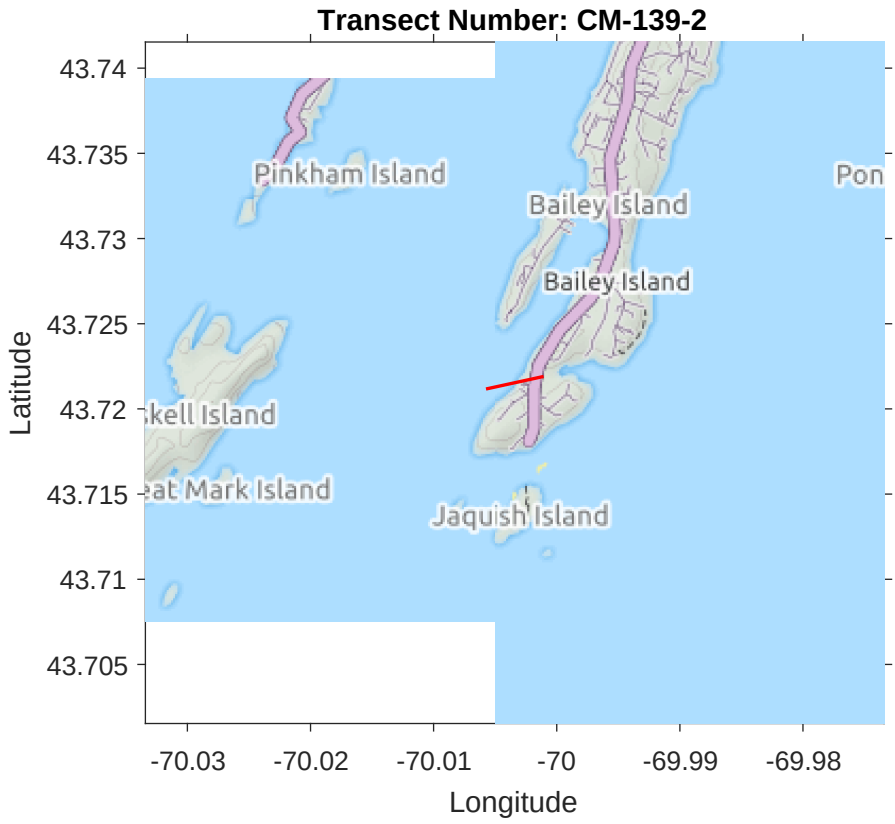
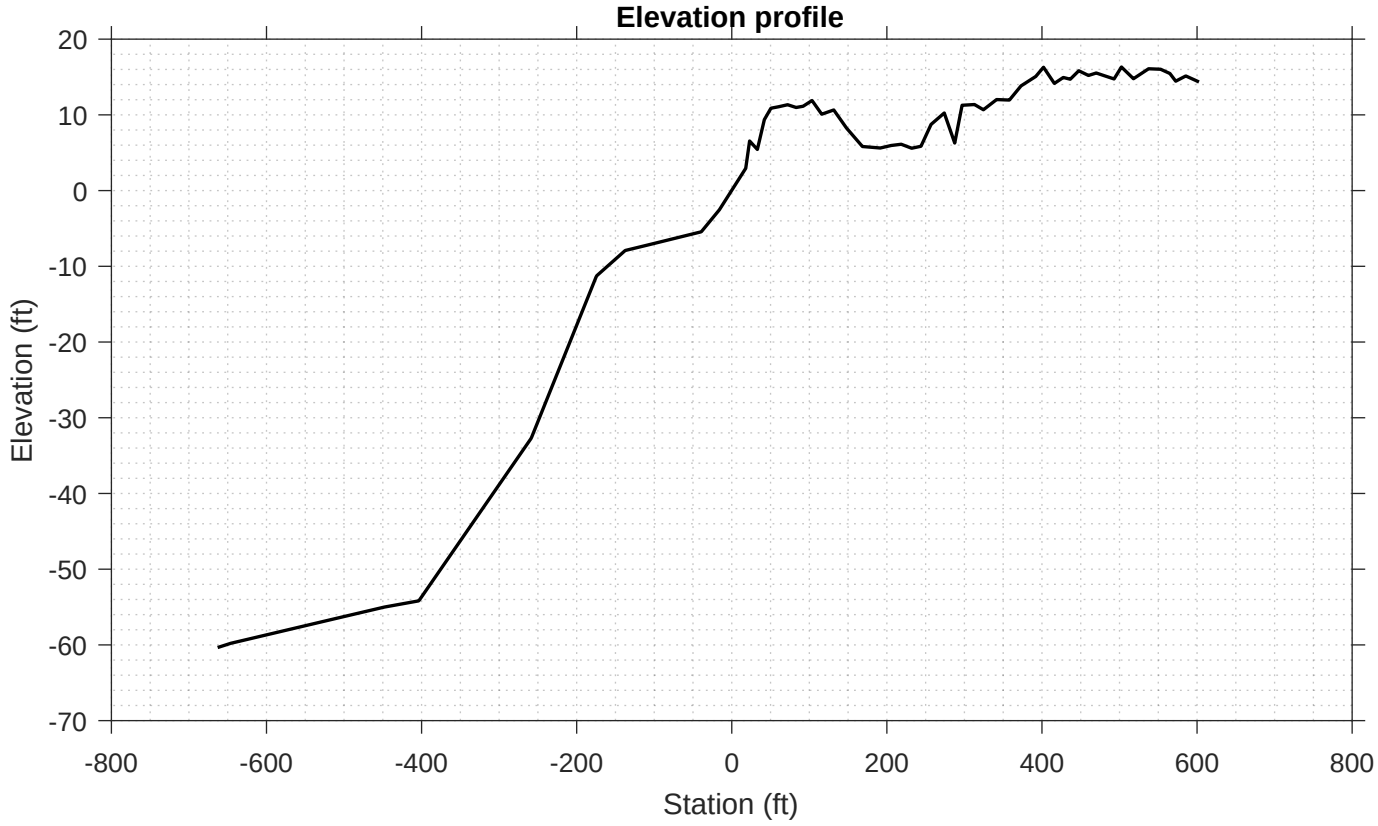

Transect Number: CM-139-2
Pinkham Island
Bailey Island
Bailey Island
Jaquish Island
Latitude
Longitude
43.74
43.735
43.73
43.725
43.72
43.715
43.71
43.705
-70.03
-70.02
-70.01
-70
-69.99
-69.98


Elevation profile
Elevation (ft)
Station (ft)
20
10
0
-10
-20
-30
-40
-50
-60
-70
-800
-600
-400
-200
0
200
400
600
800

DATA LOG FOR TRANSECT ID: CM-139-2

PART 1: USER INPUT

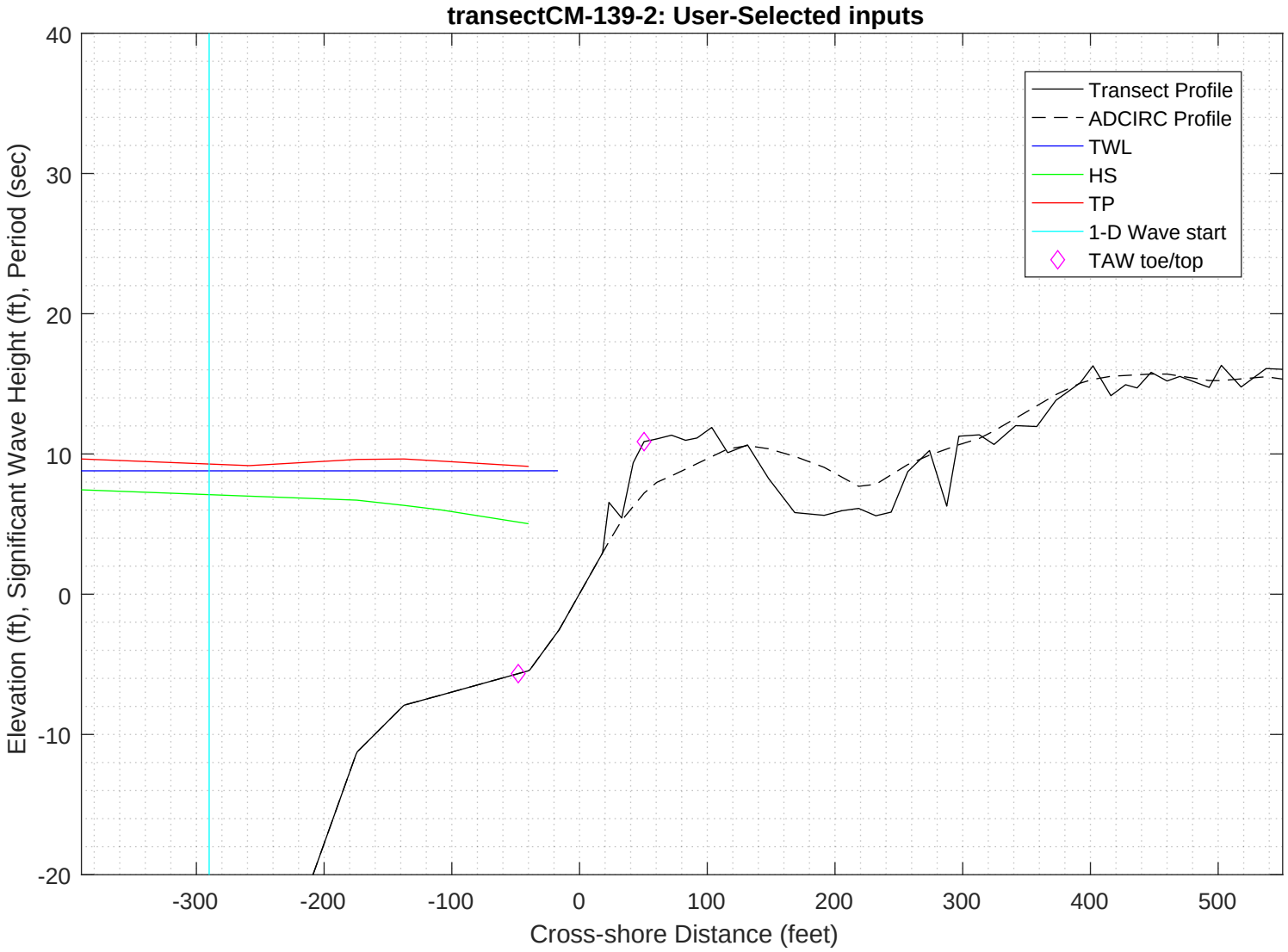
SWAN 1-D / WHAFIS input

station: -290 ft
LON: -70.0044 deg E
LAT: 43.7214 deg N
Bottom ELEV: -37.356 ft-NAVD88
TWL: 8.7973 ft-NAVD88
HS: 7.0995 ft
TP: 9.2819 sec
Wave Direction bin: 0 deg CCW from East (90 deg sector)
Transect Direction: 8.9289 deg CCW from East

TAW/RUNUP input

toe sta: -48 ft
toe elev: -5.6626 ft-NAVD88
top sta: 50.5 ft
top elev: 10.8793 ft-NAVD88
Wave and water level conditions at toe to be calculated in SWAN 1-D

PART 1 COMPLETE


transectCM-139-2: User-Selected inputs
Elevation (ft), Significant Wave Height (ft), Period (sec)
Cross-shore Distance (feet)
40
30
20
10
0
-10
-20
-300
-200
-100
0
100
200
300
400
500
Transect Profile
ADCIRC Profile
TWL
HS
TP
1-D Wave start
TAW toe/top

_____
PART 2: SWAN 1-D

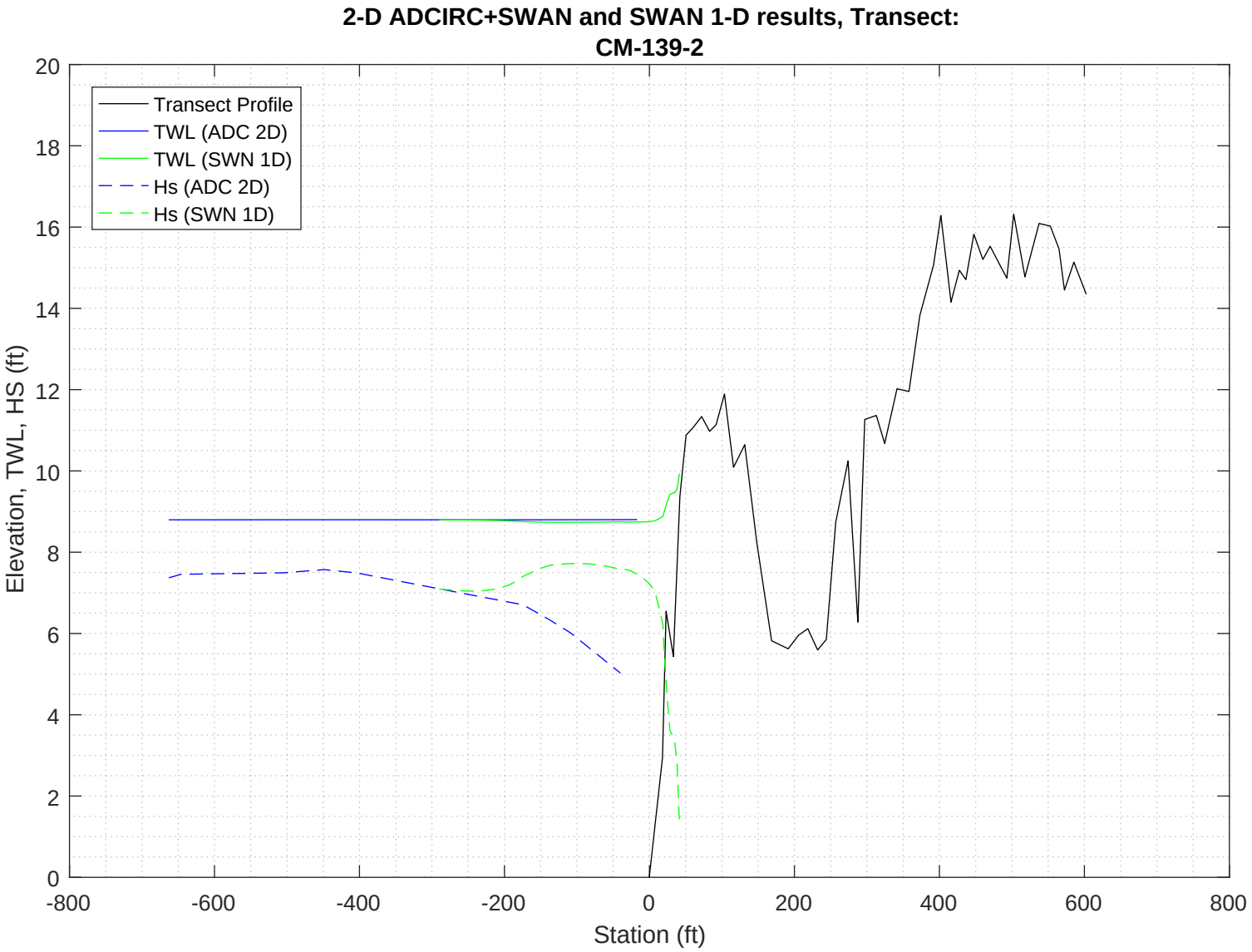
swan input grid name: 2_swan/gridfiles/CM-139-2zmeters_xmeters.grd
swan file name: 2_swan/swanfiles/CM-139-2.swn
swan output name: 2_swan/swanfiles/CM-139-2.dat

Boundary Conditions:
    TWL- 2.6814 meters
    HS- 2.1639 meters
    PER- 9.2819 seconds

Batch File: 2_swan/swanfiles/runswan.dat

SWAN maximum additional wave setup: 1.14 feet
SWAN output at toe:
    SETUP- -0.052129 feet
    HS-   7.609 feet
    PER-   9.0889 seconds

PART 2 COMPLETE_____


2-D ADCIRC+SWAN and SWAN 1-D results, Transect:
CM-139-2
Transect Profile
TWL (ADC 2D)
TWL (SWN 1D)
Hs (ADC 2D)
Hs (SWN 1D)
Elevation, TWL, HS (ft)
Station (ft)
20
18
16
14
12
10
8
6
4
2
0
-800
-600
-400
-200
0
200
400
600
800

1

```
                    Execution started at 20200220.141942


                    ---------------------------------------
                                    SWAN
                    SIMULATION OF WAVES IN NEAR SHORE AREAS
                             VERSION NUMBER 41.20A
                    ---------------------------------------


 PROJECT '2018FemaAppeal' '1'
    '100-year Wind and Wave conditions'
 ! -- SET commands ------------------------------------------------------
  SET DEPMIN=0.01 MAXMES=999 MAXERR=3 PWTAIL=4
  SET LEVEL 0
  SET CARTESIAN
 ! -- MODE commands -----------------------------------------------------
  MODE STATIONARY ONED
 !-- COORDINATES commands-----------------------------------------------
 COORDINATES CART
 !
 !  --  computational (CGRID) grid commands -------------------------------------
 !                                   xlenc=length of grid in meters
 !  mxc = number of mesh cells (one less than number of grid points)
 !CGRID REGular [xpc]  [ypc]  [alpc]  [xlenc]   [ylenc]  [mxc]  [myc] &
 !      [ CIRcle|SECtor[dir1] [dir2] ] [mdc] [flow] [fhigh] [msc]
  CGRID REGULAR   0      0       0      101       0.   101     0    &
        CIRCLE                          36    0.03    0.8     30
 Resolution in sigma-space: df/f =  0.1157
 ! -- READgrid ---- not used in 1-D mode ----------------------------------
 ! -- INPgrid commands  -------------------------------------------------------
 !INPgrid BOTtom REGular [xpinp] [ypinp] [alpinp] [mxinp] [myinp] [dxinp] [dyinp]
 !
  INPGRID BOTTOM REGULAR    0       0        0      101   0      1       1
 !READinp BOTtom [fac]  'fname1'  [idla]  [nhedf]  [FREe|FORmat[form]|UNFormatted]
  READ    BOTTOM   -1. '../gridfiles/CM-139-2zmeters_xmeters.grd'    1      0       FREE
 !-------------------------------------------------------------------------
 ! -- WIND [vel] [dir]
 WIND      25.1  0
 ! -- BOUnd SHAPespec
 BOUND SHAPE JONSWAP 3.3  PEAK DSPR POWER
 ! -- BOUndspec
 ! BOU SIDE W CCW CON FILE 'swanspec.txt' 1
 BOUN SIDE W CCW CONSTANT PAR   2.1639     9.2819     0  2
 !-- BOUndnest1  - optional for boundary from parent run
 !-- BOUndnest2
 !-- BOUndnest3
 !-- INITial -- usest to specify initial values
 !
```

```
!---------------- P H Y S I C S ------------------------
!-- GEN1 [cf10] [cf20] [cf30] [cf40] [edm1pm] [cdrag] [umin] [cfpm]
!-- GEN2 [cf10] [cf20] [cf30] [cf40] [cf50] [cf60] [edm1pm] [cdrag] [umin] [cfpm]
    GEN3 KOMEN
!   whitecapping ( on by default)
!-- WCAPping KOMen [cds2] [stpm] [powst] [delta] [powk]
    WCAP KOM
!   quadruplet wave interactions
!-- QUADrupl [iquad] [lambda] [Cn14] [Csh1] [Csh2]
! -- BREaking CONstant [alpha] [gamma]
     BREAK    CON       1.      0.73
!-- FRICtion JONswap CONstant [cfjon]
    FRIC     JONSWAP CON       0.038
!-- TRIad [itriad] [trfac] [cutfr]   [a]  [b]  [urcrit] [urslim]
! TRIAD        1      0.65    2.5    0.95 -0.75  0.2       0.01
  TRIAD
!-- VEGEtation [height] [diamtr] [nstems] [drag]
!-- MUD [layer] [rhom] [viscm]
!- LIMiter [ursell] [qb] deactivates quadruplets with Ursell number exceeds ursell
!-- OBSTacle -- not in 1-D
!-- SETUP [supcor]
   SETUP    0
!
! ----------------- N U M E R I C S -----------------------------
!
!-- PROP  can use BBST or GSE instead of default
! -- NUMeric -- lots of options
!     NUM ACCUR npnts=100. stat 30
     NUMeric STOPC
!
! -------------------O U T P U T ------------------------------
!
!OUTPut OPTIons "comment' (TABLE [field]) (BLOck [ndec] [len]) (SPEC [ndec])
 OUTPUT OPTIONS '%' TABLE 16
 $BLOCK 9 1000 SPEC 8
!CURve 'sname' [xp1] [yp1] <[int]   [xp]   [yp] >
 CURVE 'curve' 0     0      101  101    0
!TABLe 'sname' < HEADer|NOHEADer|INDexed > 'fname' <output parameters> (output time)
 Table 'curve'   HEADER 'CM-139-2.dat' XP YP HSIGN TPS RTP TMM10 DIR &
 DSPR DEPTH SETUP
!QUANTITY XP hexp=99999
!
!-----------------------------------------------
COMPUTE STATIONARY
------------------------------------------------------------------
                 COMPUTATIONAL PART OF SWAN
------------------------------------------------------------------
```

```
One-dimensional mode of SWAN is activated
Gridresolution       : MXC             102 MYC              1
                     : MCGRD           103
                     : MSC              31 MDC             36
                     : MTC               1
                     : NSTATC            0 ITERMX          50
Propagation flags    : ITFRE             1 IREFR            1
Source term flags    : IBOT              1 ISURF            1
                     : IWCAP             1 IWIND            3
                     : ITRIAD            1 IQUAD            2
                     : IVEG              0 ITURBV           0
                     : IMUD              0
Spatial step         : DX       0.1000E+01 DY      0.1000E+01
Spectral bin         : df/f     0.1157E+00 DDIR    0.1000E+02
Physical constants   : GRAV     0.9810E+01 RHO     0.1025E+04
Wind input           : WSPEED   0.2510E+02 DIR     0.0000E+00
Tail parameters      : E(f)     0.4000E+01 E(k)    0.2500E+01
                     : A(f)     0.5000E+01 A(k)    0.3000E+01
Accuracy parameters  : DREL     0.1000E-01 NPNTS   0.9950E+02
                     : DHABS    0.0000E+00 CURVAT  0.5000E-02
                     : GRWMX    0.1000E+00
Drying/flooding      : LEVEL    0.0000E+00 DEPMIN  0.1000E-01
The Cartesian convention for wind and wave directions is used
Scheme for geographic propagation is SORDUP
Scheme geogr. space  : PROPSC            2 ICMAX            7
Scheme spectral space: CSS      0.5000E+00 CDD     0.5000E+00
Current is off
Quadruplets          : IQUAD             2
                     : LAMBDA   0.2500E+00 CNL4    0.3000E+08
                     : CSH1     0.5500E+01 CSH2    0.8330E+00
                     : CSH3    -0.1250E+01
Maximum Ursell nr for Snl4 :    0.1000E+02
Triads               : ITRIAD            1 TRFAC   0.8000E+00
                     : CUTFR    0.2500E+01 URCRI   0.2000E+00
Minimum Ursell nr for Snl3 :    0.1000E-01
JONSWAP (‘73)        : GAMMA    0.3800E-01
Vegetation is off
Turbulence is off
Fluid mud is off
W-cap Komen (‘84)    : EMPCOF (CDS2):   0.2360E-04
W-cap Komen (‘84)    : APM (STPM)   :   0.3020E-02
W-cap Komen (‘84)    : POWST        :   0.2000E+01
W-cap Komen (‘84)    : DELTA        :   0.1000E+01
W-cap Komen (‘84)    : POWK         :   0.1000E+01
Wind drag is fit
Snyder/Komen wind input
Battjes&Janssen (‘78): ALPHA    0.1000E+01 GAMMA   0.7300E+00
Set-up               : SUPCOR   0.0000E+00
Diffraction is off
Janssen (‘89,‘90)    : ALPHA    0.1000E-01 KAPPA   0.4100E+00
Janssen (‘89,‘90)    : RHOA     0.1280E+01 RHOW    0.1025E+04

1st and 2nd gen. wind: CF10     0.1880E+03 CF20    0.5900E+00
                     : CF30     0.1200E+00 CF40    0.2500E+03
                     : CF50     0.2300E-02 CF60   -0.2230E+00
                     : CF70     0.0000E+00 CF80   -0.5600E+00
                     : RHOAW    0.1249E-02 EDMLPM  0.3600E-02
                     : CDRAG    0.1230E-02 UMIN    0.1000E+01
                     : LIM_PM   0.1300E+00

 ---------------------------------------------------------------
 First guess by 2nd generation model flags for first iteration:
 ITER       1 GRWMX      0.1000E+23 ALFA       0.0000E+00
 IWIND      2 IWCAP      0 IQUAD      0
 ITRIAD     1 IBOT       1 ISURF      1
 IVEG       0 ITURBV     0 IMUD       0
 ---------------------------------------------------------------
iteration    1; sweep 1
iteration    1; sweep 2
iteration    1; sweep 3
iteration    1; sweep 4
not possible to compute, first iteration

 ---------------------------------------------------------------
 Options given by user are activated for proceeding calculation:
 ITER       2 GRWMX      0.1000E+00 ALFA       0.0000E+00
 IWIND      3 IWCAP      1 IQUAD      2
 ITRIAD     1 IBOT       1 ISURF      1
 IVEG       0 ITURBV     0 IMUD       0
 ---------------------------------------------------------------
iteration    2; sweep 1
iteration    2; sweep 2
iteration    2; sweep 3
iteration    2; sweep 4
accuracy OK in  43.14 % of wet grid points ( 99.50 % required)

iteration    3; sweep 1
iteration    3; sweep 2
iteration    3; sweep 3
```

```
iteration    3; sweep 4
accuracy OK in   0.99 % of wet grid points ( 99.50 % required)

iteration    4; sweep 1
iteration    4; sweep 2
iteration    4; sweep 3
iteration    4; sweep 4
accuracy OK in  43.14 % of wet grid points ( 99.50 % required)

iteration    5; sweep 1
iteration    5; sweep 2
iteration    5; sweep 3
iteration    5; sweep 4
accuracy OK in  95.10 % of wet grid points ( 99.50 % required)

iteration    6; sweep 1
iteration    6; sweep 2
iteration    6; sweep 3
iteration    6; sweep 4
accuracy OK in  98.04 % of wet grid points ( 99.50 % required)

iteration    7; sweep 1
iteration    7; sweep 2
iteration    7; sweep 3
iteration    7; sweep 4
accuracy OK in  99.02 % of wet grid points ( 99.50 % required)

iteration    8; sweep 1
iteration    8; sweep 2
iteration    8; sweep 3
iteration    8; sweep 4
accuracy OK in  99.02 % of wet grid points ( 99.50 % required)

iteration    9; sweep 1
iteration    9; sweep 2
iteration    9; sweep 3
iteration    9; sweep 4
accuracy OK in  99.02 % of wet grid points ( 99.50 % required)

iteration   10; sweep 1
iteration   10; sweep 2
iteration   10; sweep 3
iteration   10; sweep 4
accuracy OK in 100.00 % of wet grid points ( 99.50 % required)


STOP
```

%
%
% Run:1 Table:curve SWAN version:41.20A
%
% Xp Yp Hsig TPsmoo RTpeak Tm_10 Dir Dspr Depth Setup
% [m] [m] [m] [sec] [sec] [sec] [degr] [degr] [m] [m]
%

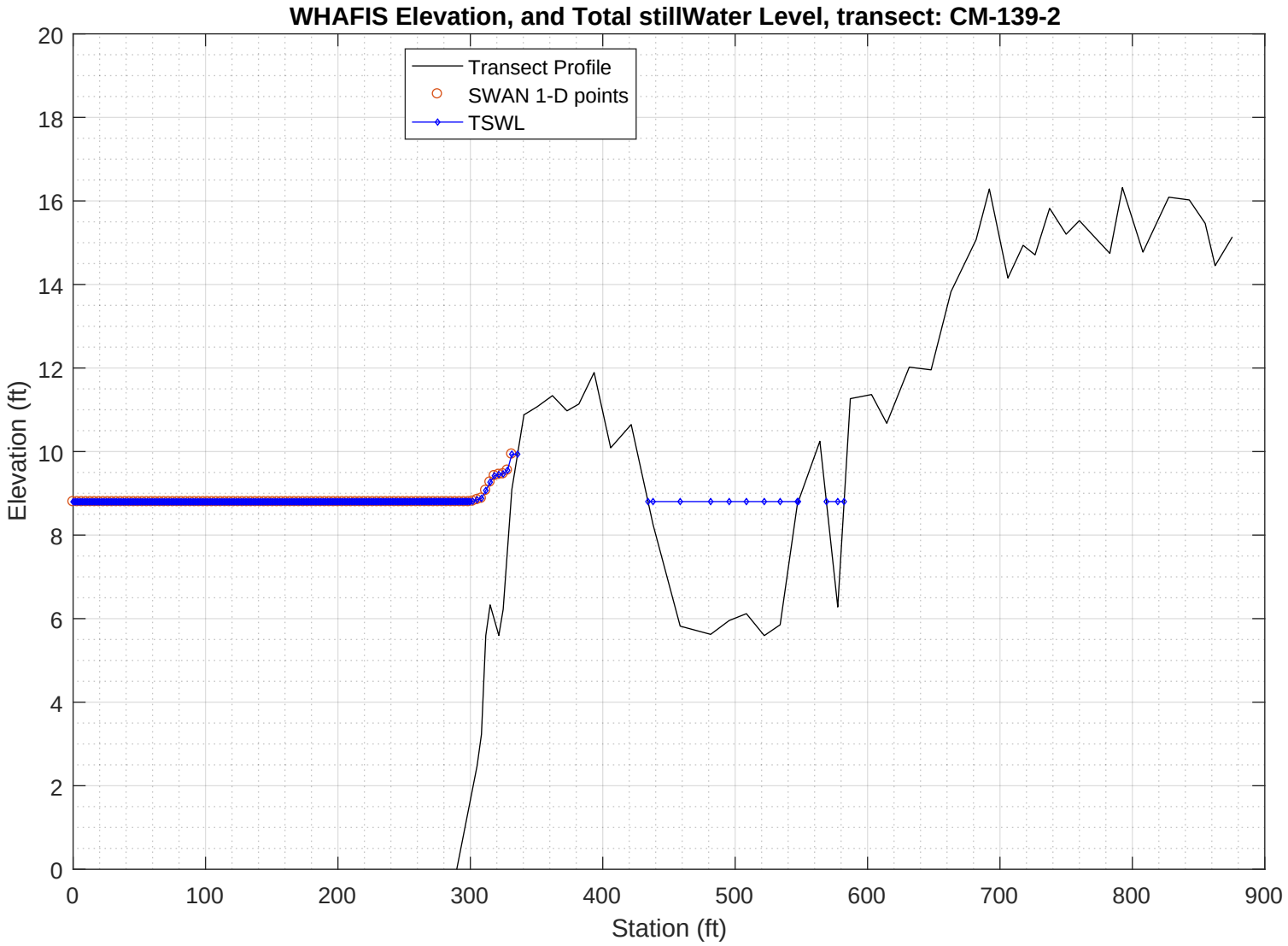
Xp [m]	Yp [m]	Hsig [m]	TPsmoo [sec]	RTpeak [sec]	Tm_10 [sec]	Dir [degr]	Dspr [degr]	Depth [m]	Setup [m]
0.	0.	2.16184	9.0454	8.9638	8.3738	0.000	31.5058	14.0700	0.000000
1.	0.	2.16005	9.0457	8.9638	8.3744	0.000	31.2704	13.9199	-0.000087
2.	0.	2.15839	9.0460	8.9638	8.3751	0.000	31.0457	13.7698	-0.000175
3.	0.	2.15685	9.0463	8.9638	8.3760	0.000	30.8633	13.6197	-0.000261
4.	0.	2.15548	9.0466	8.9638	8.3769	0.000	30.6876	13.4697	-0.000350
5.	0.	2.15416	9.0470	8.9638	8.3778	0.000	30.5132	13.3296	-0.000435
6.	0.	2.15297	9.0473	8.9638	8.3790	0.000	30.3343	13.1795	-0.000530
7.	0.	2.15188	9.0477	8.9638	8.3802	0.000	30.1537	13.0294	-0.000630
8.	0.	2.15089	9.0480	8.9638	8.3815	0.000	29.9719	12.8793	-0.000732
9.	0.	2.14980	9.0484	8.9638	8.3828	0.000	29.7726	12.7292	-0.000839
10.	0.	2.14867	9.0489	8.9638	8.3848	0.000	29.5259	12.5390	-0.000981
11.	0.	2.14783	9.0495	8.9638	8.3880	0.000	29.2335	12.2888	-0.001178
12.	0.	2.14723	9.0502	8.9638	8.3916	360.000	28.9241	12.0286	-0.001395
13.	0.	2.14679	9.0509	8.9638	8.3951	0.000	28.6114	11.7784	-0.001618
14.	0.	2.14678	9.0516	8.9638	8.3991	0.000	28.3179	11.5181	-0.001859
15.	0.	2.14692	9.0523	8.9638	8.4029	0.000	28.0334	11.2679	-0.002102
16.	0.	2.14748	9.0531	8.9638	8.4071	0.000	27.7467	11.0076	-0.002371
17.	0.	2.14818	9.0538	8.9638	8.4110	0.000	27.4543	10.7574	-0.002646
18.	0.	2.14935	9.0545	8.9638	8.4153	0.000	27.1573	10.4970	-0.002951
19.	0.	2.15068	9.0552	8.9638	8.4192	0.000	26.8531	10.2467	-0.003263
20.	0.	2.15256	9.0560	8.9638	8.4233	0.000	26.5427	9.9864	-0.003610
21.	0.	2.15463	9.0568	8.9638	8.4270	0.000	26.2265	9.7360	-0.003967
22.	0.	2.15733	9.0575	8.9638	8.4306	0.000	25.9034	9.4756	-0.004365
23.	0.	2.16032	9.0583	8.9638	8.4335	0.000	25.5777	9.2252	-0.004776
24.	0.	2.16377	9.0591	8.9638	8.4357	0.000	25.2454	8.9748	-0.005216
25.	0.	2.16802	9.0599	8.9638	8.4373	0.000	24.9151	8.7143	-0.005706
26.	0.	2.17260	9.0607	8.9638	8.4374	0.000	24.5947	8.4638	-0.006209
27.	0.	2.17813	9.0616	8.9638	8.4363	0.000	24.2738	8.2032	-0.006772
28.	0.	2.18407	9.0624	8.9638	8.4329	0.000	23.9470	7.9526	-0.007359
29.	0.	2.19113	9.0633	8.9638	8.4275	0.000	23.6141	7.6920	-0.008020
30.	0.	2.19872	9.0642	8.9638	8.4188	0.000	23.2722	7.4413	-0.008714
31.	0.	2.20764	9.0651	8.9638	8.4070	0.000	22.9214	7.1805	-0.009501
32.	0.	2.21723	9.0661	8.9638	8.3909	0.000	22.5595	6.9297	-0.010332
33.	0.	2.22838	9.0673	8.9638	8.3704	0.000	22.1871	6.6687	-0.011280
34.	0.	2.24035	9.0684	8.9638	8.3441	0.000	21.8039	6.4177	-0.012287
35.	0.	2.25466	9.0697	8.9638	8.3120	0.000	21.4753	6.1566	-0.013439
36.	0.	2.26357	9.0706	8.9638	8.2705	0.000	21.2562	6.0360	-0.014018
37.	0.	2.27156	9.0715	8.9638	8.2261	0.001	21.0892	5.9455	-0.014470
38.	0.	2.27973	9.0723	8.9638	8.1809	0.001	20.9363	5.8551	-0.014934
39.	0.	2.28852	9.0732	8.9638	8.1358	0.001	20.7863	5.7545	-0.015465
40.	0.	2.29680	9.0741	8.9638	8.0899	0.001	20.6454	5.6640	-0.015955
41.	0.	2.30429	9.0750	8.9638	8.0461	359.998	20.5147	5.5736	-0.016419
42.	0.	2.31172	9.0760	8.9638	8.0020	359.995	20.3826	5.4831	-0.016894
43.	0.	2.31898	9.0769	8.9638	7.9580	359.991	20.2498	5.3926	-0.017375
44.	0.	2.32540	9.0779	8.9638	7.9158	359.979	20.1209	5.3022	-0.017828
45.	0.	2.33125	9.0788	8.9638	7.8748	359.965	19.9922	5.2117	-0.018268
46.	0.	2.33719	9.0798	8.9638	7.8332	359.953	19.8750	5.1213	-0.018719
47.	0.	2.34156	9.0807	8.9638	7.7896	359.944	19.7974	5.0610	-0.018962
48.	0.	2.34360	9.0814	8.9638	7.7446	359.936	19.7487	5.0411	-0.018916
49.	0.	2.34560	9.0821	8.9638	7.7038	359.924	19.7092	5.0111	-0.018915
50.	0.	2.34710	9.0827	8.9638	7.6633	359.915	19.6719	4.9911	-0.018851
51.	0.	2.34863	9.0834	8.9638	7.6263	359.903	19.6361	4.9612	-0.018840
52.	0.	2.34966	9.0839	8.9638	7.5895	359.896	19.5991	4.9412	-0.018767
53.	0.	2.35111	9.0845	8.9638	7.5551	359.891	19.5610	4.9112	-0.018768
54.	0.	2.35183	9.0849	8.9638	7.5213	359.888	19.5226	4.8913	-0.018693
55.	0.	2.35290	9.0854	8.9638	7.4898	359.886	19.4833	4.8613	-0.018689
56.	0.	2.35318	9.0858	8.9638	7.4588	359.885	19.4438	4.8414	-0.018603
57.	0.	2.35380	9.0862	8.9638	7.4302	359.884	19.4036	4.8114	-0.018588
58.	0.	2.35359	9.0866	8.9638	7.4020	359.884	19.3636	4.7915	-0.018486
59.	0.	2.35370	9.0869	8.9638	7.3759	359.885	19.3234	4.7615	-0.018454

60.	0.	2.35298	9.0872	8.9638	7.3502	359.886	19.2832	4.7417	-0.018332
61.	0.	2.35254	9.0874	8.9638	7.3265	359.887	19.2369	4.7117	-0.018282
62.	0.	2.35183	9.0877	8.9638	7.3038	359.887	19.1937	4.6818	-0.018218
63.	0.	2.35025	9.0879	8.9638	7.2813	359.888	19.1521	4.6619	-0.018058
64.	0.	2.34899	9.0881	8.9638	7.2608	359.889	19.1105	4.6320	-0.017968
65.	0.	2.34684	9.0882	8.9638	7.2403	359.889	19.0698	4.6122	-0.017780
66.	0.	2.34502	9.0884	8.9638	7.2217	359.890	19.0287	4.5823	-0.017663
67.	0.	2.34233	9.0885	8.9638	7.2030	359.890	18.9882	4.5626	-0.017446
68.	0.	2.33997	9.0886	8.9638	7.1860	359.890	18.9472	4.5327	-0.017302
69.	0.	2.33674	9.0887	8.9638	7.1689	359.890	18.9069	4.5129	-0.017055
70.	0.	2.33386	9.0888	8.9638	7.1534	359.891	18.8667	4.4831	-0.016883
71.	0.	2.33013	9.0888	8.9638	7.1376	359.891	18.8271	4.4634	-0.016607
72.	0.	2.32676	9.0889	8.9638	7.1234	359.891	18.7870	4.4336	-0.016406
73.	0.	2.32254	9.0889	8.9638	7.1089	359.891	18.7475	4.4139	-0.016100
74.	0.	2.31924	9.0889	8.9638	7.0935	359.891	18.7045	4.3841	-0.015889
75.	0.	2.31557	9.0889	8.9638	7.0745	359.892	18.6645	4.3644	-0.015565
76.	0.	2.31204	9.0890	8.9638	7.0563	359.892	18.5929	4.3347	-0.015314
77.	0.	2.31007	9.0891	8.9638	7.0451	359.894	18.4570	4.2545	-0.015482
78.	0.	2.30920	9.0894	8.9638	7.0412	359.895	18.2737	4.1239	-0.016053
79.	0.	2.30575	9.0897	8.9638	7.0372	359.896	18.0680	4.0036	-0.016416
80.	0.	2.30125	9.0900	8.9638	7.0335	359.898	17.8525	3.8732	-0.016763
81.	0.	2.29402	9.0903	8.9638	7.0280	359.899	17.6278	3.7532	-0.016832
82.	0.	2.28552	9.0905	8.9638	7.0219	359.909	17.3901	3.6232	-0.016840
83.	0.	2.27513	9.0906	8.9638	7.0078	359.885	17.1352	3.5035	-0.016539
84.	0.	2.26294	9.0908	8.9638	6.9971	359.867	16.8501	3.3638	-0.016233
85.	0.	2.25189	9.0908	8.9638	6.9773	359.852	16.5153	3.2039	-0.016085
86.	0.	2.23959	9.0904	8.9638	6.9505	359.847	16.1643	3.0342	-0.015816
87.	0.	2.22518	9.0884	8.9638	6.9070	359.897	15.8119	2.8750	-0.015017
88.	0.	2.20826	9.0829	8.9638	6.8589	359.995	15.4364	2.7161	-0.013852
89.	0.	2.18755	9.0767	8.9638	6.7962	0.133	15.0629	2.5580	-0.012005
90.	0.	2.16021	9.0700	8.9638	6.7268	0.272	14.6945	2.4008	-0.009151
91.	0.	2.12209	9.0632	8.9638	6.6566	0.458	14.3381	2.2454	-0.004601
92.	0.	2.05613	9.0595	8.9638	6.6244	0.560	13.9817	2.0939	0.003895
93.	0.	1.97514	9.0581	8.9638	6.5990	0.545	13.5701	1.9450	0.014998
94.	0.	1.90003	9.0589	8.9638	6.5545	0.455	12.6347	1.7250	0.024966
95.	0.	1.56465	9.1495	8.9638	6.8721	358.790	12.2692	1.0625	0.082528
96.	0.	1.31371	9.2770	8.9638	6.7793	357.009	11.7848	0.8930	0.143045
97.	0.	1.10199	9.7612	10.0005	6.5432	355.501	11.7603	1.0499	0.189941
98.	0.	1.06501	9.0691	8.9638	5.9690	354.495	10.8022	1.1789	0.198897
99.	0.	1.02349	9.0467	8.9638	5.9632	354.672	9.7909	0.9931	0.203086
100.	0.	0.85698	9.1223	8.9638	6.7820	354.575	10.2309	0.5800	0.229969
101.	0.	0.39914	12.0505	12.4477	8.5907	356.472	15.6580	0.2575	0.347466

PART 3: WHAFIS

WHAFIS input: CM-139-2.dat
WHAFIS output: CM-139-2.out

PART 3 COMPLETE


WHAFIS Elevation, and Total stillWater Level, transect: CM-139-2
Transect Profile
SWAN 1-D points
TSWL
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
20
0
100
200
300
400
500
600
700
800
900

WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (WHAFIS VERSION 4.0G, 08_2007)
Executed on: Thu Feb 20 14:57:37 2020
Input file: C:\FEMA-TransectAnalysis\LOMR-TransectAnalysis-Harpswell\3_whafis\whafis4\CM-139-2.dat
Output file: C:\FEMA-TransectAnalysis\LOMR-TransectAnalysis-Harpswell\3_whafis\whafis4\CM-139-2.out

header

THIS IS A 100-YEAR CASE
THE FOLLOWING NON-DEFAULT WIND SPEEDS ARE BEING USED
WINDIF 56.14 WINDOF 56.14 WINDVH 60.00

PART1 INPUT

IE	0.000	-37.356	1.000	1.000	8.797	11.359	9.282	56.140	0.149	0.000
OF	1.000	-37.207	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	2.000	-37.059	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	3.000	-36.911	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	4.000	-36.763	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	5.000	-36.615	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	6.000	-36.467	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	7.000	-36.318	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	8.000	-36.170	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	9.000	-36.022	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	10.000	-35.874	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	11.000	-35.725	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	12.000	-35.577	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	13.000	-35.429	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	14.000	-35.281	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	15.000	-35.133	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	16.000	-34.985	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	17.000	-34.836	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	18.000	-34.689	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	19.000	-34.540	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	20.000	-34.392	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	21.000	-34.244	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	22.000	-34.095	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	23.000	-33.947	0.000	8.797	0.000	0.000	0.000	0.000	0.147	0.000
OF	24.000	-33.800	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	25.000	-33.651	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	26.000	-33.503	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	27.000	-33.355	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	28.000	-33.207	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	29.000	-33.058	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	30.000	-32.910	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
OF	31.000	-32.762	0.000	8.797	0.000	0.000	0.000	0.000	0.180	0.000
OF	32.000	-32.550	0.000	8.797	0.000	0.000	0.000	0.000	0.233	0.000
OF	33.000	-32.296	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
OF	34.000	-32.042	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	35.000	-31.787	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	36.000	-31.532	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	37.000	-31.277	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	38.000	-31.023	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	39.000	-30.768	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	40.000	-30.514	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	41.000	-30.259	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	42.000	-30.004	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	43.000	-29.750	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
OF	44.000	-29.496	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	45.000	-29.241	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	46.000	-28.986	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	47.000	-28.731	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	48.000	-28.477	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	49.000	-28.222	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	50.000	-27.967	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	51.000	-27.712	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	52.000	-27.458	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
OF	53.000	-27.204	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	54.000	-26.949	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	55.000	-26.694	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	56.000	-26.439	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	57.000	-26.185	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
OF	58.000	-25.931	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	59.000	-25.676	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	60.000	-25.421	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	61.000	-25.166	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	62.000	-24.911	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
OF	63.000	-24.658	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
OF	64.000	-24.403	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	65.000	-24.148	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	66.000	-23.893	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	67.000	-23.638	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	68.000	-23.384	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	69.000	-23.129	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	70.000	-22.874	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	71.000	-22.620	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	72.000	-22.365	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	73.000	-22.111	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	74.000	-21.856	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	75.000	-21.601	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	76.000	-21.347	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	77.000	-21.092	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	78.000	-20.838	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	79.000	-20.583	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	80.000	-20.328	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	81.000	-20.073	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	82.000	-19.819	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
OF	83.000	-19.565	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	84.000	-19.310	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	85.000	-19.055	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	86.000	-18.800	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	87.000	-18.546	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	88.000	-18.291	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	89.000	-18.036	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	90.000	-17.782	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	91.000	-17.527	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	92.000	-17.273	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000

OF	93.000	-17.018	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	94.000	-16.764	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	95.000	-16.509	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	96.000	-16.254	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	97.000	-16.000	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	98.000	-15.745	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	99.000	-15.490	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	100.000	-15.235	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	101.000	-14.980	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
OF	102.000	-14.727	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
OF	103.000	-14.472	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	104.000	-14.217	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	105.000	-13.962	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	106.000	-13.707	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	107.000	-13.453	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
OF	108.000	-13.199	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	109.000	-12.944	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	110.000	-12.689	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	111.000	-12.434	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	112.000	-12.180	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
OF	113.000	-11.926	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	114.000	-11.671	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
OF	115.000	-11.416	0.000	8.797	0.000	0.000	0.000	0.000	0.218	0.000
OF	116.000	-11.235	0.000	8.797	0.000	0.000	0.000	0.000	0.136	0.000
OF	117.000	-11.144	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	118.000	-11.053	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	119.000	-10.962	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	120.000	-10.871	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	121.000	-10.780	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	122.000	-10.689	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	123.000	-10.598	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	124.000	-10.507	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	125.000	-10.416	0.000	8.797	0.000	0.000	0.000	0.000	0.090	0.000
OF	126.000	-10.326	0.000	8.797	0.000	0.000	0.000	0.000	0.090	0.000
OF	127.000	-10.235	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	128.000	-10.144	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	129.000	-10.053	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	130.000	-9.962	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	131.000	-9.872	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	132.000	-9.781	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	133.000	-9.690	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	134.000	-9.599	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	135.000	-9.508	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	136.000	-9.417	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	137.000	-9.326	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	138.000	-9.235	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	139.000	-9.144	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	140.000	-9.054	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	141.000	-8.962	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	142.000	-8.872	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	143.000	-8.781	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	144.000	-8.690	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	145.000	-8.599	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	146.000	-8.508	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	147.000	-8.417	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	148.000	-8.326	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
OF	149.000	-8.236	0.000	8.798	0.000	0.000	0.000	0.000	0.091	0.000
OF	150.000	-8.144	0.000	8.798	0.000	0.000	0.000	0.000	0.091	0.000
OF	151.000	-8.054	0.000	8.798	0.000	0.000	0.000	0.000	0.091	0.000
OF	152.000	-7.963	0.000	8.798	0.000	0.000	0.000	0.000	0.076	0.000
OF	153.000	-7.902	0.000	8.798	0.000	0.000	0.000	0.000	0.043	0.000
OF	154.000	-7.877	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	155.000	-7.852	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	156.000	-7.827	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	157.000	-7.802	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	158.000	-7.777	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	159.000	-7.752	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	160.000	-7.727	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	161.000	-7.702	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	162.000	-7.677	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	163.000	-7.653	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	164.000	-7.628	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	165.000	-7.603	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	166.000	-7.578	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	167.000	-7.553	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	168.000	-7.528	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	169.000	-7.503	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	170.000	-7.478	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	171.000	-7.453	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	172.000	-7.428	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	173.000	-7.404	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	174.000	-7.378	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	175.000	-7.354	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	176.000	-7.329	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	177.000	-7.304	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
OF	178.000	-7.279	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	179.000	-7.254	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	180.000	-7.229	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	181.000	-7.204	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	182.000	-7.179	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	183.000	-7.154	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	184.000	-7.129	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	185.000	-7.103	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	186.000	-7.078	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	187.000	-7.053	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	188.000	-7.028	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	189.000	-7.002	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	190.000	-6.977	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	191.000	-6.952	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	192.000	-6.926	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	193.000	-6.901	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	194.000	-6.876	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000

OF	195.000	-6.851	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	196.000	-6.825	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	197.000	-6.800	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	198.000	-6.775	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	199.000	-6.749	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	200.000	-6.724	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	201.000	-6.699	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	202.000	-6.674	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	203.000	-6.648	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	204.000	-6.623	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	205.000	-6.598	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	206.000	-6.573	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	207.000	-6.547	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	208.000	-6.522	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	209.000	-6.497	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	210.000	-6.471	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	211.000	-6.446	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	212.000	-6.421	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
OF	213.000	-6.396	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	214.000	-6.370	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	215.000	-6.345	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	216.000	-6.320	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	217.000	-6.294	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	218.000	-6.269	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	219.000	-6.244	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	220.000	-6.219	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	221.000	-6.193	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	222.000	-6.168	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	223.000	-6.143	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	224.000	-6.117	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	225.000	-6.092	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	226.000	-6.067	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	227.000	-6.042	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	228.000	-6.016	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	229.000	-5.991	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	230.000	-5.966	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	231.000	-5.941	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	232.000	-5.915	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	233.000	-5.890	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	234.000	-5.865	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	235.000	-5.839	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	236.000	-5.814	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	237.000	-5.789	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	238.000	-5.764	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	239.000	-5.738	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	240.000	-5.713	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	241.000	-5.688	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	242.000	-5.663	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	243.000	-5.637	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	244.000	-5.612	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	245.000	-5.587	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	246.000	-5.561	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	247.000	-5.536	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	248.000	-5.511	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	249.000	-5.486	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
OF	250.000	-5.460	0.000	8.800	0.000	0.000	0.000	0.000	0.042	0.000
OF	251.000	-5.402	0.000	8.801	0.000	0.000	0.000	0.000	0.091	0.000
OF	252.000	-5.278	0.000	8.801	0.000	0.000	0.000	0.000	0.124	0.000
OF	253.000	-5.153	0.000	8.801	0.000	0.000	0.000	0.000	0.125	0.000
OF	254.000	-5.029	0.000	8.801	0.000	0.000	0.000	0.000	0.125	0.000
OF	255.000	-4.904	0.000	8.801	0.000	0.000	0.000	0.000	0.125	0.000
OF	256.000	-4.779	0.000	8.801	0.000	0.000	0.000	0.000	0.124	0.000
OF	257.000	-4.655	0.000	8.801	0.000	0.000	0.000	0.000	0.124	0.000
OF	258.000	-4.530	0.000	8.801	0.000	0.000	0.000	0.000	0.124	0.000
OF	259.000	-4.406	0.000	8.801	0.000	0.000	0.000	0.000	0.124	0.000
OF	260.000	-4.281	0.000	8.801	0.000	0.000	0.000	0.000	0.125	0.000
OF	261.000	-4.157	0.000	8.801	0.000	0.000	0.000	0.000	0.124	0.000
OF	262.000	-4.033	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
OF	263.000	-3.908	0.000	8.802	0.000	0.000	0.000	0.000	0.125	0.000
OF	264.000	-3.783	0.000	8.802	0.000	0.000	0.000	0.000	0.125	0.000
OF	265.000	-3.659	0.000	8.802	0.000	0.000	0.000	0.000	0.125	0.000
OF	266.000	-3.534	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
OF	267.000	-3.410	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
OF	268.000	-3.285	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
OF	269.000	-3.161	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
OF	270.000	-3.036	0.000	8.802	0.000	0.000	0.000	0.000	0.125	0.000
OF	271.000	-2.912	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
OF	272.000	-2.788	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
OF	273.000	-2.663	0.000	8.802	0.000	0.000	0.000	0.000	0.125	0.000
OF	274.000	-2.538	0.000	8.802	0.000	0.000	0.000	0.000	0.143	0.000
OF	275.000	-2.376	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	276.000	-2.215	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	277.000	-2.054	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	278.000	-1.893	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	279.000	-1.732	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	280.000	-1.571	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	281.000	-1.410	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	282.000	-1.249	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	283.000	-1.087	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	284.000	-0.926	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	285.000	-0.765	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	286.000	-0.604	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	287.000	-0.443	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	288.000	-0.282	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
OF	289.000	-0.121	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
IF	290.000	0.041	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
IF	291.000	0.202	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
IF	292.000	0.363	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
IF	293.000	0.524	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
IF	294.000	0.685	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
IF	295.000	0.846	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
IF	296.000	1.008	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000

	IF	297.000	1.168	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	IF	298.000	1.330	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	IF	299.000	1.491	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	IF	300.000	1.652	0.000	8.802	0.000	0.000	0.000	0.000	0.163	0.000
	IF	301.800	1.948	0.000	8.810	0.000	0.000	0.000	0.000	0.162	0.000
	IF	305.100	2.477	0.000	8.847	0.000	0.000	0.000	0.000	0.194	0.000
	IF	308.400	3.228	0.000	8.879	0.000	0.000	0.000	0.000	0.473	0.000
	IF	311.700	5.596	0.000	9.068	0.000	0.000	0.000	0.000	0.470	0.000
	IF	315.000	6.330	0.000	9.267	0.000	0.000	0.000	0.000	0.057	0.000
	IF	318.200	5.964	0.000	9.420	0.000	0.000	0.000	0.000	-0.113	0.000
	IF	321.500	5.598	0.000	9.450	0.000	0.000	0.000	0.000	0.039	0.000
	IF	324.800	6.222	0.000	9.464	0.000	0.000	0.000	0.000	0.312	0.000
	IF	328.100	7.657	0.000	9.552	0.000	0.000	0.000	0.000	0.435	0.000
	IF	331.400	9.092	0.000	9.937	0.000	0.000	0.000	0.000	0.300	0.000
	IF	335.700	9.937	0.000	9.937	0.000	0.000	0.000	0.000	0.197	0.000
	AS	434.200	8.802	0.000	8.802	0.000	0.000	0.000	0.000	-0.145	0.000
	IF	438.000	8.251	0.000	8.802	0.000	0.000	0.000	0.000	-0.123	0.000
	IF	458.500	5.820	0.000	8.802	0.000	0.000	0.000	0.000	-0.060	0.000
	IF	481.500	5.623	0.000	8.802	0.000	0.000	0.000	0.000	0.004	0.000
	IF	495.500	5.955	0.000	8.802	0.000	0.000	0.000	0.000	0.018	0.000
	IF	508.500	6.119	0.000	8.802	0.000	0.000	0.000	0.000	-0.014	0.000
	IF	522.000	5.594	0.000	8.802	0.000	0.000	0.000	0.000	-0.010	0.000
	IF	534.000	5.853	0.000	8.802	0.000	0.000	0.000	0.000	0.126	0.000
	IF	547.000	8.740	0.000	8.802	0.000	0.000	0.000	0.000	0.215	0.000
	IF	547.700	8.802	0.000	8.802	0.000	0.000	0.000	0.000	0.089	0.000
	AS	568.900	8.802	0.000	8.802	0.000	0.000	0.000	0.000	-0.293	0.000
	IF	577.500	6.280	0.000	8.802	0.000	0.000	0.000	0.000	0.000	0.000
	IF	582.300	8.802	0.000	8.802	0.000	0.000	0.000	0.000	0.526	0.000
	ET	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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	END STATION	END ELEVATION	FETCH LENGTH	SURGE ELEV 10-YEAR	SURGE ELEV 100-YEAR	INITIAL WAVE HEIGHT	INITIAL W. PERIOD		BOTTOM SLOPE	AVERAGE A-ZONES
IE	0.000	-37.356	1.000	1.000	8.797	11.359	9.282	56.140	0.149	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	1.000	-37.207	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	2.000	-37.059	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	3.000	-36.911	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	4.000	-36.763	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	5.000	-36.615	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	6.000	-36.467	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	7.000	-36.318	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	8.000	-36.170	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	9.000	-36.022	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	10.000	-35.874	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	11.000	-35.725	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	12.000	-35.577	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	13.000	-35.429	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	14.000	-35.281	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	15.000	-35.133	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	16.000	-34.985	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	17.000	-34.836	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	18.000	-34.689	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	19.000	-34.540	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	20.000	-34.392	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	21.000	-34.244	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	22.000	-34.095	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	23.000	-33.947	0.000	8.797	0.000	0.000	0.000	0.000	0.147	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	24.000	-33.800	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	25.000	-33.651	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	26.000	-33.503	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	27.000	-33.355	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	28.000	-33.207	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	29.000	-33.058	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	30.000	-32.910	0.000	8.797	0.000	0.000	0.000	0.000	0.148	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	31.000	-32.762	0.000	8.797	0.000	0.000	0.000	0.000	0.180	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	32.000	-32.550	0.000	8.797	0.000	0.000	0.000	0.000	0.233	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	33.000	-32.296	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	34.000	-32.042	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	35.000	-31.787	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	36.000	-31.532	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	37.000	-31.277	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	38.000	-31.023	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	39.000	-30.768	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	40.000	-30.514	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	41.000	-30.259	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	42.000	-30.004	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	43.000	-29.750	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	44.000	-29.496	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	45.000	-29.241	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	46.000	-28.986	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	47.000	-28.731	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	48.000	-28.477	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	49.000	-28.222	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	50.000	-27.967	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	51.000	-27.712	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	52.000	-27.458	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	53.000	-27.204	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	54.000	-26.949	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	55.000	-26.694	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	56.000	-26.439	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	57.000	-26.185	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	58.000	-25.931	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	59.000	-25.676	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	60.000	-25.421	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	61.000	-25.166	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	62.000	-24.911	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	63.000	-24.658	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	64.000	-24.403	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	65.000	-24.148	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	66.000	-23.893	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	67.000	-23.638	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	68.000	-23.384	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	69.000	-23.129	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	70.000	-22.874	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	71.000	-22.620	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	72.000	-22.365	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	73.000	-22.111	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	74.000	-21.856	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	75.000	-21.601	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	76.000	-21.347	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	77.000	-21.092	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	78.000	-20.838	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	79.000	-20.583	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	80.000	-20.328	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	81.000	-20.073	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	82.000	-19.819	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	83.000	-19.565	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	84.000	-19.310	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	85.000	-19.055	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	86.000	-18.800	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	87.000	-18.546	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	88.000	-18.291	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	89.000	-18.036	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	90.000	-17.782	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	91.000	-17.527	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	92.000	-17.273	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	93.000	-17.018	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	94.000	-16.764	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	95.000	-16.509	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	96.000	-16.254	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	97.000	-16.000	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	98.000	-15.745	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	99.000	-15.490	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	100.000	-15.235	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	101.000	-14.980	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	102.000	-14.727	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	103.000	-14.472	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	104.000	-14.217	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	105.000	-13.962	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	106.000	-13.707	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	107.000	-13.453	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	108.000	-13.199	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	109.000	-12.944	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	110.000	-12.689	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	111.000	-12.434	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	112.000	-12.180	0.000	8.797	0.000	0.000	0.000	0.000	0.254	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	113.000	-11.926	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	114.000	-11.671	0.000	8.797	0.000	0.000	0.000	0.000	0.255	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	115.000	-11.416	0.000	8.797	0.000	0.000	0.000	0.000	0.218	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	116.000	-11.235	0.000	8.797	0.000	0.000	0.000	0.000	0.136	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	117.000	-11.144	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	118.000	-11.053	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	119.000	-10.962	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	120.000	-10.871	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	121.000	-10.780	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	122.000	-10.689	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	123.000	-10.598	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	124.000	-10.507	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	125.000	-10.416	0.000	8.797	0.000	0.000	0.000	0.000	0.090	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	126.000	-10.326	0.000	8.797	0.000	0.000	0.000	0.000	0.090	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	127.000	-10.235	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	128.000	-10.144	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	129.000	-10.053	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	130.000	-9.962	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	131.000	-9.872	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	132.000	-9.781	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	133.000	-9.690	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	134.000	-9.599	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	135.000	-9.508	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	136.000	-9.417	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	137.000	-9.326	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	138.000	-9.235	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	139.000	-9.144	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	140.000	-9.054	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	141.000	-8.962	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	142.000	-8.872	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	143.000	-8.781	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	144.000	-8.690	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	145.000	-8.599	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	146.000	-8.508	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	147.000	-8.417	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	148.000	-8.326	0.000	8.797	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	149.000	-8.236	0.000	8.798	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	150.000	-8.144	0.000	8.798	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	151.000	-8.054	0.000	8.798	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	152.000	-7.963	0.000	8.798	0.000	0.000	0.000	0.000	0.076	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	153.000	-7.902	0.000	8.798	0.000	0.000	0.000	0.000	0.043	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	154.000	-7.877	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	155.000	-7.852	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	156.000	-7.827	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	157.000	-7.802	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	158.000	-7.777	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	159.000	-7.752	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	160.000	-7.727	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	161.000	-7.702	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	162.000	-7.677	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	163.000	-7.653	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	164.000	-7.628	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	165.000	-7.603	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	166.000	-7.578	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	167.000	-7.553	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	168.000	-7.528	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	169.000	-7.503	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	170.000	-7.478	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	171.000	-7.453	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	172.000	-7.428	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	173.000	-7.404	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	174.000	-7.378	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	175.000	-7.354	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	176.000	-7.329	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	177.000	-7.304	0.000	8.798	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	178.000	-7.279	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	179.000	-7.254	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	180.000	-7.229	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	181.000	-7.204	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	182.000	-7.179	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	183.000	-7.154	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	184.000	-7.129	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	185.000	-7.103	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	186.000	-7.078	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	187.000	-7.053	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	188.000	-7.028	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	189.000	-7.002	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	190.000	-6.977	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	191.000	-6.952	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	192.000	-6.926	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	193.000	-6.901	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	194.000	-6.876	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	195.000	-6.851	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	196.000	-6.825	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	197.000	-6.800	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	198.000	-6.775	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	199.000	-6.749	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	200.000	-6.724	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	201.000	-6.699	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	202.000	-6.674	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	203.000	-6.648	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	204.000	-6.623	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	205.000	-6.598	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	206.000	-6.573	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	207.000	-6.547	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	208.000	-6.522	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	209.000	-6.497	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	210.000	-6.471	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	211.000	-6.446	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	212.000	-6.421	0.000	8.799	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	213.000	-6.396	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	214.000	-6.370	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	215.000	-6.345	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	216.000	-6.320	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	217.000	-6.294	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	218.000	-6.269	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	219.000	-6.244	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	220.000	-6.219	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	221.000	-6.193	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	222.000	-6.168	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	223.000	-6.143	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	224.000	-6.117	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	225.000	-6.092	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	226.000	-6.067	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	227.000	-6.042	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	228.000	-6.016	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	229.000	-5.991	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	230.000	-5.966	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	231.000	-5.941	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	232.000	-5.915	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	233.000	-5.890	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	234.000	-5.865	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	235.000	-5.839	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	236.000	-5.814	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	237.000	-5.789	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	238.000	-5.764	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	239.000	-5.738	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	240.000	-5.713	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	241.000	-5.688	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	242.000	-5.663	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	243.000	-5.637	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	244.000	-5.612	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	245.000	-5.587	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	246.000	-5.561	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	247.000	-5.536	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	248.000	-5.511	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	249.000	-5.486	0.000	8.800	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	250.000	-5.460	0.000	8.800	0.000	0.000	0.000	0.000	0.042	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	251.000	-5.402	0.000	8.801	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	252.000	-5.278	0.000	8.801	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	253.000	-5.153	0.000	8.801	0.000	0.000	0.000	0.000	0.125	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	254.000	-5.029	0.000	8.801	0.000	0.000	0.000	0.000	0.125	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	255.000	-4.904	0.000	8.801	0.000	0.000	0.000	0.000	0.125	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	256.000	-4.779	0.000	8.801	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	257.000	-4.655	0.000	8.801	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	258.000	-4.530	0.000	8.801	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	259.000	-4.406	0.000	8.801	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	260.000	-4.281	0.000	8.801	0.000	0.000	0.000	0.000	0.125	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	261.000	-4.157	0.000	8.801	0.000	0.000	0.000	0.000	0.124	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	262.000	-4.033	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	263.000	-3.908	0.000	8.802	0.000	0.000	0.000	0.000	0.125	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	264.000	-3.783	0.000	8.802	0.000	0.000	0.000	0.000	0.125	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	265.000	-3.659	0.000	8.802	0.000	0.000	0.000	0.000	0.125	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	266.000	-3.534	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	267.000	-3.410	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	268.000	-3.285	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	269.000	-3.161	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	270.000	-3.036	0.000	8.802	0.000	0.000	0.000	0.000	0.125	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	271.000	-2.912	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	272.000	-2.788	0.000	8.802	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	273.000	-2.663	0.000	8.802	0.000	0.000	0.000	0.000	0.125	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	274.000	-2.538	0.000	8.802	0.000	0.000	0.000	0.000	0.143	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	275.000	-2.376	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	276.000	-2.215	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	277.000	-2.054	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	278.000	-1.893	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	279.000	-1.732	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	280.000	-1.571	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	281.000	-1.410	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	282.000	-1.249	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	283.000	-1.087	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	284.000	-0.926	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	285.000	-0.765	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	286.000	-0.604	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	287.000	-0.443	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	288.000	-0.282	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	289.000	-0.121	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	290.000	0.041	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	291.000	0.202	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	292.000	0.363	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	293.000	0.524	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	294.000	0.685	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	295.000	0.846	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	296.000	1.008	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	297.000	1.168	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	298.000	1.330	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	299.000	1.491	0.000	8.802	0.000	0.000	0.000	0.000	0.161	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	300.000	1.652	0.000	8.802	0.000	0.000	0.000	0.000	0.163	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	301.800	1.948	0.000	8.810	0.000	0.000	0.000	0.000	0.162	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	305.100	2.477	0.000	8.847	0.000	0.000	0.000	0.000	0.194	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	308.400	3.228	0.000	8.879	0.000	0.000	0.000	0.000	0.473	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	311.700	5.596	0.000	9.068	0.000	0.000	0.000	0.000	0.470	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	315.000	6.330	0.000	9.267	0.000	0.000	0.000	0.000	0.057	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	318.200	5.964	0.000	9.420	0.000	0.000	0.000	0.000	-0.113	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	321.500	5.598	0.000	9.450	0.000	0.000	0.000	0.000	0.039	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	324.800	6.222	0.000	9.464	0.000	0.000	0.000	0.000	0.312	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	328.100	7.657	0.000	9.552	0.000	0.000	0.000	0.000	0.435	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	331.400	9.092	0.000	9.937	0.000	0.000	0.000	0.000	0.300	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	335.700	9.937	0.000	9.937	0.000	0.000	0.000	0.000	0.197	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	434.200	8.802	0.000	8.802	0.000	0.000	0.000	0.000	-0.145	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	438.000	8.251	0.000	8.802	0.000	0.000	0.000	0.000	-0.123	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	458.500	5.820	0.000	8.802	0.000	0.000	0.000	0.000	-0.060	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	481.500	5.623	0.000	8.802	0.000	0.000	0.000	0.000	0.004	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	495.500	5.955	0.000	8.802	0.000	0.000	0.000	0.000	0.018	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	508.500	6.119	0.000	8.802	0.000	0.000	0.000	0.000	-0.014	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	522.000	5.594	0.000	8.802	0.000	0.000	0.000	0.000	-0.010	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	534.000	5.853	0.000	8.802	0.000	0.000	0.000	0.000	0.126	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	547.000	8.740	0.000	8.802	0.000	0.000	0.000	0.000	0.215	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	547.700	8.802	0.000	8.802	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	568.900	8.802	0.000	8.802	0.000	0.000	0.000	0.000	-0.293	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	577.500	6.280	0.000	8.802	0.000	0.000	0.000	0.000	0.000	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	582.300	8.802	0.000	8.802	0.000	0.000	0.000	0.000	0.526	0.000

----------END OF TRANSECT----------

NOTE:
SURGE ELEVATION INCLUDES CONTRIBUTIONS FROM ASTRONOMICAL AND STORM TIDES.

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PART2: CONTROLLING WAVE HEIGHTS, SPECTRAL PEAK WAVE PERIOD, AND WAVE CREST ELEVATIONS

LOCATION		CONTROLLING WAVE HEIGHT	SPECTRAL PEAK WAVE PERIOD	WAVE CREST ELEVATION
IE	0.00	11.36	9.28	16.75
OF	1.00	11.36	9.28	16.75
OF	2.00	11.37	9.28	16.76
OF	3.00	11.37	9.28	16.76
OF	4.00	11.38	9.28	16.76
OF	5.00	11.38	9.28	16.77
OF	6.00	11.39	9.28	16.77

OF	7.00	11.40	9.28	16.77
OF	8.00	11.40	9.28	16.78
OF	9.00	11.41	9.28	16.78
OF	10.00	11.41	9.28	16.79
OF	11.00	11.42	9.28	16.79
OF	12.00	11.42	9.28	16.79
OF	13.00	11.43	9.28	16.80
OF	14.00	11.43	9.28	16.80
OF	15.00	11.44	9.28	16.80
OF	16.00	11.45	9.28	16.81
OF	17.00	11.45	9.28	16.81
OF	18.00	11.46	9.28	16.82
OF	19.00	11.46	9.28	16.82
OF	20.00	11.47	9.28	16.83
OF	21.00	11.47	9.28	16.83
OF	22.00	11.48	9.28	16.83
OF	23.00	11.49	9.28	16.84
OF	24.00	11.49	9.28	16.84
OF	25.00	11.50	9.28	16.85
OF	26.00	11.51	9.28	16.85
OF	27.00	11.51	9.28	16.86
OF	28.00	11.52	9.28	16.86
OF	29.00	11.53	9.28	16.86
OF	30.00	11.53	9.28	16.87
OF	31.00	11.54	9.28	16.87
OF	32.00	11.55	9.28	16.88
OF	33.00	11.56	9.28	16.89
OF	34.00	11.57	9.28	16.90
OF	35.00	11.58	9.28	16.91
OF	36.00	11.60	9.28	16.91
OF	37.00	11.61	9.28	16.92
OF	38.00	11.62	9.28	16.93
OF	39.00	11.63	9.28	16.94
OF	40.00	11.65	9.28	16.95
OF	41.00	11.66	9.28	16.96
OF	42.00	11.67	9.28	16.97
OF	43.00	11.69	9.28	16.98
OF	44.00	11.70	9.28	16.99
OF	45.00	11.71	9.28	17.00
OF	46.00	11.73	9.28	17.01
OF	47.00	11.74	9.28	17.02
OF	48.00	11.76	9.28	17.03
OF	49.00	11.77	9.28	17.04
OF	50.00	11.79	9.28	17.05
OF	51.00	11.80	9.28	17.06
OF	52.00	11.82	9.28	17.07
OF	53.00	11.83	9.28	17.08
OF	54.00	11.85	9.28	17.09
OF	55.00	11.86	9.28	17.10
OF	56.00	11.88	9.28	17.11
OF	57.00	11.90	9.28	17.13
OF	58.00	11.91	9.28	17.14
OF	59.00	11.93	9.28	17.15
OF	60.00	11.95	9.28	17.16
OF	61.00	11.97	9.28	17.17
OF	62.00	11.99	9.28	17.19
OF	63.00	12.00	9.28	17.20
OF	64.00	12.02	9.28	17.21
OF	65.00	12.04	9.28	17.23
OF	66.00	12.06	9.28	17.24
OF	67.00	12.08	9.28	17.25
OF	68.00	12.10	9.28	17.27
OF	69.00	12.12	9.28	17.28
OF	70.00	12.14	9.28	17.30
OF	71.00	12.16	9.28	17.31
OF	72.00	12.18	9.28	17.33
OF	73.00	12.21	9.28	17.34
OF	74.00	12.23	9.28	17.36
OF	75.00	12.25	9.28	17.37
OF	76.00	12.27	9.28	17.39
OF	77.00	12.30	9.28	17.40
OF	78.00	12.32	9.28	17.42
OF	79.00	12.34	9.28	17.44
OF	80.00	12.37	9.28	17.45
OF	81.00	12.39	9.28	17.47
OF	82.00	12.42	9.28	17.49
OF	83.00	12.44	9.28	17.51
OF	84.00	12.47	9.28	17.53
OF	85.00	12.50	9.28	17.54
OF	86.00	12.52	9.28	17.56
OF	87.00	12.55	9.28	17.58
OF	88.00	12.58	9.28	17.60
OF	89.00	12.61	9.28	17.62
OF	90.00	12.63	9.28	17.64
OF	91.00	12.66	9.28	17.66
OF	92.00	12.69	9.28	17.68
OF	93.00	12.72	9.28	17.70
OF	94.00	12.76	9.28	17.73
OF	95.00	12.79	9.28	17.75
OF	96.00	12.82	9.28	17.77
OF	97.00	12.85	9.28	17.79
OF	98.00	12.89	9.28	17.82
OF	99.00	12.92	9.28	17.84
OF	100.00	12.96	9.28	17.87
OF	101.00	12.99	9.28	17.89
OF	102.00	13.03	9.28	17.92
OF	103.00	13.06	9.28	17.94
OF	104.00	13.10	9.28	17.97
OF	105.00	13.14	9.28	17.99
OF	106.00	13.18	9.28	18.02
OF	107.00	13.22	9.28	18.05
OF	108.00	13.26	9.28	18.08

OF	109.00	13.22	9.28	18.05
OF	110.00	13.18	9.28	18.03
OF	111.00	13.15	9.28	18.00
OF	112.00	13.11	9.28	17.98
OF	113.00	13.07	9.28	17.95
OF	114.00	13.04	9.28	17.92
OF	115.00	13.00	9.28	17.89
OF	116.00	12.97	9.28	17.88
OF	117.00	12.96	9.28	17.87
OF	118.00	12.94	9.28	17.86
OF	119.00	12.93	9.28	17.85
OF	120.00	12.92	9.28	17.84
OF	121.00	12.90	9.28	17.83
OF	122.00	12.89	9.28	17.82
OF	123.00	12.88	9.28	17.81
OF	124.00	12.86	9.28	17.80
OF	125.00	12.85	9.28	17.79
OF	126.00	12.84	9.28	17.78
OF	127.00	12.82	9.28	17.77
OF	128.00	12.81	9.28	17.76
OF	129.00	12.80	9.28	17.75
OF	130.00	12.78	9.28	17.74
OF	131.00	12.77	9.28	17.73
OF	132.00	12.75	9.28	17.72
OF	133.00	12.74	9.28	17.71
OF	134.00	12.72	9.28	17.70
OF	135.00	12.71	9.28	17.69
OF	136.00	12.69	9.28	17.68
OF	137.00	12.68	9.28	17.67
OF	138.00	12.66	9.28	17.66
OF	139.00	12.65	9.28	17.65
OF	140.00	12.64	9.28	17.65
OF	141.00	12.66	9.28	17.66
OF	142.00	12.67	9.28	17.66
OF	143.00	12.68	9.28	17.67
OF	144.00	12.69	9.28	17.68
OF	145.00	12.71	9.28	17.69
OF	146.00	12.70	9.28	17.69
OF	147.00	12.64	9.28	17.65
OF	148.00	12.58	9.28	17.60
OF	149.00	12.52	9.28	17.56
OF	150.00	12.45	9.28	17.52
OF	151.00	12.39	9.28	17.47
OF	152.00	12.33	9.28	17.43
OF	153.00	12.29	9.28	17.40
OF	154.00	12.27	9.28	17.39
OF	155.00	12.25	9.28	17.37
OF	156.00	12.23	9.28	17.36
OF	157.00	12.22	9.28	17.35
OF	158.00	12.20	9.28	17.34
OF	159.00	12.18	9.28	17.33
OF	160.00	12.17	9.28	17.31
OF	161.00	12.15	9.28	17.30
OF	162.00	12.13	9.28	17.29
OF	163.00	12.11	9.28	17.28
OF	164.00	12.10	9.28	17.27
OF	165.00	12.08	9.28	17.25
OF	166.00	12.06	9.28	17.24
OF	167.00	12.04	9.28	17.23
OF	168.00	12.03	9.28	17.22
OF	169.00	12.01	9.28	17.20
OF	170.00	11.99	9.28	17.19
OF	171.00	11.97	9.28	17.18
OF	172.00	11.96	9.28	17.17
OF	173.00	11.94	9.28	17.16
OF	174.00	11.92	9.28	17.14
OF	175.00	11.91	9.28	17.13
OF	176.00	11.89	9.28	17.12
OF	177.00	11.87	9.28	17.11
OF	178.00	11.85	9.28	17.10
OF	179.00	11.84	9.28	17.08
OF	180.00	11.82	9.28	17.07
OF	181.00	11.80	9.28	17.06
OF	182.00	11.78	9.28	17.05
OF	183.00	11.77	9.28	17.04
OF	184.00	11.75	9.28	17.02
OF	185.00	11.73	9.28	17.01
OF	186.00	11.71	9.28	17.00
OF	187.00	11.70	9.28	16.99
OF	188.00	11.68	9.28	16.97
OF	189.00	11.66	9.28	16.96
OF	190.00	11.64	9.28	16.95
OF	191.00	11.63	9.28	16.94
OF	192.00	11.61	9.28	16.92
OF	193.00	11.59	9.28	16.91
OF	194.00	11.57	9.28	16.90
OF	195.00	11.56	9.28	16.89
OF	196.00	11.54	9.28	16.88
OF	197.00	11.52	9.28	16.86
OF	198.00	11.50	9.28	16.85
OF	199.00	11.48	9.28	16.84
OF	200.00	11.47	9.28	16.83
OF	201.00	11.45	9.28	16.81
OF	202.00	11.43	9.28	16.80
OF	203.00	11.41	9.28	16.79
OF	204.00	11.40	9.28	16.78
OF	205.00	11.38	9.28	16.76
OF	206.00	11.36	9.28	16.75
OF	207.00	11.34	9.28	16.74
OF	208.00	11.33	9.28	16.73
OF	209.00	11.31	9.28	16.71
OF	210.00	11.29	9.28	16.70

OF	211.00	11.27	9.28	16.69
OF	212.00	11.26	9.28	16.68
OF	213.00	11.24	9.28	16.67
OF	214.00	11.22	9.28	16.65
OF	215.00	11.20	9.28	16.64
OF	216.00	11.19	9.28	16.63
OF	217.00	11.17	9.28	16.62
OF	218.00	11.15	9.28	16.60
OF	219.00	11.13	9.28	16.59
OF	220.00	11.11	9.28	16.58
OF	221.00	11.10	9.28	16.57
OF	222.00	11.08	9.28	16.56
OF	223.00	11.06	9.28	16.54
OF	224.00	11.04	9.28	16.53
OF	225.00	11.03	9.28	16.52
OF	226.00	11.01	9.28	16.51
OF	227.00	10.99	9.28	16.49
OF	228.00	10.97	9.28	16.48
OF	229.00	10.95	9.28	16.47
OF	230.00	10.94	9.28	16.46
OF	231.00	10.92	9.28	16.44
OF	232.00	10.90	9.28	16.43
OF	233.00	10.88	9.28	16.42
OF	234.00	10.87	9.28	16.41
OF	235.00	10.85	9.28	16.39
OF	236.00	10.83	9.28	16.38
OF	237.00	10.81	9.28	16.37
OF	238.00	10.79	9.28	16.36
OF	239.00	10.78	9.28	16.34
OF	240.00	10.76	9.28	16.33
OF	241.00	10.74	9.28	16.32
OF	242.00	10.72	9.28	16.31
OF	243.00	10.71	9.28	16.29
OF	244.00	10.69	9.28	16.28
OF	245.00	10.67	9.28	16.27
OF	246.00	10.65	9.28	16.26
OF	247.00	10.63	9.28	16.24
OF	248.00	10.62	9.28	16.23
OF	249.00	10.60	9.28	16.22
OF	250.00	10.58	9.28	16.21
OF	251.00	10.54	9.28	16.18
OF	252.00	10.45	9.28	16.12
OF	253.00	10.36	9.28	16.06
OF	254.00	10.28	9.28	15.99
OF	255.00	10.19	9.28	15.93
OF	256.00	10.10	9.28	15.87
OF	257.00	10.01	9.28	15.81
OF	258.00	9.92	9.28	15.75
OF	259.00	9.84	9.28	15.69
OF	260.00	9.75	9.28	15.62
OF	261.00	9.66	9.28	15.56
OF	262.00	9.57	9.28	15.50
OF	263.00	9.48	9.28	15.44
OF	264.00	9.39	9.28	15.38
OF	265.00	9.30	9.28	15.31
OF	266.00	9.21	9.28	15.25
OF	267.00	9.13	9.28	15.19
OF	268.00	9.04	9.28	15.13
OF	269.00	8.95	9.28	15.07
OF	270.00	8.86	9.28	15.00
OF	271.00	8.77	9.28	14.94
OF	272.00	8.68	9.28	14.88
OF	273.00	8.59	9.28	14.81
OF	274.00	8.50	9.28	14.75
OF	275.00	8.38	9.28	14.67
OF	276.00	8.27	9.28	14.59
OF	277.00	8.15	9.28	14.51
OF	278.00	8.03	9.28	14.43
OF	279.00	7.92	9.28	14.34
OF	280.00	7.80	9.28	14.26
OF	281.00	7.68	9.28	14.18
OF	282.00	7.57	9.28	14.10
OF	283.00	7.45	9.28	14.02
OF	284.00	7.33	9.28	13.93
OF	285.00	7.22	9.28	13.85
OF	286.00	7.10	9.28	13.77
OF	287.00	6.98	9.28	13.69
OF	288.00	6.86	9.28	13.61
OF	289.00	6.74	9.28	13.52
IF	290.00	6.63	9.28	13.44
IF	291.00	6.51	9.28	13.36
IF	292.00	6.39	9.28	13.27
IF	293.00	6.27	9.28	13.19
IF	294.00	6.15	9.28	13.11
IF	295.00	6.03	9.28	13.03
IF	296.00	5.91	9.28	12.94
IF	297.00	5.80	9.28	12.86
IF	298.00	5.68	9.28	12.78
IF	299.00	5.56	9.28	12.69
IF	300.00	5.44	9.28	12.61
IF	301.80	5.22	9.28	12.47
IF	305.10	4.86	9.28	12.25
IF	308.40	4.32	9.28	11.90
IF	311.70	2.67	9.28	10.94
IF	315.00	2.27	9.28	10.85
IF	318.20	2.39	9.28	11.09
IF	321.50	2.47	9.28	11.18
IF	324.80	2.35	9.28	11.11
IF	328.10	1.47	9.28	10.58
IF	331.40	0.66	9.28	10.40
IF	335.70	0.01	9.28	9.94
AS	434.20	0.00	0.00	8.80

IF	438.00	0.04	0.23	8.83
IF	458.50	0.12	0.41	8.89
IF	481.50	0.19	0.51	8.93
IF	495.50	0.22	0.55	8.96
IF	508.50	0.26	0.59	8.98
IF	522.00	0.28	0.62	9.00
IF	534.00	0.31	0.65	9.02
IF	547.00	0.05	0.68	8.83
IF	547.70	0.01	0.68	8.81
AS	568.90	0.00	0.00	8.80
IF	577.50	0.06	0.29	8.85
IF	582.30	0.01	0.34	8.81

PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE

BETWEEN 335.70 AND 434.20

BETWEEN 547.70 AND 568.90

PART4 LOCATION OF SURGE CHANGES

STATION	10-YEAR SURGE	100-YEAR SURGE
149.00	1.00	8.80
178.00	1.00	8.80
213.00	1.00	8.80
251.00	1.00	8.80
262.00	1.00	8.80
301.80	1.00	8.81
305.10	1.00	8.85
308.40	1.00	8.88
311.70	1.00	9.07
315.00	1.00	9.27
318.20	1.00	9.42
321.50	1.00	9.45
324.80	1.00	9.46
328.10	1.00	9.55
331.40	1.00	9.94
434.20	1.00	8.80

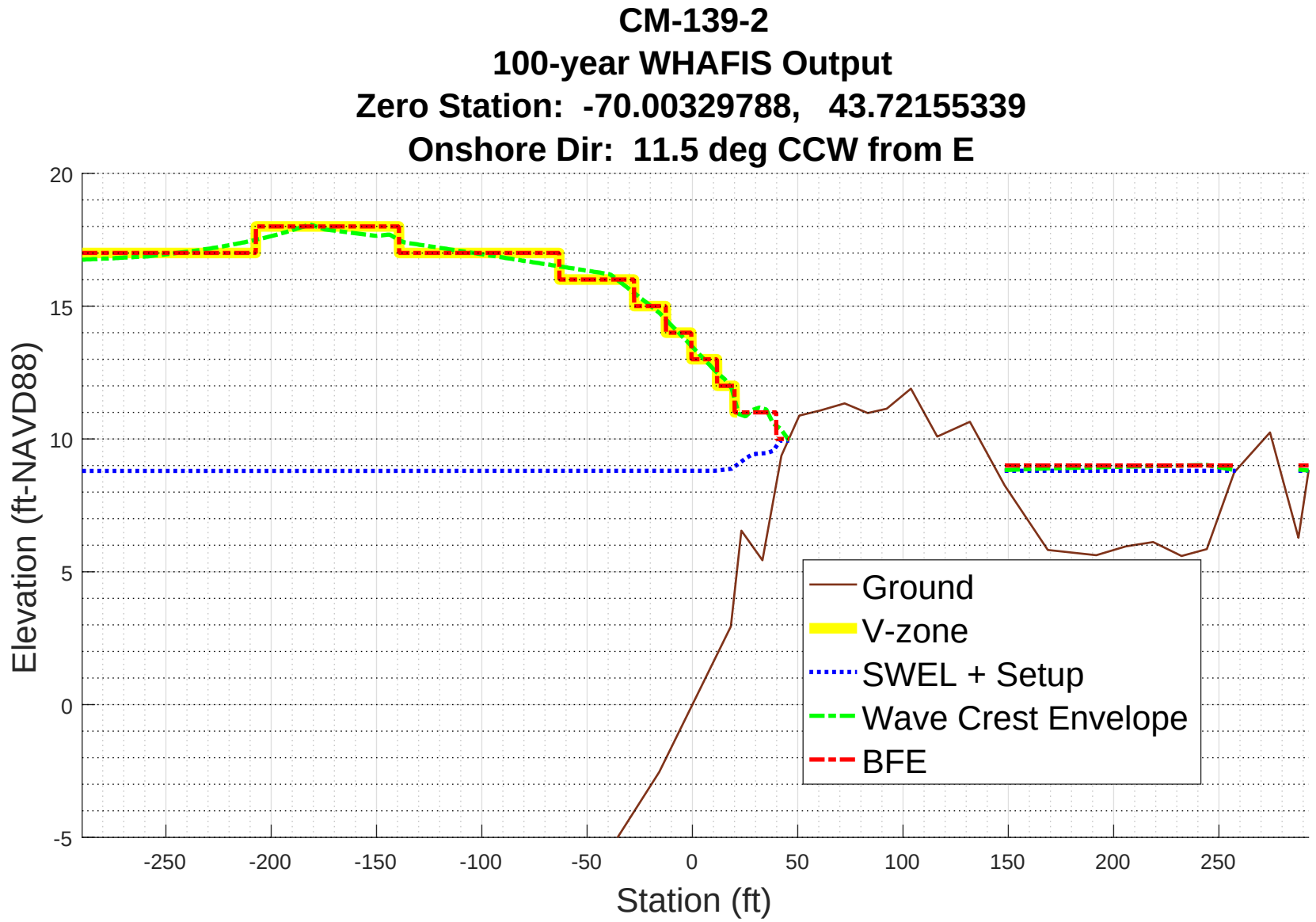
PART5 LOCATION OF V ZONES

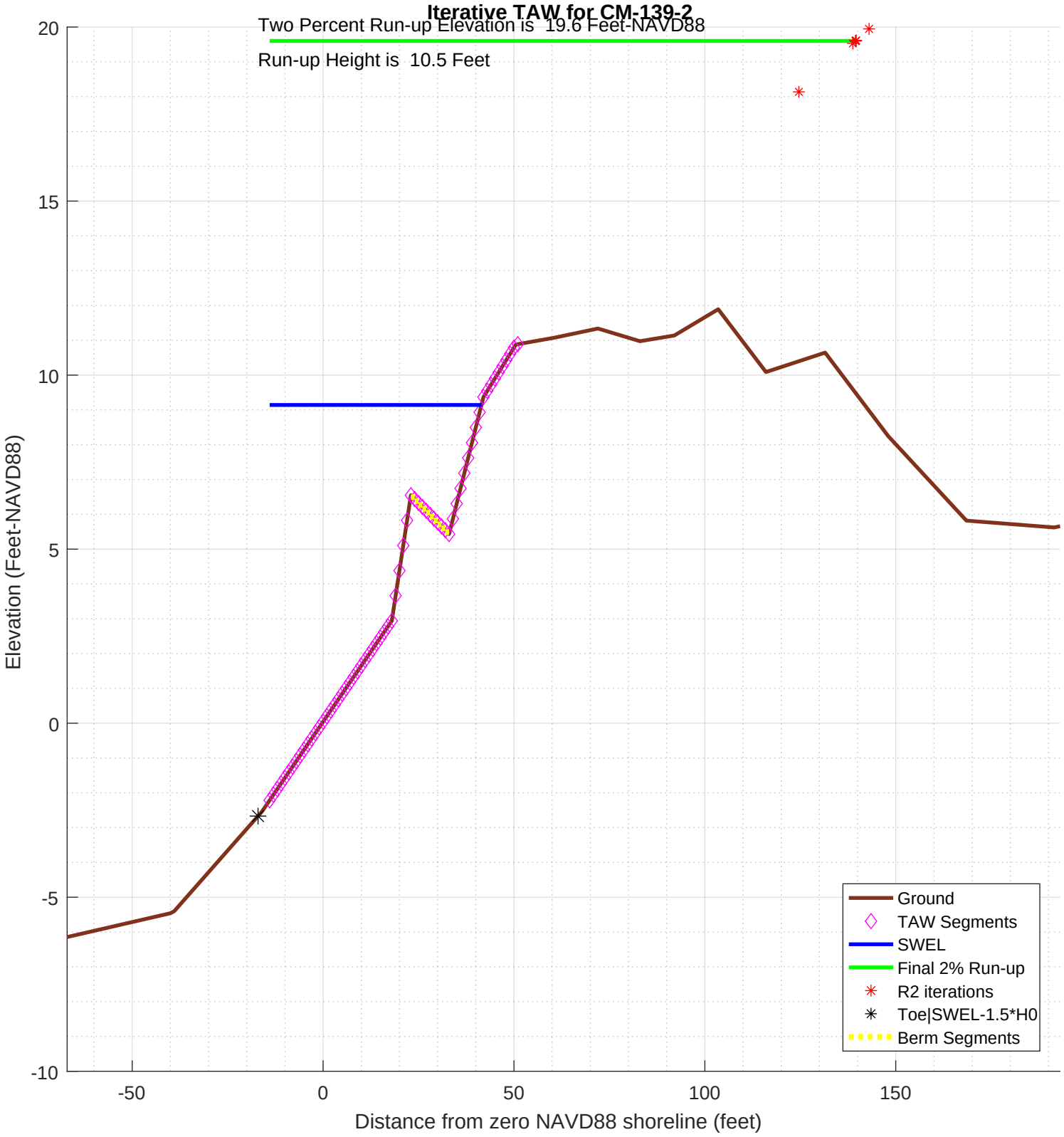
STATION OF GUTTER	LOCATION OF ZONE
311.05	WINDWARD

PART6 NUMBERED A ZONES AND V ZONES

STATION OF GUTTER	ELEVATION	ZONE DESIGNATION		FHF
0.00	16.75			
		V22	EL=17	120
82.62	17.50			
		V22	EL=18	120
148.00	17.60			
		V22	EL=18	120
149.00	17.56			
		V22	EL=18	120
150.36	17.50			
		V22	EL=17	120
177.00	17.11			
		V22	EL=17	120
178.00	17.10			
		V22	EL=17	120
212.00	16.68			
		V22	EL=17	120
213.00	16.67			
		V22	EL=17	120
226.45	16.50			
		V22	EL=16	120
250.00	16.21			
		V22	EL=16	120
251.00	16.18			
		V22	EL=16	120
261.00	15.56			
		V22	EL=16	120
262.00	15.50			
		V22	EL=16	120
262.02	15.50			
		V22	EL=15	120
277.09	14.50			
		V22	EL=14	120
289.28	13.50			
		V22	EL=13	120
300.00	12.61			
		V22	EL=13	120
301.38	12.50			
		V22	EL=12	120
301.80	12.47			
		V22	EL=12	120
305.10	12.25			
		V22	EL=12	120
308.40	11.90			
		V22	EL=12	120
309.78	11.50			
		V22	EL=11	120
311.05	11.07			
		A16	EL=11	80
311.70	10.94			
		A16	EL=11	80
315.00	10.85			
		A16	EL=11	80
318.20	11.09			
		A16	EL=11	80
321.50	11.18			
		A16	EL=11	80
324.80	11.11			
		A16	EL=11	80
328.10	10.58			
		A16	EL=11	80
329.54	10.50			
		A16	EL=10	80
331.40	10.40			
		A16	EL=10	80

```
                                335.70           9.94
                                434.20           8.80
                                                                A16  EL= 9      80
                                547.70           8.81
                                568.90           8.80
                                                                A16  EL= 9      80
                                582.30           8.81
                                     ZONE TERMINATED AT END OF TRANSECT
                                     PART 7   POSTSCRIPT NOTES
                           PS#  1   START(419099.5255,4841418.5389)
                           PS#  2   END(419360.9939,4841471.8767)
-1.000000e+00
```


CM-139-2
100-year WHAFIS Output
Zero Station: -70.00329788, 43.72155339
Onshore Dir: 11.5 deg CCW from E
Elevation (ft-NAVD88)
Station (ft)
20
15
10
5
0
-5
-250
-200
-150
-100
-50
0
50
100
150
200
250
Ground
V-zone
SWEL + Setup
Wave Crest Envelope
BFE


Iterative TAW for CM-139-2
Two Percent Run-up Elevation is 19.6 Feet-NAVD88
Run-up Height is 10.5 Feet
Elevation (Feet-NAVD88)
Distance from zero NAVD88 shoreline (feet)
20
15
10
5
0
-5
-10
-50
0
50
100
150
Ground
TAW Segments
SWEL
Final 2% Run-up
R2 iterations
Toe|SWEL-1.5*H0
Berm Segments

```
diary on         % begin recording

% FEMA appeal for The Town of Harpswell, Cumberland county, Maine
% TRANSECT ID: CM-139-2
% calculation by SJH, Ransom Consulting, Inc. 20-Feb-2020
% 100-year wave runup using TAW methodology
% including berm and weighted average with foreshore if necessary
%
% chk nld 20200220
%
% This script assumes that the incident wave conditions provided
% as input in the configuration section below are the
% appropriate values located at the end of the foreshore
% or toe of the slope on which the run-up is being calculated
% the script does not attempt to apply a depth limit or any other
% transformation to the incident wave conditions other than
% conversion of the peak wave period to the spectral mean wave
% as recommended in the references below
%
% references:
%
% Van der Meer, J.W., 2002. Technical Report Wave Run-up and
% Wave Overtopping at Dikes. TAW Technical Advisory Committee on
% Flood Defence, The Netherlands.
%
% FEMA. 2007,  Atlantic Ocean and Gulf of Mexico Coastal Guidelines Update
%
%
%

%-------------------------------------------------------------------------
% CONFIG
%-------------------------------------------------------------------------
fname='inpfiles/CM-139-2sta_ele_include.csv';   % file with station, elevation, include
                                        % third colunm is 0 for excluded points
imgname='logfiles/CM-139-2-runup';
SWEL=8.7973;  % 100-yr still water level including wave setup.
H0=7.609;    % significant wave height at toe of structure
Tp=9.0889;    % peak period, 1/fma,
T0=Tp/1.1;

gamma_berm=0.94269;   % this may get changed automatically below
gamma_rough=0.8;
gamma_beta=1;
gamma_perm=1;

setupAtToe=-0.052129;
maxSetup=1.14;   % only used in case of berm/shallow foreshore weighted average

plotTitle='Iterative TAW for CM-139-2'

plotTitle =

Iterative TAW for CM-139-2



% END CONFIG
%------------------------------

SWEL=SWEL+setupAtToe

SWEL =

                  8.745171

SWEL_fore=SWEL+maxSetup

SWEL_fore =

                  9.885171



% FIND WAVELENGTH USING DEEPWATER DISPERSION RELATION
% using English units
L0=32.15/(2*pi)*T0^2

L0 =

          349.332014946232


% Find Hb (Munk, 1949)
%Hb=H0/(3.3*(H0/L0)^(1/3))
%Db=-Hb/.78+SWEL;  % depth at breaking

% The toe elevation here is only used to determine the average
% structure slope, it is not used to depth limit the wave height.
% Any depth limiting or other modification of the wave height
```

```
% to make it consitent with TAW guidance should be performed
% prior to the input of the significant wave height given above.
Ztoe=SWEL-1.5*H0

Ztoe =

                -2.668329


% read the transect
[sta,dep,inc] = textread(fname,'%n%n%n%*[^\n]','delimiter',',','headerlines',0);

% remove unselected points
k=find(inc==0);
sta(k)=[];
dep(k)=[];

sta_org=sta;  % used for plotting purposes
dep_org=dep;


% initial guess at maximum run-up elevation to estimate slope
Z2=SWEL+1.5*H0

Z2 =

                20.158671


% determine station at the max runup and -1.5*H0 (i.e. the toe)
top_sta=-999;
toe_sta=-999;
for kk=1:length(sta)-1
    if ((Z2 > dep(kk)) & (Z2 <= dep(kk+1)))    % here is the intersection of z2 with profile
       top_sta=interp1(dep(kk:kk+1),sta(kk:kk+1),Z2)
    end
    if  ((Ztoe > dep(kk)) & (Ztoe <= dep(kk+1)))    % here is the intersection of Ztoe with profile
       toe_sta=interp1(dep(kk:kk+1),sta(kk:kk+1),Ztoe)
    end
end

toe_sta =

         -17.0426691276784

% check to make sure we got them, if not extend the end slopes outward
S=diff(dep)./diff(sta);
if toe_sta==-999
   dy=dep(1)-Ztoe;
   toe_sta=sta(1)-dy/S(1)
end
if top_sta==-999
   dy=Z2-dep(end);
   top_sta=sta(end)+dy/S(end)
end

top_sta =

          145.152873423121


% just so the reader can tell the values aren't -999 anymore
top_sta

top_sta =

          145.152873423121

toe_sta

toe_sta =

         -17.0426691276784




% check for case where the toe of slope is below SWL-1.5*H0
% in this case interpolate setup from the setupAtToe(really setup as first station), and the max setup
% also un-include points seaward of SWL-1.5*H0
if Ztoe > dep(1)
   dd=SWEL_fore-dep;
   k=find(dd<0,1); % k is index of first land point
   staAtSWL=interp1(dep(k-1:k),sta(k-1:k),SWEL_fore);
   dsta=staAtSWL-sta(1);
   dsetup=maxSetup-setupAtToe;
   dsetdsta=dsetup/dsta;
   setup=setupAtToe+dsetdsta*(toe_sta-sta(1));
   sprintf('-!!- Location of SWEL-1.5*H0 is %4.1f ft landward of toe of slope',dsta)
   sprintf('-!!- Setup is interpolated between setup at toe of slope and max setup')
```

```
   sprintf('-!!-       setup is adjusted to %4.2f feet',setup)
   SWEL=SWEL-setupAtToe+setup;
   sprintf('-!!-       SWEL is adjusted to %4.2f feet',SWEL)
   k=find(dep < SWEL-1.5*H0)
   sta(k)=[];
   dep(k)=[];
else
   sprintf('-!!- The User has selected a starting point that is %4.2f feet above the elevation of SWEL-1.5H0\n',dep(1
   sprintf('-!!- This may be reasonable for some cases.  However the user may want to consider:\n')
   sprintf('-!!-   1) Selecting a starting point that is at or below %4.2f feet elevation, or\n', Ztoe)
   sprintf('-!!-   2) Reducing the incident wave height to a depth limited condition.\n')
end

ans =

-!!- Location of SWEL-1.5*H0 is 92.9 ft landward of toe of slope


ans =

-!!- Setup is interpolated between setup at toe of slope and max setup


ans =

-!!-       setup is adjusted to 0.35 feet


ans =

-!!-       SWEL is adjusted to 9.14 feet


k =

     1
     2
     3
     4
     5
     6
     7
     8
     9
    10
    11
    12
    13
    14
    15
    16
    17
    18
    19
    20
    21
    22
    23
    24
    25
    26
    27
    28
    29
    30
    31
    32
    33
    34



% now iterate converge on a runup elevation
tol=0.01;  % convergence criteria
R2del=999;
R2_new=3*H0; %initial guess
R2=R2_new;
iter=0;
R2_all=[];
topStaAll=[];
Berm_Segs=[];
TAW_ALWAYS_VALID=1;
while(abs(R2del) > tol && iter <= 25)
    iter=iter+1;
    sprintf ('!----------------- STARTING ITERATION %d -----------------!',iter)
    % elevation of toe of slope
    Ztoe
    % station of toe slope (relative to 0-NAVD88 shoreline
    toe_sta
```

```
% station of top of slope/extent of 2% run-up
top_sta
% elevation of top of slope/extent of 2% run-up
Z2
% incident significant wave height
H0
% incident spectral peak wave period
Tp
% incident spectral mean wave period
T0

R2=R2_new
Z2=R2+SWEL
% determine slope for this iteration
top_sta=-999;
for kk=1:length(sta)-1
   if ((Z2 > dep(kk)) & (Z2 <= dep(kk+1)))    % here is the intersection of z2 with profile
      top_sta=interp1(dep(kk:kk+1),sta(kk:kk+1),Z2)
      break;
   end
end
if top_sta==-999
   dy=Z2-dep(end);
   top_sta=sta(end)+dy/S(end)
end

% get the length of the slope (not accounting for berm)
Lslope=top_sta-toe_sta

% loop over profile segments to determine berm factor
% re-calculate influence of depth of berm based on this run-up elevation
% check for berm, berm width, berm height
berm_width=0;
rdh_sum=0;
Berm_Segs=[];
Berm_Heights=[];
for kk=1:length(sta)-1
   ddep=dep(kk+1)-dep(kk);
   dsta=sta(kk+1)-sta(kk);
   s=ddep/dsta;
   if  (s < 1/15)     % count it as a berm if slope is flatter than 1:15 (see TAW manual)
      sprintf ('Berm Factor Calculation: Iteration %d, Profile Segment: %d',iter,kk)
      berm_width=berm_width+dsta;   % tally the width of all berm segments
      % compute the rdh for this segment and weight it by the segment length
      dh=SWEL-(dep(kk)+dep(kk+1))/2
      if  dh < 0
          chi=R2;
      else
          chi=2* H0;
      end
      if (dh <= R2 & dh >=-2*H0)
         rdh=(0.5-0.5*cos(3.14159*dh/chi)) ;
      else
         rdh=1;
      end
      rdh_sum=rdh_sum + rdh * dsta
      Berm_Segs=[Berm_Segs, kk];
      Berm_Heights=[Berm_Heights, (dep(kk)+dep(kk+1))/2];
   end
   if dep(kk) >= Z2  % jump out of loop if we reached limit of run-up for this iteration
      break
   end
end
sprintf ('!------- End Berm Factor Calculation, Iter: %d ---------!',iter)
berm_width
rB=berm_width/Lslope
if (berm_width > 0)
   rdh_mean=rdh_sum/berm_width
else
   rdh_mean=1
end
gamma_berm=1- rB * (1-rdh_mean)
if gamma_berm > 1
   gamma_berm=1
end
if gamma_berm < 0.6
   gamma_berm =0.6
end
% Iribarren number
slope=(Z2-Ztoe)/(Lslope-berm_width)
Irb=(slope/(sqrt(H0/L0)))
% runup height
gamma_berm
gamma_perm
gamma_beta
gamma_rough
gamma=gamma_berm*gamma_perm*gamma_beta*gamma_rough

% check validity
TAW_VALID=1;
```

```
    if (Irb*gamma_berm < 0.5 | Irb*gamma_berm > 10 )
       sprintf('!!! - - Iribaren number: %6.2f is outside the valid range (0.5-10), TAW NOT VALID - - !!!\n', Irb*gam
       TAW_VALID=0;
    else
       sprintf('!!! - - Iribaren number: %6.2f is in the valid range (0.5-10), TAW RECOMMENDED - - !!!\n', Irb*gamma_
    end
    islope=1/slope;
    if (slope < 1/8 | slope > 1)
       sprintf('!!! - - slope: 1:%3.1f V:H is outside the valid range (1:8 - 1:1), TAW NOT VALID - - !!!\n', islope)
       TAW_VALID=0;
    else
       sprintf('!!! - - slope: 1:%3.1f V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!\n', islope)
    end
    if TAW_VALID == 0
       TAW_ALWAYS_VALID=0;
    end

    if (Irb*gamma_berm < 1.8)
       R2_new=gamma*H0*1.77*Irb
    else
       R2_new=gamma*H0*(4.3-(1.6/sqrt(Irb)))
    end


    % check to see if we need to evaluate a shallow foreshore
    if berm_width > 0.25 * L0;
       disp ('!   Berm_width is greater than 1/4 wave length')
       disp ('!   Runup will be weighted average with foreshore calculation assuming depth limited wave height on ber
       % do the foreshore calculation
       fore_H0=0.78*(SWEL_fore-min(Berm_Heights))
       % get upper slope
       fore_toe_sta=-999;
       fore_toe_dep=-999;
       for kk=length(dep)-1:-1:1
          ddep=dep(kk+1)-dep(kk);
          dsta=sta(kk+1)-sta(kk);
          s=ddep/dsta;
          if s < 1/15
             break
          end
          fore_toe_sta=sta(kk);
          fore_toe_dep=dep(kk);
          upper_slope=(Z2-fore_toe_dep)/(top_sta-fore_toe_sta)
       end
       fore_Irb=upper_slope/(sqrt(fore_H0/L0));
       fore_gamma=gamma_perm*gamma_beta*gamma_rough;
       if (fore_Irb < 1.8)
          fore_R2=fore_gamma*fore_H0*1.77*fore_Irb;
       else
          fore_R2=fore_gamma*fore_H0*(4.3-(1.6/sqrt(fore_Irb)));
       end
       if berm_width >= L0
          R2_new=fore_R2
          disp ('berm is wider than one wavelength, use full shallow foreshore solution');
       else
          w2=(berm_width-0.25*L0)/(0.75*L0)
          w1=1-w2
          R2_new=w2*fore_R2 + w1*R2_new
       end
    end % end berm width check
    % convergence criterion
    R2del=abs(R2-R2_new)
    R2_all(iter)=R2_new;
    % get the new top station (for plot purposes)
    Z2=R2_new+SWEL
    top_sta=-999;
    for kk=1:length(sta)-1
       if ((Z2 > dep(kk)) & (Z2 <= dep(kk+1)))    % here is the intersection of z2 with profile
          top_sta=interp1(dep(kk:kk+1),sta(kk:kk+1),Z2)
          break;
       end
    end
    if top_sta==-999
       dy=Z2-dep(end);
       top_sta=sta(end)+dy/S(end);
    end
    topStaAll(iter)=top_sta;
end
ans =
!----------------- STARTING ITERATION 1 -----------------!
Ztoe =
                -2.668329
toe_sta =
         -17.0426691276784
top_sta =
          145.152873423121
Z2 =
                20.158671
H0 =
                     7.609
```

```
Tp =
                    9.0889
T0 =
          8.26263636363636
R2 =
                    22.827
Z2 =
           31.969422882178
top_sta =
           265.11500682733
Lslope =
          282.157675955009
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 38
dh =
          2.64964038217803
rdh_sum =
         0.0729528544092465
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 39
dh =
          2.76118888217803
rdh_sum =
          0.152007036640275
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 40
dh =
          2.87273738217803
rdh_sum =
          0.237385759099084
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 41
dh =
          2.98428638217803
rdh_sum =
           0.3293089103377
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 42
dh =
          3.09583488217803
rdh_sum =
          0.427992849967227
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 43
dh =
          3.20738338217803
rdh_sum =
          0.533650381440317
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 44
dh =
          3.31893188217803
rdh_sum =
          0.646490610365034
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 45
dh =
          3.43048038217803
rdh_sum =
          0.766718833623683
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 46
dh =
          3.54202888217803
rdh_sum =
          0.894536430511264
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 47
dh =
          3.65357738217803
rdh_sum =
           1.03014075595129
ans =
!------- End Berm Factor Calculation, Iter: 1 ---------!
berm_width =
    10
rB =
         0.0354411765200198
rdh_mean =
          0.103014075595129
gamma_berm =
          0.968209763517194
slope =
          0.127270898241739
Irb =
          0.862351874326477
gamma_berm =
          0.968209763517194
gamma_perm =
     1
```

```
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
         0.774567810813755
ans =
!!! - - Iribaren number:   0.83 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:7.9 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          8.99590388994008
R2del =
          13.8310961100599
Z2 =
          18.1383267721181
ans =
!----------------- STARTING ITERATION 2 -----------------!
Ztoe =
                 -2.668329
toe_sta =
         -17.0426691276784
top_sta =
          124.632181243201
Z2 =
          18.1383267721181
H0 =
                     7.609
Tp =
                    9.0889
T0 =
          8.26263636363636
R2 =
          8.99590388994008
Z2 =
          18.1383267721181
top_sta =
          124.632181243201
Lslope =
          141.674850370879
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 38
dh =
          2.64964038217803
rdh_sum =
        0.0729528544092465
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 39
dh =
          2.76118888217803
rdh_sum =
         0.152007036640275
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 40
dh =
          2.87273738217803
rdh_sum =
         0.237385759099084
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 41
dh =
          2.98428638217803
rdh_sum =
          0.3293089103377
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 42
dh =
          3.09583488217803
rdh_sum =
         0.427992849967227
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 43
dh =
          3.20738338217803
rdh_sum =
         0.533650381440317
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 44
dh =
          3.31893188217803
rdh_sum =
         0.646490610365034
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 45
dh =
          3.43048038217803
rdh_sum =
         0.766718833623683
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 46
```

```
dh =
         3.54202888217803
rdh_sum =
         0.894536430511264
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 47
dh =
         3.65357738217803
rdh_sum =
         1.03014075595129
ans =
!------- End Berm Factor Calculation, Iter: 2 ---------!
berm_width =
    10
rB =
        0.0705841578362131
rdh_mean =
         0.103014075595129
gamma_berm =
         0.936687003934945
slope =
         0.158015412309287
Irb =
         1.07066806991935
gamma_berm =
         0.936687003934945
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
         0.749349603147956
ans =
!!! - - Iribaren number:   1.00 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:6.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
         10.8053834479989
R2del =
         1.80947955805879
Z2 =
         19.9478063301769
ans =
!----------------- STARTING ITERATION 3 -----------------!
Ztoe =
                -2.668329
toe_sta =
        -17.0426691276784
top_sta =
         143.011115141862
Z2 =
         19.9478063301769
H0 =
                    7.609
Tp =
                   9.0889
T0 =
         8.26263636363636
R2 =
         10.8053834479989
Z2 =
         19.9478063301769
top_sta =
         143.011115141862
Lslope =
         160.05378426954
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 38
dh =
         2.64964038217803
rdh_sum =
        0.0729528544092465
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 39
dh =
         2.76118888217803
rdh_sum =
         0.152007036640275
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 40
dh =
         2.87273738217803
rdh_sum =
         0.237385759099084
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 41
dh =
         2.98428638217803
```

```
rdh_sum =
          0.3293089103377
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 42
dh =
          3.09583488217803
rdh_sum =
          0.427992849967227
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 43
dh =
          3.20738338217803
rdh_sum =
          0.533650381440317
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 44
dh =
          3.31893188217803
rdh_sum =
          0.646490610365034
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 45
dh =
          3.43048038217803
rdh_sum =
          0.766718833623683
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 46
dh =
          3.54202888217803
rdh_sum =
          0.894536430511264
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 47
dh =
          3.65357738217803
rdh_sum =
          1.03014075595129
ans =
!------- End Berm Factor Calculation, Iter: 3 ---------!
berm_width =
    10
rB =
        0.0624789975797098
rdh_mean =
          0.103014075595129
gamma_berm =
          0.943957218600074
slope =
          0.150720193031265
Irb =
          1.02123771227329
gamma_berm =
          0.943957218600074
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
          0.75516577488006
ans =
!!! - - Iribaren number:   0.96 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:6.6 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          10.3865183675453
R2del =
          0.418865080453521
Z2 =
          19.5289412497234
ans =
!----------------- STARTING ITERATION 4 -----------------!
Ztoe =
                -2.668329
toe_sta =
         -17.0426691276784
top_sta =
          138.756690939153
Z2 =
          19.5289412497234
H0 =
                     7.609
Tp =
                    9.0889
T0 =
          8.26263636363636
R2 =
          10.3865183675453
```

```
Z2 =
          19.5289412497234
top_sta =
          138.756690939153
Lslope =
          155.799360066831
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 38
dh =
          2.64964038217803
rdh_sum =
        0.0729528544092465
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 39
dh =
          2.76118888217803
rdh_sum =
         0.152007036640275
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 40
dh =
          2.87273738217803
rdh_sum =
         0.237385759099084
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 41
dh =
          2.98428638217803
rdh_sum =
          0.3293089103377
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 42
dh =
          3.09583488217803
rdh_sum =
         0.427992849967227
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 43
dh =
          3.20738338217803
rdh_sum =
         0.533650381440317
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 44
dh =
          3.31893188217803
rdh_sum =
         0.646490610365034
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 45
dh =
          3.43048038217803
rdh_sum =
         0.766718833623683
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 46
dh =
          3.54202888217803
rdh_sum =
         0.894536430511264
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 47
dh =
          3.65357738217803
rdh_sum =
          1.03014075595129
ans =
!------- End Berm Factor Calculation, Iter: 4 ---------!
berm_width =
    10
rB =
        0.0641851160088875
rdh_mean =
         0.103014075595129
gamma_berm =
         0.942426854383734
slope =
         0.152245320140971
Irb =
          1.03157154537897
gamma_berm =
         0.942426854383734
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.753941483506987
```

```
ans =
!!! - - Iribaren number:   0.97 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:6.6 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          10.4746095783781
R2del =
         0.0880912108327827
Z2 =
          19.6170324605562
ans =
!----------------- STARTING ITERATION 5 -----------------!
Ztoe =
                 -2.668329
toe_sta =
         -17.0426691276784
top_sta =
          139.651435803077
Z2 =
          19.6170324605562
H0 =
                     7.609
Tp =
                    9.0889
T0 =
          8.26263636363636
R2 =
          10.4746095783781
Z2 =
          19.6170324605562
top_sta =
          139.651435803077
Lslope =
          156.694104930755
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 38
dh =
          2.64964038217803
rdh_sum =
         0.0729528544092465
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 39
dh =
          2.76118888217803
rdh_sum =
          0.152007036640275
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 40
dh =
          2.87273738217803
rdh_sum =
          0.237385759099084
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 41
dh =
          2.98428638217803
rdh_sum =
           0.3293089103377
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 42
dh =
          3.09583488217803
rdh_sum =
          0.427992849967227
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 43
dh =
          3.20738338217803
rdh_sum =
          0.533650381440317
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 44
dh =
          3.31893188217803
rdh_sum =
          0.646490610365034
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 45
dh =
          3.43048038217803
rdh_sum =
          0.766718833623683
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 46
dh =
          3.54202888217803
rdh_sum =
          0.894536430511264
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 47
```

```
dh =
         3.65357738217803
rdh_sum =
         1.03014075595129
ans =
!------- End Berm Factor Calculation, Iter: 5 ---------!
berm_width =
    10
rB =
        0.0638186101794902
rdh_mean =
         0.103014075595129
gamma_berm =
         0.942755604953916
slope =
          0.15191722578815
Irb =
          1.02934847015896
gamma_berm =
         0.942755604953916
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.754204483963133
ans =
!!! - - Iribaren number:   0.97 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:6.6 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          10.455682429523
R2del =
        0.0189271488550808
Z2 =
         19.5981053117011
ans =
!----------------- STARTING ITERATION 6 -----------------!
Ztoe =
                -2.668329
toe_sta =
         -17.0426691276784
top_sta =
          139.459192228869
Z2 =
         19.5981053117011
H0 =
                     7.609
Tp =
                    9.0889
T0 =
         8.26263636363636
R2 =
          10.455682429523
Z2 =
         19.5981053117011
top_sta =
          139.459192228869
Lslope =
          156.501861356547
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 38
dh =
         2.64964038217803
rdh_sum =
        0.0729528544092465
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 39
dh =
         2.76118888217803
rdh_sum =
         0.152007036640275
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 40
dh =
         2.87273738217803
rdh_sum =
         0.237385759099084
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 41
dh =
         2.98428638217803
rdh_sum =
          0.3293089103377
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 42
dh =
          3.09583488217803
```

```
rdh_sum =
         0.427992849967227
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 43
dh =
          3.20738338217803
rdh_sum =
         0.533650381440317
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 44
dh =
          3.31893188217803
rdh_sum =
         0.646490610365034
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 45
dh =
          3.43048038217803
rdh_sum =
         0.766718833623683
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 46
dh =
          3.54202888217803
rdh_sum =
         0.894536430511264
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 47
dh =
          3.65357738217803
rdh_sum =
          1.03014075595129
ans =
!------- End Berm Factor Calculation, Iter: 6 ---------!
berm_width =
    10
rB =
        0.0638970036095462
rdh_mean =
         0.103014075595129
gamma_berm =
          0.94268528715059
slope =
         0.151987381631353
Irb =
          1.02982382645577
gamma_berm =
          0.94268528715059
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.754148229720472
ans =
!!! - - Iribaren number:   0.97 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:6.6 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          10.4597306723276
R2del =
       0.00404824280455962
Z2 =
          19.6021535545056
% final 2% runup elevation
Z2=R2_new+SWEL
Z2 =
          19.6021535545056
diary off
-1.000000e+00
-1.000000e+00
```

PART 5: RUNUP2

for transect: CM-139-2

Station locations shifted by: -0.25 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input

RUNUP2 INPUT CONVERSIONS
for transect: CM-139-2

Incident significant wave height: 7.10 feet

Peak wave period: 9.28 seconds

Mean wave height: 4.44 feet

Local Depth below SWEL: 46.15 feet

Mean wave height deshoaled using Hunt approximation for
celerity assuming constant wave energy flux.
References: R.G. Dean and R.A. Dalrymple. 2000. Water

Wave Mechanics for Engineers and Scientists. World
Scientific Publishing Company, River Edge New Jersy

USACE (1985), Direct Methods for Calculating Wavelength, CETN-1-17
US Army Engineer Waterways Experiment Station Coastel Engineering
Research Center, Vicksburg, MS

also see Coastal Engineering Manual Part II-3
for discussion of shoaling coefficient

Depth, D = 46.15
Period, T = 7.89
Waveheight, H = 4.44
Deep water wavelength, L0 (ft)
L0 = g*T*T/twopi
L0 = 32.17*7.89*7.89/6.28 = 318.74
Deep water wave celerity, C0 (ft/s)
C0 = L0/T
C0 = 318.74/7.89 = 40.40
Angular frequency, sigma (rad/s)
sigma = twopi/T
sigma = 6.28/7.89 = 0.80
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
y = sigma.*sigma.*D./g
y = 0.80*0.80*46.15/32.17 = 0.91
C1H = sqrt(g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)))
C1H = 32.67
Shoaling Coefficient KsH
KsH = sqrt(C0/C1H)
KsH = sqrt(40.40/32.67) = 1.11
Deepwater Wave Height H0_H (ft)
H0_H = H/KsH
H0_H = 4.44/1.11 = 4.00

Deepwater mean wave height: 4.00 feet

END RUNUP2 CONVERSIONS

RUNUP2 RESULTS
for transect: CM-139-2

RUNUP2 SWEL:
8.80
8.80
8.80
8.80

8.80
8.80
8.80
8.80
8.80

RUNUP2 deepwater mean wave heights:
3.80
3.80
3.80
4.00
4.00
4.00
4.20
4.20
4.20

RUNUP2 mean wave periods:
7.50
7.89
8.28
7.50
7.89
8.28
7.50
7.89
8.28

RUNUP2 runup above SWEL:
5.55
6.00
6.49
5.54
5.98
6.46
5.51
5.96
6.38

RUNUP2 Mean runup height above SWEL: 5.99 feet

RUNUP2 2-percent runup height above SWEL: 13.17 feet

RUNUP2 2-percent runup elevation: 21.97 feet-NAVD88

RUNUP2 Messages:
No Messages

_____END RUNUP2 RESULTS_____

_____ACES BEACH RUNUP_____

Incident significant wave height: 7.10 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 5.60 feet

Peak wave period: 9.28 seconds

Average beach Slope: 1:7.06 (H:V)

ACES RUNUP CALCULATED USING 'Aces_Beach_Runup.m'

ACES Beach 2-percent runup height above SWEL: 12.25 feet

ACES Beach 2-percent runup elevation: 21.05 feet-NAVD88

ACES BEACH RUNUP is valid

_______________END ACES BEACH RESULTS_______________________

PART 5 COMPLETE____

```
  FEMA                                                  sjh           job 2
  RUNUP2 transect: CM-139-2                                               1
6.00
  -37.36 -289.7 0.8
  -32.76 -258.7 0.8
  -32.55 -257.7 0.8
  -27.46 -237.7 0.8
  -22.37 -217.7 0.8
  -22.11 -216.7 0.8
  -14.98 -188.7 0.8
  -11.42 -174.7 0.8
  -11.23 -173.7 0.8
  -7.96 -137.7 0.8
  -7.90 -136.7 0.8
  -7.18 -107.7 0.8
  -5.46 -39.7  0.8
  -5.40 -38.7  0.8
  -2.54 -15.7  0.8
  2.94  18.3   0.8
  6.55  23.3   0.8
  6.55  33.3   0.8
  9.37  42.3   0.8
1 10.88 50.8   0.8
 8.8   3.80  7.50
 8.8   3.80  7.89
 8.8   3.80  8.28
 8.8   4.00  7.50
 8.8   4.00  7.89
 8.8   4.00  8.28
 8.8   4.20  7.50
 8.8   4.20  7.89
 8.8   4.20  8.28
```

****

CROSS SECTION PROFILE

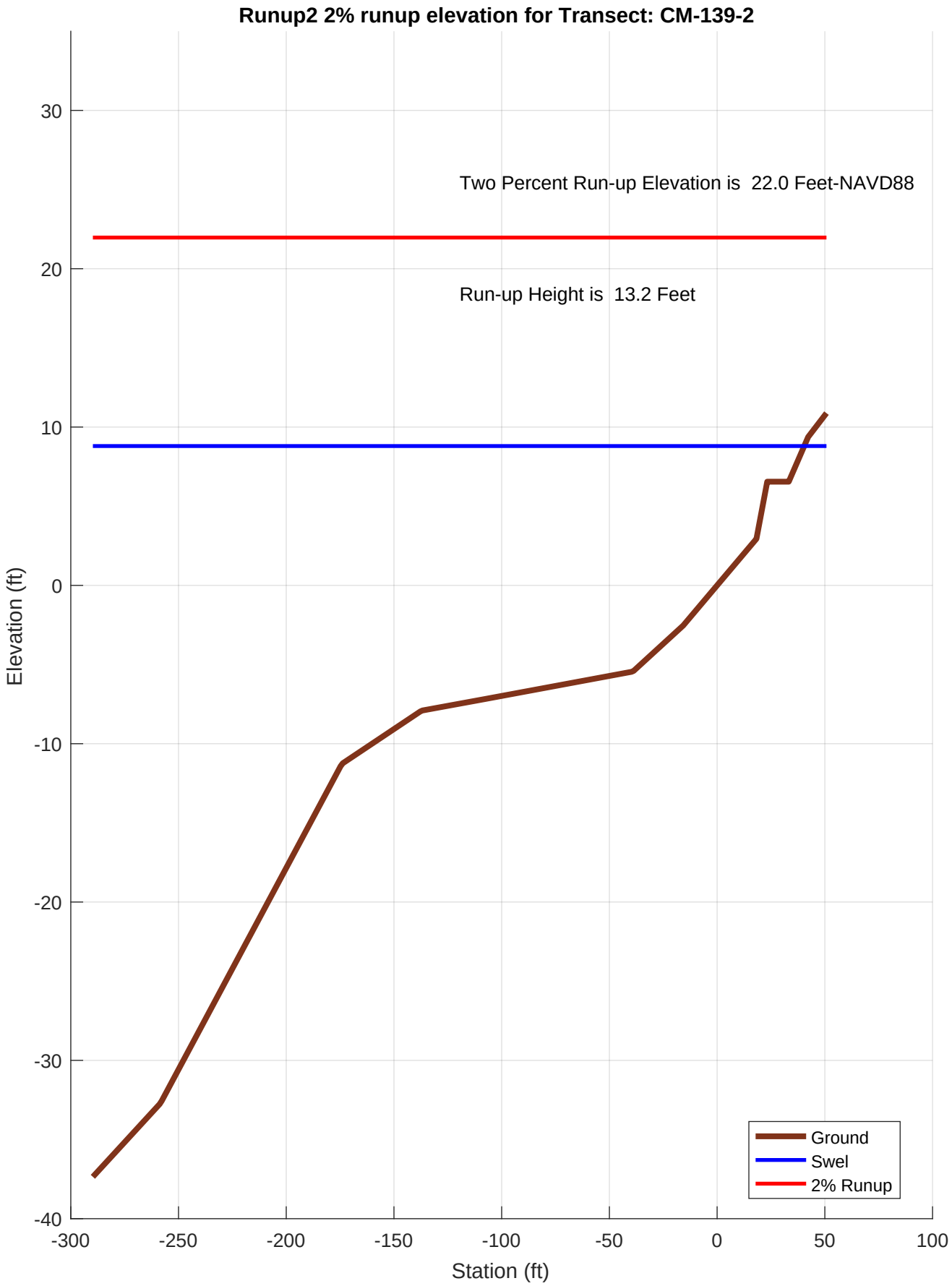
	LENGTH	ELEV.	SLOPE	ROUGHNESS
1	-289.0	-37.3		
			.00	.80
2	-258.0	-32.7		
			5.00	.80
3	-257.0	-32.5		
			3.92	.80
4	-237.0	-27.4		
			3.92	.80
5	-217.0	-22.3		
			5.00	.80
6	-216.0	-22.1		
			3.89	.80
7	-188.0	-14.9		
			4.00	.80
8	-174.0	-11.4		
			5.00	.80
9	-173.0	-11.2		
			10.90	.80
10	-137.7	-7.9		
			16.67	.80
11	-136.7	-7.9		
			40.28	.80
12	-107.7	-7.2		
			39.53	.80
13	-39.7	-5.4		
			16.67	.80
14	-38.7	-5.4		
			8.04	.80
15	-15.7	-2.5		
			6.20	.80
16	18.3	3.0		
			1.39	.80
17	23.3	6.6		
			FLAT	.80
18	33.3	6.6		
			3.19	.80
19	42.3	9.4		
			5.63	.80
20	50.8	10.9		

LAST SLOPE 6.00 LAST ROUGHNESS .80

****

OUTPUT TABLE

INPUT PARAMETERS			RUNUP RESULTS			
WATER LEVEL ABOVE DATUM (FT.)	DEEP WATER WAVE HEIGHT (FT.)	WAVE PERIOD (SEC.)	BREAKING SLOPE NUMBER	RUNUP SLOPE NUMBER	RUNUP ABOVE WATER LEVEL (FT.)	BREAKER DEPTH (FT.)
8.80	3.80	7.50	11	20	5.55	6.04
8.80	3.80	7.89	11	20	6.00	6.14
8.80	3.80	8.28	11	20	6.49	6.24
8.80	4.00	7.50	11	20	5.54	6.30
8.80	4.00	7.89	11	20	5.98	6.40
8.80	4.00	8.28	11	20	6.46	6.51
8.80	4.20	7.50	11	20	5.51	6.57
8.80	4.20	7.89	11	20	5.96	6.67
8.80	4.20	8.28	11	20	6.38	6.78


Runup2 2% runup elevation for Transect: CM-139-2
Two Percent Run-up Elevation is 22.0 Feet-NAVD88
Run-up Height is 13.2 Feet
Elevation (ft)
Station (ft)
30
20
10
0
-10
-20
-30
-40
-300
-250
-200
-150
-100
-50
0
50
100
Ground
Swel
2% Runup