— Preliminary —

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SA 855130

SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
Phoenix, Arizona

HARZA ENGINEERING COMPANY
July 1986

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FLOOD PROTECTION OF SKUNK CREEK LANDFILL

The Skunk Creek Landfill site straddles Skunk Creek which enters the site on the northern boundary and exits the site on the south-western boundary. Portions of the landfill site are within the 100 year floodplain of Skunk Creek and flood flows will produce velocities high enough to scour the sides of landfill areas adjacent to the Creek. Protection of the landfill site from these two problems is required to continue development of the site as a landfill and to prevent problems along the areas already developed.

The recommended action for protection of the Skunk Creek landfill site consists of lining the channel sides with soil cement and modification of the channel cross sections. The soil cement lining will prevent scour of the channel sides and significantly retard water migration into the fill areas. Channel cross section modifications are required to carry the 100 year flood within a well defined channel without raising the flood water surface elevations more than 1.0 foot along the 8500' channel through the landfill site. The channel modifications also include extension of the top of the lined channel sides as flood protection berms in areas subject to inundation by backwater. A freeboard of 3.0' is to be provided in the design of these modification.

Several alternatives were considered but were judged to be less cost-effective than the recommended action. Consideration was given to reducing the channel slope and installing drop structures, but the resulting reduction in flood velocities would cause significant aggradation. The cost of lining the channel bottom as well as the sides was judged unnecessary as long as the current velocities and water surface elevations could be closely matched with only lining of the channel sides.

Description of Channel Modifications

The recommended channel alignment and channel cross sections are presented on Figures 1 through 19. The channel sides will have 4:1 horizontal to vertical side slopes and will be protected by soil cement layers. The toe of the channel lining will terminate in stable cobble or about 10' below the channel bottom to prevent under scour. The average channel width at the bottom is 385' and the alignment closely follows the existing alignment.

On the northern border the east bank of the channel and embankment will terminate near the property line. The western bank near the north property line will extend to the west and become the southern bank of the tributary Buchanan Wash. This tributary will be realigned to permit development of more of the existing site.

At the south western end of the site the west bank will terminate at the property line but a flood control berm must be added to prevent backwater on to the site. On the eastern bank the channel side can be free standing until the area east of the channel is to be used for fill. The landfill development plan could then include a provision for extending the flood protection by a berm along the southern boundary to prevent inundation of this southeastern area of the site.

Internal drainage will be modified by construction of the channel sides with 3' of freeboard. In certain areas it will be necessary to penetrate the channel side with conduits that receive internal site drainage. These conduits must have flap gate ends to prevent backup of the 100 year flood onto the landfill site during the landfill development stage.

Basis for Channel Design

The hydraulics of the existing and recommended channel through the landfill site were calculated with the U.S. Army Corps of Engineers (COE) HEC-2 hydraulic profile computer program. This computer program was previously used by the COE to design upstream channel improvements and data from those analyses were used as part of this study to establish existing conditions. The regulatory Flood Insurance Study (FIS) was not based on an analysis with HEC-2 and varies from the COE results. Both Maricopa County and the City of Phoenix have established that the COE analysis with HEC-2 represents the existing condition for purposes of developing the recommended channel modifications through the landfill site.

The accepted flood flows entering the landfill site are as follows:

Recurrence Interval (yrs)	Peak Discharge (cfs)
100	39,000
50	29,000
10	15,000

The use of the COE data to represent existing conditions was verified by matching the COE results with the results obtained with Harza Engineering Company's Harris computer.

The recommended channel modification results in flood profiles for the 100, 50, and 10 year recurrence interval floods as shown on Figures 20, 21, and 22, respectively. The predicted water surface elevations (WSEL) are all less than 1.0' higher than the existing WSELs as shown on Table 1.

Table 1

SKUNK CREEK WATER SURFACE ELEVATIONS AND VELOCITIES
FOR EXISTING CONDITIONS AND WITH RECOMMENDED IMPROVEMENTS[1/]

Station of Channel Cross-Section	Water Surface Elevations						Channel Velocities					
	100-yr		50-yr		10-yr		100-yr		50-yr		10-yr	
	Existing	Recom.	Existing	Recom.	Existing	Recom.	Existing	Recom.	Existing	Recom.	Existing	Recom.
8.69	1378.24	1378.24	1377.80	1377.80	1377.80	1377.80	12.7	12.7	11.5	11.5	6.0	6.0
8.75	1383.33	1383.33	1382.82	1382.82	1380.25	1380.25	10.9	10.9	9.9	9.9	11.2	11.2
8.89	1388.06	1388.06	1387.61	1387.61	1386.27	1386.27	10.3	10.3	9.2	9.2	8.6	8.6
8.965	1390.85	1390.85	1390.28	1390.28	1388.99	1388.99	10.2	10.2	9.5	9.5	8.3	8.3
9.05	1393.05	1393.05	1392.44	1392.44	1391.22	1391.22	8.7	8.7	7.9	7.9	6.6	6.6
9.115	1394.30	1394.30	1393.70	1393.70	1392.66	1392.66	10.1	10.1	9.4	9.4	7.8	7.8
9.21	1397.43	1397.43	1396.83	1396.83	1395.66	1395.66	10.3	10.3	9.3	9.3	7.4	7.4
9.31	1401.18	1401.18	1400.55	1400.55	1399.34	1399.34	13.2	13.2	11.9	11.9	9.4	9.4
9.40	1403.79	1403.79	1403.03	1403.03	1401.41	1401.17	11.9	11.9	11.1	11.1	9.7	9.7
9.48	1406.44	1405.76	1405.72	1405.28	1404.18	1404.0	10.0	13.4	8.8	10.8	6.6	7.2
9.58	1408.63	1409.45	1407.78	1407.95	1405.90	1405.81	11.7	11.1	10.6	10.3	8.8	8.1
9.67	1411.69	1411.44	1410.59	1410.15	1408.52	1408.0	16.7	10.5	15.4	9.4	12.8	7.2
9.75	1415.42	1414.40	1414.26	1413.03	1411.73	1410.63	16.7	15.4	15.2	14.1	13.1	11.8
9.84	1418.70	1418.36	1417.34	1416.56	1414.93	1413.38	12.7	7.7	11.4	6.7	8.8	4.8
9.94	1420.54	1418.78	1419.10	1416.95	1416.44	1413.69	12.8	8.6	11.4	7.8	8.9	6.2
10.04	1422.23	1419.40	1420.70	1418.26	1417.94	1416.43	11.9	14.1	10.8	12.8	8.5	10.4
10.12	1423.24	1423.19	1421.26	1421.83	1418.96	1419.49	15.6	9.4	15.3	8.3	11.4	6.3
10.21	1426.65	1424.63	1425.62	1423.51	1422.90	1421.57	15.5	14.0	13.7	12.8	12.3	10.6
10.30	1430.58	1429.13	1429.57	1427.97	1427.21	1426.34	13.8	14.2	12.8	13.0	11.4	9.7
10.34[2/]	1433.20	-	1432.16	-	1430.32	-	8.1	-	7.8	-	8.2	-
10.35	1433.54	1432.56	1432.57	1431.06	1431.15	1428.71	7.3	8.4	6.7	8.2	5.2	7.2
10.36[2/]	1433.81	-	1432.9	-	1431.39	-	6.7	-	6.1	-	4.7	-
10.40	1434.20	1433.18	1433.20	1431.95	1431.65	1428.71	8.4	9.4	7.9	8.0	6.2	5.5
10.49	1437.12	1436.31	1436.37	1435.13	1433.55	1432.98	11.4	14.4	10.7	13.1	11.8	11.2
10.62	1440.43	1440.95	1439.29	1439.73	1438.03	1437.43	12.9	12.3	12.1	10.6	8.4	7.8
10.70	1443.58	1443.04	1442.63	1441.71	1439.36	1439.11	14.3	15.2	13.0	13.9	12.8	12.2
10.83	1447.88	1447.85	1446.76	1446.24	1445.00	1443.4	10.1	9.2	9.7	8.2	8.2	6.3
10.93	1450.95	1449.22	1450.12	1448.71	1448.85	1446.31	13.4	13.7	12.7	12.5	10.3	10.2
11.04	1454.65	1453.46	1453.90	1452.40	1452.31	1450.51	9.2	12.0	7.9	11.8	5.9	7.8
11.20	1460.42	1460.42	1458.94	1458.94	1456.50	1456.51	16.1	16.1	14.7	14.7	11.9	11.9
11.30	1463.21	1463.21	1461.54	1461.54	1458.72	1458.72	12.5	12.5	11.1	11.1	8.5	8.5
11.40	1463.61	1463.61	1461.98	1461.98	1459.23	1459.23	14.0	14.0	12.7	12.7	10.2	10.2

1/ Based on HEC-2 analysis.

2/ Cross-section modelled for existing conditions only.

Velocities in the channel during peak discharge will vary slightly with the recommended modifications. These changes should not have a significant effect on changing the existing potential for aggradation/degradation of the channel bottom. In the vicinity of Happy Valley Road which crosses the bottom of Skunk Creek near Station 10.40 the velocity during the peak discharge of the 100 year flood would increase less than 10%, from 8.7 feet per second (fps) to 9.4 fps. In the vicinity of the pwer line crossing (Station 10.04) the velocity during the peak discharge of the 100 year flood would increase about 15%, from 11.9 fps to 14.1 fps.

The largest velocity increase as a result of the recommended actions will occur near the north end of the landfill site where the previous COE project terminates 190' upstream of the property boundary. The proposed confinement of the channel in this area will result in the velocity increasing from 9.2 fps to 12.0 fps for the peak discharge of the 100 year flood.

Leachate Generation

The presence of a water filled channel under flood conditions next to a landfill raises concerns on the possibility of leachate generation. Analysis of the potential for water in Skunk Creek to travel through the proposed embankment and into the fill indicates this concern is unwarranted. The two factors which lead to this conclusion are the relatively short duration of a flood and the rate which water can move horizontally toward the fill.

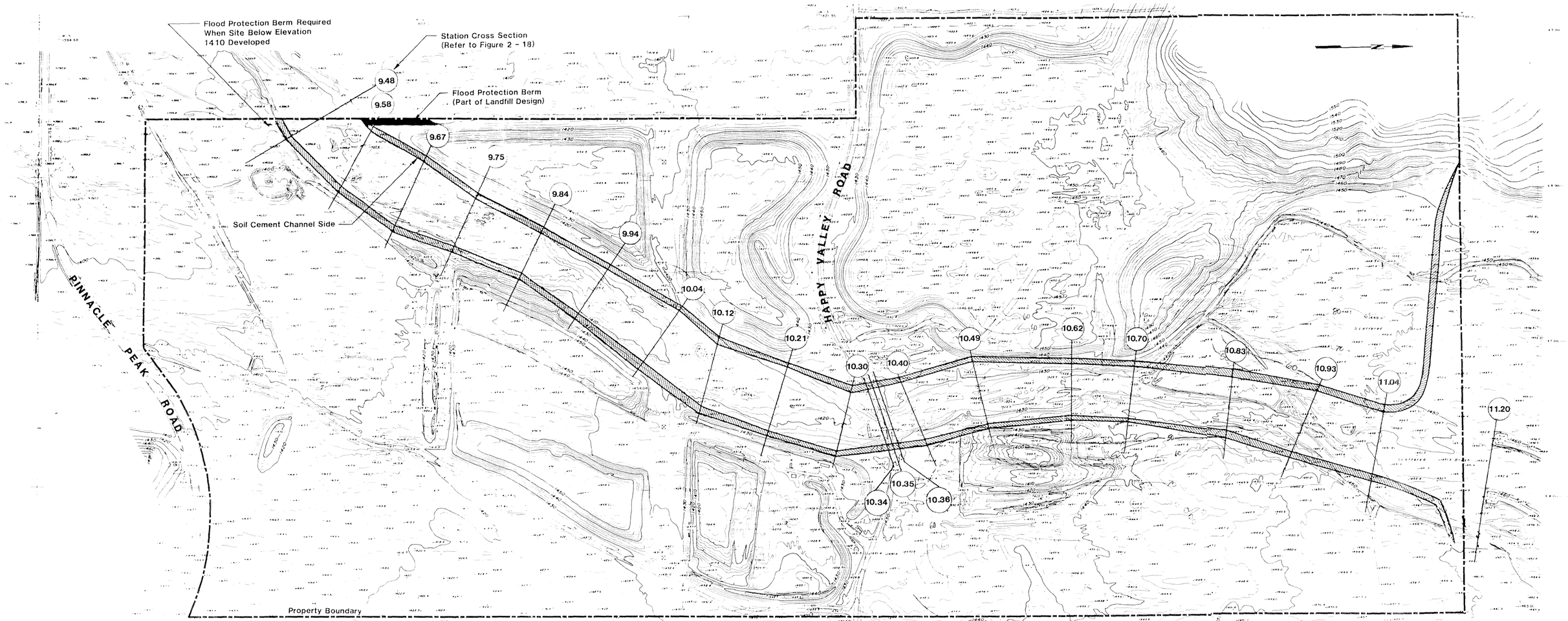
The rate of horizontal movement of Skunk Creek flood water toward the fill areas was calculated with a form of the Green-Ampt equation which calculates the time required for the advancement of a wetting front through a porous medium.[1/] Water in the channel must permeate the embankment and move horizontally as well as vertically to reach the refuse in the landfill.

[1/] Calculations are presented after the figures.

The calculated advancement of a wetting front for a typical embankment cross section is shown for periods of 24, 48, and 72 hours. As indicated on Figure 23, the wetting front would take in excess of 72 hours to advance 25' horizontally toward the fill under existing conditions. Existing conditions were characterized as follows:

Permeability of embankment	-	10^{-5} feet/sec
Maximum WSEL in Skunk Creek	-	8' above channel bottom
Location of refuse	-	Outside of 45° angle drawn from inside top of embankment toward fill
Duration of Maximum WSEL $\pm$ 1'	-	less than 72 hours.

The recommended soil cement lining will decrease the permeability of the channel sides by at least 3 orders of magnitude. Consequently, the rate of horizontal movement will be reduced by at least 3 orders of magnitude and essentially eliminate the potential for leachate generation from flood flows seeping into the channel sides.



1" = 1415'

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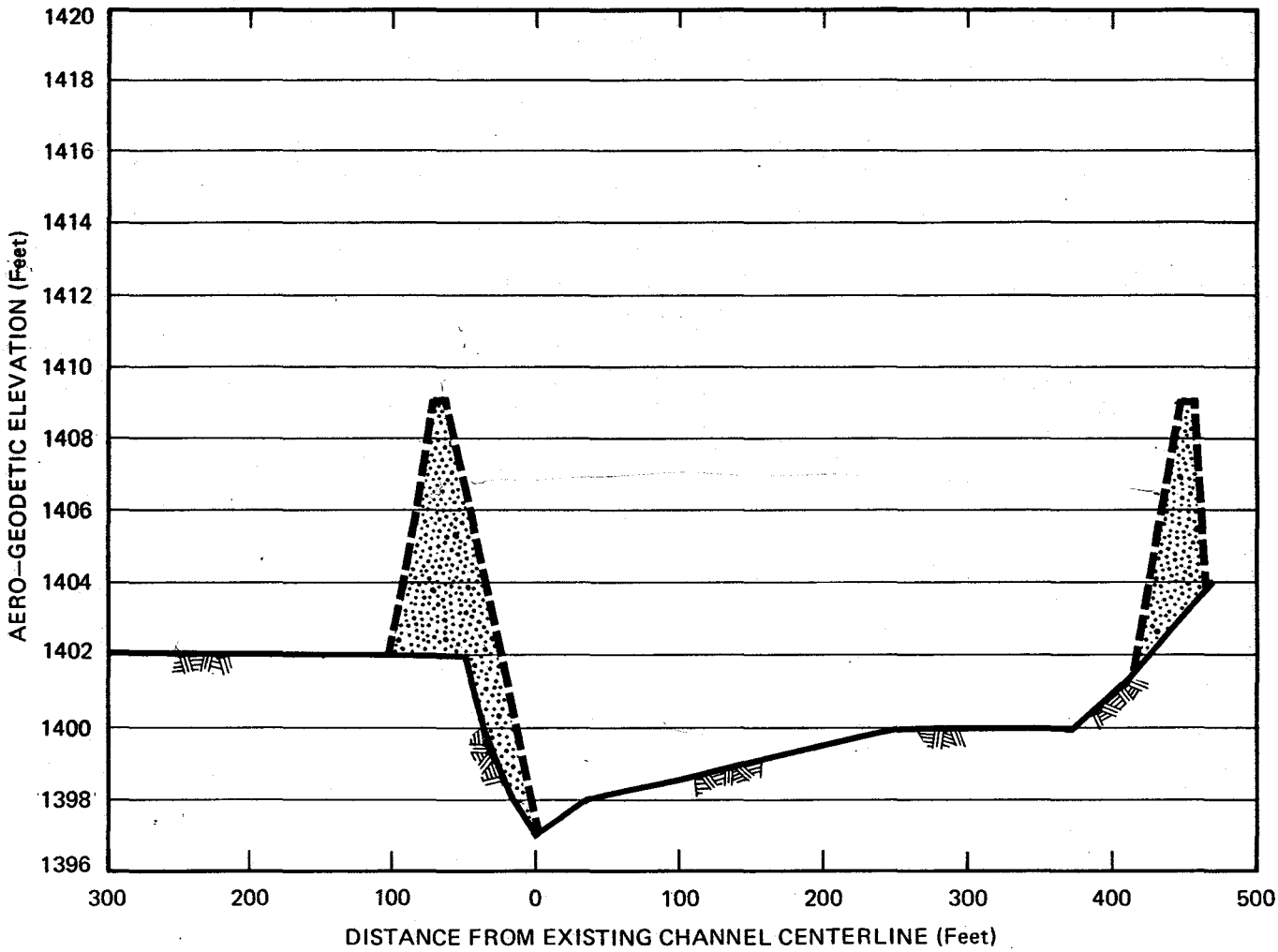
July 1986

Figure 1

ALIGNMENT OF PROPOSED SKUNK CREEK IMPROVEMENTS

FLOOD PROTECTION OF SKUNK CREEK LANDFILL

Phoenix, Arizona



LEGEND

Fill

Existing Channel (1984)

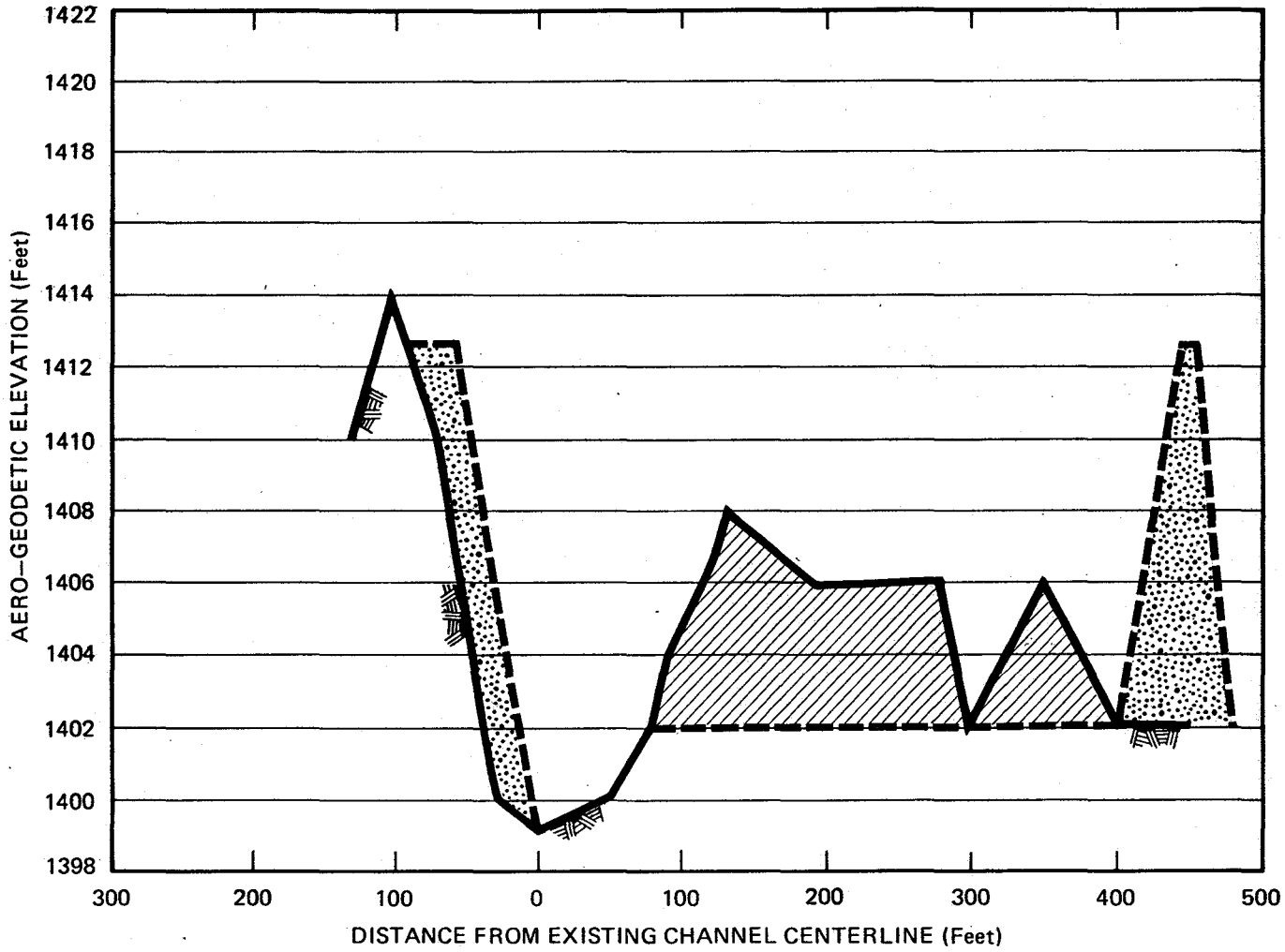
Recommended Channel

Figure 2
FACING DOWNSTREAM

CROSS SECTION AT 9.48
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

HARZA ENGINEERING COMPANY
July 1986



LEGEND

Cut

Fill

Existing Channel (1984)

Recommended Channel

Figure 3
FACING DOWNSTREAM

CROSS SECTION AT 9.58
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

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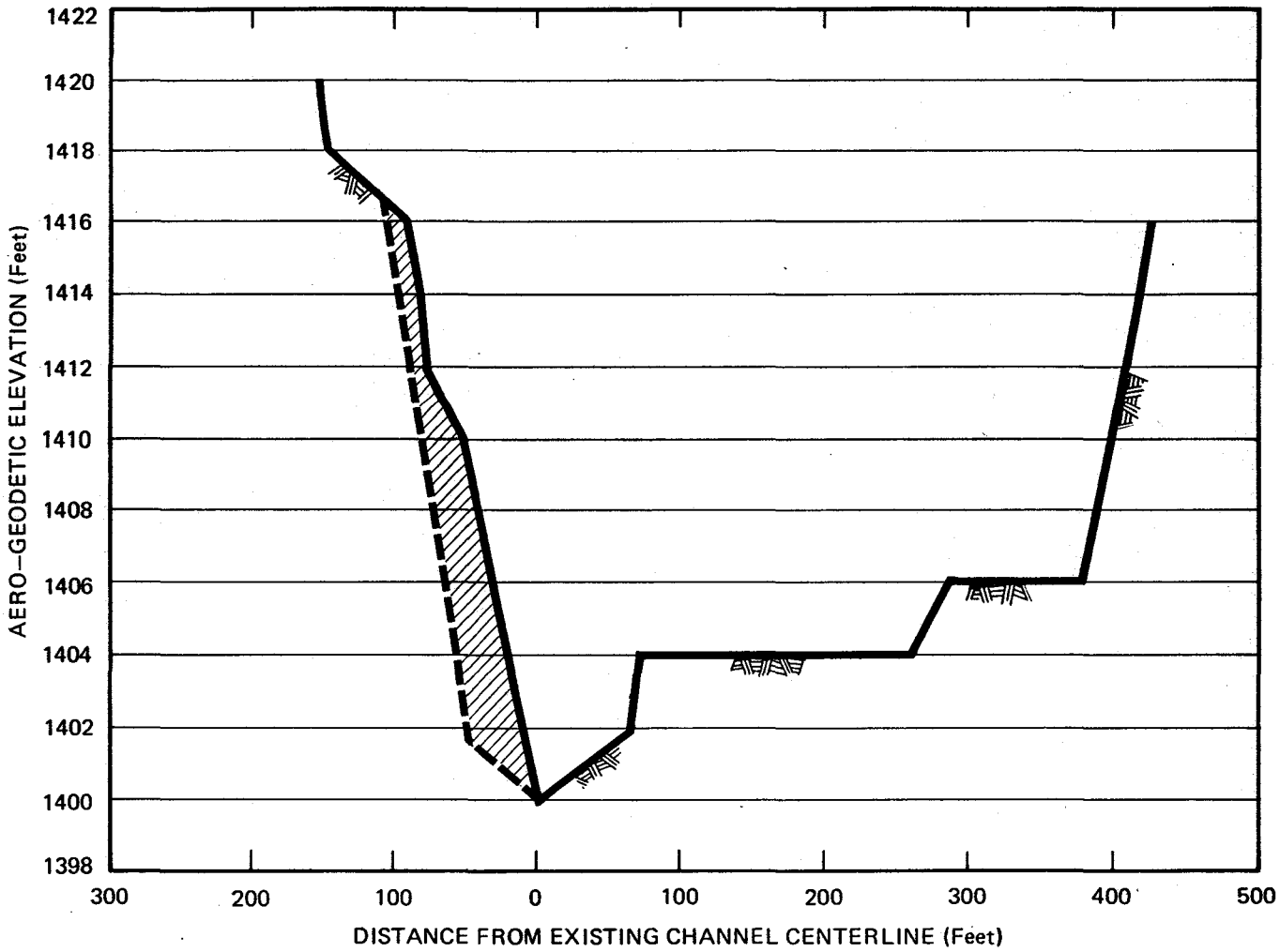
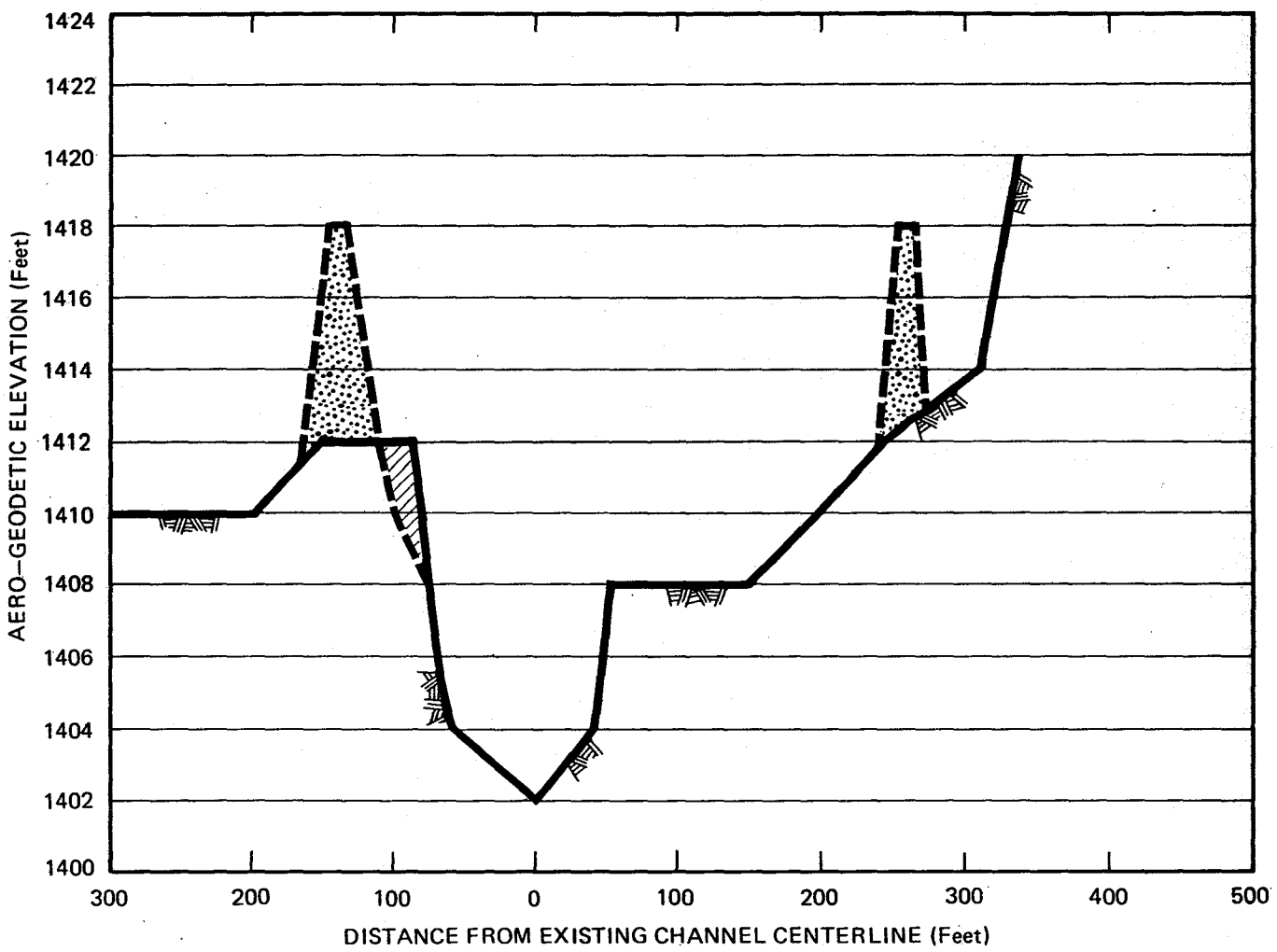


Figure 4
FACING DOWNSTREAM

CROSS SECTION AT 9.67
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

HARZA ENGINEERING COMPANY
July 1986



LEGEND

Cut

Fill

Existing Channel (1984)

Recommended Channel

Figure 5
FACING DOWNSTREAM

CROSS SECTION AT 9.75
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

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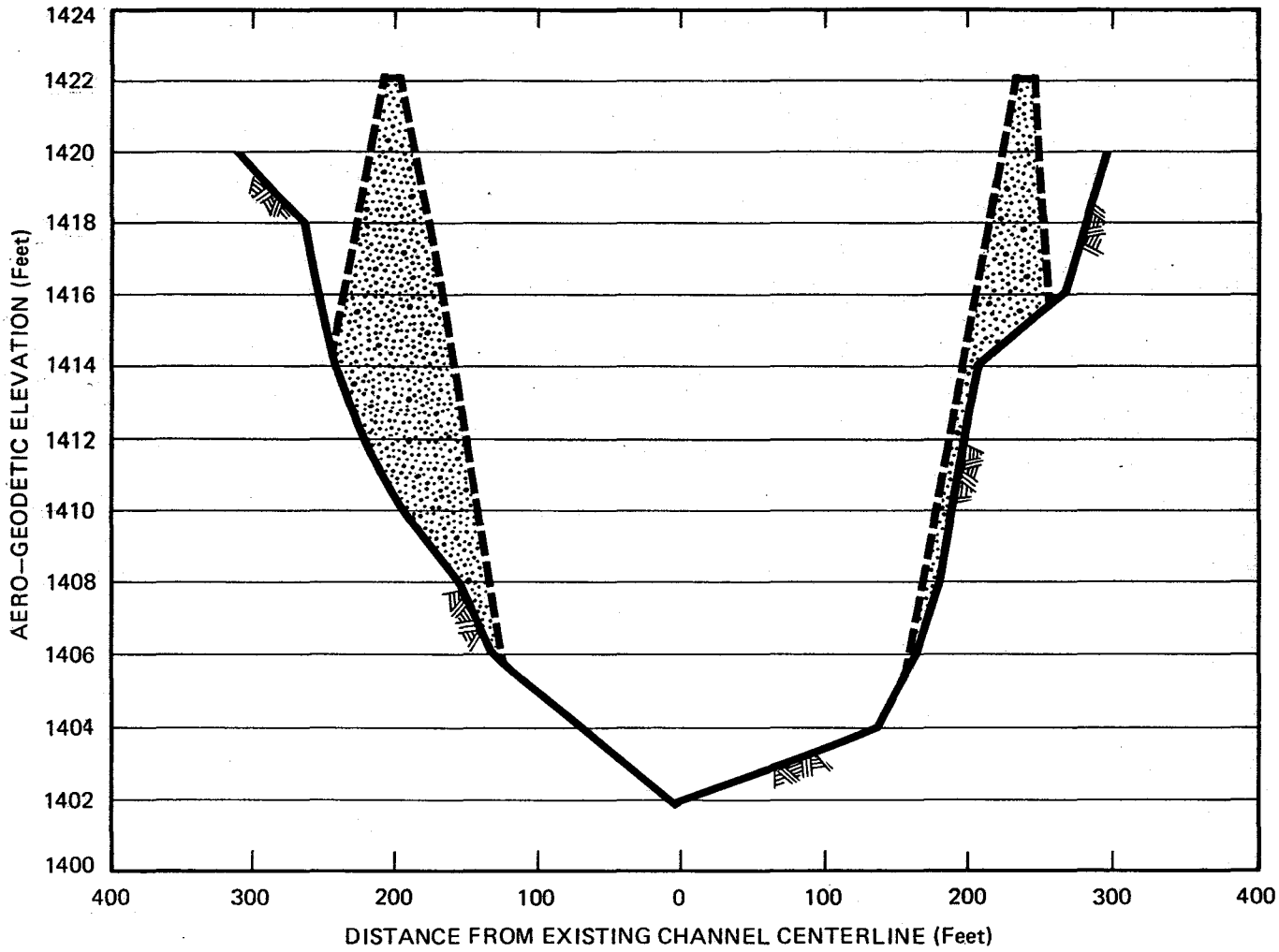
July 1986



LEGEND

Fill

Existing Channel (1984)

Recommended Channel

Figure 6
FACING DOWNSTREAM

CROSS SECTION AT 9.84
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

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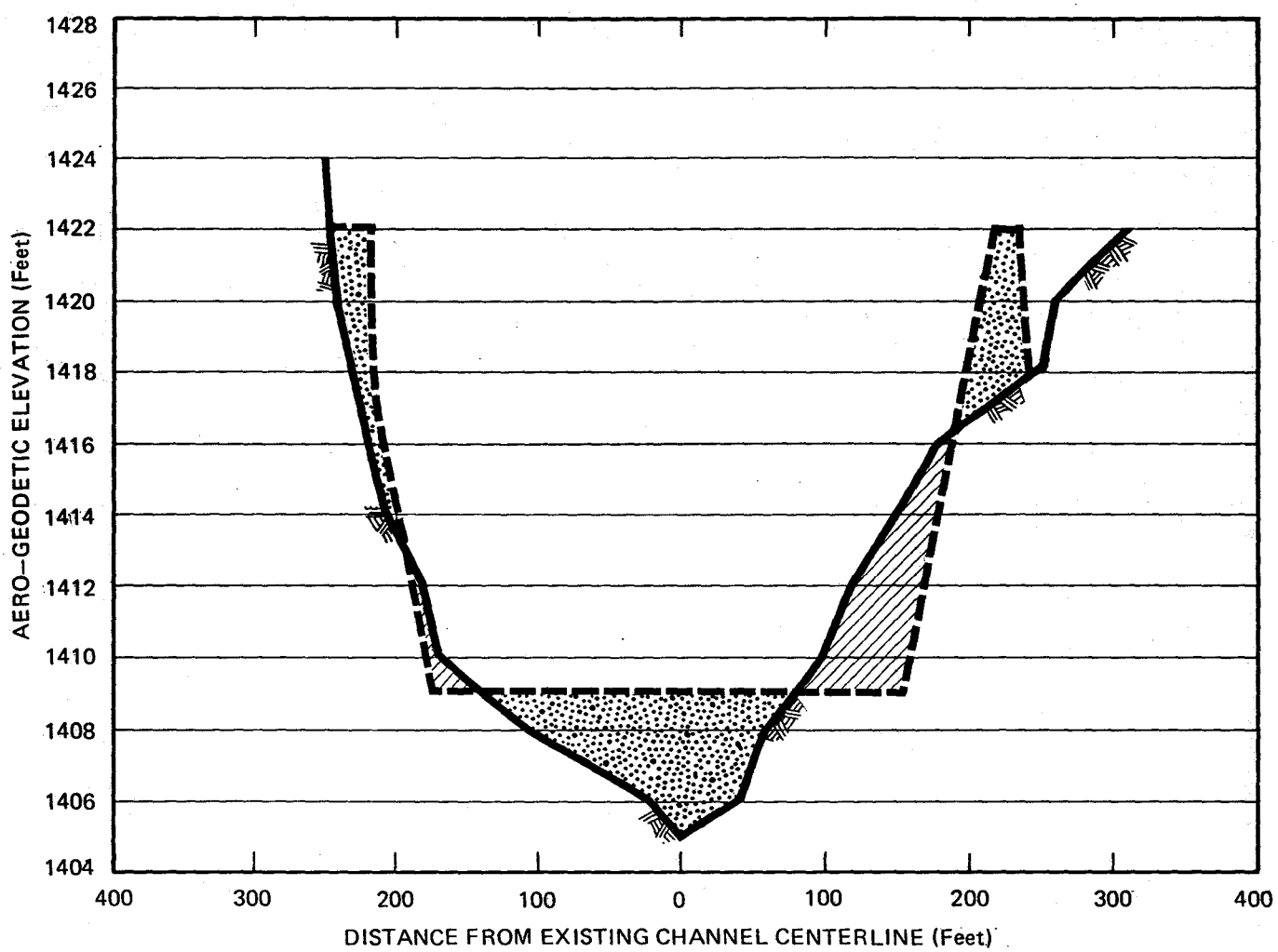

Figure 7
FACING DOWNSTREAM

CROSS SECTION AT 9.94
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

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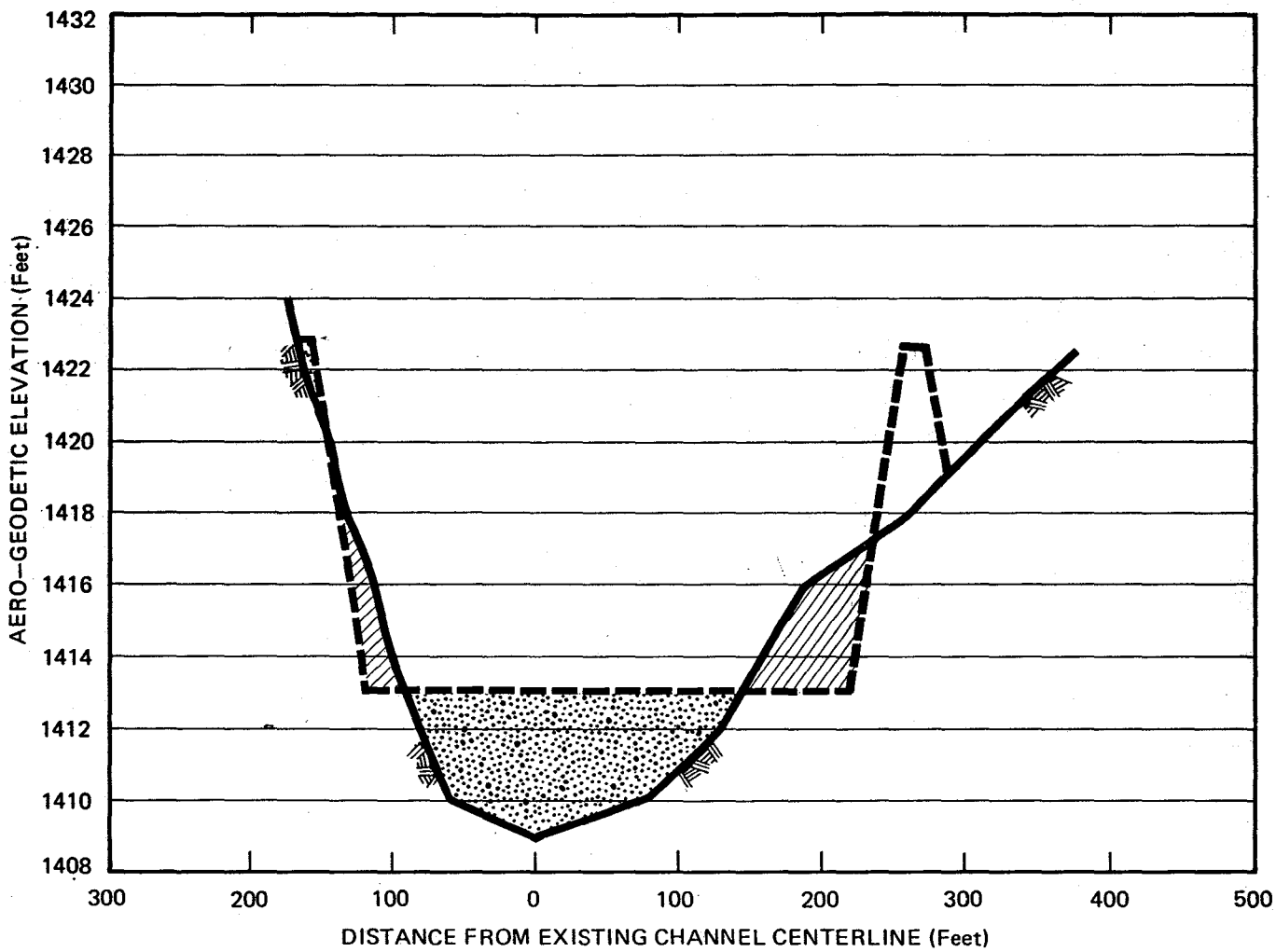

LEGEND

Cut

Fill

Existing Channel (1984)

Recommended Channel

Figure 8
FACING DOWNSTREAM

CROSS SECTION AT 10.04
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

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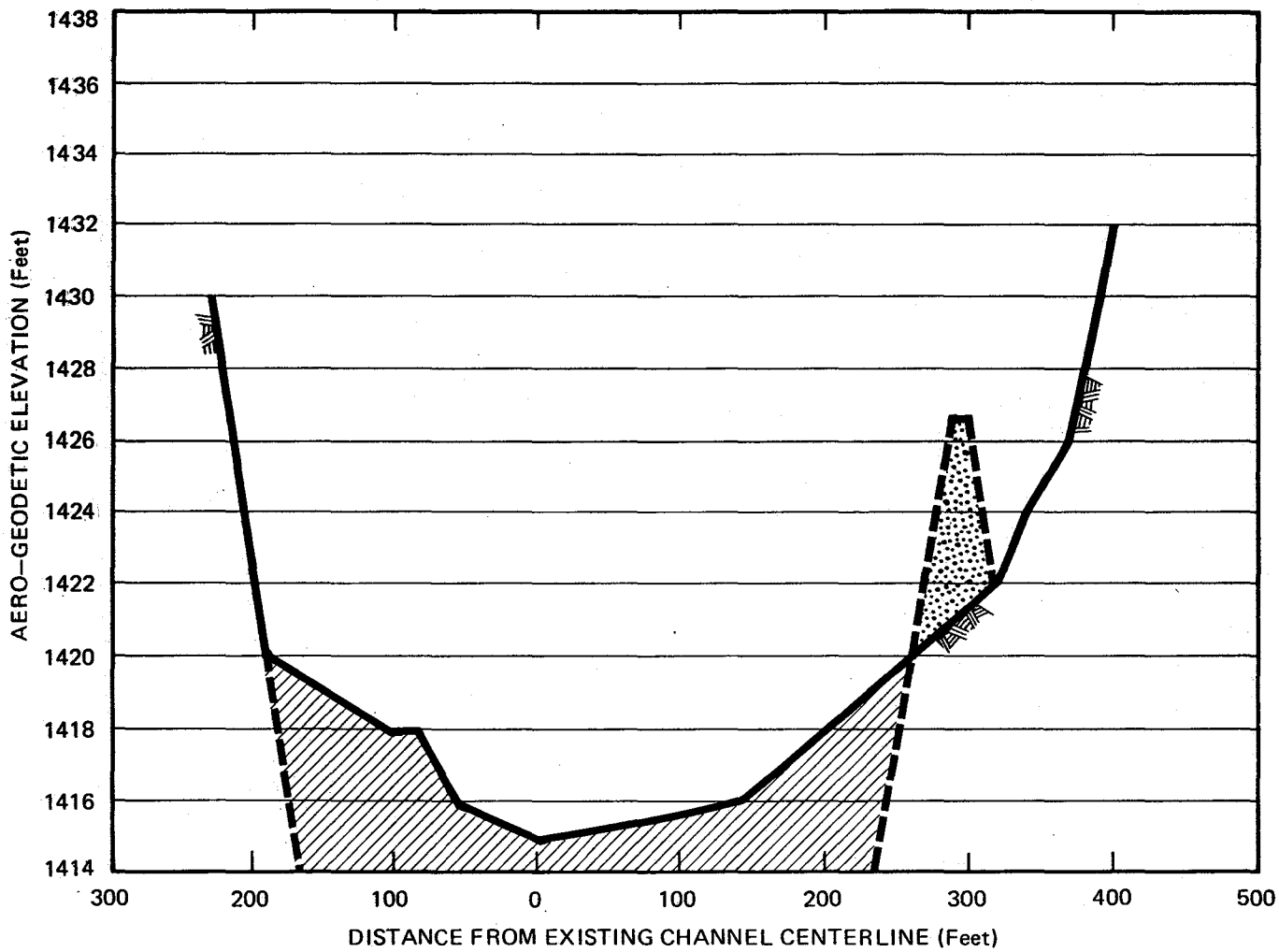

LEGEND

Cut

Fill

Existing Channel (1984)

Recommended Channel

Figure 9
FACING DOWNSTREAM

CROSS SECTION AT 10.12
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

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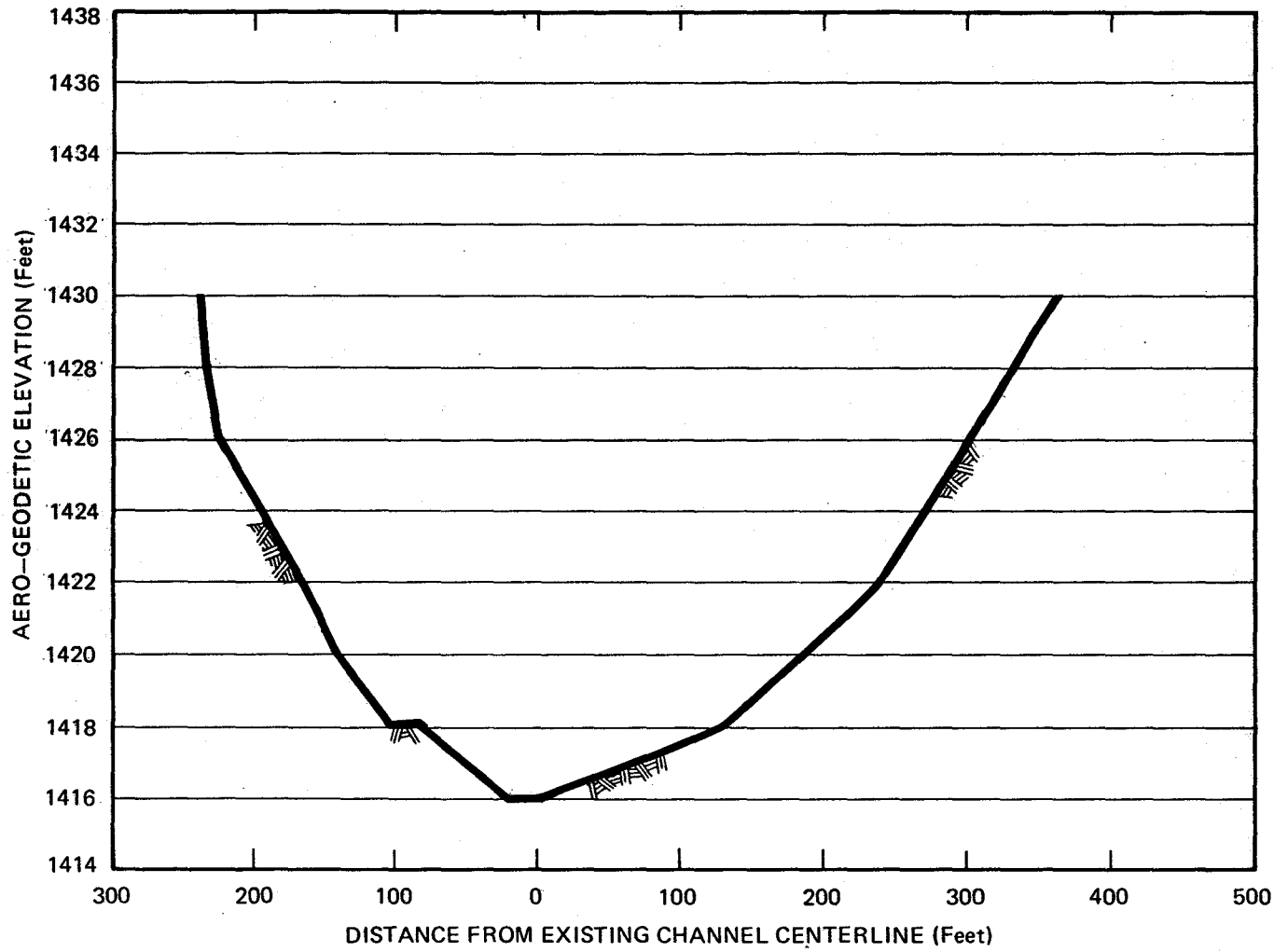

LEGEND

Existing Channel (1984)

Figure 10
FACING DOWNSTREAM

CROSS SECTION AT 10.21
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

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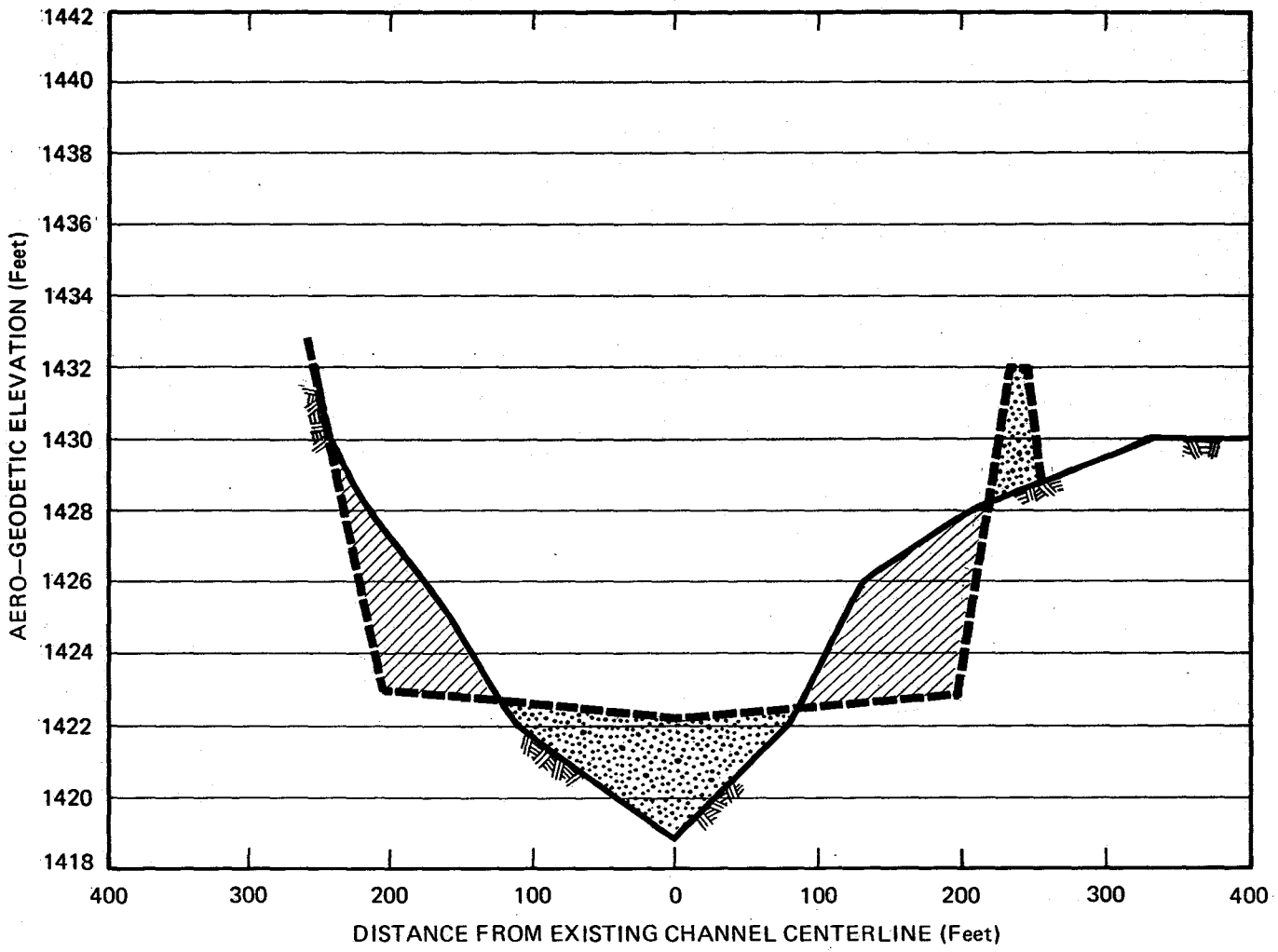

LEGEND

Cut

Fill

Existing Channel (1984)

Recommended Channel

Figure 11
FACING DOWNSTREAM

CROSS SECTION AT 10.30
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

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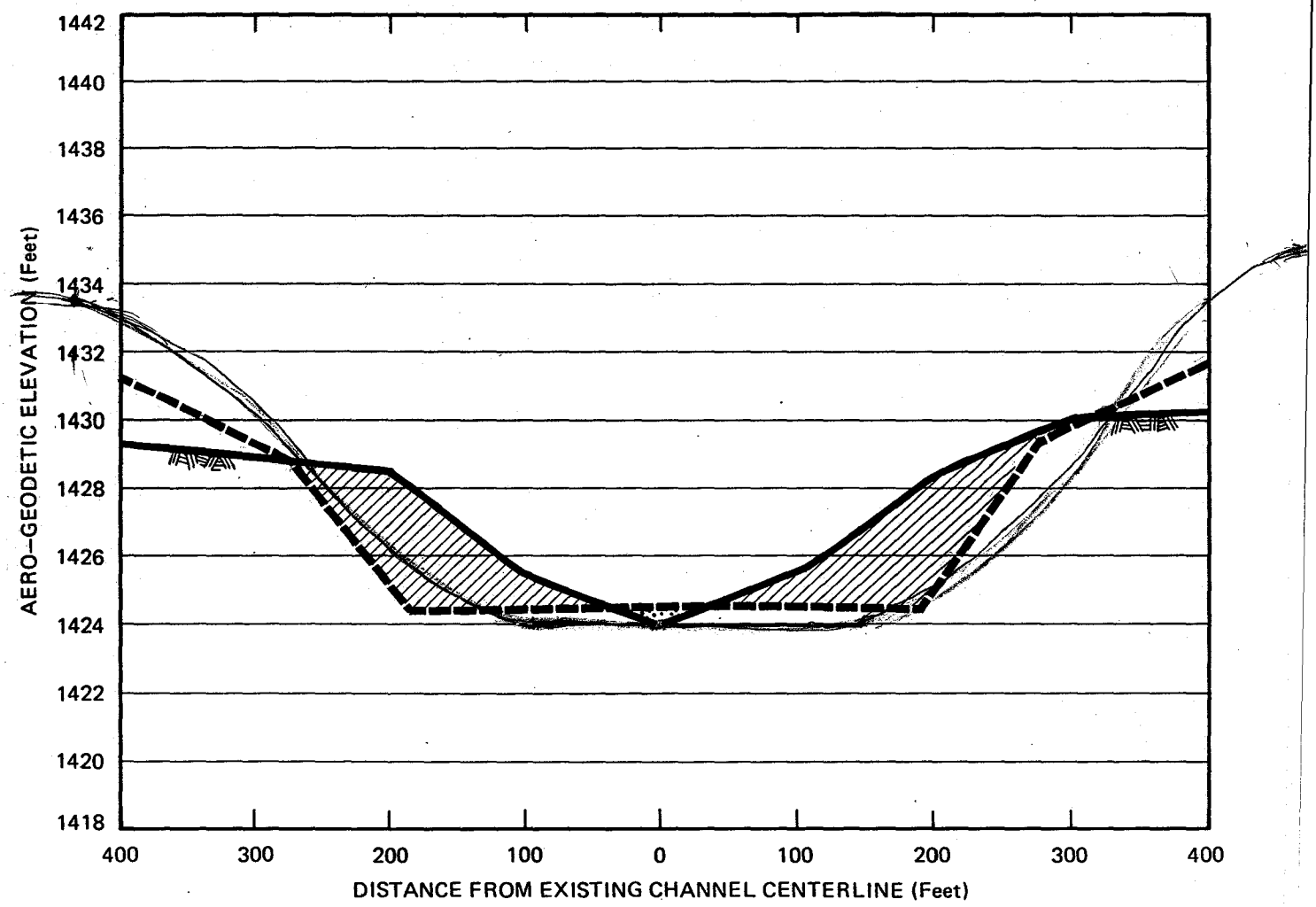

LEGEND

Cut

Fill

Existing Channel (1984)

Recommended Channel

Figure 12
FACING DOWNSTREAM

CROSS SECTION AT 10.35
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

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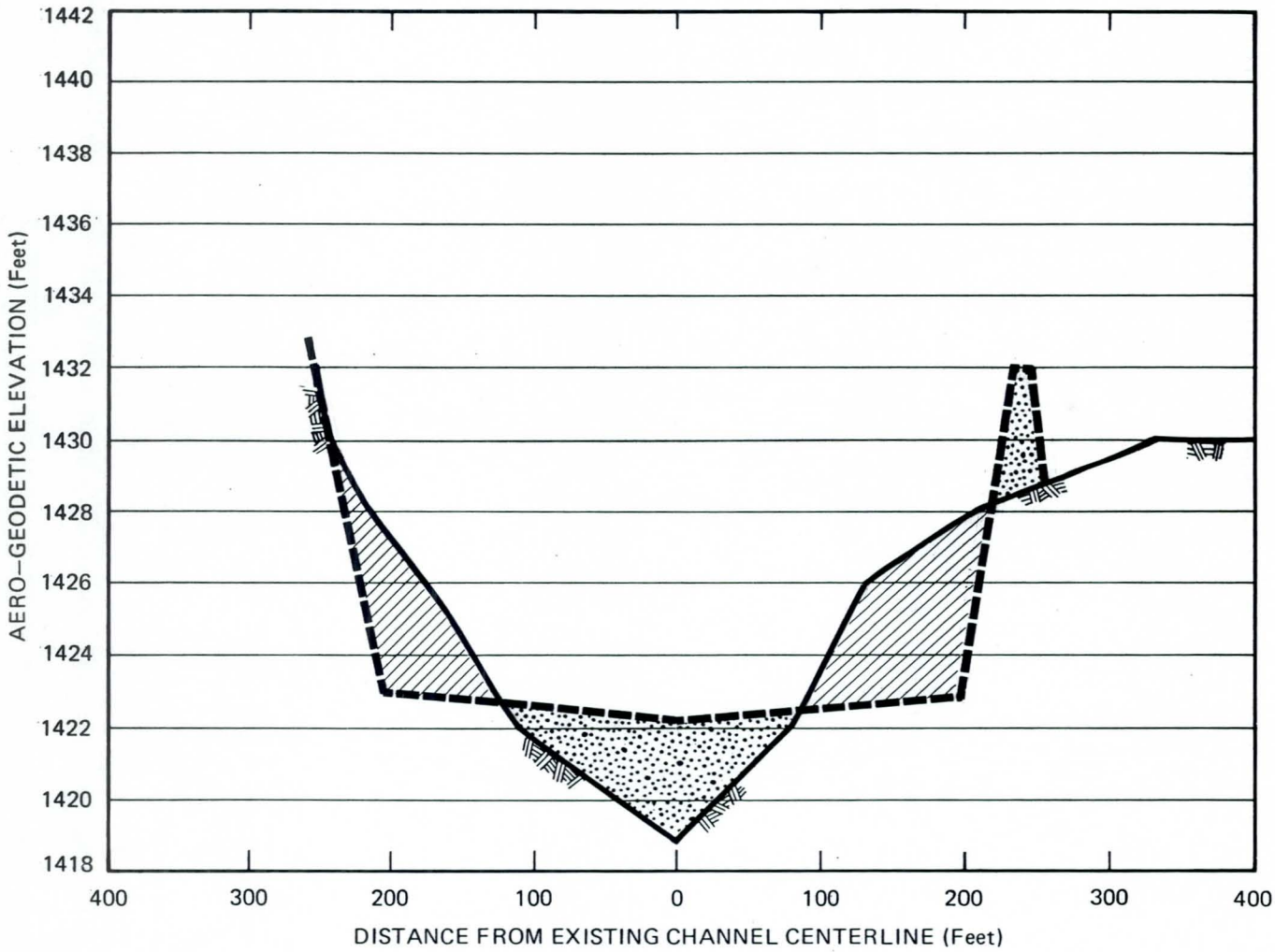

LEGEND

Cut

Fill

Existing Channel (1984)

Recommended Channel

Figure 11
FACING DOWNSTREAM

CROSS SECTION AT 10.30
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
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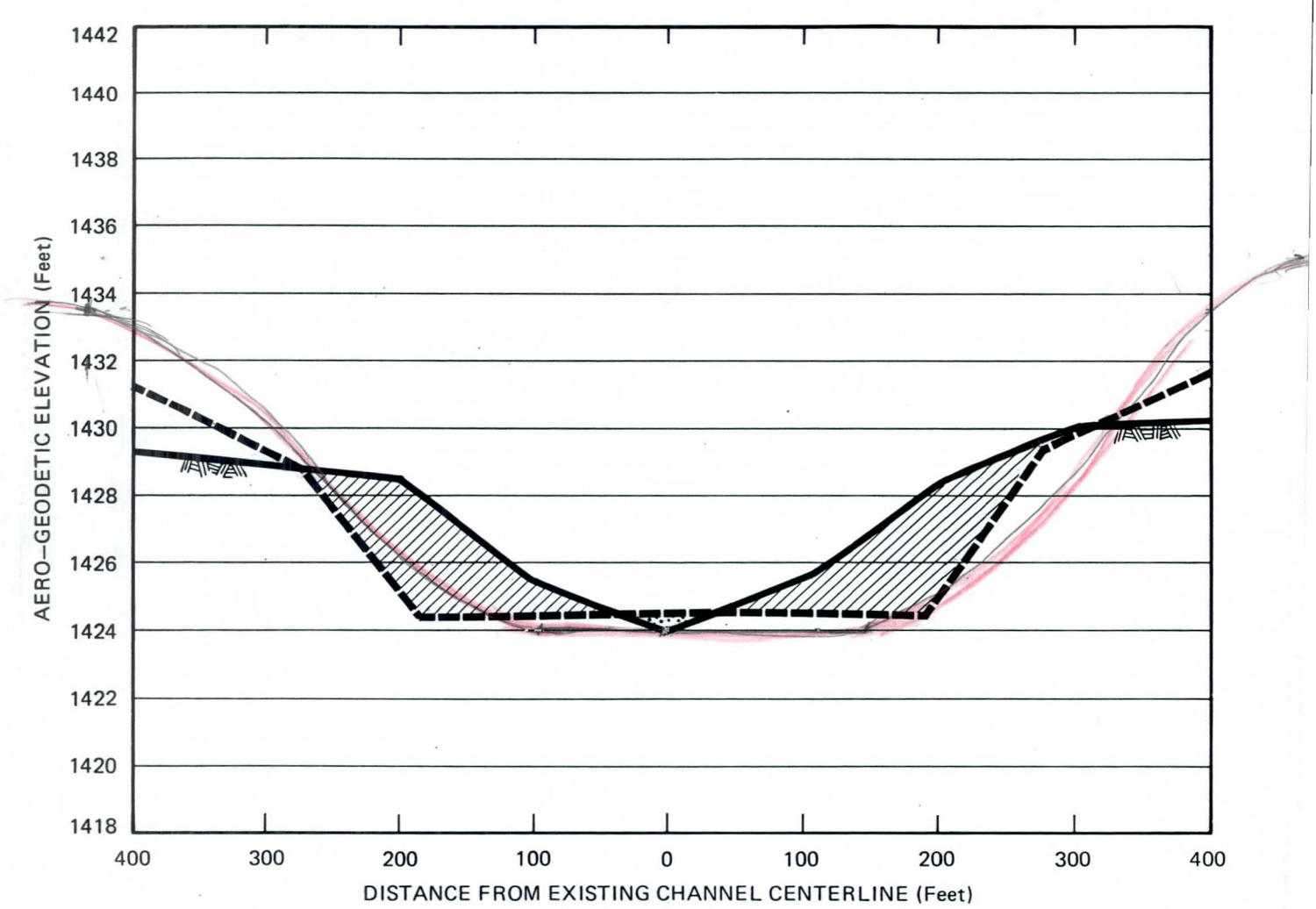

LEGEND

Cut

Fill

Existing Channel (1984)

Recommended Channel

Figure 12
FACING DOWNSTREAM

CROSS SECTION AT 10.35
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
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FLOOD PROTECTION OF SKUNK CREEK LANDFILL
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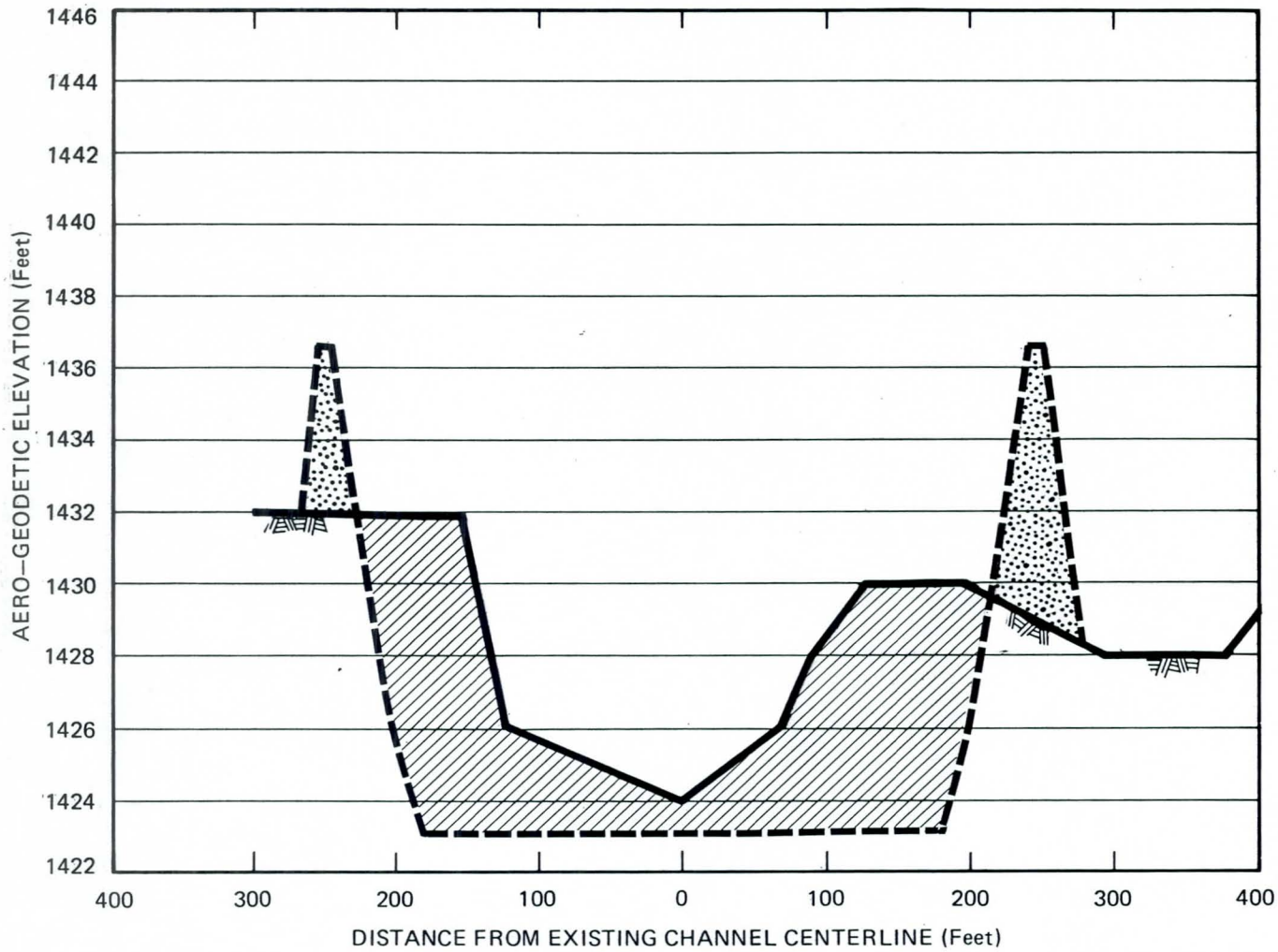

LEGEND

Cut

Fill

Existing Channel (1984)

Recommended Channel

Figure 13
FACING DIWNSTREAM

CROSS SECTION AT 10.40
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
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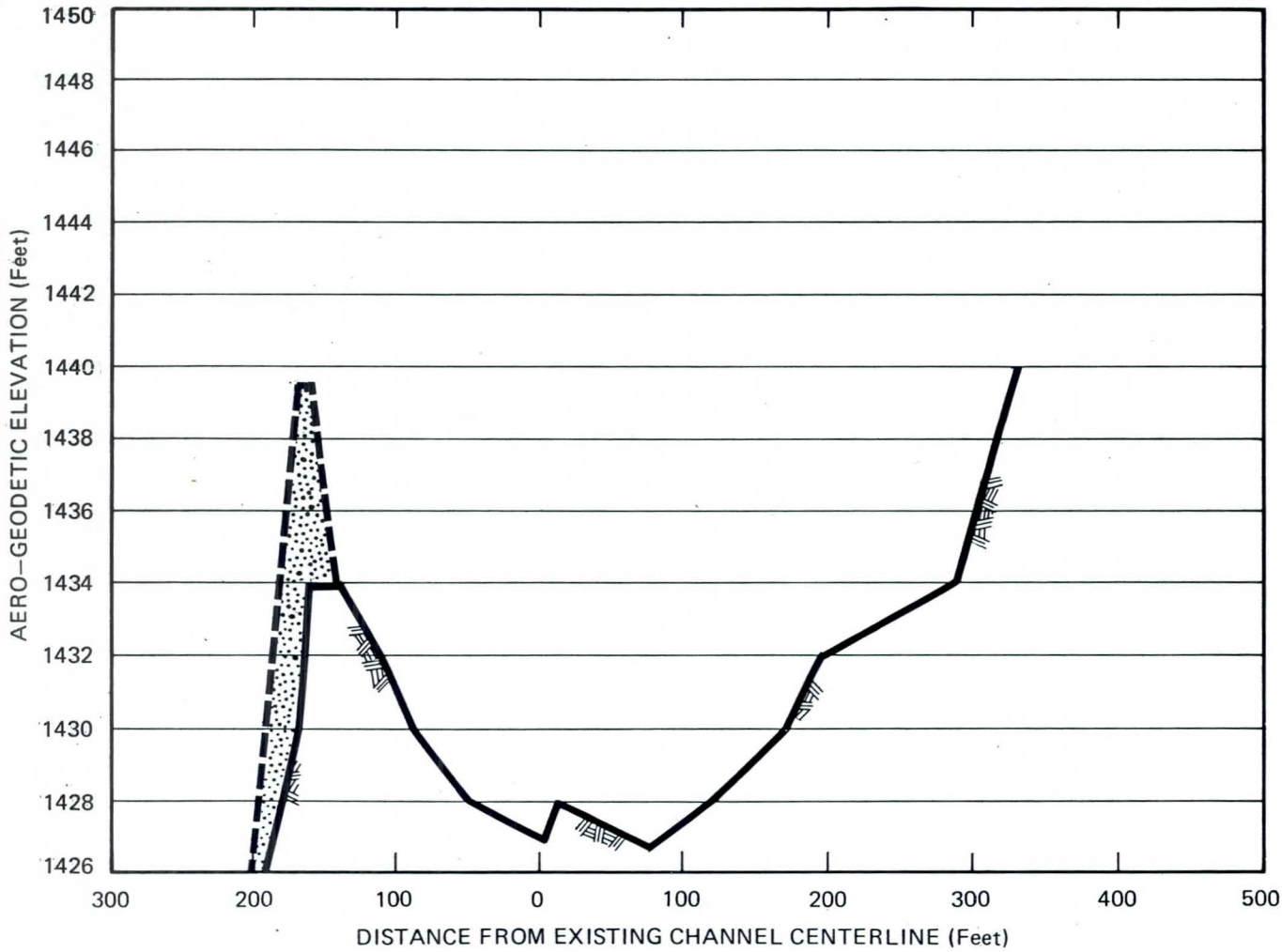

LEGEND

Fill

Existing Channel (1984)

Recommended Channel

Figure 14
FACING DOWNSTREAM

CROSS SECTION AT 10.49
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
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FLOOD PROTECTION OF SKUNK CREEK LANDFILL
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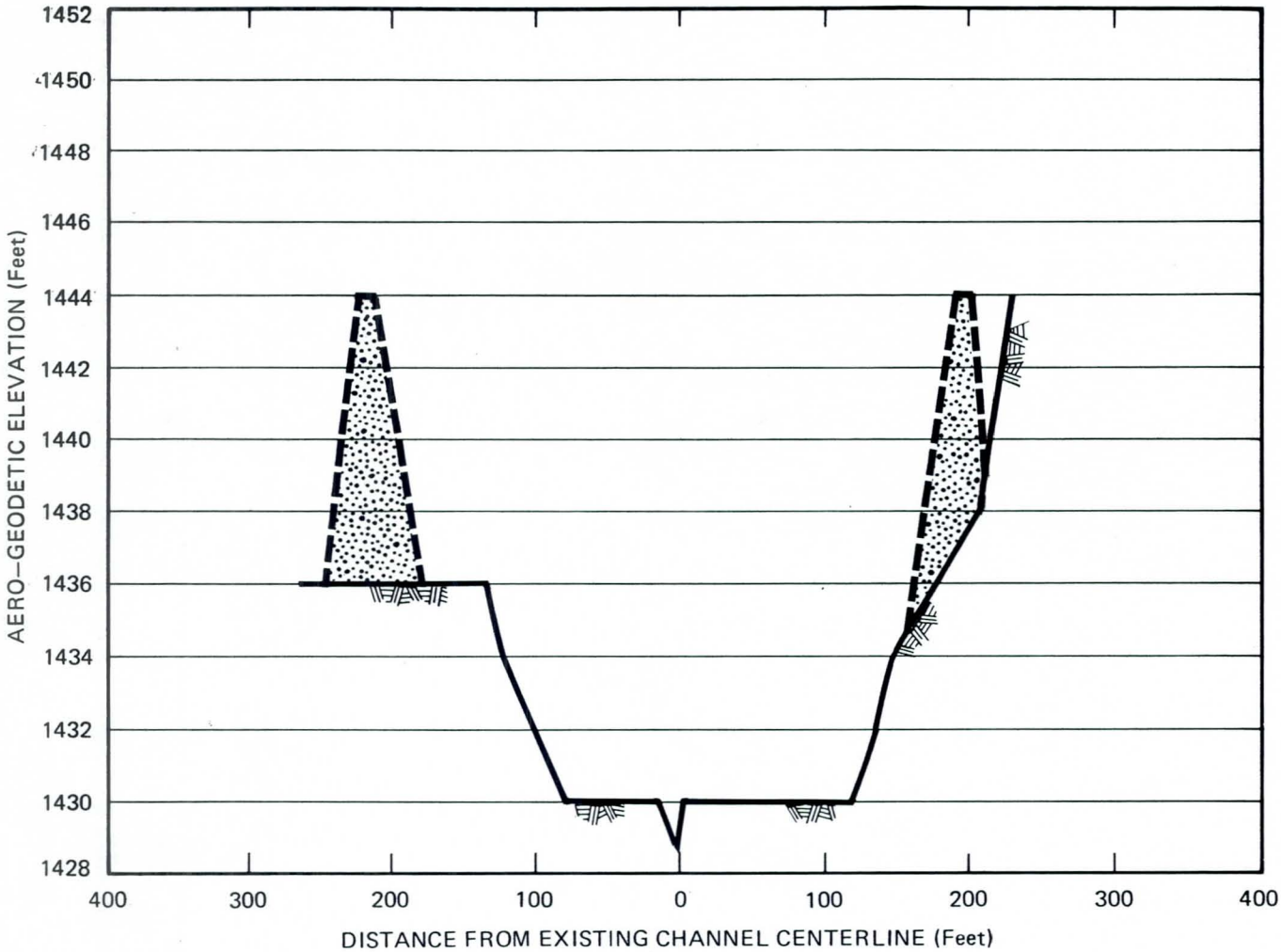

LEGEND

Fill

Existing Channel (1984)

Recommended Channel

Figure 15
FACING DOWNSTREAM

CROSS SECTION AT 10.62
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
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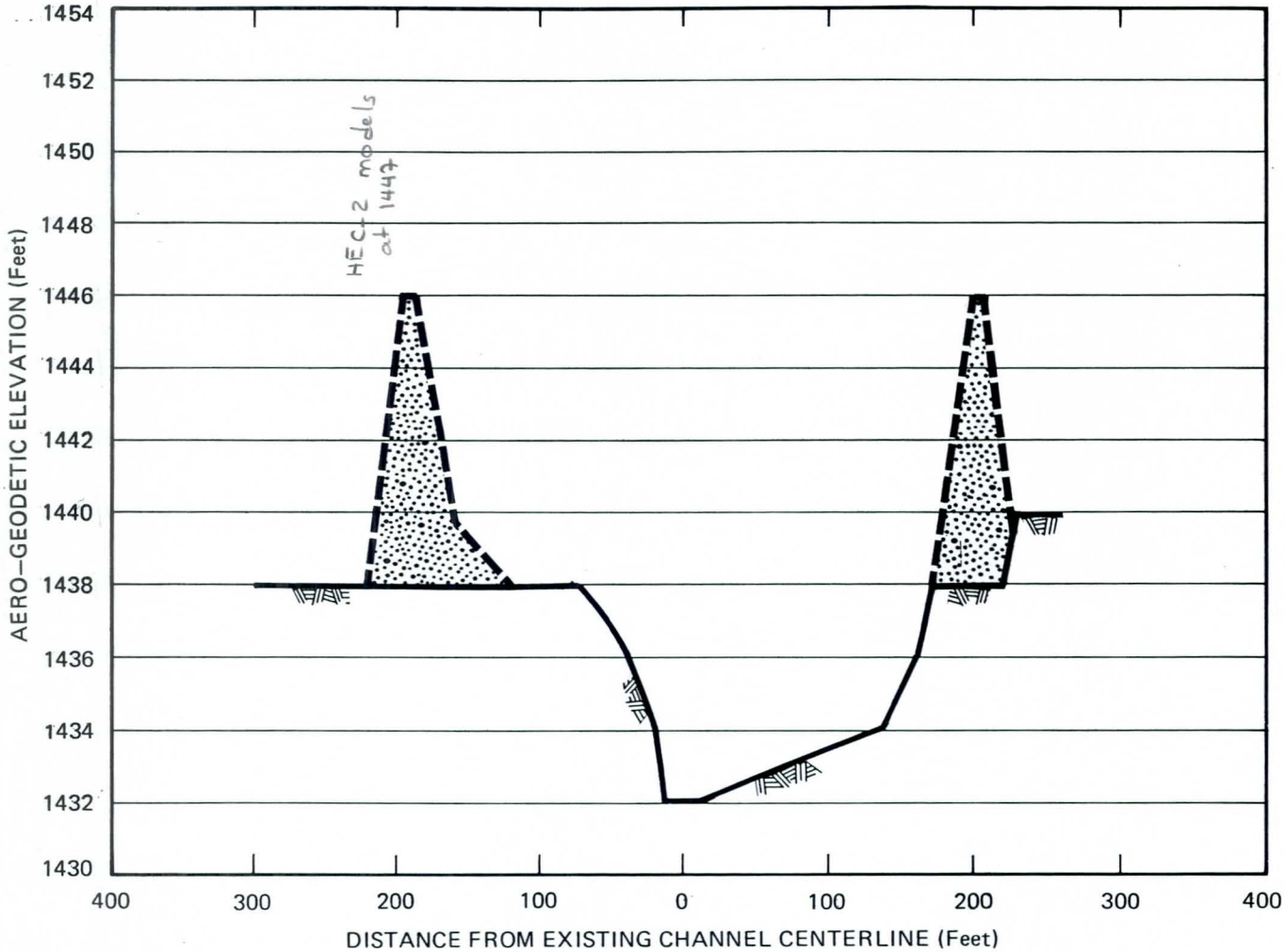

LEGEND

Fill

Existing Channel (1984)

Recommended Channel

Figure 16
FACING DOWNSTREAM

CROSS SECTION AT 10.70
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
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HARZA ENGINEERING COMPANY
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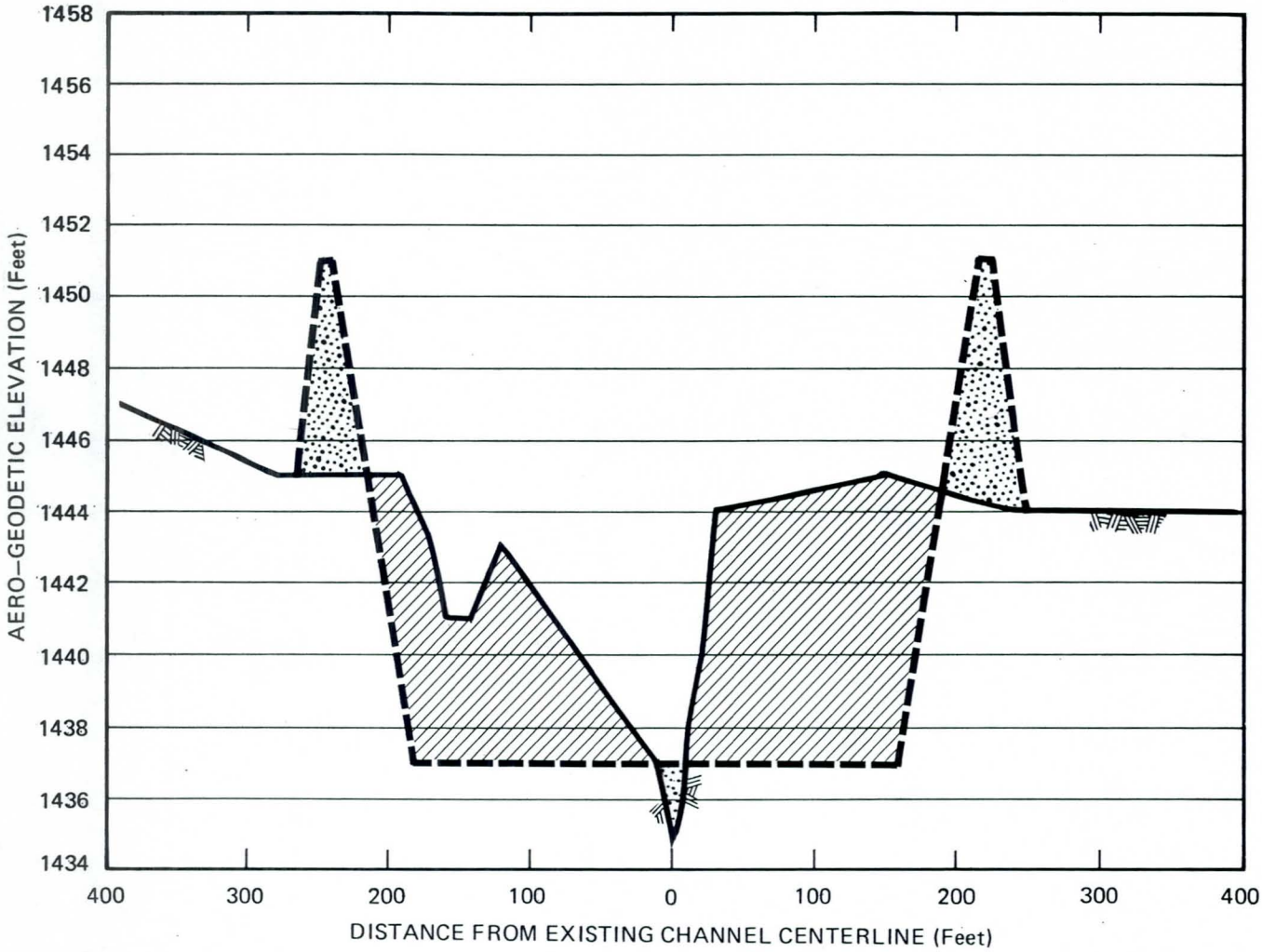


LEGEND

Cut

Fill

Existing Channel (1984)

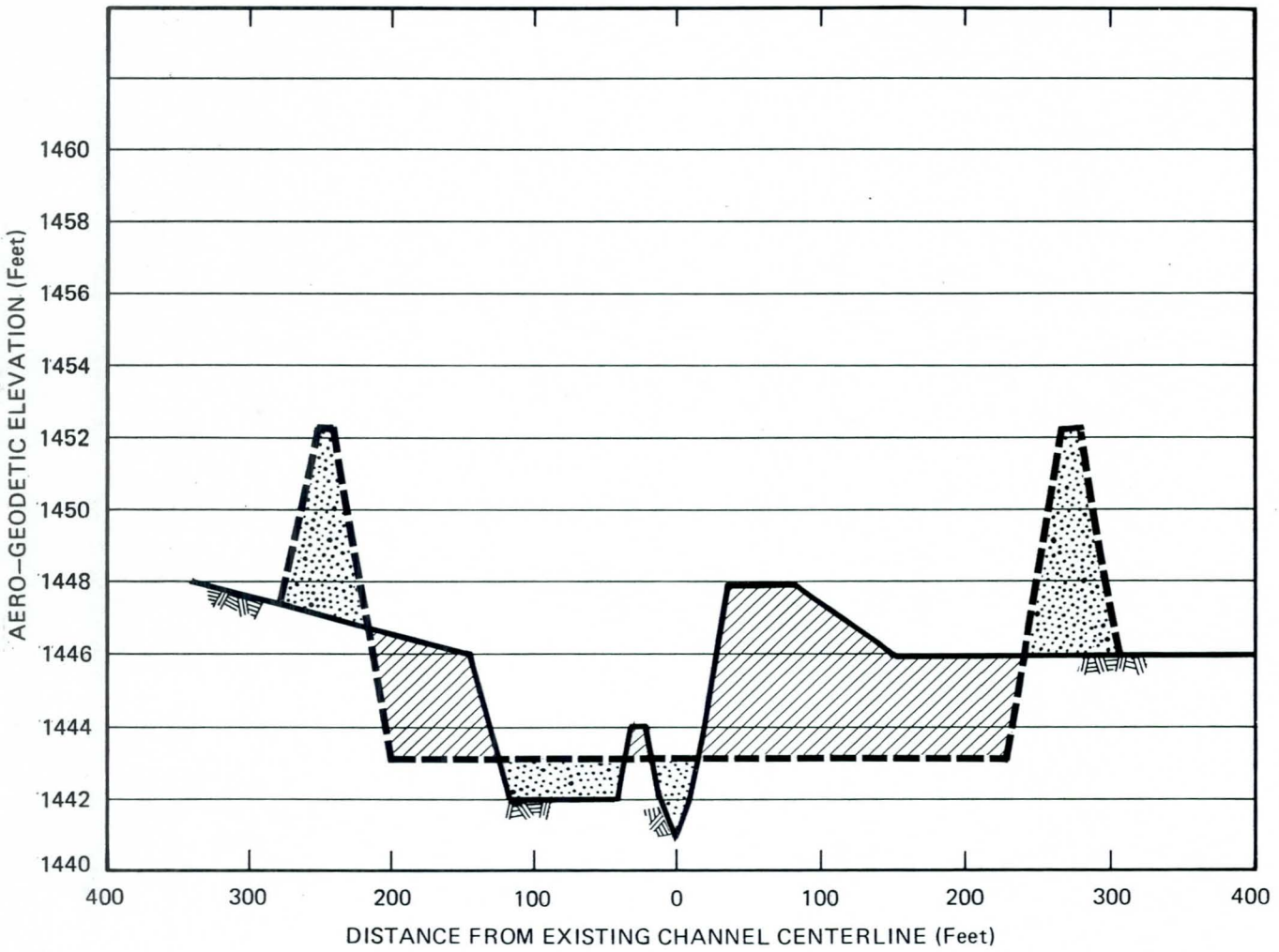
Recommended Channel

Figure 17
FACING DOWNSTREAM

CROSS SECTION AT 10.83
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

HARZA ENGINEERING COMPANY
July 1986



LEGEND

Cut

Fill

Existing Channel (1984

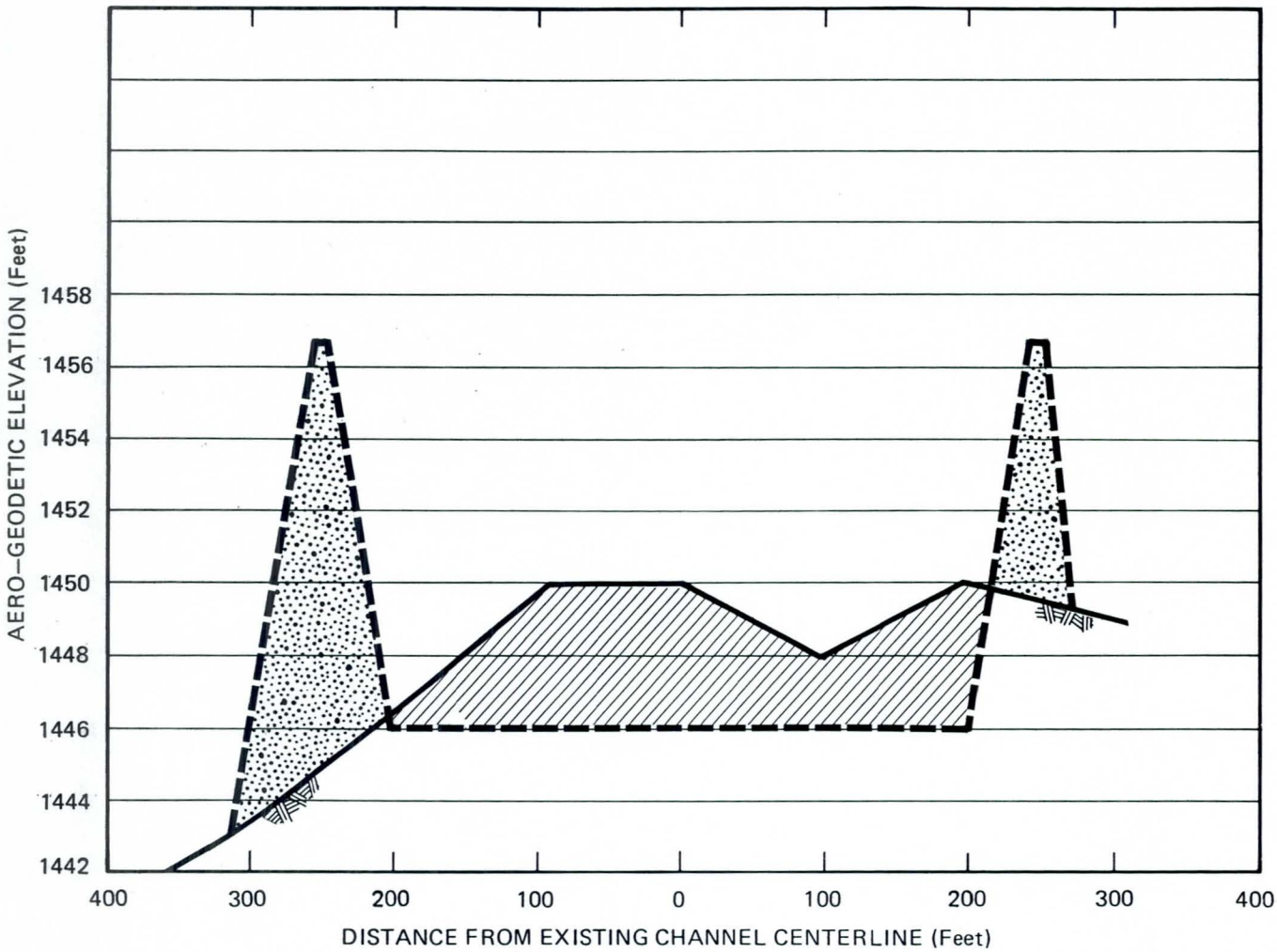
Recommended Channel

Figure 18
FACING DOWNSTREAM

CROSS SECTION AT 10.93
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

HARZA ENGINEERING COMPANY
July 1986



LEGEND

Cut

Fill

Existing Channel (1984)

Recommended Channel

Figure 19
FACING DOWNSTREAM

CROSS SECTION AT 11.04
SKUNK CREEK CHANNEL

HYDRAULIC ANALYSIS OF
PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

HARZA ENGINEERING COMPANY
July 1986

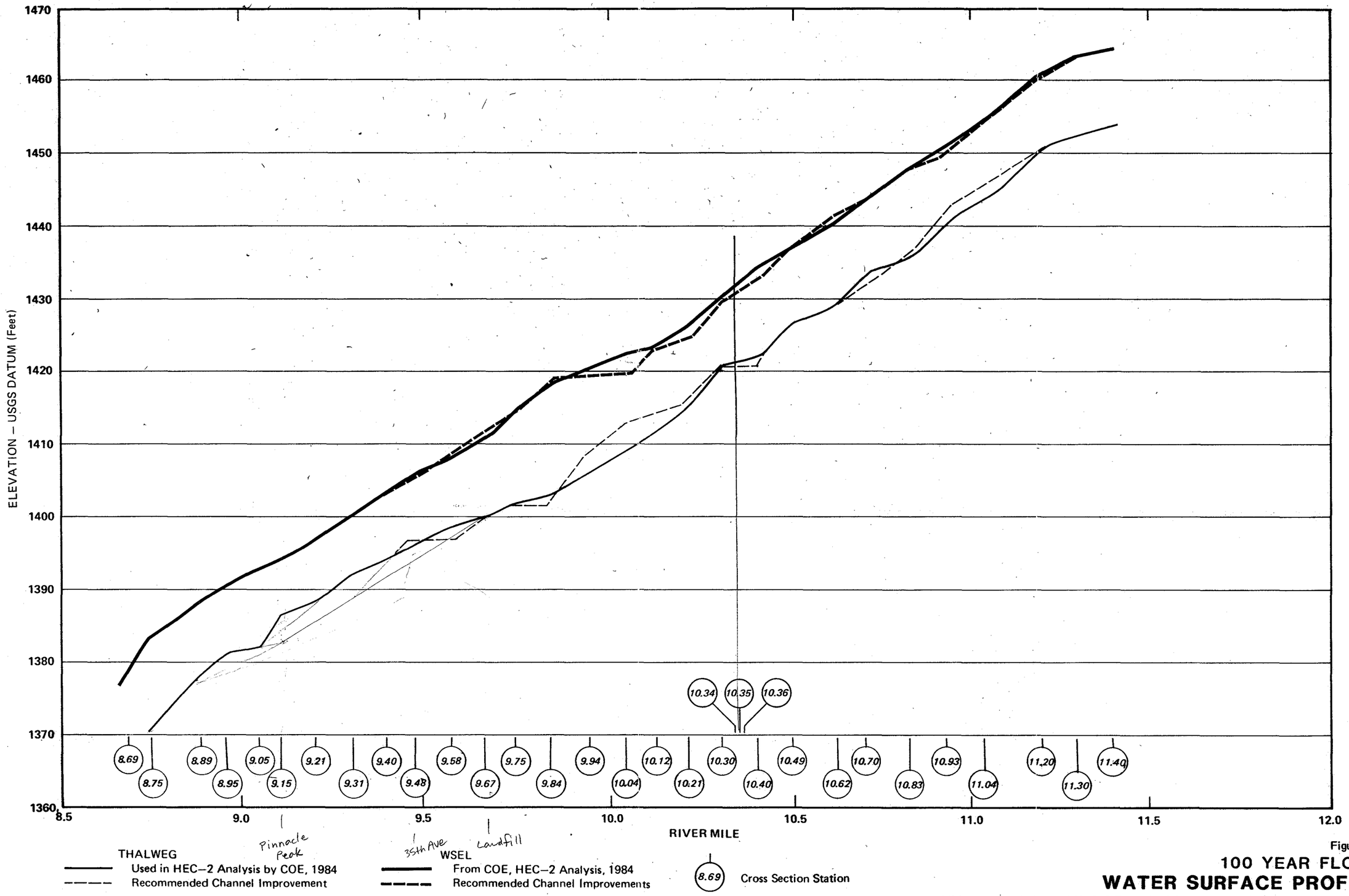


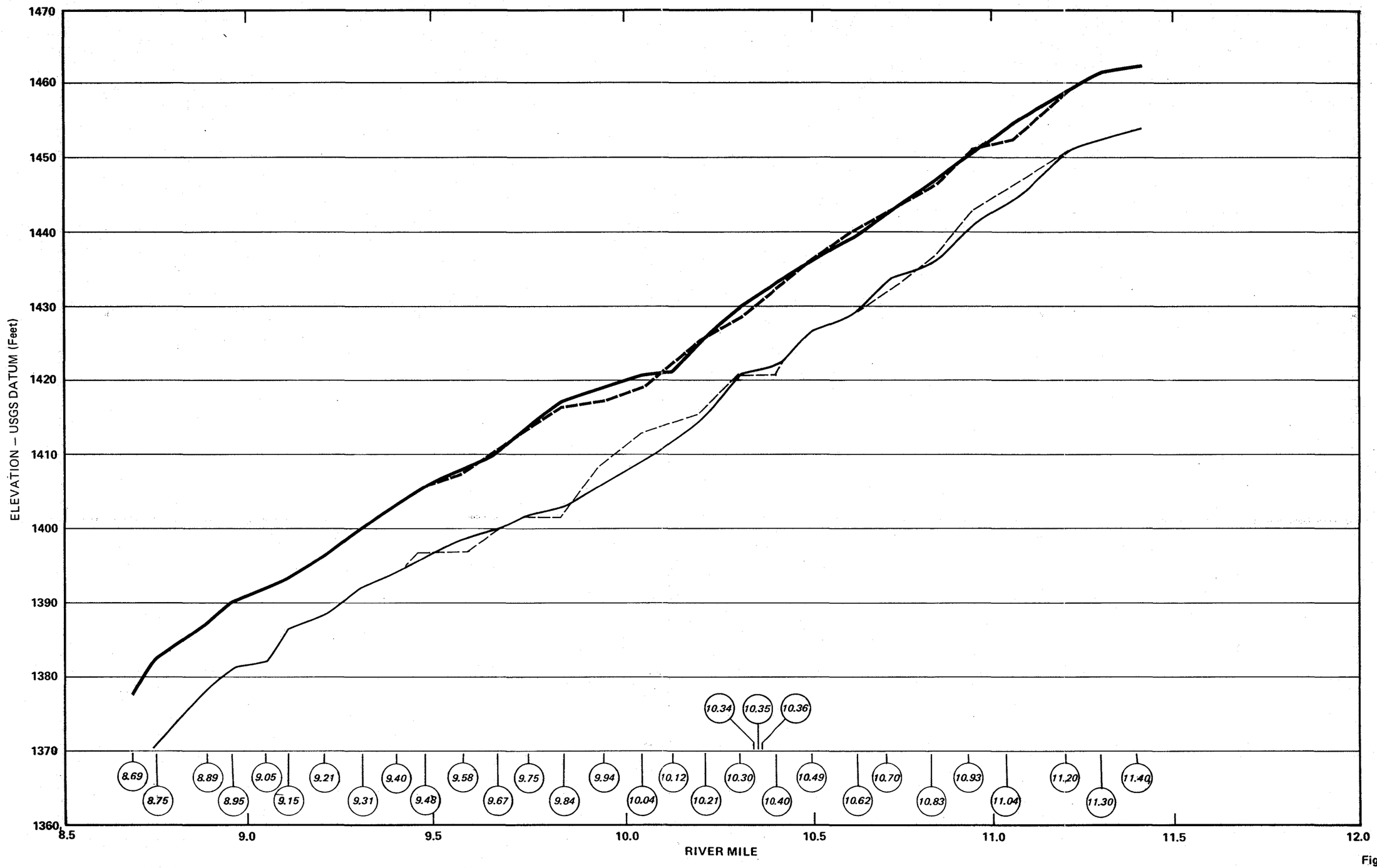
Figure 20

100 YEAR FLOOD

WATER SURFACE PROFILE

HYDRAULIC ANALYSIS OF PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

HARZA ENGINEERING COMPANY
July 1986



THALWEG
- Used in HEC–2 Analysis by COE, 1984
- Recommended Channel Improvement

WSEL
- From COE, HEC–2 Analysis, 1984
- Recommended Channel Improvements

(8.69) Cross Section Station

Figure 21

50 YEAR FLOOD

WATER SURFACE PROFILE

HYDRAULIC ANALYSIS OF PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

HARZA ENGINEERING COMPANY
July 1986

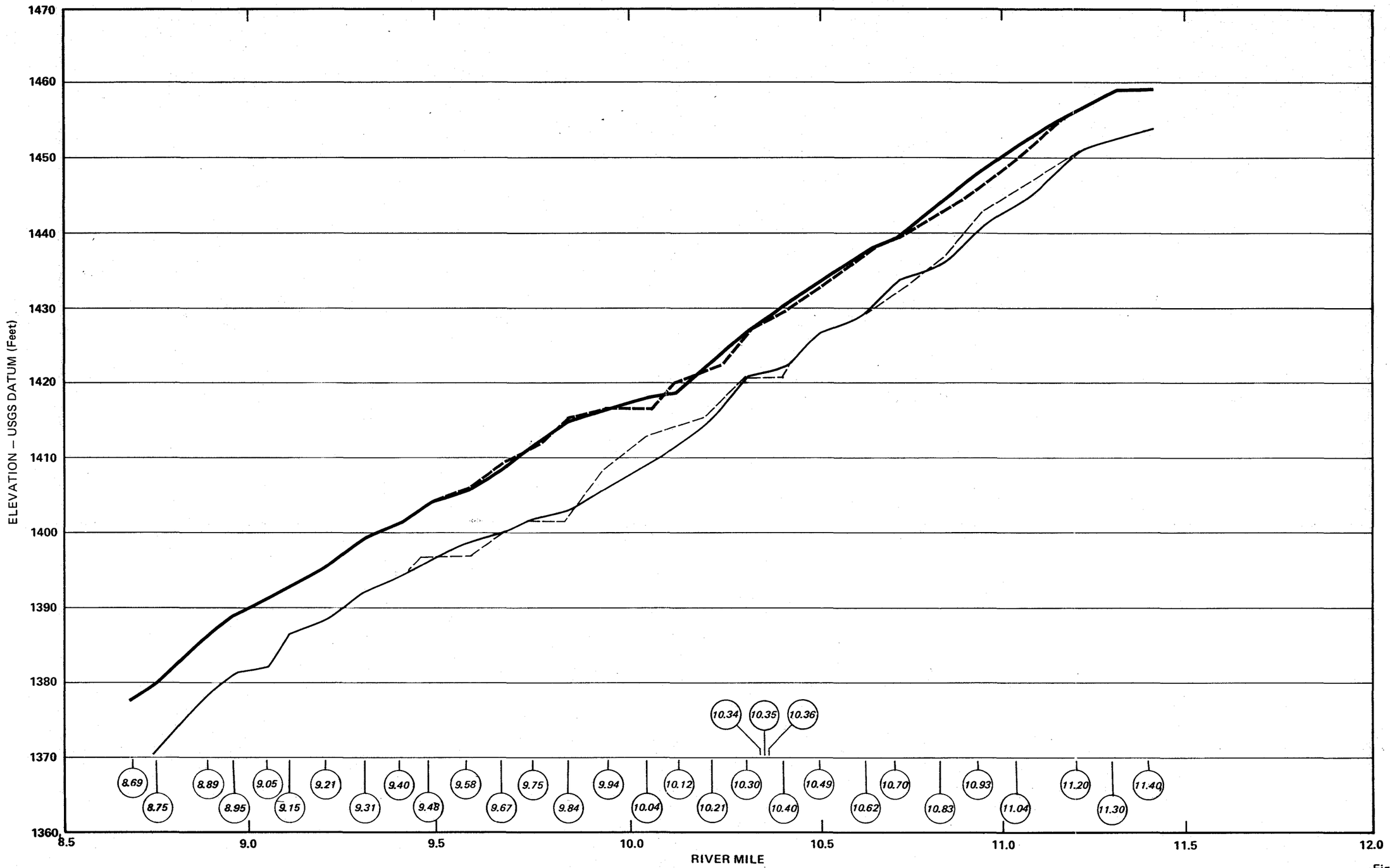


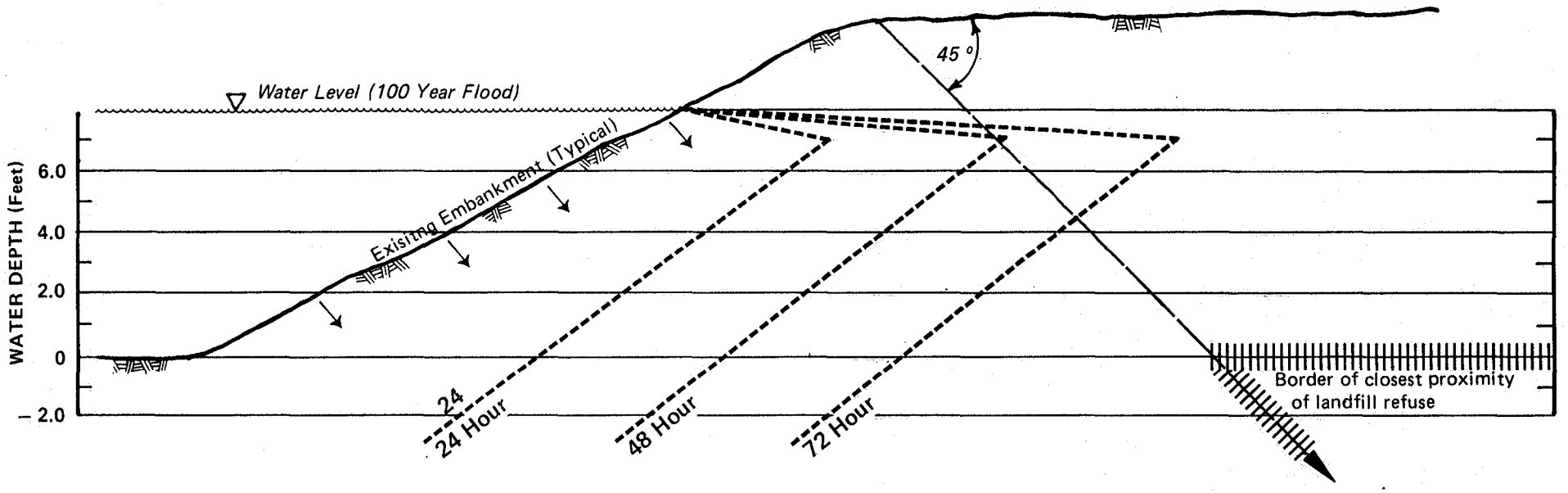
Figure 22

10 YEAR FLOOD

WATER SURFACE PROFILE

HYDRAULIC ANALYSIS OF PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

HARZA ENGINEERING COMPANY
July 1986



LEGEND

- - - - - - - Location to which Wetting Front has Advanced

48 Hour Time Required for Advancement of Wetting Front

Figure 23

CALCULATED MOVEMENT OF FLOOD WATER THROUGH EXISTING EMBANKMENT

HYDRAULIC ANALYSIS OF PROPOSED CHANNEL IMPROVEMENT
FLOOD PROTECTION OF SKUNK CREEK LANDFILL
Phoenix, Arizona

HARZA ENGINEERING COMPANY
July 1986

Preliminary Information

on

Use of Local Materials

of

Soil Cement

THOMAS-HARTIG & ASSOCIATES, INC.

SOIL AND FOUNDATION ENGINEERING · MATERIALS TESTING

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Harza Engineering Company
5025 East Washington Street, Suite 120
Phoenix, Arizona 85034

3 June 1986

Attention: Robert Amsbry, P.E.

Project: Skunk Creek Channelization
Soil Cement Preliminary Evaluation

Project No. 86-511

In accordance with our discussion we have completed the testing of samples for surface soils found in Skunk Creek. This testing is preliminary in nature and was completed to assess the feasibility of stabilizing embankment slopes with plant-mixed soil cement using the soils from the cut areas of the channel.

Three samples were obtained from the channel of existing Skunk Creek, two just north of the road at the landfill and a third from the northern end at the junction with the concrete channel. The overall characteristics of all three samples were sufficiently similar to allow compositing of the samples. Soil cement tests were performed on the composited sample containing 8 percent type II portland cement by dry weight of soil. The characteristics and test results are found on the enclosed sheet.

Our previous experience with the Agua Fria Channelization indicates that 700 psi compressive strength at age 7 days is usually sufficient for embankment stabilization. In view of the 1335 psi (average of 2) obtained at 8 percent portland cement in this test, it is likely that a 5 percent or 6 percent cement factor (by dry weight) will produce values in the range of 700 psi at 7 days. We recommend that further testing be undertaken to verify these lower percentages of cement addition prior to specification completion.

Please contact us if you have any questions. Thank you for the opportunity to provide this service.

Respectfully submitted,
THOMAS-HARTIG AND ASSOCIATES, INC.

By _____ Reviewed by _____
James M. Willson, P.E. Tom W. Thomas, P.E.

/lsf

Copies to: Addressee (2)

PHYSICAL CHARACTERISTICS

COMPOSITE SAMPLE

Gradation:

Sieve Size	Percent Passing
3"	100
1-1/2"	95
1"	92
1/2"	89
3/8"	87
#4	83
#8	77
#16	64
#30	46
#40	39
#50	31
#100	18
#200	12

Sample Containing
8 Percent Cement By Weight

Maximum Dry Density
128.0 pcf

Optimum Moisture
10.0 percent

Compressive Strength
7 day - 1289 psi
7 day - 1380 psi
28 day - 2260 psi

Calculations of Seepage

Through Embankment

Calculation of Seepage
Through Embankment

Figure 23 was generated using a form of the GREEN-AMPT EQUATION;

$$t = \frac{f}{k}\left[L_f - (H_w - h_{cr}) \ln \frac{H_w + L_f - h_{cr}}{H_w - h_{cr}}\right] \quad **$$

t = time for advancement of wetting front
f = fillable porosity, (0.15)
K = hydraulic conductivity
L_f = length of wetting front
H_w = depth of water above pervious material
h_{cr} = critical pressure head of soil for wetting, (-1.65ft)

This equation predicts the advancement of a wetting front through a porous material. The analysis was performed using the soil parameters of the existing material. Table 1 illustrates the time required (t) for the advancement of the wetting front through the material based on four different depths of water, 1, 2, 4, and 8 feet (H_w). The time is calculated based on wetting front advancement of distances between 10 and 100 feet (L_H). Calculations are based on a bank slope of 4:1. Lateral advancement of the wetting front is based on the horizontal component of the front, normal to the embankment.

** From Bouwer, "Groundwater Hydrology", McGraw-Hill 1978

Table 1

LEACHATE ASSESSMENT

H_w (ft)	K (fps)	L_f (ft)	L_H 1/	t(hr)
1	3.3×10^{-5}	10	3.8	7.4
		20	7.66	18.1
		30	11.49	29.5
		40	15.32	41.2
		50	19.15	53.1
2	3.3×10^{-5}	20	7.66	16.6
		40	15.32	39.1
		60	23.0	62.5
		80	30.6	86.6
4	3.3×10^{-5}	20	7.66	14.5
		40	15.32	35.6
		60	23.0	58.3
		80	30.6	81.6
8	3.3×10^{-5}	20	7.66	11.6
		40	15.32	30.5
		60	23.0	51.7
		80	30.6	73.8
		100	38.3	96.7

1/ $L_H = .383\ L_f = L_f \sin 22.5°$

SKUNK CREEK

ORIGINAL CORPS OF ENGINEERS HEC-2

```
===>   AS 95=W7
===>   AS 96=W8
===>   61THH*HEC2-08
1*****************************************************
 *  WATER SURFACE PROFILES                           *
 *  VERSION OF NOVEMBER 1976                         *
 *  UPDATED MAY 1984                                 *
 *                                                   *
 *  RUN DATE 13 JUN 86   TIME    4:29:44             *
 *****************************************************
```

```
*****************************************
*  U.S. ARMY CORPS OF ENGINEERS         *
*  THE HYDROLOGIC ENGINEERING CENTER    *
*  609 SECOND STREET, SUITE D           *
*  DAVIS, CALIFORNIA 95616              *
*  (916) 440-2105 (FTS) 448-2105        *
*****************************************
```

EXISTING

```
X      X  XXXXXXX   XXXXX              XXXXX
X      X  X         X      X           X      X
X      X  X         X                          X
XXXXXXX   XXXX      X            XXXXX  XXXXX
X      X  X         X
X      X  X         X      X           X
X      X  XXXXXXX   XXXXX              XXXXXXX
```

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1
13 JUN 86      4:29:45                                                                    PAGE     1
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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
*****************************************************
```

```
C
T1        FLOOD  PLAIN  STUDY - SKUNK CREEK
T2        SKUNK CREEK
T3        SKUNK CREEK FLOODPLAIN,

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        2.        0.        0.  0.000000     0.00      0.0       0.  1377.800    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    150.000   201.000   0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC     0.045     0.045     0.035     0.100     0.300     0.000     0.000     0.000     0.000     0.000
QT     6.000  1500.000  5000.000  9600.000 15000.000 29000.000 39000.000     0.000     0.000     0.000

          DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
          SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE,S LEVEES
          ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
          (APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
          CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
          ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
          MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
          OBSERVATION (FEB. 1983)
          THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
          39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)
```

FORM 1411-3

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34,000, AND 89,000 CFS RESPECTIVELY

X1	8.690	19.000	1979.000	2118.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	1380.000	452.000	1378.000	815.000	1378.000	877.000	1378.000	990.000	1378.000	1448.000
GR	1376.000	1481.000	1372.000	1542.000	1374.000	1675.000	1376.000	1727.000	1376.000	1979.000
GR	1369.800	2000.000	1370.000	2038.000	1372.000	2100.000	1376.000	2118.000	1376.200	2181.000
GR	1376.000	2278.000	1376.000	3560.000	1378.000	3560.000	1380.000	3690.000	0.000	0.000
X1	8.750	26.000	1800.000	2040.000	835.000	733.000	739.000	0.000	0.000	0.000
GR	1390.000	170.000	1388.000	235.000	1386.000	420.000	1384.000	510.000	1383.000	820.000
GR	1382.000	1190.000	1382.000	1435.000	1384.000	1470.000	1384.000	1490.000	1382.000	1500.000
GR	1380.000	1560.000	1378.000	1573.000	1378.000	1600.000	1380.000	1625.000	1378.000	1740.000
GR	1378.000	1790.000	1376.000	1800.000	1376.000	1958.000	1372.000	1975.000	1371.000	2000.000
GR	1380.000	2040.000	1381.000	2290.000	1382.000	2650.000	1382.000	3790.000	1384.000	4050.000
GR	1386.000	4190.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1

13 JUN 86 4:29:45 PAGE 2

X1	8.890	21.000	1900.000	2240.000	565.000	650.000	840.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	870.000	0.000	3730.000	0.000	0.000	0.000	0.000
GR	1392.000	675.000	1386.000	780.000	1386.000	1765.000	1384.000	1775.000	1384.000	1805.000
GR	1386.000	1815.000	1384.000	1865.000	1384.000	1900.000	1382.000	1950.000	1382.000	1970.000
GR	1378.000	2000.000	1380.000	2030.000	1382.000	2090.000	1382.000	2230.000	1384.000	2240.000
GR	1386.000	2260.000	1387.000	3440.000	1386.500	3770.000	1387.000	4080.000	1388.000	4230.000
GR	1390.000	4440.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	8.965	17.000	1955.000	2330.000	275.000	410.000	400.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1085.000	0.000	3575.000	0.000	0.000	0.000	0.000
GR	1392.000	780.000	1390.000	830.000	1388.000	880.000	1388.000	1580.000	1390.000	1915.000
GR	1390.000	1945.000	1388.000	1955.000	1386.000	1975.000	1381.000	2000.000	1382.000	2025.000
GR	1384.000	2105.000	1386.000	2240.000	1388.000	2330.000	1388.000	2560.000	1390.000	2920.000
GR	1390.000	4120.000	1392.000	4570.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	9.050	21.000	1905.000	2140.000	410.000	370.000	550.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1370.000	0.000	3415.000	0.000	0.000	0.000	0.000
GR	1398.000	700.000	1396.000	720.000	1394.000	780.000	1392.000	840.000	1390.000	1250.000
GR	1389.000	1645.000	1388.000	1905.000	1386.000	1910.000	1386.000	1925.000	1388.000	1935.000
GR	1386.000	1940.000	1384.000	1970.000	1382.000	2000.000	1382.000	2040.000	1384.000	2050.000
GR	1386.000	2095.000	1388.000	2100.000	1390.000	2140.000	1390.000	2950.000	1392.000	4220.000
GR	1394.000	4570.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	9.115	15.000	1790.000	2300.000	350.000	300.000	370.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	3465.000	0.000	0.000	0.000	0.000
GR	1400.000	110.000	1398.000	385.000	1396.000	660.000	1394.000	1600.000	1392.000	1790.000
GR	1390.000	1880.000	1388.000	1970.000	1386.500	2000.000	1388.000	2110.000	1390.000	2185.000
GR	1392.000	2300.000	1392.000	3650.000	1394.000	4025.000	1396.000	4480.000	1398.000	4720.000
NC	0.000	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
X3 USED TO DEFINE EFFECTIVE FLOW.

X1	9.210	37.000	1865.000	2190.000	460.000	500.000	600.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1385.000	0.000	2950.000	0.000	0.000	0.000	0.000
GR	1402.000	140.000	1402.000	300.000	1400.000	350.000	1398.000	510.000	1396.000	565.000
GR	1394.000	650.000	1394.000	670.000	1396.000	695.000	1396.000	720.000	1394.000	720.000
GR	1394.000	880.000	1396.000	1050.000	1396.000	1130.000	1394.000	1145.000	1394.000	1225.000
GR	1396.000	1290.000	1396.000	1510.000	1394.000	1720.000	1394.000	1735.000	1394.000	1765.000
GR	1394.000	1865.000	1392.000	1920.000	1392.000	1930.000	1390.000	1950.000	1388.500	2000.000
GR	1390.000	2085.000	1392.000	2180.000	1394.000	2190.000	1394.000	2200.000	1392.000	2210.000
GR	1392.000	2225.000	1394.000	2230.000	1394.700	2450.000	1395.000	3250.000	1396.000	4050.000
GR	1398.000	4430.000	1399.500	4600.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	4.000	0.045	1930.000	0.035	2115.000	0.050	3030.000	0.040	3660.000	0.000

LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.

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LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.

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13 JUN 86 4:29:45

X3 USED TO DEFINE EFFECTIVE FLOW.

X1	9.310	29.000	1930.000	2115.000	400.000	480.000	650.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1110.000	0.000	2560.000	0.000	0.000	0.000	0.000
GR	1406.000	20.000	1404.000	90.000	1402.000	310.000	1400.000	410.000	1398.000	425.000
GR	1398.000	820.000	1396.000	900.000	1398.000	940.000	1398.000	1130.000	1398.000	1225.000
GR	1398.000	1250.000	1399.000	1300.000	1398.000	1330.000	1399.000	1350.000	1399.000	1845.000
GR	1398.000	1930.000	1394.000	1940.000	1392.000	1980.000	1392.000	2000.000	1392.000	2010.000
GR	1392.000	2040.000	1392.000	2090.000	1394.000	2105.000	1396.000	2115.000	1398.000	2160.000
GR	1398.000	2280.000	1394.000	3030.000	1400.000	3530.000	1402.000	3660.000	0.000	0.000
NH	4.000	0.040	1940.000	0.035	2200.000	0.050	2300.000	0.040	4100.000	0.000

LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
X3 USED TO DEFINE EFFECTIVE FLOW.

X1	9.400	33.000	1940.000	2200.000	370.000	420.000	510.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	980.000	0.000	2400.000	0.000	0.000	0.000	0.000
GR	1410.000	110.000	1408.000	140.000	1406.000	180.000	1404.000	330.000	1402.000	510.000
GR	1400.000	635.000	1400.000	965.000	1400.000	995.000	1400.000	1030.000	1400.000	1150.000
GR	1402.000	1250.000	1402.000	1550.000	1400.000	1620.000	1400.000	1650.000	1402.000	1770.000
GR	1402.000	1940.000	1400.000	1975.000	1396.000	1990.000	1394.400	2000.000	1396.000	2040.000
GR	1396.000	2085.000	1394.000	2100.000	1394.000	2180.000	1400.000	2200.000	1402.000	2300.000
GR	1400.000	2390.000	1400.000	2400.000	1402.000	2450.000	1404.000	2680.000	1404.000	2870.000
GR	1404.000	3300.000	1406.000	3790.000	1408.000	4100.000	0.000	0.000	0.000	0.000
NH	4.000	0.045	1945.000	0.035	2040.000	0.050	2600.000	0.040	4130.000	0.000

LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
X3 USED TO DEFINE EFFECTIVE FLOW.

X1	9.480	41.000	1945.000	2300.000	370.000	420.000	490.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1170.000	0.000	2470.000	0.000	0.000	0.000	0.000
GR	1412.000	330.000	1410.000	350.000	1410.000	440.000	1411.700	500.000	1410.000	560.000
GR	1410.000	640.000	1408.000	665.000	1406.000	690.000	1404.000	720.000	1402.000	770.000
GR	1402.000	800.000	1402.000	830.000	1402.000	860.000	1402.000	970.000	1404.000	1200.000
GR	1404.000	1400.000	1404.000	1640.000	1406.000	1715.000	1406.000	1725.000	1406.000	1750.000
GR	1404.000	1890.000	1404.000	1930.000	1404.000	1945.000	1398.000	1970.000	1396.500	2000.000
GR	1398.000	2040.000	1398.000	2190.000	1396.000	2255.000	1398.000	2280.000	1402.000	2300.000
GR	1404.000	2370.000	1404.000	2600.000	1403.000	2750.000	1404.000	2850.000	1406.000	2870.000
GR	1408.000	2920.000	1409.000	3020.000	1408.000	3100.000	1406.500	3290.000	1408.000	3450.000
GR	1410.000	4130.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.045	0.045	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
AT 2 TO 1.
X3 USED TO DEFINE EFFECTIVE FLOW.

X1	9.580	29.000	1910.000	2340.000	390.000	460.000	450.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1600.000	0.000	2535.000	0.000	0.000	0.000	0.000
GR	1412.000	625.000	1410.000	645.000	1408.000	675.000	1406.000	870.000	1404.000	1000.000
GR	1406.000	1040.000	1406.000	1080.000	1404.000	1110.000	1404.000	1280.000	1406.000	1520.000
GR	1407.500	1910.000	1406.000	1965.000	1402.000	1990.000	1398.500	2000.000	1400.000	2060.000

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GR	1402.000	2160.000	1400.000	2240.000	1404.000	2290.000	1406.000	2340.000	1406.000	2410.000
GR	1404.000	2430.000	1404.000	2500.000	1406.000	2550.000	1406.000	2720.000	1407.000	2860.000
GR	1406.000	3025.000	1406.000	3095.000	1408.000	3255.000	1410.000	3400.000	0.000	0.000

X3 USED TO DEFINE EFFECTIVE FLOW.

FORM 1411-3
PRINTED IN U.S.A.

X3 USED TO DEFINE EFFECTIVE FLOW.

X1	9.670	24.000	1970.000	2060.000	470.000	420.000	410.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1770.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	1414.000	530.000	1412.000	540.000	1410.000	810.000	1408.000	945.000	1406.000	970.000
GR	1408.000	1010.000	1407.000	1055.000	1408.000	1130.000	1408.000	1480.000	1410.000	1840.000
GR	1410.000	1910.000	1408.000	1970.000	1400.000	2000.000	1402.000	2050.000	1408.000	2060.000
GR	1408.000	2085.000	1404.000	2110.000	1404.000	2250.000	1406.000	2270.000	1406.000	2350.000
GR	1405.000	2370.000	1406.000	2385.000	1420.000	2450.000	1426.000	2480.000	0.000	0.000

LANDFILL PIT BETWEEN RM 9.75 AND 10.04 ASSUMED TO BE FILLED.

X1	9.750	21.000	1910.000	2035.000	390.000	410.000	370.000	0.000	0.000	0.000
GR	1424.000	1710.000	1416.000	1740.000	1414.000	1750.000	1412.000	1760.000	1410.000	1790.000
GR	1410.000	1800.000	1412.000	1815.000	1412.000	1890.000	1410.000	1910.000	1404.000	1935.000
GR	1402.000	1990.000	1401.700	2000.000	1402.000	2005.000	1410.000	2035.000	1408.000	2040.000
GR	1407.000	2070.000	1408.000	2090.000	1410.000	2175.000	1412.000	2200.000	1412.000	2270.000
GR	1424.000	2340.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	9.840	12.000	1955.000	2160.000	500.000	490.000	480.000	0.000	0.000	0.000
GR	1430.000	1720.000	1414.000	1780.000	1414.000	1955.000	1404.000	1985.000	1403.000	2000.000
GR	1406.000	2020.000	1408.000	2115.000	1410.000	2160.000	1412.000	2180.000	1414.000	2260.000
GR	1416.000	2280.000	1430.000	2340.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	9.940	16.000	1960.000	2120.000	430.000	470.000	520.000	0.000	0.000	0.000
GR	1430.000	1715.000	1416.000	1770.000	1414.000	1800.000	1412.000	1940.000	1410.000	1960.000
GR	1408.000	1975.000	1406.000	2000.000	1406.000	2025.000	1408.000	2065.000	1410.000	2090.000
GR	1412.000	2120.000	1414.000	2155.000	1416.000	2175.000	1418.000	2225.000	1420.000	2255.000
GR	1430.000	2310.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	10.040	17.000	1920.000	2160.000	540.000	540.000	540.000	0.000	0.000	0.000
GR	1428.000	1795.000	1418.000	1840.000	1416.000	1880.000	1414.000	1920.000	1412.000	1950.000
GR	1410.000	1970.000	1409.000	2000.000	1410.000	2070.000	1412.000	2115.000	1414.000	2160.000
GR	1416.000	2180.000	1418.000	2230.000	1420.000	2315.000	1422.000	2370.000	1424.000	2410.000
GR	1426.000	2420.000	1430.000	2445.000	0.000	0.000	0.000	0.000	0.000	0.000

LANDFILL PIT BETWEEN RM 10.12 AND 10.30 ASSUMED FILLED AND CLOSED.

X1	10.120	16.000	1900.000	2100.000	450.000	420.000	380.000	0.000	0.000	0.000
GR	1430.000	1720.000	1422.000	1760.000	1422.000	1820.000	1420.000	1860.000	1414.000	1900.000
GR	1412.000	1915.000	1411.500	2000.000	1412.000	2035.000	1414.000	2055.000	1416.000	2100.000
GR	1418.000	2135.000	1420.000	2165.000	1422.000	2180.000	1421.000	2260.000	1424.000	2300.000
GR	1430.000	2330.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	10.210	18.000	1880.000	2050.000	490.000	475.000	450.000	0.000	0.000	0.000
GR	1436.000	1755.000	1426.000	1810.000	1424.000	1840.000	1420.000	1880.000	1418.000	1930.000
GR	1416.000	1970.000	1415.500	2000.000	1416.000	2020.000	1418.000	2030.000	1418.000	2050.000
GR	1418.000	2065.000	1420.000	2085.000	1420.000	2100.000	1420.000	2150.000	1422.000	2240.000
GR	1424.000	2250.000	1424.000	2310.000	1436.000	2400.000	0.000	0.000	0.000	0.000
NC	0.000	0.050	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	10.300	20.000	1860.000	2080.000	460.000	450.000	440.000	0.000	0.000	0.000
GR	1438.000	1750.000	1430.000	1790.000	1428.000	1830.000	1426.000	1845.000	1424.000	1860.000
GR	1422.000	1930.000	1420.800	2000.000	1422.000	2070.000	1424.000	2080.000	1425.000	2100.000
GR	1424.000	2151.000	1428.000	2210.000	1428.000	2350.000	1428.000	2380.000	1430.000	2475.000
GR	1430.000	2530.000	1428.000	2620.000	1426.000	2650.000	1426.000	2700.000	1438.000	2745.000
X1	10.340	9.000	800.000	1300.000	190.000	185.000	180.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	400.000	0.000	1600.000	0.000	0.000	0.000	0.000
GR	1430.000	0.000	1429.000	700.000	1427.500	800.000	1424.000	900.000	1428.100	1000.000
GR	1428.500	1100.000	1429.000	1200.000	1429.000	1300.000	1430.000	2000.000	0.000	0.000
X1	10.350	9.000	800.000	1300.000	50.000	50.000	50.000	0.000	0.000	0.000

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X1	10.350	9.000	800.000	1300.000	50.000	50.000	50.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	400.000	0.000	1600.000	0.000	0.000	0.000	0.000
GR	1430.000	0.000	1428.500	700.000	1425.500	800.000	1424.000	900.000	1425.800	1000.000
GR	1428.300	1100.000	1430.000	1200.000	1430.200	1300.000	1430.000	2000.000	0.000	0.000
X1	10.360	9.000	800.000	1300.000	50.000	50.000	50.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	400.000	0.000	1600.000	0.000	0.000	0.000	0.000
GR	1430.000	0.000	1429.000	700.000	1430.000	800.000	1423.700	900.000	1429.000	1000.000
GR	1429.200	1100.000	1429.500	1200.000	1427.000	1300.000	1430.000	2000.000	0.000	0.000

X3 USED TO DEFINE EFFECTIVE FLOW.

X1	10.400	29.000	1870.000	2120.000	190.000	185.000	180.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	950.000	0.000	2490.000	0.000	0.000	0.000	0.000
GR	1436.000	655.000	1434.000	730.000	1432.000	1090.000	1431.000	1210.000	1430.000	1310.000
GR	1430.000	1320.000	1431.000	1560.000	1430.000	1730.000	1432.000	1820.000	1430.000	1870.000
GR	1424.000	1895.000	1422.000	1940.000	1422.000	2000.000	1424.000	2080.000	1428.000	2120.000
GR	1430.000	2250.000	1430.000	2280.000	1430.000	2370.000	1428.000	2380.000	1428.000	2390.000
GR	1430.000	2400.000	1430.000	2480.000	1430.000	2505.000	1432.000	2515.000	1434.000	2525.000
GR	1434.000	2550.000	1432.000	2580.000	1434.000	2610.000	1440.000	2665.000	0.000	0.000

INVERT ELEVATION ASSUMED FILLED TO 1434 FEET AT DOWNSTREAM END OF
GRAVEL PIT.
X3 USED TO DEFINE EFFECTIVE FLOW.

X1	10.490	17.000	1885.000	2185.000	420.000	450.000	470.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	720.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	1440.000	560.000	1438.000	680.000	1436.000	815.000	1434.000	1220.000	1434.000	1230.000
GR	1436.000	1805.000	1434.000	1850.000	1434.000	1885.000	1430.000	1935.000	1428.000	1970.000
GR	1426.500	2000.000	1428.000	2020.000	1430.000	2160.000	1432.000	2185.000	1434.000	2265.000
GR	1436.000	2300.000	1440.000	2310.000	0.000	0.000	0.000	0.000	0.000	0.000

NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

INVERT ELEVATION ASSUMED TO FILL TO 1436 FEET AT UPSTREAM END OF
GRAVEL PIT.
X3 USED TO DEFINE EFFECTIVE FLOW.

X1	10.620	23.000	1795.000	2020.000	605.000	600.000	590.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	655.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	1444.000	310.000	1442.000	340.000	1440.000	500.000	1440.000	905.000	1442.000	1010.000
GR	1442.000	1040.000	1440.000	1070.000	1438.000	1110.000	1438.000	1180.000	1438.000	1280.000
GR	1438.000	1600.000	1438.000	1635.000	1438.000	1710.000	1438.000	1735.000	1436.000	1760.000
GR	1432.000	1795.000	1430.000	1980.000	1429.200	2000.000	1430.000	2010.000	1432.000	2020.000
GR	1438.000	2090.000	1440.000	2105.000	1444.000	2125.000	0.000	0.000	0.000	0.000

X3 USED TO DEFINE EFFECTIVE FLOW.

X1	10.700	34.000	1915.000	2100.000	405.000	390.000	380.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	800.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	1450.000	295.000	1448.000	410.000	1446.000	450.000	1446.000	590.000	1447.000	645.000
GR	1446.000	680.000	1447.000	920.000	1446.000	1145.000	1444.000	1210.000	1444.000	1315.000
GR	1442.000	1340.000	1441.000	1440.000	1440.000	1615.000	1440.000	1645.000	1442.000	1690.000
GR	1442.000	1760.000	1440.000	1855.000	1438.000	1880.000	1436.000	1915.000	1434.000	1930.000
GR	1432.500	2000.000	1434.000	2090.000	1436.000	2100.000	1438.000	2115.000	1436.000	2125.000
GR	1436.000	2130.000	1438.000	2140.000	1440.000	2155.000	1442.000	2160.000	1450.000	2180.000
GR	1436.000	2180.000	1440.000	2190.000	1440.000	2230.000	1450.000	2255.000	0.000	0.000

X3 USED TO DEFINE EFFECTIVE FLOW.

FORM 1411-3
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X3 USED TO DEFINE EFFECTIVE FLOW.

X1	10.830	37.000	1830.000	2030.000	645.000	650.000	650.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1080.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	1452.000	565.000	1450.000	635.000	1449.000	800.000	1450.000	970.000	1450.000	1015.000
GR	1449.000	1150.000	1448.000	1230.000	1448.000	1330.000	1449.500	1450.000	1448.000	1550.000
GR	1446.000	1630.000	1444.000	1685.000	1446.000	1730.000	1444.000	1830.000	1442.000	1840.000
GR	1442.000	1890.000	1440.000	1910.000	1438.000	1965.000	1436.000	2000.000	1438.000	2015.000
GR	1444.000	2030.000	1445.000	2160.000	1444.000	2410.000	1442.000	2420.000	1438.000	2440.000
GR	1438.000	2450.000	1442.000	2470.000	1443.000	2565.000	1442.000	2600.000	1442.000	2630.000
GR	1442.000	2730.000	1438.000	2760.000	1438.000	2770.000	1444.000	2795.000	1446.000	2820.000
GR	1448.000	2840.000	1452.000	2875.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	10.930	38.000	1910.000	2085.000	500.000	500.000	500.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1360.000	0.000	2965.000	0.000	0.000	0.000	0.000
GR	1456.000	570.000	1454.000	645.000	1452.500	810.000	1453.000	1040.000	1452.000	1515.000
GR	1451.000	1640.000	1450.000	1750.000	1448.000	1805.000	1448.000	1815.000	1444.000	1860.000
GR	1448.000	1910.000	1444.000	1930.000	1442.000	1970.000	1441.000	2000.000	1442.000	2015.000
GR	1444.000	2025.000	1444.000	2050.000	1448.000	2085.000	1448.000	2160.000	1446.000	2160.000
GR	1448.000	2190.000	1448.000	2220.000	1446.000	2225.000	1446.000	2360.000	1446.000	2380.000
GR	1447.000	2435.000	1447.000	2500.000	1448.000	2610.000	1448.500	2720.000	1449.000	3160.000
GR	1448.000	3225.000	1448.000	3270.000	1442.000	3290.000	1448.000	3305.000	1448.500	3510.000
GR	1450.000	3660.000	1452.000	3825.000	1454.000	3980.000	0.000	0.000	0.000	0.000

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X3 USED TO DEFINE EFFETIVE FLOW.

X1	11.040	35.000	1955.000	2065.000	500.000	500.000	500.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1440.000	0.000	2540.000	0.000	0.000	0.000	0.000
GR	1462.000	170.000	1460.000	400.000	1458.000	710.000	1458.000	800.000	1458.000	980.000
GR	1456.000	1300.000	1456.000	1440.000	1444.000	1505.000	1444.000	1550.000	1446.000	1570.000
GR	1448.000	1610.000	1448.000	1650.000	1448.000	1680.000	1450.000	1740.000	1451.000	1850.000
GR	1450.000	1955.000	1449.000	2000.000	1450.000	2065.000	1451.000	2240.000	1451.500	2540.000
GR	1451.500	2700.000	1451.000	2880.000	1451.500	3040.000	1450.000	3120.000	1450.000	3160.000
GR	1450.500	3220.000	1450.000	3290.000	1446.000	3300.000	1452.000	3330.000	1452.000	3350.000
GR	1452.000	3480.000	1454.000	3740.000	1456.000	3800.000	1460.000	3840.000	1462.000	3850.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES. INVERT
AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

X1	11.200	4.000	1834.500	2165.500	680.000	755.000	770.000	0.000	0.000	0.000
GR	1467.000	1834.500	1452.000	1864.500	1452.000	2135.500	1467.000	2165.500	0.000	0.000
X1	11.300	4.000	1831.500	2169.500	528.000	528.000	528.000	0.000	0.000	0.000
GR	1469.000	1831.500	1452.500	1864.500	1452.500	2135.500	1469.500	2169.500	0.000	0.000
X1	11.400	4.000	1829.500	2171.500	528.000	528.000	528.000	0.000	0.000	0.000
GR	1471.500	1829.500	1454.000	1864.500	1454.000	2135.500	1472.000	2171.500	0.000	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	IWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 8.690

DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-

FORM 1411-3
PRINTED IN U.S.A.

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DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE,S LEVEES
ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
(APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
OBSERVATION (FEB. 1983)
THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

     8.69      8.00  1377.80      0.00  1377.80  1377.80      0.00      0.00      0.00  1376.00
    1500.      454.     532.      513.    1496.     893.    2580.      0.00        0.   1376.00
     0.00      0.30      0.60      0.20    0.045    0.035    0.045     0.000   1369.80   1451.30
 0.000017        0.        0.        0        0        0        0      0.00   2108.70   3560.00
0
 *SECNO 8.750
     8.75      6.77  1377.77      0.00     0.00  1377.87     0.09      0.04      0.03  1376.00
    1500.        7.     1493.       0.       8.     603.       0.     48.81       20.   1380.00
     0.08      0.93      2.47      0.00    0.045    0.035    0.000     0.000   1371.00   1791.13
 0.000945      835.      739.      733.        2        0        0      0.00    238.98   2030.11
0
 *SECNO 8.890
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=      870.0     3730.0  TYPE=      1  TARGET=     2860.000
     8.89      4.20  1382.20  1382.20      0.00  1382.69     0.49      2.12      0.12  1384.00
    1500.        0.     1500.       0.       0.     268.       0.     57.27       25.   1384.00
     0.13      0.00      5.60      0.00    0.000    0.035    0.000     0.000   1378.00   1944.89
 0.019025      565.      840.      650.       20       20        0      0.00    286.14   2231.02
0
 *SECNO 8.965
1
 13 JUN 86      4:29:45                                                                    PAGE      9

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


 3470 ENCROACHMENT STATIONS=     1085.0     3575.0  TYPE=      1  TARGET=     2490.000
     8.96      4.35  1385.35      0.00     0.00  1385.58     0.23      2.86      0.03  1388.00
    1500.        0.     1500.       0.       0.     392.       0.     60.30       28.   1388.00
     0.16      0.00      3.83      0.00    0.000    0.035    0.000     0.000   1381.00   1978.27
 0.003713      275.      400.      410.        5        0        0      0.00    217.54   2195.81
0
 *SECNO 9.050

 3265 DIVIDED FLOW


 3470 ENCROACHMENT STATIONS=     1370.0     3415.0  TYPE=      1  TARGET=     2045.000
     9.05      4.67  1386.67      0.00     0.00  1386.83     0.16      1.25      0.01  1388.00
    1500.        0.     1500.       0.       0.     474.       0.     65.76       30.   1390.00
     0.20      0.00      3.17      0.00    0.000    0.035    0.000     0.000   1382.00   1908.30
 0.001524      410.      550.      370.        4        0        0      0.00    178.51   2096.70
0
 *SECNO 9.115
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=        0.0     3465.0  TYPE=      1  TARGET=     3464.999
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3470 ENCROACHMENT STATIONS=        0.0     3465.0  TYPE=      1  TARGET=     3464.999
     9.11      2.29  1388.79  1388.79      0.00  1389.39      0.59      1.34      0.13  1392.00
    1500.        0.    1500.       0.        0.     242.        0.     68.80       32.  1392.00
     0.22      0.00      6.19     0.00     0.000     0.035     0.000     0.000   1386.50  1934.23
 0.017070      350.      370.     300.        20        11         0      0.00    205.58  2139.61
0
*SECNO 9.210

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=     1385.0     2950.0  TYPE=      1  TARGET=     1565.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.21      3.55  1392.05     0.00      0.00  1392.19      0.14      2.76      0.05  1394.00
    1500.        0.    1500.       0.        0.     501.        1.     73.93       35.  1394.00
     0.28      0.00      2.99     0.25     0.000     0.035     0.040     0.000   1388.50  1918.46
 0.002096      460.      600.     500.         6         0         0      0.00    277.24  2225.14
0
1
13 JUN 86      4:29:45                                                                          PAGE     10

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


1490 NH CARD USED
*SECNO 9.310

3470 ENCROACHMENT STATIONS=     1110.0     2560.0  TYPE=      1  TARGET=     1450.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.31      2.12  1394.12     0.00      0.00  1394.52      0.40      2.25      0.08  1398.00
    1500.        0.    1500.       0.        0.     294.        0.     79.86       38.  1396.00
     0.31      0.00      5.10     0.00     0.000     0.035     0.000     0.000   1392.00  1939.71
 0.006743      400.      650.     480.         4         0         0      0.00    165.86  2105.57
0
1490 NH CARD USED
*SECNO 9.400

3470 ENCROACHMENT STATIONS=      980.0     2400.0  TYPE=      1  TARGET=     1420.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.40      2.80  1396.80     0.00      0.00  1397.04      0.24      2.50      0.02  1402.00
    1500.        0.    1500.       0.        0.     381.        0.     83.81       41.  1400.00
     0.35      0.00      3.94     0.00     0.000     0.035     0.000     0.000   1394.00  1987.01
 0.003728      370.      510.     420.         4         0         0      0.00    202.31  2189.32
0
1490 NH CARD USED
*SECNO 9.480

3470 ENCROACHMENT STATIONS=     1170.0     2470.0  TYPE=      1  TARGET=     1300.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.48      3.05  1399.05     0.00      0.00  1399.20      0.16      2.16      0.01  1404.00
    1500.        0.    1500.       0.        0.     472.        0.     88.61       44.  1402.00
     0.39      0.00      3.17     0.00     0.000     0.050     0.000     0.000   1396.00  1965.63
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      0.39      0.00      3.17      0.00     0.000     0.050     0.000     0.000   1396.00   1965.63
  0.005285      370.      490.      420.         2         0         0      0.00    319.61   2285.24
0
1
 13 JUN 86     4:29:45                                                                                    PAGE    11

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

 *SECNO 9.580

 3265 DIVIDED FLOW


 3470 ENCROACHMENT STATIONS=     1600.0     2535.0  TYPE=      1  TARGET=      935.000

          BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
          AT 2 TO 1.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.58      3.30   1401.80      0.00      0.00   1402.11      0.31      2.86      0.05   1407.50
     1500.        0.     1500.        0.        0.      334.        0.     92.77       47.   1406.00
      0.42      0.00      4.49      0.00     0.000     0.035     0.000     0.000   1398.50   1990.58
  0.007789      390.      450.      460.         3         0         0      0.00    253.63   2262.46
0
 *SECNO 9.670

 3265 DIVIDED FLOW


 3470 ENCROACHMENT STATIONS=     1770.0     2480.0  TYPE=      1  TARGET=    -1770.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.67      4.37   1404.37   1403.73      0.00   1405.06      0.69      2.84      0.11   1408.00
     1500.        0.     1428.        72.        0.      209.       54.     95.59       49.   1408.00
      0.44      0.00      6.82      1.34     0.000     0.035     0.045     0.000   1400.00   1983.60
  0.006183      470.      410.      420.         4         8         0      0.00    216.45   2253.75
0
 *SECNO 9.750

          LANDFILL PIT BETWEEN RM 9.75 AND 10.04 ASSUMED TO BE FILLED.

      9.75      4.61   1406.31      0.00      0.00   1406.71      0.40      1.62      0.03   1410.00
     1500.        0.     1500.        0.        0.      295.        0.     97.98       50.   1410.00
      0.46      0.00      5.09      0.00     0.000     0.035     0.000     0.000   1401.70   1925.38
  0.003247      390.      370.      410.         3         0         0      0.00     95.78   2021.16
0
1
 13 JUN 86     4:29:45                                                                                    PAGE    12

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


 *SECNO 9.840
      9.84      5.31   1408.31      0.00      0.00   1408.70      0.38      1.98      0.00   1414.00
     1500.        0.     1500.        0.        0.      302.        0.    101.27       51.   1410.00
      0.48      0.00      4.97      0.00     0.000     0.035     0.000     0.000   1403.00   1972.07
  0.005433      500.      480.      490.         2         0         0      0.00    149.93   2122.00
0
 *SECNO 9.940
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*SECNO 9.940
      9.94     4.25  1410.25      0.00      0.00  1410.51      0.26      1.80      0.01  1410.00
      1500.      0.    1500.        0.        0.     368.        0.    105.27       53.  1412.00
      0.52     0.40     4.08      0.00     0.045     0.035     0.000     0.000   1406.00  1957.50
  0.002398     430.     520.      470.         2         0         0      0.00    136.26  2093.76
0
*SECNO 10.040
     10.04     3.02  1412.02      0.00      0.00  1412.37      0.34      1.83      0.03  1414.00
     1500.      0.    1500.        0.        0.     318.        0.    109.53       55.  1414.00
      0.55     0.00     4.71      0.00     0.000     0.035     0.000     0.000   1409.00  1949.70
  0.005168     540.     540.      540.         2         0         0      0.00    165.75  2115.45
0
*SECNO 10.120

          LANDFILL PIT BETWEEN RM 10.12 AND 10.30 ASSUMED FILLED AND CLOSED.

     10.12     2.51  1414.01      0.00      0.00  1414.38      0.37      2.01      0.01  1414.00
     1500.      0.    1500.        0.        0.     306.        0.    112.25       56.  1416.00
      0.57     0.00     4.90      0.00     0.000     0.035     0.000     0.000   1411.50  1899.95
  0.005390     450.     380.      420.         3         0         0      0.00    155.22  2055.17
0
*SECNO 10.210
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     10.21     2.89  1418.39   1418.39      0.00  1419.15      0.76      3.73      0.12  1420.00
     1500.      0.    1487.       13.        0.     211.        7.    114.96       58.  1418.00
      0.59     0.00     7.03      2.03     0.000     0.035     0.045     0.000   1415.50  1920.20
  0.014342     490.     450.      475.        10         8         0      0.00    148.72  2068.92
0
*SECNO 10.300
     10.30     2.63  1423.43      0.00      0.00  1423.76      0.33      4.57      0.04  1424.00
     1500.      0.    1500.        0.        0.     326.        0.    117.71       60.  1424.00
      0.62     0.00     4.60      0.00     0.000     0.040     0.000     0.000   1420.80  1879.76
  0.007853     460.     440.      450.         9         0         0      0.00    197.42  2077.18
0
1
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     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

*SECNO 10.340
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
     10.34     2.87  1426.87   1426.87      0.00  1427.60      0.73      2.18      0.12  1427.50
     1500.      0.    1500.        0.        0.     218.        0.    118.84       61.  1429.00
      0.62     0.00     6.87      0.00     0.000     0.040     0.000     0.000   1424.00   817.97
  0.021148     190.     180.      185.        20         8         0      0.00    152.06   970.03
0
*SECNO 10.350

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
     10.35     3.74  1427.74      0.00      0.00  1427.81      0.07      0.14      0.07  1425.50
     1500.     96.    1404.        0.       84.     659.        0.    119.39       61.  1430.20
      0.63     1.15     2.13      0.00     0.045     0.040     0.000     0.000   1424.00   725.26
  0.001039      50.      50.       50.         2         0         0      0.00    352.43  1077.69
0
*SECNO 10.360
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*SECNO 10.360

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
    10.36      3.93  1427.63      0.00      0.00  1428.03      0.40      0.12      0.10  1430.00
    1500.        0.     1437.      63.        0.     277.      47.    120.00       61.   1427.00
     0.63      0.00      5.19     1.35     0.000     0.040     0.050     0.000   1423.70    837.57
 0.009584       50.       50.      50.         3         0         0      0.00    309.65   1447.69
0
*SECNO 10.400

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      950.0     2490.0  TYPE=      1  TARGET=     1540.000

1
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          X3 USED TO DEFINE EFFECTIVE FLOW.

    10.40      6.13  1428.13      0.00      0.00  1428.16      0.03      0.09      0.04  1430.00
    1500.        0.     1500.       0.        0.    1130.       2.    123.01       62.   1428.00
     0.67      0.00      1.33     0.08     0.000     0.040     0.050     0.000   1422.00   1877.79
 0.000165      190.      180.     185.         2         0         0      0.00    261.92   2390.65
0
*SECNO 10.490

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      720.0     2310.0  TYPE=      1  TARGET=     -720.000

          INVERT ELEVATION ASSUMED FILLED TO 1434 FEET AT DOWNSTREAM END OF
          GRAVEL PIT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

    10.49      3.12  1429.62  1429.62      0.00  1430.26      0.64      0.26      0.18  1434.00
    1500.        0.     1500.       0.        0.     234.       0.    130.38       65.   1432.00
     0.69      0.00      6.40     0.00     0.000     0.040     0.000     0.000   1426.50   1941.56
 0.022835      420.      470.     450.        20        11         0      0.00    192.19   2133.75
0
*SECNO 10.620

3470 ENCROACHMENT STATIONS=      655.0     2125.0  TYPE=      1  TARGET=     -655.000

          INVERT ELEVATION ASSUMED TO FILL TO 1436 FEET AT UPSTREAM END OF
          GRAVEL PIT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

    10.62      3.74  1432.94      0.00      0.00  1433.09      0.15      2.78      0.05  1432.00
    1500.        3.     1492.       4.        4.     479.       5.    135.27       68.   1432.00
     0.74      0.88      3.12     0.80     0.045     0.035     0.050     0.000   1429.20   1786.76
 0.001972      605.      590.     600.         5         0         0      0.00    244.22   2030.98
0
*SECNO 10.700

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
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3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
1
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     800.0     2255.0  TYPE=     1  TARGET=    -800.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

     10.70      2.15  1434.65  1434.65      0.00  1435.33      0.68      1.65      0.16  1436.00
     1500.        0.     1500.       0.        0.     227.        0.    138.39       70.  1436.00
      0.76      0.00      6.60      0.00     0.000     0.035     0.000     0.000   1432.50  1925.09
  0.016173      405.      380.      390.        20        11         0      0.00    168.18  2093.27
0
*SECNO 10.830

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=    1080.0     2875.0  TYPE=     1  TARGET=   -1080.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

     10.83      4.31  1440.31      0.00      0.00  1440.64      0.33      5.27      0.04  1444.00
     1500.        0.     1202.      298.        0.     245.      104.    142.69       72.  1444.00
      0.80      0.00      4.91      2.86     0.000     0.035     0.050     0.000   1436.00  1906.89
  0.004860      645.      650.      650.         5         0         0      0.00    183.96  2779.63
0
*SECNO 10.930

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    1360.0     2965.0  TYPE=     1  TARGET=    1605.000
     10.93      3.34  1444.34  1444.34      0.00  1445.18      0.83      3.99      0.15  1448.00
     1500.        2.     1498.       0.        1.     204.        0.    145.87       74.  1448.00
      0.82      1.26      7.33      0.00     0.045     0.035     0.000     0.000   1441.00  1856.16
  0.015506      500.      500.      500.         5        19         0      0.00    132.81  2052.99
0
1
13 JUN 86      4:29:45                                                                                                                PAGE    16

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


*SECNO 11.040

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=    1440.0     2540.0  TYPE=     1  TARGET=    1100.000
          X3 USED TO DEFINE EFFETIVE FLOW.
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          XS USED TO DEFINE EFFECTIVE FLOW.
      11.04      4.19  1448.19      0.00      0.00  1448.46      0.26      3.22      0.06  1450.00
      1500.     1500.      0.        0.      363.      0.        0.      149.14     76.   1450.00
       0.85      4.13      0.00      0.00      0.045     0.000     0.000     0.000  1444.00  1462.26
   0.003511     500.      500.      500.        4         0         0       0.00   203.71  1685.96
  0
  *SECNO 11.200
  7185 MINIMUM SPECIFIC ENERGY
  3720 CRITICAL DEPTH ASSUMED

          EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES.  INVERT
          AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

      11.20      0.98  1452.98  1452.98      0.00  1453.47      0.49      3.26      0.07  1467.00
      1500.        0.   1500.        0.        0.     267.        0.    154.33     80.   1467.00
       0.89      0.00      5.62      0.00      0.000     0.020     0.000     0.000  1452.00  1862.54
   0.005968     680.      770.      755.        4        17         0       0.00   274.91  2137.46
  0
  *SECNO 11.300
      11.30      1.77  1454.27      0.00      0.00  1454.42      0.15      0.92      0.03  1469.00
      1500.        0.   1500.        0.        0.     487.        0.    158.90     83.   1469.50
       0.94      0.00      3.08      0.00      0.000     0.020     0.000     0.000  1452.50  1860.95
   0.000817     528.      528.      528.        5         0         0       0.00   278.10  2139.05
  0
  *SECNO 11.400
  7185 MINIMUM SPECIFIC ENERGY
  3720 CRITICAL DEPTH ASSUMED
      11.40      0.98  1454.98  1454.98      0.00  1455.47      0.49      0.92      0.10  1471.50
      1500.        0.   1500.        0.        0.     267.        0.    163.47     87.   1472.00
       0.96      0.00      5.62      0.00      0.000     0.020     0.000     0.000  1454.00  1862.54
   0.005949     528.      528.      528.        2        11         0       0.00   274.91  2137.46
  0
  1
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  ***************************************************
    HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
    ERROR CORR -  01,02,03,04,05,06
    MODIFICATION -  50,51,52,53,54,55
  ***************************************************

  T1       FLOODPLAIN STUDY - SKUNK CREEK
  T2
  T3       SKUNK FLOODPLAIN 5000 CFS

  J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

        0.        3.        0.        0.  0.000000      0.00      0.0       0.  1377.800    0.000

  J2  NPROF     IPLOT     PREVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      2.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

  1
  13 JUN 86      4:29:45                                                                    PAGE    18

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


  *PROF 2
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CCHV=   0.100 CEHV=   0.300
*SECNO 8.690

          DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
          SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE,S LEVEES
          ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
          (APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
          CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
          ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
          MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
          OBSERVATION (FEB. 1983)
          THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
          39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

     8.69     8.00  1377.80     0.00  1377.80  1377.83     0.03     0.00     0.00  1376.00
    5000.     1515.   1775.     1710.   1496.    893.    2580.     0.00       0.   1376.00
     0.00     1.01     1.99     0.66    0.045    0.035    0.045    0.000  1369.80  1451.30
 0.000186       0.       0.       0.        0        0        0     0.00  2108.70  3560.00
0
*SECNO 8.750

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     8.75     6.58  1377.58  1377.58     0.00  1378.81     1.23     0.45     0.36  1376.00
    5000.       20.   4980.       0.       6.     559.       0.    48.42       20.   1380.00
     0.02     3.24     8.91     0.00    0.045    0.035    0.000    0.000  1371.00  1792.09
 0.013509      835.     739.     733.       20       14        0     0.00   237.16  2029.25
0
*SECNO 8.890

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS

1
13 JUN 86      4:29:45                                                                    PAGE    19

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

3470 ENCROACHMENT STATIONS=     870.0    3730.0  TYPE=     1  TARGET=    2860.000
     8.89     6.28  1384.28     0.00     0.00  1384.73     0.45     5.84     0.08  1384.00
    5000.       18.   4982.       0.       20.     926.       0.    62.91       26.   1384.00
     0.07     0.90     5.38     0.58    0.045    0.035    0.045    0.000  1378.00  1773.59
 0.004236      565.     840.     650.        6        0        0     0.00   417.67  2242.81
0
*SECNO 8.965

3470 ENCROACHMENT STATIONS=    1085.0    3575.0  TYPE=     1  TARGET=    2490.000
     8.96     5.46  1386.46     0.00     0.00  1387.31     0.84     2.46     0.12  1388.00
    5000.        0.   5000.       0.       0.     679.       0.    70.34       30.   1388.00
     0.08     0.00     7.37     0.00    0.000    0.035    0.000    0.000  1381.00  1970.36
 0.009734      275.     400.     410.        3        0        0     0.00   290.50  2260.86
0
*SECNO 9.050

3470 ENCROACHMENT STATIONS=    1370.0    3415.0  TYPE=     1  TARGET=    2045.000
     9.05     7.09  1389.09     0.00     0.00  1389.48     0.40     2.13     0.04  1388.00
```

```
3470 ENCROACHMENT S
      9.05      7.09  1389.09      0.00      0.00  1389.48      0.40      2.13      0.04  1388.00
     5000.       159.     4841.       0.      153.      943.       0.     81.30       34.  1390.00
      0.11      1.04      5.13      0.00     0.045     0.035     0.000     0.000  1382.00  1612.32
  0.002080      410.      550.      370.         2         0         0      0.00   509.34  2121.65
0
*SECNO 9.115

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=        0.0     3465.0  TYPE=      1  TARGET=     3464.999
      9.11      3.81  1390.31  1390.25      0.00  1391.23      0.91      1.59      0.16  1392.00
     5000.        0.     5000.       0.        0.      652.       0.     88.68       38.  1392.00
      0.13      0.00      7.67      0.00     0.000     0.035     0.000     0.000  1386.50  1865.75
  0.013583      350.      370.      300.         6        11         0      0.00   337.45  2203.20
0
*SECNO 9.210

3265 DIVIDED FLOW

1
13 JUN 86      4:29:45                                                                          PAGE    20

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

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     1385.0     2950.0  TYPE=      1  TARGET=     1565.000

            LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

      9.21      5.42  1393.92      0.00      0.00  1394.25      0.34      2.97      0.06  1394.00
     5000.        0.     4892.      108.        0.     1044.      43.    100.61       42.  1394.00
      0.16      0.00      4.68      2.53     0.000     0.035     0.040     0.000  1388.50  1867.29
  0.002543      460.      600.      500.         3         0         0      0.00   351.68  2229.79
0
1490 NH CARD USED
*SECNO 9.310

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     1110.0     2560.0  TYPE=      1  TARGET=     1450.000

            LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

      9.31      4.01  1396.01      0.00      0.00  1397.01      1.01      2.56      0.20  1398.00
     5000.        0.     5000.       0.        0.      621.       0.    113.26       46.  1396.00
      0.18      0.00      8.05      0.00     0.000     0.035     0.000     0.000  1392.00  1934.99
  0.006945      400.      650.      480.         3         0         0      0.00   180.11  2115.10
0
1490 NH CARD USED
*SECNO 9.400

3470 ENCROACHMENT STATIONS=      980.0     2400.0  TYPE=      1  TARGET=     1420.000

            LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
            X3 USED TO DEFINE EFFECTIVE FLOW.
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      9.40      4.91  1398.91      0.00      0.00  1399.48      0.57      2.43      0.04  1402.00
     5000.        0.     5000.        0.        0.     825.        0.    121.73       49.  1400.00
      0.21      0.00      6.06      0.00     0.000     0.035     0.000     0.000   1394.00  1979.06
  0.003464      370.      510.      420.         2         0         0      0.00    217.33  2196.39
0
1
 13 JUN 86      4:29:45                                                                                                PAGE    21

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

 1490 NH CARD USED
 *SECNO 9.480

 3470 ENCROACHMENT STATIONS=     1170.0     2470.0  TYPE=      1  TARGET=     1300.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.48      4.98  1400.98      0.00      0.00  1401.30      0.32      1.79      0.03  1404.00
     5000.        0.     5000.        0.        0.    1107.        0.    132.60       52.  1402.00
      0.24      0.00      4.52      0.00     0.000     0.050     0.000     0.000   1396.00  1957.58
  0.003851      370.      490.      420.         2         0         0      0.00    337.32  2294.90
0
 *SECNO 9.580

 3470 ENCROACHMENT STATIONS=     1600.0     2535.0  TYPE=      1  TARGET=      935.000

          BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
          AT 2 TO 1.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.58      4.64  1403.14      0.00      0.00  1403.90      0.76      2.47      0.13  1407.50
     5000.        0.     5000.        0.        0.     714.        0.    142.00       55.  1406.00
      0.26      0.00      7.00      0.00     0.000     0.035     0.000     0.000   1398.50  1982.86
  0.008464      390.      450.      460.         2         0         0      0.00    296.42  2279.28
0
 *SECNO 9.670

 3265 DIVIDED FLOW

 3470 ENCROACHMENT STATIONS=     1770.0     2480.0  TYPE=      1  TARGET=    -1770.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.67      6.21  1406.21  1406.18      0.00  1407.24      1.04      3.26      0.08  1408.00
     5000.        0.     3315.     1685.        0.     347.      390.    148.88       58.  1408.00
      0.27      0.00      9.54      4.32     0.000     0.035     0.045     0.000   1400.00  1976.72
  0.007408      470.      410.      420.         3        14         0      0.00    370.05  2385.96
0
1
 13 JUN 86      4:29:45                                                                                                PAGE    22

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

 *SECNO 9.750

 3265 DIVIDED FLOW
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3265 DIVIDED FLOW

          LANDFILL PIT BETWEEN RM 9.75 AND 10.04 ASSUMED TO BE FILLED.

      9.75      6.86  1408.56      0.00      0.00  1409.82      1.26      2.52      0.07  1410.00
     5000.        0.     4850.      150.        0.     531.      60.    154.73       61.   1410.00
      0.28      0.00      9.14      2.48     0.000     0.035     0.045     0.000   1401.70  1415.98
  0.006029      390.      370.      410.         3         0         0      0.00    188.99  2113.95
0
*SECNO 9.840

3301 HV CHANGED MORE THAN HVINS

      9.84      8.27  1411.27      0.00      0.00  1411.82      0.55      1.93      0.07  1414.00
     5000.        0.     4989.       11.        0.     840.       8.    162.66       63.   1410.00
      0.30      0.00      5.94      1.30     0.000     0.035     0.045     0.000   1403.00  1963.18
  0.002859      500.      480.      490.         3         0         0      0.00    209.56  2172.74
0
*SECNO 9.940
      9.94      6.74  1412.74      0.00      0.00  1413.40      0.66      1.54      0.03  1410.00
     5000.      111.     4885.        5.       54.     744.       5.    172.45       66.   1412.00
      0.33      2.05      6.57      0.95     0.045     0.035     0.045     0.000   1406.00  1888.14
  0.003098      430.      520.      470.         3         0         0      0.00    244.83  2132.97
0
*SECNO 10.040
     10.04      5.62  1414.62      0.00      0.00  1415.14      0.51      1.72      0.01  1414.00
     5000.        3.     4995.        2.        4.     870.       2.    182.85       69.   1414.00
      0.35      0.87      5.74      0.87     0.045     0.035     0.045     0.000   1409.00  1907.54
  0.003294      540.      540.      540.         2         0         0      0.00    258.70  2166.23
0
*SECNO 10.120

          LANDFILL PIT BETWEEN RM 10.12 AND 10.30 ASSUMED FILLED AND CLOSED.

     10.12      4.55  1416.05      0.00      0.00  1416.90      0.84      1.66      0.10  1414.00
     5000.       37.     4963.        0.       14.     671.       0.    189.67       71.   1416.00
      0.37      2.60      7.40      0.03     0.045     0.035     0.045     0.000   1411.50  1886.30
  0.006059      450.      380.      420.         2         0         0      0.00    214.64  2100.95
0
1
13 JUN 86      4:29:45                                                                          PAGE    23

    SECNO     DEPTH     CWSEL     CRIWS     WSELK        FG        HV        HL     OLOSS   BANK ELEV
    Q         QLOB      QCH       QROB      ALOB       ACH      AROB       VOL       IWA   LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL        XNCH     XNR        WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL     IDC      ICONT      CORAR     TOPWID     ENDST
12
11
10  *SECNO 10.210
9   7185 MINIMUM SPECIFIC ENERGY
8   3720 CRITICAL DEPTH ASSUMED
7      10.21      4.83  1420.33  1420.33      0.00  1421.55      1.22      3.57      0.11  1420.00
6      5000.        1.     4643.      357.        1.     508.      85.    196.31       73.   1418.00
5       0.38      1.02      9.14      4.19     0.045     0.035     0.045     0.000   1415.50  1876.73
4   0.010786      490.      450.      475.         5         8         0      0.00    287.97  2164.71
3   0
    *SECNO 10.300
       10.30      4.24  1425.04      0.00      0.00  1425.85      0.81      4.26      0.04  1424.00
       5000.        8.     4907.       85.        4.     673.      46.    202.97       76.   1424.00
        0.40      1.98      7.30      1.83     0.045     0.040     0.050     0.000   1420.80  1852.21
    0.008706      460.      440.      450.         2         0         0      0.00    314.12  2166.33
    0
    *SECNO 10.340
    3685 20 TRIALS ATTEMPTED WSEL,CWSEL
    3693 PROBABLE MINIMUM SPECIFIC ENERGY
    3720 CRITICAL DEPTH ASSUMED
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3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
     10.34      4.95  1428.95  1428.95      0.00  1429.65      0.70      2.06      0.01  1427.50
     5000.      235.     4765.      0.      70.      697.      0.    206.06      78.   1429.00
      0.41      3.34      6.84     0.00    0.045     0.040    0.000     0.000   1424.00   703.09
  0.015683      190.      180.     185.       20         8        0      0.00    487.62  1190.72
0
*SECNO 10.350

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
     10.35      5.74  1429.74     0.00      0.00  1429.87      0.13      0.16      0.06  1425.50
     5000.      960.     4040.      0.     549.     1312.      0.    207.57      79.   1430.20
      0.41      1.75      3.08     0.00    0.045     0.040    0.000     0.000   1424.00   400.00
  0.001338       50.       50.      50.       0         0        0      0.00    784.57  1184.57
0
*SECNO 10.360
1
13 JUN 86      4:29:45                                                                          PAGE    24

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       IWA     LEFT/RIGHT
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    TDC       ICONT     CORAR     TOPWID      ENDST


3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      400.0.    1600.0  TYPE=      1  TARGET=     1200.000
     10.36      6.14  1429.84     0.00      0.00  1429.97      0.13      0.10      0.00  1430.00
     5000.      287.     2893.   1820.     224.      931.     660.    209.68      80.   1427.00
      0.42      1.28      3.11     2.76    0.045     0.040    0.050     0.000   1423.70   400.00
  0.003034       50.       50.      50.       2         0        0      0.00   1181.68  1600.00
0
*SECNO 10.400

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      950.0     2490.0  TYPE=      1  TARGET=     1540.000

            X3 USED TO DEFINE EFFECTIVE FLOW.
12
11   10.40      8.03  1430.03     0.00      0.00  1430.17      0.14      0.20      0.00  1430.00
10   5000.        0.     4865.    135.       1.     1598.     181.    217.18      84.   1428.00
9     0.43      0.05      3.04     0.75    0.045     0.040    0.050     0.000   1422.00  1306.92
8  0.000569      190.      180.     185.       2         0        0      0.00    647.85  2490.00
7
0
6  *SECNO 10.490
5
4  3301 HV CHANGED MORE THAN HVINS
3
   3685 20 TRIALS ATTEMPTED WSEL,CWSEL
   3693 PROBABLE MINIMUM SPECIFIC ENERGY
   3720 CRITICAL DEPTH ASSUMED

   3470 ENCROACHMENT STATIONS=      720.0     2310.0  TYPE=      1  TARGET=     -720.000

            INVERT ELEVATION ASSUMED FILLED TO 1434 FEET AT DOWNSTREAM END OF
            GRAVEL PIT.
            X3 USED TO DEFINE EFFECTIVE FLOW.
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      10.49      4.63  1431.13  1431.13      0.00  1432.27      1.15      0.77      0.30  1434.00
      5000.        0.     5000.       0.       0.     582.        0.    229.88       89.  1432.00
       0.45      0.00      8.59     0.00     0.000     0.040     0.000     0.000  1426.50  1920.90
   0.017636      420.      470.     450.        20        11         0      0.00    253.19  2174.10
  0
  1
   13 JUN 86      4:29:45                                                                          PAGE    25

      SECNO     DEPTH     CWSEL     CRIWS     WSELK      FG        HV        HL     OLOSS   BANK ELEV
      Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
      TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTH      ELMIN      SSTA
      SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR    TOPWID     ENDST

   *SECNO 10.620

   3301 HV CHANGED MORE THAN HVINS

   3470 ENCROACHMENT STATIONS=      655.0     2125.0  TYPE=      1  TARGET=     -655.000

            INVERT ELEVATION ASSUMED TO FILL TO 1436 FEET AT UPSTREAM END OF
            GRAVEL PIT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

      10.62      5.70  1434.90      0.00      0.00  1435.32      0.42      2.97      0.07  1432.00
      5000.       75.     4834.       91.       37.     920.       49.    240.65       92.  1432.00
       0.48      2.04      5.25     1.84     0.045     0.035     0.050     0.000  1429.20  1769.59
   0.002343      605.      590.     600.         6         0         0      0.00    284.28  2053.88
  0
   *SECNO 10.700

   3265 DIVIDED FLOW

   3301 HV CHANGED MORE THAN HVINS

   7185 MINIMUM SPECIFIC ENERGY
   3720 CRITICAL DEPTH ASSUMED

   3470 ENCROACHMENT STATIONS=      800.0     2255.0  TYPE=      1  TARGET=     -800.000

            X3 USED TO DEFINE EFFECTIVE FLOW.

      10.70      3.83  1436.33  1436.33      0.00  1437.73      1.40      1.74      0.30  1436.00
      5000.        1.     4995.        4.        1.     525.        3.    247.36       94.  1436.00
       0.49      1.10      9.51     1.33     0.045     0.035     0.050     0.000  1432.50  1909.30
   0.012513      405.      380.     390.         5        14         0      0.00    202.21  2180.81
  0
   *SECNO 10.830

   3265 DIVIDED FLOW

  1
   13 JUN 86      4:29:45                                                                          PAGE    26

      SECNO     DEPTH     CWSEL     CRIWS     WSELK      FG        HV        HL     OLOSS   BANK ELEV
      Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
      TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTH      ELMIN      SSTA
      SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR    TOPWID     ENDST

   3301 HV CHANGED MORE THAN HVINS
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3470 ENCROACHMENT STATIONS=     1080.0     2875.0  TYPE=      1  TARGET=    -1080.000

            X3 USED TO DEFINE EFFECTIVE FLOW.

      10.83      6.49  1442.49      0.00      0.00  1443.01      0.51      5.19      0.09  1444.00
      5000.        0.     3498.     1502.        0.      547.      387.    258.28      100.  1444.00
       0.52      0.00      6.39      3.88     0.000     0.035     0.050     0.000   1436.00  1837.54
   0.005533      645.      650.      650.         4         0         0      0.00    493.95  2788.72
0
 *SECNO 10.930

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     1360.0     2965.0  TYPE=      1  TARGET=     1605.000
      10.93      5.59  1446.59  1446.59      0.00  1447.67      1.07      3.38      0.17  1448.00
      5000.      288.     4519.      193.      80.      520.      105.    267.68      105.  1448.00
       0.54      3.60      8.69      1.84     0.045     0.035     0.050     0.000   1441.00  1830.81
   0.008433      500.      500.      500.         2        15         0      0.00    415.41  2412.70
0
 *SECNO 11.040

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=     1440.0     2540.0  TYPE=      1  TARGET=     1100.000
            X3 USED TO DEFINE EFFETIVE FLOW.

      11.04      6.27  1450.27      0.00      0.00  1450.73      0.45      3.00      0.06  1450.00
      5000.     4790.      207.        4.      871.       86.        7.    277.26      110.  1450.00
       0.57      5.50      2.41      0.54     0.045     0.035     0.050     0.000   1444.00  1470.98
   0.004484      500.      500.      500.         2         0         0      0.00    488.15  2113.97
0
1
 13 JUN 86      4:29:45                                                                          PAGE    27

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


 *SECNO 11.200

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

            EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES.  INVERT
            AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

      11.20      2.17  1454.17  1454.17      0.00  1455.26      1.08      3.30      0.19  1467.00
      5000.        0.     5000.        0.        0.      599.        0.    290.17      116.  1467.00
       0.59      0.00      8.35      0.00     0.000     0.020     0.000     0.000   1452.00  1860.15
   0.004599      680.      770.      755.         3        22         0      0.00    279.70  2139.85
0
 *SECNO 11.300
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*SECNO 11.300

3301 HV CHANGED MORE THAN HVINS

     11.30      3.39  1455.89      0.00      0.00  1456.33      0.44      1.01      0.06  1469.00
     5000.        0.     5000.        0.        0.      943.        0.    299.51      120.   1469.50
      0.62      0.00      5.30      0.00     0.000     0.020     0.000     0.000   1452.50   1857.71
  0.001039      528.      528.      528.         3         0         0      0.00    284.58   2142.29
0
*SECNO 11.400
     11.40      2.49  1456.49      0.00      0.00  1457.31      0.82      0.86      0.12  1471.50
     5000.        0.     5000.        0.        0.      686.        0.    309.38      123.   1472.00
      0.64      0.00      7.29      0.00     0.000     0.020     0.000     0.000   1454.00   1859.53
  0.002940      528.      528.      528.         3         0         0      0.00    280.95   2140.47
0
1
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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
**************************************************


T1       FLOODPLAIN STUDY - SKUNK CREEK
T2       SKUNK CREEK
T3       SKUNK FLOODPLAIN 9600 CFS

J1  ICHECK     INQ       NINV      IDIR      STRT     METRIC     HVINS       Q      WSEL        FQ

       0.       4.        0.        0.  0.000000      0.00       0.0       0.  1377.800     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH        FN     ALLDC      IBW     CHNIM     ITRACE

     3.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000      0.000

1
 13 JUN 86      4:29:45                                                                          PAGE    29

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

*PROF 3

CCHV=   0.100 CEHV=   0.300
*SECNO 8.690

            DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
            SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE,S LEVEES
            ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
            (APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
            CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
            ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
            MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
            OBSERVATION (FEB. 1983)
            THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
            39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

      8.69      8.00  1377.80      0.00  1377.80  1377.91      0.11      0.00      0.00  1376.00
     9600.      2909.     3408.     3283.     1496.     893.     2580.      0.00        0.  1376.00
      0.00      1.94      3.82      1.27     0.045     0.035     0.045     0.000   1369.80   1451.30
```

```
      0.00      1.94      3.82      1.27     0.045     0.035     0.045     0.000   1369.80   1451.30
  0.000685        0.        0.        0.         0         0         0      0.00   2108.70   3560.00
0
 *SECNO 8.750

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      8.75      8.09   1379.09   1379.09      0.00   1380.58      1.49      1.28      0.41   1376.00
     9600.      487.     9113.        0.      150.      910.        0.     52.78       22.   1380.00
      0.02      3.24     10.01      0.00     0.045     0.035     0.000     0.000   1371.00   1565.91
  0.009268      835.      739.      733.        20         5         0      0.00    406.39   2035.96
0
 *SECNO 8.890

 3265 DIVIDED FLOW

1
 13 JUN 86      4:29:45                                                                          PAGE    30

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


 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=      870.0     3730.0  TYPE=      1  TARGET=     2860.000
      8.89      7.33   1385.33      0.00      0.00   1386.12      0.79      5.47      0.07   1384.00
     9600.      300.     9285.       16.      118.     1284.        9.     75.74       29.   1384.00
      0.05      2.54      7.23      1.77     0.045     0.035     0.045     0.000   1378.00   1768.32
  0.004943      565.      840.      650.         2         0         0      0.00    465.10   2253.35
0
 *SECNO 8.965

 3470 ENCROACHMENT STATIONS=     1085.0     3575.0  TYPE=      1  TARGET=     2490.000
      8.96      6.73   1387.73      0.00      0.00   1388.93      1.20      2.69      0.12   1388.00
     9600.        0.     9600.        0.        0.     1092.        0.     87.07       33.   1388.00
      0.07      0.00      8.79      0.00     0.000     0.035     0.000     0.000   1381.00   1957.67
  0.009800      275.      400.      410.         2         0         0      0.00    360.34   2318.01
0
 *SECNO 9.050

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=     1370.0     3415.0  TYPE=      1  TARGET=     2045.000
      9.05      8.57   1390.57      0.00      0.00   1390.96      0.40      1.95      0.08   1388.00
     9600.     1789.     7309.      502.      868.     1281.      551.    108.47       44.   1390.00
      0.10      2.06      5.71      0.91     0.045     0.035     0.045     0.000   1382.00   1570.00
  0.001901      410.      550.      370.         1         0         0      0.00   1934.30   3304.30
0
 *SECNO 9.115

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=        0.0     3465.0  TYPE=      1  TARGET=     3464.999
      9.11      4.98   1391.48   1391.42      0.00   1392.63      1.15      1.44      0.23   1392.00
```

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3470 ENCROACHMENT STATIONS=
      9.11      4.98  1391.48  1391.42      0.00  1392.63      1.15      1.44      0.23  1392.00
     9600.        0.     9600.       0.        0.     1114.        0.    124.03       53.  1392.00
      0.11      0.00      8.62     0.00     0.000     0.035     0.000     0.000  1386.50  1813.35
  0.012549      350.      370.     300.         8        11         0      0.00    456.81  2270.16
0
1
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     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 9.210

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     1385.0     2950.0  TYPE=      1  TARGET=     1565.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.21      6.64  1395.14      0.00      0.00  1395.62      0.47      2.92      0.07  1394.00
     9600.      387.     8446.      767.      235.     1444.      442.    145.42       65.  1394.00
      0.14      1.65      5.85     1.73     0.045     0.035     0.040     0.000  1388.50  1599.65
  0.002604      460.      600.     500.         2         0         0      0.00  1350.35  2950.00
0
1490 NH CARD USED
*SECNO 9.310

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1110.0     2560.0  TYPE=      1  TARGET=     1450.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.31      5.29  1397.29  1397.29      0.00  1399.18      1.89      2.79      0.43  1398.00
     9600.        0.     9477.      123.        0.      854.       76.    166.50       75.  1396.00
      0.16      0.00     11.10     1.63     0.000     0.035     0.050     0.000  1392.00  1931.78
  0.008851      400.      650.     480.         4        11         0      0.00    358.34  2560.00
0
1490 NH CARD USED
*SECNO 9.400

3265 DIVIDED FLOW

1
13 JUN 86      4:29:45                                                                          PAGE    32

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

3301 HV CHANGED MORE THAN HVINS
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3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     980.0     2400.0  TYPE=      1  TARGET=     1420.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.40      6.97  1400.97      0.00      0.00  1401.69      0.72      2.40      0.12  1402.00
     9600.      468.     9064.      68.      262.     1291.      54.    180.79       80.  1400.00
      0.18      1.78      7.02      1.25     0.040     0.035     0.043     0.000   1394.00   980.00
  0.002958      370.      510.      420.         2         0         0      0.00    684.74  2400.00
0
 1490 NH CARD USED
 *SECNO 9.480

3470 ENCROACHMENT STATIONS=    1170.0     2470.0  TYPE=      1  TARGET=     1300.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.48      6.78  1402.78      0.00      0.00  1403.26      0.48      1.54      0.02  1404.00
     9600.        0.     9590.      10.        0.     1728.      11.    199.20       85.  1402.00
      0.20      0.00      5.55      0.93     0.000     0.050     0.050     0.000   1396.00  1950.08
  0.003406      370.      490.      420.         2         0         0      0.00    377.22  2327.30
0
 *SECNO 9.580

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=    1600.0     2535.0  TYPE=      1  TARGET=      935.000

          BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
          AT 2 TO 1.
          X3 USED TO DEFINE EFFECTIVE FLOW.

1
 13 JUN 86      4:29:45                                                                                PAGE    33

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

      9.58      6.04  1404.54      0.00      0.00  1405.59      1.06      2.16      0.17  1407.50
     9600.        0.     9523.      77.        0.     1149.      43.    214.34       90.  1406.00
      0.22      0.00      8.29      1.78     0.000     0.035     0.045     0.000   1398.50  1974.12
  0.007243      390.      450.      460.         2         0         0      0.00    418.33  2513.52
0
 *SECNO 9.670

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=    1770.0     2480.0  TYPE=      1  TARGET=    -1770.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.67      7.50  1407.50      0.00      0.00  1408.76      1.26      3.11      0.06  1408.00
     9600.        0.     5063.    4537.        0.      456.     774.   225.83       93.  1408.00
      0.23      0.00     11.11      5.86     0.000     0.035     0.045     0.000   1400.00  1971.87
  0.007852      470.      410.      420.         3         0         0      0.00    391.15  2391.97
0
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0
 *SECNO 9.750

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

          LANDFILL PIT BETWEEN RM 9.75 AND 10.04 ASSUMED TO BE FILLED.

      9.75      8.52  1410.22  1410.22      0.00  1412.12      1.90      2.89      0.19  1410.00
     9600.        3.    8500.    1097.        3.     729.      245.    235.67       96.  1410.00
      0.24      0.92     11.66     4.47     0.045     0.035     0.045     0.000   1401.70  1786.76
  0.007315      390.      370.     410.         2         8         0      0.00    284.71  2177.70
0
 *SECNO 9.840

 3301 HV CHANGED MORE THAN HVINS

1
 13 JUN 86      4:29:45                                                                          PAGE    34

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

      9.84     10.40  1413.40      0.00      0.00  1414.24      0.84      2.02      0.11  1414.00
     9600.        0.    9400.     200.        0.    1264.       87.    248.54       100.  1410.00
      0.26      0.00     7.44     2.30     0.000     0.035     0.045     0.000   1403.00  1956.81
  0.002713      500.      480.     490.         2         0         0      0.00    279.00  2235.81
0
 *SECNO 9.940
      9.94      8.78  1414.78      0.00      0.00  1415.66      0.87      1.41      0.01  1410.00
     9600.      964.    8473.     163.      331.    1072.       66.    264.94       103.  1412.00
      0.28      2.91     7.91     2.48     0.045     0.035     0.045     0.000   1406.00  1788.13
  0.002756      430.      520.     470.         2         0         0      0.00    374.79  2162.92
0
 *SECNO 10.040
     10.04      7.43  1416.43      0.00      0.00  1417.22      0.79      1.56      0.01  1414.00
     9600.      133.    9400.      67.        59.    1303.       31.    282.68       108.  1414.00
      0.30      2.25     7.21     2.18     0.045     0.035     0.045     0.000   1409.00  1871.39
  0.003027      540.      540.     540.         2         0         0      0.00    319.38  2190.76
0
 *SECNO 10.120

 3301 HV CHANGED MORE THAN HVINS


          LANDFILL PIT BETWEEN RM 10.12 AND 10.30 ASSUMED FILLED AND CLOSED.

     10.12      6.10  1417.60      0.00      0.00  1419.00      1.40      1.59      0.18  1414.00
     9600.      164.    9386.      50.        43.     980.       22.    293.43       110.  1416.00
      0.31      3.80     9.58     2.22     0.045     0.035     0.045     0.000   1411.50  1876.01
  0.006129      450.      380.     420.         2         0         0      0.00    251.98  2127.99
0
 *SECNO 10.210
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     10.21      6.24  1421.74  1421.74      0.00  1423.33      1.59      3.33      0.06  1420.00
     9600.       43.    8089.    1468.       15.     749.      293.    304.40       113.  1418.00
      0.32      2.85     10.80     5.02     0.045     0.035     0.045     0.000   1415.50  1862.57
  0.008987      490.      450.     475.         5         8         0      0.00    365.86  2228.43
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  0.008987     490.     450.     475.       5       8       0     0.00   365.86  2228.43
0
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       IWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

*SECNO 10.300

3265 DIVIDED FLOW

    10.30      5.37  1426.17  1425.95      0.00  1427.54      1.36      4.19      0.02  1424.00
    9600.       65.     8919.     617.       18.     922.      163.    315.37      117.  1424.00
     0.34      3.64      9.67      3.79    0.045     0.040     0.050     0.000   1420.80  1843.69
  0.010035     460.      440.      450.        4        15         0      0.00    392.65  2700.65
0
*SECNO 10.340

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     400.0     1600.0  TYPE=     1  TARGET=     1200.000
    10.34      5.73  1429.73  1429.73      0.00  1430.49      0.76      2.16      0.06  1427.50
    9600.     1165.     8075.     360.      304.     1082.     156.    320.89      121.  1429.00
     0.34      3.83      7.46      2.31    0.045     0.040     0.050     0.000   1424.00   400.00
  0.014417     190.      180.      185.       20         8         0      0.00   1200.00  1600.00
0
*SECNO 10.350
3280 CROSS SECTION      10.35 EXTENDED       0.56 FEET

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     400.0     1600.0  TYPE=     1  TARGET=     1200.000
    10.35      6.56  1430.56      0.00      0.00  1430.79      0.22      0.24      0.05  1425.50
    9600.     2574.     6928.      98.      879.     1687.     122.    323.32      122.  1430.20
     0.35      2.93      4.11      0.80    0.045     0.040     0.050     0.000   1424.00   400.00
  0.002415      50.       50.       50.        2         0         0      0.00   1200.00  1600.00
0
*SECNO 10.360
3280 CROSS SECTION      10.36 EXTENDED       0.74 FEET

1
13 JUN 86     4:29:45                                                                          PAGE    36

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

3470 ENCROACHMENT STATIONS=     400.0     1600.0  TYPE=     1  TARGET=     1200.000
    10.36      7.03  1430.73      0.00      0.00  1430.92      0.19      0.13      0.00  1430.00
    9600.     1287.     5265.    3048.      580.     1378.     928.    326.52      123.  1427.00
     0.35      2.22      3.82      3.29    0.045     0.040     0.050     0.000   1423.70   400.00
  0.002742      50.       50.       50.        2         0         0      0.00   1200.00  1600.00
0
*SECNO 10.400
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*SECNO 10.400

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      950.0     2490.0  TYPE=      1  TARGET=     1540.000

            X3 USED TO DEFINE EFFECTIVE FLOW.

      10.40      8.95  1430.95      0.00      0.00  1431.27      0.32      0.31      0.04  1430.00
      9600.      190.     8692.      718.      272.     1828.      522.    338.07      128.  1428.00
       0.36      0.70      4.76      1.38     0.045     0.040     0.050     0.000   1422.00  1214.94
   0.001161      190.      180.      185.         2         0        0      0.00   1181.35  2490.00
0
*SECNO 10.490

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      720.0     2310.0  TYPE=      1  TARGET=     -720.000

            INVERT ELEVATION ASSUMED FILLED TO 1434 FEET AT DOWNSTREAM END OF
            GRAVEL PIT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

      10.49      5.90  1432.40  1432.40      0.00  1434.08      1.67      1.35      0.41  1434.00
      9600.        0.     9596.        4.        0.     924.        3.    356.94      136.  1432.00
       0.38      0.00     10.38      1.29     0.000     0.040     0.050     0.000   1426.50  1904.97
   0.015923      420.      470.      450.        20        19         0      0.00    296.13  2201.10
0
1
13 JUN 86      4:29:45                                                                          PAGE    37

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

*SECNO 10.620

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      655.0     2125.0  TYPE=      1  TARGET=     -655.000

            INVERT ELEVATION ASSUMED TO FILL TO 1436 FEET AT UPSTREAM END OF
            GRAVEL PIT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

      10.62      7.37  1436.57      0.00      0.00  1437.28      0.71      3.11      0.10  1432.00
      9600.      285.     8996.      320.       92.     1296.      122.    373.47      140.  1432.00
       0.40      3.09      6.94      2.62     0.045     0.035     0.050     0.000   1429.20  1752.85
   0.002594      605.      590.      600.         5         0         0      0.00    320.49  2073.34
0
*SECNO 10.700

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
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3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      800.0     2255.0  TYPE=      1  TARGET=     -800.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

     10.70      5.49  1437.99  1437.99      0.00  1439.89      1.90      1.70      0.36  1436.00
     9600.      110.     9336.     154.      35.     832.      49.    384.11      143.   1436.00
      0.41      3.19     11.22     3.12    0.045     0.035    0.050     0.000  1432.50  1880.25
  0.009418      405.      380.     390.      20        15        0      0.00    264.47  2184.96
0
*SECNO 10.830

3265 DIVIDED FLOW

1
13 JUN 86      4:29:45                                                                          PAGE    38

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


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     1080.0     2875.0  TYPE=      1  TARGET=    -1080.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

     10.83      7.76  1443.76      0.00      0.00  1444.43      0.67      4.42      0.12  1444.00
     9600.        0.     6042.    3558.        0.     793.     849.    403.19      149.   1444.00
      0.44      0.00     7.62     4.19    0.000     0.035    0.050     0.000  1436.00  1831.19
  0.005134      645.      650.     650.       3         0        0      0.00    581.03  2794.01
0
*SECNO 10.930

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1360.0     2965.0  TYPE=      1  TARGET=     1605.000
     10.93      6.95  1447.95  1447.95      0.00  1449.02      1.08      3.02      0.12  1448.00
     9600.      815.     7032.    1753.     185.     743.     525.    420.95      156.   1448.00
      0.46      4.41     9.46     3.34    0.045     0.035    0.050     0.000  1441.00  1815.60
  0.007230      500.      500.     500.       4        16        0      0.00    681.21  2604.14
0
*SECNO 11.040

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     1440.0     2540.0  TYPE=      1  TARGET=     1100.000
          X3 USED TO DEFINE EFFETIVE FLOW.

     11.04      7.48  1451.48      0.00      0.00  1451.97      0.49      2.89      0.06  1450.00
     9600.     8206.      998.     396.    1398.     217.     238.    439.93      166.   1450.00
      0.48      5.87     4.59     1.66    0.045     0.035    0.050     0.000  1444.00  1464.51
  0.004721      500.      500.     500.       2         0        0      0.00   1060.62  2525.13
0
1
13 JUN 86      4:29:45                                                                          PAGE    39
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 11.200

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

          EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES.  INVERT
          AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

     11.20      3.35  1455.35  1455.35      0.00  1457.00      1.65      3.17      0.35  1467.00
     9600.        0.     9600.       0.        0.     930.        0.    463.05      178.  1467.00
      0.50      0.00     10.32      0.00     0.000     0.020     0.000     0.000  1452.00  1857.80
  0.004002      680.      770.      755.         2        14         0      0.00    284.40  2142.20
0
 *SECNO 11.300

 3301 HV CHANGED MORE THAN HVINS

     11.30      4.85  1457.35      0.00      0.00  1458.13      0.77      1.03      0.09  1469.00
     9600.        0.     9600.       0.        0.    1363.        0.    476.94      181.  1469.50
      0.52      0.00      7.05      0.00     0.000     0.020     0.000     0.000  1452.50  1854.79
  0.001157      528.      528.      528.         2         0         0      0.00    290.42  2145.21
0
 *SECNO 11.400
     11.40      3.90  1457.90      0.00      0.00  1459.11      1.21      0.85      0.13  1471.50
     9600.        0.     9600.       0.        0.    1087.        0.    491.79      185.  1472.00
      0.54      0.00      8.83      0.00     0.000     0.020     0.000     0.000  1454.00  1856.70
  0.002408      528.      528.      528.         3         0         0      0.00    286.60  2143.30
0
1
 13 JUN 86      4:29:45                                                                          PAGE    40


 ***************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55
 ***************************************************


 T1       FLOODPLAIN STUDY - SKUNK CREEK
 T2       SKUNK CREEK 10-YEAR FLOOD
 T3       SKUNK CREEK FLOODPLAIN 15000 CFS

 J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

        0.       5.        0.        0.  0.000000      0.00       0.0       0.  1377.800     0.000

 J2  NPROF     IPLOT     PREVS     XSECV     XSECH     FN        ALLDC     TBW       CHNIM     ITRACE

      4.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

1
 13 JUN 86      4:29:45                                                                          PAGE    41

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

*PROF 4

CCHV=   0.100 CEHV=   0.300
*SECNO 8.690

          DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
          SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE,S LEVEES
          ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
          (APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
          CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
          ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
          MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
          OBSERVATION (FEB. 1983)
          THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
          39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

      8.69      8.00  1377.80      0.00  1377.80  1378.06      0.26      0.00      0.00  1376.00
     15000.     4545.     5325.     5130.     1496.     893.     2580.      0.00        0.  1376.00
      0.00      3.04      5.96      1.99     0.045     0.035     0.045     0.000   1369.80  1451.30
  0.001672        0.        0.        0.         0         0         0      0.00   2108.70  3560.00
0
*SECNO 8.750

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
      8.75      9.25  1380.25  1380.25      0.00  1381.99      1.74      2.41      0.44  1376.00
     15000.     1765.    13229.       6.     397.     1185.       8.     57.54       23.  1380.00
      0.02      4.45     11.16      0.74     0.045     0.035     0.045     0.000   1371.00  1552.63
  0.008280      835.      739.      733.        20        11         0      0.00    548.78  2101.41
0
*SECNO 8.890

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     870.0     3730.0  TYPE=     1  TARGET=     2860.000
      8.89      8.27  1386.27  1385.45      0.00  1387.34      1.07      5.28      0.07  1384.00
     15000.     1096.    13806.      98.     477.     1601.      68.     90.65       40.  1384.00
      0.05      2.30      8.62      1.43     0.045     0.035     0.045     0.000   1378.00   870.00
  0.005234      565.      840.      650.         6        11         0      0.00   1707.54  2577.54
0
1
13 JUN 86      4:29:45                                                                          PAGE    42

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

*SECNO 8.965

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    1085.0     3575.0  TYPE=     1  TARGET=     2490.000
      8.96      7.99  1388.99  1388.99      0.00  1389.92      0.94      2.14      0.01  1388.00
     15000.     1338.    12964.     698.     571.     1559.     314.    110.27       52.  1388.00
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      0.70      7.77   1500.77   1500.77      0.00     [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
    15000.      1338.    12964.      698.      571.      1559.      314.    110.27       52.   1388.00
      0.06      2.34      8.31      2.22     0.045      0.035     0.045     0.000   1381.00   1085.00
  0.005746      275.      400.      410.         2         10         0      0.00   1447.32   2737.35
0
*SECNO 9.050

3470 ENCROACHMENT STATIONS=     1370.0     3415.0  TYPE=      1  TARGET=     2045.000
      9.05      9.22   1391.22      0.00      0.00   1391.67      0.45      1.70      0.05   1388.00
    15000.      3303.     9430.     2267.     1220.     1436.     1379.    144.80       69.   1390.00
      0.09      2.71      6.57      1.64     0.045      0.035     0.045     0.000   1382.00   1370.00
  0.002165      410.      550.      370.         2          0         0      0.00   2045.00   3415.00
0
*SECNO 9.115
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=        0.0     3465.0  TYPE=      1  TARGET=     3464.999
      9.11      6.16   1392.66   1392.66      0.00   1393.52      0.86      1.27      0.12   1392.00
    15000.       27.     13371.     1602.       21.     1703.      771.    170.52       83.   1392.00
      0.10      1.31      7.85      2.08     0.045      0.035     0.045     0.000   1386.50   1727.10
  0.006858      350.      370.      300.         3         18         0      0.00   1737.90   3465.00
0
*SECNO 9.210

3470 ENCROACHMENT STATIONS=     1385.0     2950.0  TYPE=      1  TARGET=     1565.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.21      7.16   1395.66      0.00      0.00   1396.36      0.69      2.82      0.02   1394.00
    15000.      924.     11915.     2161.      386.     1612.      835.    204.71      102.   1394.00
      0.13      2.39      7.39      2.59     0.045      0.035     0.040     0.000   1388.50   1545.37
  0.003590      460.      600.      500.         2          0         0      0.00   1404.63   2950.00
0
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK      EG        HV        HL      OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB       ACH       AROB      VOL       IWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL        XNCH      XNR       WTN      ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL     IDC       ICONT     CORAR    TOPWID      ENDST


1490 NH CARD USED
*SECNO 9.310
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1110.0     2560.0  TYPE=      1  TARGET=     1450.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.31      7.34   1399.34   1399.34      0.00   1400.43      1.09      2.29      0.12   1398.00
    15000.      921.     11602.     2476.      508.     1232.      849.    239.32      117.   1396.00
      0.15      1.81      9.42      2.92     0.045      0.035     0.050     0.000   1392.00   1110.00
  0.003957      400.      650.      480.         3          5         0      0.00   1450.00   2560.00
0
1490 NH CARD USED
*SECNO 9.400

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      980.0     2400.0  TYPE=      1  TARGET=     1420.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
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          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.40      7.41  1401.41  1401.17      0.00  1402.72      1.32      2.23      0.07  1402.00
    15000.      1256.  13520.     224.      426.     1399.      108.    263.30      128.  1400.00
      0.17      2.95      9.66      2.06    0.040     0.035     0.044     0.000   1394.00   980.00
  0.005248      370.      510.      420.        4         5         0      0.00    797.89  2400.00
0
 1490 NH CARD USED
 *SECNO 9.480

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=     1170.0     2470.0  TYPE=      1  TARGET=     1300.000
1
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          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.48      8.18  1404.18      0.00      0.00  1404.86      0.67      2.07      0.06  1404.00
    15000.       67.  14758.     175.      102.     2223.      101.    286.93      137.  1402.00
      0.19      0.66      6.64      1.73    0.045     0.050     0.050     0.000   1396.00  1170.00
  0.003554      370.      490.      420.        2         0         0      0.00   1069.80  2470.00
0
 *SECNO 9.580

 3265 DIVIDED FLOW


 3470 ENCROACHMENT STATIONS=     1600.0     2535.0  TYPE=      1  TARGET=      935.000

          BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
          AT 2 TO 1.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.58      7.40  1405.90      0.00      0.00  1407.06      1.16      2.05      0.15  1407.50
    15000.        0.  14313.     687.        0.     1624.      193.    308.81      145.  1406.00
      0.20      0.00      8.81      3.57    0.000     0.035     0.045     0.000   1398.50  1965.65
  0.006061      390.      450.      460.        2         0         0      0.00    495.72  2535.00
0
 *SECNO 9.670

 3470 ENCROACHMENT STATIONS=     1770.0     2480.0  TYPE=      1  TARGET=    -1770.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.67      8.52  1408.52      0.00      0.00  1410.14      1.62      2.95      0.14  1408.00
    15000.        5.   6991.    8004.        4.      547.     1101.    325.29      149.  1408.00
      0.21      1.24     12.79      7.27    0.045     0.035     0.045     0.000   1400.00  1954.43
  0.008518      470.      410.      420.        3         0         0      0.00    442.27  2396.70
0
 *SECNO 9.750

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
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3720 CRITICAL DEPTH ASSUMED

1
13 JUN 86      4:29:45                                                                                                PAGE    45

            LANDFILL PIT BETWEEN RM 9.75 AND 10.04 ASSUMED TO BE FILLED.

       9.75     10.03  1411.73  1411.73     0.00  1413.94     2.21     2.90     0.18  1410.00
     15000.      186.   11975.   2838.      66.    918.      476.   339.24      153.  1410.00
       0.22      2.83    13.04    5.97    0.045    0.035    0.045    0.000  1401.70  1764.08
   0.006733      390.     370.     410.        2       11        0     0.00   352.77  2196.60
0
 *SECNO 9.840

3301 HV CHANGED MORE THAN HVINS

       9.84     11.94  1414.94     0.00     0.00  1416.07     1.13     2.02     0.11  1414.00
     15000.      282.   13939.    779.     166.   1581.     239.   358.36      158.  1410.00
       0.24      1.69     8.82    3.26    0.045    0.035    0.045    0.000  1403.00  1776.47
   0.002868      500.     480.     490.        2        0        0     0.00   492.95  2269.42
0
 *SECNO 9.940
       9.94     10.44  1416.44     0.00     0.00  1417.48     1.04     1.40     0.01  1410.00
     15000.     2523.   11948.    529.     635.   1336.     152.   381.83      162.  1412.00
       0.26      3.98     8.94    3.48    0.045    0.035    0.045    0.000  1406.00  1768.26
   0.002627      430.     520.     470.        3        0        0     0.00   417.84  2186.10
0
 *SECNO 10.040
      10.04      8.94  1417.94     0.00     0.00  1419.02     1.08     1.53     0.01  1414.00
     15000.      506.   14192.    303.     155.   1665.     106.   406.92      167.  1414.00
       0.27      3.27     8.53    2.87    0.045    0.035    0.045    0.000  1409.00  1841.28
   0.003053      540.     540.     540.        1        0        0     0.00   387.12  2228.40
0
 *SECNO 10.120

3301 HV CHANGED MORE THAN HVINS


            LANDFILL PIT BETWEEN RM 10.12 AND 10.30 ASSUMED FILLED AND CLOSED.

      10.12      7.46  1418.96     0.00     0.00  1420.91     1.95     1.63     0.26  1414.00
     15000.      391.   14318.    292.      82.   1251.      75.   421.73      171.  1416.00
       0.28      4.77    11.44    3.87    0.045    0.035    0.045    0.000  1411.50  1866.96
   0.006311      450.     380.     420.        2        0        0     0.00   282.39  2149.35
0
 *SECNO 10.210
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
      10.21      7.40  1422.90  1422.90     0.00  1424.85     1.96     3.31     0.00  1420.00
     15000.      163.   11631.   3205.      42.    945.     512.   436.98      174.  1418.00
       0.30      3.90    12.31    6.26    0.045    0.035    0.045    0.000  1415.50  1851.04
   0.008557      490.     450.     475.        4        5        0     0.00   393.45  2244.48
0
1
13 JUN 86      4:29:45                                                                                                PAGE    46

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

 *SECNO 10.300

3265 DIVIDED FLOW

      10.30      6.41  1427.21  1427.16     0.00  1429.02     1.81     4.15     0.01  1424.00
     15000.      202.   13111.   1687.      39.    1151.     343.   452.40      178.  1424.00
```

```
      10.30      0.41  1427.21  1427.10     0.00  [illegible]      [illegible]
      15000.      202.    13111.     1687.       39.     1151.      343.    452.40      178.   1424.00
       0.31      5.21     11.39     4.92    0.045    0.040    0.050     0.000  1420.80  1835.91
   0.010377      460.      440.      450.        5       11        0      0.00   435.19  2704.55
0
 *SECNO 10.340
 3280 CROSS SECTION      10.34 EXTENDED       0.32 FEET


 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
      10.34      6.32  1430.32  1430.32     0.00  1431.18     0.85      2.06      0.10  1427.50
      15000.     2565.    11250.     1186.      541.     1377.      333.    460.33      182.   1429.00
       0.31      4.74     8.17     3.56    0.045    0.040    0.050     0.000  1424.00   400.00
   0.012518      190.      180.      185.       20        6        0      0.00  1200.00  1600.00
0
 *SECNO 10.350
 3280 CROSS SECTION      10.35 EXTENDED       1.16 FEET


 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
      10.35      7.15  1431.15     0.00     0.00  1431.50     0.35      0.28      0.05  1425.50
      15000.     4230.    10276.      494.     1116.     1983.      299.    463.57      183.   1430.20
       0.32      3.79     5.18     1.65    0.045    0.040    0.050     0.000  1424.00   400.00
   0.003102       50.       50.       50.        2        0        0      0.00  1200.00  1600.00
0
 *SECNO 10.360
 3280 CROSS SECTION      10.36 EXTENDED       1.39 FEET

1
 13 JUN 86      4:29:45                                                                          PAGE    47

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


 3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
      10.36      7.69  1431.39     0.00     0.00  1431.67     0.28      0.16      0.01  1430.00
      15000.     2539.     7997.     4464.      841.     1704.     1123.    467.62      185.   1427.00
       0.32      3.02     4.69     3.97    0.045    0.040    0.050     0.000  1423.70   400.00
   0.003115       50.       50.       50.        2        0        0      0.00  1200.00  1600.00
0
 *SECNO 10.400

 3265 DIVIDED FLOW


 3470 ENCROACHMENT STATIONS=      950.0     2490.0  TYPE=      1  TARGET=     1540.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

      10.40      9.65  1431.65     0.00     0.00  1432.14     0.49      0.41      0.06  1430.00
      15000.     1048.    12314.     1639.      726.     2003.      782.    482.75      190.   1428.00
       0.33      1.44     6.15     2.10    0.045    0.040    0.050     0.000  1422.00  1131.65
   0.001716      190.      180.      185.        2        0        0      0.00  1334.05  2490.00
0
 *SECNO 10.490
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*SECNO 10.470

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      720.0     2310.0  TYPE=      1  TARGET=     -720.000

          INVERT ELEVATION ASSUMED FILLED TO 1434 FEET AT DOWNSTREAM END OF
          GRAVEL PIT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     10.49      7.07  1433.57  1433.57      0.00  1435.71      2.14      1.78      0.49  1434.00
    15000.        0.    14850.     150.        0.     1259.      49.    508.13      199.   1432.00
      0.34      0.00     11.80     3.05     0.000     0.040     0.050     0.000  1426.50  1890.41
  0.014569      420.      470.      450.        20        11         0      0.00    357.26  2247.68
0
1
13 JUN 86      4:29:45                                                                          PAGE    48

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

*SECNO 10.620

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=      655.0     2125.0  TYPE=      1  TARGET=     -655.000

          INVERT ELEVATION ASSUMED TO FILL TO 1436 FEET AT UPSTREAM END OF
          GRAVEL PIT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     10.62      8.82  1438.02  1435.95      0.00  1439.03      1.02      3.21      0.11  1432.00
    15000.       668.    13636.     696.      179.     1622.     211.    530.68      208.   1432.00
      0.36      3.73      8.41     3.29     0.045     0.035     0.050     0.000  1429.20  1109.59
  0.002821      605.      590.      600.         8         8         0      0.00    980.57  2090.16
0
*SECNO 10.700

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      800.0     2255.0  TYPE=      1  TARGET=     -800.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

     10.70      6.86  1439.36  1439.36      0.00  1441.77      2.41      1.74      0.42  1436.00
    15000.       478.    13958.     564.       94.     1088.     121.    545.25      214.   1436.00
      0.37      5.06     12.83     4.67     0.045     0.035     0.050     0.000  1432.50  1862.94
  0.008635      405.      380.      390.        20        14         0      0.00    295.71  2188.41
0
*SECNO 10.830

3265 DIVIDED FLOW
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3203 DIVIDED FLOW

1
13 JUN 86      4:29:45                                                                                                                PAGE    49

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        DLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     1080.0     2875.0  TYPE=      1  TARGET=    -1080.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

     10.83      9.00  1445.00      0.00      0.00  1445.71      0.71      3.77      0.17  1444.00
    15000.       68.     8517.     6415.       50.     1041.     1524.    574.48       224.  1444.00
      0.40      1.35      8.18      4.21     0.045     0.035     0.050     0.000   1436.00  1657.40
  0.004166       645.      650.      650.         2         0         0      0.00   1077.90  2807.54
0
*SECNO 10.930
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1360.0     2965.0  TYPE=      1  TARGET=     1605.000
     10.93      7.85  1448.85  1448.85      0.00  1449.98      1.13      2.60      0.13  1448.00
    15000.     1504.     9306.     4190.      289.      902.     1113.    602.71       237.  1448.00
      0.42      5.20     10.32      3.76     0.045     0.035     0.050     0.000   1441.00  1781.57
  0.006687       500.      500.      500.        20         9         0      0.00   1183.43  2965.00
0
*SECNO 11.040

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     1440.0     2540.0  TYPE=      1  TARGET=     1100.000
          X3 USED TO DEFINE EFFETIVE FLOW.

     11.04      8.31  1452.31      0.00      0.00  1452.87      0.56      2.83      0.06  1450.00
    15000.    11539.     1815.     1647.     1806.       308.      632.   631.70       250.  1450.00
      0.44      6.39      5.88      2.60     0.045     0.035     0.050     0.000   1444.00  1460.02
  0.004855       500.      500.      500.         1         0         0      0.00   1079.98  2540.00
0
*SECNO 11.200
1
13 JUN 86      4:29:45                                                                                                                PAGE    50

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        DLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

          EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES.  INVERT
          AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

     11.20      4.50  1456.50  1456.50      0.00  1458.70      2.20      3.07      0.49  1467.00
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      11.20      4.50  1456.50  1456.50      0.00  1458.70      2.20      3.07      0.49  1467.00
     15000.        0.   15000.       0.        0.    1260.        0.    665.14      261.   1467.00
       0.46      0.00     11.91     0.00     0.000     0.020     0.000     0.000   1452.00  1855.50
   0.003640      680.      770.     755.         5        11         0      0.00    289.00  2144.50
0
 *SECNO 11.300

3301 HV CHANGED MORE THAN HVINS

      11.30      6.22  1458.72      0.00      0.00  1459.85      1.12      1.04      0.11  1469.00
     15000.        0.   15000.       0.        0.    1765.        0.    683.47      265.   1469.50
       0.47      0.00      8.50     0.00     0.000     0.020     0.000     0.000   1452.50  1852.05
  0.001226      528.      528.     528.         2         0         0      0.00    295.90  2147.95
0
 *SECNO 11.400
      11.40      5.23  1459.23      0.00      0.00  1460.84      1.61      0.85      0.15  1471.50
     15000.        0.   15000.       0.        0.    1472.        0.    703.08      268.   1472.00
       0.49      0.00     10.19     0.00     0.000     0.020     0.000     0.000   1454.00  1854.04
  0.002199      528.      528.     528.         3         0         0      0.00    291.92  2145.96
0
1
 13 JUN 86      4:29:45                                                                          PAGE    51


 ***************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55
 ***************************************************

 T1       FLOODPLAIN STUDY - SKUNK CREEK
 T2       SKUNK CREEK 50-YR. FLOOD
 T3       SKUNK FLOODPLAIN 29000 CFS

 J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

        0.        6.        0.        0.  0.000000      0.00       0.0       0.  1377.800     0.000

 J2  NPROF     IPLOT     PREVS     XSECV     XSECH      FN       ALLDC     IBW       CHNIM     ITRACE

      5.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

1
 13 JUN 86      4:29:45                                                                          PAGE    52

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


 *PROF 5

 CCHV=   0.100 CEHV=   0.300
 *SECNO 8.690

          DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
          SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE,S LEVEES
          ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
          (APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
          CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
          ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
          MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
          OBSERVATION (FEB. 1983)
          THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
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            THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
            39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

       8.69      8.00  1377.80      0.00  1377.80  1378.77      0.97      0.00      0.00  1376.00
     29000.      8787.  10295.      9919.  1496.     893.     2580.      0.00        0.  1376.00
       0.00      5.87     11.53     3.85   0.045    0.035     0.045     0.000   1369.80  1451.30
   0.006251        0.        0.        0       0        0         0      0.00   2108.70  3560.00
0
 *SECNO 8.750

 3265 DIVIDED FLOW

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
       8.75     11.82  1382.82   1382.82      0.00  1383.84      1.02      3.62      0.01  1376.00
     29000.     6221.  17875.      4905.  1456.    1803.     2033.     89.97       44.  1380.00
       0.03      4.27      9.91     2.41   0.045    0.035     0.045     0.000   1371.00   886.70
   0.003734      835.      739.      733.       2       15         0      0.00   2963.32  3896.57
0
 *SECNO 8.890
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=      870.0     3730.0  TYPE=      1  TARGET=     2860.000
       8.89      9.61  1387.61   1387.61      0.00  1388.53      0.92      3.02      0.01  1384.00
     29000.     6238.  19039.      3723.  1859.    2058.     1603.    175.83       87.  1384.00
       0.06      3.36      9.25     2.32   0.045    0.035     0.045     0.000   1378.00   870.00
   0.004317      565.      840.      650.       7       14         0      0.00   2860.00  3730.00
0
1
 13 JUN 86      4:29:45                                                                    PAGE    53

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

 *SECNO 8.965
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     1085.0     3575.0  TYPE=      1  TARGET=     2490.000
       8.96      9.28  1390.28   1390.28      0.00  1391.28      1.00      1.77      0.02  1388.00
     29000.     5917.  19417.      3666.  1583.    2047.     1174.    218.60      109.  1388.00
       0.07      3.74      9.49     3.12   0.045    0.035     0.045     0.000   1381.00  1085.00
   0.005208      275.      400.      410.      20       10         0      0.00   2490.00  3575.00
0
 *SECNO 9.050

 3470 ENCROACHMENT STATIONS=     1370.0     3415.0  TYPE=      1  TARGET=     2045.000
       9.05     10.44  1392.44      0.00      0.00  1392.98      0.54      1.65      0.05  1388.00
     29000.     7078.  13542.      8381.  1876.    1724.     2943.    276.17      131.  1390.00
       0.10      3.77      7.86     2.85   0.045    0.035     0.045     0.000   1382.00  1370.00
   0.002426      410.      550.      370.       2        0         0      0.00   2045.00  3415.00
0
 *SECNO 9.115

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=        0.0     3465.0  TYPE=      1  TARGET=     3464.999
       9.11      7.20  1393.70   1393.70      0.00  1394.75      1.06      1.33      0.16  1392.00
     29000.      336.  20973.      7691.  137.     2231.     1978.    317.99      145.  1392.00
```

10.210	8749.	-3.35	-1.42	1.15
10.300	9189.	-2.74	-1.14	1.04
10.340	9369.	-2.86	-0.78	0.59
10.350	9419.	-2.82	-0.82	0.59
10.360	9469.	-3.11	-0.90	0.65
10.400	9649.	-2.82	-0.92	0.70
10.490	10119.	-2.78	-1.27	1.16
10.620	10709.	-3.63	-1.67	1.45
10.700	11089.	-3.33	-1.66	1.38
10.830	11739.	-3.45	-1.27	1.24
10.930	12239.	-3.61	-1.35	0.91
11.040	12739.	-3.28	-1.20	0.83
11.200	13509.	-2.37	-1.18	1.15
11.300	14037.	-3.08	-1.46	1.37
11.400	14565.	-2.92	-1.41	1.33
WEIGHTED AVG FOR REACH		-3.17	-1.40	1.14

FHF FOR THE REACH = 030 WITH 84.4 PERCENT OF THE REACH WITHIN 1.0 FEET
ZONE FOR THE REACH = A 6

1
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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
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      29000.     336.   20973.    7691.     137.    2231.    1978.   317.99     145.   1392.00
       0.11      2.45     9.40     3.89    0.045    0.035    0.045    0.000  1386.50   1628.67
   0.006854      350.     370.     300.        3       18        0     0.00  1836.33   3465.00
0
 *SECNO 9.210

 3470 ENCROACHMENT STATIONS=    1385.0     2950.0  TYPE=     1  TARGET=    1565.000

            LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

       9.21      8.33  1396.83     0.00     0.00  1397.77     0.94     3.01     0.01   1394.00
      29000.     3206.   18442.    7352.     899.    1992.    1724.   373.80     165.   1394.00
       0.13      3.56     9.26     4.27    0.045    0.035    0.040    0.000  1388.50   1385.00
   0.004247      460.     600.     500.        2        0        0     0.00  1565.00   2950.00
0
1
 13 JUN 86      4:29:45                                                                    PAGE    54

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

 1490 NH CARD USED
 *SECNO 9.310
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    1110.0     2560.0  TYPE=     1  TARGET=    1450.000

            LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

       9.31      8.55  1400.55  1400.55     0.00  1401.97     1.42     2.65     0.14   1398.00
      29000.     5402.   17325.    6273.    1505.    1457.    1390.   427.72     181.   1396.00
       0.15      3.59    11.89     4.51    0.045    0.035    0.050    0.000  1392.00   1110.00
   0.005045      400.     650.     480.       20        8        0     0.00  1450.00   2560.00
0
 1490 NH CARD USED
 *SECNO 9.400
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     980.0     2400.0  TYPE=     1  TARGET=    1420.000

            LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

       9.40      9.03  1403.03  1403.03     0.00  1404.45     1.42     2.39     0.00   1402.00
      29000.     7189.   20194.    1617.    1677.    1817.     416.   469.11     195.   1400.00
       0.16      4.29    11.11     3.89    0.040    0.035    0.044    0.000  1394.00    980.00
   0.005171      370.     510.     420.        2        8        0     0.00  1420.00   2400.00
0
 1490 NH CARD USED
 *SECNO 9.480

 3265 DIVIDED FLOW

 3470 ENCROACHMENT STATIONS=    1170.0     2470.0  TYPE=     1  TARGET=    1300.000

            LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
            X3 USED TO DEFINE EFFECTIVE FLOW.
1
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1
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      9.48      9.72  1405.72      0.00      0.00  1406.77      1.05      2.29      0.04  1404.00
    29000.      3277.   24469.     1254.     1068.     2769.      363.    510.31      207.   1402.00
      0.18      3.07      8.84      3.45     0.045     0.050     0.050     0.000   1396.00   1170.00
  0.004684      370.      490.      420.         3         0         0      0.00   1235.19   2470.00
0
*SECNO 9.580

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=    1600.0     2535.0  TYPE=      1  TARGET=      935.000

          BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
          AT 2 TO 1.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.58      9.28  1407.78      0.00      0.00  1409.35      1.58      2.43      0.16  1407.50
    29000.      653.   25308.     3039.      272.     2387.      553.    547.77      218.   1406.00
      0.19      2.41     10.60      5.50     0.045     0.035     0.045     0.000   1398.50   1600.00
  0.006372      390.      450.      460.         2         0         0      0.00    935.00   2535.00
0
*SECNO 9.670

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    1770.0     2480.0  TYPE=      1  TARGET=    -1770.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.67     10.59  1410.59  1410.59      0.00  1412.85      2.26      3.02      0.20  1408.00
    29000.      619.   11299.    17082.      191.      733.     1808.    576.33      225.   1408.00
      0.20      3.24     15.41      9.45     0.045     0.035     0.045     0.000   1400.00   1770.00
  0.008371      470.      410.      420.         2         8         0      0.00    636.31   2406.31
0
*SECNO 9.750
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

          LANDFILL PIT BETWEEN RM 9.75 AND 10.04 ASSUMED TO BE FILLED.

      9.75     12.56  1414.26  1414.26      0.00  1416.83      2.58      2.76      0.10  1410.00
    29000.     2278.   18708.     8014.      436.     1234.     1065.    601.02      231.   1410.00
      0.21      5.22     15.16      7.52     0.045     0.035     0.045     0.000   1401.70   1748.72
  0.006131      390.      370.      410.         5        11         0      0.00    534.45   2283.16
0
1
13 JUN 86      4:29:45                                                                                                                PAGE    56

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

*SECNO 9.840

3301 HV CHANGED MORE THAN HVINS

      9.84     14.34  1417.34      0.00      0.00  1419.06      1.72      2.14      0.09  1414.00
    29000.     2556.   23684.     2760.      606.     2073.      525.    634.16      237.   1410.00
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     29000.    2556.   23684.    2760.     606.    2073.     525.   634.16     237.   1410.00
      0.22     4.22     11.43     5.26    0.045    0.035    0.045    0.000  1403.00   1787.47
  0.003355     500.      480.     490.        2        0        0     0.00   518.29   2285.75
0
*SECNO 9.940
      9.94    13.10   1419.10     0.00     0.00  1420.66     1.56     1.58     0.02   1410.00
     29000.    6912.   20108.    1980.    1159.    1762.     410.   670.81     242.   1412.00
      0.24     5.96     11.41     4.83    0.045    0.035    0.045    0.000  1406.00   1757.80
  0.002959     430.      520.     470.        2        0        0     0.00   483.79   2241.59
0
*SECNO 10.040
     10.04    11.70   1420.70     0.00     0.00  1422.31     1.61     1.64     0.01   1414.00
     29000.    2032.   25095.    1873.     393.    2329.     451.   711.12     248.   1414.00
      0.25     5.17     10.77     4.15    0.045    0.035    0.045    0.000  1409.00   1827.83
  0.003116     540.      540.     540.        2        0        0     0.00   506.54   2334.37
0
*SECNO 10.120

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

          LANDFILL PIT BETWEEN RM 10.12 AND 10.30 ASSUMED FILLED AND CLOSED.

     10.12     9.76   1421.26   1421.26     0.00  1424.63     3.36     1.78     0.53   1414.00
     29000.    1301.   26235.    1464.     186.    1712.     226.   735.01     252.   1416.00
      0.26     6.98     15.32     6.47    0.045    0.035    0.045    0.000  1411.50   1834.75
  0.007446     450.      380.     420.        3       11        0     0.00   364.20   2263.50
0
1
13 JUN 86     4:29:45                                                                    PAGE    57

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

*SECNO 10.210

3301 HV CHANGED MORE THAN HVINS

     10.21    10.12   1425.62     0.00     0.00  1427.84     2.22     3.10     0.11   1420.00
     29000.    925.   19233.    8842.     164.    1406.    1158.   760.64     257.   1418.00
      0.27     5.65     13.68     7.63    0.045    0.035    0.045    0.000  1415.50   1815.86
  0.006218     490.      450.     475.        3        0        0     0.00   506.21   2322.07
0
*SECNO 10.300

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     10.30     8.77   1429.57   1429.57     0.00  1431.56     1.99     3.10     0.02   1424.00
     29000.    823.   21293.    6884.     132.    1669.    1229.   790.05     264.   1424.00
      0.28     6.26     12.76     5.60    0.045    0.040    0.050    0.000  1420.80   1798.68
  0.007929     460.      440.     450.        2       12        0     0.00   819.57   2713.37
0
*SECNO 10.340
3280 CROSS SECTION      10.34 EXTENDED       2.16 FEET


3301 HV CHANGED MORE THAN HVINS
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3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
    10.34      8.16  1432.16      0.00      0.00  1432.91      0.74      1.23      0.12  1427.50
    29000.     6983.   17929.     4088.     1276.     2297.      885.    805.80      268.  1429.00
     0.29      5.47      7.81      4.62     0.045     0.040     0.050     0.000   1424.00    400.00
 0.005784      190.      180.      185.         4         0         0      0.00   1200.00   1600.00
0
*SECNO 10.350
3280 CROSS SECTION      10.35 EXTENDED      2.57 FEET

3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
    10.35      8.57  1432.57      0.00      0.00  1433.14      0.57      0.22      0.02  1425.50
    29000.     8649.   18080.     2272.     1683.     2692.      725.    811.29      269.  1430.20
     0.29      5.14      6.72      3.13     0.045     0.040     0.050     0.000   1424.00    400.00
 0.003463       50.       50.       50.         2         0         0      0.00   1200.00   1600.00
0
1
13 JUN 86      4:29:45                                                                          PAGE    58

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

*SECNO 10.360
3280 CROSS SECTION      10.36 EXTENDED      2.86 FEET

3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
    10.36      9.16  1432.86      0.00      0.00  1433.32      0.47      0.17      0.01  1430.00
    29000.     6253.   14853.     7894.     1428.     2438.     1564.    817.33      271.  1427.00
     0.29      4.38      6.09      5.05     0.045     0.040     0.050     0.000   1423.70    400.00
 0.003256       50.       50.       50.         2         0         0      0.00   1200.00   1600.00
0
*SECNO 10.400

3470 ENCROACHMENT STATIONS=      950.0     2490.0  TYPE=      1  TARGET=     1540.000

            X3 USED TO DEFINE EFFECTIVE FLOW.

    10.40     11.20  1433.20      0.00      0.00  1433.87      0.67      0.49      0.06  1430.00
    29000.     5682.   18781.     4538.     2037.     2391.     1355.    841.07      277.  1428.00
     0.30      2.79      7.86      3.35     0.045     0.040     0.050     0.000   1422.00    950.00
 0.002214      190.      180.      185.         2         0         0      0.00   1540.00   2490.00
0
*SECNO 10.490

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      720.0     2310.0  TYPE=      1  TARGET=     -720.000

            INVERT ELEVATION ASSUMED FILLED TO 1434 FEET AT DOWNSTREAM END OF
            GRAVEL PIT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

    10.49      9.87  1436.37  1436.37      0.00  1437.79      1.43      1.59      0.23  1434.00
    29000.     4984.   22460.     1556.     1510.     2097.      317.    891.01      292.  1432.00
     0.32      3.30      10.71     4.91     0.045     0.040     0.050     0.000   1426.50    790.36
 0.006230      420.      470.      450.        20         9         0      0.00   1510.56   2300.91
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      0.32      3.30      10.71      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
  0.006230      420.      470.      450.        20         9         0      0.00   1510.56   2300.91
0
1
13 JUN 86      4:29:45                                                                                                                    PAGE    59

     SECNO     DEPTH     CWSEL     CRIWS     WSELK      EG        HV        HL      OLOSS    BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       NTN      LLMIN       SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR    TOPWID      ENDST

*SECNO 10.620

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      655.0     2125.0  TYPE=      1  TARGET=     -655.000

          INVERT ELEVATION ASSUMED TO FILL TO 1436 FEET AT UPSTREAM END OF
          GRAVEL PIT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     10.62     10.09  1439.29  1439.29      0.00  1441.27      1.98      3.27      0.17  1432.00
    29000.      3764.    23579.     1657.     1065.     1907.      307.    940.31      309.   1432.00
      0.33      3.53     12.36      5.41     0.045     0.035     0.050     0.000   1429.20   1084.21
  0.004913      605.      590.      600.         3         8         0      0.00   1015.46   2099.67
0
*SECNO 10.700

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      800.0     2255.0  TYPE=      1  TARGET=     -800.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

     10.70     10.13  1442.63  1442.63      0.00  1444.65      2.03      1.87      0.01  1436.00
    29000.      4765.    21812.     2423.     1126.     1691.      453.    969.59      318.   1436.00
      0.34      4.23     12.90      5.34     0.045     0.035     0.050     0.000   1432.50   1332.14
  0.004838      405.      380.      390.        20         5         0      0.00    886.00   2236.57
0
*SECNO 10.830

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     1080.0     2875.0  TYPE=      1  TARGET=    -1080.000
1
13 JUN 86      4:29:45                                                                                                                    PAGE    60

          X3 USED TO DEFINE EFFECTIVE FLOW.

     10.83     10.74  1446.74      0.00      0.00  1447.62      0.88      2.86      0.11  1444.00
    29000.      1066.    13514.    14419.     359.     1388.     2894.   1028.54      334.   1444.00
      0.37      2.97      9.73      4.98     0.045     0.035     0.050     0.000   1436.00   1600.34
  0.004014      645.      650.      650.         3         0         0      0.00   1227.08   2827.42
0
*SECNO 10.930

3301 HV CHANGED MORE THAN HVINS
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3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1360.0     2965.0  TYPE=      1  TARGET=     1605.000
    10.93      9.13   1450.13   1450.13      0.00   1451.60      1.47      2.68      0.18   1448.00
    29000.     3174.    14264.    11562.      476.     1124.     2233.   1077.18      348.   1448.00
     0.38      6.67     12.69      5.18     0.045     0.035     0.050     0.000   1441.00   1736.25
 0.007527      500.      500.      500.        20         9         0      0.00   1228.75   2965.00
0
*SECNO 11.040

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     1440.0     2540.0  TYPE=      1  TARGET=     1100.000
          X3 USED TO DEFINE EFFETIVE FLOW.

    11.04      9.89   1453.89      0.00      0.00   1454.65      0.76      2.98      0.07   1450.00
    29000.    19302.     3823.     5875.     2597.      483.     1384.   1124.80      361.   1450.00
     0.40      7.43      7.92      4.24     0.045     0.035     0.050     0.000   1444.00   1451.44
 0.004844      500.      500.      500.         0         0         0      0.00   1088.56   2540.00
0
*SECNO 11.200

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

          EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES.  INVERT
          AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

1
13 JUN 86      4:29:45                                                                                    PAGE    61

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

    11.20      6.94   1458.94   1458.94      0.00   1462.28      3.35      2.87      0.78   1467.00
    29000.        0.    29000.        0.        0.     1976.        0.   1178.80      373.   1467.00
     0.42      0.00     14.68      0.00     0.000     0.020     0.000     0.000   1452.00   1850.63
12 0.003189      680.      770.      755.        20        19         0      0.00    298.74   2149.37
11 0
10 *SECNO 11.300
9
8 3301 HV CHANGED MORE THAN HVINS
7
6    11.30      9.04   1461.54      0.00      0.00   1463.45      1.91      1.03      0.14   1469.00
5    29000.        0.    29000.        0.        0.     2612.        0.   1206.60      376.   1469.50
4     0.43      0.00     11.10      0.00     0.000     0.020     0.000     0.000   1452.50   1846.43
3 0.001311      528.      528.      528.         3         0         0      0.00    307.14   2153.57
0
*SECNO 11.400

3301 HV CHANGED MORE THAN HVINS

    11.40      7.98   1461.98      0.00      0.00   1464.47      2.49      0.84      0.17   1471.50
    29000.        0.    29000.        0.        0.     2289.        0.   1236.30      380.   1472.00
     0.44      0.00     12.67      0.00     0.000     0.020     0.000     0.000   1454.00   1848.54
 0.001992      528.      528.      528.         3         0         0      0.00    302.91   2151.46
0
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  HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
  ERROR CORR - 01,02,03,04,05,06
  MODIFICATION - 50,51,52,53,54,55
**************************************************

T1      FLOODPLAIN STUDY - SKUNK CREEK
T2      SKUNK CREEK 100-YR. FLOOD
T3      SKUNK FLOODPLAIN 39000 CFS

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

       0.       7.       0.       0.  0.000000     0.00     0.0      0.  1377.800    0.000

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    15.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
```



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

*PROF 6

CCHV=   0.100 CEHV=   0.300
*SECNO 8.690
3720 CRITICAL DEPTH ASSUMED

          DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
          SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE,S LEVEES
          ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
          (APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
          CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
          ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
          MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
          OBSERVATION (FEB. 1983)
          THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
          39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

      8.69      8.44  1378.24  1378.24  1377.80  1379.34     1.10     0.00     0.00  1376.00
    39000.     11672.   12169.   15159.    1888.     954.    3221.     0.00       0.  1376.00
      0.00      6.18     12.75     4.71    0.045    0.035    0.045    0.000  1369.80   771.16
  0.006999        0.        0.        0        0        7        0     0.00  2828.69  3599.85
0
*SECNO 8.750

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
      8.75     12.33  1383.33  1383.33     0.00  1384.43     1.10     4.03     0.00  1376.00
    39000.     8828.   20985.    9188.    1947.    1926.    3000.   113.54      53.  1380.00
      0.03      4.53     10.90     3.06    0.045    0.035    0.045    0.000  1371.00   717.27
  0.004132      835.      739.      733.        2       11        0     0.00  3210.77  3963.08
0
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0
 *SECNO 8.890
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=      870.0     3730.0  TYPE=      1  TARGET=     2860.000
      8.89     10.06  1388.06  1388.06      0.00  1389.09     1.04      3.29      0.01  1384.00
    39000.     9384.   22673.    6944.     2317.     2209.    2266.    220.35       98.  1384.00
      0.06      4.05     10.27     3.06     0.045     0.035    0.045     0.000   1378.00   870.00
  0.004833      565.      840.      650.         3        14        0      0.00   2860.00  3730.00
0
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    TDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 8.965
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     1085.0     3575.0  TYPE=      1  TARGET=     2490.000
      8.96      9.85  1390.85  1390.85      0.00  1391.91     1.06      1.88      0.01  1388.00
    39000.     9151.   23074.    6775.     2074.     2259.    1878.    274.22      120.  1388.00
      0.07      4.41     10.22     3.61     0.045     0.035    0.045     0.000   1381.00  1085.00
  0.005296      275.      400.      410.         2         6        0      0.00   2490.00  3575.00
0
 *SECNO 9.050

 3470 ENCROACHMENT STATIONS=     1370.0     3415.0  TYPE=      1  TARGET=     2045.000
      9.05     11.05  1393.05     0.00      0.00  1393.68     0.63      1.72      0.04  1388.00
    39000.     9703.   16281.   13016.     2202.     1867.    3720.    344.16      141.  1390.00
      0.09      4.41      8.72     3.50     0.045     0.035    0.045     0.000   1382.00  1370.00
  0.002687      410.      550.      370.         2         0        0      0.00   2045.00  3415.00
0
 *SECNO 9.115

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=        0.0     3465.0  TYPE=      1  TARGET=     3464.999
      9.11      7.80  1394.30  1394.30      0.00  1395.45     1.15      1.38      0.16  1392.00
    39000.      808.   25630.   12562.      268.     2538.    2678.    394.82      156.  1392.00
      0.10      3.02     10.10     4.69     0.045     0.035    0.045     0.000   1386.50  1459.41
  0.006664      350.      370.      300.         3        14        0      0.00   2005.58  3465.00
0
 *SECNO 9.210

 3470 ENCROACHMENT STATIONS=     1385.0     2950.0  TYPE=      1  TARGET=     1565.000

            LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

      9.21      8.93  1397.43     0.00      0.00  1398.55     1.12      3.09      0.00  1394.00
    39000.     5141.   22574.   11285.     1187.     2186.    2178.    462.91      177.  1394.00
      0.12      4.33     10.33     5.18     0.045     0.035    0.040     0.000   1388.50  1385.00
  0.004665      460.      600.      500.         2         0        0      0.00   1565.00  2950.00
0
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
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      SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
      Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
      TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN       SSTA
      SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

  1490 NH CARD USED
  *SECNO 9.310

  3301 HV CHANGED MORE THAN HVINS

  3685 20 TRIALS ATTEMPTED WSEL,CWSEL
  3693 PROBABLE MINIMUM SPECIFIC ENERGY
  3720 CRITICAL DEPTH ASSUMED

  3470 ENCROACHMENT STATIONS=     1110.0     2560.0  TYPE=      1  TARGET=     1450.000

            LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

       9.31      9.18  1401.18  1401.18      0.00  1402.81      1.63      2.87      0.15  1398.00
     39000.      9211.   20823.    8965.     2017.    1572.     1667.    526.85      194.  1396.00
       0.14      4.57     13.24     5.38     0.045    0.035     0.050     0.000   1392.00  1110.00
   0.005654      400.      650.     480.        20        8         0      0.00   1450.00  2560.00
0
  1490 NH CARD USED
  *SECNO 9.400

  3470 ENCROACHMENT STATIONS=      980.0     2400.0  TYPE=      1  TARGET=     1420.000

            LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

       9.40      9.79  1403.79      0.00      0.00  1405.29      1.50      2.47      0.01  1402.00
     39000.     12396.   23909.    2695.     2403.    2014.      567.    577.38      207.  1400.00
       0.15      5.16     11.87     4.75     0.040    0.035     0.044     0.000   1394.00   980.00
   0.005146      370.      510.     420.         2        0         0      0.00   1420.00  2400.00
0
  1490 NH CARD USED
  *SECNO 9.480

  3470 ENCROACHMENT STATIONS=     1170.0     2470.0  TYPE=      1  TARGET=     1300.000

            LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

       9.48     10.44  1406.44      0.00      0.00  1407.71      1.27      2.40      0.02  1404.00
     39000.      6570.   30297.    2134.     1605.    3022.      484.    627.79      220.  1402.00
       0.17      4.09     10.03     4.41     0.045    0.050     0.050     0.000   1396.00  1170.00
   0.005363      370.      490.     420.         2        0         0      0.00   1300.00  2470.00
0
1
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      SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
      Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
      TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN       SSTA
      SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

  *SECNO 9.580

  3301 HV CHANGED MORE THAN HVINS

  3470 ENCROACHMENT STATIONS=     1600.0     2535.0  TYPE=      1  TARGET=      935.000
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          BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
          AT 2 TO 1.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.58     10.13   1408.63      0.00      0.00   1410.50      1.86      2.61      0.18   1407.50
    39000.     2039.    32326.     4635.      536.     2754.      719.    673.56      231.   1406.00
      0.18      3.80     11.74      6.45     0.045     0.035     0.045     0.000   1398.50   1600.00
  0.006453      390.      450.      460.         2         0         0      0.00    935.00   2535.00
0
 *SECNO 9.670

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     1770.0     2480.0  TYPE=      1  TARGET=    -1770.000

          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.67     11.69   1411.69   1411.69      0.00   1414.27      2.58      3.04      0.22   1408.00
    39000.     2036.    13899.    23066.      411.      832.     2191.    709.58      238.   1408.00
      0.19      4.95     16.71     10.53     0.045     0.035     0.045     0.000   1400.00   1770.00
  0.008307      470.      410.      420.         2         8         0      0.00    641.41   2411.41
0
 *SECNO 9.750
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

          LANDFILL PIT BETWEEN RM 9.75 AND 10.04 ASSUMED TO BE FILLED.

      9.75     13.72   1415.42   1415.42      0.00   1418.41      2.99      2.84      0.12   1410.00
    39000.     4149.    23068.    11784.      627.     1379.     1357.    740.31      244.   1410.00
      0.20      6.62     16.72      8.68     0.045     0.035     0.045     0.000   1401.70   1742.91
  0.006436      390.      370.      410.        20        11         0      0.00    547.02   2289.93
0
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 9.840

 3301 HV CHANGED MORE THAN HVINS

      9.84     15.70   1418.70      0.00      0.00   1420.76      2.05      2.25      0.09   1414.00
    39000.     4667.    29925.     4408.      865.     2352.      700.    781.01      250.   1410.00
      0.21      5.40     12.72      6.29     0.045     0.035     0.045     0.000   1403.00   1762.35
  0.003513      500.      480.      490.         2         0         0      0.00    529.24   2291.60
0
 *SECNO 9.940
      9.94     14.54   1420.54      0.00      0.00   1422.43      1.89      1.65      0.02   1410.00
    39000.    10191.    25414.     3395.     1454.     1992.      599.    825.40      255.   1412.00
      0.22      7.01     12.76      5.66     0.045     0.035     0.045     0.000   1406.00   1752.14
  0.003138      430.      520.      470.         2         0         0      0.00    505.85   2258.00
0
 *SECNO 10.040
     10.04     13.23   1422.23      0.00      0.00   1424.11      1.88      1.69      0.00   1414.00
    39000.     3275.    32028.     3697.      539.     2695.      749.    875.16      262.   1414.00
      0.23      6.08     11.88      4.94     0.045     0.035     0.045     0.000   1409.00   1820.96
  0.003119      540.      540.      540.         2         0         0      0.00    553.65   2374.62
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  0.003119      540.      540.      540.         2         0         0      0.00    553.65   2374.62
0
*SECNO 10.120

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

            LANDFILL PIT BETWEEN RM 10.12 AND 10.30 ASSUMED FILLED AND CLOSED.

     10.12     11.74   1423.24   1423.24      0.00   1426.51      3.27      1.62      0.41   1414.00
    39000.     2730.     32820.     3450.      418.     2109.      553.    907.33      267.   1416.00
      0.24      6.53     15.56      6.24     0.045     0.035     0.045     0.000   1411.50   1753.78
  0.005822      450.      380.      420.         4        11         0      0.00    536.14   2289.92
0
*SECNO 10.210
     10.21     11.15   1426.65      0.00      0.00   1429.44      2.79      2.88      0.05   1420.00
    39000.     1600.     24566.    12835.      237.     1583.     1445.    940.98      273.   1418.00
      0.25      6.76     15.52      8.88     0.045     0.035     0.045     0.000   1415.50   1806.43
  0.006837      490.      450.      475.         4         0         0      0.00    523.44   2329.87
0
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK        EG        HV        HL     OLOSS   BANK ELEV
    Q         QLOB      QCH       QROB      ALOB       ACH      AROB       VOL       IWA   LEFT/RIGHT
    TIME      VLOB      VCH       VROB       XNL      XNCH       XNR       WTN     ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR    ITRIAL       IDC     ICONT     CORAR    TOPWID       ENDST

*SECNO 10.300

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     10.30      9.78   1430.58   1430.58      0.00   1432.76      2.19      3.25      0.06   1424.00
    39000.     1381.     26114.    11505.      201.     1891.     1837.    977.78      280.   1424.00
      0.26      6.87     13.81      6.26     0.045     0.040     0.050     0.000   1420.80   1787.12
  0.007864      460.      440.      450.         3        15         0      0.00    930.03   2717.16
0
*SECNO 10.340
3280 CROSS SECTION      10.34 EXTENDED      3.20 FEET

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
     10.34      9.20   1433.20      0.00      0.00   1434.00      0.80      1.10      0.14   1427.50
    39000.    10063.     22828.     6109.     1689.     2813.     1195.    998.06      285.   1429.00
      0.27      5.96      8.11      5.11     0.045     0.040     0.050     0.000   1424.00    400.00
  0.004769      190.      180.      185.         3         0         0      0.00   1200.00   1600.00
0
*SECNO 10.350
3280 CROSS SECTION      10.35 EXTENDED      3.54 FEET

3470 ENCROACHMENT STATIONS=      400.0     1600.0  TYPE=      1  TARGET=     1200.000
     10.35      9.54   1433.54      0.00      0.00   1434.21      0.68      0.20      0.01   1425.50
    39000.    11841.     23278.     3881.     2069.     3174.     1014.   1004.92      286.   1430.20
      0.27      5.72      7.33      3.83     0.045     0.040     0.050     0.000   1424.00    400.00
  0.003315       50.       50.       50.         2         0         0      0.00   1200.00   1600.00
0
*SECNO 10.360
3280 CROSS SECTION      10.36 EXTENDED      3.81 FEET
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*SECNO 10.300
3280 CROSS SECTION      10.36 EXTENDED      3.81 FEET

3470 ENCROACHMENT STATIONS=      400.0      1600.0  TYPE=      1  TARGET=     1200.000
    10.36     10.11   1433.81      0.00      0.00   1434.39      0.57      0.16      0.01   1430.00
    39000.     9103.   19656.   10241.     1811.     2917.     1851.   1012.29      288.   1427.00
     0.27      5.03      6.74      5.53     0.045     0.040     0.050     0.000   1423.70    400.00
 0.003135       50.       50.       50.         2         0         0      0.00   1200.00   1600.00
0
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK      FG        HV        HL      OLOSS   BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN      ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR    TOPWID     ENDST

*SECNO 10.400

3470 ENCROACHMENT STATIONS=      950.0      2490.0  TYPE=      1  TARGET=     1540.000

            X3 USED TO DEFINE EFFECTIVE FLOW.

    10.40     12.20   1434.20      0.00      0.00   1434.90      0.70      0.48      0.04   1430.00
    39000.    10216.   22069.    6715.     2956.     2640.     1724.   1041.76       294.   1428.00
     0.28      3.46      8.36      3.89     0.045     0.040     0.050     0.000   1422.00    950.00
 0.002196       190.      180.      185.         2         0         0      0.00   1540.00   2490.00
0
*SECNO 10.490

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      720.0      2310.0  TYPE=      1  TARGET=     -720.000

            INVERT ELEVATION ASSUMED FILLED TO 1434 FEET AT DOWNSTREAM END OF
            GRAVEL PIT.
            X3 USED TO DEFINE EFFECTIVE FLOW.

    10.49     10.62   1437.12   1437.12      0.00   1438.61      1.48      1.57      0.23   1434.00
    39000.    10188.   26543.    2269.     2361.     2325.      406.   1105.18       309.   1432.00
     0.30      4.32      11.42     5.59     0.045     0.040     0.050     0.000   1426.50    739.11
 0.006169       420.      470.      450.        20         9         0      0.00   1563.71   2302.81
0
*SECNO 10.620

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      655.0      2125.0  TYPE=      1  TARGET=     -655.000

            INVERT ELEVATION ASSUMED TO FILL TO 1436 FEET AT UPSTREAM END OF
            GRAVEL PIT.
1
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            X3 USED TO DEFINE EFFECTIVE FLOW.

    10.62     11.23   1440.43   1440.43      0.00   1442.40      1.96      3.13      0.15   1432.00
    39000.     8587.   28009.    2404.     2003.     2164.      402.   1171.45       329.   1432.00
     0.31      4.29      12.94     5.98     0.045     0.035     0.050     0.000   1429.20    655.00
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      0.31      4.29     12.94      5.98     0.045     0.035     0.050     0.000   1429.20    655.00
  0.004548      605.      590.      600.         3         8         0      0.00   1316.32   2107.16
0
 *SECNO 10.700

 3265 DIVIDED FLOW

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     800.0     2255.0  TYPE=     1  TARGET=    -800.000

            X3 USED TO DEFINE EFFECTIVE FLOW.

     10.70     11.08   1443.58   1443.58      0.00   1445.90      2.32      1.88      0.11   1436.00
    39000.     8806.    26687.     3507.     1686.     1867.      568.   1210.52      339.   1436.00
      0.32      5.22     14.29      6.18     0.045     0.035     0.050     0.000   1432.50   1320.26
  0.005209      405.      380.      390.        20         5         0      0.00    902.63   2238.95
0
 *SECNO 10.830

 3301 HV CHANGED MORE THAN HVINS

 3470 ENCROACHMENT STATIONS=    1080.0     2875.0  TYPE=     1  TARGET=   -1080.000

            X3 USED TO DEFINE EFFECTIVE FLOW.

     10.83     11.88   1447.88      0.00      0.00   1448.78      0.90      2.74      0.14   1444.00
    39000.     2426.    16274.    20301.      650.      1619.     3818.   1286.55      355.   1444.00
      0.35      3.73     10.05      5.32     0.045     0.035     0.050     0.000   1436.00   1554.28
  0.003489      645.      650.      650.         2         0         0      0.00   1284.66   2838.93
0
 *SECNO 10.930

 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        ULOSS     BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 3470 ENCROACHMENT STATIONS=    1360.0     2965.0  TYPE=     1  TARGET=    1605.000
     10.93      9.95   1450.95   1450.95      0.00   1452.50      1.54      2.42      0.19   1448.00
    39000.     4532.    17013.    17455.      657.      1269.     2962.   1349.55      370.   1448.00
      0.36      6.89     13.40      5.89     0.045     0.035     0.050     0.000   1441.00   1645.16
  0.007148      500.      500.      500.        20        10         0      0.00   1319.83   2965.00
0
 *SECNO 11.040

 3301 HV CHANGED MORE THAN HVINS

 3470 ENCROACHMENT STATIONS=    1440.0     2540.0  TYPE=     1  TARGET=    1100.000
            X3 USED TO DEFINE EFFETIVE FLOW.

     11.04     10.66   1454.66      0.00      0.00   1455.61      0.95      3.05      0.06   1450.00
    39000.    24784.    5212.     9003.     2985.      567.     1749.   1408.02      384.   1450.00
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     39000.   24784.    5212.    9003.    2985.     567.    1749.  1408.02     384.   1450.00
       0.38     8.30     9.19     5.15    0.045    0.035    0.050    0.000  1444.00   1447.29
   0.005265     500.     500.     500.        2        0        0     0.00  1092.71   2540.00
0
 *SECNO 11.200

 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

          EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES.  INVERT
          AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

     11.20     8.42  1460.42  1460.42     0.00  1464.44     4.02     2.89     0.92   1467.00
    39000.       0.    39000.       0.       0.    2423.       0.  1472.90     396.   1467.00
      0.39     0.00    16.09     0.00    0.000    0.020    0.000    0.000  1452.00   1847.66
  0.003007     680.     770.     755.       20       15        0     0.00   304.67   2152.34
0
 *SECNO 11.300

 3301 HV CHANGED MORE THAN HVINS

1
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    SECNO     DEPTH    CWSEL    CRIWS    WSELK       EG       HV       HL    OLOSS   BANK ELEV
    Q         QLOB     QCH      QROB     ALOB      ACH      AROB      VOL      TWA   LEFT/RIGHT
    TIME      VLOB     VCH      VROB     XNL       XNCH     XNR       WIN     ELMIN      SSTA
    SLOPE     XLOBL    XLCH     XLOBR    ITRIAL    IDC      ICONT     CORAR   TOPWID     ENDST

     11.30    10.71  1463.21     0.00     0.00  1465.62     2.41     1.02     0.16   1469.00
    39000.       0.    39000.       0.       0.    3128.       0.  1506.54     400.   1469.50
      0.40     0.00    12.47     0.00    0.000    0.020    0.000    0.000  1452.50   1843.11
  0.001341     528.     528.     528.        3        0        0     0.00   313.79   2156.89
0
 *SECNO 11.400

 3301 HV CHANGED MORE THAN HVINS

     11.40     9.61  1463.61     0.00     0.00  1466.65     3.03     0.84     0.19   1471.50
    39000.       0.    39000.       0.       0.    2790.       0.  1542.41     403.   1472.00
      0.41     0.00    13.98     0.00    0.000    0.020    0.000    0.000  1454.00   1845.27
  0.001923     528.     528.     528.        3        0        0     0.00   309.45   2154.73
0
1
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 ***************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55
 ***************************************************


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

   SKUNK CREEK FLOODPLAIN

 SUMMARY PRINTOUT TABLE  150
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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	8.690	0.00	0.00	0.00	1369.80	1500.00	1377.80	0.00	1377.80	0.17	0.60	4968.83	3667.90
	8.690	0.00	0.00	0.00	1369.80	5000.00	1377.80	0.00	1377.83	1.86	1.99	4968.83	3667.90
	8.690	0.00	0.00	0.00	1369.80	9600.00	1377.80	0.00	1377.91	6.85	3.82	4968.83	3667.90
	8.690	0.00	0.00	0.00	1369.80	15000.00	1377.80	0.00	1378.06	16.72	5.46	4968.83	3667.90
	8.690	0.00	0.00	0.00	1369.80	29000.00	1377.80	0.00	1378.77	62.51	11.53	4968.83	3667.90
*	8.690	0.00	0.00	0.00	1369.80	39000.00	1378.24	1378.24	1379.54	69.99	12.75	6063.97	4661.75
	8.750	739.00	0.00	0.00	1371.00	1500.00	1377.77	0.00	1377.87	9.45	2.47	611.34	487.89
*	8.750	739.00	0.00	0.00	1371.00	5000.00	1377.58	1377.58	1378.81	135.09	8.91	565.24	430.19
*	8.750	739.00	0.00	0.00	1371.00	9600.00	1379.09	1379.09	1380.58	92.68	10.01	1060.48	997.21
*	8.750	739.00	0.00	0.00	1371.00	15000.00	1380.25	1380.25	1381.99	82.80	11.16	1589.86	1648.45
*	8.750	739.00	0.00	0.00	1371.00	29000.00	1382.82	1382.82	1383.84	37.34	9.91	5292.10	4745.73
*	8.750	739.00	0.00	0.00	1371.00	39000.00	1383.33	1383.33	1384.43	41.32	10.90	6873.36	6067.22
*	8.890	840.00	0.00	0.00	1378.00	1500.00	1382.20	1382.20	1382.69	190.25	5.60	267.89	108.75
	8.890	840.00	0.00	0.00	1378.00	5000.00	1384.28	0.00	1384.73	42.36	5.38	945.79	768.21
	8.890	840.00	0.00	0.00	1378.00	9600.00	1385.33	0.00	1386.12	49.43	7.23	1410.99	1355.46
	8.890	840.00	0.00	0.00	1378.00	15000.00	1386.27	1385.45	1387.34	52.34	8.62	2146.78	2073.45
*	8.890	840.00	0.00	0.00	1378.00	29000.00	1387.61	1387.61	1388.53	43.17	9.25	5519.58	4413.68
*	8.890	840.00	0.00	0.00	1378.00	39000.00	1388.06	1388.06	1389.09	48.33	10.27	6791.32	5609.78
	8.965	400.00	0.00	0.00	1381.00	1500.00	1385.35	0.00	1385.58	37.13	3.83	392.06	246.16
	8.965	400.00	0.00	0.00	1381.00	5000.00	1386.46	0.00	1387.31	97.34	7.37	678.78	506.79
	8.965	400.00	0.00	0.00	1381.00	9600.00	1387.73	0.00	1388.93	98.00	8.79	1092.00	969.77
*	8.965	400.00	0.00	0.00	1381.00	15000.00	1388.99	1388.99	1389.92	57.46	8.31	2444.94	1978.87
*	8.965	400.00	0.00	0.00	1381.00	29000.00	1390.28	1390.28	1391.28	52.08	9.49	4803.45	4018.52
*	8.965	400.00	0.00	0.00	1381.00	39000.00	1390.85	1390.85	1391.91	52.96	10.22	6210.09	5359.03
	9.050	550.00	0.00	0.00	1382.00	1500.00	1386.67	0.00	1386.83	15.24	3.17	473.62	384.20
	9.050	550.00	0.00	0.00	1382.00	5000.00	1389.09	0.00	1389.48	20.80	5.13	1095.72	1096.33
	9.050	550.00	0.00	0.00	1382.00	9600.00	1390.57	0.00	1390.96	19.01	5.71	2699.67	2201.91
	9.050	550.00	0.00	0.00	1382.00	15000.00	1391.22	0.00	1391.67	21.65	6.57	4034.66	3224.04
	9.050	550.00	0.00	0.00	1382.00	29000.00	1392.44	0.00	1392.98	24.26	7.86	6542.05	5887.71
	9.050	550.00	0.00	0.00	1382.00	39000.00	1393.05	0.00	1393.68	26.87	8.72	7788.79	7523.13

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
*	9.115	370.00	0.00	0.00	1386.50	1500.00	1388.79	1388.79	1389.39	170.70	6.19	242.36	114.81
	9.115	370.00	0.00	0.00	1386.50	5000.00	1390.31	1390.25	1391.23	135.83	7.67	651.70	429.02
	9.115	370.00	0.00	0.00	1386.50	9600.00	1391.48	1391.42	1392.63	125.49	8.62	1114.14	856.96
*	9.115	370.00	0.00	0.00	1386.50	15000.00	1392.66	1392.66	1393.52	68.58	7.85	2494.78	1811.25
*	9.115	370.00	0.00	0.00	1386.50	29000.00	1393.70	1393.70	1394.75	68.54	9.40	4346.43	3502.97
*	9.115	370.00	0.00	0.00	1386.50	39000.00	1394.30	1394.30	1395.45	66.64	10.10	5483.88	4777.37
	9.210	600.00	0.00	0.00	1388.50	1500.00	1392.05	0.00	1392.19	20.96	2.99	501.74	327.65
	9.210	600.00	0.00	0.00	1388.50	5000.00	1393.92	0.00	1394.25	25.43	4.68	1086.89	991.55
	9.210	600.00	0.00	0.00	1388.50	9600.00	1395.14	0.00	1395.62	26.04	5.85	2121.18	1881.35
	9.210	600.00	0.00	0.00	1388.50	15000.00	1395.66	0.00	1396.36	35.90	7.39	2833.26	2503.41
	9.210	600.00	0.00	0.00	1388.50	29000.00	1396.83	0.00	1397.77	42.47	9.26	4614.83	4449.96
	9.210	600.00	0.00	0.00	1388.50	39000.00	1397.43	0.00	1398.55	46.65	10.33	5551.28	5710.18
	9.310	650.00	0.00	0.00	1392.00	1500.00	1394.12	0.00	1394.52	67.43	5.10	294.00	182.67
	9.310	650.00	0.00	0.00	1392.00	5000.00	1396.01	0.00	1397.01	69.45	8.05	620.82	599.99
*	9.310	650.00	0.00	0.00	1392.00	9600.00	1397.29	1397.29	1399.18	88.51	11.10	929.20	1020.42
*	9.310	650.00	0.00	0.00	1392.00	15000.00	1399.34	1399.34	1400.43	39.57	9.42	2589.40	2384.71
*	9.310	650.00	0.00	0.00	1392.00	29000.00	1400.55	1400.55	1401.97	50.45	11.89	4352.32	4082.88
*	9.310	650.00	0.00	0.00	1392.00	39000.00	1401.18	1401.18	1402.81	56.54	13.24	5256.29	5186.87
	9.400	510.00	0.00	0.00	1394.00	1500.00	1396.80	0.00	1397.04	37.28	3.94	380.65	245.66
	9.400	510.00	0.00	0.00	1394.00	5000.00	1398.91	0.00	1399.48	34.64	6.06	825.41	849.49
	9.400	510.00	0.00	0.00	1394.00	9600.00	1400.97	0.00	1401.69	29.58	7.02	1607.99	1765.26

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	9.400	510.00	0.00	0.00	1394.00	9600.00	1400.97	0.00	1401.69	29.58	7.02	1607.99	1765.26	8
	9.400	510.00	0.00	0.00	1394.00	15000.00	1401.41	1401.17	1402.72	52.48	9.66	1933.73	2070.64	9
*	9.400	510.00	0.00	0.00	1394.00	29000.00	1403.03	1403.03	1404.45	51.71	11.11	3909.69	4032.66	10
	9.400	510.00	0.00	0.00	1394.00	39000.00	1403.79	0.00	1405.29	51.46	11.87	4984.20	5436.52	11
														12
	9.480	490.00	0.00	0.00	1396.00	1500.00	1399.05	0.00	1399.20	52.85	3.17	472.50	206.33	
	9.480	490.00	0.00	0.00	1396.00	5000.00	1400.98	0.00	1401.30	38.51	4.52	1107.03	805.70	
	9.480	490.00	0.00	0.00	1396.00	9600.00	1402.78	0.00	1403.26	34.06	5.55	1738.20	1644.94	
	9.480	490.00	0.00	0.00	1396.00	15000.00	1404.18	0.00	1404.86	35.54	6.64	2426.66	2516.09	
	9.480	490.00	0.00	0.00	1396.00	29000.00	1405.72	0.00	1406.77	46.84	8.84	4199.75	4237.39	
	9.480	490.00	0.00	0.00	1396.00	39000.00	1406.44	0.00	1407.71	53.63	10.03	5110.41	5325.56	
	9.580	450.00	0.00	0.00	1398.50	1500.00	1401.80	0.00	1402.11	77.89	4.49	333.88	169.96	
	9.580	450.00	0.00	0.00	1398.50	5000.00	1403.14	0.00	1403.90	84.64	7.00	713.85	543.48	
	9.580	450.00	0.00	0.00	1398.50	9600.00	1404.54	0.00	1405.59	72.43	8.29	1191.54	1128.03	
	9.580	450.00	0.00	0.00	1398.50	15000.00	1405.90	0.00	1407.06	60.61	8.81	1816.40	1926.72	
	9.580	450.00	0.00	0.00	1398.50	29000.00	1407.78	0.00	1409.35	63.72	10.60	3210.60	3633.07	
	9.580	450.00	0.00	0.00	1398.50	39000.00	1408.63	0.00	1410.50	64.53	11.74	4008.68	4855.10	
	9.670	410.00	0.00	0.00	1400.00	1500.00	1404.37	1403.73	1405.06	61.83	6.82	262.90	190.76	
	9.670	410.00	0.00	0.00	1400.00	5000.00	1406.21	1406.18	1407.24	74.08	9.54	737.24	580.94	
	9.670	410.00	0.00	0.00	1400.00	9600.00	1407.50	0.00	1408.76	78.52	11.11	1229.76	1083.36	
	9.670	410.00	0.00	0.00	1400.00	15000.00	1408.52	0.00	1410.14	85.18	12.79	1651.72	1625.30	
*	9.670	410.00	0.00	0.00	1400.00	29000.00	1410.59	1410.59	1412.85	83.71	15.41	2732.43	3169.72	
*	9.670	410.00	0.00	0.00	1400.00	39000.00	1411.69	1411.69	1414.27	83.07	16.71	3434.51	4279.11	

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K	
	9.750	370.00	0.00	0.00	1401.70	1500.00	1406.31	0.00	1406.71	32.47	5.09	294.82	263.25	
	9.750	370.00	0.00	0.00	1401.70	5000.00	1408.56	0.00	1409.82	60.29	9.14	591.20	643.93	
*	9.750	370.00	0.00	0.00	1401.70	9600.00	1410.22	1410.22	1412.12	73.15	11.66	977.63	1122.44	
*	9.750	370.00	0.00	0.00	1401.70	15000.00	1411.73	1411.73	1413.94	67.33	13.04	1459.73	1828.03	
*	9.750	370.00	0.00	0.00	1401.70	29000.00	1414.26	1414.26	1416.83	61.31	15.16	2735.74	3703.78	
*	9.750	370.00	0.00	0.00	1401.70	39000.00	1415.42	1415.42	1418.41	64.36	16.72	3363.19	4861.33	
	9.840	480.00	0.00	0.00	1403.00	1500.00	1408.31	0.00	1408.70	54.33	4.97	301.90	203.51	
	9.840	480.00	0.00	0.00	1403.00	5000.00	1411.27	0.00	1411.82	28.59	5.94	847.87	935.19	
	9.840	480.00	0.00	0.00	1403.00	9600.00	1413.40	0.00	1414.24	27.13	7.44	1350.93	1842.98	
	9.840	480.00	0.00	0.00	1403.00	15000.00	1414.94	0.00	1416.07	28.68	8.82	1985.70	2800.88	
	9.840	480.00	0.00	0.00	1403.00	29000.00	1417.34	0.00	1419.06	33.55	11.43	3203.52	5007.06	
	9.840	480.00	0.00	0.00	1403.00	39000.00	1418.70	0.00	1420.76	35.13	12.72	3917.57	6580.08	
	9.940	520.00	0.00	0.00	1406.00	1500.00	1410.25	0.00	1410.51	23.98	4.08	368.35	306.32	
	9.940	520.00	0.00	0.00	1406.00	5000.00	1412.74	0.00	1413.40	30.98	6.57	802.37	898.33	
12	9.940	520.00	0.00	0.00	1406.00	9600.00	1414.78	0.00	1415.66	27.56	7.91	1468.85	1828.82	
11	9.940	520.00	0.00	0.00	1406.00	15000.00	1416.44	0.00	1417.48	26.27	8.94	2122.65	2926.31	
10	9.940	520.00	0.00	0.00	1406.00	29000.00	1419.10	0.00	1420.66	29.59	11.41	3331.31	5331.40	
9	9.940	520.00	0.00	0.00	1406.00	39000.00	1420.54	0.00	1422.43	31.38	12.76	4045.70	6961.62	
8														
7	10.040	540.00	0.00	0.00	1409.00	1500.00	1412.02	0.00	1412.37	51.68	4.71	318.31	208.67	
6	10.040	540.00	0.00	0.00	1409.00	5000.00	1414.62	0.00	1415.14	32.94	5.74	875.39	871.16	
5	10.040	540.00	0.00	0.00	1409.00	9600.00	1416.43	0.00	1417.22	30.27	7.21	1393.34	1744.83	
4	10.040	540.00	0.00	0.00	1409.00	15000.00	1417.94	0.00	1419.02	30.53	8.53	1925.11	2714.91	
3	10.040	540.00	0.00	0.00	1409.00	29000.00	1420.70	0.00	1422.31	31.16	10.77	3172.82	5195.28	
	10.040	540.00	0.00	0.00	1409.00	39000.00	1422.23	0.00	1424.11	31.19	11.88	3983.11	6983.57	
	10.120	380.00	0.00	0.00	1411.50	1500.00	1414.01	0.00	1414.38	53.90	4.90	306.19	204.31	
	10.120	380.00	0.00	0.00	1411.50	5000.00	1416.05	0.00	1416.90	60.59	7.40	684.95	642.35	
	10.120	380.00	0.00	0.00	1411.50	9600.00	1417.60	0.00	1419.00	61.29	9.58	1045.39	1226.25	3
	10.120	380.00	0.00	0.00	1411.50	15000.00	1418.96	0.00	1420.91	63.11	11.44	1408.52	1888.12	4
*	10.120	380.00	0.00	0.00	1411.50	29000.00	1421.26	1421.26	1424.63	74.46	15.32	2125.13	3360.80	5
*	10.120	380.00	0.00	0.00	1411.50	39000.00	1423.24	1423.24	1426.51	58.22	15.56	3079.41	5111.36	6
														7
*	10.210	450.00	0.00	0.00	1415.50	1500.00	1418.39	1418.39	1419.15	143.42	7.03	218.10	125.25	8

FORM 1411-3
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	*	10.210	450.00	0.00	0.00	1415.50	1500.00	1418.39	1418.39	1419.15	143.42	7.03	218.10	125.25	8
	*	10.210	450.00	0.00	0.00	1415.50	5000.00	1420.33	1420.33	1421.55	107.86	9.14	593.67	481.44	9
	*	10.210	450.00	0.00	0.00	1415.50	9600.00	1421.74	1421.74	1423.33	89.87	10.80	1056.60	1012.68	10
	*	10.210	450.00	0.00	0.00	1415.50	15000.00	1422.90	1422.90	1424.85	85.57	12.31	1499.16	1621.57	11
		10.210	450.00	0.00	0.00	1415.50	29000.00	1425.62	0.00	1427.84	62.18	13.68	2728.06	3677.54	12
		10.210	450.00	0.00	0.00	1415.50	39000.00	1426.65	0.00	1429.44	68.37	15.52	3264.52	4716.74	
		10.300	440.00	0.00	0.00	1420.80	1500.00	1423.43	0.00	1423.76	78.53	4.60	326.20	169.26	
		10.300	440.00	0.00	0.00	1420.80	5000.00	1425.04	0.00	1425.85	87.06	7.30	722.86	535.86	
		10.300	440.00	0.00	0.00	1420.80	9600.00	1426.17	1425.95	1427.54	100.35	9.67	1102.86	958.34	
		10.300	440.00	0.00	0.00	1420.80	15000.00	1427.21	1427.16	1429.02	103.77	11.39	1532.35	1472.51	
	*	10.300	440.00	0.00	0.00	1420.80	29000.00	1429.57	1429.57	1431.56	79.29	12.76	3029.01	3256.73	
	*	10.300	440.00	0.00	0.00	1420.80	39000.00	1430.58	1430.58	1432.76	78.64	13.81	3929.12	4397.77	

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		SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	*	10.340	180.00	0.00	0.00	1424.00	1500.00	1426.87	1426.87	1427.60	211.48	6.87	218.28	103.15
	*	10.340	180.00	0.00	0.00	1424.00	5000.00	1428.95	1428.95	1429.65	156.83	6.84	767.08	399.26
	*	10.340	180.00	0.00	0.00	1424.00	9600.00	1429.73	1429.73	1430.49	144.17	7.46	1542.55	799.54
	*	10.340	180.00	0.00	0.00	1424.00	15000.00	1430.32	1430.32	1431.18	125.18	8.17	2251.34	1340.70
		10.340	180.00	0.00	0.00	1424.00	29000.00	1432.16	0.00	1432.91	57.84	7.81	4457.59	3813.08
		10.340	180.00	0.00	0.00	1424.00	39000.00	1433.20	0.00	1434.00	47.69	8.11	5697.04	5647.26
		10.350	50.00	0.00	0.00	1424.00	1500.00	1427.74	0.00	1427.81	10.39	2.13	742.69	465.27
		10.350	50.00	0.00	0.00	1424.00	5000.00	1429.74	0.00	1429.87	13.38	3.08	1860.73	1367.01
		10.350	50.00	0.00	0.00	1424.00	9600.00	1430.56	0.00	1430.79	24.15	4.11	2688.30	1953.46
		10.350	50.00	0.00	0.00	1424.00	15000.00	1431.15	0.00	1431.50	31.02	5.18	3397.70	2693.32
		10.350	50.00	0.00	0.00	1424.00	29000.00	1432.57	0.00	1433.14	34.63	6.72	5100.39	4927.70
		10.350	50.00	0.00	0.00	1424.00	39000.00	1433.54	0.00	1434.21	33.15	7.33	6257.82	6773.92
		10.360	50.00	0.00	0.00	1423.70	1500.00	1427.63	0.00	1428.03	95.84	5.19	323.45	153.22
		10.360	50.00	0.00	0.00	1423.70	5000.00	1429.84	0.00	1429.97	30.34	3.11	1814.63	907.69
		10.360	50.00	0.00	0.00	1423.70	9600.00	1430.73	0.00	1430.92	27.42	3.82	2885.31	1833.28
		10.360	50.00	0.00	0.00	1423.70	15000.00	1431.39	0.00	1431.67	31.15	4.69	3668.29	2687.60
		10.360	50.00	0.00	0.00	1423.70	29000.00	1432.86	0.00	1433.32	32.56	6.09	5430.02	5082.62
		10.360	50.00	0.00	0.00	1423.70	39000.00	1433.81	0.00	1434.39	31.35	6.74	6579.82	6965.28
		10.400	180.00	0.00	0.00	1422.00	1500.00	1428.13	0.00	1428.16	1.65	1.33	1131.60	1169.30
		10.400	180.00	0.00	0.00	1422.00	5000.00	1430.03	0.00	1430.17	5.69	3.04	1779.67	2095.53
		10.400	180.00	0.00	0.00	1422.00	9600.00	1430.95	0.00	1431.27	11.61	4.76	2620.93	2817.53
		10.400	180.00	0.00	0.00	1422.00	15000.00	1431.65	0.00	1432.14	17.16	6.15	3510.47	3620.88
		10.400	180.00	0.00	0.00	1422.00	29000.00	1433.20	0.00	1433.87	22.14	7.86	5782.65	6162.86
		10.400	180.00	0.00	0.00	1422.00	39000.00	1434.20	0.00	1434.90	21.96	8.36	7320.26	8322.79
12	*	10.490	470.00	0.00	0.00	1426.50	1500.00	1429.62	1429.62	1430.26	228.35	6.40	234.27	99.26
11	*	10.490	470.00	0.00	0.00	1426.50	5000.00	1431.13	1431.13	1432.27	176.36	8.59	582.15	376.50
10	*	10.490	470.00	0.00	0.00	1426.50	9600.00	1432.40	1432.40	1434.08	159.23	10.38	927.41	760.78
9	*	10.490	470.00	0.00	0.00	1426.50	15000.00	1433.57	1433.57	1435.71	145.69	11.80	1307.86	1242.74
8	*	10.490	470.00	0.00	0.00	1426.50	29000.00	1436.37	1436.37	1437.79	62.30	10.71	3924.32	3674.25
7	*	10.490	470.00	0.00	0.00	1426.50	39000.00	1437.12	1437.12	1438.61	61.69	11.42	5091.43	4965.33
6														
5		10.620	590.00	0.00	0.00	1429.20	1500.00	1432.94	0.00	1433.09	19.72	3.12	487.83	337.76
4		10.620	590.00	0.00	0.00	1429.20	5000.00	1434.90	0.00	1435.32	23.43	5.25	1006.39	1032.91
3		10.620	590.00	0.00	0.00	1429.20	9600.00	1436.57	0.00	1437.28	25.94	6.94	1509.73	1884.80
		10.620	590.00	0.00	0.00	1429.20	15000.00	1438.02	1435.95	1439.03	28.21	8.41	2012.32	2824.07
	*	10.620	590.00	0.00	0.00	1429.20	29000.00	1439.29	1439.29	1441.27	49.13	12.36	3278.60	4137.22
	*	10.620	590.00	0.00	0.00	1429.20	39000.00	1440.43	1440.43	1442.40	45.48	12.94	4568.93	5782.76
	*	10.700	380.00	0.00	0.00	1432.50	1500.00	1434.65	1434.65	1435.33	161.73	6.60	227.35	117.95	3
	*	10.700	380.00	0.00	0.00	1432.50	5000.00	1436.33	1436.33	1437.73	125.13	9.51	528.86	446.99	4
	*	10.700	380.00	0.00	0.00	1432.50	9600.00	1437.99	1437.99	1439.89	94.18	11.22	916.25	989.19	5
	*	10.700	380.00	0.00	0.00	1432.50	15000.00	1439.36	1439.36	1441.77	86.35	12.83	1302.69	1614.20	6
	*	10.700	380.00	0.00	0.00	1432.50	29000.00	1442.63	1442.63	1444.65	48.38	12.90	3271.07	4169.12	7
	*	10.700	380.00	0.00	0.00	1432.50	39000.00	1443.58	1443.58	1445.90	52.09	14.29	4120.80	5403.57	8

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*	10.700	380.00	0.00	0.00	1432.50	39000.00	1443.58	1443.58	1445.90	52.09	14.29	4120.80	5403.57

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	TOK*S	VCH	AREA	.OIK
	10.830	650.00	0.00	0.00	1436.00	1500.00	1440.31	0.00	1440.64	48.60	4.91	348.89	215.17
	10.830	650.00	0.00	0.00	1436.00	5000.00	1442.49	0.00	1443.01	55.33	6.39	933.95	672.19
	10.830	650.00	0.00	0.00	1436.00	9600.00	1443.76	0.00	1444.43	51.34	7.62	1641.06	1339.80
	10.830	650.00	0.00	0.00	1436.00	15000.00	1445.00	0.00	1445.71	41.66	8.18	2615.09	2323.97
	10.830	650.00	0.00	0.00	1436.00	29000.00	1446.74	0.00	1447.62	40.14	9.73	4641.26	4577.48
	10.830	650.00	0.00	0.00	1436.00	39000.00	1447.88	0.00	1448.78	34.89	10.05	6087.40	6602.29
*	10.930	500.00	0.00	0.00	1441.00	1500.00	1444.34	1444.34	1445.18	155.06	7.33	205.68	120.46
*	10.930	500.00	0.00	0.00	1441.00	5000.00	1446.59	1446.59	1447.67	84.33	8.69	705.07	544.48
*	10.930	500.00	0.00	0.00	1441.00	9600.00	1447.95	1447.95	1449.02	72.30	9.46	1453.49	1129.01
*	10.930	500.00	0.00	0.00	1441.00	15000.00	1448.85	1448.85	1449.98	66.87	10.32	2304.36	1834.33
*	10.930	500.00	0.00	0.00	1441.00	29000.00	1450.13	1450.13	1451.60	75.27	12.69	3833.64	3342.72
*	10.930	500.00	0.00	0.00	1441.00	39000.00	1450.95	1450.95	1452.50	71.48	13.40	4888.80	4612.86
	11.040	500.00	0.00	0.00	1444.00	1500.00	1448.19	0.00	1448.46	35.11	0.00	363.13	253.14
	11.040	500.00	0.00	0.00	1444.00	5000.00	1450.27	0.00	1450.73	44.84	2.41	963.62	746.72
	11.040	500.00	0.00	0.00	1444.00	9600.00	1451.48	0.00	1451.97	47.21	4.59	1853.38	1397.15
	11.040	500.00	0.00	0.00	1444.00	15000.00	1452.31	0.00	1452.87	48.55	5.88	2746.76	2152.69
	11.040	500.00	0.00	0.00	1444.00	29000.00	1453.89	0.00	1454.65	48.44	7.92	4463.78	4166.69
	11.040	500.00	0.00	0.00	1444.00	39000.00	1454.66	0.00	1455.61	52.65	9.19	5300.27	5375.05
*	11.200	770.00	0.00	0.00	1452.00	1500.00	1452.98	1452.98	1453.47	59.68	5.62	266.86	194.17
*	11.200	770.00	0.00	0.00	1452.00	5000.00	1454.17	1454.17	1455.26	45.99	8.35	598.83	737.31
*	11.200	770.00	0.00	0.00	1452.00	9600.00	1455.35	1455.35	1457.00	40.02	10.32	930.28	1517.52
*	11.200	770.00	0.00	0.00	1452.00	15000.00	1456.50	1456.50	1458.70	36.40	11.91	1259.90	2486.10
*	11.200	770.00	0.00	0.00	1452.00	29000.00	1458.94	1458.94	1462.28	31.89	14.68	1975.86	5135.55
*	11.200	770.00	0.00	0.00	1452.00	39000.00	1460.42	1460.42	1464.44	30.07	16.09	2423.18	7112.43
	11.300	528.00	0.00	0.00	1452.50	1500.00	1454.27	0.00	1454.42	8.17	3.08	487.11	524.85
	11.300	528.00	0.00	0.00	1452.50	5000.00	1455.89	0.00	1456.33	10.39	5.30	942.82	1551.07
	11.300	528.00	0.00	0.00	1452.50	9600.00	1457.35	0.00	1458.13	11.57	7.05	1362.63	2822.82
	11.300	528.00	0.00	0.00	1452.50	15000.00	1458.72	0.00	1459.85	12.26	8.50	1764.56	4283.33
	11.300	528.00	0.00	0.00	1452.50	29000.00	1461.54	0.00	1463.45	13.11	11.10	2611.72	8010.85
	11.300	528.00	0.00	0.00	1452.50	39000.00	1463.21	0.00	1465.62	13.41	12.47	3127.72	10650.12
*	11.400	528.00	0.00	0.00	1454.00	1500.00	1454.98	1454.98	1455.47	59.49	5.62	267.11	194.48
	11.400	528.00	0.00	0.00	1454.00	5000.00	1456.49	0.00	1457.31	29.40	7.29	686.21	922.17
	11.400	528.00	0.00	0.00	1454.00	9600.00	1457.90	0.00	1459.11	24.08	8.83	1087.18	1956.48
	11.400	528.00	0.00	0.00	1454.00	15000.00	1459.23	0.00	1460.84	21.99	10.19	1472.11	3198.62
	11.400	528.00	0.00	0.00	1454.00	29000.00	1461.98	0.00	1464.47	19.92	12.67	2289.26	6497.15
	11.400	528.00	0.00	0.00	1454.00	39000.00	1463.61	0.00	1466.65	19.23	13.98	2790.08	8894.08

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SKUNK CREEK FLOODPLAIN

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	8.690	1500.00	1377.80	0.00	0.00	0.00	2108.70	0.00
	8.690	5000.00	1377.80	0.00	0.00	0.00	2108.70	0.00
	8.690	9600.00	1377.80	0.00	0.00	0.00	2108.70	0.00
	8.690	15000.00	1377.80	0.00	0.00	0.00	2108.70	0.00
	8.690	29000.00	1377.80	0.00	0.00	0.00	2108.70	0.00
*	8.690	39000.00	1378.24	0.44	0.00	0.44	2828.69	0.00
	8.750	1500.00	1377.77	0.00	-0.03	0.00	238.98	739.00

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	8.750	1500.00	1377.77	0.00	-0.03	0.00	238.98	739.00
*	8.750	5000.00	1377.58	-0.19	-0.22	0.00	237.16	739.00
*	8.750	9600.00	1379.09	1.51	1.29	0.00	406.39	739.00
*	8.750	15000.00	1380.25	1.16	2.45	0.00	548.78	739.00
*	8.750	29000.00	1382.82	2.57	5.02	0.00	2963.32	739.00
*	8.750	39000.00	1383.33	0.51	5.09	0.00	3210.77	739.00
*	8.890	1500.00	1382.20	0.00	4.43	0.00	286.14	840.00
	8.890	5000.00	1384.28	2.08	6.70	0.00	417.67	840.00
	8.890	9600.00	1385.33	1.05	6.24	0.00	465.10	840.00
	8.890	15000.00	1386.27	0.94	6.02	0.00	1707.54	840.00
*	8.890	29000.00	1387.61	1.34	4.79	0.00	2860.00	840.00
*	8.890	39000.00	1388.06	0.44	4.72	0.00	2860.00	840.00
	8.965	1500.00	1385.35	0.00	3.14	0.00	217.54	400.00
	8.965	5000.00	1386.46	1.12	2.18	0.00	290.50	400.00
	8.965	9600.00	1387.73	1.27	2.40	0.00	360.34	400.00
*	8.965	15000.00	1388.99	1.25	2.72	0.00	1447.32	400.00
*	8.965	29000.00	1390.28	1.30	2.67	0.00	2490.00	400.00
*	8.965	39000.00	1390.85	0.56	2.79	0.00	2490.00	400.00
	9.050	1500.00	1386.67	0.00	1.32	0.00	178.51	550.00
	9.050	5000.00	1389.09	2.41	2.62	0.00	509.34	550.00
	9.050	9600.00	1390.57	1.48	2.83	0.00	1934.30	550.00
	9.050	15000.00	1391.22	0.65	2.23	0.00	2045.00	550.00
	9.050	29000.00	1392.44	1.22	2.16	0.00	2045.00	550.00
	9.050	39000.00	1393.05	0.61	2.20	0.00	2045.00	550.00
*	9.115	1500.00	1388.79	0.00	2.12	0.00	205.58	370.00
	9.115	5000.00	1390.31	1.52	1.23	0.00	337.45	370.00
	9.115	9600.00	1391.48	1.17	0.91	0.00	456.81	370.00
*	9.115	15000.00	1392.66	1.18	1.44	0.00	1737.90	370.00
*	9.115	29000.00	1393.70	1.04	1.26	0.00	1836.33	370.00
*	9.115	39000.00	1394.30	0.60	1.25	0.00	2005.58	370.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	9.210	1500.00	1392.05	0.00	3.26	0.00	277.24	600.00
	9.210	5000.00	1393.92	1.86	3.60	0.00	351.68	600.00
	9.210	9600.00	1395.14	1.23	3.66	0.00	1350.35	600.00
	9.210	15000.00	1395.66	0.52	3.00	0.00	1404.63	600.00
	9.210	29000.00	1396.83	1.17	3.14	0.00	1565.00	600.00
	9.210	39000.00	1397.43	0.60	3.13	0.00	1565.00	600.00
	9.310	1500.00	1394.12	0.00	2.06	0.00	165.86	650.00
	9.310	5000.00	1396.01	1.89	2.09	0.00	180.11	650.00
*	9.310	9600.00	1397.29	1.28	2.14	0.00	358.34	650.00
*	9.310	15000.00	1399.34	2.05	3.67	0.00	1450.00	650.00
*	9.310	29000.00	1400.55	1.22	3.72	0.00	1450.00	650.00
*	9.310	39000.00	1401.18	0.62	3.75	0.00	1450.00	650.00
	9.400	1500.00	1396.80	0.00	2.68	0.00	202.31	510.00
	9.400	5000.00	1398.91	2.12	2.91	0.00	217.33	510.00
	9.400	9600.00	1400.97	2.06	3.68	0.00	684.74	510.00
	9.400	15000.00	1401.41	0.44	2.07	0.00	797.89	510.00
*	9.400	29000.00	1403.03	1.62	2.48	0.00	1420.00	510.00
	9.400	39000.00	1403.79	0.77	2.62	0.00	1420.00	510.00
	9.480	1500.00	1399.05	0.00	2.25	0.00	319.61	490.00
	9.480	5000.00	1400.98	1.93	2.07	0.00	337.32	490.00
	9.480	9600.00	1402.78	1.80	1.81	0.00	377.22	490.00
	9.480	15000.00	1404.18	1.40	2.78	0.00	1069.80	490.00
	9.480	29000.00	1405.72	1.54	2.70	0.00	1235.19	490.00
	9.480	39000.00	1406.44	0.71	2.64	0.00	1300.00	490.00

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	9.480	39000.00	1406.44	0.71	2.64	0.00	1300.00	490.00
	9.580	1500.00	1401.80	0.00	2.75	0.00	253.63	450.00
	9.580	5000.00	1403.14	1.34	2.16	0.00	296.42	450.00
	9.580	9600.00	1404.54	1.39	1.75	0.00	418.33	450.00
	9.580	15000.00	1405.90	1.36	1.71	0.00	495.72	450.00
	9.580	29000.00	1407.78	1.88	2.06	0.00	935.00	450.00
	9.580	39000.00	1408.63	0.85	2.20	0.00	935.00	450.00
	9.670	1500.00	1404.37	0.00	2.57	0.00	216.45	410.00
	9.670	5000.00	1406.21	1.83	3.06	0.00	370.05	410.00
	9.670	9600.00	1407.50	1.30	2.97	0.00	391.15	410.00
	9.670	15000.00	1408.52	1.02	2.62	0.00	442.27	410.00
*	9.670	29000.00	1410.59	2.07	2.81	0.00	636.31	410.00
*	9.670	39000.00	1411.69	1.10	3.06	0.00	641.41	410.00
	9.750	1500.00	1406.31	0.00	1.94	0.00	95.78	370.00
	9.750	5000.00	1408.56	2.25	2.36	0.00	188.99	370.00
*	9.750	9600.00	1410.22	1.65	2.71	0.00	284.71	370.00
*	9.750	15000.00	1411.73	1.51	3.21	0.00	352.77	370.00
*	9.750	29000.00	1414.26	2.53	3.67	0.00	534.45	370.00
*	9.750	39000.00	1415.42	1.16	3.73	0.00	547.02	370.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	9.840	1500.00	1408.31	0.00	2.00	0.00	149.93	480.00
	9.840	5000.00	1411.27	2.96	2.71	0.00	209.56	480.00
	9.840	9600.00	1413.40	2.12	3.18	0.00	279.00	480.00
	9.840	15000.00	1414.94	1.54	3.21	0.00	492.95	480.00
	9.840	29000.00	1417.34	2.40	3.09	0.00	518.29	480.00
	9.840	39000.00	1418.70	1.36	3.29	0.00	529.24	480.00
	9.940	1500.00	1410.25	0.00	1.94	0.00	136.26	520.00
	9.940	5000.00	1412.74	2.49	1.47	0.00	244.83	520.00
	9.940	9600.00	1414.78	2.04	1.39	0.00	374.79	520.00
	9.940	15000.00	1416.44	1.66	1.50	0.00	417.84	520.00
	9.940	29000.00	1419.10	2.65	1.76	0.00	483.79	520.00
	9.940	39000.00	1420.54	1.44	1.83	0.00	505.85	520.00
	10.040	1500.00	1412.02	0.00	1.77	0.00	165.75	540.00
	10.040	5000.00	1414.62	2.60	1.88	0.00	258.70	540.00
	10.040	9600.00	1416.43	1.81	1.65	0.00	319.38	540.00
	10.040	15000.00	1417.94	1.51	1.50	0.00	387.12	540.00
	10.040	29000.00	1420.70	2.76	1.61	0.00	506.54	540.00
	10.040	39000.00	1422.23	1.53	1.69	0.00	553.65	540.00
	10.120	1500.00	1414.01	0.00	1.99	0.00	155.22	380.00
	10.120	5000.00	1416.05	2.04	1.43	0.00	214.64	380.00
	10.120	9600.00	1417.60	1.55	1.17	0.00	251.98	380.00
	10.120	15000.00	1418.96	1.36	1.01	0.00	282.39	380.00
*	10.120	29000.00	1421.26	2.31	0.56	0.00	364.20	380.00
*	10.120	39000.00	1423.24	1.98	1.01	0.00	536.14	380.00
*	10.210	1500.00	1418.39	0.00	4.38	0.00	148.72	450.00
*	10.210	5000.00	1420.33	1.93	4.28	0.00	287.97	450.00
*	10.210	9600.00	1421.74	1.42	4.14	0.00	365.86	450.00
*	10.210	15000.00	1422.90	1.15	3.94	0.00	393.45	450.00
	10.210	29000.00	1425.62	2.72	4.36	0.00	506.21	450.00
	10.210	39000.00	1426.65	1.03	3.41	0.00	523.44	450.00
	10.300	1500.00	1423.43	0.00	5.04	0.00	197.42	440.00
	10.300	5000.00	1425.04	1.60	4.71	0.00	314.12	440.00
	10.300	9600.00	1426.17	1.14	4.43	0.00	392.65	440.00
	10.300	15000.00	1427.21	1.04	4.32	0.00	435.19	440.00

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	10.300	15000.00	1427.21	1.04	4.32	0.00	435.19	440.00
*	10.300	29000.00	1429.57	2.35	3.95	0.00	819.57	440.00
*	10.300	39000.00	1430.58	1.01	3.93	0.00	930.03	440.00
*	10.340	1500.00	1426.87	0.00	3.44	0.00	152.06	180.00
*	10.340	5000.00	1428.95	2.08	3.92	0.00	487.62	180.00
*	10.340	9600.00	1429.73	0.78	3.56	0.00	1200.00	180.00
*	10.340	15000.00	1430.32	0.59	3.11	0.00	1200.00	180.00
	10.340	29000.00	1432.16	1.84	2.60	0.00	1200.00	180.00
	10.340	39000.00	1433.20	1.04	2.62	0.00	1200.00	180.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	10.350	1500.00	1427.74	0.00	0.87	0.00	352.43	50.00
	10.350	5000.00	1429.74	2.00	0.79	0.00	784.57	50.00
	10.350	9600.00	1430.56	0.82	0.83	0.00	1200.00	50.00
	10.350	15000.00	1431.15	0.59	0.83	0.00	1200.00	50.00
	10.350	29000.00	1432.57	1.42	0.41	0.00	1200.00	50.00
	10.350	39000.00	1433.54	0.96	0.34	0.00	1200.00	50.00
	10.360	1500.00	1427.63	0.00	-0.12	0.00	309.65	50.00
	10.360	5000.00	1429.84	2.21	0.09	0.00	1181.68	50.00
	10.360	9600.00	1430.73	0.90	0.17	0.00	1200.00	50.00
	10.360	15000.00	1431.39	0.65	0.23	0.00	1200.00	50.00
	10.360	29000.00	1432.86	1.47	0.28	0.00	1200.00	50.00
	10.360	39000.00	1433.81	0.96	0.28	0.00	1200.00	50.00
	10.400	1500.00	1428.13	0.00	0.51	0.00	261.92	180.00
	10.400	5000.00	1430.03	1.90	0.19	0.00	647.85	180.00
	10.400	9600.00	1430.95	0.92	0.22	0.00	1181.35	180.00
	10.400	15000.00	1431.65	0.70	0.26	0.00	1334.05	180.00
	10.400	29000.00	1433.20	1.55	0.34	0.00	1540.00	180.00
	10.400	39000.00	1434.20	1.00	0.39	0.00	1540.00	180.00
*	10.490	1500.00	1429.62	0.00	1.49	0.00	192.19	470.00
*	10.490	5000.00	1431.13	1.50	1.10	0.00	253.19	470.00
*	10.490	9600.00	1432.40	1.27	1.45	0.00	296.13	470.00
*	10.490	15000.00	1433.57	1.16	1.92	0.00	357.26	470.00
*	10.490	29000.00	1436.37	2.80	3.17	0.00	1510.56	470.00
*	10.490	39000.00	1437.12	0.76	2.92	0.00	1563.71	470.00
	10.620	1500.00	1432.94	0.00	3.32	0.00	244.22	590.00
	10.620	5000.00	1434.90	1.96	3.77	0.00	284.28	590.00
	10.620	9600.00	1436.57	1.67	4.17	0.00	320.49	590.00
	10.620	15000.00	1438.02	1.45	4.45	0.00	980.57	590.00
*	10.620	29000.00	1439.29	1.27	2.92	0.00	1015.46	590.00
*	10.620	39000.00	1440.43	1.14	3.31	0.00	1316.32	590.00
*	10.700	1500.00	1434.65	0.00	1.71	0.00	168.18	380.00
*	10.700	5000.00	1436.33	1.67	1.42	0.00	202.21	380.00
*	10.700	9600.00	1437.99	1.66	1.41	0.00	264.47	380.00
*	10.700	15000.00	1439.36	1.38	1.35	0.00	295.71	380.00
*	10.700	29000.00	1442.63	3.26	3.34	0.00	886.00	380.00
*	10.700	39000.00	1443.58	0.95	3.15	0.00	902.63	380.00
	10.830	1500.00	1440.31	0.00	5.66	0.00	183.96	650.00
	10.830	5000.00	1442.49	2.18	6.17	0.00	493.95	650.00
	10.830	9600.00	1443.76	1.27	5.78	0.00	581.03	650.00
	10.830	15000.00	1445.00	1.24	5.64	0.00	1077.90	650.00
	10.830	29000.00	1446.74	1.74	4.11	0.00	1227.08	650.00
	10.830	39000.00	1447.88	1.14	4.31	0.00	1284.66	650.00

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	10.930	1500.00	1444.34	0.00	4.03	0.00	132.81	500.00
*	10.930	5000.00	1446.59	2.25	4.10	0.00	415.41	500.00
*	10.930	9600.00	1447.95	1.35	4.19	0.00	681.21	500.00
*	10.930	15000.00	1448.85	0.91	3.85	0.00	1183.43	500.00
*	10.930	29000.00	1450.13	1.27	3.38	0.00	1228.75	500.00
*	10.930	39000.00	1450.95	0.83	3.07	0.00	1319.83	500.00
	11.040	1500.00	1448.19	0.00	3.85	0.00	203.71	500.00
	11.040	5000.00	1450.27	2.08	3.68	0.00	488.15	500.00
	11.040	9600.00	1451.48	1.20	3.53	0.00	1060.62	500.00
	11.040	15000.00	1452.31	0.83	3.45	0.00	1079.98	500.00
	11.040	29000.00	1453.89	1.59	3.77	0.00	1088.56	500.00
	11.040	39000.00	1454.66	0.76	3.70	0.00	1092.71	500.00
*	11.200	1500.00	1452.98	0.00	4.79	0.00	274.91	770.00
*	11.200	5000.00	1454.17	1.20	3.90	0.00	279.70	770.00
*	11.200	9600.00	1455.35	1.18	3.87	0.00	284.40	770.00
*	11.200	15000.00	1456.50	1.15	4.19	0.00	289.00	770.00
*	11.200	29000.00	1458.94	2.44	5.04	0.00	298.74	770.00
*	11.200	39000.00	1460.42	1.48	5.76	0.00	304.67	770.00
	11.300	1500.00	1454.27	0.00	1.30	0.00	278.10	528.00
	11.300	5000.00	1455.89	1.62	1.72	0.00	284.58	528.00
	11.300	9600.00	1457.35	1.46	2.00	0.00	290.42	528.00
	11.300	15000.00	1458.72	1.37	2.22	0.00	295.90	528.00
	11.300	29000.00	1461.54	2.81	2.60	0.00	307.14	528.00
	11.300	39000.00	1463.21	1.67	2.79	0.00	313.79	528.00
*	11.400	1500.00	1454.98	0.00	0.70	0.00	274.91	528.00
	11.400	5000.00	1456.49	1.51	0.59	0.00	280.95	528.00
	11.400	9600.00	1457.90	1.41	0.54	0.00	286.60	528.00
	11.400	15000.00	1459.23	1.33	0.51	0.00	291.92	528.00
	11.400	29000.00	1461.98	2.75	0.44	0.00	302.91	528.00
	11.400	39000.00	1463.61	1.64	0.41	0.00	309.45	528.00

SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION  SECNO=    8.690  PROFILE= 6  CRITICAL DEPTH ASSUMED

CAUTION  SECNO=    8.750  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    8.750  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    8.750  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    8.750  PROFILE= 3  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=    8.750  PROFILE= 4  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=    8.890  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    8.890  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    8.890  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    8.890  PROFILE= 5  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=   8.890  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   8.890  PROFILE= 5  MINIMUM SPECIFIC ENERGY
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CAUTION  SECNO=   8.965  PROFILE= 5  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION  SECNO=   9.310  PROFILE= 3  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=   9.310  PROFILE= 6  PROBABLE MINIMUM SPECIFIC ENERGY
1
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CAUTION  SECNO=   9.310  PROFILE= 6  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=   9.400  PROFILE= 5  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=  10.210  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  10.210  PROFILE= 4  MINIMUM SPECIFIC ENERGY

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1
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CAUTION  SECNO=  10.490  PROFILE= 2  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=  10.490  PROFILE= 5  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION  SECNO=  10.490  PROFILE= 6  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  10.490  PROFILE= 6  20 TRIALS ATTEMPTED TO BALANCE WSEL

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CAUTION  SECNO=  10.700  PROFILE= 5  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  10.700  PROFILE= 6  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  10.700  PROFILE= 6  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  10.700  PROFILE= 6  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=  10.930  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  10.930  PROFILE= 1  MINIMUM SPECIFIC ENERGY
```

FORM 1411-3
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CAUTION  SECNO=   10.930  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   10.930  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   10.930  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   10.930  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   10.930  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   10.930  PROFILE= 3  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   10.930  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   10.930  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   10.930  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   10.930  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   10.930  PROFILE= 5  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   10.930  PROFILE= 5  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   10.930  PROFILE= 6  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   10.930  PROFILE= 6  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   10.930  PROFILE= 6  20 TRIALS ATTEMPTED TO BALANCE WSEL
1
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CAUTION  SECNO=   11.200  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   11.200  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   11.200  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   11.200  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   11.200  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   11.200  PROFILE= 3  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   11.200  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   11.200  PROFILE= 4  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   11.200  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   11.200  PROFILE= 5  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   11.200  PROFILE= 5  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   11.200  PROFILE= 6  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   11.200  PROFILE= 6  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   11.200  PROFILE= 6  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=   11.400  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   11.400  PROFILE= 1  MINIMUM SPECIFIC ENERGY

1
13 JUN 86      4:29:45                                                    PAGE   87

FLOOD INSURANCE ZONE DATA FOR     SKUNK CREEK FLOODPLAIN

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS
```

SECTION NUMBER	CUMULATIVE DISTANCE	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10	2	0.2
8.690	0.	0.00	0.00	0.00
8.750	739.	-1.32	-1.51	1.16
8.890	1579.	-3.13	-1.05	0.94
8.965	1979.	-2.38	-1.27	1.25
9.050	2529.	-3.89	-1.48	0.65
9.115	2899.	-2.69	-1.17	1.18
9.210	3499.	-3.09	-1.23	0.52
9.310	4149.	-3.17	-1.28	2.05
9.400	4659.	-4.17	-2.06	0.44
9.480	5149.	-3.74	-1.80	1.40
9.580	5599.	-2.74	-1.39	1.36
9.670	6009.	-3.13	-1.30	1.02
9.750	6379.	-3.91	-1.65	1.51
9.840	6859.	-5.09	-2.12	1.54
9.940	7379.	-4.53	-2.04	1.66
10.040	7919.	-4.41	-1.81	1.51
10.120	8299.	-3.59	-1.55	1.36
10.210	8749.	-3.35	-1.42	1.15

SKUNK CREEK

RECOMMENDED IMPROVEMENTS

HEC-2

```
===>   AS 91=W3
===>   AS 92=W4
===>   AS 93=W5
===>   AS 94=W6
===>   AS 95=W7
===>   AS 96=W8
===>   61THH*HEC2-OB
```

W/ NEW SECTION 10.35 (from drawings) HARZA2

FINAL RECOMMENDED

FORM 1411-3

PRINTED IN U.S.A.

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*****************************************************
*  WATER SURFACE PROFILES                           *
*  VERSION OF NOVEMBER 1976                         *
```

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*****************************************
*  U.S. ARMY CORPS OF ENGINEERS         *
*  THE HYDROLOGIC ENGINEERING CENTER    *
```

```
*  WATER SURFACE PROFILES                          *
*  VERSION OF NOVEMBER 1976                        *
*  UPDATED MAY 1984                                *
*                                                  *
*  RUN DATE 13 JUN 86   TIME    8:57:35            *
****************************************************
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```
*  U.S. ARMY CORPS OF ENGINEERS                    *
*  THE HYDROLOGIC ENGINEERING CENTER               *
*  609 SECOND STREET, SUITE D                      *
*  DAVIS, CALIFORNIA 95616                         *
*  (916) 440-2105 (FTS) 448-2105                   *
****************************************************
```


```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X         X     X            X     X
X     X  X         X                        X
XXXXXXX  XXXX      X          XXXXX     XXXXX
X     X  X         X                  X
X     X  X         X     X            X
X     X  XXXXXXX   XXXXX              XXXXXXX
```

```
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
**************************************************

C
T1        SKUNK CREEK CHANNEL MODIFICATION STUDY - ALTERNATIVE "3"
T2        SKUNK CREEK MEAN ANNUAL FLOOD
T3        RM 9.48 TO 11.2 MODIFIED

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.       2.       0.        0.  0.000000      0.00      0.0       0.  1377.800    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

   150.000   201.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC     0.045     0.045     0.035     0.100     0.300     0.000     0.000     0.000     0.000     0.000
QT     5.000  6800.000 15000.000 29000.000 39000.000 85000.000     0.000     0.000     0.000     0.000

          DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
          SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE'S LEVEES
          ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
          (APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
          CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
          ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
          MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
          OBSERVATION (FEB. 1983)
          THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
          39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

X1     8.690    19.000  1979.000  2118.000     0.000     0.000     0.000     0.000     0.000     0.000
GR  1380.000   452.000  1378.000   815.000  1378.000   877.000  1378.000   990.000  1378.000  1448.000
GR  1376.000  1481.000  1372.000  1542.000  1374.000  1675.000  1376.000  1727.000  1376.000  1979.000
GR  1369.800  2000.000  1370.000  2038.000  1372.000  2100.000  1376.000  2118.000  1376.200  2181.000
GR  1376.000  2278.000  1376.000  3560.000  1378.000  3560.000  1380.000  3890.000     0.000     0.000

X1     8.750    26.000  1800.000  2040.000   835.000   733.000   739.000     0.000     0.000     0.000
GR  1390.000   170.000  1388.000   235.000  1386.000   420.000  1384.000   510.000  1383.000   820.000
GR  1382.000  1190.000  1382.000  1435.000  1384.000  1470.000  1384.000  1490.000  1382.000  1500.000
GR  1380.000  1560.000  1378.000  1573.000  1378.000  1600.000  1380.000  1625.000  1378.000  1740.000
GR  1378.000  1790.000  1376.000  1800.000  1376.000  1958.000  1372.000  1975.000  1371.000  2000.000
GR  1380.000  2040.000  1381.000  2290.000  1382.000  2650.000  1382.000  3790.000  1384.000  4050.000
GR  1386.000  4190.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

X1	8.890	21.000	1900.000	2240.000	565.000	650.000	840.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	870.000	0.000	3730.000	0.000	0.000	0.000	0.000
GR	1392.000	675.000	1386.000	780.000	1386.000	1765.000	1384.000	1775.000	1384.000	1805.000
GR	1386.000	1815.000	1384.000	1865.000	1384.000	1900.000	1382.000	1950.000	1382.000	1970.000
GR	1378.000	2000.000	1380.000	2030.000	1382.000	2090.000	1382.000	2230.000	1384.000	2240.000
GR	1386.000	2260.000	1387.000	3440.000	1386.500	3770.000	1387.000	4080.000	1388.000	4230.000
GR	1390.000	4440.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	8.965	17.000	1955.000	2330.000	275.000	410.000	400.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1085.000	0.000	3575.000	0.000	0.000	0.000	0.000
GR	1392.000	780.000	1390.000	830.000	1388.000	880.000	1388.000	1580.000	1390.000	1915.000
GR	1390.000	1945.000	1388.000	1955.000	1386.000	1975.000	1381.000	2000.000	1382.000	2025.000
GR	1384.000	2105.000	1386.000	2240.000	1388.000	2330.000	1388.000	2560.000	1390.000	2920.000
GR	1390.000	4120.000	1392.000	4570.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	9.050	21.000	1905.000	2140.000	410.000	370.000	550.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1370.000	0.000	3415.000	0.000	0.000	0.000	0.000
GR	1398.000	700.000	1396.000	720.000	1394.000	780.000	1392.000	840.000	1390.000	1250.000
GR	1389.000	1645.000	1388.000	1905.000	1386.000	1910.000	1386.000	1925.000	1388.000	1935.000
GR	1386.000	1940.000	1384.000	1970.000	1382.000	2000.000	1382.000	2040.000	1384.000	2050.000
GR	1386.000	2095.000	1388.000	2100.000	1390.000	2140.000	1390.000	2950.000	1392.000	4220.000
GR	1394.000	4570.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	9.115	15.000	1790.000	2300.000	350.000	300.000	370.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	3465.000	0.000	0.000	0.000	0.000
GR	1400.000	110.000	1398.000	385.000	1396.000	660.000	1394.000	1600.000	1392.000	1790.000
GR	1390.000	1880.000	1388.000	1970.000	1386.500	2000.000	1388.000	2110.000	1390.000	2185.000
GR	1392.000	2300.000	1392.000	3650.000	1394.000	4025.000	1396.000	4480.000	1398.000	4720.000
NC	0.000	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
X3 USED TO DEFINE EFFECTIVE FLOW.

X1	9.210	37.000	1865.000	2190.000	460.000	500.000	600.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1385.000	0.000	2950.000	0.000	0.000	0.000	0.000
GR	1402.000	140.000	1402.000	300.000	1400.000	350.000	1398.000	510.000	1396.000	565.000
GR	1394.000	650.000	1394.000	670.000	1396.000	695.000	1396.000	720.000	1394.000	720.000
GR	1394.000	880.000	1396.000	1050.000	1396.000	1130.000	1394.000	1145.000	1394.000	1225.000
GR	1396.000	1290.000	1396.000	1510.000	1394.000	1720.000	1394.000	1735.000	1394.000	1765.000
GR	1394.000	1865.000	1392.000	1920.000	1392.000	1930.000	1390.000	1950.000	1388.500	2000.000
GR	1390.000	2085.000	1392.000	2180.000	1394.000	2190.000	1394.000	2200.000	1392.000	2210.000
GR	1392.000	2225.000	1394.000	2230.000	1394.700	2450.000	1395.000	3250.000	1396.000	4050.000
GR	1398.000	4430.000	1399.500	4600.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	4.000	0.045	1930.000	0.035	2115.000	0.050	3030.000	0.040	3660.000	0.000

LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.

FORM 1411-3 PRINTED IN U.S.A.

X3 USED TO DEFINE EFFECTIVE FLOW.

X1	9.310	29.000	1930.000	2115.000	400.000	480.000	650.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1110.000	0.000	2560.000	0.000	0.000	0.000	0.000
GR	1406.000	20.000	1404.000	90.000	1402.000	310.000	1400.000	410.000	1398.000	425.000
GR	1398.000	820.000	1396.000	900.000	1398.000	940.000	1398.000	1130.000	1398.000	1225.000
GR	1398.000	1250.000	1399.000	1300.000	1398.000	1330.000	1399.000	1350.000	1399.000	1845.000
GR	1398.000	1930.000	1394.000	1940.000	1392.000	1980.000	1392.000	2000.000	1392.000	2010.000
GR	1392.000	2040.000	1392.000	2090.000	1394.000	2105.000	1396.000	2115.000	1398.000	2160.000
GR	1398.000	2280.000	1394.000	3030.000	1400.000	3530.000	1402.000	3660.000	0.000	0.000
NH	4.000	0.040	1940.000	0.035	2200.000	0.050	2300.000	0.040	4100.000	0.000

LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
X3 USED TO DEFINE EFFECTIVE FLOW.

X1	9.400	33.000	1940.000	2200.000	370.000	420.000	510.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	980.000	0.000	2400.000	0.000	0.000	0.000	0.000
GR	1410.000	110.000	1408.000	140.000	1406.000	180.000	1404.000	330.000	1402.000	510.000
GR	1400.000	635.000	1400.000	965.000	1400.000	995.000	1400.000	1030.000	1400.000	1150.000
GR	1402.000	1250.000	1402.000	1550.000	1400.000	1620.000	1400.000	1650.000	1402.000	1770.000
GR	1402.000	1940.000	1400.000	1975.000	1396.000	1990.000	1394.400	2000.000	1396.000	2040.000
GR	1396.000	2085.000	1394.000	2100.000	1394.000	2180.000	1400.000	2200.000	1402.000	2300.000
GR	1400.000	2390.000	1400.000	2400.000	1402.000	2450.000	1404.000	2680.000	1404.000	2870.000
GR	1404.000	3300.000	1406.000	3790.000	1408.000	4100.000	0.000	0.000	0.000	0.000
NH	3.000	0.020	2000.000	0.035	2410.000	0.020	2450.000	0.000	0.000	0.000

RM 9.48 TO 11.2 MODIFIED

X1	9.480	7.000	2000.000	2410.000	370.000	420.000	490.000	0.000	0.000	0.000
GR	1411.000	1935.000	1397.000	2000.000	1398.000	2030.000	1400.000	2250.000	1400.000	2370.000
GR	1401.400	2410.000	1411.400	2450.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.045	0.045	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	3.000	0.020	2000.000	0.035	2400.000	0.020	2440.000	0.000	0.000	0.000

BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
AT 2 TO 1.

X1	9.580	13.000	2000.000	2400.000	390.000	460.000	450.000	0.000	0.000	0.000
GR	1412.000	1950.000	1399.000	2000.000	1400.000	2050.000	1402.000	2080.000	1402.000	2090.000
GR	1402.000	2120.000	1402.000	2130.000	1402.000	2190.000	1402.000	2280.000	1402.000	2300.000
GR	1402.000	2350.000	1402.000	2400.000	1412.000	2440.000	0.000	0.000	0.000	0.000
NH	3.000	0.020	1940.000	0.035	2375.000	0.020	2435.000	0.000	0.000	0.000
X1	9.670	9.000	1940.000	2375.000	470.000	420.000	410.000	0.000	0.000	0.000
GR	1420.000	1880.000	1402.000	1940.000	1400.000	2000.000	1402.000	2065.000	1404.000	2070.000
GR	1404.000	2250.000	1406.000	2375.000	1416.000	2415.000	1421.000	2435.000	0.000	0.000

pretty low!

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NH	3.000	0.020	1900.000	0.035	2230.000	0.020	2262.000	0.000	0.000	0.000
X1	9.750	12.000	1900.000	2230.000	390.000	410.000	370.000	0.000	0.000	0.000
GR	1420.000	1860.000	1410.000	1900.000	1408.000	1925.000	1406.000	1930.000	1404.000	1940.000
GR	1402.000	2000.000	1404.000	2040.000	1406.000	2050.000	1408.000	2055.000	1408.000	2150.000
GR	1412.000	2230.000	1420.000	2262.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	3.000	0.020	1875.000	0.035	2160.000	0.020	2220.000	0.000	0.000	0.000
X1	9.840	7.000	1875.000	2160.000	500.000	490.000	480.000	0.000	0.000	0.000
GR	1421.000	1815.000	1416.000	1835.000	1406.000	1875.000	1402.000	2000.000	1404.000	2160.000
GR	1414.000	2200.000	1419.000	2220.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	3.000	0.020	1825.000	0.035	2155.000	0.020	2195.000	0.000	0.000	0.000
X1	9.940	9.000	1825.000	2155.000	430.000	470.000	520.000	0.000	0.000	0.000
GR	1427.000	1745.000	1417.000	1785.000	1407.000	1825.000	1407.000	2000.000	1407.000	2070.000
GR	1407.000	2085.000	1407.000	2155.000	1417.000	2195.000	1427.000	2235.000	0.000	0.000
NH	3.000	0.030	1950.000	0.045	2290.000	0.030	2340.000	0.000	0.000	0.000
X1	10.040	5.000	1950.000	2290.000	540.000	540.000	540.000	0.000	0.000	0.000
GR	1425.000	1905.000	1413.000	1950.000	1413.000	2000.000	1413.000	2290.000	1425.000	2340.000
NH	3.000	0.020	1825.000	0.035	2235.000	0.020	2290.000	0.000	0.000	0.000
X1	10.120	5.000	1825.000	2235.000	450.000	420.000	380.000	0.000	0.000	0.000
GR	1427.000	1775.000	1414.000	1825.000	1414.000	2000.000	1414.000	2235.000	1427.000	2290.000
NH	3.000	0.020	1810.000	0.035	2270.000	0.020	2310.000	0.000	0.000	0.000
X1	10.210	12.000	1810.000	2270.000	490.000	475.000	450.000	0.000	0.000	0.000
GR	1430.000	1765.000	1424.000	1810.000	1422.000	1840.000	1420.000	1860.000	1418.000	1920.000
GR	1416.000	1990.000	1415.500	2000.000	1416.000	2015.000	1418.000	2130.000	1420.000	2220.000
GR	1422.000	2270.000	1430.000	2310.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.050	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	3.000	0.020	1810.000	0.035	2200.000	0.020	2240.000	0.000	0.000	0.000
X1	10.300	5.000	1810.000	2200.000	460.000	450.000	440.000	0.000	0.000	0.000
GR	1433.000	1770.000	1423.000	1810.000	1422.000	2000.000	1423.000	2200.000	1433.000	2240.000
NH	3.000	0.025	835.000	0.040	1218.000	0.025	1513.000	0.000	0.000	0.000
X1	10.350	6.000	540.000	1513.000	240.000	235.000	230.000	0.000	0.000	0.000
GR	1435.000	540.000	1429.000	750.000	1424.200	835.000	1424.200	1218.000	1429.000	1303.000
GR	1435.000	1513.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	3.000	0.030	1800.000	0.045	2200.000	0.030	2240.000	0.000	0.000	0.000
X1	10.400	7.000	1800.000	2200.000	240.000	235.000	230.000	0.000	0.000	0.000
GR	1436.000	1760.000	1426.000	1800.000	1423.000	1820.000	1423.000	2000.000	1423.000	2180.000
GR	1426.000	2200.000	1436.000	2240.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	3.000	0.020	1874.000	0.035	2291.000	0.020	2315.000	0.000	0.000	0.000
X1	10.490	13.000	1874.000	2291.000	420.000	450.000	470.000	0.000	0.000	0.000
GR	1440.000	1850.000	1434.000	1874.000	1432.000	1910.000	1430.000	1930.000	1428.000	1970.000
GR	1427.000	2000.000	1428.000	2020.000	1427.000	2070.000	1428.000	2130.000	1430.000	2180.000
GR	1432.000	2200.000	1434.000	2291.000	1440.000	2315.000	0.000	0.000	0.000	0.000

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NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	3.000	0.020	1826.000	0.035	2164.000	0.020	2200.000	0.000	0.000	0.000
X1	10.620	16.000	1826.000	2164.000	605.000	600.000	590.000	0.000	0.000	0.000
GR	1445.000	1790.000	1436.000	1826.000	1434.000	1870.000	1432.000	1900.000	1430.000	1910.000
GR	1431.000	1950.000	1430.000	1992.000	1429.500	2000.000	1430.000	2008.000	1431.000	2050.000
GR	1430.000	2090.000	1430.000	2100.000	1432.000	2110.000	1434.000	2150.000	1436.000	2164.000
GR	1445.000	2200.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	3.000	0.020	1838.000	0.035	2179.000	0.020	2215.000	0.000	0.000	0.000
X1	10.700	14.000	1838.000	2179.000	405.000	390.000	380.000	0.000	0.000	0.000
GR	1447.000	1810.000	1440.000	1838.000	1440.000	1890.000	1438.000	1940.000	1436.000	1970.000
GR	1434.000	1980.000	1432.000	1990.000	1431.000	2000.000	1432.000	2020.000	1434.000	2140.000
GR	1436.000	2150.000	1438.000	2160.000	1438.000	2179.000	1447.000	2215.000	0.000	0.000
NH	3.000	0.020	1816.000	0.035	2159.000	0.020	2215.000	0.000	0.000	0.000
X1	10.830	5.000	1816.000	2159.000	645.000	650.000	650.000	0.000	0.000	0.000
GR	1451.000	1760.000	1437.000	1816.000	1437.000	2000.000	1437.000	2159.000	1451.000	2215.000
NH	3.000	0.020	1800.000	0.035	2230.000	0.020	2270.000	0.000	0.000	0.000
X1	10.930	5.000	1800.000	2230.000	500.000	500.000	500.000	0.000	0.000	0.000
GR	1453.000	1760.000	1443.000	1800.000	1443.000	2000.000	1443.000	2230.000	1453.000	2270.000
NH	3.000	0.020	1698.000	0.035	2102.000	0.020	2150.000	0.000	0.000	0.000
X1	11.040	5.000	1698.000	2102.000	500.000	500.000	500.000	0.000	0.000	0.000
GR	1458.000	1650.000	1446.000	1698.000	1446.000	2000.000	1446.000	2102.000	1458.000	2150.000
NH	3.000	0.020	1800.000	0.040	2550.000	0.020	2590.000	0.000	0.000	0.000
X1	11.100	15.000	1800.000	2550.000	200.000	155.000	200.000	0.000	0.000	0.000
GR	1480.000	300.000	1460.000	400.000	1460.000	1800.000	1452.000	1900.000	1448.000	1960.000
GR	1448.000	1960.000	1448.000	2000.000	1448.000	2030.000	1448.000	2200.000	1450.000	2220.000
GR	1450.000	2290.000	1452.000	2340.000	1452.000	2410.000	1460.000	2550.000	1460.000	2590.000
NH	3.000	0.020	350.000	0.040	2650.000	0.020	2720.000	0.000	0.000	0.000
X1	11.150	20.000	350.000	2680.000	400.000	300.000	1400.000	0.000	0.000	0.000
GR	1460.000	350.000	1450.000	900.000	1447.000	910.000	1445.000	920.000	1447.000	930.000
GR	1450.000	1050.000	1452.000	1930.000	1450.000	1990.000	1449.000	2000.000	1450.000	2100.000
GR	1450.000	2120.000	1452.000	2145.000	1454.000	2210.000	1454.000	2340.000	1452.000	2400.000
GR	1450.000	2540.000	1452.000	2550.000	1454.000	2560.000	1460.000	2680.000	1460.000	2720.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES. INVERT
AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

X1	11.200	4.000	1834.500	2165.500	300.000	300.000	1400.000	0.000	0.000	0.000
GR	1467.000	1834.500	1452.000	1864.500	1452.000	2135.500	1467.000	2165.500	0.000	0.000
X1	11.300	4.000	1831.500	2169.500	528.000	528.000	528.000	0.000	0.000	0.000
GR	1469.000	1831.500	1452.500	1864.500	1452.500	2135.500	1469.500	2169.500	0.000	0.000

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X1	11.400	4.000	1829.500	2171.500	528.000	528.000	528.000	0.000	0.000	0.000
GR	1471.500	1829.500	1454.000	1864.500	1454.000	2135.500	1472.000	2171.500	0.000	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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

*PROF 1

CCHV=   0.100 CEHV=   0.300
*SECNO 8.690

          DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
          SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE'S LEVEES
          ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
          (APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
          CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
          ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
          MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
          OBSERVATION (FEB. 1983)
          THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
          39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

     8.69      8.00  1377.80      0.00  1377.80  1377.85      0.05      0.00      0.00  1376.00
    6800.      2060.     2414.     2326.     1496.     893.     2580.      0.00        0.  1376.00
     0.00      1.38      2.70      0.90     0.045     0.035     0.045     0.000   1369.80  1451.30
 0.000344        0.        0.        0.         0         0         0      0.00   2108.70  3560.00

*SECNO 8.750

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     8.75      7.24  1378.24  1378.24      0.00  1379.61      1.38      0.75      0.40  1376.00
    6800.       76.     6724.        0.       33.     710.        0.     49.96       21.  1380.00
     0.02      2.31      9.46      0.00     0.045     0.035     0.000     0.000   1371.00  1571.45
 0.011266      835.      739.      733.        20        15         0      0.00    337.36  2032.17

*SECNO 8.890

3265 DIVIDED FLOW
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     870.0     3730.0  TYPE=     1  TARGET=     2860.000
     8.89      6.75  1384.75     0.00      0.00  1385.34     0.58      5.64      0.08  1384.00
    6800.      101.    6695.      3.       59.     1086.      3.      67.90       28.   1384.00
     0.06      1.72     6.16     1.15     0.045     0.035    0.045     0.000   1378.00  1771.23
 0.004486      565.     840.     650.         5         0        0      0.00    438.95  2247.54


*SECNO 8.965

3470 ENCROACHMENT STATIONS=    1085.0     3575.0  TYPE=     1  TARGET=     2490.000
     8.96      6.01  1387.01     0.00      0.00  1388.01     1.00      2.55      0.13  1388.00
    6800.        0.    6800.       0.        0.      847.      0.     76.98       32.   1388.00
     0.07      0.00     8.03     0.00     0.000     0.035    0.000     0.000   1381.00  1964.87
 0.009833      275.     400.     410.         2         0        0      0.00    320.71  2285.58


*SECNO 9.050

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=    1370.0     3415.0  TYPE=     1  TARGET=     2045.000
     9.05      7.79  1389.79     0.00      0.00  1390.22     0.43      2.15      0.06  1388.00
    6800.      716.    6084.       0.      459.     1102.      0.     91.44       38.   1390.00
     0.10      1.56     5.52     0.00     0.045     0.035    0.000     0.000   1382.00  1370.00
 0.002126      410.     550.     370.         2         0        0      0.00    765.86  2135.86


*SECNO 9.115

3470 ENCROACHMENT STATIONS=       0.0     3465.0  TYPE=     1  TARGET=     3464.999
     9.11      4.48  1390.98     0.00      0.00  1391.87     0.88      1.51      0.14  1392.00
    6800.        0.    6800.       0.        0.      901.      0.    101.79       42.   1392.00
     0.12      0.00     7.55     0.00     0.000     0.035    0.000     0.000   1386.50  1835.61
 0.010933      350.     370.     300.         3         0        0      0.00    406.12  2241.73


*SECNO 9.210
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3470 ENCROACHMENT STATIONS=    1385.0    2950.0  TYPE=     1  TARGET=    1565.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.21      5.93  1394.43      0.00      0.00  1394.86      0.44      2.95      0.04  1394.00
    6800.       68.     6526.      206.       72.     1210.       91.    117.23       49.  1394.00
     0.15      0.94      5.39      2.27     0.045     0.035     0.040     0.000   1388.50  1675.03
 0.002797      460.      600.      500.         2         0         0      0.00    689.56  2364.59


1490 NH CARD USED
*SECNO 9.310

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=    1110.0    2560.0  TYPE=     1  TARGET=    1450.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.31      4.59  1396.59      0.00      0.00  1397.94      1.35      2.80      0.27  1398.00
    6800.        0.     6795.        5.        0.      728.        5.    132.55       55.  1396.00
     0.17      0.00      9.33      1.02     0.000     0.035     0.050     0.000   1392.00  1933.50
 0.007628      400.      650.      480.         2         0         0      0.00    212.09  2560.00


1490 NH CARD USED
*SECNO 9.400

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     980.0    2400.0  TYPE=     1  TARGET=    1420.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

    9.40      5.78   1399.78      0.00      0.00   1400.47      0.70      2.47      0.07   1402.00
   6800.        0.      6800.        0.        0.     1015.        0.    142.78       58.   1400.00
    0.19      0.00      6.70      0.00     0.000     0.035     0.000     0.000   1394.00   1975.83
0.003338      370.      510.      420.         3         0         0      0.00    223.43   2199.26

1490 NH CARD USED
*SECNO 9.480

          RM 9.48 TO 11.2 MODIFIED

    9.48      4.91   1401.91      0.00      0.00   1402.54      0.63      2.06      0.01   1397.00
   6800.      557.     6242.        1.       56.     1051.        1.    154.64       61.   1401.40
    0.21      9.95      5.94      2.19     0.020     0.035     0.020     0.000   1397.00   1977.19
0.005578      370.      490.      420.         2         0         0      0.00    434.85   2412.05

1490 NH CARD USED
*SECNO 9.580

          BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
          AT 2 TO 1.

    9.58      5.29   1404.29      0.00      0.00   1404.89      0.60      2.35      0.00   1399.00
   6800.      530.     6211.       59.       54.     1073.       11.    166.16       66.   1402.00
    0.23      9.83      5.79      5.64     0.020     0.035     0.020     0.000   1399.00   1979.64
0.004989      390.      450.      460.         3         0         0      0.00    429.54   2409.18

1490 NH CARD USED
*SECNO 9.670
    9.67      6.26   1406.26      0.00      0.00   1406.72      0.45      1.81      0.01   1402.00
   6800.      225.     6575.        0.       30.     1239.        0.    177.54       70.   1406.00
    0.25      7.44      5.31      1.17     0.020     0.035     0.020     0.000   1400.00   1925.79
0.003875      470.      410.      420.         2         0         0      0.00    450.25   2376.05

1490 NH CARD USED
*SECNO 9.750

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XOR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    9.75      6.52   1408.52   1408.52      0.00   1410.02      1.50      2.42      0.31   1410.00
   6800.        0.     6800.        0.        0.       693.        0.    185.88       73.   1412.00
    0.26      0.00      9.82      0.00     0.000     0.035     0.000     0.000   1402.00   1918.44
0.013259      390.      370.      410.        20         8         0      0.00    242.06   2160.50

1490 NH CARD USED
*SECNO 9.840

3301 HV CHANGED MORE THAN HVINS

    9.84      8.56   1410.56      0.00      0.00   1410.72      0.15      0.56      0.13   1406.00
   6800.       106.     6416.       279.       42.     2031.       86.    201.61       76.   1404.00
    0.31      2.54      3.16      3.23     0.020     0.035     0.020     0.000   1402.00   1856.74
0.000404      500.      480.      490.         4         0         0      0.00    329.51   2186.26

1490 NH CARD USED
*SECNO 9.940
    9.94      3.80   1410.80      0.00      0.00   1411.22      0.42      0.42      0.08   1407.00
   6800.       161.     6477.       161.       29.     1256.       29.    222.20       80.   1407.00
    0.33      5.57      5.16      5.57     0.020     0.035     0.020     0.000   1407.00   1809.78
0.002483      430.      520.      470.         3         0         0      0.00    360.45   2170.22

1490 NH CARD USED
*SECNO 10.040

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   10.04      2.29   1415.29   1415.29      0.00   1416.41      1.13      3.01      0.21   1413.00
   6800.        77.     6636.        86.       10.       778.       11.    235.29       85.   1413.00
    0.35      7.88      8.53      7.92     0.030     0.045     0.030     0.000   1413.00   1941.42
0.022164      540.      540.      540.        20        14         0      0.00    358.11   2299.53

1490 NH CARD USED
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 10.120

3301 HV CHANGED MORE THAN HVINS

    10.12     3.79   1417.79      0.00      0.00   1418.07      0.28      1.57      0.09   1414.00
    6800.      125.     6537.      138.      28.     1552.       30.    245.85       88.   1414.00
     0.38      4.54      4.21      4.56     0.020     0.035     0.020     0.000   1414.00   1810.44
 0.001666      450.      380.      420.         5         0         0      0.00    440.58   2251.02

1490 NH CARD USED
*SECNO 10.210

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.21      4.45   1419.95   1419.95      0.00   1421.09      1.15      1.66      0.26   1424.00
    6800.        0.     6800.        0.        0.      792.        0.    258.27       92.   1422.00
     0.39      0.00      8.59      0.00     0.000     0.035     0.000     0.000   1415.50   1861.64
 0.014101      490.      450.      475.        20        11         0      0.00    355.90   2217.54

1490 NH CARD USED
*SECNO 10.300
    10.30      2.98   1424.98      0.00      0.00   1425.73      0.75      4.60      0.04   1423.00
    6800.       50.     6700.       50.        8.     963.        8.    267.22       96.   1423.00
     0.41      6.46      6.96      6.46     0.020     0.035     0.020     0.000   1422.00   1802.12
 0.008044      460.      440.      450.         4         0         0      0.00    405.75   2207.88

1490 NH CARD USED
*SECNO 10.350
    10.35      2.75   1426.95      0.00      0.00   1427.46      0.51      1.71      0.02   1435.00
    6800.        0.     6800.        0.        0.     1189.        0.    272.94       98.   1435.00
     0.42      0.00      5.72      0.00     0.000     0.026     0.000     0.000   1424.20    786.24
 0.006893      240.      230.      235.         3         0         0      0.00    480.52   1266.76

1490 NH CARD USED
*SECNO 10.400
    10.40      4.92   1427.92      0.00      0.00   1428.12      0.19      0.62      0.03   1426.00
    6800.       13.     6774.       13.        7.     1909.        7.    281.16      101.   1426.00
     0.44      1.79      3.55      1.79     0.030     0.045     0.030     0.000   1423.00   1792.31
 0.001440      240.      230.      235.         3         0         0      0.00    415.37   2207.69
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 10.490

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.49      3.90   1430.90   1430.90      0.00   1432.27      1.38      1.53      0.35   1434.00
    6800.        0.     6800.        0.        0.      722.        0.    295.43      105.   1434.00
     0.45      0.00      9.41      0.00     0.000     0.035     0.000     0.000   1427.00   1921.02
 0.013112      420.      470.      450.        20        15         0      0.00    267.95   2188.98

1490 NH CARD USED
*SECNO 10.620

3301 HV CHANGED MORE THAN HVINS

    10.62      5.73   1435.23      0.00      0.00   1435.74      0.52      3.39      0.09   1436.00
    6800.        0.     6800.        0.        0.     1178.        0.    308.30      108.   1436.00
     0.48      0.00      5.77      0.00     0.000     0.035     0.000     0.000   1429.50   1842.96
 0.003202      605.      590.      600.         4         0         0      0.00    315.64   2158.60

1490 NH CARD USED
*SECNO 10.700

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.70      5.56   1436.56   1436.56      0.00   1438.27      1.70      2.12      0.36   1440.00
    6800.        0.     6800.        0.        0.      649.        0.    316.27      111.   1438.00
     0.49      0.00     10.47      0.00     0.000     0.035     0.000     0.000   1431.00   1961.57
 0.011983      405.      380.      390.         3         8         0      0.00    191.24   2152.81

1490 NH CARD USED
*SECNO 10.830

3301 HV CHANGED MORE THAN HVINS
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
10.83	3.85	1440.85	0.00	0.00	1441.22	0.38	2.83	0.13	1437.00
6800.	157.	6486.	157.	30.	1319.	30.	331.39	115.	1437.00
0.53	5.31	4.92	5.31	0.020	0.035	0.020	0.000	1437.00	1800.62
0.002226	645.	650.	650.	5	0	0	0.00	373.76	2174.38

1490 NH CARD USED
*SECNO 10.930

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

10.93	1.97	1444.97	1444.97	0.00	1445.94	0.97	2.27	0.18	1443.00
6800.	66.	6668.	66.	8.	847.	8.	344.25	120.	1443.00
0.54	8.51	7.88	8.51	0.020	0.035	0.020	0.000	1443.00	1792.12
0.013944	500.	500.	500.	20	8	0	0.00	445.75	2237.88

1490 NH CARD USED
*SECNO 11.040

11.04	2.93	1448.93	0.00	0.00	1449.42	0.48	3.43	0.05	1446.00
6800.	104.	6593.	104.	17.	1186.	17.	356.21	125.	1446.00
0.57	6.00	5.56	6.00	0.020	0.035	0.020	0.000	1446.00	1686.25
0.004072	500.	500.	500.	4	0	0	0.00	427.49	2113.75

1490 NH CARD USED
*SECNO 11.100

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

11.10	2.77	1450.77	1450.77	0.00	1451.84	1.07	1.51	0.18	1460.00
6800.	0.	6800.	0.	0.	821.	0.	360.88	126.	1460.00
0.58	0.00	8.29	0.00	0.000	0.040	0.000	0.000	1448.00	1918.39
0.018522	200.	200.	155.	20	11	0	0.00	390.96	2309.35

FORM 1411-3
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 11.150

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

    11.15      8.61   1453.61      0.00      0.00   1453.64      0.03      1.69      0.10   1460.00
    6800.        0.     6800.        0.        0.     4678.        0.    449.25      160.   1460.00
     0.84      0.00      1.45      0.00     0.000     0.040     0.000     0.000   1445.00    702.06
 0.000398      400.     1400.      300.         8         0         0      0.00   1700.87   2557.99

*SECNO 11.200

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

          EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES.  INVERT
          AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

    11.20      2.67   1454.67   1454.67      0.00   1455.99      1.32      1.31      0.39   1467.00
    6800.        0.     6800.        0.        0.      737.        0.    536.26      192.   1467.00
     0.88      0.00      9.23      0.00     0.000     0.020     0.000     0.000   1452.00   1859.17
 0.004306      300.     1400.      300.        20        17         0      0.00    281.67   2140.83

*SECNO 11.300

3301 HV CHANGED MORE THAN HVINS

    11.30      4.02   1456.52      0.00      0.00   1457.09      0.57      1.02      0.07   1469.00
    6800.        0.     6800.        0.        0.     1119.        0.    547.51      195.   1469.50
     0.91      0.00      6.08      0.00     0.000     0.020     0.000     0.000   1452.50   1856.48
 0.001099      528.      528.      528.         2         0         0      0.00    287.04   2143.52

*SECNO 11.400
    11.40      3.09   1457.09      0.00      0.00   1458.07      0.98      0.86      0.12   1471.50
    6800.        0.     6800.        0.        0.      856.        0.    559.48      199.   1472.00
     0.93      0.00      7.94      0.00     0.000     0.020     0.000     0.000   1454.00   1858.32
 0.002633      528.      528.      528.         3         0         0      0.00    283.36   2141.68
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  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
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T1      FLOODPLAIN STUDY - SKUNK CREEK
T2
T3      SKUNK FLOODPLAIN 6800 CFS

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ
       0.      2.       0.       0.  0.000000     0.00     0.0      0.  1377.800   0.000

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE
     2.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 2

CCHV= 0.100 CEHV= 0.300
*SECNO 8.690

DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE'S LEVEES
ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
(APRIL 1983). THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
OBSERVATION (FEB. 1983)
THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

8.69	8.00	1377.80	0.00	1377.80	1377.85	0.05	0.00	0.00	1376.00
6800.	2060.	2414.	2326.	1496.	893.	2580.	0.00	0.	1376.00
0.00	1.38	2.70	0.90	0.045	0.035	0.045	0.000	1369.80	1451.30
0.000344	0.	0.	0.	0	0	0	0.00	2108.70	3560.00

*SECNO 8.750

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

8.75	7.24	1378.24	1378.24	0.00	1379.61	1.38	0.75	0.40	1376.00
6800.	76.	6724.	0.	33.	710.	0.	49.96	21.	1380.00
0.02	2.31	9.46	0.00	0.045	0.035	0.000	0.000	1371.00	1571.45
0.011266	835.	739.	733.	20	15	0	0.00	337.36	2032.17

*SECNO 8.890

3265 DIVIDED FLOW

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

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     870.0     3730.0  TYPE=     1  TARGET=     2860.000
     8.89      6.75  1384.75     0.00      0.00  1385.34     0.58      5.64      0.08  1384.00
    6800.      101.    6695.      3.       59.     1086.      3.      67.90      28.   1384.00
     0.06      1.72     6.16     1.15     0.045     0.035    0.045     0.000  1378.00  1771.23
 0.004486      565.     840.     650.         5         0        0      0.00   438.95  2247.54

*SECNO 8.965

3470 ENCROACHMENT STATIONS=    1085.0     3575.0  TYPE=     1  TARGET=     2490.000
     8.96      6.01  1387.01     0.00      0.00  1388.01     1.00      2.55      0.13  1388.00
    6800.        0.    6800.       0.        0.      847.      0.     76.98      32.   1388.00
     0.07      0.00     8.03     0.00     0.000     0.035    0.000     0.000  1381.00  1964.87
 0.009833      275.     400.     410.         2         0        0      0.00   320.71  2285.58

*SECNO 9.050

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=    1370.0     3415.0  TYPE=     1  TARGET=     2045.000
     9.05      7.79  1389.79     0.00      0.00  1390.22     0.43      2.15      0.06  1388.00
    6800.      716.    6084.       0.      459.     1102.      0.     91.44      38.   1390.00
     0.10      1.56     5.52     0.00     0.045     0.035    0.000     0.000  1382.00  1370.00
 0.002126      410.     550.     370.         2         0        0      0.00   765.86  2135.86

*SECNO 9.115

3470 ENCROACHMENT STATIONS=       0.0     3465.0  TYPE=     1  TARGET=     3464.999
     9.11      4.48  1390.98     0.00      0.00  1391.87     0.88      1.51      0.14  1392.00
    6800.        0.    6800.       0.        0.      901.      0.    101.79      42.   1392.00
     0.12      0.00     7.55     0.00     0.000     0.035    0.000     0.000  1386.50  1835.61
 0.010933      350.     370.     300.         3         0        0      0.00   406.12  2241.73

*SECNO 9.210
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CURAR     TOPWID    ENDST


3470 ENCROACHMENT STATIONS=    1385.0    2950.0  TYPE=     1  TARGET=    1565.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.21      5.93  1394.43      0.00      0.00  1394.86      0.44      2.95      0.04  1394.00
    6800.       68.     6526.      206.       72.     1210.       91.    117.23       49.  1394.00
     0.15      0.94      5.39      2.27     0.045     0.035     0.040     0.000   1388.50  1675.03
 0.002797      460.      600.      500.         2         0         0      0.00    689.56  2364.59


1490 NH CARD USED
*SECNO 9.310

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=    1110.0    2560.0  TYPE=     1  TARGET=    1450.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.31      4.59  1396.59      0.00      0.00  1397.94      1.35      2.80      0.27  1398.00
    6800.        0.     6795.        5.        0.      728.        5.    132.55       55.  1396.00
     0.17      0.00      9.33      1.02     0.000     0.035     0.050     0.000   1392.00  1933.50
 0.007628      400.      650.      480.         2         0         0      0.00    212.09  2560.00


1490 NH CARD USED
*SECNO 9.400

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     980.0    2400.0  TYPE=     1  TARGET=    1420.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
9.40	5.78	1399.78	0.00	0.00	1400.47	0.70	2.47	0.07	1402.00
6800.	0.	6800.	0.	0.	1015.	0.	142.78	58.	1400.00
0.19	0.00	6.70	0.00	0.000	0.035	0.000	0.000	1394.00	1975.83
0.003338	370.	510.	420.	3	0	0	0.00	223.43	2199.26

1490 NH CARD USED
*SECNO 9.480

RM 9.48 TO 11.2 MODIFIED

9.48	4.91	1401.91	0.00	0.00	1402.54	0.63	2.06	0.01	1397.00
6800.	557.	6242.	1.	56.	1051.	1.	154.64	61.	1401.40
0.21	9.95	5.94	2.19	0.020	0.035	0.020	0.000	1397.00	1977.19
0.005578	370.	490.	420.	2	0	0	0.00	434.85	2412.05

1490 NH CARD USED
*SECNO 9.580

BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
AT 2 TO 1.

9.58	5.29	1404.29	0.00	0.00	1404.89	0.60	2.35	0.00	1399.00
6800.	530.	6211.	59.	54.	1073.	11.	166.16	66.	1402.00
0.23	9.83	5.79	5.64	0.020	0.035	0.020	0.000	1399.00	1979.64
0.004989	390.	450.	460.	3	0	0	0.00	429.54	2409.18

1490 NH CARD USED
*SECNO 9.670

9.67	6.26	1406.26	0.00	0.00	1406.72	0.45	1.81	0.01	1402.00
6800.	225.	6575.	0.	30.	1239.	0.	177.54	70.	1406.00
0.25	7.44	5.31	1.17	0.020	0.035	0.020	0.000	1400.00	1925.79
0.003875	470.	410.	420.	2	0	0	0.00	450.25	2376.05

1490 NH CARD USED
*SECNO 9.750

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

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

3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    9.75      6.52   1408.52   1408.52      0.00   1410.02      1.50      2.42      0.31   1410.00
   6800.        0.     6800.        0.        0.     693.        0.    185.88       73.   1412.00
    0.26      0.00      9.82      0.00     0.000     0.035     0.000     0.000   1402.00   1918.44
0.013259      390.      370.      410.        20         8         0      0.00    242.06   2160.50

1490 NH CARD USED
*SECNO 9.840

3301 HV CHANGED MORE THAN HVINS

    9.84      8.56   1410.56      0.00      0.00   1410.72      0.15      0.56      0.13   1406.00
   6800.      106.     6416.      279.       42.     2031.       86.    201.61       76.   1404.00
    0.31      2.54      3.16      3.23     0.020     0.035     0.020     0.000   1402.00   1856.74
0.000404      500.      480.      490.         4         0         0      0.00    329.51   2186.26

1490 NH CARD USED
*SECNO 9.940
    9.94      3.80   1410.80      0.00      0.00   1411.22      0.42      0.42      0.08   1407.00
   6800.      161.     6477.      161.       29.     1256.       29.    222.20       80.   1407.00
    0.33      5.57      5.16      5.57     0.020     0.035     0.020     0.000   1407.00   1809.78
0.002483      430.      520.      470.         3         0         0      0.00    360.45   2170.22

1490 NH CARD USED
*SECNO 10.040

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   10.04      2.29   1415.29   1415.29      0.00   1416.41      1.13      3.01      0.21   1413.00
   6800.       77.     6636.       86.       10.      778.       11.    235.29       85.   1413.00
    0.35      7.88      8.53      7.92     0.030     0.045     0.030     0.000   1413.00   1941.42
0.022164      540.      540.      540.        20        14         0      0.00    358.11   2299.53

1490 NH CARD USED
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XGCH      XNR       WIN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 10.120

3301 HV CHANGED MORE THAN HVINS

     10.12     3.79   1417.79      0.00      0.00   1418.07      0.28      1.57      0.09   1414.00
     6800.      125.     6537.      138.      28.     1552.       30.    245.85       88.   1414.00
      0.38      4.54      4.21      4.56     0.020     0.035     0.020     0.000   1414.00   1810.44
  0.001666      450.      380.      420.         5         0         0      0.00    440.58   2251.02

1490 NH CARD USED
*SECNO 10.210

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     10.21      4.45   1419.95   1419.95      0.00   1421.09      1.15      1.66      0.26   1424.00
     6800.        0.     6800.        0.        0.      792.        0.    258.27       92.   1422.00
      0.39      0.00      8.59      0.00     0.000     0.035     0.000     0.000   1415.50   1861.64
  0.014101      490.      450.      475.        20        11         0      0.00    355.90   2217.54

1490 NH CARD USED
*SECNO 10.300
     10.30      2.98   1424.98      0.00      0.00   1425.73      0.75      4.60      0.04   1423.00
     6800.       50.     6700.       50.        8.     963.        8.    267.22       96.   1423.00
      0.41      6.46      6.96      6.46     0.020     0.035     0.020     0.000   1422.00   1802.12
  0.008044      460.      440.      450.         4         0         0      0.00    405.75   2207.88

1490 NH CARD USED
*SECNO 10.350
     10.35      2.75   1426.95      0.00      0.00   1427.46      0.51      1.71      0.02   1435.00
     6800.        0.     6800.        0.        0.     1189.        0.    272.94       98.   1435.00
      0.42      0.00      5.72      0.00     0.000     0.026     0.000     0.000   1424.20    786.24
  0.006893      240.      230.      235.         3         0         0      0.00    480.52   1266.76

1490 NH CARD USED
*SECNO 10.400
     10.40      4.92   1427.92      0.00      0.00   1428.12      0.19      0.62      0.03   1426.00
     6800.       13.     6774.       13.        7.     1909.        7.    281.16      101.   1426.00
      0.44      1.79      3.55      1.79     0.030     0.045     0.030     0.000   1423.00   1792.31
  0.001440      240.      230.      235.         3         0         0      0.00    415.37   2207.69
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     FG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CURAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 10.490

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.49      3.90  1430.90  1430.90      0.00  1432.27      1.38      1.53      0.35  1434.00
    6800.        0.     6800.       0.        0.     722.        0.    295.43      105.  1434.00
     0.45      0.00      9.41      0.00     0.000     0.035     0.000     0.000   1427.00  1921.02
 0.013112      420.      470.      450.        20        15         0      0.00    267.95  2188.98

1490 NH CARD USED
*SECNO 10.620

3301 HV CHANGED MORE THAN HVINS

    10.62      5.73  1435.23      0.00      0.00  1435.74      0.52      3.39      0.09  1436.00
    6800.        0.     6800.       0.        0.    1178.        0.    308.30      108.  1436.00
     0.48      0.00      5.77      0.00     0.000     0.035     0.000     0.000   1429.50  1842.96
 0.003202      605.      590.      600.         4         0         0      0.00    315.64  2158.60

1490 NH CARD USED
*SECNO 10.700

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.70      5.56  1436.56  1436.56      0.00  1438.27      1.70      2.12      0.36  1440.00
    6800.        0.     6800.       0.        0.     649.        0.    316.27      111.  1438.00
     0.49      0.00     10.47      0.00     0.000     0.035     0.000     0.000   1431.00  1961.57
 0.011983      405.      380.      390.         3         8         0      0.00    191.24  2152.81

1490 NH CARD USED
*SECNO 10.830

3301 HV CHANGED MORE THAN HVINS
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	FLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
10.83	3.85	1440.85	0.00	0.00	1441.22	0.38	2.83	0.13	1437.00
6800.	157.	6486.	157.	30.	1319.	30.	331.39	115.	1437.00
0.53	5.31	4.92	5.31	0.020	0.035	0.020	0.000	1437.00	1800.62
0.002226	645.	650.	650.	5	0	0	0.00	373.76	2174.38

1490 NH CARD USED
*SECNO 10.930

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

10.93	1.97	1444.97	1444.97	0.00	1445.94	0.97	2.27	0.18	1443.00
6800.	66.	6668.	66.	8.	847.	8.	344.25	120.	1443.00
0.54	8.51	7.88	8.51	0.020	0.035	0.020	0.000	1443.00	1792.12
0.013944	500.	500.	500.	20	8	0	0.00	445.75	2237.88

1490 NH CARD USED
*SECNO 11.040

11.04	2.93	1448.93	0.00	0.00	1449.42	0.48	3.43	0.05	1446.00
6800.	104.	6593.	104.	17.	1186.	17.	356.21	125.	1446.00
0.57	6.00	5.56	6.00	0.020	0.035	0.020	0.000	1446.00	1686.25
0.004072	500.	500.	500.	4	0	0	0.00	427.49	2113.75

1490 NH CARD USED
*SECNO 11.100

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

11.10	2.77	1450.77	1450.77	0.00	1451.84	1.07	1.51	0.18	1460.00
6800.	0.	6800.	0.	0.	821.	0.	360.88	126.	1460.00
0.58	0.00	8.29	0.00	0.000	0.040	0.000	0.000	1448.00	1918.39
0.018522	200.	200.	155.	20	11	0	0.00	390.96	2309.35

FORM 1411-3
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 11.150

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

    11.15      8.61   1453.61      0.00      0.00   1453.64      0.03      1.69      0.10   1460.00
    6800.        0.     6800.        0.        0.     4678.        0.    449.25      160.   1460.00
     0.84      0.00      1.45      0.00     0.000     0.040     0.000     0.000   1445.00    702.06
 0.000398      400.     1400.      300.         8         0         0      0.00   1700.87   2557.99

*SECNO 11.200

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

          EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES.  INVERT
          AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

    11.20      2.67   1454.67   1454.67      0.00   1455.99      1.32      1.31      0.39   1467.00
    6800.        0.     6800.        0.        0.      737.        0.    536.26      192.   1467.00
     0.88      0.00      9.23      0.00     0.000     0.020     0.000     0.000   1452.00   1859.17
 0.004306      300.     1400.      300.        20        17         0      0.00    281.67   2140.83

*SECNO 11.300

3301 HV CHANGED MORE THAN HVINS

    11.30      4.02   1456.52      0.00      0.00   1457.09      0.57      1.02      0.07   1469.00
    6800.        0.     6800.        0.        0.     1119.        0.    547.51      195.   1469.50
     0.91      0.00      6.08      0.00     0.000     0.020     0.000     0.000   1452.50   1856.48
 0.001099      528.      528.      528.         2         0         0      0.00    287.04   2143.52

*SECNO 11.400
    11.40      3.09   1457.09      0.00      0.00   1458.07      0.98      0.86      0.12   1471.50
    6800.        0.     6800.        0.        0.      856.        0.    559.48      199.   1472.00
     0.93      0.00      7.94      0.00     0.000     0.020     0.000     0.000   1454.00   1858.32
 0.002633      528.      528.      528.         3         0         0      0.00    283.36   2141.68
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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
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T1      FLOODPLAIN STUDY - SKUNK CREEK
T2      SKUNK CREEK-10 YR FLOOD
T3      SKUNK FLOODPLAIN 15000 CFS

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

       0.       3.       0.       0.  0.000000     0.00     0.0      0.  1377.800   0.000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH     FN      ALLDC    IBW      CHNIM    ITRACE

    3.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*PROF 3

CCHV=   0.100 CEHV=   0.300
*SECNO 8.690

          DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
          SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE'S LEVEES
          ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
          (APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
          CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
          ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
          MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
          OBSERVATION (FEB. 1983)
          THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
          39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

     8.69      8.00  1377.80      0.00  1377.80  1378.06      0.26      0.00      0.00  1376.00
   15000.     4545.     5325.     5130.     1496.      893.     2580.      0.00        0.  1376.00
     0.00      3.04      5.96      1.99     0.045     0.035     0.045     0.000   1369.80  1451.30
 0.001672        0.        0.        0.         0         0         0      0.00   2108.70  3560.00

*SECNO 8.750

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     8.75      9.25  1380.25  1380.25      0.00  1381.99      1.74      2.41      0.44  1376.00
   15000.     1765.    13229.        6.     397.     1185.        8.     57.54       23.  1380.00
     0.02      4.45     11.16      0.74     0.045     0.035     0.045     0.000   1371.00  1552.63
 0.008280      835.      739.      733.        20        11         0      0.00    548.78  2101.41

*SECNO 8.890

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     870.0     3730.0  TYPE=     1  TARGET=     2860.000
     8.89      8.27  1386.27  1385.45      0.00  1387.34      1.07      5.28      0.07  1384.00
   15000.     1096.    13806.        98.     477.     1601.        68.     90.65       40.  1384.00
     0.05      2.30      8.62      1.43     0.045     0.035     0.045     0.000   1378.00   870.00
 0.005234      565.      840.      650.         6        11         0      0.00   1707.54  2577.54
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    EDDST

*SECNO 8.965

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    1085.0    3575.0  TYPE=     1  TARGET=    2490.000
     8.96      7.99  1388.99  1388.99      0.00  1389.92      0.94      2.14      0.01  1388.00
   15000.     1338.    12964.     698.      571.     1559.      314.    110.27       52.  1388.00
     0.06      2.34      8.31      2.22    0.045     0.035     0.045     0.000   1381.00  1085.00
 0.005746      275.      400.      410.        2        10         0      0.00   1447.32  2737.35

*SECNO 9.050

3470 ENCROACHMENT STATIONS=    1370.0    3415.0  TYPE=     1  TARGET=    2045.000
     9.05      9.22  1391.22      0.00      0.00  1391.67      0.45      1.70      0.05  1388.00
   15000.     3303.     9430.     2267.     1220.     1436.     1379.    144.80       69.  1390.00
     0.09      2.71      6.57      1.64    0.045     0.035     0.045     0.000   1382.00  1370.00
 0.002165      410.      550.      370.        2         0         0      0.00   2045.00  3415.00

*SECNO 9.115
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=       0.0    3465.0  TYPE=     1  TARGET=    3464.999
     9.11      6.16  1392.66  1392.66      0.00  1393.52      0.86      1.27      0.12  1392.00
   15000.       27.    13371.     1602.       21.     1703.      771.    170.52       83.  1392.00
     0.10      1.31      7.85      2.08    0.045     0.035     0.045     0.000   1386.50  1727.10
 0.006858      350.      370.      300.        3        18         0      0.00   1737.90  3465.00

*SECNO 9.210

3470 ENCROACHMENT STATIONS=    1385.0    2950.0  TYPE=     1  TARGET=    1565.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.21      7.16  1395.66      0.00      0.00  1396.36      0.69      2.82      0.02  1394.00
   15000.      924.    11915.     2161.      386.     1612.      835.    204.71      102.  1394.00
     0.13      2.39      7.39      2.59    0.045     0.035     0.040     0.000   1388.50  1545.37
 0.003590      460.      600.      500.        2         0         0      0.00   1404.63  2950.00
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FORM 1411-3 PRINTED IN U.S.A.

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

1490 NH CARD USED
*SECNO 9.310
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    1110.0    2560.0  TYPE=     1  TARGET=    1450.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.31      7.34  1399.34  1399.34      0.00  1400.43      1.09      2.29      0.12  1398.00
   15000.      921.   11602.     2476.      508.     1232.      849.    239.32      117.  1396.00
     0.15      1.81      9.42      2.92     0.045     0.035     0.050     0.000   1392.00  1110.00
 0.003957      400.      650.      480.         3         5         0      0.00   1450.00  2560.00

1490 NH CARD USED
*SECNO 9.400

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=     980.0    2400.0  TYPE=     1  TARGET=    1420.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.40      7.41  1401.41  1401.17      0.00  1402.72      1.32      2.23      0.07  1402.00
   15000.     1256.   13520.      224.      426.     1399.      108.   263.30      128.  1400.00
     0.17      2.95      9.66      2.06     0.040     0.035     0.044     0.000   1394.00   980.00
 0.005248      370.      510.      420.         4         5         0      0.00    797.89  2400.00

1490 NH CARD USED
*SECNO 9.480

          RM 9.48 TO 11.2 MODIFIED

     9.48      7.00  1404.00      0.00      0.00  1404.87      0.87      2.10      0.04  1397.00
   15000.     1170.   13758.        71.      114.     1907.       14.   284.78      134.  1401.40
     0.18     10.29      7.22      5.29     0.020     0.035     0.020     0.000   1397.00  1967.50
 0.003721      370.      490.      420.         2         0         0      0.00    452.89  2420.40
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 9.580

          BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
          AT 2 TO 1.

     9.58      6.81   1405.81      0.00      0.00   1406.93      1.12      1.99      0.07   1399.00
   15000.     1082.    13678.      240.      89.     1680.       29.    304.44      139.   1402.00
     0.20     12.13      8.14      8.25     0.020     0.035     0.020     0.000   1399.00   1973.80
 0.005429      390.      450.      460.         2         0         0      0.00    441.45   2415.25

1490 NH CARD USED
*SECNO 9.670
     9.67      8.00   1408.00      0.00      0.00   1408.83      0.83      1.87      0.03   1402.00
   15000.      556.    14409.       36.      60.     1994.        8.    322.71      143.   1406.00
     0.22      9.27      7.23      4.49     0.020     0.035     0.020     0.000   1400.00   1920.01
 0.003810      470.      410.      420.         2         0         0      0.00    462.98   2382.99

1490 NH CARD USED
*SECNO 9.750

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     9.75      8.63   1410.63   1410.63      0.00   1412.79      2.16      2.27      0.40   1410.00
   15000.        3.    14997.        0.        1.     1272.        0.    336.89      146.   1412.00
     0.22      3.61     11.79      0.00     0.020     0.035     0.000     0.000   1402.00   1897.47
 0.011431      390.      370.      410.        20         8         0      0.00    305.17   2202.64

1490 NH CARD USED
*SECNO 9.840

3301 HV CHANGED MORE THAN HVINS

     9.84     11.38   1413.38      0.00      0.00   1413.74      0.36      0.77      0.18   1406.00
   15000.      465.    13654.      881.     109.     2833.      176.    361.13      150.   1404.00
     0.25      4.27      4.82      5.01     0.020     0.035     0.020     0.000   1402.00   1845.49
 0.000603      500.      480.      490.         3         0         0      0.00    352.02   2197.51
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   SECNO      DEPTH     CWSEL     CRIWS     WSELK      EG        HV        HL      OLOSS    BANK ELEV
   Q          QLOB      QCH       QROB      ALOB       ACH       AROB      VOL      TWA    LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL        XNCH      XNR       WTN      ELMIN      SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL     IDC       ICONT     CORAR    TOPWID     ENDST

1490 NH CARD USED
*SECNO 9.940
      9.94      6.69   1413.69      0.00      0.00   1414.30      0.61      0.49      0.08   1407.00
    15000.      604.     13791.     604.      90.     2209.      90.     393.63     154.    1407.00
      0.27      6.74      6.24      6.74     0.020     0.035     0.020     0.000   1407.00   1798.22
  0.001713      430.      520.      470.        2         0         0      0.00    383.56   2181.78

1490 NH CARD USED
*SECNO 10.040

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     10.04      3.86   1416.86   1416.86      0.00   1418.72      1.86      2.17      0.37   1413.00
    15000.      283.     14401.     316.      28.     1313.      31.     416.94     159.    1413.00
      0.29     10.13      10.97     10.17     0.030     0.045     0.030     0.000   1413.00   1935.52
  0.018191      540.      540.      540.        20        11         0      0.00    370.58   2306.09

1490 NH CARD USED
*SECNO 10.120

3301 HV CHANGED MORE THAN HVINS

     10.12      5.89   1419.89      0.00      0.00   1420.43      0.53      1.58      0.13   1414.00
    15000.      421.     14114.     465.      67.     2418.      74.     434.21     163.    1414.00
      0.31      6.30      5.84      6.32     0.020     0.035     0.020     0.000   1414.00   1802.32
  0.001775      450.      380.      420.        4         0         0      0.00    457.63   2259.95

1490 NH CARD USED
*SECNO 10.210

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     10.21      6.05   1421.55   1421.55      0.00   1423.30      1.75      1.68      0.36   1424.00
    15000.        0.     15000.       0.        0.     1413.       0.     454.77     167.    1422.00
      0.32      0.00      10.62     0.00     0.000     0.035     0.000     0.000   1415.50   1844.46
  0.012193      490.      450.      475.        20         8         0      0.00    414.38   2258.84
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 10.300
    10.30      4.35   1426.35      0.00      0.00   1427.81      1.45      4.47      0.03   1423.00
    15000.     215.    14570.     215.       23.    1505.       23.    469.74      171.    1423.00
     0.33      9.54      9.68      9.54     0.020     0.035     0.020     0.000   1422.00   1796.57
 0.008593      460.      440.      450.         2         0         0      0.00    416.87   2213.43

1490 NH CARD USED
*SECNO 10.350

3301 HV CHANGED MORE THAN HVINS

    10.35      4.51   1428.71      0.00      0.00   1429.51      0.80      1.64      0.07   1435.00
    15000.       0.    15000.        0.        0.     2087.        0.    479.35      174.    1435.00
     0.34      0.00      7.19      0.00     0.000     0.026     0.000     0.000   1424.20    755.16
 0.006011      240.      230.      235.         2         0         0      0.00    542.69   1297.84

1490 NH CARD USED
*SECNO 10.400
    10.40      6.86   1429.86      0.00      0.00   1430.33      0.47      0.79      0.03   1426.00
    15000.     105.    14789.     105.       30.    2685.       30.    492.11      177.    1426.00
     0.35      3.53      5.51      3.53     0.030     0.045     0.030     0.000   1423.00   1784.55
 0.002201      240.      230.      235.         2         0         0      0.00    430.90   2215.45

1490 NH CARD USED
*SECNO 10.490

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.49      5.98   1432.98   1432.98      0.00   1434.91      1.93      2.01      0.44   1434.00
    15000.       0.    15000.        0.        0.     1344.        0.    514.14      181.    1434.00
     0.36      0.00     11.16      0.00     0.000     0.035     0.000     0.000   1427.00   1892.39
 0.011597      420.      470.      450.        20        11         0      0.00    352.13   2244.52

1490 NH CARD USED
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 10.620

3301 HV CHANGED MORE THAN HVINS

    10.62      7.93  1437.43      0.00      0.00  1438.38      0.95      3.37      0.10  1436.00
    15000.      14.  14972.       14.        4.     1912.       4.    536.25      185.  1436.00
     0.38      3.38      7.83      3.38     0.020     0.035     0.020     0.000  1429.50  1820.29
 0.003384      605.      590.      600.         4         0         0      0.00    349.41  2169.71

1490 NH CARD USED
*SECNO 10.700

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.70      8.11  1439.11  1439.11      0.00  1441.43      2.32      2.12      0.41  1440.00
    15000.       0.  14987.       13.        0.     1225.       2.    549.98      188.  1438.00
     0.39      0.00     12.23      5.13     0.000     0.035     0.020     0.000  1431.00  1912.31
 0.010925      405.      380.      390.         4         8         0      0.00    271.12  2183.43

1490 NH CARD USED
*SECNO 10.830

3301 HV CHANGED MORE THAN HVINS

    10.83      6.40  1443.40      0.00      0.00  1444.03      0.63      2.43      0.17  1437.00
    15000.      560.  13881.      560.       82.     2195.      82.    576.74      193.  1437.00
     0.42      6.83      6.32      6.83     0.020     0.035     0.020     0.000  1437.00  1790.40
 0.001866      645.      650.      650.         4         0         0      0.00    394.20  2184.60

1490 NH CARD USED
*SECNO 10.930

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.93      3.31  1446.31  1446.31      0.00  1447.93      1.63      1.91      0.30  1443.00
    15000.      241.  14517.      241.       22.     1423.      22.    598.69      198.  1443.00
     0.43     11.02     10.20     11.02     0.020     0.035     0.020     0.000  1443.00  1786.76
 0.011710      500.      500.      500.        20        11         0      0.00    456.47  2243.24
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       FLMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 11.040

3301 HV CHANGED MORE THAN HVINS

    11.04      4.51   1450.51      0.00      0.00   1451.47      0.97      3.47      0.07   1446.00
   15000.      345.     14310.     345.      41.      1822.      41.     618.04     203.    1446.00
     0.45      8.49      7.85      8.49     0.020     0.035     0.020     0.000   1446.00   1679.96
 0.004593      500.      500.      500.       3         0         0      0.00     440.08   2120.04

1490 NH CARD USED
*SECNO 11.100

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    11.10      4.40   1452.40   1452.40      0.00   1453.88      1.48      1.57      0.15   1460.00
   15000.        0.     15000.      0.        0.      1537.       0.     625.91     205.    1460.00
     0.46      0.00      9.76      0.00     0.000     0.040     0.000     0.000   1448.00   1894.99
 0.016377      200.      200.      155.       20         8         0      0.00     522.01   2417.01

1490 NH CARD USED
*SECNO 11.150

3301 HV CHANGED MORE THAN HVINS

    11.15     10.49   1455.49      0.00      0.00   1455.55      0.05      1.52      0.14   1460.00
   15000.        0.     15000.      0.        0.      8265.       0.     783.43     246.    1460.00
     0.67      0.00      1.81      0.00     0.000     0.040     0.000     0.000   1445.00    597.75
 0.000358      400.     1400.      300.       6         0         0      0.00    1992.16   2589.91

*SECNO 11.200

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
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EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM CUE LEVEES. INVERT
AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

11.20	4.51	1456.51	1456.51	0.00	1458.70	2.20	1.16	0.64	1467.00
15000.	0.	15000.	0.	0.	1261.	0.	936.52	282.	1467.00
0.70	0.00	11.89	0.00	0.000	0.020	0.000	0.000	1452.00	1855.49
0.003626	300.	1400.	300.	20	14	0	0.00	289.02	2144.51

*SECNO 11.300

3301 HV CHANGED MORE THAN HVINS

11.30	6.22	1458.72	0.00	0.00	1459.84	1.12	1.04	0.11	1469.00
15000.	0.	15000.	0.	0.	1764.	0.	954.85	286.	1469.50
0.72	0.00	8.50	0.00	0.000	0.020	0.000	0.000	1452.50	1852.05
0.001228	528.	528.	528.	2	0	0	0.00	295.89	2147.95

*SECNO 11.400

11.40	5.23	1459.23	0.00	0.00	1460.84	1.61	0.85	0.15	1471.50
15000.	0.	15000.	0.	0.	1472.	0.	974.46	290.	1472.00
0.74	0.00	10.19	0.00	0.000	0.020	0.000	0.000	1454.00	1854.04
0.002201	528.	528.	528.	3	0	0	0.00	291.92	2145.96

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  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
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T1 FLOODPLAIN STUDY - SKUNK CREEK
T2 SKUNK CREEK 50-YEAR FLOOD
T3 SKUNK CREEK FLOODPLAIN 29000 CFS

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	4.	0.	0.	0.000000	0.00	0.0	0.	1377.800	0.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	4.000	0.000	-1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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

*PROF 4

CCHV=   0.100 CEHV=   0.300
*SECNO 8.690

          DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
          SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE'S LEVEES
          ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
          (APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
          CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
          ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
          MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
          OBSERVATION (FEB. 1983)
          THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
          39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

     8.69      8.00  1377.80      0.00  1377.80  1378.77      0.97      0.00      0.00  1376.00
   29000.     8787.  10295.      9919.     1496.     893.     2580.      0.00        0.  1376.00
     0.00      5.87     11.53     3.85     0.045    0.035     0.045     0.000   1369.80  1451.30
 0.006251        0.        0.       0.         0        0         0      0.00   2108.70  3560.00

*SECNO 8.750

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     8.75     11.82  1382.82  1382.82      0.00  1383.84      1.02      3.62      0.01  1376.00
   29000.     6221.  17875.      4905.     1456.     1803.     2033.     89.97       44.  1380.00
     0.03      4.27      9.91     2.41     0.045    0.035     0.045     0.000   1371.00   886.70
 0.003734      835.      739.      733.         2       15         0      0.00   2963.32  3896.57

*SECNO 8.890
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     870.0     3730.0  TYPE=     1  TARGET=     2860.000
     8.89      9.61  1387.61  1387.61      0.00  1388.53      0.92      3.02      0.01  1384.00
   29000.     6238.  19039.      3723.     1859.     2058.     1603.    175.83       87.  1384.00
     0.06      3.36      9.25     2.32     0.045    0.035     0.045     0.000   1378.00   870.00
 0.004317      565.      840.      650.         7       14         0      0.00   2860.00  3730.00
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 8.965
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    1085.0    3575.0  TYPE=     1  TARGET=    2490.000
     8.96      9.28  1390.28  1390.28      0.00  1391.28      1.00      1.77      0.02  1388.00
   29000.     5917.    19417.     3666.     1583.     2047.     1174.    218.60      109.  1388.00
     0.07      3.74      9.49      3.12     0.045     0.035     0.045     0.000   1381.00  1085.00
0.005208      275.      400.      410.        20        10         0      0.00   2490.00  3575.00

*SECNO 9.050

3470 ENCROACHMENT STATIONS=    1370.0    3415.0  TYPE=     1  TARGET=    2045.000
     9.05     10.44  1392.44      0.00      0.00  1392.98      0.54      1.65      0.05  1388.00
   29000.     7078.    13542.     8381.     1876.     1724.     2943.    276.17      131.  1390.00
     0.10      3.77      7.86      2.85     0.045     0.035     0.045     0.000   1382.00  1370.00
0.002426      410.      550.      370.         2         0         0      0.00   2045.00  3415.00

*SECNO 9.115

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=       0.0    3465.0  TYPE=     1  TARGET=    3464.999
     9.11      7.20  1393.70  1393.70      0.00  1394.75      1.06      1.33      0.16  1392.00
   29000.      336.    20973.     7691.      137.     2231.     1978.    317.99      145.  1392.00
     0.11      2.45      9.40      3.89     0.045     0.035     0.045     0.000   1386.50  1628.67
0.006854      350.      370.      300.         3        18         0      0.00   1836.33  3465.00

*SECNO 9.210

3470 ENCROACHMENT STATIONS=    1385.0    2950.0  TYPE=     1  TARGET=    1565.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.21      8.33  1396.83      0.00      0.00  1397.77      0.94      3.01      0.01  1394.00
   29000.     3206.    18442.     7352.      899.     1992.     1724.    373.80      165.  1394.00
     0.13      3.56      9.26      4.27     0.045     0.035     0.040     0.000   1388.50  1385.00
0.004247      460.      600.      500.         2         0         0      0.00   1565.00  2950.00
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 9.310
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1110.0     2560.0  TYPE=     1  TARGET=     1450.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.31      8.55  1400.55  1400.55      0.00  1401.97      1.42      2.65      0.14  1398.00
   29000.      5402.  17325.     6273.     1505.     1457.     1390.    427.72      181.  1396.00
     0.15      3.59     11.89     4.51     0.045     0.035     0.050     0.000   1392.00  1110.00
 0.005045      400.      650.     480.        20         8         0      0.00   1450.00  2560.00

1490 NH CARD USED
*SECNO 9.400
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      980.0     2400.0  TYPE=     1  TARGET=     1420.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.40      9.03  1403.03  1403.03      0.00  1404.45      1.42      2.39      0.00  1402.00
   29000.      7189.  20194.     1617.     1677.     1817.      416.   469.11      195.  1400.00
     0.16      4.29     11.11     3.89     0.040     0.035     0.044     0.000   1394.00   980.00
 0.005171      370.      510.     420.         2         8         0      0.00   1420.00  2400.00

1490 NH CARD USED
*SECNO 9.480

3301 HV CHANGED MORE THAN HVINS

          RM 9.48 TO 11.2 MODIFIED

     9.48      8.28  1405.28     0.00      0.00  1407.23      1.95      2.62      0.16  1397.00
   29000.      2343.  26391.      266.      159.     2432.      30.   502.95      204.  1401.40
     0.17     14.72     10.85     8.84     0.020     0.035     0.020     0.000   1397.00  1961.56
 0.006087      370.      490.     420.         2         0         0      0.00    463.96  2425.52
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       FLMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 9.580

          BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
          AT 2 TO 1.

     9.58      8.95   1407.95      0.00      0.00   1409.70      1.75      2.45      0.02   1399.00
   29000.      2153.    26092.      755.      154.     2536.       71.    530.55      209.   1402.00
     0.19     13.97     10.29     10.66     0.020     0.035     0.020     0.000   1399.00   1965.57
 0.005006      390.      450.      460.         2         0         0      0.00    458.24   2423.81

1490 NH CARD USED
*SECNO 9.670
     9.67     10.15   1410.15      0.00      0.00   1411.54      1.39      1.80      0.04   1402.00
   29000.      1264.    27483.      253.      111.     2932.       34.    558.21      213.   1406.00
     0.20     11.41      9.37      7.34     0.020     0.035     0.020     0.000   1400.00   1912.82
 0.003835      470.      410.      420.         2         0         0      0.00    478.79   2391.61

1490 NH CARD USED
*SECNO 9.750

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     9.75     11.03   1413.03   1413.03      0.00   1416.10      3.07      2.15      0.51   1410.00
   29000.       174.    28816.       10.       18.     2044.        2.    580.10      216.   1412.00
     0.21      9.48     14.10      4.61     0.020     0.035     0.020     0.000   1402.00   1887.89
 0.009745      390.      370.      410.        20         8         0      0.00    346.22   2234.11

1490 NH CARD USED
*SECNO 9.840

3301 HV CHANGED MORE THAN HVINS

     9.84     14.56   1416.56      0.00      0.00   1417.28      0.72      0.94      0.24   1406.00
   29000.      1444.    25114.     2442.      223.     3737.      315.    615.12      220.   1404.00
     0.23      6.48      6.72      7.75     0.020     0.035     0.020     0.000   1402.00   1832.79
 0.000810      500.      480.      490.         2         0         0      0.00    377.42   2210.21
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA     LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WIN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

1490 NH CARD USED
*SECNO 9.940
     9.94       9.95    1416.95       0.00       0.00    1417.92       0.97       0.56       0.07    1407.00
   29000.      1671.      25657.      1671.       198.       3283.       198.     661.87       225.    1407.00
     0.24       8.44       7.82       8.44      0.020      0.035      0.020      0.000    1407.00    1785.21
 0.001583       430.       520.       470.          3          0          0       0.00     409.59    2194.79

1490 NH CARD USED
*SECNO 10.040

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.04       5.93    1418.93    1418.93       0.00    1421.74       2.82       1.97       0.55    1413.00
   29000.       823.      27259.       918.        66.       2015.        73.    698.02       230.    1413.00
     0.25      12.49      13.52      12.54      0.030      0.045      0.030      0.000    1413.00    1927.77
 0.015634       540.       540.       540.         20         14          0       0.00     386.93    2314.70

1490 NH CARD USED
*SECNO 10.120

3301 HV CHANGED MORE THAN HVINS

    10.12       8.58    1422.58       0.00       0.00    1423.48       0.90       1.54       0.19    1414.00
   29000.      1154.      26572.      1274.       142.       3519.       156.    724.34       234.    1414.00
     0.27       8.15       7.55       8.18      0.020      0.035      0.020      0.000    1414.00    1791.99
 0.001800       450.       380.       420.          3          0          0       0.00     479.32    2271.31

1490 NH CARD USED
*SECNO 10.210

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.21       8.01    1423.51    1423.51       0.00    1426.04       2.53       1.63       0.49    1424.00
   29000.          0.      28964.       36.          0.      2267.        6.    755.90       239.    1422.00
     0.28       0.00      12.78       6.25      0.000      0.035      0.020      0.000    1415.50    1817.36
 0.010573       490.       450.       475.         20         11          0       0.00     460.18    2277.55
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

1490 NH CARD USED
*SECNO 10.300
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.30      5.97   1427.97   1427.97      0.00   1430.59      2.62      4.46      0.03   1423.00
    29000.     650.    27700.     650.       49.     2133.      49.    778.67      243.   1423.00
     0.29     13.16     12.99     13.16     0.020     0.035     0.020     0.000   1422.00   1790.13
 0.009712     460.      440.      450.         3        15         0      0.00    429.75   2219.87

1490 NH CARD USED
*SECNO 10.350

3301 HV CHANGED MORE THAN HVINS

    10.35      6.86   1431.06      0.00      0.00   1432.10      1.05      1.36      0.16   1435.00
    29000.       0.    29000.        0.        0.     3533.        0.    793.90      246.   1435.00
     0.30      0.00      8.21      0.00     0.000     0.027     0.000     0.000   1424.20    677.96
 0.003951     240.      230.      235.         3         0         0      0.00    697.08   1375.04

1490 NH CARD USED
*SECNO 10.400
    10.40      8.95   1431.95      0.00      0.00   1432.93      0.98      0.82      0.01   1426.00
    29000.     406.    28189.     406.       71.     3523.      71.    812.91      249.   1426.00
     0.30      5.71      8.00      5.71     0.030     0.045     0.030     0.000   1423.00   1776.17
 0.003233     240.      230.      235.         2         0         0      0.00    447.65   2223.83

1490 NH CARD USED
*SECNO 10.490

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.49      8.13   1435.13   1435.13      0.00   1437.80      2.67      2.50      0.51   1434.00
    29000.       13.    28974.       13.        3.     2208.       3.    844.56      254.   1434.00
     0.31      5.06     13.12      5.06     0.020     0.035     0.020     0.000   1427.00   1869.48
 0.010365     420.      470.      450.        20        11         0      0.00    426.03   2295.52
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     FG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VHL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       FLMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CURAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 10.620

3301 HV CHANGED MORE THAN HVINS

   10.62     10.22   1439.72      0.00      0.00   1441.47      1.75      3.57      0.09   1436.00
  29000.      193.    28615.      193.       28.     2689.       28.    878.14      259.   1436.00
    0.33      6.94     10.64      6.94     0.020     0.035     0.020     0.000   1429.50   1811.10
0.003968      605.      590.      600.         3         0         0      0.00    367.79   2178.90

1490 NH CARD USED
*SECNO 10.700

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   10.70     10.71   1441.71   1441.71      0.00   1444.71      3.00      2.26      0.38   1440.00
  29000.       38.    28661.      301.        6.     2057.       28.    899.25      263.   1438.00
    0.34      6.52     13.93     10.91     0.020     0.035     0.020     0.000   1431.00   1831.14
0.009837      405.      380.      390.         5         8         0      0.00    362.71   2193.86

1490 NH CARD USED
*SECNO 10.830

3301 HV CHANGED MORE THAN HVINS

   10.83      9.24   1446.24      0.00      0.00   1447.30      1.06      2.40      0.19   1437.00
  29000.     1513.    25974.     1513.       171.     3171.      171.    941.05      268.   1437.00
    0.36      8.85      8.19      8.85     0.020     0.035     0.020     0.000   1437.00   1779.02
0.001917      645.      650.      650.         3         0         0      0.00    416.97   2195.98

1490 NH CARD USED
*SECNO 10.930

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

   10.93      5.11   1448.11   1448.11      0.00   1450.58      2.46      1.85      0.42   1443.00
   29000.     709.    27583.     709.       52.     2198.       52.    974.43      273.   1443.00
    0.37     13.56     12.55     13.56     0.020     0.035     0.020     0.000   1443.00   1779.55
0.009918      500.      500.      500.        20        11         0      0.00    470.90   2250.45

1490 NH CARD USED
*SECNO 11.040

3301 HV CHANGED MORE THAN HVINS

   11.04      6.40   1452.40      0.00      0.00   1454.13      1.73      3.48      0.07   1446.00
   29000.     928.    27143.     928.       82.     2583.       82.   1003.41      279.   1446.00
    0.38     11.35     10.51     11.35     0.020     0.035     0.020     0.000   1446.00   1672.42
0.005160      500.      500.      500.         2         0         0      0.00    455.15   2127.58

1490 NH CARD USED
*SECNO 11.100
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   11.10      6.07   1454.07   1454.07      0.00   1456.25      2.18      1.62      0.13   1460.00
   29000.       0.    29000.       0.        0.     2448.        0.   1015.29      281.   1460.00
    0.39      0.00     11.85      0.00     0.000     0.040     0.000     0.000   1448.00   1874.16
0.014643      200.      200.      155.         3        11         0      0.00    572.01   2446.17

1490 NH CARD USED
*SECNO 11.150

3301 HV CHANGED MORE THAN HVINS

   11.15     12.78   1457.78      0.00      0.00   1457.85      0.08      1.40      0.21   1460.00
   29000.       0.    29000.       0.        0.    13003.        0.   1263.59      325.   1460.00
    0.56      0.00      2.23      0.00     0.000     0.040     0.000     0.000   1445.00    472.34
0.000330      400.     1400.      300.         5         0         0      0.00   2163.18   2635.51

*SECNO 11.200

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

          EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES.  INVERT
          AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

    11.20     6.94  1458.94  1458.94      0.00  1462.28      3.34      1.06      0.98  1467.00
   29000.       0.   29000.       0.        0.     1977.        0.  1504.32      365.  1467.00
     0.59      0.00     14.67      0.00     0.000     0.020     0.000     0.000  1452.00  1850.62
 0.003182      300.     1400.      300.        20        11         0      0.00    298.76  2149.38

*SECNO 11.300

3301 HV CHANGED MORE THAN HVINS

    11.30     9.04  1461.54      0.00      0.00  1463.45      1.92      1.03      0.14  1469.00
   29000.       0.   29000.       0.        0.     2611.        0.  1532.12      368.  1469.50
     0.60      0.00     11.11      0.00     0.000     0.020     0.000     0.000  1452.50  1846.43
 0.001311      528.      528.      528.         3         0         0      0.00    307.13  2153.57

*SECNO 11.400

3301 HV CHANGED MORE THAN HVINS

    11.40     7.98  1461.98      0.00      0.00  1464.47      2.49      0.84      0.17  1471.50
   29000.       0.   29000.       0.        0.     2289.        0.  1561.82      372.  1472.00
     0.61      0.00     12.67      0.00     0.000     0.020     0.000     0.000  1454.00  1848.55
 0.001993      528.      528.      528.         3         0         0      0.00    302.91  2151.45
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  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
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T1      FLOODPLAIN STUDY - SKUNK CREEK
T2      SKUNK CREEK 100-YR. FLOOD
T3      SKUNK FLOODPLAIN 39000 CFS

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ
       0.      5.       0.       0.  0.000000     0.00     0.0      0.  1377.800   0.000

J2  NPROF     IPLOT    PREVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE
     5.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*PROF 5

CCHV=   0.100 CEHV=   0.300
*SECNO 8.690
3720 CRITICAL DEPTH ASSUMED

          DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
          SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE'S LEVEES
          ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
          (APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
          CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
          ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
          MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
          OBSERVATION (FEB. 1983)
          THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
          39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

     8.69      8.44   1378.24   1378.24   1377.80   1379.34      1.10      0.00      0.00   1376.00
    39000.    11672.    12169.    15159.     1888.      954.     3221.      0.00        0.   1376.00
     0.00      6.18     12.75      4.71     0.045     0.035     0.045     0.000   1369.80    771.16
 0.006999        0.        0.        0.         0         7         0      0.00   2828.69   3599.85

*SECNO 8.750

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     8.75     12.33   1383.33   1383.33      0.00   1384.43      1.10      4.03      0.00   1376.00
    39000.     8828.    20985.     9188.     1947.     1926.     3000.    113.54       53.   1380.00
     0.03      4.53     10.90      3.06     0.045     0.035     0.045     0.000   1371.00    717.27
 0.004132      835.      739.      733.         2        11         0      0.00   3210.77   3963.08

*SECNO 8.890
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     870.0     3730.0  TYPE=     1  TARGET=     2860.000
     8.89     10.06   1388.06   1388.06      0.00   1389.09      1.04      3.29      0.01   1384.00
    39000.     9384.    22673.     6944.     2317.     2209.     2266.    220.35       98.   1384.00
     0.06      4.05     10.27      3.06     0.045     0.035     0.045     0.000   1378.00    870.00
 0.004833      565.      840.      650.         3        14         0      0.00   2860.00   3730.00
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 8.965
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    1085.0    3575.0  TYPE=     1  TARGET=    2490.000
     8.96      9.85   1390.85   1390.85      0.00   1391.91      1.06      1.88      0.01   1388.00
   39000.     9151.    23074.    6775.     2074.     2259.     1878.    274.22      120.   1388.00
     0.07      4.41     10.22     3.61     0.045     0.035     0.045     0.000   1381.00   1085.00
 0.005296      275.      400.     410.         2         6         0      0.00   2490.00   3575.00

*SECNO 9.050

3470 ENCROACHMENT STATIONS=    1370.0    3415.0  TYPE=     1  TARGET=    2045.000
     9.05     11.05   1393.05      0.00      0.00   1393.68      0.63      1.72      0.04   1388.00
   39000.     9703.    16281.   13016.     2202.     1867.     3720.    344.16      141.   1390.00
     0.09      4.41      8.72     3.50     0.045     0.035     0.045     0.000   1382.00   1370.00
 0.002687      410.      550.     370.         2         0         0      0.00   2045.00   3415.00

*SECNO 9.115

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=       0.0    3465.0  TYPE=     1  TARGET=    3464.999
     9.11      7.80   1394.30   1394.30      0.00   1395.45      1.15      1.38      0.16   1392.00
   39000.      808.    25630.   12562.      268.     2538.     2678.    394.82      156.   1392.00
     0.10      3.02     10.10     4.69     0.045     0.035     0.045     0.000   1386.50   1459.41
 0.006664      350.      370.     300.         3        14         0      0.00   2005.58   3465.00

*SECNO 9.210

3470 ENCROACHMENT STATIONS=    1385.0    2950.0  TYPE=     1  TARGET=    1565.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.21      8.93   1397.43      0.00      0.00   1398.55      1.12      3.09      0.00   1394.00
   39000.     5141.    22574.   11285.     1187.     2186.     2178.    462.91      177.   1394.00
     0.12      4.33     10.33     5.18     0.045     0.035     0.040     0.000   1388.50   1385.00
 0.004665      460.      600.     500.         2         0         0      0.00   1565.00   2950.00
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 9.310

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    1110.0    2560.0  TYPE=     1  TARGET=    1450.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.31      9.18  1401.18  1401.18      0.00  1402.81      1.63      2.87      0.15  1398.00
   39000.     9211.   20823.    8965.     2017.    1572.     1667.    526.85      194.  1396.00
     0.14      4.57     13.24     5.38     0.045    0.035     0.050     0.000   1392.00  1110.00
 0.005654      400.      650.      480.        20        8         0      0.00   1450.00  2560.00

1490 NH CARD USED
*SECNO 9.400

3470 ENCROACHMENT STATIONS=     980.0    2400.0  TYPE=     1  TARGET=    1420.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

     9.40      9.79  1403.79      0.00      0.00  1405.29      1.50      2.47      0.01  1402.00
   39000.    12396.   23909.    2695.     2403.    2014.      567.    577.38      207.  1400.00
     0.15      5.16     11.87     4.75     0.040    0.035     0.044     0.000   1394.00   980.00
 0.005146      370.      510.      420.         2        0         0      0.00   1420.00  2400.00

1490 NH CARD USED
*SECNO 9.480

3301 HV CHANGED MORE THAN HVINS

          RM 9.48 TO 11.2 MODIFIED

     9.48      8.76  1405.76  1405.72      0.00  1408.74      2.98      3.00      0.45  1397.00
   39000.     3205.   35367.     428.     178.    2629.       38.    617.38      216.  1401.40
     0.16     17.99     13.45    11.24     0.020    0.035     0.020     0.000   1397.00  1959.32
 0.008424      370.      490.      420.         4       11         0      0.00    468.13  2427.45
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 9.580

3301 HV CHANGED MORE THAN HVINS

          BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
          AT 2 TO 1.

     9.58     10.45   1409.45      0.00      0.00   1411.46      2.01      2.63      0.10   1399.00
    39000.     3036.     34680.     1283.      210.     3137.      111.    649.69      221.   1402.00
     0.17     14.45     11.06     11.55     0.020     0.035     0.020     0.000   1399.00   1959.79
 0.004353      390.      450.      460.         3         0         0      0.00    470.02   2429.82

1490 NH CARD USED
*SECNO 9.670
     9.67     11.44   1411.44      0.00      0.00   1413.17      1.74      1.68      0.03   1402.00
    39000.     1860.     36622.      517.      148.     3490.       59.    683.63      226.   1406.00
     0.18     12.54     10.49      8.75     0.020     0.035     0.020     0.000   1400.00   1908.55
 0.003809      470.      410.      420.         3         0         0      0.00    488.20   2396.74

1490 NH CARD USED
*SECNO 9.750

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     9.75     12.40   1414.40   1414.40      0.00   1418.06      3.66      2.07      0.58   1410.00
    39000.      450.     38461.      89.       39.     2497.       12.    710.22      229.   1412.00
     0.19     11.63     15.40      7.76     0.020     0.035     0.020     0.000   1402.00   1882.40
 0.008913      390.      370.      410.        20         8         0      0.00    357.19   2239.60

1490 NH CARD USED
*SECNO 9.840

3301 HV CHANGED MORE THAN HVINS

     9.84     16.36   1418.36      0.00      0.00   1419.32      0.96      1.00      0.27   1406.00
    39000.     2457.     32776.     3767.      306.     4253.      412.    751.77      233.   1404.00
     0.21      8.04      7.71      9.13     0.020     0.035     0.020     0.000   1402.00   1825.56
 0.000897      500.      480.      490.         2         0         0      0.00    391.88   2217.44
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SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 9.940
     9.94     11.78   1418.78      0.00      0.00   1419.98      1.21      0.59      0.07   1407.00
   39000.     2783.     33434.    2783.      277.     3886.      277.    806.95      238.   1407.00
     0.22     10.03      8.60     10.03     0.020     0.035     0.020     0.000   1407.00   1777.90
 0.001532      430.      520.      470.         3         0         0      0.00    424.21   2202.10

1490 NH CARD USED
*SECNO 10.040

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.04      7.18   1420.18   1420.18      0.00   1423.56      3.37      1.89      0.65   1413.00
   39000.     1324.     36198.    1478.       97.     2443.      108.    850.88      243.   1413.00
     0.23     13.69      14.82    13.74     0.030     0.045     0.030     0.000   1413.00   1923.06
 0.014525      540.      540.      540.        20        14         0      0.00    396.88   2319.93

1490 NH CARD USED
*SECNO 10.120

3301 HV CHANGED MORE THAN HVINS

    10.12     10.17   1424.17      0.00      0.00   1425.29      1.12      1.51      0.23   1414.00
   39000.     1811.     35190.    1999.      199.     4170.      219.    882.82      247.   1414.00
     0.25      9.10      8.44      9.14     0.020     0.035     0.020     0.000   1414.00   1785.88
 0.001792      450.      380.      420.         3         0         0      0.00    492.15   2278.03

1490 NH CARD USED
*SECNO 10.210

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.21      9.14   1424.64   1424.64      0.00   1427.65      3.01      1.59      0.57   1424.00
   39000.        5.     38842.     153.        2.     2788.       17.    921.18      252.   1422.00
     0.25      3.43      13.93     8.73     0.020     0.035     0.020     0.000   1415.50   1805.17
 0.009758      490.      450.      475.         5        11         0      0.00    478.05   2283.22
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 10.300
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   10.30      7.13   1429.13   1429.13      0.00   1432.29      3.16      4.13      0.05   1423.00
   39000.     1096.   36807.     1096.      75.     2585.      75.    949.19       257.   1423.00
    0.26     14.60     14.24     14.60     0.020     0.035     0.020     0.000   1422.00   1785.49
0.009034      460.      440.      450.         2        15         0      0.00    439.02   2224.51

1490 NH CARD USED
*SECNO 10.350

3301 HV CHANGED MORE THAN HVINS

   10.35      8.36   1432.56      0.00      0.00   1433.65      1.09      1.16      0.21   1435.00
   39000.        0.   39000.        0.        0.     4660.        0.    968.73       260.   1435.00
    0.27      0.00      8.37      0.00     0.000     0.027     0.000     0.000   1424.20    625.33
0.003205      240.      230.      235.         3         0         0      0.00    802.33   1427.67

1490 NH CARD USED
*SECNO 10.400
   10.40     10.18   1433.18      0.00      0.00   1434.52      1.34      0.79      0.07   1426.00
   39000.      717.   37566.      717.      103.     4015.      103.    992.20       263.   1426.00
    0.28      6.94      9.36      6.94     0.030     0.045     0.030     0.000   1423.00   1771.25
0.003712      240.      230.      235.         2         0         0      0.00    457.50   2228.75

1490 NH CARD USED
*SECNO 10.490

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   10.49      9.31   1436.31   1436.31      0.00   1439.51      3.21      2.64      0.56   1434.00
   39000.       83.   38834.       83.       11.     2699.       11.   1029.56       268.   1434.00
    0.29      7.82     14.39      7.82     0.020     0.035     0.020     0.000   1427.00   1864.78
0.009537      420.      470.      450.        20        11         0      0.00    435.45   2300.22
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 10.620

3301 HV CHANGED MORE THAN HVINS

   10.62     11.45   1440.95      0.00      0.00   1443.27      2.32      3.67      0.09   1436.00
  39000.      431.     38138.      431.      49.     3102.       49.   1069.66       274.   1436.00
    0.30      8.81     12.30      8.81     0.020     0.035     0.020     0.000   1429.50   1806.22
0.004378      605.      590.      600.         2         0         0      0.00    377.57   2183.78

1490 NH CARD USED
*SECNO 10.700

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   10.70     12.04   1443.04   1443.04      0.00   1446.61      3.57      2.31      0.37   1440.00
  39000.      169.     38181.      650.      18.     2510.       51.   1094.90       277.   1438.00
    0.31      9.13     15.21     12.79     0.020     0.035     0.020     0.000   1431.00   1825.84
0.009001      405.      380.      390.         4         8         0      0.00    373.32   2199.16

1490 NH CARD USED
*SECNO 10.830

3301 HV CHANGED MORE THAN HVINS

   10.83     10.85   1447.85      0.00      0.00   1449.20      1.35      2.37      0.22   1437.00
  39000.     2346.     34309.     2346.     236.     3722.      236.   1145.41       283.   1437.00
    0.33      9.96      9.22      9.96     0.020     0.035     0.020     0.000   1437.00   1772.59
0.001961      645.      650.      650.         3         0         0      0.00    429.82   2202.41

1490 NH CARD USED
*SECNO 10.930

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
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SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       FLMIN     SSTA
SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

    10.93      6.22   1449.22   1449.22      0.00   1452.17      2.96      1.83      0.48   1443.00
    39000.     1146.    36707.     1146.     77.     2673.     77.   1185.71     288.   1443.00
     0.34     14.84     13.73     14.84     0.020     0.035     0.020     0.000   1443.00   1775.14
 0.009156     500.      500.      500.        20        11         0      0.00    479.72   2254.86

1490 NH CARD USED
*SECNO 11.040

3301 HV CHANGED MORE THAN HVINS

    11.04      7.46   1453.46      0.00      0.00   1455.72      2.26      3.48      0.07   1446.00
    39000.     1442.    36117.     1442.    111.     3015.    111.   1220.52     294.   1446.00
     0.35     12.94     11.98     12.94     0.020     0.035     0.020     0.000   1446.00   1668.14
 0.005455     500.      500.      500.         2         0         0      0.00    463.71   2131.86

1490 NH CARD USED
*SECNO 11.100
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    11.10      7.07   1455.07   1455.07      0.00   1457.63      2.56      1.64      0.09   1460.00
    39000.        0.    39000.        0.       0.     3035.       0.   1234.86     296.   1460.00
     0.35      0.00     12.85      0.00     0.000     0.040     0.000     0.000   1448.00   1861.67
 0.013855     200.      200.      155.         2        11         0      0.00    601.99   2463.66

1490 NH CARD USED
*SECNO 11.150

3301 HV CHANGED MORE THAN HVINS

    11.15     14.12   1459.12      0.00      0.00   1459.21      0.09      1.34      0.25   1460.00
    39000.        0.    39000.        0.       0.    15990.       0.   1540.60     342.   1460.00
     0.51      0.00      2.44      0.00     0.000     0.020     0.000     0.000   1445.00    398.11
 0.000316     400.     1400.      300.         4         0         0      0.00   2264.39   2662.50

*SECNO 11.200

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     TTRIAL    TOC       TCONT     CORAR     TOPWID    ENDST

3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

          EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES.  INVERT
          AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

    11.20      8.42   1460.42   1460.42      0.00   1464.44      4.02      1.01      1.18   1467.00
   39000.        0.     39000.        0.        0.     2424.        0.   1836.51      383.   1467.00
     0.54      0.00     16.09      0.00     0.000     0.020     0.000     0.000   1452.00   1847.66
 0.003005      300.      1400.      300.        20        14         0      0.00    304.68   2152.34

*SECNO 11.300

3301 HV CHANGED MORE THAN HVINS

    11.30     10.71   1463.21      0.00      0.00   1465.62      2.41      1.02      0.16   1469.00
   39000.        0.     39000.        0.        0.     3128.        0.   1870.15      387.   1469.50
     0.55      0.00     12.47      0.00     0.000     0.020     0.000     0.000   1452.50   1843.11
 0.001341      528.       528.      528.         3         0         0      0.00    313.79   2156.89

*SECNO 11.400

3301 HV CHANGED MORE THAN HVINS

    11.40      9.61   1463.61      0.00      0.00   1466.65      3.03      0.84      0.19   1471.50
   39000.        0.     39000.        0.        0.     2790.        0.   1906.01      391.   1472.00
     0.56      0.00     13.98      0.00     0.000     0.020     0.000     0.000   1454.00   1845.27
 0.001923      528.       528.      528.         3         0         0      0.00    309.45   2154.73
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  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
**************************************************

T1      FLOODPLAIN STUDY - SKUNK CREEK
T2      SKUNK CREEK 500-YR. FLOOD
T3      SKUNK FLOODPLAIN 85000 CFS

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

       0.       6.       0.       0.  0.000000     0.00     0.0       0.  1377.800    0.000

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    15.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*PROF 6

CCHV=   0.100 CEHV=   0.300
*SECNO 8.690
3720 CRITICAL DEPTH ASSUMED

          DURING MAJOR FLOODS, SKUNK CREEK IS EXPECTED TO FLOW OVER THE OVER-
          SHOOT OF THE CAP AT THE UPSTREAM END OF THE COE'S LEVEES
          ALL CROSSECTIONS WERE RECODED BY JIM HARRIS, HYDRAULICS SECTION
          (APRIL 1983).  THE PREVIOUS ONES WERE FOUND TO BE UNSATISFACTORY.
          CHANNEL CENTERLINE CORRESPONDS TO 2000 FEET.
          ALL MANNINGS "N" VALUES USED WERE OBTAINED FROM THE PREVIOUS
          MODEL AS ASSIGNED BY CASKIE AND MASHBURN BASED ON FIELD
          OBSERVATION (FEB. 1983)
          THE VALUES FOR THE 10, 50, 100, AND 500 YEAR FLOODS ARE 15,000,29000,
          39,000, AND 85,000 CFS RESPECTIVELY (PER GRIGORIAN 5/23/83)

     8.69      9.89  1379.69  1379.69  1377.80  1381.16      1.47      0.00      0.00  1376.00
   85000.    27600.   18399.   39001.    3830.    1156.     5542.      0.00        0.  1376.00
     0.00      7.21     15.92     7.04    0.045    0.035     0.045     0.000   1369.80   508.09
 0.008450        0.        0.       0        0       10         0      0.00   3330.93  3839.01

*SECNO 8.750
     8.75     13.83  1384.83     0.00     0.00  1386.25      1.42      5.09      0.00  1376.00
   85000.    22285.   31854.   30861.    3811.    2286.     6012.    199.65       62.  1380.00
     0.02      5.85     13.93     5.13    0.045    0.035     0.045     0.000   1371.00   472.54
 0.005376      835.      739.      733.        2        0         0      0.00   3635.72  4108.27

*SECNO 8.890
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     870.0     3730.0  TYPE=     1  TARGET=     2860.000
     8.89     11.55  1389.55  1389.55     0.00  1391.04      1.48      4.04      0.02  1384.00
   85000.    24369.   36210.   24421.    3861.    2719.     4500.    376.10      109.  1384.00
     0.05      6.31     13.32     5.43    0.045    0.035     0.045     0.000   1378.00   870.00
 0.006169      565.      840.      650.        2       10         0      0.00   2860.00  3730.00

*SECNO 8.965
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3280 CROSS SECTION      8.96 EXTENDED      0.41 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    1085.0    3575.0  TYPE=     1  TARGET=    2490.000
     8.96     11.41  1392.41  1392.41      0.00  1394.06      1.65      2.39      0.05  1388.00
    85000.   23609.   38584.   22807.     3429.     2843.    3817.    463.79       131.  1388.00
     0.06      6.88     13.57     5.98     0.045     0.035     0.045     0.000   1381.00  1085.00
 0.006878      275.      400.     410.         2         6         0      0.00   2490.00  3575.00

*SECNO 9.050
3280 CROSS SECTION      9.05 EXTENDED      1.19 FEET

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=    1370.0    3415.0  TYPE=     1  TARGET=    2045.000
     9.05     13.19  1395.19     0.00      0.00  1396.21      1.02      2.09      0.06  1388.00
    85000.   21653.   27055.   36292.     3349.     2371.    6453.   572.22       153.  1390.00
     0.07      6.47     11.41     5.62     0.045     0.035     0.045     0.000   1382.00  1370.00
 0.003347      410.      550.     370.         2         0         0      0.00   2045.00  3415.00

*SECNO 9.115

3470 ENCROACHMENT STATIONS=       0.0    3465.0  TYPE=     1  TARGET=    3464.999
     9.11      9.87  1396.37     0.00      0.00  1397.80      1.43      1.46      0.12  1392.00
    85000.    7690.   42950.   34360.     1943.     3596.    5097.   658.59       171.  1392.00
     0.08      3.96     11.94     6.74     0.045     0.035     0.045     0.000   1386.50   608.45
 0.005853      350.      370.     300.         3         0         0      0.00   2856.55  3465.00

*SECNO 9.210

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=    1385.0    2950.0  TYPE=     1  TARGET=    1565.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
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          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.21    10.79  1399.29     0.00     0.00  1401.30     2.01     3.33     0.18  1394.00
    85000.    14883.   39856.   30260.    2085.    2794.    3601.   773.79     197.  1394.00
      0.10     7.14    14.26     8.40    0.045    0.035    0.040    0.000  1388.50  1385.00
  0.006416     460.     600.     500.        2        0        0     0.00  1565.00  2950.00


1490 NH CARD USED
*SECNO 9.310
3280 CROSS SECTION      9.31 EXTENDED      1.29 FEET


3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    1110.0    2560.0  TYPE=     1  TARGET=    1450.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.31    11.29  1403.29  1403.29     0.00  1405.80     2.51     3.66     0.15  1398.00
    85000.    29212.   34380.   21409.    3747.    1963.    2606.   870.26     213.  1396.00
      0.11     7.80    17.51     8.21    0.045    0.035    0.050    0.000  1392.00  1110.00
  0.007358     400.     650.     480.        3        8        0     0.00  1450.00  2560.00


1490 NH CARD USED
*SECNO 9.400

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     980.0    2400.0  TYPE=     1  TARGET=    1420.000

          LEVEE, COMPOSED OF UNCOMPACTED SANDS, ASSUMED TO WASHOUT.
          X3 USED TO DEFINE EFFECTIVE FLOW.

      9.40    12.57  1406.57     0.00     0.00  1408.39     1.82     2.52     0.07  1402.00
    85000.    39247.   37817.    7936.    5081.    2739.    1125.   953.27     226.  1400.00
      0.12     7.72    13.81     7.06    0.040    0.035    0.044    0.000  1394.00   980.00
  0.004618     370.     510.     420.        2        0        0     0.00  1420.00  2400.00


1490 NH CARD USED
*SECNO 9.480
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

          RM 9.48 TO 11.2 MODIFIED

     9.48     12.88   1409.88   1409.88      0.00   1414.72      4.84      2.57      0.91   1397.00
    85000.     8245.    74437.     2318.      385.     4317.      144.   1022.29      236.   1401.40
     0.13     21.41     17.24     16.12     0.020     0.035     0.020     0.000   1397.00   1940.21
 0.007146      370.      490.      420.        20         8         0      0.00    503.71   2443.91

1490 NH CARD USED
*SECNO 9.580
3280 CROSS SECTION      9.58 EXTENDED      1.48 FEET


3301 HV CHANGED MORE THAN HVINS

          BELOW THE LANDFILL, RM 9.6, EFFECTIVE FLOW IS ASSUMED TO EXPAND
          AT 2 TO 1.

     9.58     14.48   1413.48      0.00      0.00   1417.39      3.91      2.58      0.09   1399.00
    85000.     7881.    72676.     4443.      399.     4749.      259.   1074.75      241.   1402.00
     0.14     19.74     15.30     17.13     0.020     0.035     0.020     0.000   1399.00   1950.00
 0.004798      390.      450.      460.         3         0         0      0.00    490.00   2440.00

1490 NH CARD USED
*SECNO 9.670

3301 HV CHANGED MORE THAN HVINS

     9.67     16.15   1416.15      0.00      0.00   1419.20      3.05      1.72      0.09   1402.00
    85000.     5332.    76981.     2687.      334.     5541.      206.   1129.37      246.   1406.00
     0.14     15.98     13.89     13.04     0.020     0.035     0.020     0.000   1400.00   1892.83
 0.003605      470.      410.      420.         2         0         0      0.00    522.77   2415.60
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 9.750

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     9.75     17.48   1419.48   1419.48      0.00   1425.14      5.65      1.82      0.78   1410.00
    85000.     3093.    80263.     1644.      180.     4175.      112.   1174.43      249.   1412.00
     0.15     17.19     19.23     14.68     0.020     0.035     0.020     0.000   1402.00   1862.06
 0.006995      390.      370.      410.        20         8         0      0.00    397.87   2259.94

1490 NH CARD USED
*SECNO 9.840
3280 CROSS SECTION      9.84 EXTENDED      5.54 FEET

3301 HV CHANGED MORE THAN HVINS

     9.84     22.54   1424.54      0.00      0.00   1426.61      2.06      1.11      0.36   1406.00
    85000.     8437.    65710.    10853.      663.     6015.      783.   1240.44      254.   1404.00
     0.16     12.73     10.92     13.87     0.020     0.035     0.020     0.000   1402.00   1815.00
 0.001135      500.      480.      490.         3         0         0      0.00    405.00   2220.00

1490 NH CARD USED
*SECNO 9.940
     9.94     18.13   1425.13      0.00      0.00   1427.28      2.16      0.65      0.03   1407.00
    85000.     9055.    66891.     9055.      657.     5982.      657.   1326.32      259.   1407.00
     0.17     13.78     11.18     13.78     0.020     0.035     0.020     0.000   1407.00   1752.50
 0.001457      430.      520.      470.         3         0         0      0.00    475.01   2227.50

1490 NH CARD USED
*SECNO 10.040

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.04     11.88   1424.88   1424.88      0.00   1430.20      5.31      1.72      0.95   1413.00
    85000.     4561.    75350.     5089.      265.     4041.      294.   1400.06      265.   1413.00
     0.18     17.22     18.65     17.29     0.030     0.045     0.030     0.000   1413.00   1905.43
 0.011756      540.      540.      540.         4        14         0      0.00    434.09   2339.52
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

1490 NH CARD USED
*SECNO 10.120
3280 CROSS SECTION      10.12 EXTENDED      2.90 FEET

3301 HV CHANGED MORE THAN HVINS

   10.12     15.90   1429.90      0.00      0.00   1431.91      2.01      1.38      0.33   1414.00
   85000.    6057.   72236.     6707.      470.    6519.      517.   1453.82      269.   1414.00
    0.19     12.89     11.08     12.97     0.020     0.035     0.020     0.000   1414.00   1775.00
0.001703      450.      380.      420.         2         0         0      0.00    515.00   2290.00

1490 NH CARD USED
*SECNO 10.210

3301 HV CHANGED MORE THAN HVINS

   10.21     14.48   1429.98      0.00      0.00   1433.67      3.69      1.25      0.50   1424.00
   85000.    1483.   81396.     2120.      134.    5240.      159.   1521.64      274.   1422.00
    0.20     11.08     15.53     13.33     0.020     0.035     0.020     0.000   1415.50   1765.18
0.005227      490.      450.      475.         4         0         0      0.00    544.69   2309.88

1490 NH CARD USED
*SECNO 10.300
3280 CROSS SECTION      10.30 EXTENDED      0.41 FEET

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   10.30     11.41   1433.41   1433.41      0.00   1438.52      5.11      2.73      0.43   1423.00
   85000.    4163.   76675.     4163.      216.    4255.      216.   1573.39      280.   1423.00
    0.21     19.23     18.02     19.23     0.020     0.035     0.020     0.000   1422.00   1770.00
0.007442      460.      440.      450.        20        15         0      0.00    470.00   2240.00

1490 NH CARD USED
*SECNO 10.350
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3280 CROSS SECTION      10.35 EXTENDED      3.46 FEET

3301 HV CHANGED MORE THAN HVINS

   10.35     14.26  1438.46      0.00      0.00  1439.54      1.08      0.61      0.40  1435.00
  85000.        0.    85000.        0.        0.    10188.        0.   1612.70      283.  1435.00
    0.21      0.00      8.34      0.00     0.000     0.029     0.000     0.000   1424.20   540.00
0.001355      240.      230.      235.         4         0         0      0.00    973.00  1513.00

1490 NH CARD USED
*SECNO 10.400
3280 CROSS SECTION      10.40 EXTENDED      1.82 FEET

3301 HV CHANGED MORE THAN HVINS

   10.40     14.82  1437.82      0.00      0.00  1440.56      2.74      0.52      0.50  1426.00
  85000.     3140.    78721.     3140.      273.     5869.      273.  1656.57      287.  1426.00
    0.22     11.51     13.41     11.51     0.030     0.045     0.030     0.000   1423.00  1760.00
0.004600      240.      230.      235.         3         0         0      0.00    480.00  2240.00

1490 NH CARD USED
*SECNO 10.490
3280 CROSS SECTION      10.49 EXTENDED      0.67 FEET

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   10.49     13.67  1440.67  1440.67      0.00  1445.78      5.10      2.74      0.71  1434.00
  85000.     1316.    82367.     1316.       88.     4520.       88.  1716.22      292.  1434.00
    0.23     14.93     18.22     14.93     0.020     0.035     0.020     0.000   1427.00  1850.00
0.007690      420.      470.      450.        20        11         0      0.00    465.00  2315.00

1490 NH CARD USED
*SECNO 10.620
   10.62     15.20  1444.70      0.00      0.00  1449.86      5.16      4.06      0.02  1436.00
  85000.     2314.    80372.     2314.      151.     4372.      151.  1779.75      298.  1436.00
    0.23     15.28     18.39     15.28     0.020     0.035     0.020     0.000   1429.50  1791.19
0.006194      605.      590.      600.         3         0         0      0.00    407.62  2198.81
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

1490 NH CARD USED
*SECNO 10.700
3280 CROSS SECTION      10.70 EXTENDED      0.90 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.70     16.90   1447.90   1447.90      0.00   1453.49      5.59      2.54      0.13   1440.00
    85000.    1998.    79371.     3631.      123.     4166.      194.   1819.81      302.   1438.00
     0.24     16.23     19.05     18.69     0.020     0.035     0.020     0.000   1431.00   1810.00
 0.007185      405.      380.      390.         5         8         0      0.00    405.00   2215.00

1490 NH CARD USED
*SECNO 10.830
3280 CROSS SECTION      10.83 EXTENDED      2.53 FEET

3301 HV CHANGED MORE THAN HVINS

    10.83     16.53   1453.53      0.00      0.00   1456.02      2.49      2.22      0.31   1437.00
    85000.    7589.    69822.     7589.      534.     5671.      534.   1903.50      308.   1437.00
     0.25     14.21     12.31     14.21     0.020     0.035     0.020     0.000   1437.00   1760.00
 0.001996      645.      650.      650.         2         0         0      0.00    455.00   2215.00

1490 NH CARD USED
*SECNO 10.930
3280 CROSS SECTION      10.93 EXTENDED      0.96 FEET

3301 HV CHANGED MORE THAN HVINS

    10.93     10.95   1453.95      0.00      0.00   1458.13      4.18      1.60      0.51   1443.00
    85000.    4343.    76315.     4343.      238.     4712.      238.   1971.96      314.   1443.00
     0.26     18.22     16.20     18.22     0.020     0.035     0.020     0.000   1443.00   1760.00
 0.005978      500.      500.      500.         3         0         0      0.00    510.00   2270.00

1490 NH CARD USED
*SECNO 11.040

3301 HV CHANGED MORE THAN HVINS
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
11.04	10.74	1456.74	1456.70	0.00	1461.62	4.87	3.28	0.21	1446.00
85000.	4381.	76238.	4381.	231.	4341.	231.	2029.30	319.	1446.00
0.27	18.98	17.56	18.98	0.020	0.035	0.020	0.000	1446.00	1655.02
0.007218	500.	500.	500.	5	8	0	0.00	489.95	2144.98

1490 NH CARD USED
*SECNO 11.100
3280 CROSS SECTION 11.10 EXTENDED 1.57 FEET

3301 HV CHANGED MORE THAN HVINS

11.10	13.58	1461.58	0.00	0.00	1462.87	1.29	0.89	0.36	1460.00
85000.	12291.	72367.	342.	2210.	7551.	63.	2062.72	326.	1460.00
0.28	5.56	9.58	5.43	0.020	0.040	0.020	0.000	1448.00	392.13
0.003066	200.	200.	155.	7	0	0	0.00	2197.87	2590.00

1490 NH CARD USED
*SECNO 11.150
3280 CROSS SECTION 11.15 EXTENDED 3.68 FEET

3301 HV CHANGED MORE THAN HVINS

11.15	18.68	1463.68	0.00	0.00	1463.84	0.16	0.85	0.11	1460.00
85000.	0.	84594.	406.	0.	26574.	147.	2621.97	382.	1460.00
0.39	0.00	3.18	2.76	0.000	0.020	0.020	0.000	1445.00	350.00
0.000272	400.	1400.	300.	3	0	0	0.00	2370.00	2720.00

*SECNO 11.200

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

EFFECTIVE FLOW ASSUMED TO EXPAND AT 1.5 TO 1 FROM COE LEVEES. INVERT AND SLOPE DETAILS FOR CORPS LEVEES TAKEN FROM AS BUILT PLANS.

FORM 1411-3 PRINTED IN U.S.A.

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
11.20	13.96	1465.96	1465.96	0.00	1472.40	6.44	0.87	1.89	1467.00
85000.	0.	85000.	0.	0.	4173.	0.	3116.56	425.	1467.00
0.41	0.00	20.37	0.00	0.000	0.020	0.000	0.000	1452.00	1836.58
0.002587	300.	1400.	300.	20	15	0	0.00	326.84	2163.42

*SECNO 11.300
3280 CROSS SECTION 11.30 EXTENDED 0.30 FEET

3301 HV CHANGED MORE THAN HVINS

11.30	16.80	1469.30	0.00	0.00	1473.59	4.29	0.97	0.22	1469.00
85000.	0.	85000.	0.	0.	5116.	0.	3172.86	429.	1469.50
0.42	0.00	16.61	0.00	0.000	0.020	0.000	0.000	1452.50	1831.50
0.001376	528.	528.	528.	4	0	0	0.00	337.59	2169.09

*SECNO 11.400

3301 HV CHANGED MORE THAN HVINS

11.40	15.59	1469.59	0.00	0.00	1474.64	5.06	0.82	0.23	1471.50
85000.	0.	85000.	0.	0.	4710.	0.	3232.41	433.	1472.00
0.43	0.00	18.05	0.00	0.000	0.020	0.000	0.000	1454.00	1833.32
0.001778	528.	528.	528.	3	0	0	0.00	333.35	2166.68

FORM 1411-3
PRINTED IN U.S.A.

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

RM 9.48 TO 11.2 MODIFI

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	8.690	0.00	0.00	0.00	1369.80	6800.00	1377.80	0.00	1377.85	3.44	2.70	4968.83	3667.90
	8.690	0.00	0.00	0.00	1369.80	6800.00	1377.80	0.00	1377.85	3.44	2.70	4968.83	3667.90
	8.690	0.00	0.00	0.00	1369.80	15000.00	1377.80	0.00	1378.06	16.72	5.96	4968.83	3667.90
	8.690	0.00	0.00	0.00	1369.80	29000.00	1377.80	0.00	1378.77	62.51	11.53	4968.83	3667.90
*	8.690	0.00	0.00	0.00	1369.80	39000.00	1378.24	1378.24	1379.34	69.99	12.75	6063.97	4661.75
*	8.690	0.00	0.00	0.00	1369.80	85000.00	1379.69	1379.69	1381.16	84.50	15.92	10528.06	9246.93
*	8.750	739.00	0.00	0.00	1371.00	6800.00	1378.24	1378.24	1379.61	112.66	9.46	743.33	640.64
*	8.750	739.00	0.00	0.00	1371.00	6800.00	1378.24	1378.24	1379.61	112.66	9.46	743.33	640.64
*	8.750	739.00	0.00	0.00	1371.00	15000.00	1380.25	1380.25	1381.99	82.80	11.16	1589.86	1648.45
*	8.750	739.00	0.00	0.00	1371.00	29000.00	1382.82	1382.82	1383.84	37.34	9.91	5292.10	4745.73
*	8.750	739.00	0.00	0.00	1371.00	39000.00	1383.33	1383.33	1384.43	41.32	10.90	6873.36	6067.22
	8.750	739.00	0.00	0.00	1371.00	85000.00	1384.83	0.00	1386.25	53.76	13.93	12109.99	11592.97
	8.890	840.00	0.00	0.00	1378.00	6800.00	1384.75	0.00	1385.34	44.86	6.16	1148.31	1015.23
	8.890	840.00	0.00	0.00	1378.00	6800.00	1384.75	0.00	1385.34	44.86	6.16	1148.31	1015.23
	8.890	840.00	0.00	0.00	1378.00	15000.00	1386.27	1385.45	1387.34	52.34	8.62	2146.78	2073.45
*	8.890	840.00	0.00	0.00	1378.00	29000.00	1387.61	1387.61	1388.53	43.17	9.25	5519.58	4413.88
*	8.890	840.00	0.00	0.00	1378.00	39000.00	1388.06	1388.06	1389.09	48.33	10.27	6791.32	5609.78
*	8.890	840.00	0.00	0.00	1378.00	85000.00	1389.55	1389.55	1391.04	61.69	13.32	11079.67	10821.74
	8.965	400.00	0.00	0.00	1381.00	6800.00	1387.01	0.00	1388.01	98.33	8.03	846.65	685.76
	8.965	400.00	0.00	0.00	1381.00	6800.00	1387.01	0.00	1388.01	98.33	8.03	846.65	685.76
*	8.965	400.00	0.00	0.00	1381.00	15000.00	1388.99	1388.99	1389.92	57.46	8.31	2444.94	1978.87
*	8.965	400.00	0.00	0.00	1381.00	29000.00	1390.28	1390.28	1391.28	52.08	9.49	4803.45	4018.52
*	8.965	400.00	0.00	0.00	1381.00	39000.00	1390.85	1390.85	1391.91	52.96	10.22	6210.09	5359.03
*	8.965	400.00	0.00	0.00	1381.00	85000.00	1392.41	1392.41	1394.06	68.78	13.57	10089.00	10248.85
	9.050	550.00	0.00	0.00	1382.00	6800.00	1389.79	0.00	1390.22	21.26	5.52	1560.36	1474.67
	9.050	550.00	0.00	0.00	1382.00	6800.00	1389.79	0.00	1390.22	21.26	5.52	1560.36	1474.67
	9.050	550.00	0.00	0.00	1382.00	15000.00	1391.22	0.00	1391.67	21.65	6.57	4034.66	3224.04
	9.050	550.00	0.00	0.00	1382.00	29000.00	1392.44	0.00	1392.98	24.26	7.86	6542.05	5887.71
	9.050	550.00	0.00	0.00	1382.00	39000.00	1393.05	0.00	1393.68	26.87	8.72	7788.79	7523.13
	9.050	550.00	0.00	0.00	1382.00	85000.00	1395.19	0.00	1396.21	33.47	11.41	12172.68	14692.36

FORM 141-3
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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	9.115	370.00	0.00	0.00	1386.50	6800.00	1390.98	0.00	1391.87	109.33	7.55	900.77	650.33
	9.115	370.00	0.00	0.00	1386.50	6800.00	1390.98	0.00	1391.87	109.33	7.55	900.77	650.33
*	9.115	370.00	0.00	0.00	1386.50	15000.00	1392.66	1392.66	1393.52	68.58	7.85	2494.78	1811.25
*	9.115	370.00	0.00	0.00	1386.50	29000.00	1393.70	1393.70	1394.75	68.54	9.40	4346.43	3502.97
*	9.115	370.00	0.00	0.00	1386.50	39000.00	1394.30	1394.30	1395.45	66.64	10.10	5483.88	4777.37
	9.115	370.00	0.00	0.00	1386.50	85000.00	1396.37	0.00	1397.80	58.53	11.94	10636.21	11110.02
	9.210	600.00	0.00	0.00	1388.50	6800.00	1394.43	0.00	1394.86	27.97	5.39	1373.11	1285.68
	9.210	600.00	0.00	0.00	1388.50	6800.00	1394.43	0.00	1394.86	27.97	5.39	1373.11	1285.68
	9.210	600.00	0.00	0.00	1388.50	15000.00	1395.66	0.00	1396.36	35.90	7.39	2833.26	2503.41
	9.210	600.00	0.00	0.00	1388.50	29000.00	1396.83	0.00	1397.77	42.47	9.26	4614.83	4449.96
	9.210	600.00	0.00	0.00	1388.50	39000.00	1397.43	0.00	1398.55	46.65	10.33	5551.28	5710.18
	9.210	600.00	0.00	0.00	1388.50	85000.00	1399.29	0.00	1401.30	64.16	14.26	8479.80	10611.38
	9.310	650.00	0.00	0.00	1392.00	6800.00	1396.59	0.00	1397.94	76.28	9.33	732.91	778.56
	9.310	650.00	0.00	0.00	1392.00	6800.00	1396.59	0.00	1397.94	76.28	9.33	732.91	778.56
*	9.310	650.00	0.00	0.00	1392.00	15000.00	1399.34	1399.34	1400.43	39.57	9.42	2589.40	2384.71
*	9.310	650.00	0.00	0.00	1392.00	29000.00	1400.55	1400.55	1401.97	50.45	11.89	4352.32	4082.88
*	9.310	650.00	0.00	0.00	1392.00	39000.00	1401.18	1401.18	1402.81	56.54	13.24	5256.29	5186.87
*	9.310	650.00	0.00	0.00	1392.00	85000.00	1403.29	1403.29	1405.80	73.58	17.51	8316.73	9909.43
	9.400	510.00	0.00	0.00	1394.00	6800.00	1399.78	0.00	1400.47	33.38	6.70	1015.31	1176.97
	9.400	510.00	0.00	0.00	1394.00	6800.00	1399.78	0.00	1400.47	33.38	6.70	1015.31	1176.97
	9.400	510.00	0.00	0.00	1394.00	15000.00	1401.41	1401.17	1402.72	52.48	9.66	1933.73	2070.64
*	9.400	510.00	0.00	0.00	1394.00	29000.00	1403.03	1403.03	1404.45	51.71	11.11	3909.69	4032.66
	9.400	510.00	0.00	0.00	1394.00	39000.00	1403.79	0.00	1405.29	51.46	11.87	4984.20	5436.52
	9.400	510.00	0.00	0.00	1394.00	85000.00	1406.57	0.00	1408.39	46.18	13.81	8945.15	12507.59
	9.480	490.00	0.00	0.00	1397.00	6800.00	1401.91	0.00	1402.54	55.78	5.94	1107.47	910.44
	9.480	490.00	0.00	0.00	1397.00	6800.00	1401.91	0.00	1402.54	55.78	5.94	1107.47	910.44
	9.480	490.00	0.00	0.00	1397.00	15000.00	1404.00	0.00	1404.87	37.21	7.22	2033.94	2458.96
	9.480	490.00	0.00	0.00	1397.00	29000.00	1405.28	0.00	1407.23	60.87	10.85	2620.84	3716.88
	9.480	490.00	0.00	0.00	1397.00	39000.00	1405.76	1405.72	1408.74	84.24	13.45	2845.63	4249.15
*	9.480	490.00	0.00	0.00	1397.00	85000.00	1409.88	1409.88	1414.72	71.46	17.24	4846.04	10055.41
	9.580	450.00	0.00	0.00	1399.00	6800.00	1404.29	0.00	1404.89	49.89	5.79	1137.33	962.69
	9.580	450.00	0.00	0.00	1399.00	6800.00	1404.29	0.00	1404.89	49.89	5.79	1137.33	962.69
	9.580	450.00	0.00	0.00	1399.00	15000.00	1405.81	0.00	1406.93	54.29	8.14	1798.18	2035.80
	9.580	450.00	0.00	0.00	1399.00	29000.00	1407.95	0.00	1409.70	50.06	10.29	2760.80	4098.69
	9.580	450.00	0.00	0.00	1399.00	39000.00	1409.45	0.00	1411.46	43.53	11.06	3457.95	5910.82
	9.580	450.00	0.00	0.00	1399.00	85000.00	1413.48	0.00	1417.39	47.98	15.30	5407.22	12270.73
	9.670	410.00	0.00	0.00	1400.00	6800.00	1406.26	0.00	1406.72	38.75	5.31	1269.28	1092.32
	9.670	410.00	0.00	0.00	1400.00	6800.00	1406.26	0.00	1406.72	38.75	5.31	1269.28	1092.32
	9.670	410.00	0.00	0.00	1400.00	15000.00	1408.00	0.00	1408.83	38.10	7.23	2061.84	2430.23
	9.670	410.00	0.00	0.00	1400.00	29000.00	1410.15	0.00	1411.54	38.35	9.37	3076.95	4683.12
	9.670	410.00	0.00	0.00	1400.00	39000.00	1411.44	0.00	1413.17	38.09	10.49	3697.16	6318.79
	9.670	410.00	0.00	0.00	1400.00	85000.00	1416.15	0.00	1419.20	36.05	13.89	6080.40	14157.20

FORM 1411-3 PRINTED IN U.S.A.

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
*	9.750	370.00	0.00	0.00	1402.00	6800.00	1408.52	1408.52	1410.02	132.59	9.82	692.55	590.53
*	9.750	370.00	0.00	0.00	1402.00	6800.00	1408.52	1408.52	1410.02	132.59	9.82	692.55	590.53
*	9.750	370.00	0.00	0.00	1402.00	15000.00	1410.63	1410.63	1412.79	114.31	11.79	1273.04	1402.99
*	9.750	370.00	0.00	0.00	1402.00	29000.00	1413.03	1413.03	1416.10	97.45	14.10	2064.66	2937.75
*	9.750	370.00	0.00	0.00	1402.00	39000.00	1414.40	1414.40	1418.06	89.13	15.40	2546.95	4130.98
*	9.750	370.00	0.00	0.00	1402.00	85000.00	1419.48	1419.48	1425.14	69.95	19.23	4466.73	10163.03
	9.840	480.00	0.00	0.00	1402.00	6800.00	1410.56	0.00	1410.72	4.04	3.16	2158.66	3383.61
	9.840	480.00	0.00	0.00	1402.00	6800.00	1410.56	0.00	1410.72	4.04	3.16	2158.66	3383.61
	9.840	480.00	0.00	0.00	1402.00	15000.00	1413.38	0.00	1413.74	6.03	4.82	3117.24	6106.56
	9.840	480.00	0.00	0.00	1402.00	29000.00	1416.56	0.00	1417.28	8.10	6.72	4275.16	10188.24
	9.840	480.00	0.00	0.00	1402.00	39000.00	1418.36	0.00	1419.32	8.97	7.71	4970.72	13020.56
	9.840	480.00	0.00	0.00	1402.00	85000.00	1424.54	0.00	1426.61	11.35	10.92	7459.78	25224.85
	9.940	520.00	0.00	0.00	1407.00	6800.00	1410.80	0.00	1411.22	24.83	5.16	1313.89	1364.70
	9.940	520.00	0.00	0.00	1407.00	6800.00	1410.80	0.00	1411.22	24.83	5.16	1313.89	1364.70
	9.940	520.00	0.00	0.00	1407.00	15000.00	1413.69	0.00	1414.30	17.13	6.24	2388.42	3623.90
	9.940	520.00	0.00	0.00	1407.00	29000.00	1416.95	0.00	1417.92	15.83	7.82	3678.80	7287.75
	9.940	520.00	0.00	0.00	1407.00	39000.00	1418.78	0.00	1419.98	15.32	8.60	4440.77	9962.69
	9.940	520.00	0.00	0.00	1407.00	85000.00	1425.13	0.00	1427.28	14.57	11.18	7295.78	22270.36
*	10.040	540.00	0.00	0.00	1413.00	6800.00	1415.29	1415.29	1416.41	221.64	8.53	798.32	456.76
*	10.040	540.00	0.00	0.00	1413.00	6800.00	1415.29	1415.29	1416.41	221.64	8.53	798.32	456.76
*	10.040	540.00	0.00	0.00	1413.00	15000.00	1416.86	1416.86	1418.72	181.91	10.97	1372.36	1112.14
*	10.040	540.00	0.00	0.00	1413.00	29000.00	1418.93	1418.93	1421.74	156.34	13.52	2154.54	2319.30
*	10.040	540.00	0.00	0.00	1413.00	39000.00	1420.18	1420.18	1423.56	145.25	14.82	2646.95	3235.94
*	10.040	540.00	0.00	0.00	1413.00	85000.00	1424.88	1424.88	1430.20	117.56	18.65	4599.85	7839.63
	10.120	380.00	0.00	0.00	1414.00	6800.00	1417.79	0.00	1418.07	16.66	4.21	1610.37	1665.89
	10.120	380.00	0.00	0.00	1414.00	6800.00	1417.79	0.00	1418.07	16.66	4.21	1610.37	1665.89
	10.120	380.00	0.00	0.00	1414.00	15000.00	1419.89	0.00	1420.43	17.75	5.84	2557.96	3560.55
	10.120	380.00	0.00	0.00	1414.00	29000.00	1422.58	0.00	1423.48	18.00	7.55	3816.22	6835.07
	10.120	380.00	0.00	0.00	1414.00	39000.00	1424.17	0.00	1425.29	17.92	8.44	4587.83	9211.79
	10.120	380.00	0.00	0.00	1414.00	85000.00	1429.90	0.00	1431.91	17.03	11.08	7506.01	20595.37
*	10.210	450.00	0.00	0.00	1415.50	6800.00	1419.95	1419.95	1421.09	141.01	8.59	791.67	572.65
*	10.210	450.00	0.00	0.00	1415.50	6800.00	1419.95	1419.95	1421.09	141.01	8.59	791.67	572.65
*	10.210	450.00	0.00	0.00	1415.50	15000.00	1421.55	1421.55	1423.30	121.93	10.62	1412.85	1358.42
*	10.210	450.00	0.00	0.00	1415.50	29000.00	1423.51	1423.51	1426.04	105.73	12.78	2272.94	2820.38
*	10.210	450.00	0.00	0.00	1415.50	39000.00	1424.64	1424.64	1427.65	97.58	13.93	2806.55	3948.11
	10.210	450.00	0.00	0.00	1415.50	85000.00	1429.98	0.00	1433.67	52.27	15.53	5532.88	11757.13
	10.300	440.00	0.00	0.00	1422.00	6800.00	1424.98	0.00	1425.73	80.44	6.96	978.54	758.17
	10.300	440.00	0.00	0.00	1422.00	6800.00	1424.98	0.00	1425.73	80.44	6.96	978.54	758.17
	10.300	440.00	0.00	0.00	1422.00	15000.00	1426.35	0.00	1427.81	85.93	9.68	1549.92	1618.18
*	10.300	440.00	0.00	0.00	1422.00	29000.00	1427.97	1427.97	1430.59	97.12	12.99	2231.53	2942.75
*	10.300	440.00	0.00	0.00	1422.00	39000.00	1429.13	1429.13	1432.29	90.34	14.24	2735.05	4103.22
*	10.300	440.00	0.00	0.00	1422.00	85000.00	1433.41	1433.41	1438.52	74.42	18.02	4687.99	9852.83

FORM 1411-3 PRINTED IN U.S.A.

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	10.350	230.00	0.00	0.00	1424.20	6800.00	1426.95	0.00	1427.46	68.93	5.72	1188.87	819.04
	10.350	230.00	0.00	0.00	1424.20	6800.00	1426.95	0.00	1427.46	68.93	5.72	1188.87	819.04
	10.350	230.00	0.00	0.00	1424.20	15000.00	1428.71	0.00	1429.51	60.11	7.19	2086.87	1934.74
	10.350	230.00	0.00	0.00	1424.20	29000.00	1431.06	0.00	1432.10	39.51	8.21	3532.90	4613.63
	10.350	230.00	0.00	0.00	1424.20	39000.00	1432.56	0.00	1433.65	32.05	8.37	4660.15	6888.76
	10.350	230.00	0.00	0.00	1424.20	85000.00	1438.46	0.00	1439.54	13.55	8.34	10187.89	23088.31
	10.400	230.00	0.00	0.00	1423.00	6800.00	1427.92	0.00	1428.12	14.40	3.55	1923.50	1792.26
	10.400	230.00	0.00	0.00	1423.00	6800.00	1427.92	0.00	1428.12	14.40	3.55	1923.50	1792.26
	10.400	230.00	0.00	0.00	1423.00	15000.00	1429.86	0.00	1430.33	22.01	5.51	2744.43	3197.36
	10.400	230.00	0.00	0.00	1423.00	29000.00	1431.95	0.00	1432.93	32.33	8.00	3664.69	5100.30
	10.400	230.00	0.00	0.00	1423.00	39000.00	1433.18 -0.83	0.00	1434.52	37.12	9.36	4221.82	6401.06
	10.400	230.00	0.00	0.00	1423.00	85000.00	1437.82	0.00	1440.56	46.00	13.41	6414.47	12532.89
*	10.490	470.00	0.00	0.00	1427.00	6800.00	1430.90	1430.90	1432.27	131.12	9.41	722.43	593.84
*	10.490	470.00	0.00	0.00	1427.00	6800.00	1430.90	1430.90	1432.27	131.12	9.41	722.43	593.84
*	10.490	470.00	0.00	0.00	1427.00	15000.00	1432.98	1432.98	1434.91	115.97	11.16	1344.13	1392.90
*	10.490	470.00	0.00	0.00	1427.00	29000.00	1435.13	1435.13	1437.80	103.65	13.12	2212.99	2848.42
*	10.490	470.00	0.00	0.00	1427.00	39000.00	1436.31 -0.74	1436.31	1439.51	95.37	14.39	2719.94	3993.57
*	10.490	470.00	0.00	0.00	1427.00	85000.00	1440.67	1440.67	1445.78	76.90	18.22	4696.01	9692.71
	10.620	590.00	0.00	0.00	1429.50	6800.00	1435.23	0.00	1435.74	32.02	5.77	1178.02	1201.66
	10.620	590.00	0.00	0.00	1429.50	6800.00	1435.23	0.00	1435.74	32.02	5.77	1178.02	1201.66
	10.620	590.00	0.00	0.00	1429.50	15000.00	1437.43	0.00	1438.38	33.84	7.83	1920.36	2578.63
	10.620	590.00	0.00	0.00	1429.50	29000.00	1439.72	0.00	1441.47	39.68	10.64	2744.20	4603.47
	10.620	590.00	0.00	0.00	1429.50	39000.00	1440.95 -0.53	0.00	1443.27	43.78	12.30	3199.62	5894.25
	10.620	590.00	0.00	0.00	1429.50	85000.00	1444.70	0.00	1449.86	61.94	18.39	4674.53	10799.85
*	10.700	380.00	0.00	0.00	1431.00	6800.00	1436.56	1436.56	1438.27	119.83	10.47	649.34	621.19
*	10.700	380.00	0.00	0.00	1431.00	6800.00	1436.56	1436.56	1438.27	119.83	10.47	649.34	621.19
*	10.700	380.00	0.00	0.00	1431.00	15000.00	1439.11	1439.11	1441.43	109.25	12.23	1227.52	1435.09
*	10.700	380.00	0.00	0.00	1431.00	29000.00	1441.71 -0.54	1441.71	1444.71	98.37	13.93	2090.95	2923.98
*	10.700	380.00	0.00	0.00	1431.00	39000.00	1443.04	1443.04	1446.61	90.01	15.21	2579.12	4110.78
*	10.700	380.00	0.00	0.00	1431.00	85000.00	1447.90	1447.90	1453.49	71.85	19.05	4483.07	10027.98
	10.830	650.00	0.00	0.00	1437.00	6800.00	1440.85	0.00	1441.22	22.26	4.92	1378.10	1441.13
	10.830	650.00	0.00	0.00	1437.00	6800.00	1440.85	0.00	1441.22	22.26	4.92	1378.10	1441.13
	10.830	650.00	0.00	0.00	1437.00	15000.00	1443.40	0.00	1444.03	18.66	6.32	2359.10	3472.18
	10.830	650.00	0.00	0.00	1437.00	29000.00	1446.24	0.00	1447.30	19.17	8.19	3513.30	6622.91
	10.830	650.00	0.00	0.00	1437.00	39000.00	1447.85 -0.03	0.00	1449.20	19.61	9.22	4193.50	8806.76
	10.830	650.00	0.00	0.00	1437.00	85000.00	1453.53	0.00	1456.02	19.96	12.31	6738.89	19025.49
*	10.930	500.00	0.00	0.00	1443.00	6800.00	1444.97	1444.97	1445.94	139.44	7.88	862.14	575.86
*	10.930	500.00	0.00	0.00	1443.00	6800.00	1444.97	1444.97	1445.94	139.44	7.88	862.14	575.86
*	10.930	500.00	0.00	0.00	1443.00	15000.00	1446.31	1446.31	1447.93	117.10	10.20	1466.70	1386.19
*	10.930	500.00	0.00	0.00	1443.00	29000.00	1448.11 -1.73	1448.11	1450.58	99.18	12.55	2302.70	2911.98
*	10.930	500.00	0.00	0.00	1443.00	39000.00	1449.22	1449.22	1452.17	91.56	13.73	2827.20	4075.88
	10.930	500.00	0.00	0.00	1443.00	85000.00	1453.95	0.00	1458.13	59.78	16.20	5188.46	10993.42

FORM 141-13
PRINTED IN U.S.A.

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	11.040	500.00	0.00	0.00	1446.00	6800.00	1448.93	0.00	1449.42	40.72	5.56	1220.98	1065.57
	11.040	500.00	0.00	0.00	1446.00	6800.00	1448.93	0.00	1449.42	40.72	5.56	1220.98	1065.57
	11.040	500.00	0.00	0.00	1446.00	15000.00	1450.51	0.00	1451.47	45.93	7.85	1903.27	2213.40
	11.040	500.00	0.00	0.00	1446.00	29000.00	1452.40	0.00	1454.13	51.60	10.51	2746.87	4037.25
	11.040	500.00	0.00	0.00	1446.00	39000.00	1453.46	0.00	1455.72	54.55	11.98	3238.24	5280.30
	11.040	500.00	0.00	0.00	1446.00	85000.00	1456.74	1456.70	1461.62	72.18	17.56	4802.33	10005.16
*	11.100	200.00	0.00	0.00	1448.00	6800.00	1450.77	1450.77	1451.84	185.22	8.29	820.66	499.65
*	11.100	200.00	0.00	0.00	1448.00	6800.00	1450.77	1450.77	1451.84	185.22	8.29	820.66	499.65
*	11.100	200.00	0.00	0.00	1448.00	15000.00	1452.40	1452.40	1453.88	163.77	9.76	1536.65	1172.13
*	11.100	200.00	0.00	0.00	1448.00	29000.00	1454.07	1454.07	1456.25	146.43	11.85	2448.21	2396.54
*	11.100	200.00	0.00	0.00	1448.00	39000.00	1455.07	1455.07	1457.63	138.55	12.85	3034.89	3313.30
	11.100	200.00	0.00	0.00	1448.00	85000.00	1461.58	0.00	1462.87	30.66	9.58	9823.75	15351.62
	11.150	1400.00	0.00	0.00	1445.00	6800.00	1453.61	0.00	1453.64	3.98	1.45	4677.99	3409.60
	11.150	1400.00	0.00	0.00	1445.00	6800.00	1453.61	0.00	1453.64	3.98	1.45	4677.99	3409.60
	11.150	1400.00	0.00	0.00	1445.00	15000.00	1455.49	0.00	1455.55	3.58	1.81	8265.25	7924.22
	11.150	1400.00	0.00	0.00	1445.00	29000.00	1457.78	0.00	1457.85	3.30	2.23	13002.92	15962.45
	11.150	1400.00	0.00	0.00	1445.00	39000.00	1459.12	0.00	1459.21	3.16	2.44	15990.49	21927.95
	11.150	1400.00	0.00	0.00	1445.00	85000.00	1463.68	0.00	1463.84	2.72	3.18	26721.11	51518.71
*	11.200	1400.00	0.00	0.00	1452.00	6800.00	1454.67	1454.67	1455.99	43.06	9.23	736.78	1036.22
*	11.200	1400.00	0.00	0.00	1452.00	6800.00	1454.67	1454.67	1455.99	43.06	9.23	736.78	1036.22
*	11.200	1400.00	0.00	0.00	1452.00	15000.00	1456.51	1456.51	1458.70	36.26	11.89	1261.48	2491.15
*	11.200	1400.00	0.00	0.00	1452.00	29000.00	1458.94	1458.94	1462.28	31.82	14.67	1977.13	5140.85
*	11.200	1400.00	0.00	0.00	1452.00	39000.00	1460.42	1460.42	1464.44	30.05	16.09	2423.57	7114.25
*	11.200	1400.00	0.00	0.00	1452.00	85000.00	1465.96	1465.96	1472.40	25.87	20.37	4172.63	16712.47
	11.300	528.00	0.00	0.00	1452.50	6800.00	1456.52	0.00	1457.09	10.99	6.08	1119.11	2050.83
	11.300	528.00	0.00	0.00	1452.50	6800.00	1456.52	0.00	1457.09	10.99	6.08	1119.11	2050.83
	11.300	528.00	0.00	0.00	1452.50	15000.00	1458.72	0.00	1459.84	12.28	8.50	1763.89	4280.73
	11.300	528.00	0.00	0.00	1452.50	29000.00	1461.54	0.00	1463.45	13.11	11.11	2611.18	8008.23
	11.300	528.00	0.00	0.00	1452.50	39000.00	1463.21	0.00	1465.62	13.41	12.47	3127.56	10649.27
	11.300	528.00	0.00	0.00	1452.50	85000.00	1469.30	0.00	1473.59	13.76	16.61	5116.01	22912.51
	11.400	528.00	0.00	0.00	1454.00	6800.00	1457.09	0.00	1458.07	26.33	7.94	856.23	1325.19
	11.400	528.00	0.00	0.00	1454.00	6800.00	1457.09	0.00	1458.07	26.33	7.94	856.23	1325.19
	11.400	528.00	0.00	0.00	1454.00	15000.00	1459.23	0.00	1460.84	22.01	10.19	1471.70	3197.18
	11.400	528.00	0.00	0.00	1454.00	29000.00	1461.98	0.00	1464.47	19.93	12.67	2288.87	6495.37
	11.400	528.00	0.00	0.00	1454.00	39000.00	1463.61	0.00	1466.65	19.23	13.98	2789.95	8893.42
	11.400	528.00	0.00	0.00	1454.00	85000.00	1469.59	0.00	1474.64	17.78	18.05	4710.24	20160.83

FORM 1411-3 PRINTED IN U.S.A.

RM 9.48 TO 11.2 MODIFI

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	8.690	6800.00	1377.80	0.00	0.00	0.00	2108.70	0.00
	8.690	6800.00	1377.80	0.00	0.00	0.00	2108.70	0.00
	8.690	15000.00	1377.80	0.00	0.00	0.00	2108.70	0.00
	8.690	29000.00	1377.80	0.00	0.00	0.00	2108.70	0.00
*	8.690	39000.00	1378.24	0.44	0.00	0.44	2828.69	0.00
*	8.690	85000.00	1379.69	1.45	0.00	1.89	3330.93	0.00
*	8.750	6800.00	1378.24	0.00	0.44	0.00	337.36	739.00
*	8.750	6800.00	1378.24	0.00	0.44	0.00	337.36	739.00
*	8.750	15000.00	1380.25	2.01	2.45	0.00	548.78	739.00
*	8.750	29000.00	1382.82	2.57	5.02	0.00	2963.32	739.00
*	8.750	39000.00	1383.33	0.51	5.09	0.00	3210.77	739.00
	8.750	85000.00	1384.83	1.50	5.14	0.00	3635.72	739.00
	8.890	6800.00	1384.75	0.00	6.52	0.00	438.95	840.00
	8.890	6800.00	1384.75	0.00	6.52	0.00	438.95	840.00
	8.890	15000.00	1386.27	1.51	6.02	0.00	1707.54	840.00
*	8.890	29000.00	1387.61	1.34	4.79	0.00	2860.00	840.00
*	8.890	39000.00	1388.06	0.44	4.72	0.00	2860.00	840.00
*	8.890	85000.00	1389.55	1.50	4.72	0.00	2860.00	840.00
	8.965	6800.00	1387.01	0.00	2.26	0.00	320.71	400.00
	8.965	6800.00	1387.01	0.00	2.26	0.00	320.71	400.00
*	8.965	15000.00	1388.99	1.97	2.72	0.00	1447.32	400.00
*	8.965	29000.00	1390.28	1.30	2.67	0.00	2490.00	400.00
*	8.965	39000.00	1390.85	0.56	2.79	0.00	2490.00	400.00
*	8.965	85000.00	1392.41	1.56	2.85	0.00	2490.00	400.00
	9.050	6800.00	1389.79	0.00	2.78	0.00	765.86	550.00
	9.050	6800.00	1389.79	0.00	2.78	0.00	765.86	550.00
	9.050	15000.00	1391.22	1.42	2.23	0.00	2045.00	550.00
	9.050	29000.00	1392.44	1.22	2.16	0.00	2045.00	550.00
	9.050	39000.00	1393.05	0.61	2.20	0.00	2045.00	550.00
	9.050	85000.00	1395.19	2.14	2.79	0.00	2045.00	550.00
	9.115	6800.00	1390.98	0.00	1.19	0.00	406.12	370.00
	9.115	6800.00	1390.98	0.00	1.19	0.00	406.12	370.00
*	9.115	15000.00	1392.66	1.68	1.44	0.00	1737.90	370.00
*	9.115	29000.00	1393.70	1.04	1.26	0.00	1836.33	370.00
*	9.115	39000.00	1394.30	0.60	1.25	0.00	2005.58	370.00
	9.115	85000.00	1396.37	2.08	1.18	0.00	2856.55	370.00

FORM 1411-3 PRINTED IN U.S.A.

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	9.210	6800.00	1394.43	0.00	3.44	0.00	689.56	600.00
	9.210	6800.00	1394.43	0.00	3.44	0.00	689.56	600.00
	9.210	15000.00	1395.66	1.24	3.00	0.00	1404.63	600.00
	9.210	29000.00	1396.83	1.17	3.14	0.00	1565.00	600.00
	9.210	39000.00	1397.43	0.60	3.13	0.00	1565.00	600.00
	9.210	85000.00	1399.29	1.86	2.92	0.00	1565.00	600.00
	9.310	6800.00	1396.59	0.00	2.16	0.00	212.09	650.00
	9.310	6800.00	1396.59	0.00	2.16	0.00	212.09	650.00
*	9.310	15000.00	1399.34	2.75	3.67	0.00	1450.00	650.00
*	9.310	29000.00	1400.55	1.22	3.72	0.00	1450.00	650.00
*	9.310	39000.00	1401.18	0.62	3.75	0.00	1450.00	650.00
*	9.310	85000.00	1403.29	2.11	3.99	0.00	1450.00	650.00
	9.400	6800.00	1399.78	0.00	3.19	0.00	223.43	510.00
	9.400	6800.00	1399.78	0.00	3.19	0.00	223.43	510.00
	9.400	15000.00	1401.41	1.63	2.07	0.00	797.89	510.00
*	9.400	29000.00	1403.03	1.62	2.48	0.00	1420.00	510.00
	9.400	39000.00	1403.79	0.77	2.62	0.00	1420.00	510.00
	9.400	85000.00	1406.57	2.78	3.29	0.00	1420.00	510.00
	9.480	6800.00	1401.91	0.00	2.13	0.00	434.85	490.00
	9.480	6800.00	1401.91	0.00	2.13	0.00	434.85	490.00
	9.480	15000.00	1404.00	2.09	2.60	0.00	452.89	490.00
	9.480	29000.00	1405.28	1.28	2.25	0.00	463.96	490.00
	9.480	39000.00	1405.76	0.48	1.96	0.00	468.13	490.00
*	9.480	85000.00	1409.88	4.12	3.31	0.00	503.71	490.00
	9.580	6800.00	1404.29	0.00	2.38	0.00	429.54	450.00
	9.580	6800.00	1404.29	0.00	2.38	0.00	429.54	450.00
	9.580	15000.00	1405.81	1.52	1.81	0.00	441.45	450.00
	9.580	29000.00	1407.95	2.14	2.67	0.00	458.24	450.00
	9.580	39000.00	1409.45	1.50	3.70	0.00	470.02	450.00
	9.580	85000.00	1413.48	4.03	3.61	0.00	490.00	450.00
	9.670	6800.00	1406.26	0.00	1.97	0.00	450.25	410.00
	9.670	6800.00	1406.26	0.00	1.97	0.00	450.25	410.00
	9.670	15000.00	1408.00	1.73	2.19	0.00	462.98	410.00
	9.670	29000.00	1410.15	2.15	2.20	0.00	478.79	410.00
	9.670	39000.00	1411.44	1.28	1.98	0.00	488.20	410.00
	9.670	85000.00	1416.15	4.71	2.67	0.00	522.77	410.00
*	9.750	6800.00	1408.52	0.00	2.26	0.00	242.06	370.00
*	9.750	6800.00	1408.52	0.00	2.26	0.00	242.06	370.00
*	9.750	15000.00	1410.63	2.11	2.63	0.00	305.17	370.00
*	9.750	29000.00	1413.03	2.40	2.88	0.00	346.22	370.00
*	9.750	39000.00	1414.40	1.37	2.96	0.00	357.19	370.00
*	9.750	85000.00	1419.48	5.09	3.33	0.00	397.87	370.00

FORM 1411-3
PRINTED IN U.S.A.

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	9.840	6800.00	1410.56	0.00	2.04	0.00	329.51	480.00
	9.840	6800.00	1410.56	0.00	2.04	0.00	329.51	480.00
	9.840	15000.00	1413.38	2.81	2.74	0.00	352.02	480.00
	9.840	29000.00	1416.56	3.18	3.53	0.00	377.42	480.00
	9.840	39000.00	1418.36	1.80	3.96	0.00	391.88	480.00
	9.840	85000.00	1424.54	6.18	5.06	0.00	405.00	480.00
	9.940	6800.00	1410.80	0.00	0.24	0.00	360.45	520.00
	9.940	6800.00	1410.80	0.00	0.24	0.00	360.45	520.00
	9.940	15000.00	1413.69	2.88	0.31	0.00	383.56	520.00
	9.940	29000.00	1416.95	3.26	0.39	0.00	409.59	520.00
	9.940	39000.00	1418.78	1.83	0.42	0.00	424.21	520.00
	9.940	85000.00	1425.13	6.35	0.58	0.00	475.01	520.00
*	10.040	6800.00	1415.29	0.00	4.48	0.00	358.11	540.00
*	10.040	6800.00	1415.29	0.00	4.48	0.00	358.11	540.00
*	10.040	15000.00	1416.86	1.58	3.18	0.00	370.58	540.00
*	10.040	29000.00	1418.93	2.07	1.98	0.00	386.93	540.00
*	10.040	39000.00	1420.18	1.26	1.41	0.00	396.88	540.00
*	10.040	85000.00	1424.88	4.70	-0.24	0.00	434.09	540.00
	10.120	6800.00	1417.79	0.00	2.50	0.00	440.58	380.00
	10.120	6800.00	1417.79	0.00	2.50	0.00	440.58	380.00
	10.120	15000.00	1419.89	2.11	3.03	0.00	457.63	380.00
	10.120	29000.00	1422.58	2.68	3.65	0.00	479.32	380.00
	10.120	39000.00	1424.17	1.59	3.99	0.00	492.15	380.00
	10.120	85000.00	1429.90	5.73	5.02	0.00	515.00	380.00
*	10.210	6800.00	1419.95	0.00	2.16	0.00	355.90	450.00
*	10.210	6800.00	1419.95	0.00	2.16	0.00	355.90	450.00
*	10.210	15000.00	1421.55	1.61	1.66	0.00	414.38	450.00
*	10.210	29000.00	1423.51	1.96	0.93	0.00	460.18	450.00
*	10.210	39000.00	1424.64	1.13	0.47	0.00	478.05	450.00
	10.210	85000.00	1429.98	5.33	0.08	0.00	544.69	450.00
	10.300	6800.00	1424.98	0.00	5.03	0.00	405.75	440.00
	10.300	6800.00	1424.98	0.00	5.03	0.00	405.75	440.00
	10.300	15000.00	1426.35	1.37	4.80	0.00	416.87	440.00
*	10.300	29000.00	1427.97	1.62	4.46	0.00	429.75	440.00
*	10.300	39000.00	1429.13	1.16	4.48	0.00	439.02	440.00
*	10.300	85000.00	1433.41	4.28	3.44	0.00	470.00	440.00
	10.350	6800.00	1426.95	0.00	1.98	0.00	480.52	230.00
	10.350	6800.00	1426.95	0.00	1.98	0.00	480.52	230.00
	10.350	15000.00	1428.71	1.76	2.36	0.00	542.69	230.00
	10.350	29000.00	1431.06	2.35	3.09	0.00	697.08	230.00
	10.350	39000.00	1432.56	1.51	3.44	0.00	802.33	230.00
	10.350	85000.00	1438.46	5.89	5.05	0.00	973.00	230.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	10.400	6800.00	1427.92	0.00	0.97	0.00	415.37	230.00
	10.400	6800.00	1427.92	0.00	0.97	0.00	415.37	230.00
	10.400	15000.00	1429.86	1.94	1.15	0.00	430.90	230.00
	10.400	29000.00	1431.95	2.09	0.89	0.00	447.65	230.00
	10.400	39000.00	1433.18	1.23	0.62	0.00	457.50	230.00
	10.400	85000.00	1437.82	4.64	-0.64	0.00	480.00	230.00
*	10.490	6800.00	1430.90	0.00	2.98	0.00	267.95	470.00
*	10.490	6800.00	1430.90	0.00	2.98	0.00	267.95	470.00
*	10.490	15000.00	1432.98	2.08	3.12	0.00	352.13	470.00
*	10.490	29000.00	1435.13	2.15	3.18	0.00	426.03	470.00
*	10.490	39000.00	1436.31	1.18	3.12	0.00	435.45	470.00
*	10.490	85000.00	1440.67	4.37	2.85	0.00	465.00	470.00
	10.620	6800.00	1435.23	0.00	4.33	0.00	315.64	590.00
	10.620	6800.00	1435.23	0.00	4.33	0.00	315.64	590.00
	10.620	15000.00	1437.43	2.20	4.45	0.00	349.41	590.00
	10.620	29000.00	1439.72	2.30	4.59	0.00	367.79	590.00
	10.620	39000.00	1440.95	1.23	4.64	0.00	377.57	590.00
	10.620	85000.00	1444.70	3.75	4.03	0.00	407.62	590.00
*	10.700	6800.00	1436.56	0.00	1.34	0.00	191.24	380.00
*	10.700	6800.00	1436.56	0.00	1.34	0.00	191.24	380.00
*	10.700	15000.00	1439.11	2.55	1.68	0.00	271.12	380.00
*	10.700	29000.00	1441.71	2.61	1.99	0.00	362.71	380.00
*	10.700	39000.00	1443.04	1.33	2.09	0.00	373.32	380.00
*	10.700	85000.00	1447.90	4.86	3.20	0.00	405.00	380.00
	10.830	6800.00	1440.85	0.00	4.28	0.00	373.76	650.00
	10.830	6800.00	1440.85	0.00	4.28	0.00	373.76	650.00
	10.830	15000.00	1443.40	2.55	4.29	0.00	394.20	650.00
	10.830	29000.00	1446.24	2.84	4.53	0.00	416.97	650.00
	10.830	39000.00	1447.85	1.61	4.81	0.00	429.82	650.00
	10.830	85000.00	1453.53	5.68	5.63	0.00	455.00	650.00
*	10.930	6800.00	1444.97	0.00	4.12	0.00	445.75	500.00
*	10.930	6800.00	1444.97	0.00	4.12	0.00	445.75	500.00
*	10.930	15000.00	1446.31	1.34	2.91	0.00	456.47	500.00
*	10.930	29000.00	1448.11	1.80	1.87	0.00	470.90	500.00
*	10.930	39000.00	1449.22	1.10	1.36	0.00	479.72	500.00
	10.930	85000.00	1453.95	4.73	0.42	0.00	510.00	500.00
	11.040	6800.00	1448.93	0.00	3.97	0.00	427.49	500.00
	11.040	6800.00	1448.93	0.00	3.97	0.00	427.49	500.00
	11.040	15000.00	1450.51	1.57	4.20	0.00	440.08	500.00
	11.040	29000.00	1452.40	1.89	4.29	0.00	455.15	500.00
	11.040	39000.00	1453.46	1.06	4.25	0.00	463.71	500.00
	11.040	85000.00	1456.74	3.28	2.79	0.00	489.95	500.00

FORM 1411-3
PRINTED IN U.S.A.

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	11.100	6800.00	1450.77	0.00	1.84	0.00	390.96	200.00
*	11.100	6800.00	1450.77	0.00	1.84	0.00	390.96	200.00
*	11.100	15000.00	1452.40	1.63	1.89	0.00	522.01	200.00
*	11.100	29000.00	1454.07	1.67	1.67	0.00	572.01	200.00
*	11.100	39000.00	1455.07	1.00	1.60	0.00	601.99	200.00
	11.100	85000.00	1461.58	6.52	4.84	0.00	2197.87	200.00
	11.150	6800.00	1453.61	0.00	2.83	0.00	1700.87	1400.00
	11.150	6800.00	1453.61	0.00	2.83	0.00	1700.87	1400.00
	11.150	15000.00	1455.49	1.89	3.09	0.00	1992.16	1400.00
	11.150	29000.00	1457.78	2.28	3.71	0.00	2163.18	1400.00
	11.150	39000.00	1459.12	1.35	4.06	0.00	2264.39	1400.00
	11.150	85000.00	1463.68	4.56	2.10	0.00	2370.00	1400.00
*	11.200	6800.00	1454.67	0.00	1.06	0.00	281.67	1400.00
*	11.200	6800.00	1454.67	0.00	1.06	0.00	281.67	1400.00
*	11.200	15000.00	1456.51	1.84	1.01	0.00	289.02	1400.00
*	11.200	29000.00	1458.94	2.44	1.16	0.00	298.76	1400.00
*	11.200	39000.00	1460.42	1.48	1.30	0.00	304.68	1400.00
*	11.200	85000.00	1465.96	5.54	2.28	0.00	326.84	1400.00
	11.300	6800.00	1456.52	0.00	1.85	0.00	287.04	528.00
	11.300	6800.00	1456.52	0.00	1.85	0.00	287.04	528.00
	11.300	15000.00	1458.72	2.21	2.22	0.00	295.89	528.00
	11.300	29000.00	1461.54	2.81	2.60	0.00	307.13	528.00
	11.300	39000.00	1463.21	1.67	2.79	0.00	313.79	528.00
	11.300	85000.00	1469.30	6.10	3.34	0.00	337.59	528.00
	11.400	6800.00	1457.09	0.00	0.57	0.00	283.36	528.00
	11.400	6800.00	1457.09	0.00	0.57	0.00	283.36	528.00
	11.400	15000.00	1459.23	2.14	0.51	0.00	291.92	528.00
	11.400	29000.00	1461.98	2.75	0.44	0.00	302.91	528.00
	11.400	39000.00	1463.61	1.64	0.41	0.00	309.45	528.00
	11.400	85000.00	1469.59	5.97	0.28	0.00	333.35	528.00

SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION  SECNO=   8.690  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   8.690  PROFILE= 6  CRITICAL DEPTH ASSUMED

CAUTION  SECNO=   8.750  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   8.750  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   8.750  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   8.750  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   8.750  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   8.750  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   8.750  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   8.750  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   8.750  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   8.750  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   8.750  PROFILE= 4  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   8.750  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   8.750  PROFILE= 5  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=   8.890  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   8.890  PROFILE= 4  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   8.890  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   8.890  PROFILE= 5  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   8.890  PROFILE= 6  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   8.890  PROFILE= 6  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=   8.965  PROFILE= 3  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=   8.965  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   8.965  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   8.965  PROFILE= 5  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   8.965  PROFILE= 6  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=   9.115  PROFILE= 4  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   9.115  PROFILE= 5  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=   9.310  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   9.310  PROFILE= 3  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   9.310  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   9.310  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   9.310  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   9.310  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   9.310  PROFILE= 5  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   9.310  PROFILE= 5  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   9.310  PROFILE= 6  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   9.310  PROFILE= 6  MINIMUM SPECIFIC ENERGY
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CAUTION  SECNO=    9.400  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    9.400  PROFILE= 4  MINIMUM SPECIFIC ENERGY

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CAUTION  SECNO=    9.480  PROFILE= 6  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    9.480  PROFILE= 6  20 TRIALS ATTEMPTED TO BALANCE WSEL

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CAUTION  SECNO=    9.750  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    9.750  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    9.750  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    9.750  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    9.750  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    9.750  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    9.750  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    9.750  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    9.750  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    9.750  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    9.750  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    9.750  PROFILE= 5  PROBABLE MINIMUM SPECIFIC ENERGY
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CAUTION  SECNO=    9.750  PROFILE= 6  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=    9.750  PROFILE= 6  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=   10.040  PROFILE= 1  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=   10.040  PROFILE= 2  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=   10.040  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   10.040  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   10.040  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   10.040  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   10.040  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   10.040  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   10.040  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   10.040  PROFILE= 5  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=   10.040  PROFILE= 5  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   10.040  PROFILE= 6  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=   10.210  PROFILE= 2  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=   10.210  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION  SECNO=   10.210  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   10.210  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION  SECNO=  10.210  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION  SECNO=  10.210  PROFILE= 5  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=  10.300  PROFILE= 4  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=  10.300  PROFILE= 6  20 TRIALS ATTEMPTED TO BALANCE WSEL

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CAUTION  SECNO=  10.490  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  10.490  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION  SECNO=  10.490  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  10.490  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  10.490  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  10.490  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  10.490  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  10.490  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  10.490  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  10.490  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  10.490  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  10.490  PROFILE= 5  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  10.490  PROFILE= 5  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  10.490  PROFILE= 6  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  10.490  PROFILE= 6  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  10.490  PROFILE= 6  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=  10.700  PROFILE= 1  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=  10.930  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  10.930  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  10.930  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION  SECNO=  10.930  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  10.930  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  10.930  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  10.930  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
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CAUTION  SECNO=  10.930  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION  SECNO=  10.930  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  10.930  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION  SECNO=  10.930  PROFILE= 5  20 TRIALS ATTEMPTED TO BALANCE WSEL

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CAUTION  SECNO=  11.100  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  11.100  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  11.100  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  11.100  PROFILE= 4  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  11.100  PROFILE= 5  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=  11.200  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  11.200  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  11.200  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  11.200  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  11.200  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  11.200  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  11.200  PROFILE= 3  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=  11.200  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  11.200  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  11.200  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  11.200  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  11.200  PROFILE= 5  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  11.200  PROFILE= 5  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  11.200  PROFILE= 5  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  11.200  PROFILE= 6  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  11.200  PROFILE= 6  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  11.200  PROFILE= 6  20 TRIALS ATTEMPTED TO BALANCE WSEL
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FORM 1411-3
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FLOOD INSURANCE ZONE DATA FOR RM 9.48 TO 11.2 MODIFI

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

SECTION NUMBER	CUMULATIVE DISTANCE	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10	2	0.2
8.690	0.	0.00	0.00	0.00
8.750	739.	-2.01	-2.01	2.57
8.890	1579.	-1.51	-1.51	1.34
8.965	1979.	-1.97	-1.97	1.30
9.050	2529.	-1.42	-1.42	1.22
9.115	2899.	-1.68	-1.68	1.04
9.210	3499.	-1.24	-1.24	1.17
9.310	4149.	-2.75	-2.75	1.22
9.400	4659.	-1.63	-1.63	1.62
9.480	5149.	-2.09	-2.09	1.28
9.580	5599.	-1.52	-1.52	2.14
9.670	6009.	-1.73	-1.73	2.15
9.750	6379.	-2.11	-2.11	2.40
9.840	6859.	-2.81	-2.81	3.18
9.940	7379.	-2.88	-2.88	3.26
10.040	7919.	-1.58	-1.58	2.07
10.120	8299.	-2.11	-2.11	2.68
10.210	8749.	-1.61	-1.61	1.96
10.300	9189.	-1.37	-1.37	1.62
10.350	9419.	-1.76	-1.76	2.35
10.400	9649.	-1.94	-1.94	2.09
10.490	10119.	-2.08	-2.08	2.15
10.620	10709.	-2.20	-2.20	2.30
10.700	11089.	-2.55	-2.55	2.61
10.830	11739.	-2.55	-2.55	2.84
10.930	12239.	-1.34	-1.34	1.80
11.040	12739.	-1.57	-1.57	1.89
11.100	12939.	-1.63	-1.63	1.67
11.150	14339.	-1.89	-1.89	2.28
11.200	15739.	-1.84	-1.84	2.44
11.300	16267.	-2.21	-2.21	2.81
11.400	16795.	-2.14	-2.14	2.75
WEIGHTED AVG FOR REACH		-1.89	-1.89	2.03

FHF FOR THE REACH = 020 WITH 85.8 PERCENT OF THE REACH WITHIN 0.5 FEET
ZONE FOR THE REACH = A 4

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
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===> ME

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