	.08

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1974.5	2037.5		36	38		.1	.3

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 0.907

INPUT

Description: 125' D/S OF WAPPING ROAD

Station Elevation Data num= 15									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1951.87	45	1951.87	29	1954.39	29	1954.4	26	1959.86	24.21
1969.91	22.42	1979.95	19.87	1990.35	19.9	1998.35	20.85	2007.91	21.14
2019.87	22.36	2035.74	26	2045	30	2081	30	2500	35

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
1951.87	.25	1954.4	.03	2035.74	.08

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1954.4	2035.74		150	125		.1	.3

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 0.901

INPUT

Description: Upstream of Wapping Road Dam

Station Elevation Data num= 17									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2202.77	45	2202.77	29	2210.77	28.22	2211.77	28.22	2211.77	22.21
2217.71	22.21	2240.43	22.98	2251.47	21.72	2264.72	25.92	2266.06	27
2268.09	28	2271	29	2271	30.12	2272	30.12	2272	30
2300	30	2550	35						

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
2202.77	.025	2211.77	.035	2264.72	.08

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	2211.77	2268.09		10	10		.1	.3

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 0.899

INPUT

Description: Upstream face of Wapping Road Dam

Station Elevation Data num= 18									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2159.1	45	2159.1	29.06	2162.06	28.19	2163.06	28.19	2163.06	24.08
2176.13	24.08	2188.69	24.88	2203.66	23.09	2203.66	27.28	2204.66	27.28
2204.66	26.15	2209.66	26.15	2209.66	29.36	2210.66	29.36	2210.66	28.3
2258.2	29	2300	30	2500	35				

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
2159.1	.025	2163.06	.035	2210.66	.08

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	2163.06	2203.66		7	7		.1	.3

INLINE STRUCTURE

RIVER: Jones River
REACH: Main Channel RS: 0.8985

INPUT

Description: Wapping Road Dam

Distance from Upstream XS =	.5				
Deck/Roadway Width	= 6				
Weir Coefficient	= 2.6				
Weir Embankment Coordinates	num = 3				
Sta	Elev	Sta	Elev	Sta	Elev

 2063.06 25.96 2088.66 26.05 2203.66 25.44

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins =
 Weir crest shape = Broad Crested

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 0.898

INPUT

Description: D/S face of Wapping Road Dam (FEMA XS-H)

Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	29	39	28	54	27	70	26.23	98	26.18
143	30.04	233	29.06	238	29.06	238	21	242	20
243	19	244	18	245	17.48	248	17.17	259	17.39
273	18	278	19	286	19.87	286	29.36	287	29.36
287	20	289	21	291	22	294	23	297	24
300	25	304	26	332	27	347	28	362	29
376	30	402	31						

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.025	39	.04	143	.06	238	.045	244	.06
286	.045	304	.06						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 242 286 8 8 8 .3 .5

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 0.896

INPUT

Description: D/S of Wapping Road Dam

Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2146.47	45	2146.47	24	2160	23.8	2161	23.8	2161.1	18.49
2167.36	18.33	2172.28	17	2176.54	17	2179.66	17	2185.08	17.5
2189.82	17	2193.32	17.6	2195.51	18.6	2198.23	19.2	2199.48	18.81
2200.69	18.84	2204.9	18.28	2206.74	19.28	2209	20	2225	27
2270	29	2300	30	2500	35				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
2146.47	.025	2161	.055	2206.74	.08

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 2161.1 2204.9 163 167 177 .1 .3

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 0.874

INPUT

Description: FEMA XS-I (Revised)

Station Elevation Data num= 12

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2150	40	2150.1	23	2225	21.6	2250	23.9	2264	18.5
2270	18	2300	17	2335	18	2340	19	2378	24.7
2385	27.8	2400	30						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
2150	.025	2250	.03	2340	.08

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	2264	2340		50	50	.1	.3

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 0.864

INPUT

Description: FEMA XS-G, REVISED

Station Elevation Data		num= 13		Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-1	40	0	23	21	22	42	22	47	21		
52	20	72	17	92	20	108	21	129	22		
159	23	173	24	179	25						

Manning's n Values		num= 3		Sta	n Val	Sta	n Val	Sta	n Val
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-1	.025	42	.03	129	.08				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	52	92		25	25	.1	.3

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 0.860

INPUT

Description: COPY OF 0.864

Station Elevation Data		num= 11		Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-1	40	0	23	21	22	42	22	47	21		
52	20	72	17	92	20	108	21	129	22		
159	23										

Manning's n Values		num= 3		Sta	n Val	Sta	n Val	Sta	n Val
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-1	.025	42	.03	129	.08				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	52	92		100	100	.1	.3

CROSS SECTION

RIVER: Jones River
 REACH: Main Channel RS: 0.841

INPUT

Description: COPY 0.803

Station Elevation Data		num= 14		Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-25	25	0	22.5	39	22	63	21	77	20		
103	16.9	105	16.2	110	15.4	133	16.1	142	20		
183	21	197	22	215	23	500	25				

Manning's n Values		num= 5		Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-25	.11	77	.04	142	.08	215	.11	500	.11		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	77	142		90	90	.1	.3

CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 0.840

INPUT

Description: COPY 0.803

Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-25	25	0	22.5	39	22	63	21	77	20
103	16.9	105	16.2	110	15.4	133	16.1	142	20
183	21	197	22	215	23	500	25		

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-25	.11	77	.04	142	.08	215	.11	500	.11

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

77	142	195	195	195	.1	.3
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CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 0.803

INPUT

Description: FEMA XS-F

Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-25	25	0	22.5	39	22	63	21	77	20
103	16.9	105	16.2	110	15.4	133	16.1	142	20
183	21	197	22	215	23	500	25		

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-25	.11	77	.04	142	.08	215	.11	500	.11

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

77	142	880	1080	880	.1	.3
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CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 0.598

INPUT

Description: FEMA XS-E

Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1523.7	54.3	1624	16.5	1991	16	1993	15	2000	14.8
2007	15	2009	16	2194	17.1	2525	23	2600	25

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1523.7	.11	1991	.04	2009	.11

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

1991	2009	2240	2240	2240	.3	.5
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CROSS SECTION

RIVER: Jones River
REACH: Main Channel RS: 0.174

INPUT

Description: FEMA XS-D

Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1700	25	1906	18.9	1915	17.8	1917	17	2000	13.2
2035	17.1	2038	18.8	2058	18.5	2100	25		

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

 1700 .11 1915 .04 2058 .11

Bank Sta: Left Right Coeff Contr. Expan.
 1915 2058 .3 .5

SUMMARY OF MANNING'S N VALUES

River: Jones River

* Reach	* River Sta.	* n1	* n2	* n3	* n4	* n5	* n6	* n7
Main Channel	3.919	.08	.04*	.08*	*	*	*	*
Main Channel	3.900	.08	.04*	.08*	*	*	*	*
*Main Channel	3.889	*Bridge	*	*	*	*	*	*
Main Channel	3.888	.08	.025*	.08*	*	*	*	*
Main Channel	3.883	.08	.025*	.08*	*	*	*	*
Main Channel	3.877	.08	.04*	.08*	*	*	*	*
*Main Channel	3.870	*Bridge	*	*	*	*	*	*
Main Channel	3.865	.1	.03*	.1*	*	*	*	*
Main Channel	3.846	.1	.03*	.1*	*	*	*	*
Main Channel	3.638	.1	.03*	.1*	*	*	*	*
Main Channel	3.312	.1	.03*	.1*	*	*	*	*
Main Channel	3.108	.1	.03*	.1*	*	*	*	*
Main Channel	2.896	.1	.03*	.1*	*	*	*	*
Main Channel	2.740	.1	.03*	.1*	*	*	*	*
Main Channel	2.721	.1	.03*	.1*	*	*	*	*
*Main Channel	2.720	*Bridge	*	*	*	*	*	*
Main Channel	2.719	.1	.015*	.1*	*	*	*	*
Main Channel	2.700	.1	.015*	.1*	*	*	*	*
Main Channel	2.390	.1	.03*	.1*	*	*	*	*
Main Channel	2.087	.1	.03*	.1*	*	*	*	*
Main Channel	1.663	.1	.03*	.1*	*	*	*	*
Main Channel	1.394	.1	.03*	.1*	*	*	*	*
Main Channel	1.068	.1	.03*	.1*	*	*	*	*
Main Channel	0.947	.1	.03*	.1*	*	*	*	*
Main Channel	0.928	.1	.03*	.1*	*	*	*	*
*Main Channel	0.920	*Culvert	*	*	*	*	*	*
Main Channel	0.917	.08	.03*	.08*	*	*	*	*
Main Channel	0.912	.025	.03*	.08*	*	*	*	*
Main Channel	0.910	.025	.03*	.08*	*	*	*	*
Main Channel	0.907	.25	.03*	.08*	*	*	*	*
Main Channel	0.901	.025	.035*	.08*	*	*	*	*
Main Channel	0.899	.025	.035*	.08*	*	*	*	*
*Main Channel	0.8985	*Inl Struct*	*	*	*	*	*	*
Main Channel	0.898	.025	.04*	.06*	.045*	.06*	.045*	.06*
Main Channel	0.896	.025	.055*	.08*	*	*	*	*
Main Channel	0.874	.025	.03*	.08*	*	*	*	*
Main Channel	0.864	.025	.03*	.08*	*	*	*	*
Main Channel	0.860	.025	.03*	.08*	*	*	*	*
Main Channel	0.841	.11	.04*	.08*	.11*	.11*	*	*
Main Channel	0.840	.11	.04*	.08*	.11*	.11*	*	*
Main Channel	0.803	.11	.04*	.08*	.11*	.11*	*	*
Main Channel	0.598	.11	.04*	.11*	*	*	*	*
Main Channel	0.174	.11	.04*	.11*	*	*	*	*

SUMMARY OF REACH LENGTHS

River: Jones River

* Reach	* River Sta.	* Left	* Channel	* Right
Main Channel	3.919	100	100*	100*
Main Channel	3.900	62	62*	62*
*Main Channel	3.889	*Bridge	*	*
Main Channel	3.888	26.4	26.4*	26.4*
Main Channel	3.883	30	30*	30*
Main Channel	3.877	61	61*	61*
*Main Channel	3.870	*Bridge	*	*
Main Channel	3.865	100	100*	100*
Main Channel	3.846	940	1100*	1140*
Main Channel	3.638	1480	1720*	1480*

*Main Channel	*	3.312	*	960*	1080*	960*
*Main Channel	*	3.108	*	720*	1120*	1020*
*Main Channel	*	2.896	*	820*	820*	820*
*Main Channel	*	2.740	*	100*	100*	100*
*Main Channel	*	2.721	*	10.6*	10.6*	10.6*
*Main Channel	*	2.720		*Bridge	*	*
*Main Channel	*	2.719	*	100*	100*	100*
*Main Channel	*	2.700	*	1500*	1640*	1800*
*Main Channel	*	2.390	*	1720*	1600*	1040*
*Main Channel	*	2.087	*	1880*	2240*	1320*
*Main Channel	*	1.663	*	1200*	1420*	1320*
*Main Channel	*	1.394	*	1280*	1720*	1100*
*Main Channel	*	1.068	*	840*	640*	440*
*Main Channel	*	0.947	*	100*	100*	100*
*Main Channel	*	0.928	*	61*	61*	61*
*Main Channel	*	0.920		*Culvert	*	*
*Main Channel	*	0.917	*	100*	65*	50*
*Main Channel	*	0.912	*	16*	16*	16*
*Main Channel	*	0.910	*	36*	38*	40*
*Main Channel	*	0.907	*	150*	125*	105*
*Main Channel	*	0.901	*	10*	10*	10*
*Main Channel	*	0.899	*	7*	7*	7*
*Main Channel	*	0.8985		*Inl Struct*	*	*
*Main Channel	*	0.898	*	8*	8*	8*
*Main Channel	*	0.896	*	163*	167*	177*
*Main Channel	*	0.874	*	50*	50*	50*
*Main Channel	*	0.864	*	25*	25*	25*
*Main Channel	*	0.860	*	100*	100*	100*
*Main Channel	*	0.841	*	90*	90*	90*
*Main Channel	*	0.840	*	195*	195*	195*
*Main Channel	*	0.803	*	880*	1080*	880*
*Main Channel	*	0.598	*	2240*	2240*	2240*
*Main Channel	*	0.174	*	*	*	*

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Jones River

* Reach	* River Sta.	* Contr.	* Expan.	*
*Main Channel	* 3.919	* .1*	.3*	*
*Main Channel	* 3.900	* .1*	.3*	*
*Main Channel	* 3.889	* Bridge	*	*
*Main Channel	* 3.888	* .3*	.5*	*
*Main Channel	* 3.883	* .3*	.5*	*
*Main Channel	* 3.877	* .1*	.3*	*
*Main Channel	* 3.870	* Bridge	*	*
*Main Channel	* 3.865	* .1*	.3*	*
*Main Channel	* 3.846	* .1*	.3*	*
*Main Channel	* 3.638	* .1*	.3*	*
*Main Channel	* 3.312	* .1*	.3*	*
*Main Channel	* 3.108	* .1*	.3*	*
*Main Channel	* 2.896	* .1*	.3*	*
*Main Channel	* 2.740	* .1*	.3*	*
*Main Channel	* 2.721	* .1*	.3*	*
*Main Channel	* 2.720	* Bridge	*	*
*Main Channel	* 2.719	* .3*	.5*	*
*Main Channel	* 2.700	* .3*	.5*	*
*Main Channel	* 2.390	* .1*	.3*	*
*Main Channel	* 2.087	* .1*	.3*	*
*Main Channel	* 1.663	* .1*	.3*	*
*Main Channel	* 1.394	* .1*	.3*	*
*Main Channel	* 1.068	* .1*	.3*	*
*Main Channel	* 0.947	* .1*	.3*	*
*Main Channel	* 0.928	* .1*	.3*	*
*Main Channel	* 0.920	* Culvert	*	*
*Main Channel	* 0.917	* .3*	.5*	*
*Main Channel	* 0.912	* .1*	.3*	*
*Main Channel	* 0.910	* .1*	.3*	*
*Main Channel	* 0.907	* .1*	.3*	*
*Main Channel	* 0.901	* .1*	.3*	*
*Main Channel	* 0.899	* .1*	.3*	*
*Main Channel	* 0.8985	* Inl Struct*	*	*
*Main Channel	* 0.898	* .3*	.5*	*
*Main Channel	* 0.896	* .1*	.3*	*
*Main Channel	* 0.874	* .1*	.3*	*

*Main Channel	*	0.864	*	.1*	.3*
*Main Channel	*	0.860	*	.1*	.3*
*Main Channel	*	0.841	*	.1*	.3*
*Main Channel	*	0.840	*	.1*	.3*
*Main Channel	*	0.803	*	.1*	.3*
*Main Channel	*	0.598	*	.3*	.5*
*Main Channel	*	0.174	*	.3*	.5*

Profile Output Table - Summary Output

* Reach	* River Sta	* Profile	* Q Total	* Min Ch El	* W.S. Elev	* Crit W.S.	* E.G. Elev	* Vel Chnl	* Top Width
*	*	*	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/s)	(ft)
* Main Channel	* 0.174	* Mean April	* 55.00	* 13.20	* 18.10	* 14.15	* 18.10	* 0.16	* 124.22
* Main Channel	* 0.174	* Mean Aug	* 17.00	* 13.20	* 18.20	* 13.79	* 18.20	* 0.05	* 125.21
* Main Channel	* 0.174	* 1.5 YR	* 174.00	* 13.20	* 18.20	* 14.71	* 18.20	* 0.47	* 125.21
* Main Channel	* 0.174	* 2 YR	* 207.80	* 13.20	* 18.20	* 14.81	* 18.20	* 0.57	* 125.21
* Main Channel	* 0.174	* FEMA 100	* 940.00	* 13.20	* 18.20	* 16.16	* 18.30	* 2.56	* 125.21
* Main Channel	* 0.598	* Mean April	* 55.00	* 14.80	* 18.11	*	* 18.11	* 0.18	* 631.00
* Main Channel	* 0.598	* Mean Aug	* 17.00	* 14.80	* 18.20	*	* 18.20	* 0.05	* 636.28
* Main Channel	* 0.598	* 1.5 YR	* 174.00	* 14.80	* 18.29	*	* 18.29	* 0.51	* 641.59
* Main Channel	* 0.598	* 2 YR	* 207.80	* 14.80	* 18.33	*	* 18.33	* 0.60	* 643.67
* Main Channel	* 0.598	* FEMA 100	* 940.00	* 14.80	* 19.41	*	* 19.42	* 1.61	* 707.52
* Main Channel	* 0.803	* Mean April	* 46.60	* 15.40	* 18.12	*	* 18.13	* 0.58	* 44.90
* Main Channel	* 0.803	* Mean Aug	* 14.40	* 15.40	* 18.20	*	* 18.20	* 0.17	* 45.77
* Main Channel	* 0.803	* 1.5 YR	* 152.80	* 15.40	* 18.36	*	* 18.41	* 1.67	* 47.49
* Main Channel	* 0.803	* 2 YR	* 182.50	* 15.40	* 18.42	*	* 18.48	* 1.94	* 48.12
* Main Channel	* 0.803	* FEMA 100	* 821.00	* 15.40	* 19.81	*	* 20.17	* 4.79	* 62.97
* Main Channel	* 0.840	* Mean April	* 46.60	* 15.40	* 18.14	*	* 18.15	* 0.57	* 45.14
* Main Channel	* 0.840	* Mean Aug	* 14.40	* 15.40	* 18.20	*	* 18.20	* 0.17	* 45.79
* Main Channel	* 0.840	* 1.5 YR	* 152.80	* 15.40	* 18.52	*	* 18.56	* 1.54	* 49.17
* Main Channel	* 0.840	* 2 YR	* 182.50	* 15.40	* 18.63	*	* 18.67	* 1.75	* 50.30
* Main Channel	* 0.840	* FEMA 100	* 821.00	* 15.40	* 20.54	*	* 20.75	* 3.75	* 94.50
* Main Channel	* 0.841	* Mean April	* 46.60	* 15.40	* 18.15	* 16.20	* 18.16	* 0.57	* 45.25
* Main Channel	* 0.841	* Mean Aug	* 14.40	* 15.40	* 18.20	*	* 18.20	* 0.17	* 45.80
* Main Channel	* 0.841	* 1.5 YR	* 152.80	* 15.40	* 18.58	* 16.73	* 18.62	* 1.50	* 49.84
* Main Channel	* 0.841	* 2 YR	* 182.50	* 15.40	* 18.70	* 16.85	* 18.75	* 1.69	* 51.12
* Main Channel	* 0.841	* FEMA 100	* 821.00	* 15.40	* 20.73	* 18.57	* 20.93	* 3.53	* 105.31
* Main Channel	* 0.860	* Mean April	* 46.60	* 17.00	* 18.24	* 18.24	* 18.56	* 4.54	* 16.55
* Main Channel	* 0.860	* Mean Aug	* 14.40	* 17.00	* 18.18	*	* 18.22	* 1.55	* 15.76
* Main Channel	* 0.860	* 1.5 YR	* 152.80	* 17.00	* 19.00	* 19.00	* 19.51	* 5.72	* 26.68
* Main Channel	* 0.860	* 2 YR	* 182.50	* 17.00	* 19.15	* 19.15	* 19.69	* 5.93	* 28.65
* Main Channel	* 0.860	* FEMA 100	* 821.00	* 17.00	* 20.94	* 20.94	* 21.94	* 8.14	* 59.82
* Main Channel	* 0.864	* Mean April	* 46.60	* 17.00	* 18.64	* 18.24	* 18.75	* 2.59	* 21.92
* Main Channel	* 0.864	* Mean Aug	* 14.40	* 17.00	* 18.23	*	* 18.26	* 1.42	* 16.44
* Main Channel	* 0.864	* 1.5 YR	* 152.80	* 17.00	* 19.50	* 19.00	* 19.71	* 3.66	* 33.36
* Main Channel	* 0.864	* 2 YR	* 182.50	* 17.00	* 19.67	* 19.14	* 19.90	* 3.85	* 35.55
* Main Channel	* 0.864	* FEMA 100	* 821.00	* 17.00	* 21.56	* 20.94	* 22.12	* 6.19	* 75.57
* Main Channel	* 0.874	* Mean April	* 46.60	* 17.00	* 18.77	*	* 18.77	* 0.54	* 75.53
* Main Channel	* 0.874	* Mean Aug	* 14.40	* 17.00	* 18.27	*	* 18.27	* 0.28	* 69.65
* Main Channel	* 0.874	* 1.5 YR	* 152.80	* 17.00	* 19.74	*	* 19.75	* 0.95	* 84.10

* Main Channel	* 0.874	* 2 YR	* 182.50	* 17.00	* 19.92	*	* 19.94	* 1.04	* 85.83
* Main Channel	* 0.874	* FEMA 100	* 821.00	* 17.00	* 22.12	*	* 22.20	* 2.29	* 139.68
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 0.896	* Mean April	* 46.60	* 17.00	* 18.80	*	* 18.82	* 1.04	* 40.17
* Main Channel	* 0.896	* Mean Aug	* 14.40	* 17.00	* 18.29	*	* 18.29	* 0.53	* 27.40
* Main Channel	* 0.896	* 1.5 YR	* 152.80	* 17.00	* 19.77	*	* 19.81	* 1.74	* 47.19
* Main Channel	* 0.896	* 2 YR	* 182.50	* 17.00	* 19.95	*	* 20.01	* 1.90	* 47.78
* Main Channel	* 0.896	* FEMA 100	* 821.00	* 17.00	* 22.11	*	* 22.37	* 4.16	* 52.79
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 0.898	* Mean April	* 46.60	* 17.17	* 18.81	*	* 18.83	* 1.17	* 33.85
* Main Channel	* 0.898	* Mean Aug	* 14.40	* 17.17	* 18.29	*	* 18.30	* 0.62	* 30.76
* Main Channel	* 0.898	* 1.5 YR	* 152.80	* 17.17	* 19.78	*	* 19.84	* 1.99	* 42.93
* Main Channel	* 0.898	* 2 YR	* 182.50	* 17.17	* 19.96	*	* 20.04	* 2.15	* 43.96
* Main Channel	* 0.898	* FEMA 100	* 821.00	* 17.17	* 22.12	*	* 22.42	* 4.42	* 52.37
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 0.8985	* Inl Struct	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 0.899	* Mean April	* 46.60	* 23.09	* 26.12	* 24.40	* 26.12	* 0.59	* 40.60
* Main Channel	* 0.899	* Mean Aug	* 14.40	* 23.09	* 25.81	* 24.13	* 25.81	* 0.22	* 40.60
* Main Channel	* 0.899	* 1.5 YR	* 152.80	* 23.09	* 26.76	* 24.93	* 26.79	* 1.44	* 45.60
* Main Channel	* 0.899	* 2 YR	* 182.50	* 23.09	* 26.89	* 25.03	* 26.93	* 1.63	* 45.60
* Main Channel	* 0.899	* FEMA 100	* 821.00	* 23.09	* 28.84	* 26.52	* 29.09	* 4.13	* 86.55
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 0.901	* Mean April	* 46.60	* 21.72	* 26.12	*	* 26.13	* 0.27	* 53.20
* Main Channel	* 0.901	* Mean Aug	* 14.40	* 21.72	* 25.81	*	* 25.81	* 0.09	* 52.62
* Main Channel	* 0.901	* 1.5 YR	* 152.80	* 21.72	* 26.78	*	* 26.79	* 0.72	* 54.02
* Main Channel	* 0.901	* 2 YR	* 182.50	* 21.72	* 26.93	*	* 26.94	* 0.83	* 54.20
* Main Channel	* 0.901	* FEMA 100	* 821.00	* 21.72	* 29.03	*	* 29.12	* 2.43	* 68.23
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 0.907	* Mean April	* 46.60	* 19.87	* 26.13	*	* 26.13	* 0.14	* 81.63
* Main Channel	* 0.907	* Mean Aug	* 14.40	* 19.87	* 25.81	*	* 25.81	* 0.05	* 79.96
* Main Channel	* 0.907	* 1.5 YR	* 152.80	* 19.87	* 26.79	*	* 26.79	* 0.40	* 83.18
* Main Channel	* 0.907	* 2 YR	* 182.50	* 19.87	* 26.94	*	* 26.94	* 0.46	* 83.52
* Main Channel	* 0.907	* FEMA 100	* 821.00	* 19.87	* 29.11	*	* 29.14	* 1.44	* 91.07
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 0.910	* Mean April	* 46.60	* 19.98	* 26.13	*	* 26.13	* 0.18	* 61.39
* Main Channel	* 0.910	* Mean Aug	* 14.40	* 19.98	* 25.81	*	* 25.81	* 0.06	* 59.57
* Main Channel	* 0.910	* 1.5 YR	* 152.80	* 19.98	* 26.79	*	* 26.80	* 0.52	* 63.91
* Main Channel	* 0.910	* 2 YR	* 182.50	* 19.98	* 26.94	*	* 26.94	* 0.60	* 64.29
* Main Channel	* 0.910	* FEMA 100	* 821.00	* 19.98	* 29.10	*	* 29.15	* 1.86	* 70.55
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 0.912	* Mean April	* 46.60	* 19.98	* 26.13	*	* 26.13	* 0.18	* 61.39
* Main Channel	* 0.912	* Mean Aug	* 14.40	* 19.98	* 25.81	*	* 25.81	* 0.06	* 59.57
* Main Channel	* 0.912	* 1.5 YR	* 152.80	* 19.98	* 26.79	*	* 26.80	* 0.52	* 63.91
* Main Channel	* 0.912	* 2 YR	* 182.50	* 19.98	* 26.94	*	* 26.94	* 0.60	* 64.29
* Main Channel	* 0.912	* FEMA 100	* 821.00	* 19.98	* 29.10	*	* 29.15	* 1.86	* 70.56
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 0.917	* Mean April	* 46.60	* 19.00	* 26.13	*	* 26.13	* 0.25	* 27.00
* Main Channel	* 0.917	* Mean Aug	* 14.40	* 19.00	* 25.81	*	* 25.81	* 0.08	* 27.00
* Main Channel	* 0.917	* 1.5 YR	* 152.80	* 19.00	* 26.79	*	* 26.80	* 0.74	* 27.00
* Main Channel	* 0.917	* 2 YR	* 182.50	* 19.00	* 26.94	*	* 26.95	* 0.87	* 27.00

* Main Channel	* 0.917	* FEMA 100	* 821.00	* 19.00	* 29.06	*	* 29.21	* 3.07	* 27.00	*
*	*	*	*	*	*	*	*	*	*	*
* Main Channel	* 0.920	* Culvert	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*	*
* Main Channel	* 0.928	* Mean April	* 46.60	* 20.00	* 26.12	* 20.97	* 26.13	* 0.54	* 27.50	*
* Main Channel	* 0.928	* Mean Aug	* 14.40	* 20.00	* 25.81	* 20.45	* 25.81	* 0.18	* 19.63	*
* Main Channel	* 0.928	* 1.5 YR	* 152.80	* 20.00	* 26.78	* 22.05	* 26.81	* 1.29	* 67.63	*
* Main Channel	* 0.928	* 2 YR	* 182.50	* 20.00	* 26.93	* 22.28	* 26.96	* 1.42	* 76.61	*
* Main Channel	* 0.928	* FEMA 100	* 821.00	* 20.00	* 29.42	* 25.44	* 29.51	* 2.38	* 155.71	*
*	*	*	*	*	*	*	*	*	*	*
* Main Channel	* 0.947	* Mean April	* 46.60	* 19.00	* 26.13	* 19.76	* 26.13	* 0.12	* 118.17	*
* Main Channel	* 0.947	* Mean Aug	* 14.40	* 19.00	* 25.81	* 19.36	* 25.81	* 0.04	* 112.85	*
* Main Channel	* 0.947	* 1.5 YR	* 152.80	* 19.00	* 26.81	*	* 26.81	* 0.34	* 129.76	*
* Main Channel	* 0.947	* 2 YR	* 182.50	* 19.00	* 26.96	*	* 26.96	* 0.39	* 132.36	*
* Main Channel	* 0.947	* FEMA 100	* 821.00	* 19.00	* 29.50	*	* 29.52	* 1.10	* 268.30	*
*	*	*	*	*	*	*	*	*	*	*
* Main Channel	* 1.068	* Mean April	* 46.60	* 26.01	* 26.15	* 26.15	* 26.25	* 3.87	* 119.08	*
* Main Channel	* 1.068	* Mean Aug	* 14.40	* 26.01	* 26.04	* 26.04	* 26.09	* 2.05	* 95.30	*
* Main Channel	* 1.068	* 1.5 YR	* 152.80	* 26.01	* 26.81	*	* 26.83	* 1.60	* 281.83	*
* Main Channel	* 1.068	* 2 YR	* 182.50	* 26.01	* 26.97	*	* 26.99	* 1.40	* 326.07	*
* Main Channel	* 1.068	* FEMA 100	* 821.00	* 26.01	* 29.55	*	* 29.56	* 1.13	* 479.92	*
*	*	*	*	*	*	*	*	*	*	*
* Main Channel	* 1.394	* Mean April	* 46.60	* 20.50	* 26.27	*	* 26.27	* 0.22	* 280.42	*
* Main Channel	* 1.394	* Mean Aug	* 14.40	* 20.50	* 26.10	*	* 26.10	* 0.07	* 265.61	*
* Main Channel	* 1.394	* 1.5 YR	* 152.80	* 20.50	* 26.90	*	* 26.91	* 0.59	* 334.78	*
* Main Channel	* 1.394	* 2 YR	* 182.50	* 20.50	* 27.07	*	* 27.08	* 0.68	* 349.22	*
* Main Channel	* 1.394	* FEMA 100	* 821.00	* 20.50	* 29.67	*	* 29.68	* 1.59	* 571.54	*
*	*	*	*	*	*	*	*	*	*	*
* Main Channel	* 1.663	* Mean April	* 35.60	* 22.80	* 26.27	*	* 26.27	* 0.19	* 206.73	*
* Main Channel	* 1.663	* Mean Aug	* 11.00	* 22.80	* 26.10	*	* 26.10	* 0.06	* 175.64	*
* Main Channel	* 1.663	* 1.5 YR	* 125.30	* 22.80	* 26.93	*	* 26.93	* 0.49	* 280.01	*
* Main Channel	* 1.663	* 2 YR	* 149.70	* 22.80	* 27.10	*	* 27.10	* 0.55	* 293.53	*
* Main Channel	* 1.663	* FEMA 100	* 650.00	* 22.80	* 29.74	*	* 29.75	* 1.06	* 499.47	*
*	*	*	*	*	*	*	*	*	*	*
* Main Channel	* 2.087	* Mean April	* 35.60	* 24.80	* 26.24	*	* 26.33	* 2.41	* 20.48	*
* Main Channel	* 2.087	* Mean Aug	* 11.00	* 24.80	* 26.09	*	* 26.11	* 0.93	* 18.34	*
* Main Channel	* 2.087	* 1.5 YR	* 125.30	* 24.80	* 26.90	*	* 27.17	* 4.18	* 25.53	*
* Main Channel	* 2.087	* 2 YR	* 149.70	* 24.80	* 27.08	*	* 27.37	* 4.31	* 25.97	*
* Main Channel	* 2.087	* FEMA 100	* 650.00	* 24.80	* 29.83	*	* 30.06	* 4.45	* 181.43	*
*	*	*	*	*	*	*	*	*	*	*
* Main Channel	* 2.390	* Mean April	* 35.60	* 27.00	* 29.12	*	* 29.18	* 2.08	* 42.73	*
* Main Channel	* 2.390	* Mean Aug	* 11.00	* 27.00	* 27.81	*	* 27.86	* 1.83	* 7.81	*
* Main Channel	* 2.390	* 1.5 YR	* 125.30	* 27.00	* 30.11	* 29.51	* 30.17	* 2.61	* 302.59	*
* Main Channel	* 2.390	* 2 YR	* 149.70	* 27.00	* 30.22	* 29.67	* 30.28	* 2.69	* 305.39	*
* Main Channel	* 2.390	* FEMA 100	* 650.00	* 27.00	* 31.72	*	* 31.77	* 3.56	* 341.25	*
*	*	*	*	*	*	*	*	*	*	*
* Main Channel	* 2.700	* Mean April	* 35.60	* 26.90	* 29.83	*	* 29.89	* 1.94	* 11.16	*
* Main Channel	* 2.700	* Mean Aug	* 11.00	* 26.90	* 28.72	*	* 28.76	* 1.41	* 7.91	*
* Main Channel	* 2.700	* 1.5 YR	* 125.30	* 26.90	* 30.94	*	* 31.06	* 3.16	* 173.06	*
* Main Channel	* 2.700	* 2 YR	* 149.70	* 26.90	* 31.09	*	* 31.23	* 3.42	* 183.36	*
* Main Channel	* 2.700	* FEMA 100	* 650.00	* 26.90	* 32.85	* 31.93	* 33.16	* 6.23	* 300.93	*

* Main Channel	* 3.865	* Mean April	* 0.80	* 32.20	* 33.21	* 32.44	* 33.21	* 0.20	* 5.67
* Main Channel	* 3.865	* Mean Aug	* 0.20	* 32.20	* 33.11	* 32.34	* 33.11	* 0.06	* 5.47
* Main Channel	* 3.865	* 1.5 YR	* 38.00	* 32.20	* 34.45	* 33.64	* 34.60	* 3.20	* 7.38
* Main Channel	* 3.865	* 2 YR	* 45.30	* 32.20	* 34.58	* 33.78	* 34.78	* 3.54	* 7.48
* Main Channel	* 3.865	* FEMA 100	* 70.00	* 32.20	* 34.84	* 34.16	* 35.20	* 4.84	* 7.65
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 3.870		Bridge	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 3.877	* Mean April	* 0.80	* 32.20	* 33.21	* 32.44	* 33.21	* 0.20	* 5.67
* Main Channel	* 3.877	* Mean Aug	* 0.20	* 32.20	* 33.12	* 32.34	* 33.12	* 0.06	* 5.47
* Main Channel	* 3.877	* 1.5 YR	* 38.00	* 32.20	* 34.62	* 33.64	* 34.75	* 2.92	* 7.50
* Main Channel	* 3.877	* 2 YR	* 45.30	* 32.20	* 34.78	* 33.78	* 34.94	* 3.22	* 7.61
* Main Channel	* 3.877	* FEMA 100	* 70.00	* 32.20	* 35.17	* 34.16	* 35.44	* 4.20	* 7.89
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 3.883	* Mean April	* 0.80	* 32.60	* 33.21	*	* 33.21	* 0.05	* 41.51
* Main Channel	* 3.883	* Mean Aug	* 0.20	* 32.60	* 33.12	*	* 33.12	* 0.01	* 38.18
* Main Channel	* 3.883	* 1.5 YR	* 38.00	* 32.60	* 34.79	*	* 34.79	* 0.42	* 73.81
* Main Channel	* 3.883	* 2 YR	* 45.30	* 32.60	* 34.99	*	* 34.99	* 0.45	* 78.91
* Main Channel	* 3.883	* FEMA 100	* 70.00	* 32.60	* 35.52	*	* 35.53	* 0.54	* 92.85
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 3.888	* Mean April	* 0.80	* 33.00	* 33.21	* 33.10	* 33.21	* 0.58	* 10.16
* Main Channel	* 3.888	* Mean Aug	* 0.20	* 33.00	* 33.11	* 33.05	* 33.12	* 0.34	* 7.03
* Main Channel	* 3.888	* 1.5 YR	* 38.00	* 33.00	* 34.79	* 33.71	* 34.80	* 0.71	* 45.26
* Main Channel	* 3.888	* 2 YR	* 45.30	* 33.00	* 34.98	* 33.77	* 34.99	* 0.73	* 46.78
* Main Channel	* 3.888	* FEMA 100	* 70.00	* 33.00	* 35.52	* 33.92	* 35.53	* 0.79	* 50.95
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 3.889		Bridge	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 3.900	* Mean April	* 0.80	* 33.00	* 33.33	* 33.10	* 33.34	* 0.27	* 14.42
* Main Channel	* 3.900	* Mean Aug	* 0.20	* 33.00	* 33.20	* 33.05	* 33.20	* 0.15	* 9.95
* Main Channel	* 3.900	* 1.5 YR	* 38.00	* 33.00	* 34.80	* 33.70	* 34.81	* 0.70	* 45.39
* Main Channel	* 3.900	* 2 YR	* 45.30	* 33.00	* 35.00	* 33.76	* 35.01	* 0.72	* 46.90
* Main Channel	* 3.900	* FEMA 100	* 70.00	* 33.00	* 35.53	* 33.93	* 35.54	* 0.78	* 51.07
*	*	*	*	*	*	*	*	*	*
* Main Channel	* 3.919	* Mean April	* 0.80	* 33.00	* 33.39	* 33.17	* 33.39	* 0.39	* 8.42
* Main Channel	* 3.919	* Mean Aug	* 0.20	* 33.00	* 33.24	* 33.10	* 33.24	* 0.23	* 6.86
* Main Channel	* 3.919	* 1.5 YR	* 38.00	* 33.00	* 34.84	* 33.96	* 34.88	* 1.67	* 19.08
* Main Channel	* 3.919	* 2 YR	* 45.30	* 33.00	* 35.02	* 34.04	* 35.07	* 1.70	* 50.98
* Main Channel	* 3.919	* FEMA 100	* 70.00	* 33.00	* 35.56	* 34.29	* 35.59	* 1.55	* 129.21
