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

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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
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PROJECT DATA
Project Title: PINE CREEK CHANNEL 2003
Project File : PCCSV.prj
Run Date and Time: 2/25/2003 1:40:22 PM

Project in English units

PLAN DATA

Plan Title: Plan 17
Plan File : x:\2870000.all\2871611\HYDRO\HECRAS\PCCSV.p17

Geometry Title: WEIR SECTIONS 2002
Geometry File : x:\2870000.all\2871611\HYDRO\HECRAS\PCCSV.g03

Flow Title : 2003 FLOW DATA
Flow File : x:\2870000.all\2871611\HYDRO\HECRAS\PCCSV.f01

Plan Summary Information:
Number of: Cross Sections = 54 Mulitple Openings = 0
Culverts = 0 Inline Weirs = 16
Bridges = 0

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: Mixed Flow

FLOW DATA

Flow Title: 2003 FLOW DATA
Flow File : x:\2870000.all\2871611\HYDRO\HECRAS\PCCSV.f01

Flow Data (cfs)

River	Reach	RS	2-yr PF 1	5-yr PF 2	10-yr PF 3	25-yr PF 4	50-yr PF 5	100-yr PF 6	DOM. PF 7
PINE CREEK N	2	290	124	157	170	194	208	224	109
PINE CREEK N	2	100	130	166	194	241	274	309	119
PINE CREEK N	2	20	137	197	244	323	380	437	139

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
PINE CREEK N	2	PF 1	Normal S = .02	Normal S = .005

GEOMETRY DATA

Geometry Title: WEIR SECTIONS 2002
Geometry File : x:\2870000.all\2871611\HYDRO\HECRAS\PCCSV.g03

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 290

INPUT
Description: JUST DOWN STREAM OF DF "F" OUTFALL
Station Elevation Data num= 6

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
53	6910	79	6904	86	6903	114	6903	123	6904
143	6910								

Manning's n Values num= 1

Sta	n Val
53	.06

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
53	143	30	40	54	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 280

INPUT

Description:
Station Elevation Data num= 6

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
30	6908.5	47	6908	57	6906	64	6904	73	6902.2
117	6908								

Manning's n Values num= 1

Sta	n Val
30	.06

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
30	117	30	45	55	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 275

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
55	6906	66	6904	73	6902	82	6900	100	6900
117	6900.2	122	6902	126	6904	132	6906		

Manning's n Values num= 1

Sta	n Val
55	.06

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
55	132	100	125	145	.1	.3

INLINE WEIR RIVER: PINE CREEK N
REACH: 2 RS: 274

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 2
Weir Coefficient = 3
Bridge Deck/Roadway Skew =
Weir Embankment Coordinates num = 2

Sta	Elev	Sta	Elev
72	6902	123	6902

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 = 6902
Weir crest shape = Broad Crested

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 270

INPUT
Description:
Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
46	6906	70	6898	73	6896	108	6896	125	6898
140	6900	146	6901.5	175	6902	196	6904	215	6906

```
Manning's n Values          num=        3
     Sta   n Val      Sta   n Val      Sta   n Val
      46     .06       73     .03      108     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
            46     215               280     225     180             .1       .3

INLINE WEIR             RIVER: PINE CREEK N
REACH: 2                   RS: 269.9

INPUT
Description:
Distance from Upstream XS =       .1
Deck/Roadway Width        =        2
Weir Coefficient          =        3
Bridge Deck/Roadway Skew  =
 Weir Embankment Coordinates    num =         2
     Sta     Elev      Sta     Elev
      70     6898      125     6898

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           =    6898
Weir crest shape                              = Broad Crested


CROSS SECTION           RIVER: PINE CREEK N
REACH: 2                   RS: 260

INPUT
Description: EXIST'G POND  PROPOSED SPILLWAY
Station Elevation Data    num=        7
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
      72     6902       75     6899       84     6896      100     6896      116     6896
     125     6899      128     6902

Manning's n Values          num=        1
     Sta   n Val
      72     .075

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
            72     125               45      60      68             .1       .3

CROSS SECTION           RIVER: PINE CREEK N
REACH: 2                   RS: 250

INPUT
Description: IN RUN DOWN
Station Elevation Data    num=        4
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
     174     6891    184.5     6888    215.5     6888      236     6891

Manning's n Values          num=        1
     Sta   n Val
     174     .075

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

	174	236		48	50	50		.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 240

INPUT
Description: SPLASH POOL
Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
66	6886	72	6884	78	6882	88	6880	91	6879
117	6879	120	6880	130	6882	136	6884	142	6886

Manning's n Values num= 1

Sta	n Val
66	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
66	142	25	25	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 235

INPUT
Description: END OF SPLASH POOL
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
63	6886	75	6884	79	6882	85	6881.2	125	6881.2
129	6882	134	6884	140	6886				

Manning's n Values num= 1

Sta	n Val
63	.07

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
63	140	103	102	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 230

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
60	6888	73	6884	78	6880	86	6878	100	6877.2
104	6878	120	6880	138	6888				

Manning's n Values num= 1

Sta	n Val
60	.07

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
86	104	220	225	240	.1	.3

INLINE WEIR RIVER: PINE CREEK N
REACH: 2 RS: 229

INPUT
Description:
Distance from Upstream XS = .1

```
Deck/Roadway Width          =        2
Weir Coefficient            =        3
Bridge Deck/Roadway Skew    =
 Weir Embankment Coordinates    num =         2
     Sta     Elev      Sta     Elev
      78     6879      113     6879

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          =     6879
Weir crest shape                             = Broad Crested


CROSS SECTION           RIVER: PINE CREEK N
REACH: 2                   RS: 220

INPUT
Description:
Station Elevation Data     num=       10
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
      95     6880      170     6880      183     6874      190     6872      200   6870.9
     220     6872      231     6876      235   6876.9      252     6876      281     6880

Manning's n Values         num=        3
     Sta    n Val      Sta    n Val      Sta    n Val
      95     .032      170      .05      235     .032

Bank Sta: Left   Right    Lengths: Left Channel   Right      Coeff Contr.    Expan.
           183     252                  25       25       25              .1       .3

INLINE WEIR             RIVER: PINE CREEK N
REACH: 2                   RS: 219

INPUT
Description:
Distance from Upstream XS =       .1
Deck/Roadway Width        =        2
Weir Coefficient          =        3
Bridge Deck/Roadway Skew  =
 Weir Embankment Coordinates    num =         2
     Sta     Elev      Sta     Elev
     181     6874      227     6874

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          =     6874
Weir crest shape                             = Broad Crested


CROSS SECTION           RIVER: PINE CREEK N
REACH: 2                   RS: 217

INPUT
Description:
Station Elevation Data     num=        6
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
      73     6875       87     6870       96   6869.6      105     6870      118     6874
```

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    126    6875

Manning's n Values        num=       1
     Sta   n Val
      73     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           73     126               33      31      23            .1        .3

CROSS SECTION          RIVER: PINE CREEK N
REACH: 2                  RS: 215

INPUT
Description: SECTION D
Station Elevation Data    num=       7
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
      70    6874      74    6872      78    6870     100  6868.7     107    6870
     120    6872     138    6874

Manning's n Values        num=       1
     Sta   n Val
      70    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           70     120               60      50      45            .1        .3

INLINE WEIR            RIVER: PINE CREEK N
REACH: 2                  RS: 214

INPUT
Description:
Distance from Upstream XS =       .1
Deck/Roadway Width        =       2
Weir Coefficient          =       3
Bridge Deck/Roadway Skew  =
 Weir Embankment Coordinates    num =        2
     Sta    Elev     Sta    Elev
      74    6871     115    6871

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         =    6871
Weir crest shape                            = Broad Crested


CROSS SECTION          RIVER: PINE CREEK N
REACH: 2                  RS: 213

INPUT
Description:
Station Elevation Data    num=      10
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
      68    6874      70    6872      74    6870      79    6868      93    6866
     100  6865.8     105    6866     118    6870     125    6872     139    6874

Manning's n Values        num=       1
     Sta   n Val
      68    .045
```

```
Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
            68     139                73      70      70             .1      .3

INLINE WEIR            RIVER: PINE CREEK N
REACH: 2                  RS: 212.9

INPUT
Description:
Distance from Upstream XS =       .1
Deck/Roadway Width        =       2
Weir Coefficient          =       3
Bridge Deck/Roadway Skew  =
 Weir Embankment Coordinates    num =        2
     Sta     Elev      Sta     Elev
      77     6868      113     6868

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         =    6868
Weir crest shape                            = Broad Crested


CROSS SECTION          RIVER: PINE CREEK N
REACH: 2                  RS: 212

INPUT
Description:
Station Elevation Data    num=      11
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
      68     6872       73     6870       76     6868       82     6866       87     6864
     100   6862.7      114     6864      119     6866      127     6868      134     6870
     143     6872

Manning's n Values        num=       1
     Sta    n Val
      68     .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
            68     143                32      32      32             .1      .3

INLINE WEIR            RIVER: PINE CREEK N
REACH: 2                  RS: 211.9

INPUT
Description:
Distance from Upstream XS =       .1
Deck/Roadway Width        =       2
Weir Coefficient          =       3
Bridge Deck/Roadway Skew  =
 Weir Embankment Coordinates    num =        2
     Sta     Elev      Sta     Elev
      84   6864.5      117   6864.5

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         =  6864.5
```

Weir crest shape = Broad Crested

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 210

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
70	6870	75	6868	80	6866	85	6864	110	6862
120	6864	126	6866	132	6868	137	6870		

Manning's n Values num= 1

Sta	n Val
70	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
75	132	127	129	135	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 200

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
103	6862	109	6860.2	123	6860.2	126	6860	135	6857.8
142	6858	156	6860	183	6862				

Manning's n Values num= 1

Sta	n Val
103	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
103	183	66	80	86	.1	.3

INLINE WEIR RIVER: PINE CREEK N
REACH: 2 RS: 199.9

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 2
Weir Coefficient = 3
Bridge Deck/Roadway Skew =
Weir Embankment Coordinates num = 2

Sta	Elev	Sta	Elev
123	6860	158	6860

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 = 6860
Weir crest shape = Broad Crested

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 190

```
INPUT
Description:
Station Elevation Data    num=      10
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
     113     6860      116     6858      140   6857.6      150     6858      156     6858
     164     6856      172   6855.5      179     6856      187     6858      210     6860

Manning's n Values        num=      1
     Sta    n Val
     113     .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.    Expan.
           113     187                52      62      70             .1       .3

CROSS SECTION          RIVER: PINE CREEK N
REACH: 2                  RS: 180

INPUT
Description:
Station Elevation Data    num=      9
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
     125     6860      133     6858      155     6856      170     6855      187     6855
     212   6854.3      218     6856      243     6858      253     6860

Manning's n Values        num=      1
     Sta    n Val
     125     .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.    Expan.
           133     243                50      64      78             .1       .3

INLINE WEIR            RIVER: PINE CREEK N
REACH: 2                  RS: 179.9

INPUT
Description:
Distance from Upstream XS =       .1
Deck/Roadway Width        =       2
Weir Coefficient          =       3
Bridge Deck/Roadway Skew  =
 Weir Embankment Coordinates    num =        2
     Sta     Elev      Sta     Elev
     153     6856      222     6856

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        =    6856
Weir crest shape                           = Broad Crested


CROSS SECTION          RIVER: PINE CREEK N
REACH: 2                  RS: 170

INPUT
Description:
Station Elevation Data    num=      8
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
```

100	6858	106	6856	113	6854	117	6852	140	6851.8
166	6852	173	6854	200	6856				

Manning's n Values num= 2

Sta	n Val	Sta	n Val
100	.045	173	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	200	88	100	112	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 160

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
34	6858	40	6856	62	6852	80	6851	110	6851
135	6852	170	6854	179	6856	184	6858		

Manning's n Values num= 1

Sta	n Val
34	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
40	179	48	50	60	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 150

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
56	6856	68	6854	76	6851.5	90	6850	100	6849.9
117	6850	124	6850.8	130	6852	149	6856		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
56	.04	90	.04	124	.04

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
56	149	105	95	80	.1	.3

INLINE WEIR RIVER: PINE CREEK N
REACH: 2 RS: 149.9

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 2
Weir Coefficient = 3
Bridge Deck/Roadway Skew =
Weir Embankment Coordinates num = 2

Sta	Elev	Sta	Elev
79	6851	127	6851

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 = 6851
Weir crest shape = Broad Crested

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 140.1

INPUT
Description: (N CHANGE BNDY)
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
63	6852	71	6850	73	6849.7	100	6848.6	126	6848.6
141	6850	156	6852						

Manning's n Values num= 2

Sta	n Val	Sta	n Val
63	.035	73	.04

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
63	156	.1	.1	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 140

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
63	6852	71	6850	73	6849.7	100	6848.6	126	6848.6
141	6850	156	6852						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
63	.035	71	.07	126	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
63	156	138	124	105	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 130.1

INPUT
Description: (N CHANGE BNDY)
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
63	6850	68	6848	81	6844	100	6845	119	6845.4
134	6846	150	6848	180	6850				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
63	.035	81	.06	134	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
68	150	.1	.1	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 130

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
63	6850	68	6848	81	6844	100	6845	119	6845.4
134	6846	150	6848	180	6850				

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
63	.035	81	.05	119	.055	150	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
68	150	94	110	126	.1	.3

INLINE WEIR RIVER: PINE CREEK N
REACH: 2 RS: 129

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 2
Weir Coefficient = 3
Bridge Deck/Roadway Skew =
Weir Embankment Coordinates num = 2

Sta	Elev	Sta	Elev
71	6846	136	6846

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 = 6846
Weir crest shape = Broad Crested

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 120.1

INPUT
Description: (N CHANGE BNDY)
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
30	6845	67	6844	82	6842	85	6841.8	100	6841
115	6841.6	117	6842	130	6844	135	6845		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
30	.35	67	.055	82	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
67	130	.1	.1	.1	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 120

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
30	6845	67	6844	82	6842	85	6841.8	100	6841

115	6841.6	117	6842	130	6844	135	6845

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
30	.035	67	.035	82	.045	117	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
67	130	100	145	160	.1	.3

INLINE WEIR RIVER: PINE CREEK N
REACH: 2 RS: 119

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 2
Weir Coefficient = 3
Bridge Deck/Roadway Skew =
Weir Embankment Coordinates num = 2

Sta	Elev	Sta	Elev
80	6842	119	6842

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 = 6842
Weir crest shape = Broad Crested

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 110

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
67	6842	80	6838	88	6837	100	6836.7	112	6836.9
121	6838	130	6840	162	6842				

Manning's n Values num= 2

Sta	n Val	Sta	n Val
67	.045	88	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
67	162	110	102	80	.1	.3

INLINE WEIR RIVER: PINE CREEK N
REACH: 2 RS: 109.9

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 2
Weir Coefficient = 3
Bridge Deck/Roadway Skew =
Weir Embankment Coordinates num = 2

Sta	Elev	Sta	Elev
74	6838	124	6838

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 = 6838
Weir crest shape = Broad Crested

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 100

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
65	6842	77	6836	84	6834.2	100	6834.2	116	6834.2
127	6836	140	6838	165	6840	187	6842		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
65	.35	84	.045	116	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
77	127	107	102	97	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 90

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
63	6840	69	6836	84	6832	100	6831.7	116	6832
131	6834	147	6836	157	6838	170	6840		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
63	.035	84	.045	116	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
69	147	87	89	95	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 80.1

INPUT
Description: (N CHANGE BNDY)
Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
68	6836	74	6834	80	6832	93	6830	100	6829.4
115	6828	119	6828	138	6832	144	6834	148	6836

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
68	.035	80	.045	119	.06

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
74	144	.1	.1	.1	.1	.3

CROSS SECTION RIVER: PINE CREEK N

REACH: 2 RS: 80

INPUT
Description:
Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
68	6836	74	6834	80	6832	93	6830	100	6829.4
115	6828	119	6828	138	6832	144	6834	148	6836

Manning's n Values num= 2

Sta	n Val	Sta	n Val
68	.035	80	.04

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
74	144	58	70	70	.1	.3

INLINE WEIR RIVER: PINE CREEK N
REACH: 2 RS: 79.9

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 2
Weir Coefficient = 3
Bridge Deck/Roadway Skew =
Weir Embankment Coordinates num = 2

Sta	Elev	Sta	Elev
90	6830	132	6830

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 = 6830
Weir crest shape = Broad Crested

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 70.1

INPUT
Description: (N CHANGE BNDY)
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
32	6834	70	6830	80	6828	90	6828	107	6826
110	6826	115	6828	130	6830	153	6834		

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
32	.035	80	.04	130	.035	153	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
70	130	.1	.1	.1	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 70

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
32	6834	70	6830	80	6828	90	6828	107	6826
110	6826	115	6828	130	6830	153	6834		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
32	.035	70	.04	110	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
70	130	55	55	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 65

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
67	6832	75	6830	80	6828	90	6826	100	6824.3
115	6826	141	6828	154	6830	165	6832		

Manning's n Values num= 1

Sta	n Val
67	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
80	141	85	83	.1	.3

INLINE WEIR RIVER: PINE CREEK N
REACH: 2 RS: 64.9

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 2
Weir Coefficient = 3
Bridge Deck/Roadway Skew =
Weir Embankment Coordinates num = 2

Sta	Elev	Sta	Elev
88	6826	116	6826

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 = 6826
Weir crest shape = Broad Crested

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 60.1

INPUT
Description: (N CHANGE BNDY)
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
72	6830	84	6824	88	6822.5	100	6822	112	6822.1
116	6824	154	6830						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
72	.035	88	.035	112	.035	154	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
84	116	.1	.1	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 60

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
72	6830	84	6824	88	6822.5	100	6822	112	6822.1
116	6824	154	6830						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
72	.035	84	.05	112	.035	154	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
84	116	123	120	121	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 50.1

INPUT
Description: (N CHANGE BNDY)
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
57	6826	76	6822	83	6820.9	100	6820.8	116	6820.9
117	6822	126	6824	134	6826				

Manning's n Values num= 2

Sta	n Val	Sta	n Val
57	.035	116	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
57	126	.1	.1	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 50

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
57	6826	76	6822	83	6820.9	100	6820.8	116	6820.9
117	6822	126	6824	134	6826				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
57	.035	83	.04	116	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
57	126	112	116	121	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 40.1

INPUT
Description: (N CHANGE BNDY)
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
26	6826	54	6822	68	6820	71	6819.3	100	6819.3
129	6819.5	137	6820	151	6824	157	6826		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
26	.035	71	.04	129	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
54	151	.1	.1	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 40

INPUT
Description:
Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
26	6826	54	6822	60	6821	68	6820	71	6819.3
100	6819.3	129	6819.5	137	6820	151	6824	157	6826

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
26	.06	54	.045	60	.032	129	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
54	151	42	47	52	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 35

INPUT
Description: SECTION C
Station Elevation Data num= 5

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
50	6822	68	6820	100	6818.7	141	6820	153	6822

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
50	.05	68	.035	141	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
50	153	36	33	25	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 34

INPUT
Description:
Station Elevation Data num= 6

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
25	6824	50	6820	63	6818.2	117	6818.4	130	6820
143	6824								

Manning's n Values num= 2

Sta	n Val	Sta	n Val
25	.05	63	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
25	143	56	56	.1	.3

INLINE WEIR RIVER: PINE CREEK N
REACH: 2 RS: 33

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 2
Weir Coefficient = 3
Bridge Deck/Roadway Skew =
Weir Embankment Coordinates num = 5

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
50	6820	60	6819.7	85	6819.7	120	6819.7	130	6820

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 = 6819.7
Weir crest shape = Broad Crested

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 30.1

INPUT
Description: (N CHANGE BNDY)
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
51	6822	60	6820	70	6818	75	6817.1	100	6816.8
125	6817.3	130	6818	137	6820	147	6822		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
51	.035	60	.055	70	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
60	137	.1	.1	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 30

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
51	6822	60	6820	70	6818	75	6817.1	100	6816.8
125	6817.3	130	6818	137	6820	147	6822		

Manning's n Values num= 2

Sta	n Val	Sta	n Val
51	.035	60	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
51	137	72	72	73	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 20

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
49	6820	71	6816	79	6814.6	100	6814.9	121	6814.5
131	6816	154	6820						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
49	.035	71	.045	131	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
49	154	67	61	50	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 15

INPUT
Description: EXISTING SMALL POND
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6818	26	6816	40	6814	44	6812	100	6812
140	6814	157	6818						

Manning's n Values num= 2

Sta	n Val	Sta	n Val
0	.032	26	.032

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
40	140	48	44	40	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 11

INPUT
Description: CONCRETE GRADE CONTROL STRUCTURE 25.5
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
42	6820	50	6818	77	6816	80	6815	120	6815
125	6816	139	6820						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
42	.035	42	.035	139	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
42	139	30	30	30	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 9.1

INPUT
Description: END OF RIPRAP RUNDOWN 25.4
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

28	6820	37	6818	45	6816	65	6812	131	6812
185	6814	200	6816	205	6818	210	6820		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
28	.045	45	.045	185	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
45	185	.1	.1	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 9

INPUT
Description: END OF RIPRAP RUNDOWN 25.4
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
28	6820	37	6818	45	6816	65	6812	131	6812
185	6814	200	6816	210	6820				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
28	.03	45	.03	185	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
45	185	120	155	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 7

INPUT
Description: RUNDOWN 25.3
Station Elevation Data num= 4

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
60	6816	90	6809	110	6809	140	6816

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
60	.035	60	.035	140	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
60	140	62	62	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 5

INPUT
Description: RUNDOWN 25.2
Station Elevation Data num= 4

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
75	6801	90	6798	110	6798	125	6801

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
75	.035	75	.045	125	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
75	125	60	60	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 3

INPUT
Description: DF "E" BOTTOM OF RUNDOWN
Station Elevation Data num= 4

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
60	6791	90	6786	110	6786	140	6791

Manning's n Values num= 1

Sta	n Val
60	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
60	140	40	40	.1	.3

CROSS SECTION RIVER: PINE CREEK N
REACH: 2 RS: 1

INPUT
Description: BOTTOM OF DF "E"
Station Elevation Data num= 4

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
30	6792	48	6788	184	6788	230	6792

Manning's n Values num= 1

Sta	n Val
30	.03

Bank Sta: Left	Right	Coeff Contr.	Expan.
30	230	.1	.3

SUMMARY OF MANNING'S N VALUES

River:PINE CREEK N

Reach	River Sta.	n1	n2	n3	n4
2	290	.06			
2	280	.06			
2	275	.06			
2	274	Inline Weir			
2	270	.06	.03	.06	
2	269.9	Inline Weir			
2	260	.075			
2	250	.075			
2	240	.045			
2	235	.07			
2	230	.07			
2	229	Inline Weir			
2	220	.032	.05	.032	
2	219	Inline Weir			
2	217	.05			
2	215	.045			
2	214	Inline Weir			
2	213	.045			
2	212.9	Inline Weir			

2	212	.045			
2	211.9	Inline Weir			
2	210	.045			
2	200	.045			
2	199.9	Inline Weir			
2	190	.045			
2	180	.045			
2	179.9	Inline Weir			
2	170	.045	.03		
2	160	.045			
2	150	.04	.04	.04	
2	149.9	Inline Weir			
2	140.1	.035	.04		
2	140	.035	.07	.035	
2	130.1	.035	.06	.035	
2	130	.035	.05	.055	.035
2	129	Inline Weir			
2	120.1	.35	.055	.045	
2	120	.035	.035	.045	.035
2	119	Inline Weir			
2	110	.045	.045		
2	109.9	Inline Weir			
2	100	.35	.045	.035	
2	90	.035	.045	.035	
2	80.1	.035	.045	.06	
2	80	.035	.04		
2	79.9	Inline Weir			
2	70.1	.035	.04	.035	.035
2	70	.035	.04	.035	
2	65	.035			
2	64.9	Inline Weir			
2	60.1	.035	.035	.035	.035
2	60	.035	.05	.035	.035
2	50.1	.035	.055		
2	50	.035	.04	.055	
2	40.1	.035	.04	.055	
2	40	.06	.045	.032	.035
2	35	.05	.035	.03	
2	34	.05	.035		
2	33	Inline Weir			
2	30.1	.035	.055	.035	
2	30	.035	.055		
2	20	.035	.045	.035	
2	15	.032	.032		
2	11	.035	.035	.035	
2	9.1	.045	.045	.045	
2	9	.03	.03	.03	
2	7	.035	.035	.035	
2	5	.035	.045	.035	
2	3	.045			
2	1	.03			

SUMMARY OF REACH LENGTHS

River: PINE CREEK N

Reach	River Sta.	Left	Channel	Right
2	290	30	40	54
2	280	30	45	55
2	275	100	125	145
2	274	Inline Weir		
2	270	280	225	180
2	269.9	Inline Weir		
2	260	45	60	68
2	250	48	50	50
2	240	25	25	25
2	235	103	102	100
2	230	220	225	240
2	229	Inline Weir		
2	220	25	25	25
2	219	Inline Weir		
2	217	33	31	23
2	215	60	50	45
2	214	Inline Weir		
2	213	73	70	70
2	212.9	Inline Weir		
2	212	32	32	32
2	211.9	Inline Weir		
2	210	127	129	135
2	200	66	80	86
2	199.9	Inline Weir		
2	190	52	62	70
2	180	50	64	78
2	179.9	Inline Weir		
2	170	88	100	112
2	160	48	50	60
2	150	105	95	80
2	149.9	Inline Weir		
2	140.1	.1	.1	.1
2	140	138	124	105
2	130.1	.1	.1	.1
2	130	94	110	126
2	129	Inline Weir		
2	120.1	.1	.1	.1
2	120	100	145	160
2	119	Inline Weir		
2	110	110	102	80
2	109.9	Inline Weir		
2	100	107	102	97
2	90	87	89	95
2	80.1	.1	.1	.1
2	80	58	70	70
2	79.9	Inline Weir		
2	70.1	.1	.1	.1
2	70	55	55	55
2	65	85	83	60
2	64.9	Inline Weir		
2	60.1	.1	.1	.1
2	60	123	120	121
2	50.1	.1	.1	.1
2	50	112	116	121
2	40.1	.1	.1	.1
2	40	42	47	52
2	35	36	33	25

2	34	56	56	56
2	33	Inline Weir		
2	30.1	.1	.1	.1
2	30	72	72	73
2	20	67	61	50
2	15	48	44	40
2	11	30	30	30
2	9.1	.1	.1	.1
2	9	120	155	195
2	7	62	62	62
2	5	60	60	60
2	3	40	40	40
2	1			

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: PINE CREEK N

Reach	River Sta.	Contr.	Expan.
2	290	.1	.3
2	280	.1	.3
2	275	.1	.3
2	274	Inline Weir	
2	270	.1	.3
2	269.9	Inline Weir	
2	260	.1	.3
2	250	.1	.3
2	240	.1	.3
2	235	.1	.3
2	230	.1	.3
2	229	Inline Weir	
2	220	.1	.3
2	219	Inline Weir	
2	217	.1	.3
2	215	.1	.3
2	214	Inline Weir	
2	213	.1	.3
2	212.9	Inline Weir	
2	212	.1	.3
2	211.9	Inline Weir	
2	210	.1	.3
2	200	.1	.3
2	199.9	Inline Weir	
2	190	.1	.3
2	180	.1	.3
2	179.9	Inline Weir	
2	170	.1	.3
2	160	.1	.3
2	150	.1	.3
2	149.9	Inline Weir	
2	140.1	.1	.3
2	140	.1	.3
2	130.1	.1	.3
2	130	.1	.3
2	129	Inline Weir	