Mark Hill

HUITT-ZOLLARS

WINNWOOD ROAD AT CELESTIAL ROAD

FLOOD STUDY

ALTERNATIVE A

WINNWOOD ROAD AT CELESTIAL ROAD

FLOOD STUDY

ALTERNATIVE A

PREPARED FOR:

CHARLES ALLEN
14516 WINNWOOD ROAD
DALLAS, TEXAS 75240

PREPARED BY:

HUITT-ZOLLARS, INC.
3131 MCKINNEY AVENUE
SUITE 600
DALLAS, TEXAS 75204

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Consulting Engineers / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204 / 214-871-3311

October 18, 1985

Mr. Michael Askew, P.E.
Program Manager
Storm Water Management Department
City of Dallas
1500 West Mockingbird Lane
Dallas, Texas 75235

RE: Winnwood Road at Celestial Road Flood Study
Huitt-Zollars, Job No. 0582-02

Dear Mr. Askew:

The following report is a copy of the hydraulic analysis performed on White Rock Creek within the vicinity of the above referenced property. This submittal includes a written narrative, copy of the PC-WSP Computer Calculations, and drawings of the site and cross sections of the study area.

Based on this analysis, the tract proposed to be reclaimed from the existing floodplain will have little effect on the 100 year water surface profile.

After you review this information, we would be pleased to meet with you should further discussion be requested.

Sincerely,

HUITT-ZOLLARS, INC.
Consulting Engineers

Arthur K. Umble
Project Manager

AKU/ber

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Consulting Engineers / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204 / 214-871-3311

October 18, 1985

Mr. Ron Whitehead, Town Manager
Town of Addison
P.O. Box 144
Addison, Texas 75001

RE: Winnwood Road at Celestial Road Flood Study
Huitt-Zollars, Job No. 0582-02

Dear Mr. Whitehead:

The following report is a copy of the hydraulic analysis performed on White Rock Creek within the vicinity of the above referenced property. The information contained within this report will assist the City of Dallas Stormwater Management Department in their evaluation for a fill permit.

Please contact the writer if further information is required.

Sincerely,

HUITT-ZOLLARS, INC.
Consulting Engineers

Arthur K. Umble
Project Manager

AKU/CML:ber

WINNWOOD ROAD AT CELESTIAL ROAD

FLOOD STUDY

PREPARED FOR:

CHARLES ALLEN
14516 WINNWOOD ROAD
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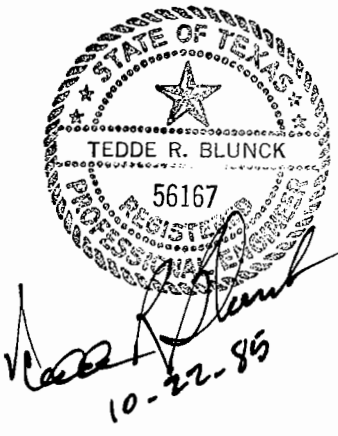

10-22-85

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WINNWOOD ROAD AT CELESTIAL ROAD
FLOOD STUDY

INTRODUCTION

As shown on Exhibit A, the project site is located approximately 400 feet North of the intersection of Winnwood Road and Celestial Road in the Town of Addison, Texas. The site consists of approximately 1.37 acres of land bordered on the East by White Rock Creek. The majority of the site lies within the 100-year flood plain, as shown on Exhibit B.

This study was undertaken to determine the amount of land which can be reclaimed from the flood plain through the use of a landscaped retaining wall system.

METHODOLOGY

PC-WSP, an adaptation of the WSP4 program developed by Albert H. Halff and Associates, Inc. for the City of Dallas floodplain management studies, was used to perform the hydraulic analysis.

Existing cross-sections and the flow rate for White Rock Creek within the vicinity of the project site were obtained from the City of Dallas Department of Stormwater Management. Additional cross-section information was obtained from the field and incorporated into the existing computer model to provide a true and accurate model of the site. The results of this analysis are included in Appendix 1.

The computer model data and the results of the analysis for the proposed retaining wall are included in Appendix 2. The proposed retaining wall has been designed to comply with the "10 point" criteria specified by the City of Dallas Department of Stormwater Management. However, it should be noted that, due to the properties of the retaining wall and clearing, an increase in conveyance resulted. Therefore, there was no need to create an equal reduction of conveyance model for this site.

RESULTS

Table 1 lists the 100-Year Water Surface Elevation for the Existing Conditions Analysis and the Proposed Conditions Analysis. Based on a comparison of the two conditions, the reclamation of the land will have no adverse effect on the water surface elevation. The wall is to be located as shown on Exhibit E. To conform with the computer model for the proposed conditions, the floodway management area are to be planted with grass and well-maintained. The boundary description of the land to be reclaimed is included in Appendix 4. A typical section of the retaining wall is shown on Exhibit F.

TABLE 1

100-YEAR WATER SURFACE ELEVATION

CROSS-SECTION NUMBER	HUITT-ZOLLARS ANALYSIS OF EXISTING CONDITION	HUITT-ZOLLARS ANALYSIS OF PROPOSED CONDITION
136	553.70	553.70
137	554.36	554.36
137A	554.71	554.71
137B	554.72	554.71
138	554.74	554.73
138A	554.82	554.78
138B	554.93	554.88
138C	554.93	554.88
138D	554.93	554.93
140	555.21	555.21
140A	555.58	555.56

APPENDICES

APPENDIX 1

EXISTING CONDITIONS ANALYSIS

FILE WSP0582.EXS

EXISTING INCLUDING
NEW X-SECTIONS
REQUESTED BY CITY
10-10-85

```
TITLE      WHITE ROCK CREEK AT WINWOOD AND CELESTIAL RD. - EXIST.
CSA-ELEV   36700.     553.70
FINAL      142.
XSECTION   136.       160.       185.                                  1.
GENERAL    544.                             1.         1.
SEGMENT    1.         0          0.12       190.       545.
SEGMENT    2.         C          0.06       795.       544.
SEGMENT    3.         0          0.09       845.       560.
DATA       0.         560.       140.       550.       190.       545.
DATA       190.       545.       203.       540.       207.       535.
DATA       221.       524.5      261.       524.5      268.       530.
DATA       287.       540.       295.       544.       295.       544.
DATA       375.       544.       385.       542.       408.       542.
DATA       412.       543.       580.       545.       680.       550.
DATA       845.       560.       845.       560.
ENDTABLE
QNEW       37100.                                                                  -1.
XSECTION   137.       330.       335.                                  1.
GENERAL    541.                             1.         1.
SEGMENT    1.         0          0.12       195.       544.
SEGMENT    2.         C          0.06       305.       541.
SEGMENT    3.         0          0.09       610.       543.
SEGMENT    4.         0          0.04       980.       560.
DATA       0.         560.       9.         555.       23.        535.
DATA       25.        531.       37.        531.       60.        540.
DATA       80.        544.       103.       545.       127.       545.
DATA       195.       544.       218.       540.       228.       525.5
DATA       260.       525.5
DATA       270.       535.       285.       540.       305.       541.
DATA       305.       541.       335.       541.       385.       546.
DATA       420.       546.8      440.       546.8      465.       546.
DATA       610.       543.       610.       543.       710.       545.
DATA       817.       550.       980        560.       960.       560.
ENDTABLE
XSECTION   137A       5.         5.                                    1.
GENERAL    545.                             1.         1.
SEGMENT    1.         0          0.05       228.       544.
SEGMENT    2.         C          0.045      347.       545.
SEGMENT    3.         0          0.09       675.       543.
SEGMENT    4.         0          0.04       1050.      560.
DATA       0.         560.       25.        558.       70.        555.
DATA       200.       547.       228.       544.       228.       544.
DATA       230.       541.       240.       541.       244.       540.
DATA       258.       526.5      295.       526.5      310.       530.
DATA       320.       540.       335.       544.       347.       545.
DATA       347.       545.       485.       546.8      505.       546.8
DATA       530.       545.       675.       543.       675.       543.
DATA       775.       545.       885.       550.       1050.      560.
ENDTABLE
XSECTION   137B.      20.        20.                                   1.
GENERAL    545.                             1.         1.
SEGMENT    1.         0          0.05       228.       544.
SEGMENT    2.         C          0.045      347.       545.
SEGMENT    3.         0          0.09       675.       543.
SEGMENT    4.         0          0.04       1050.      560.
DATA       0.         560.       25.        558.       70.        555.
DATA       200.       547.       228.       544.       228.       544.
DATA       230.       541.       240.       541.       244.       540.
DATA       258.       526.5      295.       526.5      310.       530.
DATA       320.       540.       335.       544.       347.       545.
DATA       347.       545.       485.       546.8      505.       546.8
DATA       530.       545.       675.       543.       675.       543.
DATA       775.       545.       885.       550.       1050.      560.
ENDTABLE
```

```
XSECTION  [illegible]  [illegible]  110.                        1.
GENERAL   545.                      1.      1.
SEGMENT   1.      D       0.05      228.    544.
SEGMENT   2.      C       0.045     347.    545.
SEGMENT   3.      D       0.09      675.    543.
SEGMENT   4.      D       0.04      1050.   560.
DATA      0.      560.    25.       553.    70.       555.
DATA      200.    547.    228.      544.    228.      544.
DATA      230.    541.    240.      541.    244.      540.
DATA      268.    526.5   295.      526.5   310.      530.
DATA      320.    540.    335.      544.    347.      545.
DATA      347.    545.    465.      546.8   505.      546.8
DATA      530.    546.    675.      543.    675.      543.
DATA      775.    545.    885.      550.    1050.     560.
ENDTABLE
XSECTION  1384.   95.     90.                           1.
GENERAL   543.8                     1.      1.
SEGMENT   1.      D       0.05      237.    544.3
SEGMENT   2.      C       0.045     330.    543.8
SEGMENT   3.      D       0.09      450.    546.8
SEGMENT   4.      D       0.04      891.1   555.00
DATA      0.      557.5   100.      550.8   200.      544.5
DATA      237.    544.3   257.      526.4   274.      525.8
DATA      292.    526.6   330.      543.8   348.      544.1
DATA      397.    547.5   450.      546.8   491.      545.7
DATA      600.    545.1   700.      544.5   800.      546.7
DATA      891.    553.6   891.1     555.00
ENDTABLE
XSECTION  1382.   5.      5.                            1.
GENERAL   540.                      1.      1.
SEGMENT   1.      D       0.05      229.    541.2
SEGMENT   2.      C       0.045     265.    543.2
SEGMENT   3.      D       0.05      309.    535.
SEGMENT   4.      C       0.045     395.    545.
SEGMENT   5.      D       0.09      463.    546.
SEGMENT   6.      D       0.04      890.    556.
DATA      0.      555.    100.      550.3   200.      544.1
DATA      229.    541.2   247.      534.7   265.      543.2
DATA      280.    540.7   285.      541.    289.      540.
DATA      298.    539.    302.      538.    305.      537.
DATA      309.    535.    312.      530.    315.      529.
DATA      362.    528.    363.      529.    365.      530.
DATA      371.    535.    374.      540.    378.      541.
DATA      380.    542.    385.      543.    391.      544.
DATA      395.    545.    400.      546.    463.      546.
DATA      549.    545.    615.      544.    640.      543.
DATA      653.    544.    660.      545.    700.      546.
DATA      750.    547.    793.      548.    808.      549.
DATA      830.    549.    855.      550.    861.      551.
DATA      865.    552.    870.      553.    875.      554.
DATA      884.    555.    890.      556.
ENDTABLE
XSECTION  1380.   5.      5.                            1.
GENERAL   540.                      1.      1.
SEGMENT   1.      D       0.05      229.    541.2
SEGMENT   2.      C       0.045     265.    543.2
SEGMENT   3.      D       0.05      309.    535.
SEGMENT   4.      C       0.045     395.    545.
SEGMENT   5.      D       0.09      463.    546.
SEGMENT   6.      D       0.04      890.    556.
DATA      0.      555.    100.      550.3   200.      544.1
DATA      229.    541.2   247.      534.7   265.      543.2
DATA      280     540.7   285.      541.    289.      540.
DATA      298.    539.    302.      538.    305.      537.
DATA      309.    535.    312.      530.    315.      529.
DATA      362.    528.    363.      529.    365.      530
```

```
 DATA      371.      535.      374.      540.      378.      541.
 DATA      380.      542.      385.      543.      391.      544.
 DATA      395.      545.      400.      546.      463.      546.
 DATA      549.      545.      615.      544.      640.      543.
 DATA      653.      544.      660.      545.      700.      546.
 DATA      750.      547.      753.      548.      800.      549.
 DATA      830.      549.      855.      550       861.      551.
 DATA      865.      552.      870.      553.      875.      554.
 DATA      884.      555.      890.      556.
 ENDTABLE
 XSECTION  1360.     437.      386.                          1.
 OPNFRAL   540.                        1.        1.
 SEQNFMT   1.        0         0.05      229.      541.2
 SHQNFMT   2.        C         0.045     265.      543.2
 SEQNFMT   3.        0         0.05      309.      535.
 SHQNFMT   4.        C         0.045     395.      545.
 SEQNFMT   5.        0         0.09      463.      546.
 SHQNFMT   6.        0         0.04      690.      556.
 DATA      0.        555.      100.      550.3     200.      544.1
 DATA      229.      541.2     247.      534.7     265.      543.2
 DATA      280.      540.7     285.      541.      289.      540.
 DATA      298.      539.      302.      538.      305.      537.
 DATA      309.      535.      312.      530.      315.      529.
 DATA      362.      528.      363.      529.      365.      530.
 DATA      371.      535.      374.      540.      378.      541.
 DATA      380.      542.      385.      543.      391.      544.
 DATA      395.      545.      400.      545.      463.      546.
 DATA      549.      545.      615.      544.      640.      543.
 DATA      653.      544.      660.      545.      700.      546.
 DATA      750.      547.      753.      548.      800.      549.
 DATA      830.      549.      855.      550.      861.      551.
 DATA      865.      552.      870.      553.      875.      554.
 DATA      884.      555.      890.      556.
 ENDTABLE
 XSECTION  140.      402.      430.                          1.        1283+70
 OPNFRAL   543.                        1.        1.
 SEQNFMT   1.        0         0.065     575.      545.
 SHQNFMT   2.        C         0.040     670.      543.
 SEQNFMT   3.        0         0.000     920.      565.
 DATA      -120.     565.
 DATA      -120.     560.      0.        555.      130.      540.
 DATA      255.      545.                          270.      544.
 DATA      300.      546.      360.      547.      390.      547.
 DATA      430.      547.      575.      545.      578.      540.
 DATA      594.      539.      610.      528.      640.      528.
 DATA      658.      540.      670.      543.      690.      542.
 DATA      720.      550.      740.      554.      790.      558.
 DATA      800.      562.      920.      565.
 ENDTABLE
 XSECTION  1404.     170.      167.                          1.
 OPNFRAL   545.                        1.        1.
 SEQNFMT   1.        0         0.04      357.      547.
 SHQNFMT   2.        0         0.065     560.      546.
 SEQNFMT   3.        C         0.04      649.      540.
 SHQNFMT   4.        0         0.000.    752.      557.
 DATA      0.        560.      165.      560.      220.      545.
 DATA                          263.      545.      302.      546.
 DATA      357.      547.      442.      547.      560.      546.
 DATA      563.      545.      567.      540.      570.      535.
 DATA      583.      530.      590.      529.      625.      529.
 DATA      630.      530.      641.      535.      648.      540.
 DATA      651.      541.      652.      542.      655.      543.
 DATA      656.      544.      682.      545.      690.      545.
 DATA      710.      550.      729.      555.      735.      556.
 DATA      752.      557.
 ENDTABLE
```

XSECTION	140B.	55.	102.				1.	
GENERAL	545.			1.	1.			
SEGMENT	1.	0.	0.04	389.	547.			
SEGMENT	2.	0.	0.065	600.	540.			
SEGMENT	3.	C.	0.045	685.	540.			
SEGMENT	4.	0.	0.08	809.	561.			
DATA	0.	560.	186.	560.	270.	546.		
DATA					331.	546.		
DATA	389.	547.	518.	547.	545.	546.		
DATA	565.	545.	595.	544.	597.	543.		
DATA	600.	542.	605.	541.	608.	540.		
DATA	668.	529.	670.	530.	683.	535.		
DATA	685.	540.	693.	545.	732.	546.		
DATA	742.	547.	750.	548.	758.	549.		
DATA	766.	550.	775.	555	790.	560.		
DATA	809.	561.						
ENDTABLE								
XSECTION	140C.	55.	65.				1.	
GENERAL	540.			1.	1.			
SEGMENT	1.	0.	0.04	389.	547.			
SEGMENT	2.	0.	0.065	675.	540.			
SEGMENT	3.	C.	0.045	765.	545.			
SEGMENT	4.	0.	0.08	812.	565.			
DATA	0.0	560.	175.	560.	214.	547.		
DATA	389.	547.	445.	548.	535.	548.		
DATA	565.	547.	600.	546.	607.	545.		
DATA	625.	544.	645.	543.	665.	542.		
DATA	672.	541.	675.	540.	682.	535.		
DATA	697.	530.	720.	529.	743.	529.		
DATA	750.	530.	757.	535.	760.	540.		
DATA	765.	545.	767.	546.	778.	547.		
DATA	782.	548.	785.	549.	786.	550.		
DATA	795.	555.	805.	560.	812.	565.		
ENDTABLE								
XSECTION	140D.	80.	172.				1.	
GENERAL	535.			1.	1.			
SEGMENT	1.	0.	0.06	682.	535.			
SEGMENT	2.	C.	0.045	760.	540.			
SEGMENT	3.	0.	0.08	810.	565.			
DATA	0.	547.	228.	547.	414.	547.		
DATA	445.	548.	535.	548.	565.	547.		
DATA	600.	546.	605.	545.	625.	544.		
DATA	645.	543.	665.	542.	671.	541.		
DATA	675.	540.	682.	535.	695.	530.		
DATA	720.	529.	742.	529.	749.	530.		
DATA	755.	535.	760.	540.	763.	545.		
DATA	765.	546.	776.	547.	780.	548.		
DATA	782.	549.	785.	550.	795.	555.		
DATA	805.	560.	810.	565.				
ENDTABLE								
XSECTION	141.	106.	100.				1.	1277+16
GENERAL	545.			1.	1.			
SEGMENT	1.	C	0.06	730.	546.			
SEGMENT	2.	0	0.045	850.	565.			
DATA	0.	565.	0.	560.	10.	559.		
DATA	300.	560.	325.	547.	460.	548.		
DATA	605.	548.	650.	546.	730.	546.		
DATA	736.	545.	757.	530.	775.	530.		
DATA	780.	529.	800.	529.	805.	530.		
DATA	850.	565.						
ENDTABLE								
XSECTION	142.	1.	1.				1.	1280+69
GENERAL	546.			1.	1.			
SEGMENT	1.	0	0.06	734.	545.			
SEGMENT	2.	C	0.04	944.	565.			
DATA	0.	565.	0	560	40	[illegible]		

```
DATA      599.      569.      525.      547.      559.      547.
DATA      599.      549.      570.      549.      590.      547.
DATA      659.      546.      712.      546.      734.      545.
DATA      765.      549.      783.      539.      799.      529.
DATA      834.      523.      852.      535.      899.      550.
DATA      934.      566.      944.      565.
ENDTABLE
```

SECTION	DISTANCE: DOWNSTREAM CHANNEL	DISTANCE: DOWNSTREAM VALLEY	DISTANCE: UPSTREAM CHANNEL	DISTANCE: UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION= 'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
136.	1.	1.	150.	185.	1.00	.120	.060	.050			

ELEVATION	KD VALUES: CHANNEL	KD VALUES: VALLEY	KD VALUES: TOTAL	END AREA SQ. FT.
560.00	648849.3	644471.6	1293321.0	11031.25
559.00	611689.6	568353.8	1180043.0	10206.06
558.00	575498.9	498043.4	1073542.0	9413.99
557.00	539723.7	430221.8	969945.5	8636.09
556.00	505426.2	370733.6	876159.8	7907.60
555.00	471461.0	313056.3	784517.3	7190.09
554.00	439009.7	263347.0	702356.7	6521.99
553.00	407047.3	216040.0	623087.3	5869.45
552.00	376225.4	174338.8	550564.3	5253.20
551.00	346505.6	137711.4	484217.0	4671.11
550.00	317419.8	103998.4	421418.2	4109.50
549.00	289790.1	76948.5	366738.6	3589.50
548.00	262993.8	53281.3	316275.2	3094.50
547.00	237030.9	32996.9	270027.9	2623.50
546.00	212519.0	18402.8	230921.8	2193.00
545.00	189899.6	7896.0	197795.6	1796.19
544.00	169199.4	1549.5	170748.9	1434.55
543.00	153206.9	526.9	153733.8	1269.22
542.00	138285.2	110.1	138395.2	1145.23
541.00	124246.1	.0	124246.1	1044.67
540.00	111196.8	.0	111196.8	957.91
539.00	98165.3	.0	98165.3	875.25
538.00	85922.6	.0	85922.6	795.51
537.00	74469.8	.0	74469.8	718.37
536.00	63758.1	.0	63758.1	643.69
535.00	53938.9	.0	53938.9	571.87
534.00	45021.4	.0	45021.4	503.02
533.00	36962.4	.0	36962.4	437.37
532.00	29663.4	.0	29663.4	374.79
531.00	23157.5	.0	23157.5	315.40
530.00	17444.5	.0	17444.5	259.51
529.00	12409.9	.0	12409.9	206.50
528.00	8105.4	.0	8105.4	156.03
527.00	4610.5	.0	4610.5	108.21
526.00	1966.1	.0	1966.1	62.97
525.00	319.0	.0	319.0	20.34
524.50	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
36700.00	5.61	553.70						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION='W' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
137.	158.	185.	338.	336.	1.00	.120	.060	.090	.040		

ELEVATION	KQ VALUES CHANNEL	KQ VALUES VALLEY	KQ VALUES TOTAL	END AREA SQ. FT.
560.00	563418.6	1395866.0	1955285.0	14617.00
559.00	527584.6	1240866.0	1768451.0	13653.02
558.00	492854.7	1089997.0	1581852.0	12694.74
557.00	458118.0	952962.4	1411080.0	11765.78
556.00	424540.2	820390.6	1244931.0	10843.32
555.00	392598.5	703159.8	1095758.0	9950.05
554.00	361186.4	590636.1	951822.5	9065.57
553.00	331009.9	489095.8	820105.8	8201.57
552.00	302039.9	397948.4	699979.3	7356.61
551.00	273741.3	312780.3	586521.6	6522.57
550.00	247039.0	241345.9	488384.8	5713.36
549.00	221248.5	177893.8	399142.4	4920.92
548.00	196370.1	122424.1	318794.2	4145.11
547.00	173006.6	81147.5	254154.1	3405.20
546.00	150639.5	48878.5	199717.9	2726.49
545.00	129705.4	26172.1	155877.5	2125.59
544.00	110856.6	21535.0	132391.6	1710.07
543.00	95241.1	17098.9	112340.0	1425.00
542.00	81520.3	13151.8	94672.1	1209.55
541.00	69069.4	10228.1	79297.5	1026.97
540.00	58323.7	8359.7	75683.4	905.21
539.00	50689.1	6575.9	57256.0	800.66
538.00	52898.1	5013.2	57911.3	703.86
537.00	45777.7	3670.9	49448.6	613.37
536.00	39390.6	2568.4	41959.1	530.18
535.00	33494.3	1679.4	35173.7	453.81
534.00	27837.9	990.2	28828.1	383.45
533.00	22495.3	478.8	22974.1	317.99
532.00	17656.8	146.0	17802.9	257.64
531.00	13344.6	2.6	13347.1	203.39
530.00	9555.5	.0	9555.5	161.72
529.00	6288.9	.0	6288.9	127.72
528.00	3605.7	.0	3605.7	85.49
527.00	1550.8	.0	1550.8	49.99
526.00	253.9	.0	253.9	16.23
525.50	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	3.96	554.36						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION= 'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
137A	338.	335.	5.	5.	1.00	.050	.045	.050	.040		

ELEVATION	KQ VALUES CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
560.00	819843.8	1337897.0	2157740.0	13387.55
559.00	766906.2	1165262.0	1932249.0	12353.50
558.00	715993.4	1009823.0	1725916.0	11357.00
557.00	665470.9	858586.9	1524058.0	10371.98
556.00	617316.0	728000.5	1345317.0	9436.68
555.00	569926.6	603599.3	1173525.0	8517.64
554.00	524323.4	493626.5	1017950.0	7636.55
553.00	480448.7	396590.3	877039.9	6792.12
552.00	437568.7	306840.8	744409.5	5968.63
551.00	396976.8	233013.8	629990.5	5192.31
550.00	357697.0	168252.4	525949.4	4443.22
549.00	319729.4	112556.7	432286.1	3721.38
548.00	284052.0	71353.9	355405.9	3050.78
547.00	249859.7	39601.6	289461.3	2426.10
546.00	217125.6	16927.7	234053.3	1858.99
545.00	186440.3	5397.4	191837.7	1440.00
544.00	160857.3	1755.1	169612.3	1210.16
543.00	149034.5	25.3	149059.8	1032.87
542.00	130137.2	.0	130137.2	928.91
541.00	119134.7	.0	119134.7	833.00
540.00	106529.2	.0	106529.2	753.63
539.00	92003.1	.0	92003.1	678.63
538.00	79257.1	.0	79257.1	606.65
537.00	66817.8	.0	66817.8	537.60
536.00	55417.3	.0	55417.3	471.32
535.00	45043.4	.0	45043.4	407.82
534.00	35636.6	.0	35636.6	346.96
533.00	27252.9	.0	27252.9	288.99
532.00	19924.8	.0	19924.8	233.74
531.00	13633.9	.0	13633.9	181.37
530.00	8395.8	.0	8395.8	131.78
529.00	4568.0	.0	4568.0	86.60
528.00	1869.2	.0	1869.2	47.41
527.00	292.0	.0	292.0	14.29
526.50	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.49	554.71						

DISTANCE					STATION=					
	DOWNSTREAM		UPSTREAM			'N' VALUE BY SUBAREAS				
SECTION	CHANNEL	VALLEY	CHANNEL	VALLEY	DRAINAGE AREA,SQ MI	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
1378.	5.	5.	20.	20.	1.00	.050	.045	.050	.040		

	KO VALUES			FND AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.
560.00	819843.8	1337897.0	2157740.0	13387.55
559.00	766996.2	1165262.0	1932249.0	12353.50
558.00	715993.4	1009823.0	1725816.0	11357.00
557.00	665470.9	858586.9	1524058.0	10371.98
556.00	617316.0	728000.6	1345317.0	9436.68
555.00	569936.6	603590.3	1173525.0	8517.64
554.00	524323.4	493626.5	1017950.0	7636.55
553.00	480448.7	396500.3	877028.9	6792.12
552.00	437568.7	306840.0	744409.6	5968.63
551.00	396976.8	233013.8	629990.5	5192.31
550.00	357697.0	168252.4	525949.4	4443.22
549.00	319729.4	112556.7	432286.1	3721.38
548.00	284052.0	71353.9	355405.9	3059.78
547.00	249859.7	39601.6	289461.3	2426.10
546.00	217125.6	16927.7	234053.3	1858.99
545.00	186448.3	5397.4	191837.7	1448.00
544.00	168057.3	1755.1	169812.3	1210.16
543.00	149034.5	25.3	149059.8	1032.87
542.00	136137.2	.0	136137.2	928.91
541.00	119134.7	.0	119134.7	833.00
540.00	106529.2	.0	106529.2	753.63
539.00	92983.1	.0	92983.1	678.63
538.00	79257.1	.0	79257.1	606.65
537.00	66817.8	.0	66817.8	537.60
536.00	55417.3	.0	55417.3	471.32
535.00	45043.4	.0	45043.4	407.82
534.00	35636.6	.0	35636.6	346.96
533.00	27252.9	.0	27252.9	288.99
532.00	19924.8	.0	19924.8	233.74
531.00	13633.9	.0	13633.9	181.37
530.00	8395.8	.0	8395.8	131.78
529.00	4568.0	.0	4568.0	86.60
528.00	1869.2	.0	1869.2	47.41
527.00	292.0	.0	292.0	14.29
526.50	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.49	554.72						

DISTANCE						STATION=					
DOWNSTREAM		UPSTREAM		DRAINAGE		'N' VALUE BY SEGMENTS					
SECTION	CHANNEL	VALLEY	CHANNEL	VALLEY	AREA,SQ MI	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
138.	20.	20.	80.	110.	1.00	.050	.045	.090	.040		

RO VALUES				END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.
560.00	819843.8	1337897.0	2157740.0	13387.55
559.00	766996.2	1165262.0	1932249.0	12363.50
558.00	715993.4	1009823.0	1725816.0	11357.80
557.00	665470.9	858586.9	1524058.0	10371.98
556.00	617316.0	728000.6	1345317.0	9436.68
555.00	569926.6	603598.3	1173525.0	8517.64
554.00	524323.4	493626.5	1017950.0	7636.55
553.00	480448.7	396580.3	877028.9	6792.12
552.00	437568.7	306840.8	744409.6	5968.63
551.00	396976.8	233013.8	629990.5	5192.31
550.00	357697.0	168252.4	525949.4	4443.22
549.00	319729.4	112556.7	432286.1	3721.38
548.00	284052.0	71353.9	355405.9	3050.78
547.00	249859.7	39601.6	289461.3	2426.10
546.00	217125.6	16927.7	234053.3	1858.99
545.00	186440.3	5397.4	191837.7	1448.00
544.00	158057.3	1755.1	159812.3	1210.16
543.00	149034.5	25.3	149059.8	1032.87
542.00	130137.2	.0	130137.2	928.91
541.00	119134.7	.0	119134.7	833.00
540.00	106529.2	.0	106529.2	753.63
539.00	92803.1	.0	92803.1	678.63
538.00	79257.1	.0	79257.1	606.65
537.00	66817.8	.0	66817.8	537.60
536.00	55417.3	.0	55417.3	471.32
535.00	45043.4	.0	45043.4	407.82
534.00	35636.6	.0	35636.6	346.96
533.00	27252.9	.0	27252.9	288.99
532.00	19924.8	.0	19924.8	233.74
531.00	13633.9	.0	13633.9	181.37
530.00	8395.8	.0	8395.8	131.78
529.00	4568.0	.0	4568.0	86.69
528.00	1869.2	.0	1869.2	47.41
527.00	292.0	.0	292.0	14.29
526.50	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.47	554.74						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION='N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
138A.	90.	110.	95.	90.	1.00	.050	.045	.090	.040		

ELEVATION	KQ VALUES CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
558.00	659463.4	1324199.0	1983663.0	10912.93
557.00	618331.3	1138162.0	1756493.0	10027.47
556.00	577942.8	961848.4	1539791.0	9151.79
555.00	539669.8	800118.1	1339788.0	8290.45
554.00	500538.6	653670.7	1154209.0	7445.36
553.00	463168.9	517412.8	980581.7	6611.05
552.00	427636.2	407448.0	835084.2	5817.62
551.00	392858.0	306019.4	698877.4	5042.30
550.00	359211.3	217393.9	576605.3	4294.14
549.00	327116.9	146245.0	473362.0	3583.10
548.00	295785.5	84045.4	379830.9	2893.21
547.00	265953.3	40163.4	306116.7	2250.81
546.00	237564.7	15550.4	253115.0	1727.05
545.00	210439.6	2625.1	213064.8	1345.67
544.00	184668.5	4.3	184672.7	1133.35
543.00	164371.4	.0	164371.4	1041.26
542.00	145729.8	.0	145729.8	953.23
541.00	128285.7	.0	128285.7	868.39
540.00	112014.6	.0	112014.6	786.71
539.00	96891.8	.0	96891.8	708.24
538.00	83164.0	.0	83164.0	633.77
537.00	70431.4	.0	70431.4	562.22
536.00	58829.1	.0	58829.1	494.06
535.00	48397.6	.0	48397.6	429.23
534.00	38841.6	.0	38841.6	367.73
533.00	30326.7	.0	30326.7	309.28
532.00	22965.9	.0	22965.9	254.63
531.00	16559.7	.0	16559.7	203.17
530.00	11044.7	.0	11044.7	154.71
529.00	6640.9	.0	6640.9	109.97
528.00	3200.3	.0	3200.3	68.36
527.00	866.7	.0	866.7	30.00
526.00	7.2	.0	7.2	1.02
525.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.56	554.82						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION= 'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
1320.	95.	90.	5.	5.	1.00	.050	.045	.050	.045	.090	.040

ELEVATION	KQ VALUES CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
556.00	636754.2	1018953.0	1655707.0	9630.45
555.00	588971.5	854571.6	1443543.0	8747.23
554.00	542670.4	709692.1	1252363.0	7861.50
553.00	497885.5	577227.2	1075113.0	7041.89
552.00	454111.4	453039.6	907151.1	6219.79
551.00	412941.7	350573.8	763515.5	5498.97
550.00	372780.0	258686.7	631466.7	4675.84
549.00	334139.4	182665.8	516796.2	3939.00
548.00	297913.3	124168.0	422081.3	3275.44
547.00	263209.1	78018.7	341227.8	2655.33
546.00	230182.1	44063.2	274245.3	2101.14
545.00	199829.0	25949.3	225778.4	1694.56
544.00	175594.7	15292.3	190886.9	1414.16
543.00	155318.2	8966.5	164284.7	1208.01
542.00	136684.4	5073.5	141758.0	1043.22
541.00	116695.4	2654.6	121349.9	902.75
540.00	103143.0	1401.5	104544.7	782.14
539.00	87073.1	743.8	87816.9	678.48
538.00	72446.3	326.5	72773.0	586.81
537.00	59206.8	110.4	59317.1	504.13
536.00	47294.5	17.4	47312.0	429.43
535.00	36790.5	.2	36790.7	362.59
534.00	27758.0	.0	27758.0	301.04
533.00	19820.4	.0	19820.4	241.71
532.00	12968.8	.0	12968.8	184.17
531.00	7324.6	.0	7324.6	128.49
530.00	3055.5	.0	3055.5	74.59
529.00	567.5	.0	567.5	24.53
528.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.27	554.93						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION= 'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
1388.	5.	5.	5.	5.	1.00	.050	.045	.050	.045	.050	.040

KO VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
556.00	636754.2	1018953.0	1655707.0	9630.45
555.00	580971.5	864571.6	1445543.0	8747.23
554.00	542670.4	709692.1	1252363.0	7681.50
553.00	497885.5	577227.2	1075113.0	7041.89
552.00	454111.4	453039.6	907151.1	6219.70
551.00	412941.7	350573.8	763515.5	5438.97
550.00	372799.0	258686.7	631486.7	4675.84
549.00	334130.4	182665.8	516796.2	3939.00
548.00	297913.3	124168.0	422081.3	3275.44
547.00	263209.1	78018.7	341227.8	2655.33
546.00	230182.1	44063.2	274245.3	2161.14
545.00	199829.0	25949.3	225778.4	1694.56
544.00	175594.7	15292.3	190886.9	1414.16
543.00	155918.2	8966.5	164884.7	1208.01
542.00	136684.4	5073.6	141758.0	1043.22
541.00	118695.4	2654.6	121349.9	902.75
540.00	103143.0	1401.6	104544.7	782.14
539.00	87073.1	743.8	87816.9	678.48
538.00	72446.3	326.6	72773.0	586.81
537.00	59206.8	110.4	59317.1	504.13
536.00	47294.6	17.4	47312.0	429.43
535.00	36790.5	.2	36790.7	362.59
534.00	27758.0	.0	27758.0	301.04
533.00	19820.4	.0	19820.4	241.71
532.00	12968.8	.0	12968.8	184.17
531.00	7324.6	.0	7324.6	129.40
530.00	3055.5	.0	3055.5	74.50
529.00	567.5	.0	567.5	24.53
528.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.27	554.93						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION= 'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
1360.	5.	5.	437.	366.	1.00	.050	.045	.050	.045	.050	.040

KO VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
556.00	636754.2	1018953.0	1655707.0	9630.45
555.00	588971.5	854571.6	1443543.0	8747.23
554.00	543670.4	709692.1	1253363.0	7881.50
553.00	497885.5	577227.2	1075113.0	7041.89
552.00	454111.4	453039.6	907151.1	6219.70
551.00	412941.7	350573.8	763515.5	5438.97
550.00	372790.0	258686.7	631466.7	4675.84
549.00	334130.4	182665.8	516796.2	3939.00
548.00	297913.3	124168.0	422081.3	3275.44
547.00	263209.1	78018.7	341227.8	2655.33
546.00	230182.1	44063.2	274245.3	2101.14
545.00	199829.0	25949.3	225778.4	1694.56
544.00	175594.7	15292.3	190886.9	1414.16
543.00	155918.2	8966.5	164284.7	1200.01
542.00	136684.4	5073.6	141758.0	1043.22
541.00	119695.4	2654.6	121349.9	902.75
540.00	103143.0	1401.6	104544.7	782.14
539.00	87073.1	743.8	87815.9	678.48
538.00	72446.3	326.6	72773.0	586.81
537.00	59206.8	110.4	59317.1	504.13
536.00	47294.6	17.4	47312.0	429.43
535.00	36790.5	.2	36790.7	362.58
534.00	27758.0	.0	27758.0	301.04
533.00	19820.4	.0	19820.4	241.71
532.00	12968.8	.0	12968.8	184.17
531.00	7324.6	.0	7324.6	129.40
530.00	3855.5	.0	3855.5	74.50
529.00	567.5	.0	567.5	24.53
528.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.27	554.93						

STATION=1283+70

SECTION	DOWNSTREAM CHANNEL	DOWNSTREAM VALLEY	UPSTREAM CHANNEL	UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
140.	437.	396.	442.	439.	1.00	.065	.040	.060			

KQ VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
565.00	1085691.0	1755675.0	2841366.0	16313.50
564.00	1030339.0	1568785.0	2599124.0	15200.17
563.00	976622.6	1394842.0	2371465.0	14265.50
562.00	923333.6	1224922.0	2148255.0	13256.94
561.00	871755.4	1071089.0	1942845.0	12272.79
560.00	821050.6	930469.4	1751520.0	11310.03
559.00	771655.8	809666.0	1581322.0	10379.34
558.00	723681.1	700559.3	1424160.0	9495.84
557.00	676439.6	599251.3	1275691.0	8643.79
556.00	631004.6	508819.3	1139824.0	7842.10
555.00	586417.4	423488.1	1009906.0	7064.12
554.00	543494.2	346682.7	890176.9	6329.82
553.00	501850.1	276226.1	778076.1	5620.21
552.00	461058.7	210002.4	671061.1	4927.07
551.00	422456.4	156326.2	578782.6	4271.64
550.00	384698.0	107446.0	492144.0	3630.18
549.00	348295.3	65759.0	413954.3	3009.66
548.00	313738.7	36475.3	350214.0	2421.78
547.00	280524.7	17069.9	297594.6	1909.28
546.00	248622.8	6110.9	254733.7	1494.52
545.00	218629.1	2591.7	221220.7	1269.76
544.00	191264.5	965.9	192230.3	1120.20
543.00	165324.5	138.3	165462.9	996.58
542.00	145827.0	8.0	145835.0	895.20
541.00	127560.0	.0	127560.0	806.76
540.00	110771.5	.0	110771.5	724.00
539.00	94192.3	.0	94192.3	645.55
538.00	78950.2	.0	78950.2	570.20
537.00	65026.1	.0	65026.1	497.95
536.00	52404.0	.0	52404.0	428.80
535.00	41148.9	.0	41148.9	362.94
534.00	31126.5	.0	31126.5	300.05
533.00	22340.0	.0	22340.0	240.14
532.00	14857.3	.0	14857.3	183.32
531.00	8687.4	.0	8687.4	129.55
530.00	3995.7	.0	3995.7	79.00
529.00	1209.5	.0	1209.5	34.94
528.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	5.14	555.21						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION='N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
1400.	402.	430.	170.	157.	1.00	.040	.055	.040	.050		

KQ VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
560.00	782301.3	926090.5	1708392.0	8746.00
559.00	736433.0	814660.6	1551094.0	8152.73
558.00	691063.8	706036.5	1397100.0	7561.36
557.00	647261.5	608959.4	1256221.0	6978.61
556.00	604228.2	516913.4	1121142.0	6402.78
555.00	562703.1	433442.8	996145.9	5846.07
554.00	522335.4	355824.2	878159.5	5297.84
553.00	482739.4	282107.1	764846.5	4755.27
552.00	445120.8	219699.5	664820.3	4225.71
551.00	408262.9	161771.3	570034.3	3701.03
550.00	372546.0	110561.7	483107.6	3183.67
549.00	338651.3	70718.7	409369.9	2677.83
548.00	305800.2	38671.2	344551.4	2179.00
547.00	274395.3	15246.5	289641.8	1719.10
546.00	245058.8	5521.4	250580.3	1396.27
545.00	220593.6	776.1	221369.7	1170.00
544.00	195782.7	444.3	196227.0	1066.97
543.00	171949.2	267.0	172216.2	973.60
542.00	149308.8	100.9	149409.7	884.81
541.00	127089.9	16.9	127106.8	799.90
540.00	107919.2	.0	107919.2	716.00
539.00	90581.3	.0	90581.3	636.00
538.00	74536.6	.0	74536.6	558.00
537.00	59811.9	.0	59811.9	482.00
536.00	46528.4	.0	46528.4	408.12
535.00	34748.8	.0	34748.8	336.27
534.00	24846.9	.0	24846.9	267.69
533.00	16633.9	.0	16633.9	203.79
532.00	9925.5	.0	9925.5	144.50
531.00	4832.5	.0	4832.5	90.40
530.00	1438.8	.0	1438.8	41.17
529.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	6.02	555.58						

DISTANCE						STATION=					
	DOWNSTREAM		UPSTREAM		DRAINAGE	'N' VALUE BY SEGMENTS					
SECTION	CHANNEL	VALLEY	CHANNEL	VALLEY	AREA,SQ MI	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
1408.	170.	167.	55.	102.	1.00	.040	.065	.045	.050		

KQ VALUES				END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.
561.00	585858.8	906730.6	1492590.0	9252.50
560.00	550180.1	879764.6	1429945.0	8509.37
559.00	515382.8	804865.1	1320248.0	7856.74
558.00	481173.2	698006.6	1179180.0	7254.44
557.00	448239.9	600355.1	1048595.0	6684.38
556.00	415933.4	507176.6	923110.0	6110.25
555.00	384857.4	422682.1	807539.5	5547.59
554.00	354727.9	344705.1	699433.1	4992.74
553.00	325229.5	271073.8	596303.3	4443.10
552.00	297351.8	209037.5	506389.3	3985.94
551.00	270099.5	151590.6	421690.1	3373.46
550.00	243784.9	101027.0	344811.9	2848.00
549.00	218972.7	62704.6	281677.3	2337.80
548.00	195090.2	32194.4	227284.6	1839.36
547.00	172148.1	10662.6	182810.7	1385.42
546.00	150408.3	4209.1	154697.4	1078.14
545.00	129868.8	2278.7	132147.5	905.00
544.00	110838.2	1375.5	112208.7	804.17
543.00	92811.7	692.8	93504.5	708.88
542.00	76037.3	224.2	76261.5	618.33
541.00	60553.8	29.2	60583.0	532.00
540.00	46625.9	.0	46625.9	453.50
539.00	36623.4	.0	36623.4	379.43
538.00	27971.8	.0	27971.8	311.21
537.00	20602.9	.0	20602.9	248.85
536.00	14516.3	.0	14516.3	192.69
535.00	9573.9	.0	9573.9	142.24
534.00	5837.9	.0	5837.9	98.47
533.00	3195.8	.0	3195.8	62.66
532.00	1450.5	.0	1450.5	34.75
531.00	483.3	.0	483.3	15.21
530.00	81.8	.0	81.8	3.88
529.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	6.19	555.79						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION= 'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
140C.	55.	102.	55.	65.	1.00	.040	.065	.045	.060		

KQ VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
565.00	960442.9	1739970.0	2700413.0	13357.50
564.00	913220.9	1546663.0	2459884.0	12546.76
563.00	866352.2	1357061.0	2223414.0	11736.52
562.00	820896.8	1182279.0	2003176.0	10928.30
561.00	776162.1	1052222.0	1828384.0	10136.71
560.00	732508.2	989244.8	1721753.0	9370.06
559.00	689958.2	891818.7	1581777.0	8689.30
558.00	648144.2	771424.3	1419569.0	8065.00
557.00	607750.3	660918.1	1268668.0	7449.10
556.00	568852.9	555299.0	1123352.0	6835.70
555.00	529721.7	459338.7	989060.4	6228.69
554.00	492438.4	370954.2	863392.6	5626.34
553.00	455853.8	287620.7	743474.6	5027.10
552.00	421058.7	217756.6	638815.3	4435.54
551.00	386951.6	153374.4	540326.0	3846.86
550.00	353876.4	97214.3	451090.7	3262.50
549.00	322448.4	55385.1	377833.4	2684.41
548.00	292835.2	27983.2	320818.4	2150.73
547.00	262646.9	12892.4	275539.3	1711.22
546.00	234651.4	6568.4	243219.8	1495.02
545.00	208507.8	4728.5	213236.3	1324.47
544.00	184476.4	2123.2	186599.5	1177.60
543.00	162112.4	734.6	162847.0	1048.85
542.00	140691.4	164.2	141055.6	939.02
541.00	120835.9	20.9	120856.8	845.00
540.00	102154.1	.0	102154.1	758.00
539.00	85797.8	.0	85797.8	674.00
538.00	70651.2	.0	70651.2	592.00
537.00	56741.3	.0	56741.3	512.00
536.00	44183.8	.0	44183.8	434.12
535.00	33014.2	.0	33014.2	358.26
534.00	23529.5	.0	23529.5	285.46
533.00	15606.7	.0	15606.7	216.98
532.00	9122.3	.0	9122.3	152.80
531.00	4223.5	.0	4223.5	93.20
530.00	1076.6	.0	1076.6	38.34
529.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	5.41	556.03						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION= 'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
1400.	55.	65.	00.	172.	1.00	.050	.045	.050			

KQ VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
565.00	899787.8	2179355.0	3079143.0	15871.00
564.00	856955.1	1998699.0	2845654.0	15061.90
563.00	814432.1	1800649.0	2615082.0	14253.16
562.00	773148.1	1623022.0	2396171.0	13445.86
561.00	732495.4	1450674.0	2183169.0	12639.30
560.00	692789.6	1286841.0	1979630.0	11833.84
559.00	654049.9	1131780.0	1785830.0	11030.22
558.00	615954.2	982467.9	1598422.0	10227.82
557.00	579100.6	844566.6	1423667.0	9428.14
556.00	542856.0	712357.3	1255213.0	8629.78
555.00	507805.0	591502.8	1099308.0	7833.98
554.00	473668.8	479721.3	953390.1	7040.10
553.00	440142.4	373989.3	814131.8	6247.50
552.00	408176.1	284500.3	692776.4	5458.10
551.00	376808.9	201952.6	578761.5	4669.90
550.00	346349.3	129415.0	475756.1	3883.50
549.00	317303.8	74777.4	392081.2	3100.54
548.00	289148.3	35686.7	324835.0	2358.98
547.00	261882.0	12707.4	274589.4	1738.21
546.00	235822.5	12707.4	248529.9	1490.24
545.00	210915.5	8511.3	219426.8	1313.85
544.00	187117.8	4768.3	191886.1	1168.01
543.00	164431.7	3657.7	167089.5	1040.50
542.00	142883.2	1617.2	144500.5	931.59
541.00	122500.7	1072.5	123573.3	837.80
540.00	103500.8	695.9	104196.7	750.50
539.00	86904.0	383.8	87287.8	666.70
538.00	71496.5	178.2	71674.8	585.30
537.00	57320.8	60.4	57381.3	506.30
536.00	44509.8	11.8	44521.7	429.84
535.00	32883.8	.0	32883.8	355.50
534.00	23664.6	.0	23664.6	284.63
533.00	15735.0	.0	15735.0	217.25
532.00	9209.1	.0	9209.1	153.60
531.00	4253.8	.0	4253.8	93.90
530.00	1067.4	.0	1067.4	38.36
529.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.19	556.27						

STATION=1277+16

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,50 MI	'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
141.	80.	172.	105.	100.	1.00	.060	.045				

KO VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	FWD AREA 50. FT.
565.00	1201515.0	857228.6	2058744.0	12282.00
564.00	1049494.0	811310.1	1860804.0	11433.16
563.00	900649.1	765826.1	1666475.0	10584.78
562.00	764510.4	722079.5	1486590.0	9738.25
561.00	649336.9	679200.7	1328538.0	8890.01
560.00	565600.1	637623.5	1203232.0	8067.22
559.00	523359.8	597348.0	1120708.0	7393.26
558.00	506768.1	557940.4	1066709.0	6823.86
557.00	444642.6	520174.4	964817.0	6282.82
556.00	369889.2	483206.3	853095.4	5749.91
555.00	302161.3	447787.4	749948.8	5221.09
554.00	240047.4	413535.7	653583.1	4695.36
553.00	181676.6	380062.1	561738.7	4171.69
552.00	133449.3	349545.9	481995.2	3653.14
551.00	89443.2	317769.8	407213.0	3136.53
550.00	51768.2	288103.5	339871.8	2622.80
549.00	25525.1	260181.3	285706.4	2113.56
548.00	9685.9	233318.3	243004.2	1678.33
547.00	2197.7	207721.6	209919.3	1333.98
546.00	366.3	184365.3	184731.6	1155.75
545.00	.0	167255.2	167255.2	1047.14
544.00	.0	148346.8	148346.8	960.68
543.00	.0	130371.3	130371.3	876.37
542.00	.0	113585.6	113585.6	794.64
541.00	.0	97737.6	97737.6	715.49
540.00	.0	83211.8	83211.8	639.29
539.00	.0	69904.3	69904.3	565.77
538.00	.0	57507.3	57507.3	494.94
537.00	.0	46316.3	46316.3	426.80
536.00	.0	36298.4	36298.4	361.50
535.00	.0	27350.4	27350.4	298.79
534.00	.0	19487.7	19487.7	239.65
533.00	.0	12786.9	12786.9	181.19
532.00	.0	7275.4	7275.4	126.37
531.00	.0	3133.8	3133.8	74.34
530.00	.0	700.6	700.6	26.93
529.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	6.30	556.27						

STATION=1288+69

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
142.	105.	100.	1.	1.	1.00	.060	.040				

XD VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
565.00	1421428.0	1241164.0	2662592.0	14153.50
564.00	1331111.0	1086537.0	2417648.0	13211.30
563.00	1241772.0	935082.2	2176854.0	12269.82
562.00	1156343.0	796316.2	1952659.0	11331.22
561.00	1073807.0	671226.1	1745033.0	10396.82
560.00	995607.9	566647.8	1562256.0	9468.73
559.00	925394.3	518755.4	1444150.0	8658.80
558.00	860504.7	508657.6	1369162.0	7927.65
557.00	799618.3	445050.8	1244669.0	7291.80
556.00	740644.0	369842.6	1110487.0	6682.11
555.00	685315.0	301741.6	987056.6	6081.80
554.00	632629.9	239322.6	871952.5	5488.51
553.00	581707.7	180692.1	762399.8	4899.92
552.00	535809.9	132335.6	667375.6	4323.04
551.00	489912.1	88260.1	578172.1	3750.55
550.00	447093.8	50605.1	497699.0	3184.65
549.00	408035.2	27962.5	435997.7	2650.54
548.00	356847.8	12296.5	369144.3	2193.40
547.00	314496.4	2932.7	317429.1	1814.95
546.00	274498.3	171.5	274669.8	1545.93
545.00	239271.1	31.5	239302.7	1400.31
544.00	209449.7	.0	209449.7	1266.15
543.00	183914.3	.0	183914.3	1141.42
542.00	160768.5	.0	160768.5	1024.44
541.00	139923.3	.0	139923.3	915.20
540.00	121586.9	.0	121586.9	814.83
539.00	101826.7	.0	101826.7	720.33
538.00	83759.8	.0	83759.8	629.50
537.00	67371.5	.0	67371.5	542.33
536.00	52753.1	.0	52753.1	459.05
535.00	39807.8	.0	39807.8	379.34
534.00	28687.6	.0	28687.6	303.69
533.00	19328.3	.0	19328.3	232.79
532.00	11630.3	.0	11630.3	166.60
531.00	5735.5	.0	5735.5	105.40
530.00	1755.1	.0	1755.1	49.15
529.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	5.27	556.60						

APPENDIX 2

PROPOSED CONDITIONS ANALYSIS

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TITLE     WHITE ROCK CREEK AT WINNWOOD AND CELESTIAL RD. - WALL
CSM-ELEV  36700.    553.70
FINAL     142.
XSECTION  136.      150.      185.                          1.
GENERAL   544.                          1.        1.
SEGMENT   1.        D         0.12      190.      545.
SEGMENT   2.        C         0.06      295.      544.
SEGMENT   3.        D         0.09      845.      560.
DATA      0.        560.      140.      550.      190.      545.
DATA      190.      545.      203.      540.      207.      535.
DATA      221.      524.5     261.      524.5     268.      530.
DATA      287.      540.      295.      544.      295.      544.
DATA      375.      544.      385.      542.      408.      542.
DATA      412.      543.      500.      545.      600.      550.
DATA      845.      560.      845.      560.
ENDTABLE
QNEW      37100.                                                      -1.
XSECTION  137.      330.      336.                          1.
GENERAL   541.                          1.        1.
SEGMENT   1.        D         0.12      195.      544.
SEGMENT   2.        C         0.06      305.      541.
SEGMENT   3.        D         0.09      610.      543.
SEGMENT   4.        D         0.04      900.      560.
DATA      0.        560.      9.        555.      23.       535.
DATA      26.       531.      37.       531.      60.       540.
DATA      80.       544.      103.      545.      127.      545.
DATA      195.      544.      218.      540.      228.      525.5
DATA      260.      525.5
DATA      270.      535.      285.      540.      305.      541.
DATA      305.      541.      335.      541.      385.      546.
DATA      420.      546.8     440.      546.8     465.      546.
DATA      610.      543.      610.      543.      710.      545.
DATA      817.      550.      900.      560.      960.      560.
ENDTABLE
XSECTION  137A      5.        5.                            1.
GENERAL   545.                          1.        1.
SEGMENT   1.        D         0.05      228.      544.
SEGMENT   2.        C         0.045     347.      545.
SEGMENT   3.        D         0.09      675.      543.
SEGMENT   4.        D         0.04      1050.     560.
DATA      0.        560.      25.       558.      70.       555.
DATA      200.      547.      228.      544.      228.      544.
DATA      230.      541.      240.      541.      244.      540.
DATA      268.      526.5     295.      526.5     310.      530.
DATA      320.      540.      335.      544.      347.      545.
DATA      347.      545.      485.      546.8     505.      546.8
DATA      530.      546.      675.      543.      675.      543.
DATA      775.      545.      885.      550.      1050.     560.
ENDTABLE
XSECTION  137B.     20.       20.                           1.
GENERAL   545.                          1.        1.
SEGMENT   1.        D         0.05      155.      555.74
SEGMENT   2.        D         0.025     160.      549.46
SEGMENT   3.        D         0.042     228.      544.
SEGMENT   4.        C         0.045     347.      545.
SEGMENT   5.        D         0.09      675.      543.
SEGMENT   6.        D         0.04      1050.     560.
DATA      0.        560.      155.      555.74    155.      551.77
DATA      160.      551.77    160.      549.46
DATA      200.      547.      228.      544.      228.      544.
DATA      230.      541.      240.      541.      244.      540.
DATA      268.      526.5     295.      526.5     310.      530.
DATA      320.      540.      335.      544.      347.      545.
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DATA      347.      545.      405.      545.0     505.      545.0
DATA      530.      546.      675.      543.      675.      543.
DATA      775.      545.      885.      550.      1050.     560.
ENDTABLE
XSECTION  1300.     60.       110.                          1.
GENERAL   545.                         1.        1.
SEGMENT   1.        0         0.05      155.      555.74
SEGMENT   2.        0         0.025     160.      549.46
SEGMENT   3.        0         0.042     220.      544.
SEGMENT   4.        C         0.045     347.      545.
SEGMENT   5.        0         0.09      675.      543.
SEGMENT   6.        0         0.04      1050.     560.
DATA      0.        560.      155.      555.74    155.      551.77
DATA      160.      551.77    160.      549.46
DATA      200.      547.      220.      544.      220.      544.
DATA      230.      541.      240.      541.      244.      540.
DATA      260.      526.5     295.      526.5     310.      530.
DATA      330.      540.      335.      544.      347.      545.
DATA      347.      545.      405.      545.0     505.      545.0
DATA      530.      546.      675.      543.      675.      543.
DATA      775.      545.      885.      550.      1050.     560.
ENDTABLE
XSECTION  1300A.    95.       90.                           1.
GENERAL   543.8                         1.        1.
SEGMENT   1.        0         0.05      155.      555.78
SEGMENT   2.        0         0.025     160.      547.02
SEGMENT   3.        0         0.042     237.      544.3
SEGMENT   4.        C         0.045     330.      543.8
SEGMENT   5.        0         0.09      450.      546.8
SEGMENT   6.        0         0.04      891.1     555.00
DATA      0.        557.5     155.      555.78    155.      551.78
DATA      160.      551.78    160.      547.02    200.      544.5
DATA      237.      544.3     257.      526.4     274.      535.8
DATA      292.      526.6     339.      543.8     348.      544.1
DATA      357.      547.5     450.      546.8     491.      545.7
DATA      600.      545.1     700.      544.5     800.      545.7
DATA      891.      553.6     891.1     555.00
ENDTABLE
XSECTION  1300.     5.        5.                            1.
GENERAL   540.                         1.        1.
SEGMENT   1.        0         0.05      155.      555.95
SEGMENT   2.        0         0.025     160.      546.58
SEGMENT   3.        0         0.042     309.      535.
SEGMENT   4.        C         0.045     395.      545.
SEGMENT   5.        0         0.09      463.      546.
SEGMENT   6.        0         0.04      890.      556.
DATA      0.        555.95    155.      555.95    155.      551.95
DATA      160.      551.95    160.      546.58    200.      544.1
DATA      229.      541.2     247.      534.7     255.      543.2
DATA      280.      540.7     285.      541.      289.      540.
DATA      298.      539.      302.      538.      305.      537.
DATA      309.      535.      312.      530.      315.      529.
DATA      362.      528.      363.      529.      365.      530.
DATA      371.      535.      374.      540.      378.      541.
DATA      380.      542.      385.      543.      391.      544.
DATA      395.      545.      400.      545.      463.      546.
DATA      549.      545.      615.      544.      640.      543.
DATA      653.      544.      660.      545.      700.      545.
DATA      750.      547.      793.      548.      800.      549.
DATA      830.      549.      855.      550.      861.      551.
DATA      865.      552.      870.      553.      875.      554.
DATA      884.      555.      890.      556.
ENDTABLE
XSECTION  1300.     5.        5.                            1.
GENERAL   540.                         1.        1.
SEGMENT   1.        0         0.05      155.      555.95
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SEGMENT	2.	[illegible]	[illegible]	200.	543.50		
SEGMENT	3.	D	0.042	309.	535.		
SEGMENT	4.	C	0.045	395.	545.		
SEGMENT	5.	D	0.09	463.	546.		
SEGMENT	6.	D	0.04	890.	556.		
DATA	0.	555.95	155.	555.95	155.	551.95	
DATA	160.	551.95	160.	546.59	200.	544.1	
DATA	229.	541.2	247.	534.7	265.	543.2	
DATA	280.	540.7	285.	541.	289.	540.	
DATA	298.	539.	302.	538.	305.	537.	
DATA	309.	535.	312.	530.	315.	529.	
DATA	362.	528.	363.	529.	365.	530.	
DATA	371.	535.	374.	540.	378.	541.	
DATA	380.	542.	385.	543.	391.	544.	
DATA	395.	545.	400.	546.	463.	546.	
DATA	549.	545.	615.	544.	640.	543.	
DATA	653.	544.	660.	545.	700.	546.	
DATA	750.	547.	793.	548.	800.	549.	
DATA	830.	549.	855.	550.	861.	551.	
DATA	865.	552.	870.	553.	875.	554.	
DATA	884.	555.	890.	556.			
ENDTABLE							
XSECTION	1380.	437.	386.			1.	
GENERAL	540.			1.	1.		
SEGMENT	1.	D	0.05	229.	541.2		
SEGMENT	2.	C	0.045	265.	543.2		
SEGMENT	3.	D	0.05	309.	535.		
SEGMENT	4.	C	0.045	395.	545.		
SEGMENT	5.	D	0.09	463.	546.		
SEGMENT	6.	D	0.04	890.	556.		
DATA	0.	555.	100.	550.3	200.	544.1	
DATA	229.	541.2	247.	534.7	265.	543.2	
DATA	280.	540.7	285.	541.	289.	540.	
DATA	298.	539.	302.	538.	305.	537.	
DATA	309.	535.	312.	530.	315.	529.	
DATA	362.	528.	363.	529.	365.	530.	
DATA	371.	535.	374.	540.	378.	541.	
DATA	380.	542.	385.	543.	391.	544.	
DATA	395.	545.	400.	546.	463.	546.	
DATA	549.	545.	615.	544.	640.	543.	
DATA	653.	544.	660.	545.	700.	546.	
DATA	750.	547.	793.	548.	800.	549.	
DATA	830.	549.	855.	550.	861.	551.	
DATA	865.	552.	870.	553.	875.	554.	
DATA	884.	555.	890.	556.			
ENDTABLE							
XSECTION	140.	402.	430.			1.	1283+70
GENERAL	543.			1.	1.		
SEGMENT	1.	D	0.065	575.	545.		
SEGMENT	2.	C	0.040	670.	543.		
SEGMENT	3.	D	0.080	920.	565.		
DATA	-120.	565.					
DATA	-120.	560.	0.	555.	130.	548.	
DATA	255.	545.			270.	544.	
DATA	300.	546.	360.	547.	390.	547.	
DATA	430.	547.	575.	545.	578.	540.	
DATA	594.	530.	610.	528.	640.	528.	
DATA	658.	540.	670.	543.	690.	542.	
DATA	720.	550.	740.	554.	790.	558.	
DATA	860.	562.	920.	565.			
ENDTABLE							
XSECTION	1404.	1.	1.			1.	
GENERAL	545.			1.	1.		
SEGMENT	1.	D	0.04	357.	547.		
SEGMENT	2.	D	0.065	560.	546.		
SEGMENT	3.	C	0.04	640.	540.		

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SEGMENT  4.      0       0.000.  752.    557.
DATA     0.      550.    155.    560.    220.    545.
DATA                     283.    545.    302.    546.
DATA     357.    547.    442.    547.    560.    546.
DATA     563.    545.    567.    540.    570.    535.
DATA     583.    530.    590.    529.    625.    529.
DATA     630.    530.    641.    535.    648.    540.
DATA     651.    541.    652.    542.    655.    543.
DATA     656.    544.    682.    545.    690.    545.
DATA     710.    550.    729.    555.    735.    556.
DATA     752.    557.
ENDTABLE
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DISTANCE					STATION=					
DOWNSTREAM		UPSTREAM		DRAINAGE	'N' VALUE BY SEGMENTS					
SECTION	CHANNEL	VALLEY	CHANNEL	VALLEY	AREA,SQ MI	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
136.	1.	1.	158.	185.	1.00	.120	.060	.090			

KO VALUES				END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.
560.00	648849.3	644471.6	1293321.0	11031.25
559.00	611689.6	568353.8	1180043.0	10066.00
558.00	575498.9	498043.4	1073542.0	9413.99
557.00	539723.7	430221.8	969945.5	8636.09
556.00	505426.2	370733.6	876159.8	7907.60
555.00	471461.0	313056.3	784517.3	7199.09
554.00	439009.7	263347.0	702356.7	6521.99
553.00	407047.3	216040.0	623087.3	5869.45
552.00	376225.4	174338.8	550564.3	5253.20
551.00	346506.6	137711.4	484217.0	4671.11
550.00	317419.8	103998.4	421418.2	4108.50
549.00	289790.1	76948.5	366738.6	3589.50
548.00	262993.8	53281.3	316275.2	3094.50
547.00	237030.9	32996.9	270027.9	2623.50
546.00	212519.0	18402.8	230921.8	2193.00
545.00	189899.6	7896.0	197795.6	1796.19
544.00	169199.4	1549.5	170748.9	1434.55
543.00	153206.9	526.9	153733.8	1269.22
542.00	138285.2	110.1	138395.2	1145.23
541.00	124246.1	.0	124246.1	1044.67
540.00	111196.8	.0	111196.8	957.91
539.00	98155.3	.0	98155.3	875.25
538.00	85922.6	.0	85922.6	795.51
537.00	74469.8	.0	74469.8	718.37
536.00	63758.1	.0	63758.1	643.69
535.00	53938.9	.0	53938.9	571.87
534.00	45021.4	.0	45021.4	503.02
533.00	36962.4	.0	36962.4	437.37
532.00	29663.4	.0	29663.4	374.79
531.00	23157.5	.0	23157.5	316.48
530.00	17444.5	.0	17444.5	259.51
529.00	12409.9	.0	12409.9	206.50
528.00	8105.4	.0	8105.4	156.03
527.00	4610.5	.0	4610.5	109.21
526.00	1966.1	.0	1966.1	62.97
525.00	319.0	.0	319.0	20.34
524.50	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
36700.00	5.81	553.70						

DISTANCE					STATION=					
DOWNSTREAM		UPSTREAM		DRAINAGE	'N' VALUE BY SEGMENTS					
SECTION	CHANNEL	VALLEY	CHANNEL	VALLEY	AREA,SQ MI	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
137.	158.	185.	338.	336.	1.00	.120	.060	.050	.040		

KQ VALUES				END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.
560.00	563419.6	1395865.0	1959285.0	14617.00
559.00	527584.6	1240866.0	1768451.0	13653.02
558.00	492054.7	1088997.0	1581052.0	12694.74
557.00	458118.0	952962.4	1411080.0	11765.78
556.00	424540.2	820390.6	1244931.0	10843.32
555.00	392598.5	703159.8	1095758.0	9950.05
554.00	361186.4	590636.1	951822.5	9065.57
553.00	331009.9	489095.8	820105.8	8201.57
552.00	302830.9	397948.4	699979.3	7356.61
551.00	273741.3	312799.3	586521.6	6522.57
550.00	247039.0	241345.9	488384.8	5713.36
549.00	221248.5	177693.8	398142.4	4920.88
548.00	196379.1	122424.1	318794.2	4145.11
547.00	173086.6	81107.5	254194.1	3405.20
546.00	150839.5	48878.5	199717.9	2726.49
545.00	129705.4	26172.1	155877.5	2125.58
544.00	110856.6	21535.0	132391.6	1710.07
543.00	95241.1	17098.9	112340.0	1425.00
542.00	81520.3	13151.8	94672.1	1209.55
541.00	69969.4	10228.1	79297.5	1026.97
540.00	58823.7	8359.7	76683.4	905.21
539.00	50600.1	6575.9	57256.0	808.66
538.00	52858.1	5013.2	57911.3	703.66
537.00	45777.7	3670.9	49448.6	613.37
536.00	38930.6	2568.4	41959.1	530.18
535.00	33494.3	1679.4	35173.7	453.81
534.00	27837.9	990.2	28828.1	383.45
533.00	22495.3	478.8	22974.1	317.99
532.00	17656.8	146.0	17802.9	257.64
531.00	13344.6	2.6	13347.1	203.39
530.00	9555.5	.0	9555.5	161.72
529.00	6288.9	.0	6288.9	122.72
528.00	3605.7	.0	3605.7	85.49
527.00	1550.8	.0	1550.8	49.99
526.00	253.9	.0	253.9	16.23
525.50	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	3.96	554.36						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DOWNSTREAM VALLEY	UPSTREAM CHANNEL	UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION= 'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
137A	338.	336.	5.	5.	1.00	.050	.045	.050	.040		

KQ VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
560.00	819843.8	1337897.0	2157740.0	13387.55
559.00	766986.2	1165262.0	1932249.0	12353.50
558.00	715993.4	1009823.0	1725816.0	11357.00
557.00	665470.9	858586.9	1524058.0	10371.98
556.00	617316.0	728000.6	1345317.0	9436.69
555.00	569926.6	603598.3	1173525.0	8517.64
554.00	524323.4	493626.5	1017950.0	7636.55
553.00	480448.7	396520.3	877028.9	6792.12
552.00	437568.7	306840.8	744409.6	5968.63
551.00	396976.8	232013.8	628990.5	5192.31
550.00	357697.0	168252.4	525949.4	4443.22
549.00	319729.4	112556.7	432286.1	3721.38
548.00	284052.0	71353.9	355405.9	3050.78
547.00	249859.7	39601.6	289461.3	2426.10
546.00	217125.6	16927.7	234053.3	1859.99
545.00	186440.3	5397.4	191837.7	1449.00
544.00	160057.3	1755.1	161812.3	1210.16
543.00	149034.5	25.3	149059.8	1032.87
542.00	130137.2	.0	130137.2	928.91
541.00	119134.7	.0	119134.7	833.00
540.00	106529.2	.0	106529.2	753.63
539.00	92803.1	.0	92803.1	678.63
538.00	79257.1	.0	79257.1	606.65
537.00	66817.8	.0	66817.8	537.60
536.00	55417.3	.0	55417.3	471.32
535.00	45043.4	.0	45043.4	407.82
534.00	35636.6	.0	35636.6	346.96
533.00	27252.9	.0	27252.9	288.90
532.00	19924.8	.0	19924.8	233.74
531.00	13633.9	.0	13633.9	181.37
530.00	8395.8	.0	8395.8	131.78
529.00	4568.0	.0	4568.0	86.60
528.00	1869.2	.0	1869.2	47.41
527.00	292.0	.0	292.0	14.29
526.50	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.49	554.71						

DISTANCE					STATION=					
DOWNSTREAM		UPSTREAM		DRAINAGE	'N' VALUE BY SEGMENTS					
SECTION	CHANNEL	VALLEY	CHANNEL	VALLEY	AREA,SQ MI	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
1378.	5.	5.	20.	20.	1.00	.050	.025	.042	.045	.090	.040

	KQ VALUES			END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.
560.00	619843.8	1526454.0	2146298.0	12877.15
559.00	768986.2	1157789.0	1926775.0	11856.24
558.00	715993.4	1006896.0	1722890.0	10904.34
557.00	665470.9	860173.1	1525644.0	9969.43
556.00	617316.0	733218.6	1350535.0	9118.44
555.00	569926.6	611651.3	1181578.0	8281.47
554.00	524323.4	502654.8	1026978.0	7477.22
553.00	490448.7	405147.4	895596.0	6691.45
552.00	437568.7	314227.3	751796.1	5916.63
551.00	396976.8	238284.7	635261.5	5169.15
550.00	357697.0	171511.1	529208.1	4437.22
549.00	319729.4	113906.6	433635.9	3720.85
548.00	284052.0	72056.5	356108.4	3050.79
547.00	249859.7	39933.0	289792.7	2426.10
546.00	217125.6	17038.2	234163.8	1858.99
545.00	186449.3	5414.0	191854.3	1448.00
544.00	168057.3	1758.3	169815.5	1210.16
543.00	149834.5	25.3	149859.8	1032.87
542.00	130137.2	.0	130137.2	928.91
541.00	119134.7	.0	119134.7	833.00
540.00	106529.2	.0	106529.2	753.63
539.00	92803.1	.0	92803.1	678.63
538.00	79257.1	.0	79257.1	606.65
537.00	66817.8	.0	66817.8	537.60
536.00	55417.3	.0	55417.3	471.32
535.00	45043.4	.0	45043.4	407.82
534.00	35636.6	.0	35636.6	346.96
533.00	27252.9	.0	27252.9	289.90
532.00	19924.8	.0	19924.8	233.74
531.00	13633.9	.0	13633.9	181.37
530.00	8395.8	.0	8395.8	131.78
529.00	4568.0	.0	4568.0	86.60
528.00	1869.2	.0	1869.2	47.41
527.00	292.0	.0	292.0	14.29
526.50	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.61	554.71						

DISTANCE					STATION=					
	DOWNSTREAM		UPSTREAM		DRAINAGE	'N' VALUE BY SEGMENTS					
SECTION	CHANNEL	VALLEY	CHANNEL	VALLEY	AREA,SQ MI	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
138.	20.	20.	80.	110.	1.00	.050	.025	.042	.045	.050	.040

	KQ VALUES			END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.
560.00	819843.8	1326454.0	2146298.0	12877.15
559.00	766906.2	1157789.0	1924775.0	11856.24
558.00	715993.4	1006896.0	1722890.0	10904.34
557.00	665470.9	860173.1	1525644.0	9969.43
556.00	617316.0	733218.6	1350535.0	9118.44
555.00	569926.6	611651.3	1181578.0	8281.47
554.00	524323.4	502654.8	1026978.0	7477.22
553.00	480448.7	405147.4	885596.0	6691.45
552.00	437568.7	314227.3	751796.1	5916.63
551.00	396976.8	238284.7	635261.5	5169.15
550.00	357697.0	171511.1	529208.1	4437.22
549.00	319729.4	113906.6	433635.9	3720.85
548.00	284052.0	72056.5	356108.4	3050.79
547.00	249659.7	39933.0	289792.7	2426.10
546.00	217125.6	17039.2	234163.8	1858.99
545.00	186440.3	5414.0	191854.3	1448.09
544.00	168057.3	1758.3	169815.5	1210.16
543.00	149034.5	25.3	149059.8	1032.87
542.00	130137.2	.0	130137.2	928.91
541.00	119134.7	.0	119134.7	833.09
540.00	106529.2	.0	106529.2	753.63
539.00	92693.1	.0	92693.1	678.63
538.00	79257.1	.0	79257.1	606.65
537.00	66817.8	.0	66817.8	537.60
536.00	55417.3	.0	55417.3	471.32
535.00	45043.4	.0	45043.4	407.82
534.00	35636.6	.0	35636.6	345.96
533.00	27252.9	.0	27252.9	286.90
532.00	19924.8	.0	19924.8	233.74
531.00	13633.9	.0	13633.9	181.37
530.00	8395.8	.0	8395.8	131.78
529.00	4568.0	.0	4568.0	86.60
528.00	1869.2	.0	1869.2	47.41
527.00	292.0	.0	292.0	14.29
526.50	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.60	554.73						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	STATION= DRAINAGE AREA,SQ MI	'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
138A.	80.	110.	95.	90.	1.00	.050	.025	.042	.045	.090	.040

ELEVATION	KQ VALUES CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
558.00	659463.4	1297851.0	1957315.0	10224.42
557.00	618331.3	1120524.0	1738855.0	9367.40
556.00	577942.8	952175.4	1530118.0	8554.90
555.00	538669.8	797295.6	1335965.0	7809.18
554.00	500538.6	655803.3	1156342.0	7070.17
553.00	463168.9	523237.0	986405.9	6335.63
552.00	427636.2	414592.9	842229.1	5619.28
551.00	392858.0	313707.2	706565.1	4912.90
550.00	359211.3	224457.9	583669.2	4221.46
549.00	327116.9	151650.7	478767.6	3546.91
548.00	295785.5	87519.5	383304.9	2883.74
547.00	265953.3	41647.7	307601.0	2249.24
546.00	237564.7	16141.6	253706.3	1727.05
545.00	210439.6	2782.3	213221.9	1345.67
544.00	184668.5	4.3	184672.7	1133.35
543.00	164371.4	.0	164371.4	1041.29
542.00	145729.8	.0	145729.8	953.23
541.00	128285.7	.0	128285.7	868.38
540.00	112014.6	.0	112014.6	786.71
539.00	96891.8	.0	96891.8	708.24
538.00	83164.0	.0	83164.0	633.77
537.00	70431.4	.0	70431.4	562.22
536.00	58829.1	.0	58829.1	494.06
535.00	48307.6	.0	48307.6	429.23
534.00	38841.6	.0	38841.6	367.73
533.00	30326.7	.0	30326.7	309.28
532.00	22965.9	.0	22965.9	254.63
531.00	16560.7	.0	16560.7	203.17
530.00	11044.7	.0	11044.7	154.71
529.00	6640.9	.0	6640.9	109.97
528.00	3200.3	.0	3200.3	68.36
527.00	866.7	.0	866.7	30.60
526.00	7.2	.0	7.2	1.02
525.00	.0	.0	.0	.00

CFS	VELOCITY	FLEV.	CFS	VELOCITY	FLEV.	CFS	VELOCITY	FLEV.
37100.00	4.85	554.78						

DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION= 'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
SECTION										
1000.	95.	90.	5.	5.	1.00	.050	.025	.042	.045	.090	.040

ELEVATION	KO VALUES CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
556.00	505276.5	1156357.0	1661634.0	8869.85
555.00	467858.2	994100.7	1461959.0	8131.27
554.00	433449.3	841812.1	1275261.0	7407.50
553.00	400070.9	699548.1	1099619.0	6689.60
552.00	367379.6	563967.9	931347.5	5975.60
551.00	336452.3	448020.4	784472.8	5273.87
550.00	306205.2	342577.0	648782.3	4578.26
549.00	276978.2	252088.1	529066.3	3891.85
548.00	249384.4	180643.4	430027.8	3255.95
547.00	222000.5	121957.3	344757.8	2658.53
546.00	197381.1	77290.1	274671.2	2101.14
545.00	173926.7	52536.9	226463.6	1634.56
544.00	155889.5	35831.1	191720.6	1414.16
543.00	140981.9	24106.9	164988.2	1208.01
542.00	126599.9	15765.2	142365.2	1043.22
541.00	112093.7	9972.0	122065.7	902.75
540.00	99024.1	5958.7	104982.8	782.14
539.00	84714.7	3390.9	88105.6	678.48
538.00	71282.0	1629.0	72911.0	586.81
537.00	58762.1	605.9	59368.1	504.13
536.00	47197.5	123.8	47321.2	429.43
535.00	36784.8	6.1	36790.9	362.58
534.00	27758.0	.0	27758.0	301.04
533.00	19820.4	.0	19820.4	241.71
532.00	12968.8	.0	12968.8	184.17
531.00	7324.6	.0	7324.6	128.40
530.00	3055.5	.0	3055.5	74.50
529.00	567.5	.0	567.5	24.53
528.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.61	554.88						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION= 'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
1388.	5.	5.	5.	5.	1.00	.050	.025	.042	.045	.090	.040

ELEVATION	KQ VALUES CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
556.00	503276.5	1158357.0	1661634.0	8869.85
555.00	467858.2	994100.7	1461959.0	8131.27
554.00	433449.3	841812.1	1275261.0	7407.50
553.00	400070.9	699548.1	1099619.0	6699.60
552.00	367379.6	563967.9	931347.5	5975.60
551.00	336452.3	448020.4	784472.8	5273.87
550.00	306205.2	342577.0	648782.3	4578.26
549.00	276978.2	252888.1	529866.3	3891.85
548.00	249384.4	180643.4	430027.8	3255.95
547.00	222800.5	121957.3	344757.8	2650.53
546.00	197381.1	77290.1	274671.2	2101.14
545.00	173926.7	52536.9	226463.6	1694.56
544.00	155889.5	35831.1	191720.6	1414.16
543.00	140881.3	24106.9	164988.2	1208.01
542.00	126599.9	15765.2	142365.2	1043.22
541.00	112093.7	9972.0	122065.7	902.75
540.00	99024.1	5958.7	104982.8	782.14
539.00	84714.7	3390.9	88105.6	678.40
538.00	71282.0	1629.0	72911.0	586.81
537.00	58762.1	605.9	59368.1	504.13
536.00	47197.5	123.8	47321.2	429.43
535.00	36784.8	6.1	36790.9	362.58
534.00	27758.0	.0	27758.0	301.04
533.00	19820.4	.0	19820.4	241.71
532.00	12968.8	.0	12968.8	184.17
531.00	7324.6	.0	7324.6	128.40
530.00	3455.5	.0	3455.5	74.50
529.00	567.5	.0	567.5	24.53
528.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.61	554.88						

STATION=

SECTION	DOWNSTREAM CHANNEL	DOWNSTREAM VALLEY	UPSTREAM CHANNEL	UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
1980.	5.	5.	437.	386.	1.00	.050	.045	.050	.045	.090	.040

ELEVATION	KQ VALUES CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
556.00	636754.2	1018953.0	1655707.0	9639.45
555.00	588971.5	854571.6	1443543.0	8747.23
554.00	542679.4	709692.1	1252363.0	7881.59
553.00	497885.5	577227.2	1075113.0	7041.89
552.00	454111.4	453039.6	907151.1	6219.79
551.00	412941.7	350573.8	763515.5	5438.97
550.00	372799.0	258686.7	631486.7	4675.84
549.00	334139.4	182665.8	516796.2	3939.00
548.00	297913.3	124168.0	422081.3	3275.44
547.00	263209.1	78018.7	341227.8	2655.33
546.00	230182.1	44063.2	274245.3	2101.14
545.00	199829.0	25949.3	225778.4	1694.56
544.00	175594.7	15292.3	190886.9	1414.16
543.00	155318.2	8966.5	164284.7	1208.01
542.00	136684.4	5073.6	141758.0	1043.22
541.00	118695.4	2654.6	121349.9	902.75
540.00	103143.0	1491.6	104544.7	782.14
539.00	87973.1	743.8	87816.9	676.48
538.00	72446.3	326.6	72773.0	586.81
537.00	59286.8	110.4	59317.1	504.13
536.00	47294.6	17.4	47312.0	429.43
535.00	36790.5	.2	36790.7	362.59
534.00	27758.0	.0	27758.0	301.04
533.00	19820.4	.0	19820.4	241.71
532.00	12980.8	.0	12980.8	184.17
531.00	7324.6	.0	7324.6	128.40
530.00	3055.5	.0	3055.5	74.50
529.00	567.5	.0	567.5	24.53
528.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	4.27	554.93						

STATION=1283+70

SECTION	DOWNSTREAM CHANNEL	DOWNSTREAM VALLEY	UPSTREAM CHANNEL	UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
140.	437.	386.	402.	430.	1.00	.065	.040	.050			

KQ VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
565.00	1085691.0	1755675.0	2841366.0	16313.50
564.00	1030339.0	1568785.0	2599124.0	15200.17
563.00	976622.6	1394842.0	2371465.0	14255.50
562.00	923333.6	1224922.0	2148255.0	13256.94
561.00	871755.4	1071089.0	1942845.0	12272.79
560.00	821050.6	930469.4	1751520.0	11310.03
559.00	771655.8	809666.0	1581322.0	10379.34
558.00	723601.1	700559.3	1424160.0	9495.84
557.00	676439.6	599251.3	1275691.0	8643.79
556.00	631004.6	508919.3	1139924.0	7842.18
555.00	586417.4	423488.1	1009906.0	7064.12
554.00	543494.2	346682.7	890176.9	6329.62
553.00	501850.1	276226.1	778076.1	5620.21
552.00	461058.7	210002.4	671061.1	4927.07
551.00	422456.4	156326.2	578782.6	4271.64
550.00	384698.0	107446.0	492144.0	3630.18
549.00	348205.3	65759.0	413964.3	3009.66
548.00	313739.7	36475.3	350214.0	2421.78
547.00	280524.7	17069.9	297594.6	1909.28
546.00	248622.8	6110.9	254733.7	1494.52
545.00	218629.1	2591.7	221220.7	1269.76
544.00	191264.5	965.9	192230.3	1120.20
543.00	165924.5	138.3	165462.9	996.59
542.00	145927.0	8.0	145835.0	895.20
541.00	127560.0	.0	127560.0	806.76
540.00	110771.5	.0	110771.5	724.00
539.00	94192.3	.0	94192.3	645.55
538.00	78950.2	.0	78950.2	570.20
537.00	65026.1	.0	65026.1	497.95
536.00	52404.0	.0	52404.0	428.80
535.00	41148.9	.0	41148.9	362.94
534.00	31126.5	.0	31126.5	300.65
533.00	22340.0	.0	22340.0	240.14
532.00	14857.3	.0	14857.3	183.32
531.00	8687.4	.0	8687.4	129.55
530.00	3995.7	.0	3995.7	79.00
529.00	1209.5	.0	1209.5	34.94
528.00	.0	.0	.0	.00

CFS	VELOCITY	FLEV.	CFS	VELOCITY	FLEV.	CFS	VELOCITY	FLEV.
37100.00	5.14	555.21						

SECTION	DISTANCE DOWNSTREAM CHANNEL	DISTANCE DOWNSTREAM VALLEY	DISTANCE UPSTREAM CHANNEL	DISTANCE UPSTREAM VALLEY	DRAINAGE AREA,SQ MI	STATION= 'N' VALUE BY SEGMENTS NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
1404.	402.	430.	1.	1.	1.00	.040	.065	.040	.050		

KO VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
560.00	782301.3	926090.5	1708392.0	8746.00
559.00	736433.0	814660.6	1551094.0	8152.73
558.00	691063.8	706036.5	1397100.0	7561.36
557.00	647261.5	608959.4	1256221.0	6978.61
556.00	604228.2	516913.4	1121142.0	6402.78
555.00	562703.1	433442.8	996145.9	5846.07
554.00	522335.4	355824.2	878159.5	5297.84
553.00	482739.4	282107.1	764846.5	4755.27
552.00	445120.8	219699.5	664820.3	4225.71
551.00	408262.9	161771.3	570034.3	3701.03
550.00	372546.0	110561.7	483107.6	3183.67
549.00	338651.3	70718.7	409369.9	2677.83
548.00	305800.2	38671.2	344551.4	2179.00
547.00	274395.3	15246.5	289641.8	1719.10
546.00	245058.8	5521.4	250580.3	1396.27
545.00	220593.6	776.1	221369.7	1170.00
544.00	195782.7	444.3	196227.0	1066.97
543.00	171949.2	267.0	172216.2	973.60
542.00	149300.8	100.9	149409.7	884.81
541.00	127089.9	16.9	127106.8	798.90
540.00	107919.2	.0	107919.2	716.00
539.00	90581.3	.0	90581.3	636.00
538.00	74536.6	.0	74536.6	558.00
537.00	59811.9	.0	59811.9	482.00
536.00	46528.4	.0	46528.4	408.12
535.00	34748.8	.0	34748.8	336.27
534.00	24846.9	.0	24846.9	267.69
533.00	16633.9	.0	16633.9	203.79
532.00	9925.5	.0	9925.5	144.60
531.00	4832.5	.0	4832.5	90.40
530.00	1438.8	.0	1438.8	41.17
529.00	.0	.0	.0	.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
37100.00	6.02	555.58						

APPENDIX 3

BOUNDARY DESCRIPTION OF FLOODWAY EASEMENT

FLOODWAY EASEMENT

WHEREAS, Charles Ray Allen and wife Georgia Ann Allen are the owners of a tract of land situated in the A. Bledsoe Survey, Abstract No. 157, City of Addison, Dallas County, Texas and being more particularly described as follows;

COMMENCING, at the intersection of the North line of Celestial Road, and the East line of Winnwood Road, an iron stake for a corner;

THENCE, North 00° 00'00" E, along the East line of Winnwood Road, a distance of 418.00 feet to the POINT OF BEGINNING;

THENCE, North 00° 00'00" E, along the East line of Winnwood Road a distance of 200.00 feet to an iron rod found for corner;

THENCE, S 89° 46'00" E, with general line of wire fence part of way, a distance of 155.00 feet to a point for a corner;

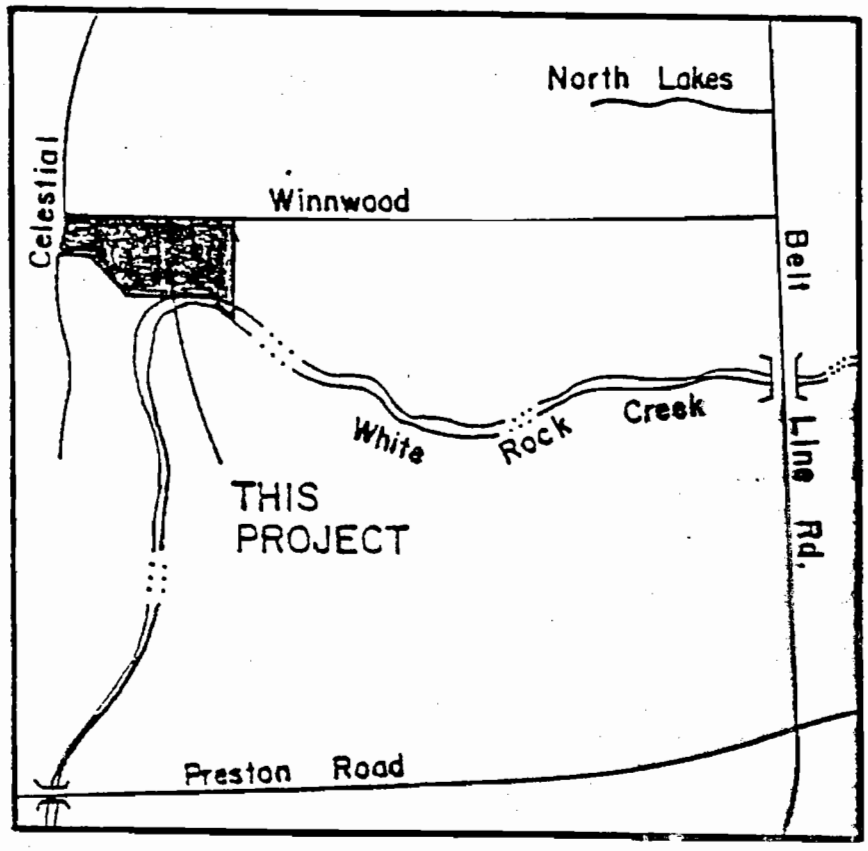
THENCE, South 00° 00'00" W, and leaving the above said point a distance of 200.00 feet to a point for a corner;

THENCE, N 89° 46'00" W, a distance of 155.00 feet to the POINT OF BEGINNING and CONTAINING 30,999.743 Square Feet or 0.71166 Acres of Land, more or less.

EXHIBITS

EXHIBIT A

VICINITY MAP



Location Map
n.t.s.

EXHIBIT A

EXHIBIT B

100-YEAR INUNDATION LIMITS

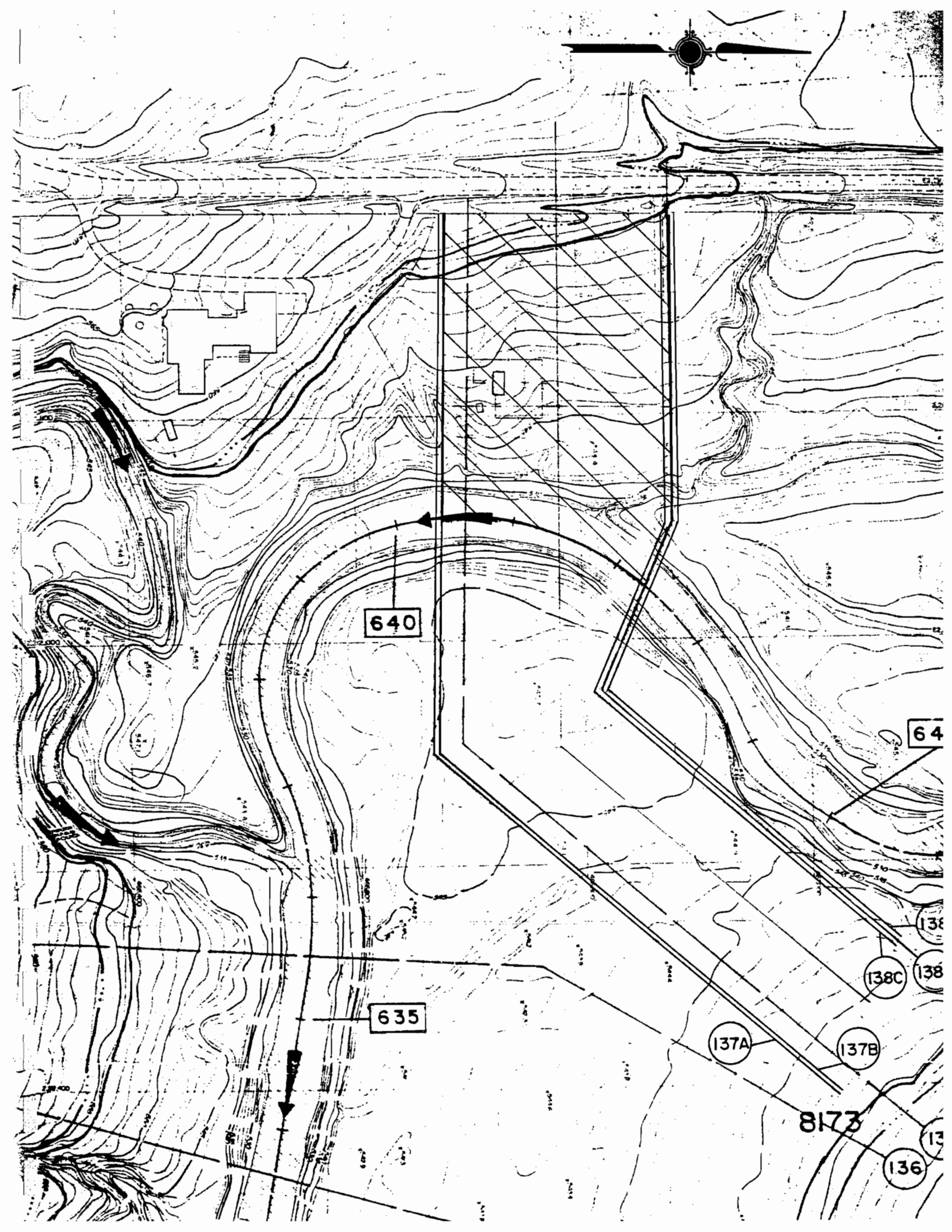

640
635
64
138C
138
137A
137B
8173
136

EXHIBIT C

WATER SURFACE PROFILE

560

535

515

495

475

455

435

100 YEAR WATER SURFACE

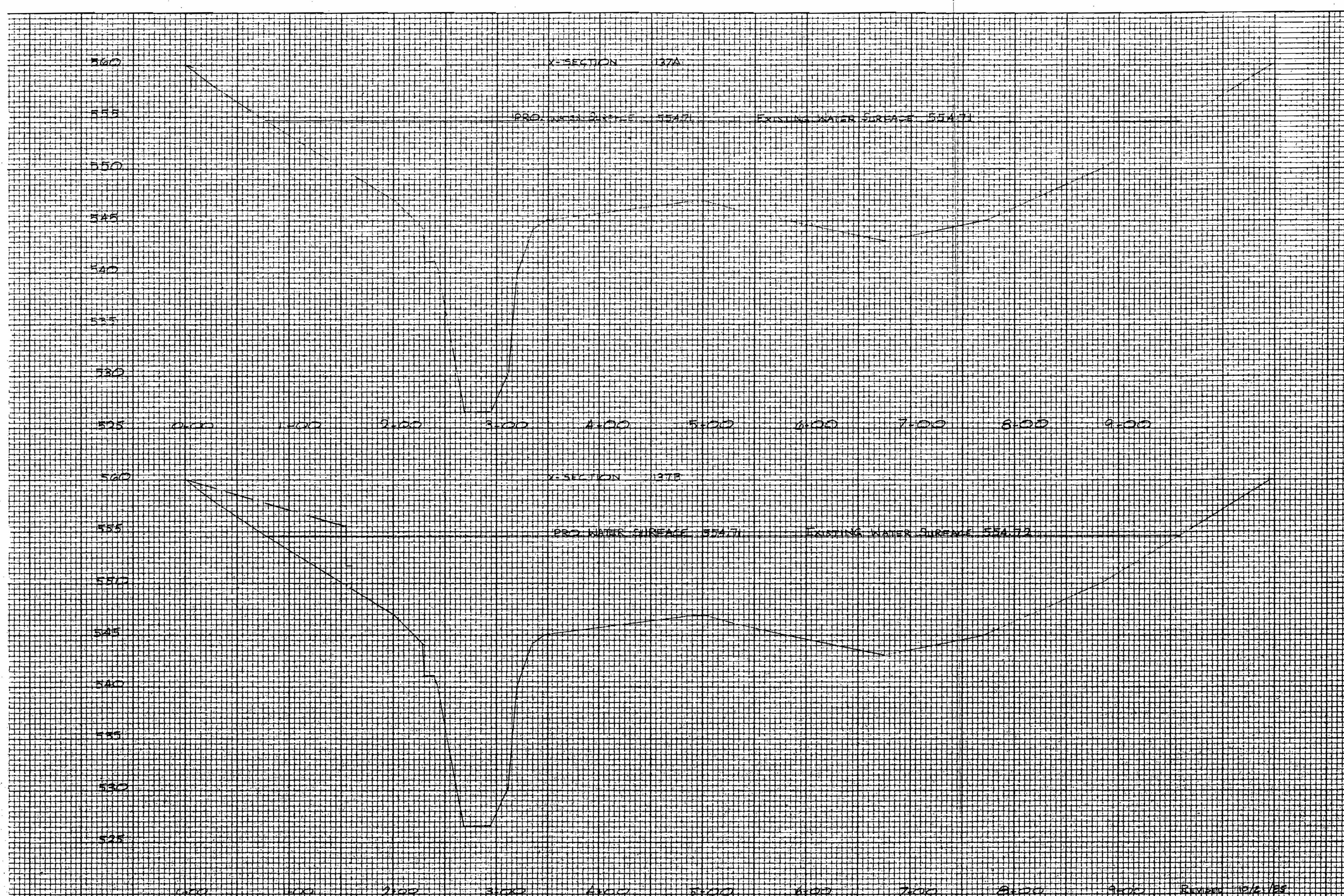
WEST TOP OF BANK

(13C) (13Z) (13B) (13BA) (13BD) (14C)

100YR WATER SURFACE
ELEVATION PROFILE
EXHIBIT C
SCALE
H" = 100'
V" = 5'

EXHIBIT D

CROSS-SECTIONS



REVISED 12/2/85

CROSS-SECTIONS

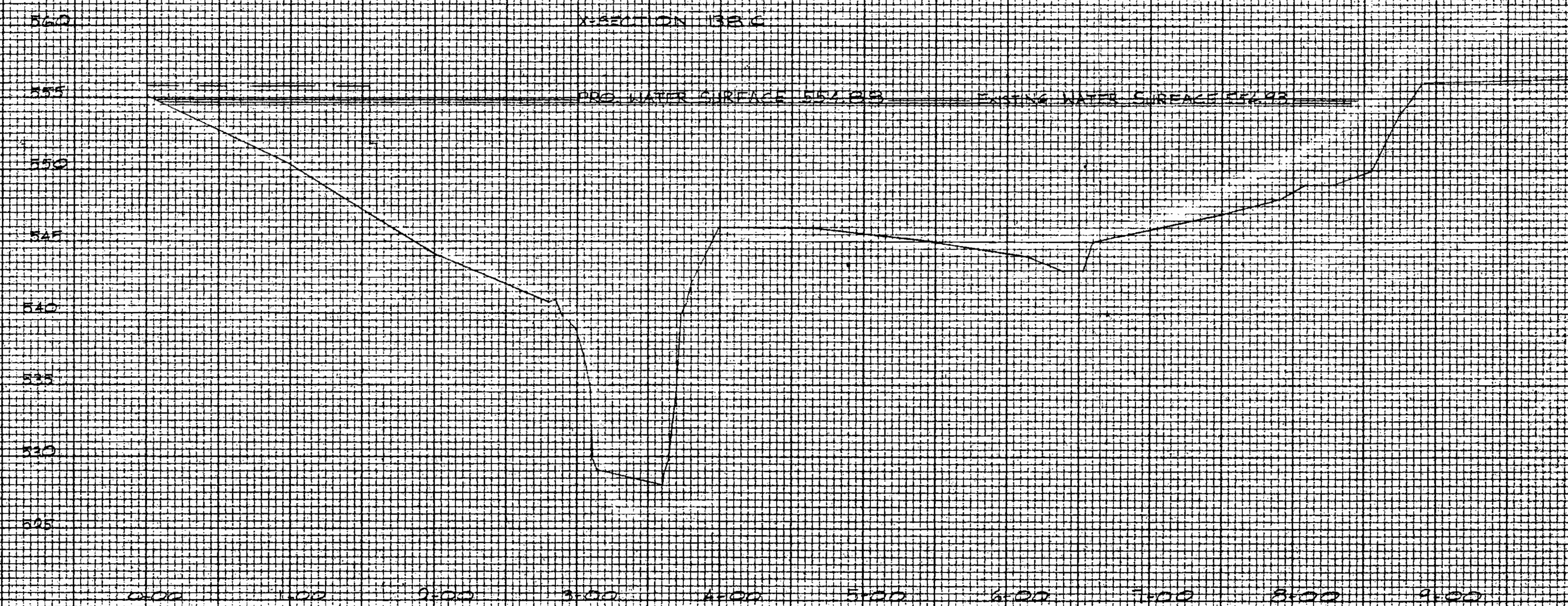
Winnwood Road & Celestial Road

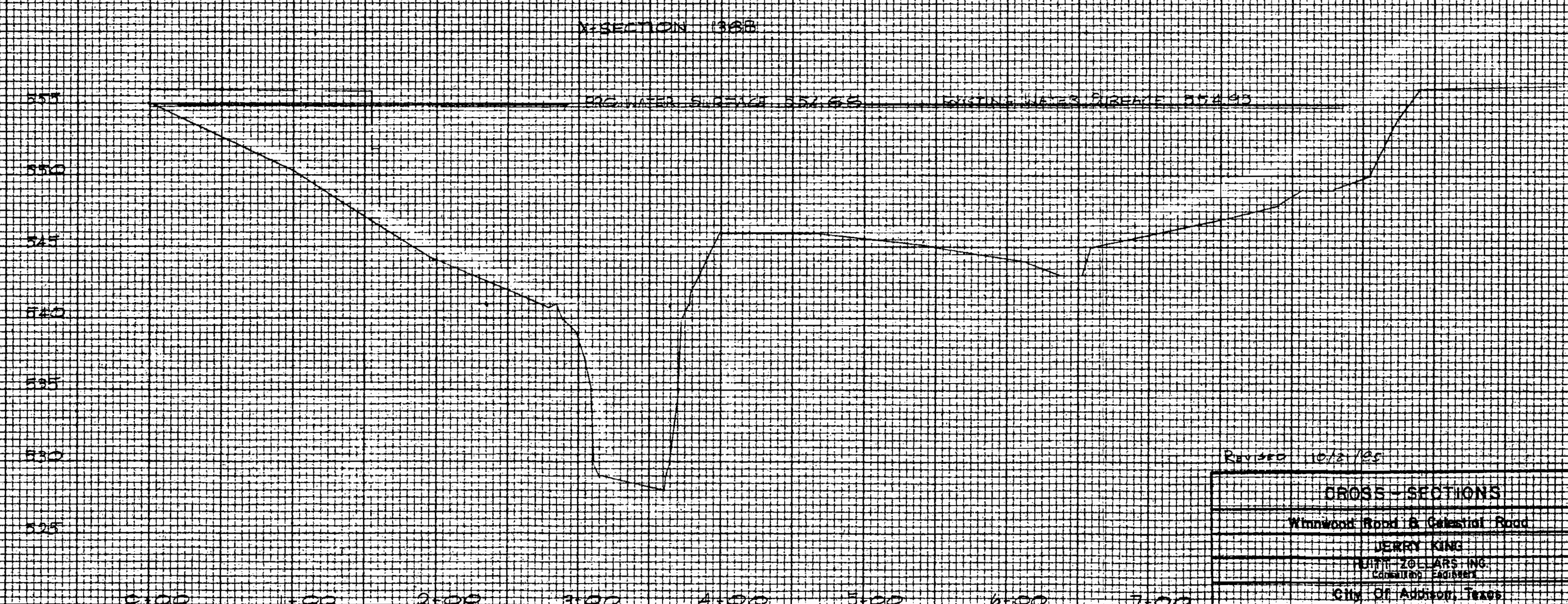
JERRY KING

HUITT-ZOLLARS INC.
Consulting Engineers

City Of Addison, Texas

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.
C.L.	L.R.	A.U.	H 1" = 50' V 1" = 5'	SEPT 1985	1-0552-01





Revised 10/2/95

CROSS - SECTIONS

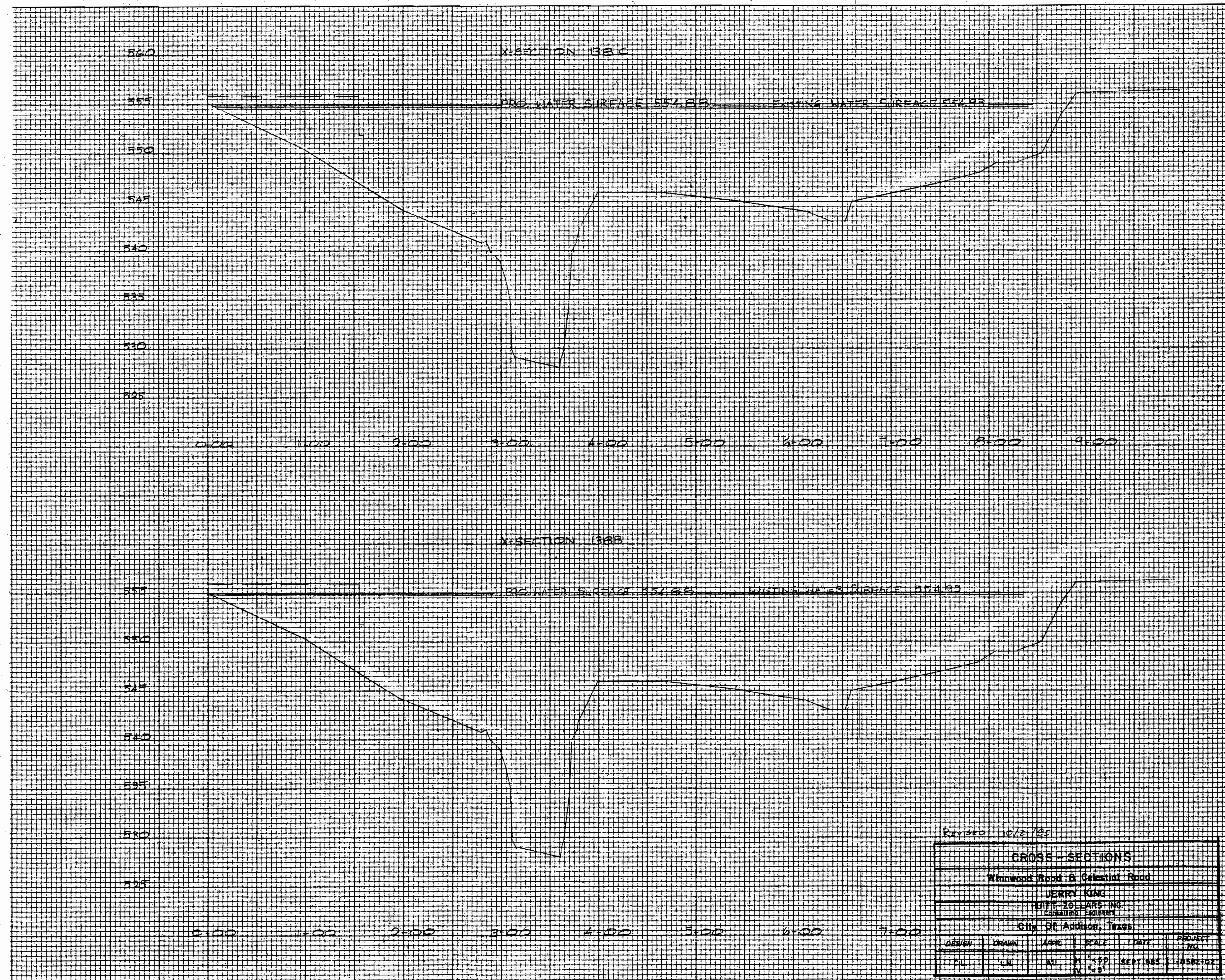
Winnwood Road & Celestial Road

JERRY KING

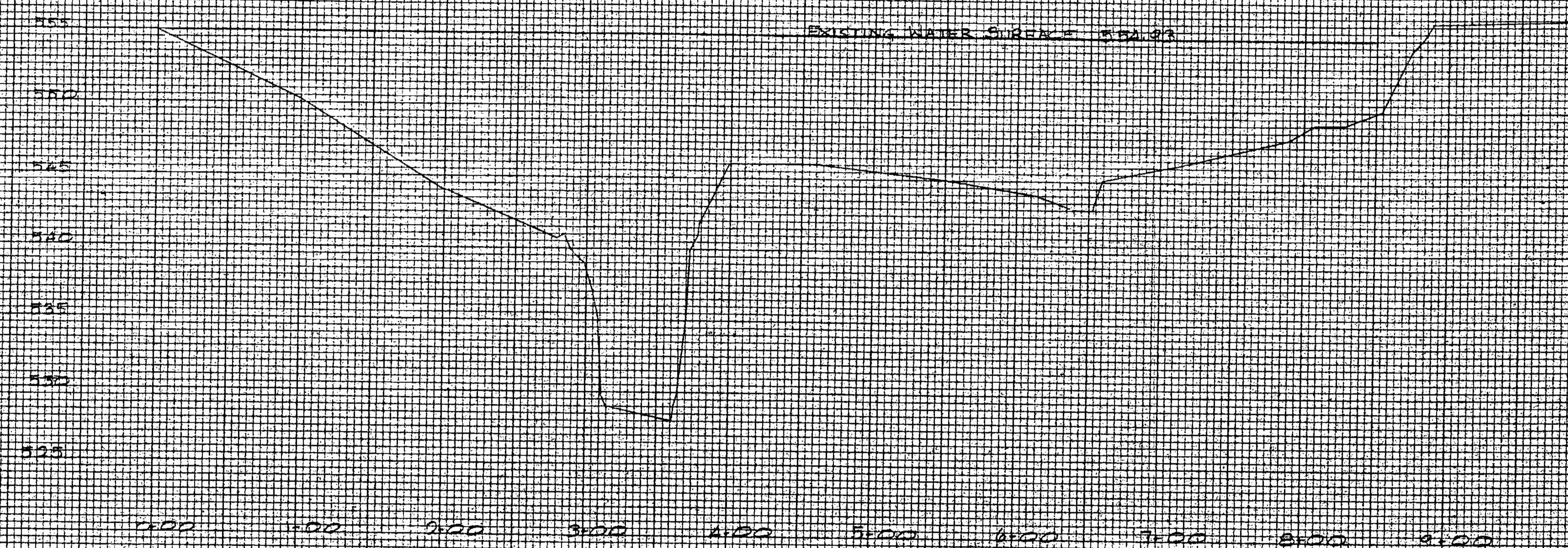
HUITT ZOLLARS INC.
Consulting Engineers

City Of Addison, Texas

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.
C.L.	L.N.	A.J.	H 1"=50' V 1"=5'	SEPT 1985	03582-02


X-SECTION 138C
PRO. WATER SURFACE 554.83
EXISTING WATER SURFACE 554.93
560
555
550
545
540
535
530
525
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
X-SECTION 138B
555
550
545
540
535
530
525
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
REVISED 10/2/95
CROSS - SECTIONS
Winnwood Road & Celestial Road
JERRY KING
HUITT ZOLLARS INC.
Consulting Engineers
City Of Addison, Texas
DESIGN
DRAWN
APPR.
SCALE
DATE
PROJECT NO.
SEPT 1985

X-SECTION 1850



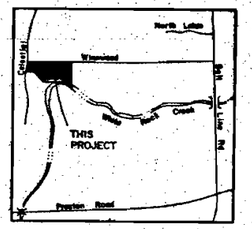
REVISED 10/21/85

CROSS - SECTIONS					
Winnwood Road B Celestial Road					
JERRY KING					
HUITT-ZOLLARS INC. Consulting Engineers					
City Of Addison, Texas					
DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.
[illegible]	LN	RO	H 1"=50' V 1"=5'	SEPT 1985	1-0582-02

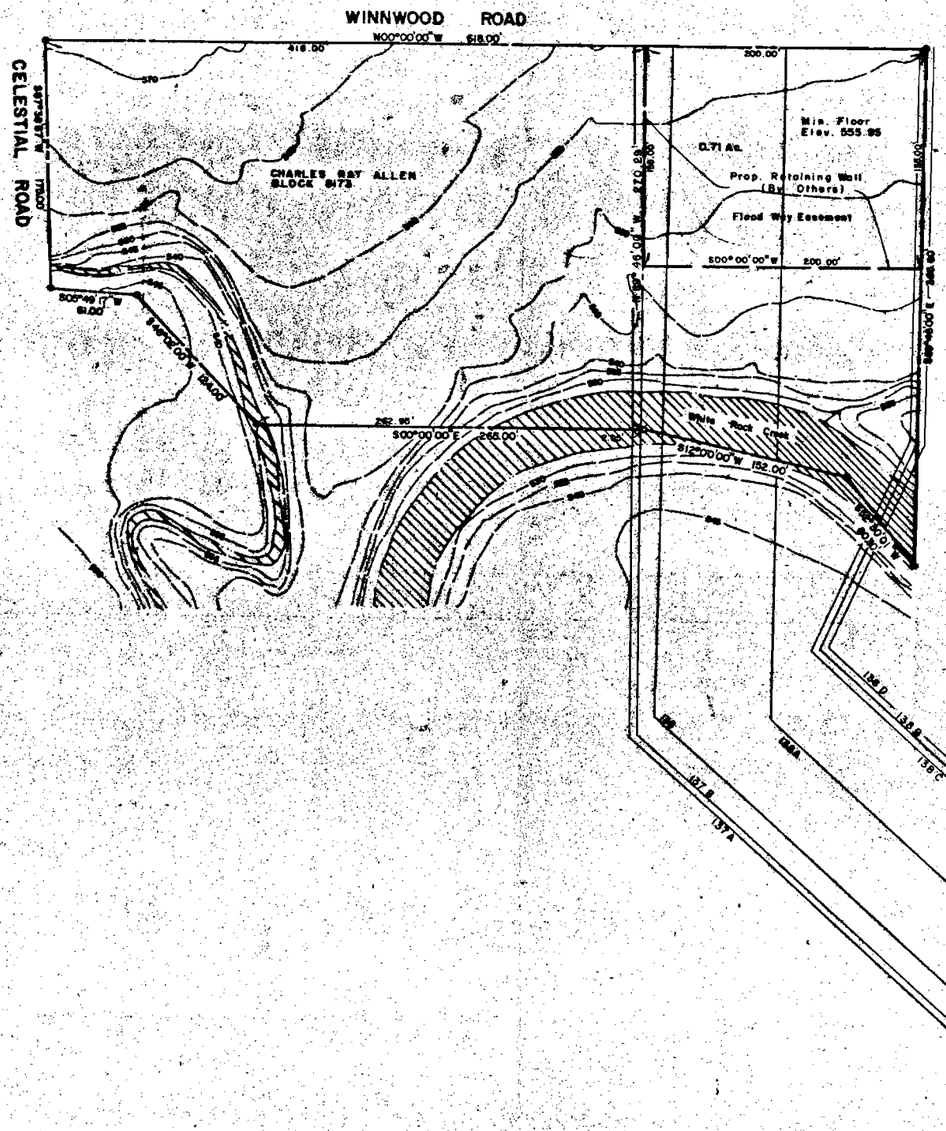
10 X 10 TO THE INCH

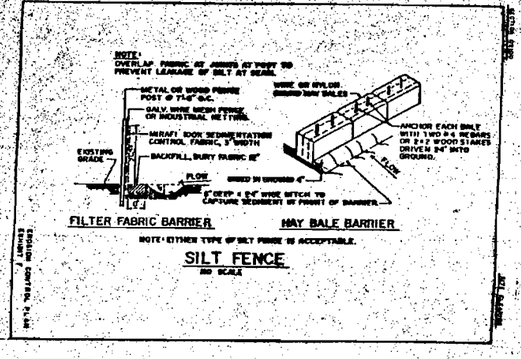
EXHIBIT E

RECLAMATION PLAN



Location Map
n.t.s.





Revised 10/21/85

PROPOSED RECLAMATION PLAN

Winnwood Road & Celestial Road

JERRY KING

HUITT-ZOLLARS INC.
Consulting Engineers

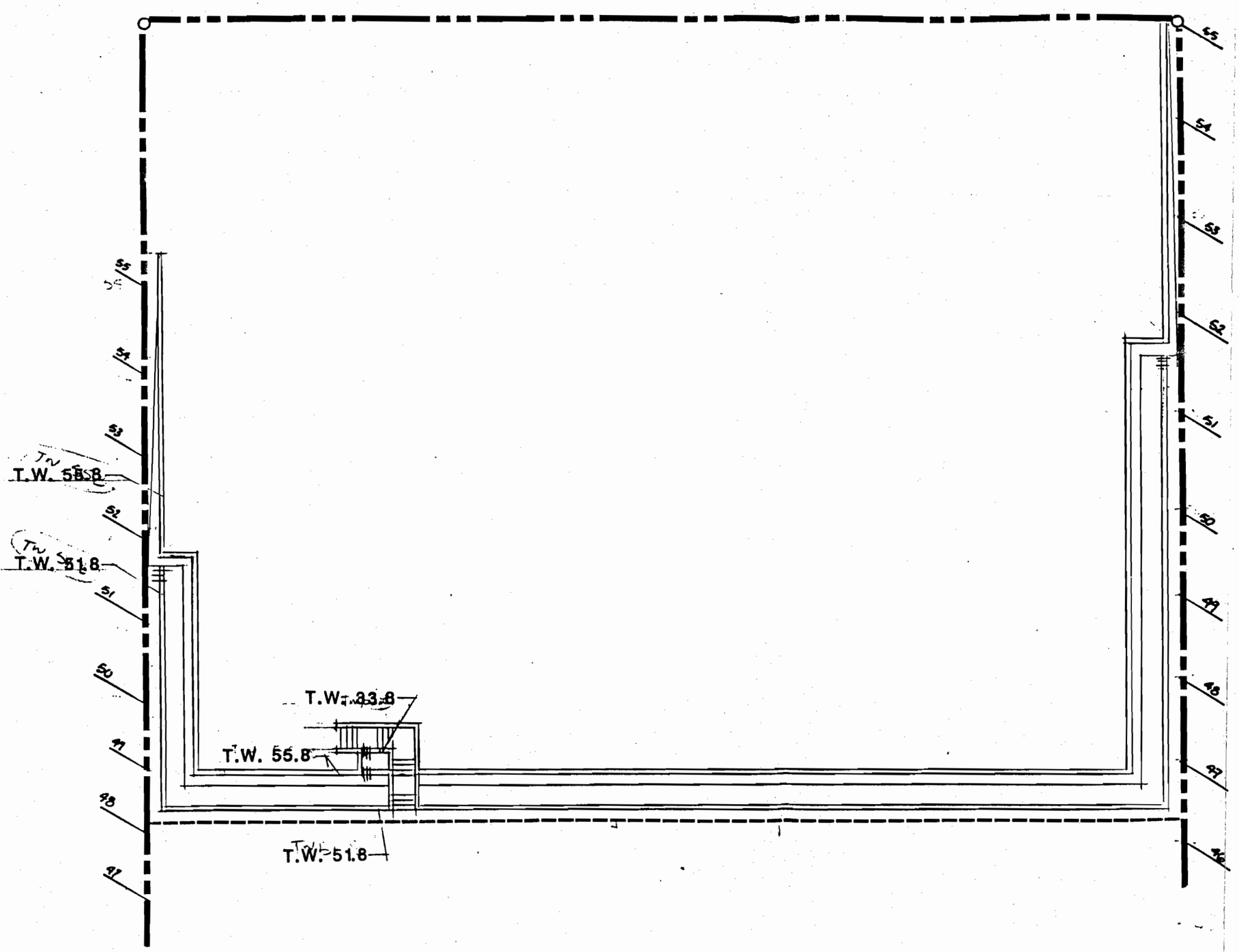
City Of Addison, Texas

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.
C.L.	L.R.	S.U.	1"=50'	SEPT 1985	1-0588-02

EXHIBIT F

RETAINING WALL TYPICAL SECTION

WINWOOD RD.



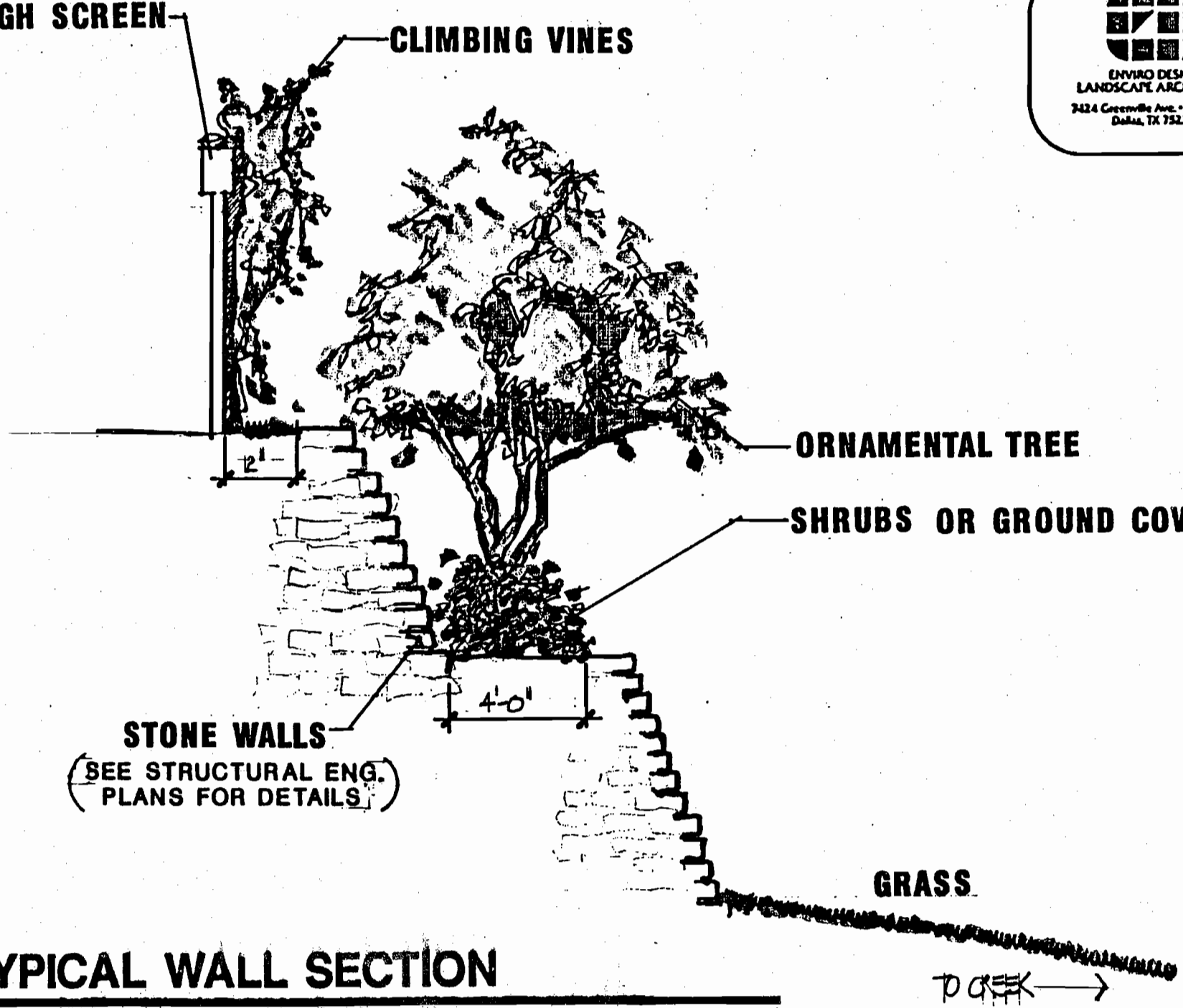
NOTE: SCREEN FENCE TO BE INSTALLED BEHIND RET. WALL

WALLS = 3,901 SQ. FT.

ENVIRO DESIGN
LANDSCAPE ARCHITECTS
7424 Greenville Ave. • Suite 200
Dallas, TX 75231

SCALE: 1" = 20'-0"

ENVIRO DESIGN
LANDSCAPE ARCHITECTS
3424 Greenville Ave. • Suite 200
Dallas, TX 75231



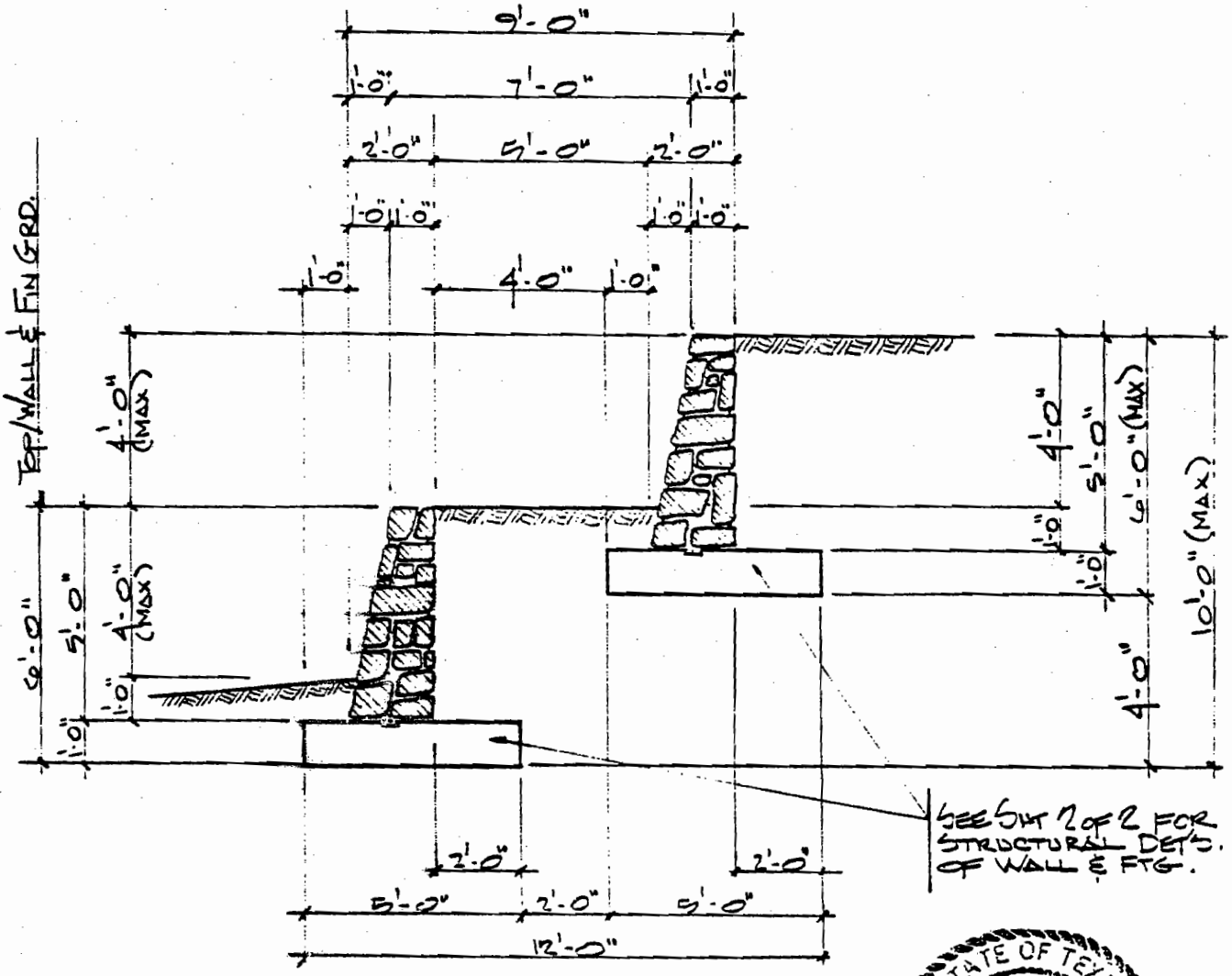
TYPICAL WALL SECTION

DATE: 9-0-05

NO SCALE

1. RETAINING WALL ARE DESIGNED THE WEIGHT OF EARTH AT 120 #/CU. FT.

2. CONTRACTOR SHALL PROVIDED VERT. EXP. JOINTS @ 30'-0" O.C. USING ½" NON-EXTRUDED FILLER. STAGGER EXP. JTS BETWEEN UPPER & LOWER WALLS.



SEE SHT 2 OF 2 FOR STRUCTURAL DET'S. OF WALL & FTG.

TYP. SECT. @ RETAINING WALL

4" = 1'-0"

STATE OF TEXAS
VICTOR J. KIMM
19585
REGISTERED PROFESSIONAL ENGINEER

9/19/85

HUITT-ZOLLARS

Dallas/Houston/Fort Worth/Collin County/Phoenix

Huitt-Zollars, Inc./Consulting Engineers
3131 McKinney Avenue/Suite 600
Dallas, Texas 75204/214-871-3311

RETAING WALL DETAILS

JOB NO: 0582-02 DATE: 18 SEPT 85

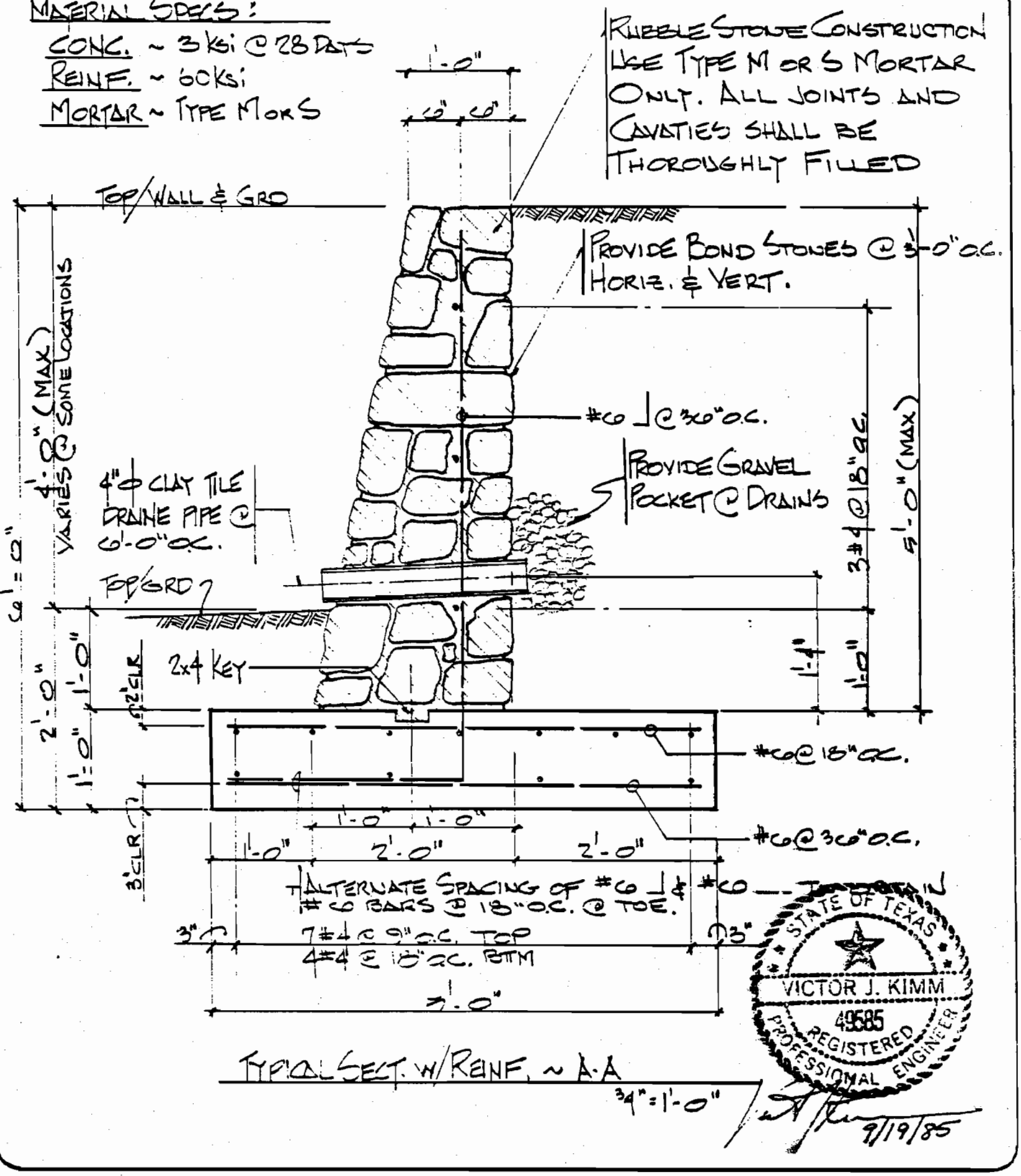
1

1 OF 2

DWN VK | VK

MATERIAL SPECS:

CONC. ~ 3 ksi @ 28 DAYS
REINF. ~ 60 ksi
MORTAR ~ TYPE M OR S



TYP. SECT. W/REINF. ~ A-A
3/4" = 1'-0"

STATE OF TEXAS
VICTOR J. KIMM
49585
REGISTERED PROFESSIONAL ENGINEER
9/19/85

HUITT-ZOLLARS
Dallas/Houston/Fort Worth/Collin County/Phoenix

Huitt-Zollars, Inc., Consulting Engineers
3131 McKinney Avenue/Suite 600
Dallas, Texas 75204/214-871-3311

RETAING WALL DETAILS

JOB NO: 0282-02 DATE: 18 SEPT 85

2
2 OF 2

DWN WK | VK

HUITT-ZOLLARS

HUITT-ZOLLARS, INC.
3131 McKinney Avenue
Suite 600, LB 105
Dallas, Texas 75204
(214) 871-3311

HUITT-ZOLLARS, INC.
2700 Post Oak Blvd.
Suite 1728
Houston, Texas 77056
(713) 622-1073

HUITT-ZOLLARS, INC.
Water Gardens Place
100 E. 15th St.
Suite 205
Fort Worth, Texas 76102
(817) 332-5331

HUITT-ZOLLARS, INC.
601 Central Parkway East
Suite 116
Plano, Texas 75074
(214) 578-1661

HUITT-ZOLLARS, INC.
Corporate Center
10050 North 25th Drive
Suite 240
Phoenix, Arizona 85021
(602) 861-9664