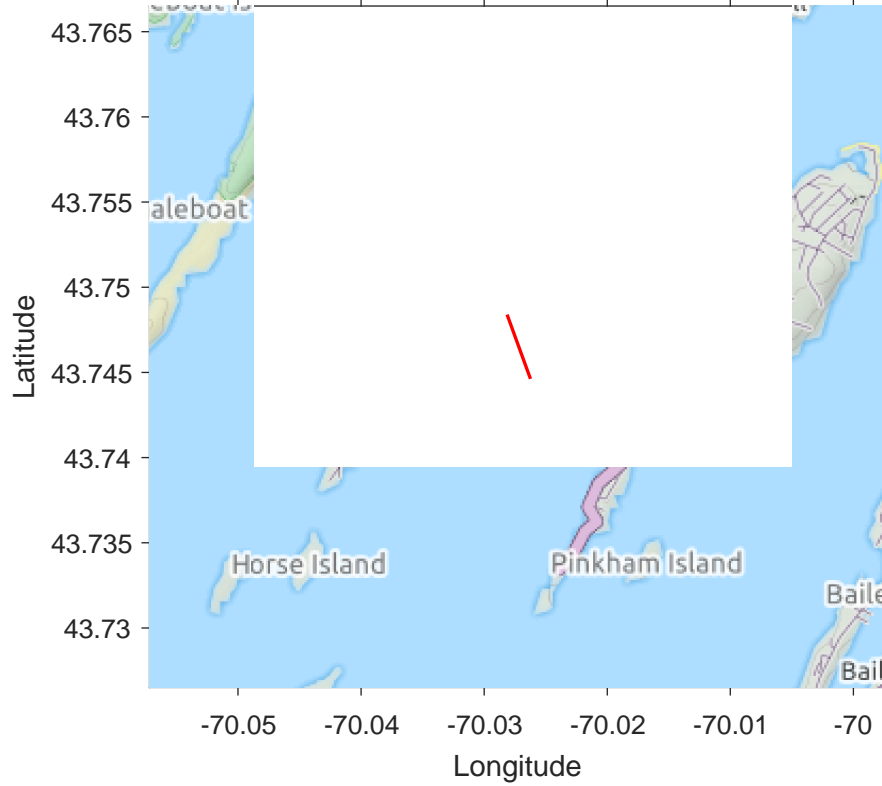
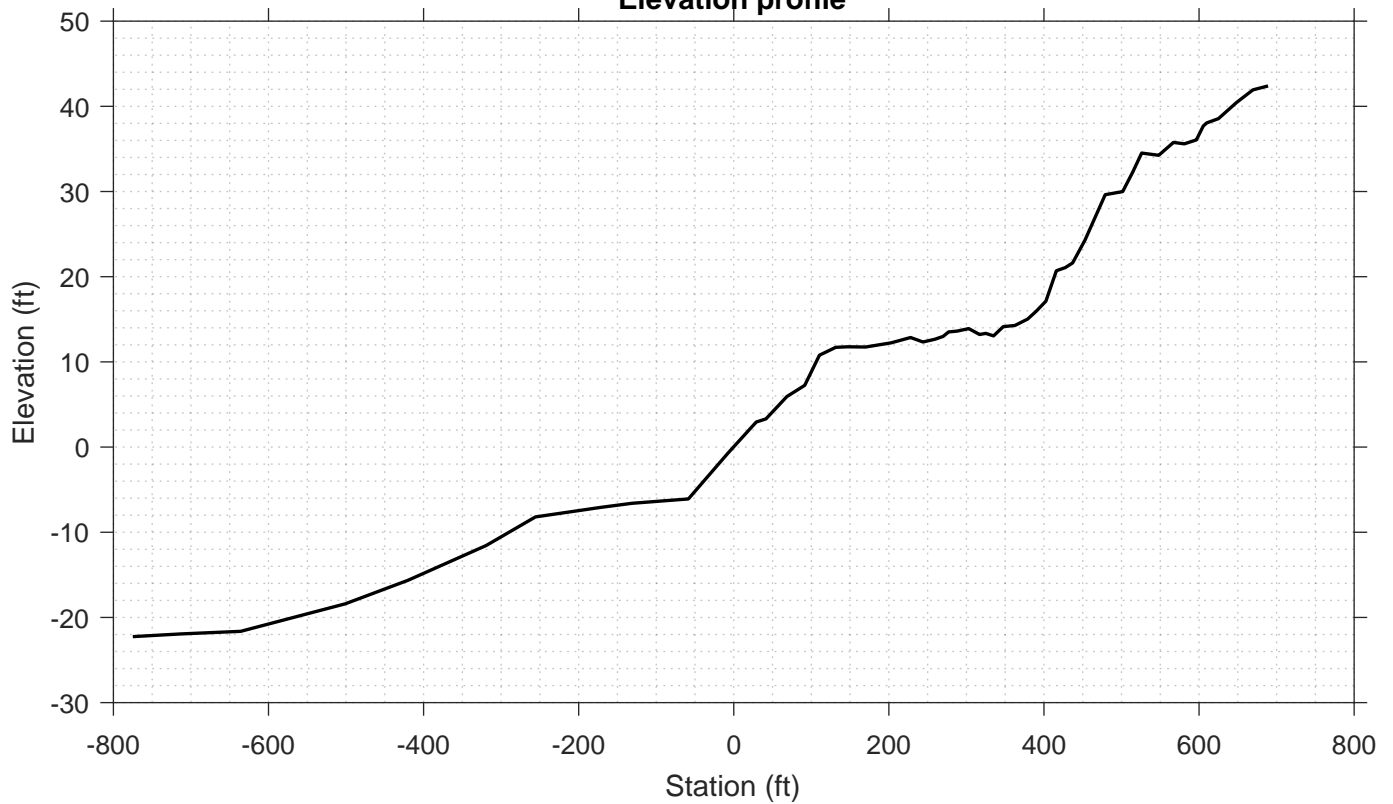


**Transect Number: CM-127-1**



**Elevation profile**



---

DATA LOG FOR TRANSECT ID: CM-127-1

---

---

PART 1: USER INPUT

SWAN 1-D / WHAFIS input

---

station: -518 ft  
LON: -70.0266 deg E  
LAT: 43.7453 deg N  
Bottom ELEV: -18.8073 ft-NAVD88  
TWL: 8.8666 ft-NAVD88  
HS: 3.0899 ft  
TP: 6.1662 sec  
Wave Direction bin: 135 deg CCW from East (90 deg sector)  
Transect Direction: 116.7759 deg CCW from East

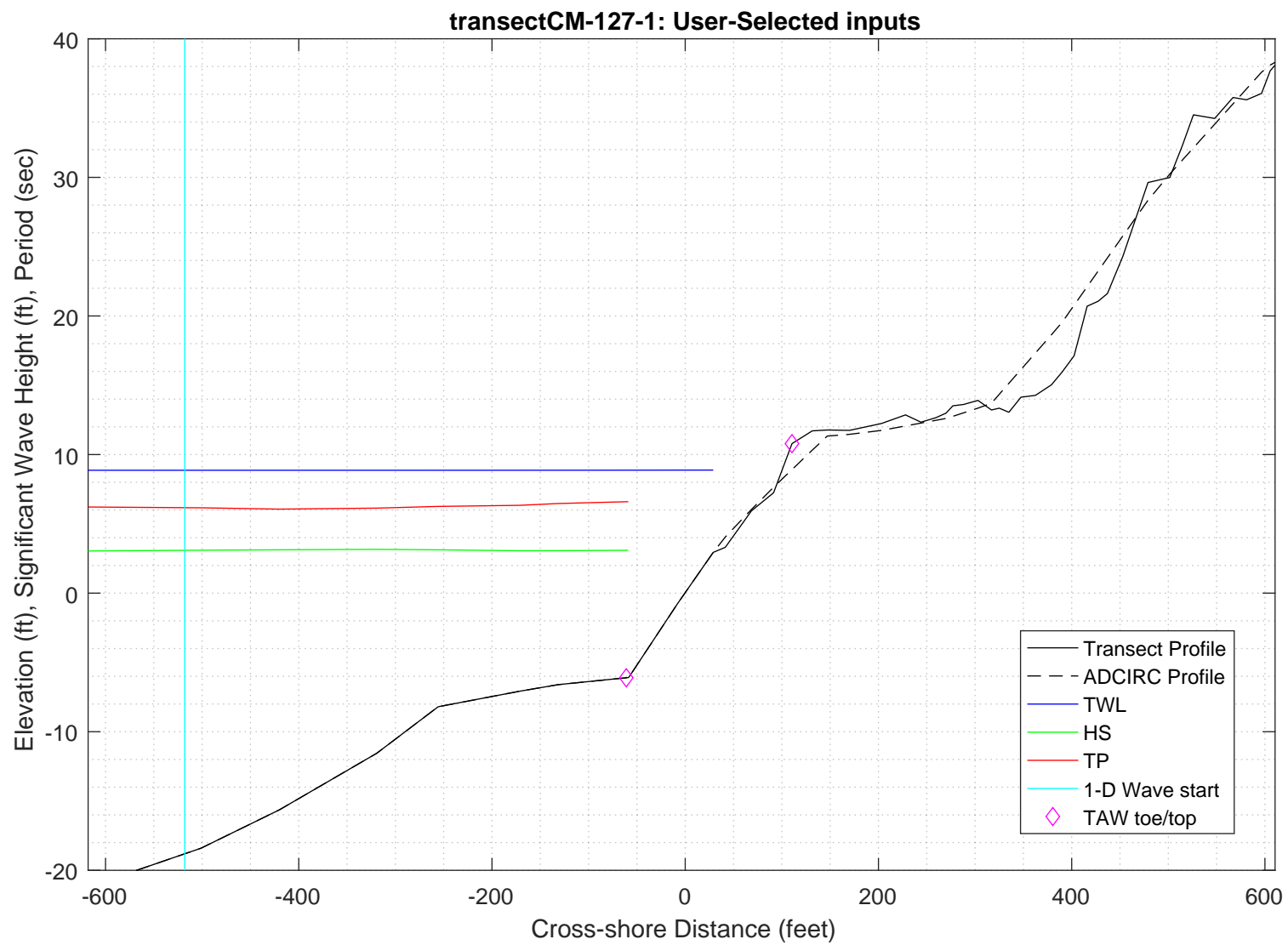
TAW/RUNUP input

---

toe sta: -61 ft  
toe elev: -6.1085 ft-NAVD88  
top sta: 110.5 ft  
top elev: 10.7874 ft-NAVD88  
\*Wave and water level conditions at toe to be calculated in SWAN 1-D\*

PART 1 COMPLETE

---



---

PART 2: SWAN 1-D

swan input grid name: 2\_swan/gridfiles/CM-127-1zmeters\_xmeters.grd  
swan file name: 2\_swan/swanfiles/CM-127-1.swn  
swan output name: 2\_swan/swanfiles/CM-127-1.dat

Boundary Conditions:  
TWL- 2.7026 meters  
HS- 0.9418 meters  
PER- 6.1662 seconds

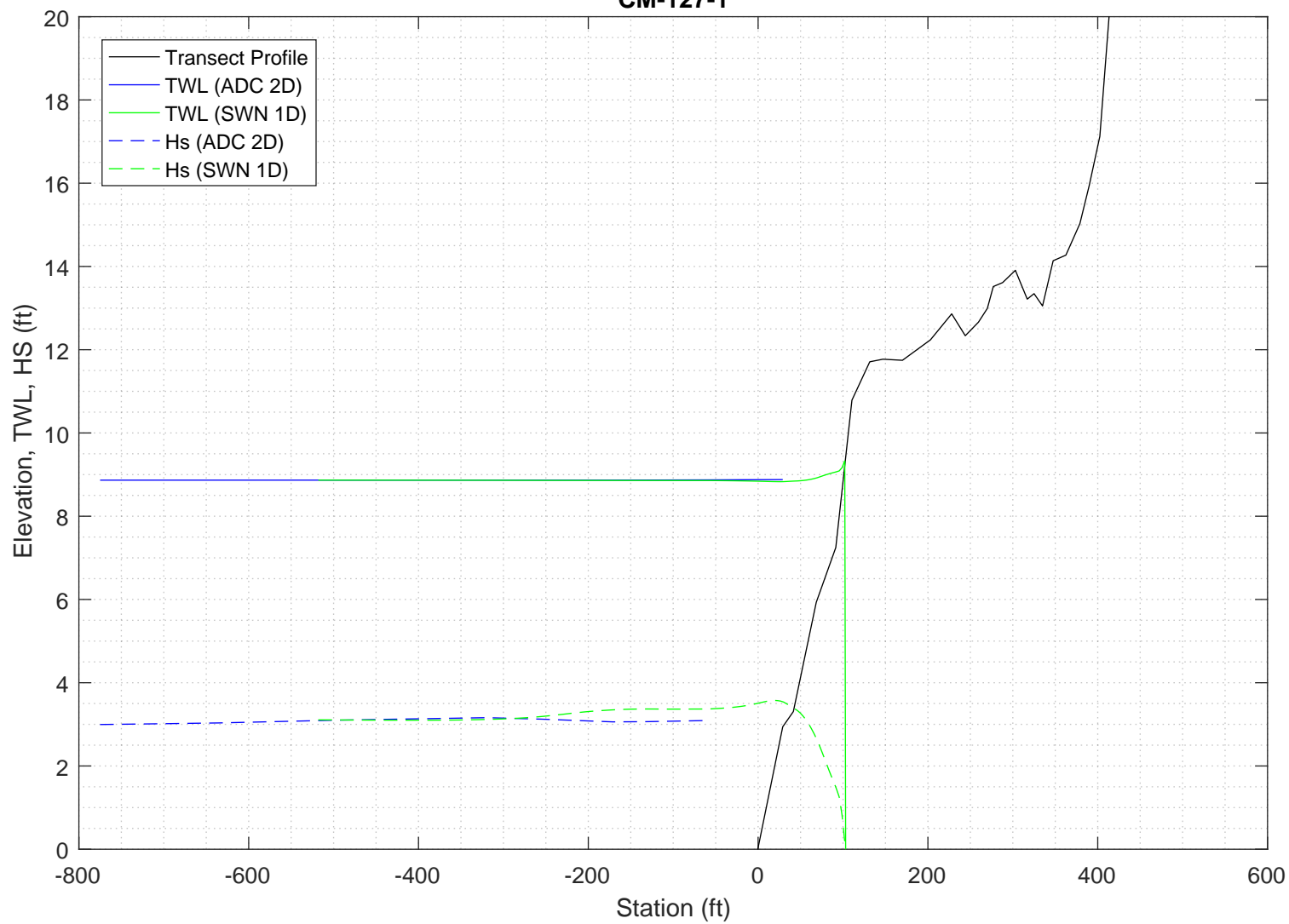
Batch File: 2\_swan/swanfiles/runswan.dat

SWAN maximum additional wave setup: 0.46254 feet  
SWAN output at toe:  
SETUP- -0.0097211 feet  
HS- 3.3682 feet  
PER- 6.1803 seconds

PART 2 COMPLETE

---

2-D ADCIRC+SWAN and SWAN 1-D results, Transect:  
CM-127-1



Execution started at 20200220.141923

```

-----
                        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      191      0.    191      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      191    0      1      1
!READinp BOTtom [fac] 'fname1' [idla] [nhedf] [FREe|FORmat[form]|UNFormatted]
READ    BOTTOM    -1. '../gridfiles/CM-127-1zmeters_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    0.9418      6.1662      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] [edmlpm] [cdrag] [umin] [cfpm]
!-- GEN2 [cf10] [cf20] [cf30] [cf40] [cf50] [cf60] [edmlpm] [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' [xpl] [yp1] <[int] [xp] [yp] >
      CURVE 'curve' 0      0      191 191      0
!TABLE 'sname' < HEADER|NOHEAder|INDEXed > 'fname' <output parameters> (output time)
      Table 'curve'      HEADER 'CM-127-1.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          192 MYC          1
                   : MCGRD         193
                   : 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 EDMLEPM     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 18.95 % 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 0.53 % 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 19.48 % 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 87.90 % 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 96.32 % 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 98.95 % 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 98.95 % 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 99.48 % 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 98.95 % of wet grid points ( 99.50 % required)

iteration 11; sweep 1  
iteration 11; sweep 2  
iteration 11; sweep 3  
iteration 11; sweep 4  
accuracy OK in 98.95 % of wet grid points ( 99.50 % required)

iteration 12; sweep 1  
iteration 12; sweep 2  
iteration 12; sweep 3  
iteration 12; sweep 4  
accuracy OK in 98.95 % of wet grid points ( 99.50 % required)

iteration 13; sweep 1  
iteration 13; sweep 2  
iteration 13; sweep 3  
iteration 13; sweep 4  
accuracy OK in 98.95 % of wet grid points ( 99.50 % required)

iteration 14; sweep 1  
iteration 14; sweep 2  
iteration 14; sweep 3  
iteration 14; sweep 4  
accuracy OK in 99.48 % of wet grid points ( 99.50 % required)

iteration 15; sweep 1  
iteration 15; sweep 2  
iteration 15; sweep 3  
iteration 15; sweep 4  
accuracy OK in 99.48 % of wet grid points ( 99.50 % required)

iteration 16; sweep 1  
iteration 16; sweep 2  
iteration 16; sweep 3  
iteration 16; sweep 4  
accuracy OK in 99.48 % of wet grid points ( 99.50 % required)

iteration 17; sweep 1  
iteration 17; sweep 2  
iteration 17; sweep 3  
iteration 17; sweep 4  
accuracy OK in 100.00 % of wet grid points ( 99.50 % required)

STOP

Run: 1

Table:curve

SWAN version:41.20A

Xp [m]	Yp [m]	Hsig [m]	TPsmoo [sec]	RTpeak [sec]	Tm_10 [sec]	Dir [degr]	Dspr [degr]	Depth [m]	Setup [m]
0.	0.	0.94724	6.1579	6.4550	5.5156	0.134	32.8828	8.4400	0.000000
1.	0.	0.94716	6.1580	6.4550	5.5145	0.135	32.8353	8.4100	-0.000009
2.	0.	0.94708	6.1580	6.4550	5.5132	0.135	32.7882	8.3900	-0.000016
3.	0.	0.94701	6.1581	6.4550	5.5121	0.136	32.7415	8.3600	-0.000025
4.	0.	0.94698	6.1582	6.4550	5.5109	0.136	32.7019	8.3400	-0.000032
5.	0.	0.94689	6.1582	6.4550	5.5096	0.137	32.6516	8.3200	-0.000038
6.	0.	0.94675	6.1584	6.4550	5.5086	0.137	32.5918	8.2799	-0.000051
7.	0.	0.94660	6.1585	6.4550	5.5073	0.138	32.5353	8.2499	-0.000060
8.	0.	0.94645	6.1587	6.4550	5.5062	0.138	32.4846	8.2099	-0.000072
9.	0.	0.94634	6.1588	6.4550	5.5050	0.139	32.4407	8.1799	-0.000081
10.	0.	0.94622	6.1589	6.4550	5.5038	0.139	32.3931	8.1499	-0.000091
11.	0.	0.94609	6.1591	6.4550	5.5026	0.140	32.3452	8.1099	-0.000103
12.	0.	0.94596	6.1592	6.4550	5.5014	0.140	32.2969	8.0799	-0.000113
13.	0.	0.94585	6.1594	6.4550	5.5003	0.141	32.2485	8.0399	-0.000125
14.	0.	0.94577	6.1596	6.4550	5.4990	0.141	32.2052	8.0099	-0.000135
15.	0.	0.94566	6.1597	6.4550	5.4978	0.142	32.1585	7.9799	-0.000145
16.	0.	0.94557	6.1599	6.4550	5.4966	0.143	32.1110	7.9398	-0.000158
17.	0.	0.94546	6.1600	6.4550	5.4954	0.143	32.0631	7.9098	-0.000169
18.	0.	0.94538	6.1602	6.4550	5.4942	0.144	32.0149	7.8698	-0.000182
19.	0.	0.94529	6.1603	6.4550	5.4929	0.144	31.9668	7.8398	-0.000192
20.	0.	0.94521	6.1605	6.4550	5.4918	0.145	31.9185	7.7998	-0.000206
21.	0.	0.94517	6.1607	6.4550	5.4905	0.146	31.8755	7.7698	-0.000217
22.	0.	0.94511	6.1608	6.4550	5.4892	0.146	31.8290	7.7398	-0.000228
23.	0.	0.94506	6.1610	6.4550	5.4881	0.147	31.7813	7.6998	-0.000242
24.	0.	0.94500	6.1612	6.4550	5.4868	0.147	31.7332	7.6697	-0.000254
25.	0.	0.94497	6.1614	6.4550	5.4857	0.148	31.6851	7.6297	-0.000268
26.	0.	0.94495	6.1616	6.4550	5.4844	0.149	31.6424	7.5997	-0.000280
27.	0.	0.94493	6.1617	6.4550	5.4830	0.149	31.5962	7.5697	-0.000292
28.	0.	0.94491	6.1619	6.4550	5.4819	0.150	31.5487	7.5297	-0.000307
29.	0.	0.94489	6.1621	6.4550	5.4805	0.151	31.5010	7.4997	-0.000319
30.	0.	0.94486	6.1623	6.4550	5.4793	0.151	31.4477	7.4597	-0.000335
31.	0.	0.94483	6.1625	6.4550	5.4781	0.152	31.3926	7.4196	-0.000351
32.	0.	0.94480	6.1628	6.4550	5.4769	0.153	31.3369	7.3796	-0.000367
33.	0.	0.94478	6.1630	6.4550	5.4756	0.154	31.2810	7.3396	-0.000384
34.	0.	0.94477	6.1632	6.4550	5.4744	0.154	31.2251	7.2996	-0.000400
35.	0.	0.94477	6.1635	6.4550	5.4731	0.155	31.1693	7.2596	-0.000418
36.	0.	0.94478	6.1637	6.4550	5.4719	0.156	31.1137	7.2196	-0.000435

60.	0.	0.95013	6.1697	6.4550	5.4173	0.195	29.8650	6.2491	-0.000948
61.	0.	0.95070	6.1701	6.4550	5.4130	0.196	29.8050	6.1990	-0.000979
62.	0.	0.95130	6.1704	6.4550	5.4085	0.198	29.7437	6.1490	-0.001012
63.	0.	0.95190	6.1707	6.4550	5.4038	0.199	29.6768	6.0990	-0.001045
64.	0.	0.95258	6.1711	6.4550	5.3993	0.201	29.6078	6.0389	-0.001086
65.	0.	0.95327	6.1715	6.4550	5.3941	0.205	29.5448	5.9889	-0.001121
66.	0.	0.95399	6.1718	6.4550	5.3887	0.210	29.4793	5.9388	-0.001157
67.	0.	0.95482	6.1722	6.4550	5.3833	0.215	29.4125	5.8788	-0.001200
68.	0.	0.95565	6.1726	6.4550	5.3773	0.220	29.3524	5.8288	-0.001238
69.	0.	0.95656	6.1729	6.4550	5.3710	0.226	29.2953	5.7787	-0.001277
70.	0.	0.95750	6.1733	6.4550	5.3643	0.231	29.2346	5.7287	-0.001316
71.	0.	0.95859	6.1737	6.4550	5.3574	0.235	29.1723	5.6686	-0.001365
72.	0.	0.95969	6.1741	6.4550	5.3498	0.240	29.1178	5.6186	-0.001407
73.	0.	0.96087	6.1744	6.4550	5.3418	0.244	29.0666	5.5685	-0.001451
74.	0.	0.96209	6.1748	6.4550	5.3334	0.249	29.0130	5.5185	-0.001495
75.	0.	0.96347	6.1752	6.4550	5.3249	0.255	28.9596	5.4585	-0.001549
76.	0.	0.96487	6.1756	6.4550	5.3156	0.261	28.9153	5.4084	-0.001597
77.	0.	0.96633	6.1759	6.4550	5.3057	0.268	28.8712	5.3584	-0.001645
78.	0.	0.96800	6.1764	6.4550	5.2955	0.276	28.8299	5.2983	-0.001704
79.	0.	0.96971	6.1767	6.4550	5.2840	0.287	28.8015	5.2482	-0.001756
80.	0.	0.97168	6.1771	6.4550	5.2718	0.299	28.8031	5.1982	-0.001809
81.	0.	0.97342	6.1771	6.4550	5.2573	0.313	28.8408	5.1882	-0.001826
82.	0.	0.97546	6.1773	6.4550	5.2422	0.328	28.8933	5.1681	-0.001854
83.	0.	0.97757	6.1773	6.4550	5.2256	0.345	28.9641	5.1581	-0.001872
84.	0.	0.97973	6.1774	6.4550	5.2086	0.363	29.0442	5.1481	-0.001891
85.	0.	0.98198	6.1775	6.4550	5.1924	0.386	29.1369	5.1281	-0.001920
86.	0.	0.98409	6.1775	6.4550	5.1764	0.414	29.2494	5.1181	-0.001939
87.	0.	0.98618	6.1776	6.4550	5.1606	0.448	29.3702	5.1080	-0.001958
88.	0.	0.98849	6.1777	6.4550	5.1445	0.485	29.4979	5.0880	-0.001987
89.	0.	0.99081	6.1778	6.4550	5.1273	0.525	29.6391	5.0780	-0.002007
90.	0.	0.99319	6.1778	6.4550	5.1096	0.565	29.7809	5.0680	-0.002027
91.	0.	0.99569	6.1779	6.4550	5.0926	0.601	29.9220	5.0479	-0.002058
92.	0.	0.99795	6.1780	6.4550	5.0766	0.614	30.0454	5.0379	-0.002078
93.	0.	1.00014	6.1780	6.4550	5.0611	0.621	30.1554	5.0279	-0.002100
94.	0.	1.00239	6.1782	6.4550	5.0467	0.621	30.2571	5.0079	-0.002131
95.	0.	1.00435	6.1782	6.4550	5.0336	0.597	30.3359	4.9978	-0.002153
96.	0.	1.00622	6.1783	6.4550	5.0212	0.569	30.4042	4.9878	-0.002174
97.	0.	1.00816	6.1784	6.4550	5.0097	0.543	30.4632	4.9678	-0.002205
98.	0.	1.00986	6.1784	6.4550	4.9990	0.526	30.5062	4.9578	-0.002227
99.	0.	1.01147	6.1785	6.4550	4.9890	0.508	30.5420	4.9478	-0.002248
100.	0.	1.01313	6.1786	6.4550	4.9801	0.493	30.5677	4.9277	-0.002280
101.	0.	1.01453	6.1787	6.4550	4.9720	0.485	30.5790	4.9177	-0.002301
102.	0.	1.01584	6.1787	6.4550	4.9646	0.474	30.5795	4.9077	-0.002322
103.	0.	1.01708	6.1788	6.4550	4.9577	0.465	30.5741	4.8977	-0.002344
104.	0.	1.01841	6.1789	6.4550	4.9516	0.453	30.5639	4.8776	-0.002376
105.	0.	1.01960	6.1789	6.4550	4.9454	0.443	30.5563	4.8676	-0.002397
106.	0.	1.02068	6.1790	6.4550	4.9398	0.431	30.5395	4.8576	-0.002419
107.	0.	1.02176	6.1791	6.4550	4.9357	0.414	30.5012	4.8375	-0.002451
108.	0.	1.02266	6.1792	6.4550	4.9318	0.400	30.4647	4.8275	-0.002472
109.	0.	1.02346	6.1792	6.4550	4.9286	0.386	30.4202	4.8175	-0.002494
110.	0.	1.02417	6.1793	6.4550	4.9261	0.368	30.3697	4.8075	-0.002515
111.	0.	1.02476	6.1793	6.4550	4.9244	0.353	30.3071	4.7975	-0.002536
112.	0.	1.02540	6.1794	6.4550	4.9238	0.338	30.2369	4.7774	-0.002568
113.	0.	1.02583	6.1795	6.4550	4.9234	0.323	30.1695	4.7674	-0.002589
114.	0.	1.02617	6.1795	6.4550	4.9239	0.310	30.0997	4.7574	-0.002609
115.	0.	1.02642	6.1796	6.4550	4.9250	0.300	30.0299	4.7474	-0.002629
116.	0.	1.02659	6.1796	6.4550	4.9265	0.292	29.9580	4.7374	-0.002649
117.	0.	1.02681	6.1798	6.4550	4.9291	0.283	29.8830	4.7173	-0.002680
118.	0.	1.02687	6.1798	6.4550	4.9318	0.279	29.8199	4.7073	-0.002699
119.	0.	1.02672	6.1798	6.4550	4.9345	0.277	29.7607	4.7073	-0.002706
120.	0.	1.02665	6.1798	6.4550	4.9380	0.275	29.6973	4.6973	-0.002724
121.	0.	1.02658	6.1799	6.4550	4.9417	0.271	29.6377	4.6873	-0.002741
122.	0.	1.02633	6.1798	6.4550	4.9450	0.264	29.5807	4.6873	-0.002746
123.	0.	1.02625	6.1799	6.4550	4.9484	0.261	29.5227	4.6772	-0.002763
124.	0.	1.02615	6.1799	6.4550	4.9518	0.260	29.4659	4.6672	-0.002779
125.	0.	1.02610	6.1800	6.4550	4.9551	0.261	29.4146	4.6572	-0.002796
126.	0.	1.02592	6.1800	6.4550	4.9577	0.263	29.3681	4.6572	-0.002800

127.	0.	1.02590	6.1800	6.4550	4.9605	0.266	29.3173	4.6472	-0.002816
128.	0.	1.02596	6.1801	6.4550	4.9628	0.266	29.2739	4.6372	-0.002832
129.	0.	1.02591	6.1800	6.4550	4.9643	0.266	29.2370	4.6372	-0.002837
130.	0.	1.02599	6.1801	6.4550	4.9663	0.267	29.1930	4.6271	-0.002853
131.	0.	1.02608	6.1801	6.4550	4.9680	0.268	29.1491	4.6171	-0.002869
132.	0.	1.02623	6.1802	6.4550	4.9696	0.269	29.1125	4.6071	-0.002886
133.	0.	1.02624	6.1802	6.4550	4.9705	0.267	29.0810	4.6071	-0.002890
134.	0.	1.02636	6.1802	6.4550	4.9721	0.264	29.0409	4.5971	-0.002906
135.	0.	1.02647	6.1803	6.4550	4.9740	0.261	29.0014	4.5871	-0.002922
136.	0.	1.02642	6.1802	6.4550	4.9754	0.257	28.9619	4.5871	-0.002926
137.	0.	1.02651	6.1803	6.4550	4.9772	0.253	28.9162	4.5771	-0.002943
138.	0.	1.02666	6.1803	6.4550	4.9787	0.255	28.8783	4.5670	-0.002959
139.	0.	1.02664	6.1803	6.4550	4.9795	0.257	28.8377	4.5670	-0.002963
140.	0.	1.02670	6.1804	6.4550	4.9810	0.259	28.7501	4.5470	-0.002993
141.	0.	1.02763	6.1811	6.4550	4.9857	0.262	28.5946	4.4569	-0.003117
142.	0.	1.02886	6.1820	6.4550	4.9916	0.265	28.4093	4.3467	-0.003275
143.	0.	1.02995	6.1827	6.4550	4.9972	0.265	28.2132	4.2466	-0.003429
144.	0.	1.03128	6.1836	6.4550	5.0040	0.264	28.0052	4.1364	-0.003608
145.	0.	1.03252	6.1844	6.4550	5.0105	0.260	27.7929	4.0362	-0.003782
146.	0.	1.03408	6.1853	6.4550	5.0180	0.257	27.5660	3.9260	-0.003986
147.	0.	1.03555	6.1861	6.4550	5.0250	0.252	27.3324	3.8258	-0.004186
148.	0.	1.03744	6.1870	6.4550	5.0327	0.243	27.0861	3.7156	-0.004420
149.	0.	1.03924	6.1878	6.4550	5.0397	0.229	26.8334	3.6154	-0.004650
150.	0.	1.04155	6.1888	6.4550	5.0467	0.220	26.5700	3.5051	-0.004921
151.	0.	1.04412	6.1898	6.4550	5.0533	0.213	26.3000	3.3948	-0.005214
152.	0.	1.04664	6.1907	6.4550	5.0583	0.198	26.0262	3.2945	-0.005502
153.	0.	1.04978	6.1919	6.4550	5.0630	0.187	25.7381	3.1842	-0.005843
154.	0.	1.05290	6.1930	6.4550	5.0649	0.181	25.4380	3.0838	-0.006180
155.	0.	1.05680	6.1944	6.4550	5.0647	0.176	25.1168	2.9734	-0.006581
156.	0.	1.06069	6.1959	6.4550	5.0605	0.166	24.7749	2.8730	-0.006977
157.	0.	1.06492	6.1977	6.4550	5.0523	0.157	24.4075	2.7726	-0.007404
158.	0.	1.06945	6.1998	6.4550	5.0395	0.146	24.0040	2.6721	-0.007864
159.	0.	1.07415	6.2022	6.4550	5.0216	0.137	23.5620	2.5716	-0.008353
160.	0.	1.07884	6.2049	6.4550	4.9986	0.127	23.0742	2.4711	-0.008868
161.	0.	1.08325	6.2080	6.4550	4.9704	0.116	22.5354	2.3706	-0.009398
162.	0.	1.08705	6.2114	6.4550	4.9375	0.103	21.9484	2.2701	-0.009927
163.	0.	1.08955	6.2151	6.4550	4.9012	0.089	21.3229	2.1696	-0.010415
164.	0.	1.08945	6.2192	6.4550	4.8651	0.064	20.6810	2.0692	-0.010771
165.	0.	1.08798	6.2234	6.4550	4.8238	0.047	20.0032	1.9689	-0.011051
166.	0.	1.08454	6.2277	6.4550	4.7783	0.034	19.3263	1.8688	-0.011186
167.	0.	1.07779	6.2316	6.4550	4.7272	0.025	18.7592	1.7891	-0.010905
168.	0.	1.06631	6.2344	6.4550	4.6709	0.019	18.3460	1.7601	-0.009891
169.	0.	1.05410	6.2366	6.4550	4.6195	0.013	18.0107	1.7312	-0.008795
170.	0.	1.04113	6.2383	6.4550	4.5730	0.009	17.7011	1.7024	-0.007633
171.	0.	1.02852	6.2399	6.4550	4.5345	0.005	17.3218	1.6433	-0.006691
172.	0.	1.01539	6.2416	6.4550	4.5014	0.001	16.8683	1.5441	-0.005915
173.	0.	0.99786	6.2433	6.4550	4.4571	0.001	16.4044	1.4555	-0.004521
174.	0.	0.97560	6.2450	6.4550	4.4140	0.041	15.9320	1.3573	-0.002664
175.	0.	0.94949	6.2459	6.4550	4.3613	0.130	15.4383	1.2597	-0.000270
176.	0.	0.91911	6.2453	6.4550	4.2925	0.258	14.9655	1.1628	0.002843
177.	0.	0.88362	6.2438	6.4550	4.2092	0.458	14.5591	1.0769	0.006850
178.	0.	0.84490	6.2426	6.4550	4.1135	0.710	14.2519	0.9814	0.011390
179.	0.	0.80220	6.2418	6.4550	3.9925	1.042	14.1855	0.8969	0.016866
180.	0.	0.75440	6.2418	6.4550	3.8430	1.486	14.2955	0.8438	0.023781
181.	0.	0.70258	6.2426	6.4550	3.7126	1.947	14.3737	0.8010	0.030982
182.	0.	0.64951	6.2441	6.4550	3.6172	2.343	14.3935	0.7477	0.037708
183.	0.	0.59556	6.2458	6.4550	3.5495	2.657	14.3679	0.6942	0.044150
184.	0.	0.54317	6.2475	6.4550	3.4942	2.882	14.2783	0.6503	0.050258
185.	0.	0.49423	6.2491	6.4550	3.4561	2.989	13.9388	0.5957	0.055679
186.	0.	0.44239	6.2513	6.4550	3.4774	2.781	13.0379	0.5111	0.061084
187.	0.	0.38261	6.2566	6.4550	3.5993	2.323	11.4412	0.3375	0.067518
188.	0.	0.25249	6.3041	6.4550	4.1639	359.945	11.5773	0.1708	0.090830
189.	0.	0.05350	8.1891	8.0345	5.7222	358.636	14.4271	0.0310	0.140982
190.	0.	-9.00000	-9.0000	-9.0000	-9.0000	-999.000	-9.0000	-99.0000	-9.000000
191.	0.	-9.00000	-9.0000	-9.0000	-9.0000	-999.000	-9.0000	-99.0000	-9.000000

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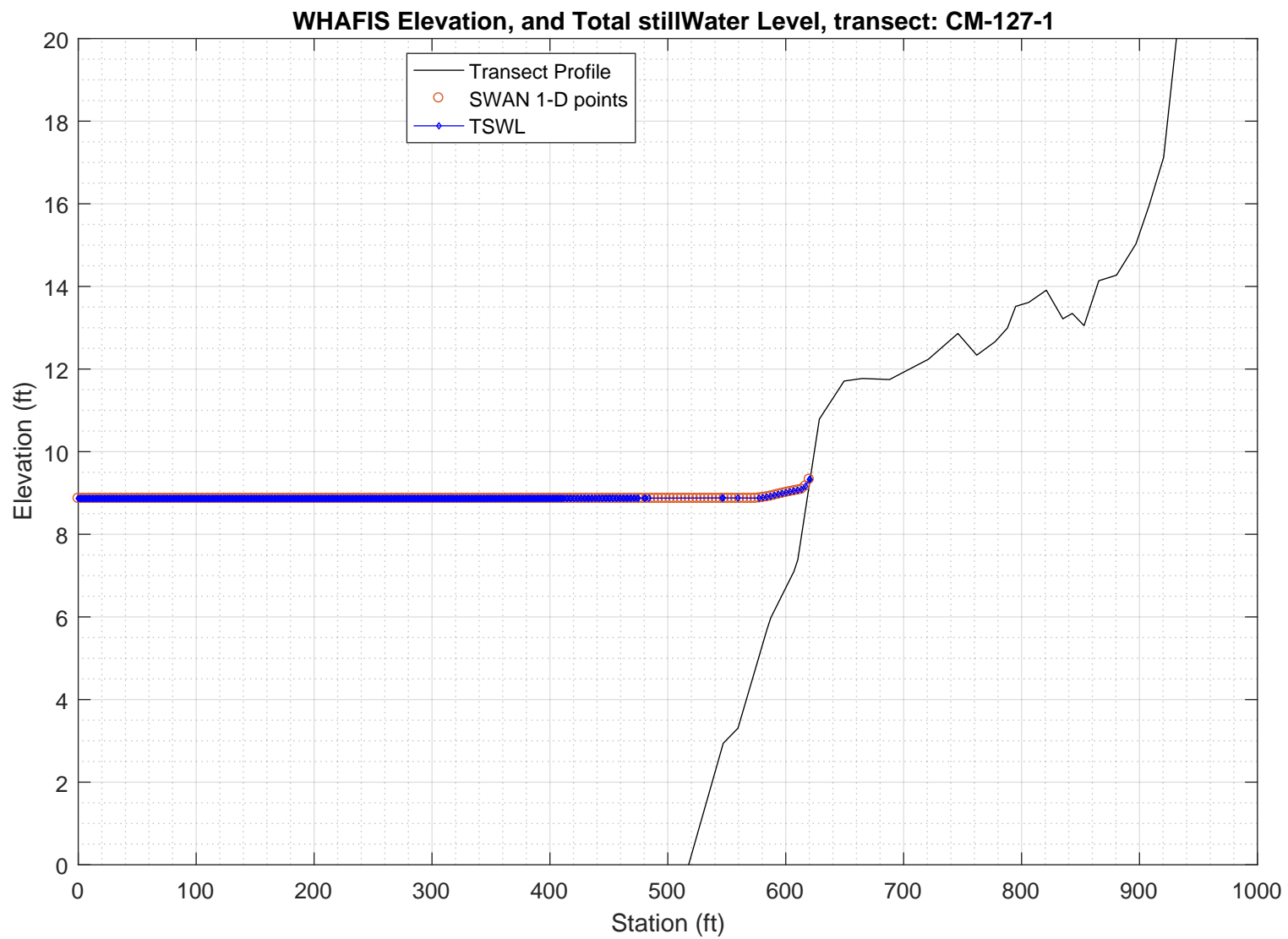
PART 3: WHAFIS

WHAFIS input: CM-127-1.dat

WHAFIS output: CM-127-1.out

PART 3 COMPLETE

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## WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (WHAFIS VERSION 4.0G, 08\_2007)

Executed on: Thu Feb 20 14:57:36 2020

Input file: C:\FEMA-TransectAnalysis\LOMR-TransectAnalysis-Harpswell\3\_whafis\whafis4\CM-127-1.dat

Output file: C:\FEMA-TransectAnalysis\LOMR-TransectAnalysis-Harpswell\3\_whafis\whafis4\CM-127-1.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	-18.807	1.000	1.000	8.867	4.944	6.166	56.140	0.024	0.000
OF	1.000	-18.783	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	2.000	-18.759	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	3.000	-18.735	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	4.000	-18.711	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	5.000	-18.687	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	6.000	-18.663	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	7.000	-18.639	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	8.000	-18.615	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	9.000	-18.591	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	10.000	-18.567	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	11.000	-18.543	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	12.000	-18.519	0.000	8.867	0.000	0.000	0.000	0.000	0.023	0.000
OF	13.000	-18.496	0.000	8.867	0.000	0.000	0.000	0.000	0.023	0.000
OF	14.000	-18.472	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	15.000	-18.448	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	16.000	-18.424	0.000	8.867	0.000	0.000	0.000	0.000	0.024	0.000
OF	17.000	-18.399	0.000	8.867	0.000	0.000	0.000	0.000	0.030	0.000
OF	18.000	-18.364	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	19.000	-18.330	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	20.000	-18.296	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	21.000	-18.262	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	22.000	-18.228	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	23.000	-18.194	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	24.000	-18.160	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	25.000	-18.125	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	26.000	-18.091	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	27.000	-18.057	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	28.000	-18.023	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	29.000	-17.989	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	30.000	-17.955	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	31.000	-17.921	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	32.000	-17.887	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	33.000	-17.852	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	34.000	-17.818	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	35.000	-17.784	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	36.000	-17.750	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	37.000	-17.716	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	38.000	-17.682	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	39.000	-17.648	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	40.000	-17.614	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	41.000	-17.579	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	42.000	-17.545	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	43.000	-17.511	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	44.000	-17.477	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	45.000	-17.443	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	46.000	-17.409	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	47.000	-17.375	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	48.000	-17.340	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	49.000	-17.306	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	50.000	-17.272	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	51.000	-17.238	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	52.000	-17.204	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	53.000	-17.170	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	54.000	-17.136	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	55.000	-17.102	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	56.000	-17.067	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	57.000	-17.033	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	58.000	-16.999	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	59.000	-16.965	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	60.000	-16.931	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	61.000	-16.897	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	62.000	-16.863	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	63.000	-16.828	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	64.000	-16.794	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	65.000	-16.760	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	66.000	-16.726	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	67.000	-16.692	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	68.000	-16.658	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	69.000	-16.624	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	70.000	-16.590	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	71.000	-16.555	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	72.000	-16.521	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	73.000	-16.487	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	74.000	-16.453	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	75.000	-16.419	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	76.000	-16.385	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	77.000	-16.351	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	78.000	-16.316	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	79.000	-16.282	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	80.000	-16.248	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	81.000	-16.214	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	82.000	-16.180	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	83.000	-16.146	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	84.000	-16.112	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	85.000	-16.078	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	86.000	-16.043	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	87.000	-16.009	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	88.000	-15.975	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	89.000	-15.941	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	90.000	-15.907	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	91.000	-15.873	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	92.000	-15.839	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000

OF	93.000	-15.805	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	94.000	-15.770	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	95.000	-15.736	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	96.000	-15.702	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	97.000	-15.668	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	98.000	-15.634	0.000	8.867	0.000	0.000	0.000	0.000	0.038	0.000
OF	99.000	-15.593	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	100.000	-15.553	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	101.000	-15.512	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	102.000	-15.472	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	103.000	-15.431	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	104.000	-15.391	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	105.000	-15.350	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	106.000	-15.310	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	107.000	-15.269	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	108.000	-15.229	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	109.000	-15.188	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	110.000	-15.148	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	111.000	-15.107	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	112.000	-15.067	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	113.000	-15.026	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	114.000	-14.986	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	115.000	-14.945	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	116.000	-14.905	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	117.000	-14.864	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	118.000	-14.824	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	119.000	-14.783	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	120.000	-14.743	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	121.000	-14.702	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	122.000	-14.662	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	123.000	-14.621	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	124.000	-14.581	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	125.000	-14.540	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	126.000	-14.500	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	127.000	-14.459	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	128.000	-14.419	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	129.000	-14.378	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	130.000	-14.338	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	131.000	-14.297	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	132.000	-14.257	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	133.000	-14.216	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	134.000	-14.175	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	135.000	-14.135	0.000	8.867	0.000	0.000	0.000	0.000	0.040	0.000
OF	136.000	-14.095	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	137.000	-14.054	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	138.000	-14.014	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	139.000	-13.973	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	140.000	-13.933	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	141.000	-13.892	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	142.000	-13.852	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	143.000	-13.811	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	144.000	-13.770	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	145.000	-13.730	0.000	8.867	0.000	0.000	0.000	0.000	0.040	0.000
OF	146.000	-13.690	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	147.000	-13.649	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	148.000	-13.608	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	149.000	-13.568	0.000	8.867	0.000	0.000	0.000	0.000	0.040	0.000
OF	150.000	-13.528	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	151.000	-13.487	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	152.000	-13.446	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	153.000	-13.406	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	154.000	-13.365	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	155.000	-13.325	0.000	8.867	0.000	0.000	0.000	0.000	0.040	0.000
OF	156.000	-13.285	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	157.000	-13.244	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	158.000	-13.203	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	159.000	-13.163	0.000	8.867	0.000	0.000	0.000	0.000	0.040	0.000
OF	160.000	-13.123	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	161.000	-13.082	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	162.000	-13.041	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	163.000	-13.001	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	164.000	-12.960	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	165.000	-12.920	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	166.000	-12.879	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	167.000	-12.839	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	168.000	-12.798	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	169.000	-12.758	0.000	8.867	0.000	0.000	0.000	0.000	0.040	0.000
OF	170.000	-12.718	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	171.000	-12.677	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	172.000	-12.636	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	173.000	-12.596	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	174.000	-12.555	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	175.000	-12.515	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	176.000	-12.474	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	177.000	-12.434	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	178.000	-12.393	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	179.000	-12.353	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	180.000	-12.312	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	181.000	-12.272	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	182.000	-12.231	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	183.000	-12.191	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	184.000	-12.150	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	185.000	-12.110	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	186.000	-12.069	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	187.000	-12.029	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	188.000	-11.988	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	189.000	-11.948	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	190.000	-11.907	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	191.000	-11.867	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	192.000	-11.826	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	193.000	-11.786	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	194.000	-11.745	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000



OF	195.000	-11.705	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	196.000	-11.664	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	197.000	-11.624	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	198.000	-11.583	0.000	8.867	0.000	0.000	0.000	0.000	0.043	0.000
OF	199.000	-11.539	0.000	8.867	0.000	0.000	0.000	0.000	0.048	0.000
OF	200.000	-11.487	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
OF	201.000	-11.434	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	202.000	-11.381	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	203.000	-11.328	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	204.000	-11.275	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
OF	205.000	-11.223	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
OF	206.000	-11.170	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	207.000	-11.117	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	208.000	-11.064	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	209.000	-11.011	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
OF	210.000	-10.959	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
OF	211.000	-10.906	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	212.000	-10.853	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	213.000	-10.800	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	214.000	-10.747	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	215.000	-10.694	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
OF	216.000	-10.642	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
OF	217.000	-10.589	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	218.000	-10.536	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	219.000	-10.483	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	220.000	-10.430	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
OF	221.000	-10.378	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
OF	222.000	-10.325	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	223.000	-10.272	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	224.000	-10.219	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	225.000	-10.166	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
OF	226.000	-10.114	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
OF	227.000	-10.061	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	228.000	-10.008	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	229.000	-9.955	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	230.000	-9.903	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
OF	231.000	-9.850</								

OF	297.000	-7.737	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	298.000	-7.723	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	299.000	-7.710	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	300.000	-7.697	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	301.000	-7.684	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	302.000	-7.670	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	303.000	-7.657	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	304.000	-7.644	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	305.000	-7.631	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	306.000	-7.617	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	307.000	-7.604	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	308.000	-7.591	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	309.000	-7.577	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	310.000	-7.564	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	311.000	-7.551	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	312.000	-7.538	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	313.000	-7.524	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	314.000	-7.511	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	315.000	-7.498	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	316.000	-7.484	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	317.000	-7.471	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	318.000	-7.458	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	319.000	-7.445	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	320.000	-7.431	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	321.000	-7.418	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	322.000	-7.405	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	323.000	-7.392	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	324.000	-7.378	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	325.000	-7.365	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	326.000	-7.352	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	327.000	-7.338	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	328.000	-7.325	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	329.000	-7.312	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	330.000	-7.299	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	331.000	-7.285	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	332.000	-7.272	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
OF	333.000	-7.259	0.000	8.867	0.000					





OF	41.000	-17.579	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	42.000	-17.545	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	43.000	-17.511	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	44.000	-17.477	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	45.000	-17.443	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	46.000	-17.409	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	47.000	-17.375	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	48.000	-17.340	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	49.000	-17.306	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	50.000	-17.272	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	51.000	-17.238	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	52.000	-17.204	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	53.000	-17.170	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	54.000	-17.136	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	55.000	-17.102	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	56.000	-17.067	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	57.000	-17.033	0.000	8.867	0.000	0.000	0.000	0.000	0.034	0.000
	END	END	NEW SURGE	NEW SURGE						

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OF	143.000	-13.811	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	144.000	-13.770	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	145.000	-13.730	0.000	8.867	0.000	0.000	0.000	0.000	0.040	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	146.000	-13.690	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	147.000	-13.649	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	148.000	-13.608	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	149.000	-13.568	0.000	8.867	0.000	0.000	0.000	0.000	0.040	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	150.000	-13.528	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	151.000	-13.487	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	152.000	-13.446	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	153.000	-13.406	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	154.000	-13.365	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	155.000	-13.325	0.000	8.867	0.000	0.000	0.000	0.000	0.040	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	156.000	-13.285	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	157.000	-13.244	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	158.000	-13.203	0.000	8.867	0.000	0.000	0.000	0.000	0.041	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	159.000	-13.163	0.000	8.867	0.000	0.000	0.000	0.000	0.040	0.000
	END	END	NEW SURGE	NEW SURGE					B	



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OF	211.000	-10.906	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	212.000	-10.853	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	213.000	-10.800	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	214.000	-10.747	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	215.000	-10.694	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	216.000	-10.642	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	217.000	-10.589	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	218.000	-10.536	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	219.000	-10.483	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	220.000	-10.430	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	221.000	-10.378	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	222.000	-10.325	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	223.000	-10.272	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	224.000	-10.219	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	225.000	-10.166	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	226.000	-10.114	0.000	8.867	0.000	0.000	0.000	0.000	0.052	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	227.000	-10.061	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	228.000	-10.008	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	229.000	-9.955	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	230.000	-9.903	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	231.000	-9.850	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	232.000	-9.797	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	233.000	-9.745	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	234.000	-9.692	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	235.000	-9.639	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	236.000	-9.586	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	237.000	-9.533	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	238.000	-9.480	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	239.000	-9.427	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	240.000	-9.375	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	241.000	-9.322	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	242.000	-9.269	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	243.000	-9.216	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	244.000	-9.164	0.000	8.867	0.000	0.000	0.000	0.000	0.053	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES

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OF	347.000	-7.073	0.000	8.867	0.000	0.000	0.000	0.000	0.013	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	348.000	-7.061	0.000	8.867	0.000	0.000	0.000	0.000	0.012	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	349.000	-7.049	0.000	8.867	0.000	0.000	0.000	0.000	0.012	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	350.000	-7.037	0.000	8.867	0.000	0.000	0.000	0.000	0.012	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	351.000	-7.025	0.000	8.867	0.000	0.000	0.000	0.000	0.012	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	352.000	-7.014	0.000	8.868	0.000	0.000	0.000	0.000	0.012	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	353.000	-7.002	0.000	8.868	0.000	0.000	0.000	0.000	0.012	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	354.000	-6.990	0.000	8.868	0.000	0.000	0.000	0.000	0.012	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	355.000	-6.978	0.000	8.868	0.000	0.000	0.000	0.000	0.012	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	356.000	-6.966	0.000	8.868	0.000	0.000	0.000	0.000	0.012	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	357.000	-6.954	0.000	8.868	0.000	0.000	0.000	0.000	0.012	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	358.000	-6.942	0.000	8.868	0.000	0.000	0.000	0.000	0.012	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	359.000	-6.930	0.000	8.868	0.000	0.000	0.000	0.000	0.012	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	360.000	-6.918	0.000	8.868	0.000	0.000	0.000	0.000	0.012	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	361.000	-6.906	0.000	8.868	0.000	0.000	0.000	0.000	0.012	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
OF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	362.000	-6.894	0.000	8.868	0.000	0.000	0.000	0.000	0.012	0.000
OF	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	363.000	-6.883	0.000	8.868	0.000	0.000	0.000	0.000	0.012	0.000
	END	END	NEW SURGE	NEW SURGE						

[illegible]

[illegible]



OF	468.000	-5.191	0.000	8.873	0.000	0.000	0.000	0.000	0.105	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	469.000	-5.086	0.000	8.873	0.000	0.000	0.000	0.000	0.105	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	471.000	-4.875	0.000	8.874	0.000	0.000	0.000	0.000	0.105	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	472.000	-4.770	0.000	8.874	0.000	0.000	0.000	0.000	0.105	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	474.000	-4.559	0.000	8.874	0.000	0.000	0.000	0.000	0.105	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	475.000	-4.454	0.000	8.874	0.000	0.000	0.000	0.000	0.105	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	480.000	-3.927	0.000	8.874	0.000	0.000	0.000	0.000	0.105	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	481.000	-3.821	0.000	8.874	0.000	0.000	0.000	0.000	0.105	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
OF	484.000	-3.505	0.000	8.875	0.000	0.000	0.000	0.000	0.102	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	546.000	2.841	0.000	8.880	0.000	0.000	0.000	0.000	0.102	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	547.000	2.941	0.000	8.880	0.000	0.000	0.000	0.000	0.034	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	559.500	3.307	0.000	8.880	0.000	0.000	0.000	0.000	0.069	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	577.400	5.050	0.000	8.876	0.000	0.000	0.000	0.000	0.097	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	580.700	5.369	0.000	8.889	0.000	0.000	0.000	0.000	0.097	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	584.000	5.688	0.000	8.904	0.000	0.000	0.000	0.000	0.092	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	587.300	5.976	0.000	8.922	0.000	0.000	0.000	0.000	0.073	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	590.500	6.163	0.000	8.945	0.000	0.000	0.000	0.000	0.058	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	593.800	6.351	0.000	8.968	0.000	0.000	0.000	0.000	0.057	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	597.100	6.539	0.000	8.990	0.000	0.000	0.000	0.000	0.057	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	600.400	6.726	0.000	9.012	0.000	0.000	0.000	0.000	0.057	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	603.700	6.914	0.000	9.031	0.000	0.000	0.000	0.000	0.057	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	607.000	7.102	0.000	9.049	0.000	0.000	0.000	0.000	0.072	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	610.200	7.384	0.000	9.067	0.000	0.000	0.000	0.000	0.138	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	613.500	7.996	0.000	9.088	0.000	0.000	0.000	0.000	0.185	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	616.800	8.607	0.000	9.165	0.000	0.000	0.000	0.000	0.185	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	620.100	9.218	0.000	9.329	0.000	0.000	0.000	0.000	0.185	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	620.700	9.329	0.000	9.329	0.000	0.000	0.000	0.000	0.185	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 CREST
	WAVE HEIGHT	WAVE PERIOD	ELEVATION
IE	0.00	4.94	12.33
OF	1.00	4.94	12.33
OF	2.00	4.95	12.33
OF	3.00	4.95	12.33
OF	4.00	4.95	12.33
OF	5.00	4.95	12.33
OF	6.00	4.95	12.33
OF	7.00	4.95	12.33
OF	8.00	4.95	12.33
OF	9.00	4.95	12.33
OF	10.00	4.95	12.33
OF	11.00	4.95	12.33
OF	12.00	4.95	12.33
OF	13.00	4.95	12.33
OF	14.00	4.95	12.33

OF	15.00	4.95	6.17	12.33
OF	16.00	4.95	6.17	12.33
OF	17.00	4.95	6.17	12.33
OF	18.00	4.95	6.17	12.33
OF	19.00	4.95	6.17	12.33
OF	20.00	4.95	6.17	12.34
OF	21.00	4.96	6.17	12.34
OF	22.00	4.96	6.17	12.34
OF	23.00	4.96	6.17	12.34
OF	24.00	4.96	6.17	12.34
OF	25.00	4.96	6.17	12.34
OF	26.00	4.96	6.17	12.34
OF	27.00	4.96	6.17	12.34
OF	28.00	4.96	6.17	12.34
OF	29.00	4.96	6.17	12.34
OF	30.00	4.96	6.17	12.34
OF	31.00	4.96	6.17	12.34
OF	32.00	4.96	6.17	12.34
OF	33.00	4.96	6.17	12.34
OF	34.00	4.96	6.17	12.34
OF	35.00	4.96	6.17	12.34
OF	36.00	4.97	6.17	12.34
OF	37.00	4.97	6.17	12.34
OF	38.00	4.97	6.17	12.34
OF	39.00	4.97	6.17	12.34
OF	40.00	4.97	6.17	12.34
OF	41.00	4.97	6.17	12.35
OF	42.00	4.97	6.17	12.35
OF	43.00	4.97	6.17	12.35
OF	44.00	4.97	6.17	12.35
OF	45.00	4.97	6.17	12.35
OF	46.00	4.97	6.17	12.35
OF	47.00	4.97	6.17	12.35
OF	48.00	4.97	6.17	12.35
OF	49.00	4.97	6.17	12.35
OF	50.00	4.98	6.17	12.35
OF	51.00	4.98	6.17	12.35
OF	52.00	4.98	6.17	12.35
OF	53.00	4.98	6.17	12.35
OF	54.00	4.98	6.17	12.35
OF	55.00	4.98	6.17	12.35
OF	56.00	4.98	6.17	12.35
OF	57.00	4.98	6.17	12.35
OF	58.00	4.98	6.17	12.35
OF	59.00	4.98	6.17	12.35
OF	60.00	4.98	6.17	12.35
OF	61.00	4.98	6.17	12.36
OF	62.00	4.98	6.17	12.36
OF	63.00	4.99	6.17	12.36
OF	64.00	4.99	6.17	12.36
OF	65.00	4.99	6.17	12.36
OF	66.00	4.99	6.17	12.36
OF	67.00	4.99	6.17	12.36
OF	68.00	4.99	6.17	12.36
OF	69.00	4.99	6.17	12.36
OF	70.00	4.99	6.17	12.36
OF	71.00	4.99	6.17	12.36
OF	72.00	4.99	6.17	12.36
OF	73.00	4.99	6.17	12.36
OF	74.00	4.99	6.17	12.36
OF	75.00	4.99	6.17	12.36
OF	76.00	5.00	6.17	12.36
OF	77.00	5.00	6.17	12.36
OF	78.00	5.00	6.17	12.36
OF	79.00	5.00	6.17	12.37
OF	80.00	5.00	6.17	12.37
OF	81.00	5.00	6.17	12.37
OF	82.00	5.00	6.17	12.37
OF	83.00	5.00	6.17	12.37
OF	84.00	5.00	6.17	12.37
OF	85.00	5.00	6.17	12.37
OF	86.00	5.00	6.17	12.37
OF	87.00	5.00	6.17	12.37
OF	88.00	5.01	6.17	12.37
OF	89.00	5.01	6.17	12.37
OF	90.00	5.01	6.17	12.37
OF	91.00	5.01	6.17	12.37
OF	92.00	5.01	6.17	12.37
OF	93.00	5.01	6.17	12.37
OF	94.00	5.01	6.17	12.37
OF	95.00	5.01	6.17	12.37
OF	96.00	5.01	6.17	12.38
OF	97.00	5.01	6.17	12.38
OF	98.00	5.01	6.17	12.38
OF	99.00	5.02	6.17	12.38
OF	100.00	5.02	6.17	12.38
OF	101.00	5.02	6.17	12.38
OF	102.00	5.02	6.17	12.38
OF	103.00	5.02	6.17	12.38
OF	104.00	5.02	6.17	12.38
OF	105.00	5.02	6.17	12.38
OF	106.00	5.02	6.17	12.38
OF	107.00	5.02	6.17	12.38
OF	108.00	5.02	6.17	12.38
OF	109.00	5.03	6.17	12.38
OF	110.00	5.03	6.17	12.39
OF	111.00	5.03	6.17	12.39
OF	112.00	5.03	6.17	12.39
OF	113.00	5.03	6.17	12.39
OF	114.00	5.03	6.17	12.39
OF	115.00	5.03	6.17	12.39
OF	116.00	5.03	6.17	12.39

OF	117.00	5.03	6.17	12.39
OF	118.00	5.04	6.17	12.39
OF	119.00	5.04	6.17	12.39
OF	120.00	5.04	6.17	12.39
OF	121.00	5.04	6.17	12.39
OF	122.00	5.04	6.17	12.39
OF	123.00	5.04	6.17	12.40
OF	124.00	5.04	6.17	12.40
OF	125.00	5.04	6.17	12.40
OF	126.00	5.04	6.17	12.40
OF	127.00	5.05	6.17	12.40
OF	128.00	5.05	6.17	12.40
OF	129.00	5.05	6.17	12.40
OF	130.00	5.05	6.17	12.40
OF	131.00	5.05	6.17	12.40
OF	132.00	5.05	6.17	12.40
OF	133.00	5.05	6.17	12.40
OF	134.00	5.05	6.17	12.40
OF	135.00	5.05	6.17	12.41
OF	136.00	5.06	6.17	12.41
OF	137.00	5.06	6.17	12.41
OF	138.00	5.06	6.17	12.41
OF	139.00	5.06	6.17	12.41
OF	140.00	5.06	6.17	12.41
OF	141.00	5.06	6.17	12.41
OF	142.00	5.06	6.17	12.41
OF	143.00	5.06	6.17	12.41
OF	144.00	5.07	6.17	12.41
OF	145.00	5.07	6.17	12.41
OF	146.00	5.07	6.17	12.41
OF	147.00	5.07	6.17	12.42
OF	148.00	5.07	6.17	12.42
OF	149.00	5.07	6.17	12.42
OF	150.00	5.07	6.17	12.42
OF	151.00	5.07	6.17	12.42
OF	152.00	5.08	6.17	12.42
OF	153.00	5.08	6.17	12.42
OF	154.00	5.08	6.17	12.42
OF	155.00	5.08	6.17	12.42
OF	156.00	5.08	6.17	12.42
OF	157.00	5.08	6.17	12.42
OF	158.00	5.08	6.17	12.43
OF	159.00	5.09	6.17	12.43
OF	160.00	5.09	6.17	12.43
OF	161.00	5.09	6.17	12.43
OF	162.00	5.09	6.17	12.43
OF	163.00	5.09	6.17	12.43
OF	164.00	5.09	6.17	12.43
OF	165.00	5.09	6.17	12.43
OF	166.00	5.09	6.17	12.43
OF	167.00	5.10	6.17	12.43
OF	168.00	5.10	6.17	12.44
OF	169.00	5.10	6.17	12.44
OF	170.00	5.10	6.17	12.44
OF	171.00	5.10	6.17	12.44
OF	172.00	5.10	6.17	12.44
OF	173.00	5.10	6.17	12.44
OF	174.00	5.11	6.17	12.44
OF	175.00	5.11	6.17	12.44
OF	176.00	5.11	6.17	12.44
OF	177.00	5.11	6.17	12.44
OF	178.00	5.11	6.17	12.45
OF	179.00	5.11	6.17	12.45
OF	180.00	5.12	6.17	12.45
OF	181.00	5.12	6.17	12.45
OF	182.00	5.12	6.17	12.45
OF	183.00	5.12	6.17	12.45
OF	184.00	5.12	6.17	12.45
OF	185.00	5.12	6.17	12.45
OF	186.00	5.12	6.17	12.45
OF	187.00	5.13	6.17	12.45
OF	188.00	5.13	6.17	12.46
OF	189.00	5.13	6.17	12.46
OF	190.00	5.13	6.17	12.46
OF	191.00	5.13	6.17	12.46
OF	192.00	5.13	6.17	12.46
OF	193.00	5.14	6.17	12.46
OF	194.00	5.14	6.17	12.46
OF	195.00	5.14	6.17	12.46
OF	196.00	5.14	6.17	12.46
OF	197.00	5.14	6.17	12.47
OF	198.00	5.14	6.17	12.47
OF	199.00	5.14	6.17	12.47
OF	200.00	5.15	6.17	12.47
OF	201.00	5.15	6.17	12.47
OF	202.00	5.15	6.17	12.47
OF	203.00	5.15	6.17	12.47
OF	204.00	5.16	6.17	12.48
OF	205.00	5.16	6.17	12.48
OF	206.00	5.16	6.17	12.48
OF	207.00	5.16	6.17	12.48
OF	208.00	5.16	6.17	12.48
OF	209.00	5.17	6.17	12.48
OF	210.00	5.17	6.17	12.48
OF	211.00	5.17	6.17	12.49
OF	212.00	5.17	6.17	12.49
OF	213.00	5.17	6.17	12.49
OF	214.00	5.18	6.17	12.49
OF	215.00	5.18	6.17	12.49
OF	216.00	5.18	6.17	12.49
OF	217.00	5.18	6.17	12.50
OF	218.00	5.19	6.17	12.50

OF	219.00	5.19	6.17	12.50
OF	220.00	5.19	6.17	12.50
OF	221.00	5.19	6.17	12.50
OF	222.00	5.20	6.17	12.50
OF	223.00	5.20	6.17	12.51
OF	224.00	5.20	6.17	12.51
OF	225.00	5.20	6.17	12.51
OF	226.00	5.21	6.17	12.51
OF	227.00	5.21	6.17	12.51
OF	228.00	5.21	6.17	12.51
OF	229.00	5.21	6.17	12.52
OF	230.00	5.22	6.17	12.52
OF	231.00	5.22	6.17	12.52
OF	232.00	5.22	6.17	12.52
OF	233.00	5.22	6.17	12.52
OF	234.00	5.23	6.17	12.52
OF	235.00	5.23	6.17	12.53
OF	236.00	5.23	6.17	12.53
OF	237.00	5.23	6.17	12.53
OF	238.00	5.24	6.17	12.53
OF	239.00	5.24	6.17	12.53
OF	240.00	5.24	6.17	12.54
OF	241.00	5.24	6.17	12.54
OF	242.00	5.25	6.17	12.54
OF	243.00	5.25	6.17	12.54
OF	244.00	5.25	6.17	12.54
OF	245.00	5.25	6.17	12.55
OF	246.00	5.26	6.17	12.55
OF	247.00	5.26	6.17	12.55
OF	248.00	5.26	6.17	12.55
OF	249.00	5.27	6.17	12.55
OF	250.00	5.27	6.17	12.56
OF	251.00	5.27	6.17	12.56
OF	252.00	5.27	6.17	12.56
OF	253.00	5.28	6.17	12.56
OF	254.00	5.28	6.17	12.56
OF	255.00	5.28	6.17	12.57
OF	256.00	5.29	6.17	12.57
OF	257.00	5.29	6.17	12.57
OF	258.00	5.29	6.17	12.57
OF	259.00	5.30	6.17	12.57
OF	260.00	5.30	6.17	12.58
OF	261.00	5.30	6.17	12.58
OF	262.00	5.30	6.17	12.58
OF	263.00	5.31	6.17	12.58
OF	264.00	5.31	6.17	12.58
OF	265.00	5.31	6.17	12.58
OF	266.00	5.31	6.17	12.58
OF	267.00	5.31	6.17	12.58
OF	268.00	5.31	6.17	12.58
OF	269.00	5.31	6.17	12.59
OF	270.00	5.31	6.17	12.59
OF	271.00	5.31	6.17	12.59
OF	272.00	5.31	6.17	12.59
OF	273.00	5.32	6.17	12.59
OF	274.00	5.32	6.17	12.59
OF	275.00	5.32	6.17	12.59
OF	276.00	5.32	6.17	12.59
OF	277.00	5.32	6.17	12.59
OF	278.00	5.32	6.17	12.59
OF	279.00	5.32	6.17	12.59
OF	280.00	5.32	6.17	12.59
OF	281.00	5.32	6.17	12.59
OF	282.00	5.32	6.17	12.59
OF	283.00	5.33	6.17	12.59
OF	284.00	5.33	6.17	12.60
OF	285.00	5.33	6.17	12.60
OF	286.00	5.33	6.17	12.60
OF	287.00	5.33	6.17	12.60
OF	288.00	5.33	6.17	12.60
OF	289.00	5.33	6.17	12.60
OF	290.00	5.33	6.17	12.60
OF	291.00	5.33	6.17	12.60
OF	292.00	5.33	6.17	12.60
OF	293.00	5.34	6.17	12.60
OF	294.00	5.34	6.17	12.60
OF	295.00	5.34	6.17	12.60
OF	296.00	5.34	6.17	12.60
OF	297.00	5.34	6.17	12.60
OF	298.00	5.34	6.17	12.61
OF	299.00	5.34	6.17	12.61
OF	300.00	5.34	6.17	12.61
OF	301.00	5.34	6.17	12.61
OF	302.00	5.34	6.17	12.61
OF	303.00	5.35	6.17	12.61
OF	304.00	5.35	6.17	12.61
OF	305.00	5.35	6.17	12.61
OF	306.00	5.35	6.17	12.61
OF	307.00	5.35	6.17	12.61
OF	308.00	5.35	6.17	12.61
OF	309.00	5.35	6.17	12.61
OF	310.00	5.35	6.17	12.61
OF	311.00	5.35	6.17	12.61
OF	312.00	5.35	6.17	12.62
OF	313.00	5.36	6.17	12.62
OF	314.00	5.36	6.17	12.62
OF	315.00	5.36	6.17	12.62
OF	316.00	5.36	6.17	12.62
OF	317.00	5.36	6.17	12.62
OF	318.00	5.36	6.17	12.62
OF	319.00	5.36	6.17	12.62
OF	320.00	5.36	6.17	12.62

OF	321.00	5.36	6.17	12.62
OF	322.00	5.36	6.17	12.62
OF	323.00	5.37	6.17	12.62
OF	324.00	5.37	6.17	12.62
OF	325.00	5.37	6.17	12.62
OF	326.00	5.37	6.17	12.63
OF	327.00	5.37	6.17	12.63
OF	328.00	5.37	6.17	12.63
OF	329.00	5.37	6.17	12.63
OF	330.00	5.37	6.17	12.63
OF	331.00	5.37	6.17	12.63
OF	332.00	5.38	6.17	12.63
OF	333.00	5.38	6.17	12.63
OF	334.00	5.38	6.17	12.63
OF	335.00	5.38	6.17	12.63
OF	336.00	5.38	6.17	12.63
OF	337.00	5.38	6.17	12.63
OF	338.00	5.38	6.17	12.63
OF	339.00	5.38	6.17	12.63
OF	340.00	5.38	6.17	12.64
OF	341.00	5.38	6.17	12.64
OF	342.00	5.39	6.17	12.64
OF	343.00	5.39	6.17	12.64
OF	344.00	5.39	6.17	12.64
OF	345.00	5.39	6.17	12.64
OF	346.00	5.39	6.17	12.64
OF	347.00	5.39	6.17	12.64
OF	348.00	5.39	6.17	12.64
OF	349.00	5.39	6.17	12.64
OF	350.00	5.39	6.17	12.64
OF	351.00	5.40	6.17	12.64
OF	352.00	5.40	6.17	12.65
OF	353.00	5.40	6.17	12.65
OF	354.00	5.40	6.17	12.65
OF	355.00	5.40	6.17	12.65
OF	356.00	5.40	6.17	12.65
OF	357.00	5.40	6.17	12.65
OF	358.00	5.40	6.17	12.65
OF	359.00	5.40	6.17	12.65
OF	360.00	5.40	6.17	12.65
OF	361.00	5.40	6.17	12.65
OF	362.00	5.41	6.17	12.65
OF	363.00	5.41	6.17	12.65
OF	364.00	5.41	6.17	12.65
OF	365.00	5.41	6.17	12.65
OF	366.00	5.41	6.17	12.65
OF	367.00	5.41	6.17	12.66
OF	368.00	5.41	6.17	12.66
OF	369.00	5.41	6.17	12.66
OF	370.00	5.41	6.17	12.66
OF	371.00	5.41	6.17	12.66
OF	372.00	5.42	6.17	12.66
OF	373.00	5.42	6.17	12.66
OF	374.00	5.42	6.17	12.66
OF	375.00	5.42	6.17	12.66
OF	376.00	5.42	6.17	12.66
OF	377.00	5.42	6.17	12.66
OF	378.00	5.42	6.17	12.66
OF	379.00	5.42	6.17	12.66
OF	380.00	5.42	6.17	12.66
OF	381.00	5.43	6.18	12.67
OF	382.00	5.43	6.18	12.67
OF	383.00	5.43	6.18	12.67
OF	384.00	5.43	6.18	12.67
OF	385.00	5.43	6.18	12.67
OF	386.00	5.43	6.18	12.67
OF	387.00	5.43	6.18	12.67
OF	388.00	5.43	6.18	12.67
OF	389.00	5.43	6.18	12.67
OF	390.00	5.43	6.18	12.67
OF	391.00	5.43	6.18	12.67
OF	392.00	5.43	6.18	12.67
OF	393.00	5.44	6.18	12.67
OF	394.00	5.44	6.18	12.67
OF	395.00	5.44	6.18	12.67
OF	396.00	5.44	6.18	12.68
OF	397.00	5.44	6.18	12.68
OF	398.00	5.44	6.18	12.68
OF	399.00	5.44	6.18	12.68
OF	400.00	5.44	6.18	12.68
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OF	402.00	5.44	6.18	12.68
OF	403.00	5.44	6.18	12.68
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OF	405.00	5.44	6.18	12.68
OF	406.00	5.44	6.18	12.68
OF	407.00	5.44	6.18	12.68
OF	408.00	5.45	6.18	12.68
OF	409.00	5.45	6.18	12.68
OF	410.00	5.45	6.18	12.68
OF	411.00	5.45	6.18	12.68
OF	412.00	5.45	6.18	12.68
OF	414.00	5.45	6.18	12.68
OF	415.00	5.45	6.18	12.69
OF	417.00	5.45	6.18	12.69
OF	418.00	5.45	6.18	12.69
OF	420.00	5.45	6.18	12.69
OF	421.00	5.45	6.18	12.69
OF	423.00	5.46	6.18	12.69
OF	424.00	5.46	6.18	12.69
OF	426.00	5.46	6.18	12.69
OF	427.00	5.46	6.18	12.69

OF	429.00	5.46	6.18	12.69
OF	430.00	5.46	6.18	12.69
OF	432.00	5.46	6.18	12.69
OF	433.00	5.46	6.18	12.70
OF	435.00	5.46	6.18	12.70
OF	436.00	5.47	6.18	12.70
OF	438.00	5.47	6.18	12.70
OF	439.00	5.47	6.18	12.70
OF	441.00	5.47	6.18	12.70
OF	442.00	5.47	6.18	12.70
OF	444.00	5.47	6.18	12.70
OF	445.00	5.47	6.18	12.70
OF	447.00	5.47	6.18	12.70
OF	448.00	5.47	6.18	12.70
OF	450.00	5.48	6.18	12.70
OF	451.00	5.48	6.18	12.71
OF	453.00	5.48	6.18	12.71
OF	454.00	5.48	6.18	12.71
OF	456.00	5.48	6.18	12.71
OF	457.00	5.48	6.18	12.71
OF	459.00	5.48	6.18	12.71
OF	460.00	5.49	6.18	12.71
OF	462.00	5.50	6.18	12.72
OF	463.00	5.51	6.18	12.73
OF	465.00	5.53	6.18	12.74
OF	466.00	5.54	6.18	12.75
OF	468.00	5.55	6.18	12.76
OF	469.00	5.56	6.18	12.77
OF	471.00	5.58	6.18	12.78
OF	472.00	5.59	6.18	12.79
OF	474.00	5.61	6.18	12.80
OF	475.00	5.62	6.18	12.81
OF	480.00	5.67	6.18	12.84
OF	481.00	5.68	6.18	12.85
OF	484.00	5.72	6.18	12.88
IF	546.00	4.49	6.18	12.02
IF	547.00	4.42	6.18	11.97
IF	559.50	4.16	6.18	11.79
IF	577.40	2.89	6.18	10.90
IF	580.70	2.67	6.18	10.76
IF	584.00	2.44	6.18	10.62
IF	587.30	2.24	6.18	10.49
IF	590.50	2.12	6.18	10.43
IF	593.80	2.00	6.18	10.37
IF	597.10	1.87	6.18	10.30
IF	600.40	1.75	6.18	10.24
IF	603.70	1.62	6.18	10.17
IF	607.00	1.50	6.18	10.10
IF	610.20	1.30	6.18	9.97
IF	613.50	0.84	6.18	9.68
IF	616.80	0.43	6.18	9.47
IF	620.10	0.09	6.18	9.39
IF	620.70	0.01	6.18	9.33

PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE  
NO AREAS ABOVE 100-YEAR SURGE IN THIS TRANSECT

PART4 LOCATION OF SURGE CHANGES

STATION	10-YEAR SURGE	100-YEAR SURGE
352.00	1.00	8.87
388.00	1.00	8.87
404.00	1.00	8.87
423.00	1.00	8.87
438.00	1.00	8.87
457.00	1.00	8.87
471.00	1.00	8.87
484.00	1.00	8.88
546.00	1.00	8.88
577.40	1.00	8.88
580.70	1.00	8.89
584.00	1.00	8.90
587.30	1.00	8.92
590.50	1.00	8.94
593.80	1.00	8.97
597.10	1.00	8.99
600.40	1.00	9.01
603.70	1.00	9.03
607.00	1.00	9.05
610.20	1.00	9.07
613.50	1.00	9.09
616.80	1.00	9.16
620.10	1.00	9.33

PART5 LOCATION OF V ZONES

STATION OF GUTTER	LOCATION OF ZONE
575.91	WINDWARD

PART6 NUMBERED A ZONES AND V ZONES

STATION OF GUTTER	ELEVATION	ZONE DESIGNATION	FHF
0.00	12.33		
		V22 EL=12	120
219.56	12.50	V22 EL=13	120
		V22 EL=13	120
351.00	12.64	V22 EL=13	120
		V22 EL=13	120
352.00	12.65	V22 EL=13	120
		V22 EL=13	120
387.00	12.67	V22 EL=13	120
		V22 EL=13	120
388.00	12.67	V22 EL=13	120
		V22 EL=13	120
403.00	12.68	V22 EL=13	120
		V22 EL=13	120
404.00	12.68	V22 EL=13	120
		V22 EL=13	120
421.00	12.69		

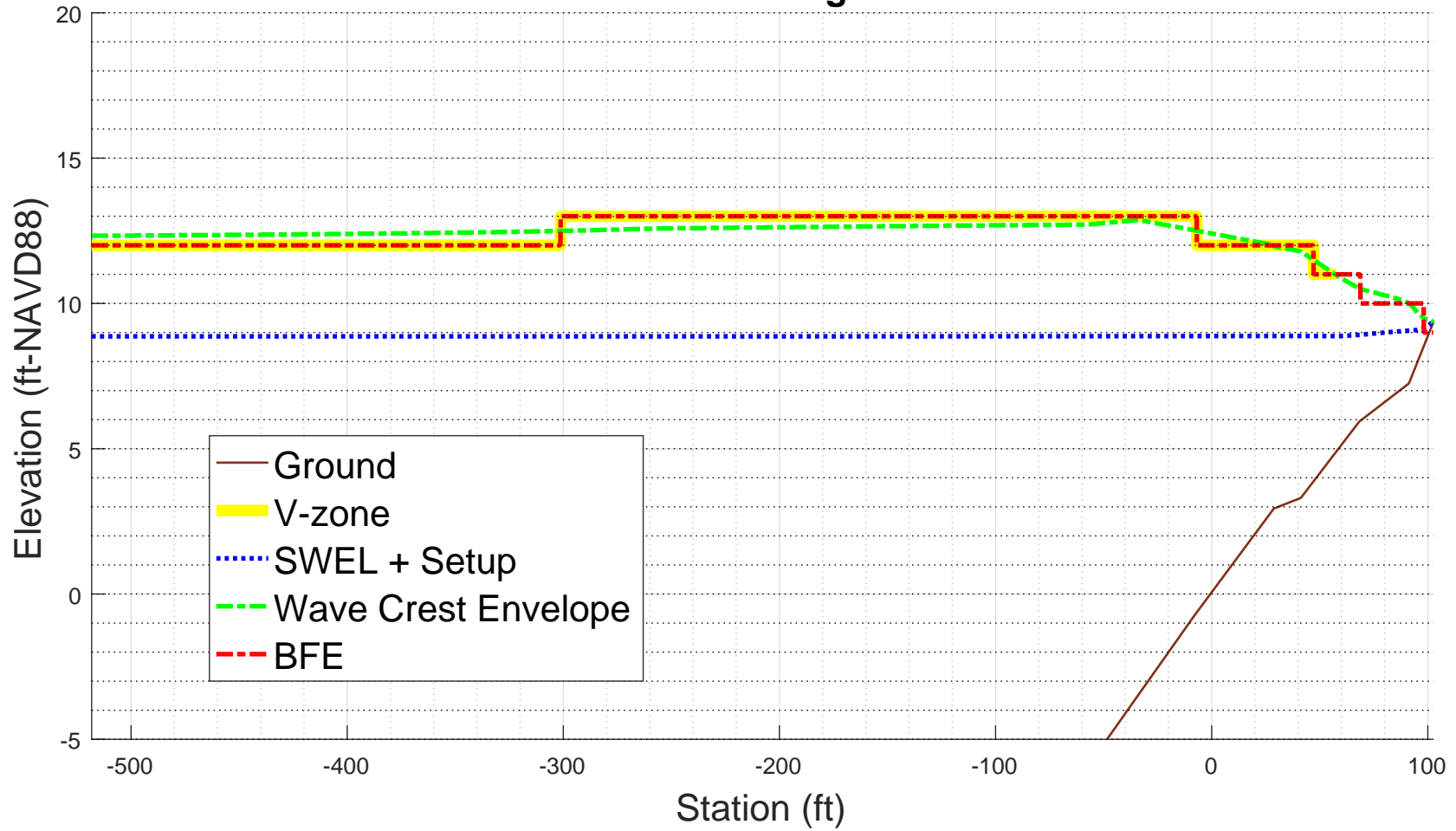
423.00	12.69	V22	EL=13	120
436.00	12.70	V22	EL=13	120
438.00	12.70	V22	EL=13	120
456.00	12.71	V22	EL=13	120
457.00	12.71	V22	EL=13	120
469.00	12.77	V22	EL=13	120
471.00	12.78	V22	EL=13	120
481.00	12.85	V22	EL=13	120
484.00	12.88	V22	EL=13	120
511.37	12.50	V22	EL=12	120
546.00	12.02	V22	EL=12	120
559.50	11.79	V22	EL=12	120
565.37	11.50	V22	EL=11	120
575.91	10.98	A18	EL=11	90
577.40	10.90	A18	EL=11	90
580.70	10.76	A18	EL=11	90
584.00	10.62	A18	EL=11	90
587.12	10.50	A18	EL=10	90
587.30	10.49	A18	EL=10	90
590.50	10.43	A18	EL=10	90
593.80	10.37	A18	EL=10	90
597.10	10.30	A18	EL=10	90
600.40	10.24	A18	EL=10	90
603.70	10.17	A18	EL=10	90
607.00	10.10	A18	EL=10	90
610.20	9.97	A18	EL=10	90
613.50	9.68	A18	EL=10	90
616.30	9.50	A18	EL= 9	90
616.80	9.47	A18	EL= 9	90
620.10	9.39	A18	EL= 9	90
620.70	9.33			

ZONE TERMINATED AT END OF TRANSECT  
PART 7 POSTSCRIPT NOTES

PS# 1 START(417344.1452,4844094.6743)  
PS# 2 END(417245.9223,4844373.8613)

-1.000000e+00

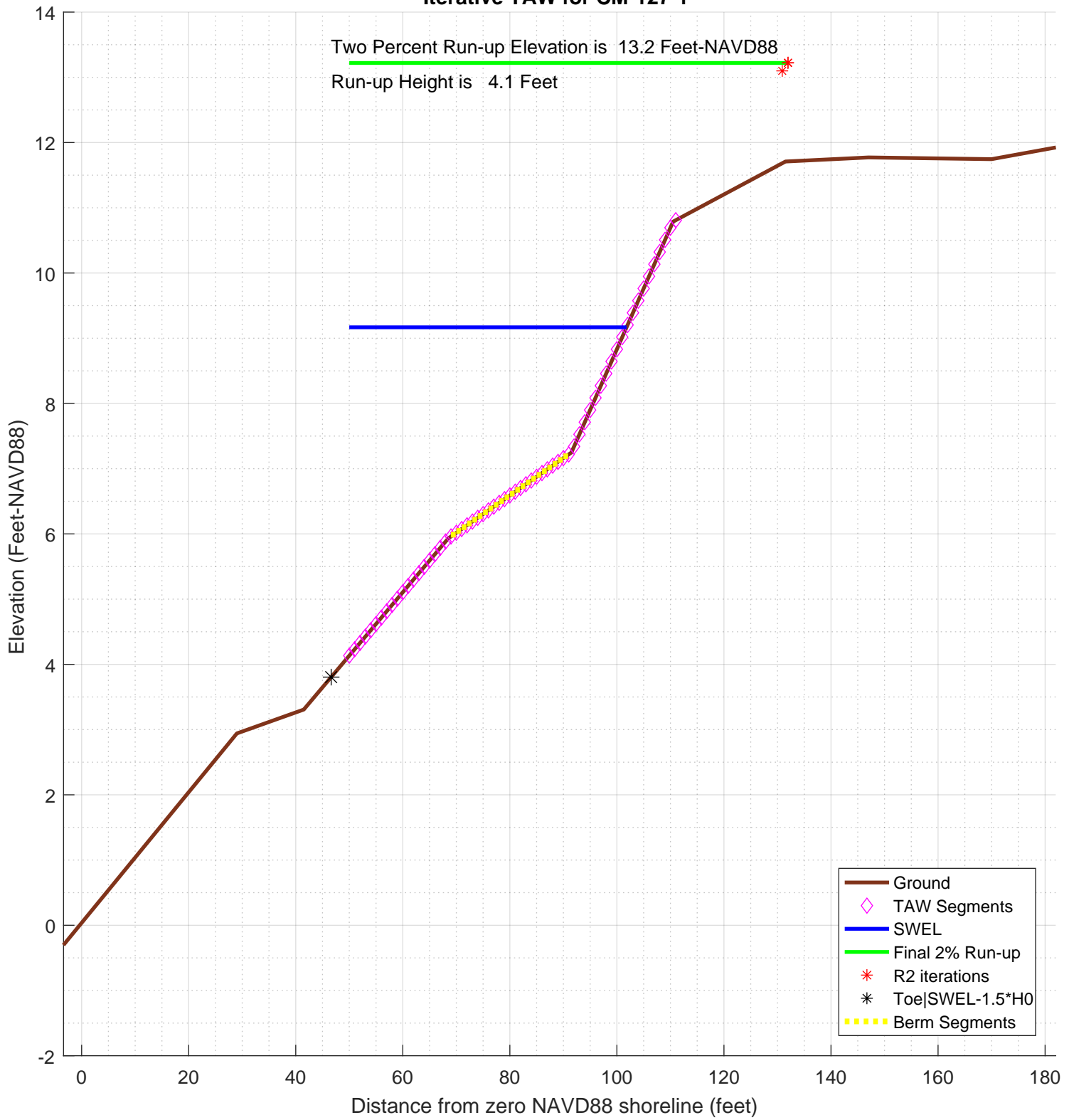
**CM-127-1**  
**100-year WHAFIS Output**  
**Zero Station: -70.02724420, 43.74661895**  
**Onshore Dir: 109.4 deg CCW from E**





### Iterative TAW for CM-127-1

Two Percent Run-up Elevation is 13.2 Feet-NAVD88  
Run-up Height is 4.1 Feet



```

diary on          % begin recording

% FEMA appeal for The Town of Harpswell, Cumberland county, Maine
% TRANSECT ID: CM-127-1
% 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-127-1sta_ele_include.csv'; % file with station, elevation, include
% third column is 0 for excluded points
imgname='logfiles/CM-127-1-runup';
SWEL=8.8666; % 100-yr still water level including wave setup.
H0=3.3682; % significant wave height at toe of structure
Tp=6.1803; % peak period, 1/fma,
T0=Tp/1.1;

gamma_berm=0.82539; % this may get changed automatically below
gamma_rough=0.8;
gamma_beta=1;
gamma_perm=1;

setupAtToe=-0.0097211;
maxSetup=0.46254; % only used in case of berm/shallow foreshore weighted average

plotTitle='Iterative TAW for CM-127-1'

plotTitle =

Iterative TAW for CM-127-1

% END CONFIG
%-----

SWEL=SWEL+setupAtToe

SWEL =

8.8568789

SWEL_fore=SWEL+maxSetup

SWEL_fore =

9.3194189

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

L0 =

161.523178522377

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

Ztoe =

    3.8045789

% 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 =

    13.9091789

% 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 =

    46.6177029112231

% 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 =

    137.929492046669

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

top_sta =

    137.929492046669

toe_sta

toe_sta =

    46.6177029112231

% 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 163.6 ft landward of toe of slope

ans =

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

ans =

--!!-      setup is adjusted to 0.30 feet

ans =

--!!-      SWEL is adjusted to 9.17 feet

k =

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111

```
% 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('!!! - - Iribarren number: %6.2f is outside the valid range (0.5-10), TAW NOT VALID - - !!!\n', Irb*gamma_berm)
    TAW_VALID=0;
else
    sprintf('!!! - - Iribarren number: %6.2f is in the valid range (0.5-10), TAW RECOMMENDED - - !!!\n', Irb*gamma_berm)
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 berm')
    % 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 =
    3.8045789
toe_sta =
    46.6177029112231
top_sta =
    137.929492046669
Z2 =
    13.9091789
H0 =
    3.3682
Tp =
    6.1803
T0 =
    5.61845454545454
R2 =
    10.1046
Z2 =
    19.2720969625541
top_sta =
    184.519403022822
Lslope =
    137.901700111599
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 20
dh =
    3.17853746255406

```

```
rdh_sum =
    0.455831438153278
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 21
dh =
    3.12133646255406
rdh_sum =
    0.898394170675858
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 22
dh =
    3.06413596255406
rdh_sum =
    1.32772918429549
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 23
dh =
    3.00693546255406
rdh_sum =
    1.74388676204367
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 24
dh =
    2.94973446255406
rdh_sum =
    2.14692644923318
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 25
dh =
    2.89253396255406
rdh_sum =
    2.53691735478053
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 26
dh =
    2.83533346255406
rdh_sum =
    2.91393775777477
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 27
dh =
    2.77813246255406
rdh_sum =
    3.27807505451236
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 28
dh =
    2.72093146255406
rdh_sum =
    3.62942592240545
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 29
dh =
    2.66373096255406
rdh_sum =
    3.96809624780915
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 30
dh =
    2.60653046255406
rdh_sum =
    4.29420082795931
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 31
dh =
    2.54932946255406
rdh_sum =
    4.60786329329859
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 32
dh =
    2.49212846255406
rdh_sum =
    4.90921623820501
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 33
dh =
    2.43492796255406
rdh_sum =
    5.19840112200614
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 34
dh =
    2.37772746255406
rdh_sum =
    5.4755679542565
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 35
dh =
    2.32052646255406
```



```

rdh_sum =
    5.74087519323827
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 36
dh =
    2.26332546255406
rdh_sum =
    5.99448984202326
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 37
dh =
    2.20612496255406
rdh_sum =
    6.23658732379978
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 38
dh =
    2.14892446255406
rdh_sum =
    6.46735115406978
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 39
dh =
    2.09172346255406
rdh_sum =
    6.68697281647881
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 40
dh =
    2.03452296255406
rdh_sum =
    6.89565191787464
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 41
dh =
    1.97732246255406
rdh_sum =
    7.09359575325115
ans =
!----- End Berm Factor Calculation, Iter: 1 -----!
berm_width =
    22
rB =
    0.159533928749219
rdh_mean =
    0.322436170602325
gamma_berm =
    0.891905580317823
slope =
    0.133453763384495
Irb =
    0.924164571951214
gamma_berm =
    0.891905580317823
gamma_perm =
    1
gamma_beta =
    1
gamma_rough =
    0.8
gamma =
    0.713524464254259
ans =
!!! - - Iribaren number:    0.82 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:7.5 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
    3.93123786091145
R2del =
    6.17336213908855
Z2 =
    13.0987348234655
ans =
!----- STARTING ITERATION 2 -----!
Ztoe =
    3.8045789
toe_sta =
    46.6177029112231
top_sta =
    130.888825578065
Z2 =
    13.0987348234655
H0 =
    3.3682
Tp =
    6.1803
T0 =
    5.61845454545454
R2 =
    3.93123786091145

```

```
Z2 =
    13.0987348234655
top_sta =
    130.888825578065
Lslope =
    84.271122666842
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 20
dh =
    3.17853746255406
rdh_sum =
    0.455831438153278
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 21
dh =
    3.12133646255406
rdh_sum =
    0.898394170675858
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 22
dh =
    3.06413596255406
rdh_sum =
    1.32772918429549
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 23
dh =
    3.00693546255406
rdh_sum =
    1.74388676204367
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 24
dh =
    2.94973446255406
rdh_sum =
    2.14692644923318
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 25
dh =
    2.89253396255406
rdh_sum =
    2.53691735478053
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 26
dh =
    2.83533346255406
rdh_sum =
    2.91393775777477
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 27
dh =
    2.77813246255406
rdh_sum =
    3.27807505451236
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 28
dh =
    2.72093146255406
rdh_sum =
    3.62942592240545
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 29
dh =
    2.66373096255406
rdh_sum =
    3.96809624780915
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 30
dh =
    2.60653046255406
rdh_sum =
    4.29420082795931
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 31
dh =
    2.54932946255406
rdh_sum =
    4.60786329329859
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 32
dh =
    2.49212846255406
rdh_sum =
    4.90921623820501
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 33
dh =
    2.43492796255406
rdh_sum =
    5.19840112200614
```

```

ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 34
dh =
    2.37772746255406
rdh_sum =
    5.4755679542565
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 35
dh =
    2.32052646255406
rdh_sum =
    5.74087519323827
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 36
dh =
    2.26332546255406
rdh_sum =
    5.99448984202326
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 37
dh =
    2.20612496255406
rdh_sum =
    6.23658732379978
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 38
dh =
    2.14892446255406
rdh_sum =
    6.46735115406978
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 39
dh =
    2.09172346255406
rdh_sum =
    6.68697281647881
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 40
dh =
    2.03452296255406
rdh_sum =
    6.89565191787464
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 41
dh =
    1.97732246255406
rdh_sum =
    7.09359575325115
ans =
!----- End Berm Factor Calculation, Iter: 2 -----!
berm_width =
    22
rB =
    0.261062144466438
rdh_mean =
    0.322436170602325
gamma_berm =
    0.823113733684551
slope =
    0.149253065071435
Irb =
    1.03357441181142
gamma_berm =
    0.823113733684551
gamma_perm =
    1
gamma_beta =
    1
gamma_rough =
    0.8
gamma =
    0.658490986947641
ans =
!!! - - Iribaren number: 0.85 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:6.7 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
    4.05753917715523
R2del =
    0.126301316243785
Z2 =
    13.2250361397093
ans =
!----- STARTING ITERATION 3 -----!
Ztoe =
    3.8045789
toe_sta =
    46.6177029112231
top_sta =
    131.986057907803

```

```
Z2 =
    13.2250361397093
H0 =
    3.3682
Tp =
    6.1803
T0 =
    5.61845454545454
R2 =
    4.05753917715523
Z2 =
    13.2250361397093
top_sta =
    131.986057907803
Lslope =
    85.3683549965798
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 20
dh =
    3.17853746255406
rdh_sum =
    0.455831438153278
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 21
dh =
    3.12133646255406
rdh_sum =
    0.898394170675858
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 22
dh =
    3.06413596255406
rdh_sum =
    1.32772918429549
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 23
dh =
    3.00693546255406
rdh_sum =
    1.74388676204367
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 24
dh =
    2.94973446255406
rdh_sum =
    2.14692644923318
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 25
dh =
    2.89253396255406
rdh_sum =
    2.53691735478053
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 26
dh =
    2.83533346255406
rdh_sum =
    2.91393775777477
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 27
dh =
    2.77813246255406
rdh_sum =
    3.27807505451236
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 28
dh =
    2.72093146255406
rdh_sum =
    3.62942592240545
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 29
dh =
    2.66373096255406
rdh_sum =
    3.96809624780915
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 30
dh =
    2.60653046255406
rdh_sum =
    4.29420082795931
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 31
dh =
    2.54932946255406
rdh_sum =
    4.60786329329859
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 32
```

```

dh =
    2.49212846255406
rdh_sum =
    4.90921623820501
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 33
dh =
    2.43492796255406
rdh_sum =
    5.19840112200614
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 34
dh =
    2.37772746255406
rdh_sum =
    5.4755679542565
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 35
dh =
    2.32052646255406
rdh_sum =
    5.74087519323827
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 36
dh =
    2.26332546255406
rdh_sum =
    5.99448984202326
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 37
dh =
    2.20612496255406
rdh_sum =
    6.23658732379978
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 38
dh =
    2.14892446255406
rdh_sum =
    6.46735115406978
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 39
dh =
    2.09172346255406
rdh_sum =
    6.68697281647881
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 40
dh =
    2.03452296255406
rdh_sum =
    6.89565191787464
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 41
dh =
    1.97732246255406
rdh_sum =
    7.09359575325115
ans =
!----- End Berm Factor Calculation, Iter: 3 -----!
berm_width =
    22
rB =
    0.257706734549136
rdh_mean =
    0.322436170602325
gamma_berm =
    0.825387238077317
slope =
    0.148661855593659
Irb =
    1.02948029831394
gamma_berm =
    0.825387238077317
gamma_perm =
    1
gamma_beta =
    1
gamma_rough =
    0.8
gamma =
    0.660309790461854
ans =
!!! - - Iribaren number: 0.85 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:6.7 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
    4.05262961951011
R2del =
    0.00490955764512435

```

```
Z2 =          13.2201265820642
% final 2% runup elevation
Z2=R2_new+SWEL
Z2 =          13.2201265820642
diary off
-1.000000e+00
-1.000000e+00
-1.000000e+00
```

---

PART 5: RUNUP2

for transect: CM-127-1

Station locations shifted by: -0.37 feet from their  
original location to set the shoreline to  
elevation 0 for RUNUP2 input

---

RUNUP2 INPUT CONVERSIONS

for transect: CM-127-1

Incident significant wave height: 3.09 feet

Peak wave period: 6.17 seconds

Mean wave height: 1.93 feet

Local Depth below SWEL: 27.67 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 Jersey

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

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

Depth,  $D = 27.67$

Period,  $T = 5.24$

Waveheight,  $H = 1.93$

Deep water wavelength,  $L_0$  (ft)

$L_0 = g \cdot T^2 / 2\pi$

$L_0 = 32.17 \cdot 5.24^2 / 6.28 = 140.67$

Deep water wave celerity,  $C_0$  (ft/s)

$C_0 = L_0 / T$

$C_0 = 140.67 / 5.24 = 26.84$

Angular frequency,  $\sigma$  (rad/s)

$\sigma = 2\pi / T$

$\sigma = 6.28 / 5.24 = 1.20$

Hunts (1979) approximation for Celerity  $C_{1H}$  (ft/s) at Depth  $D$  (ft)

$y = \sigma \cdot \sigma \cdot D / g$

$y = 1.20 \cdot 1.20 \cdot 27.67 / 32.17 = 1.24$

$C_{1H} = \sqrt{g \cdot D / (y + 1. / (1 + 0.6522 \cdot y + 0.4622 \cdot y^2 + 0.0864 \cdot y^4 + 0.0675 \cdot y^5))}$

$C_{1H} = 23.74$

Shoaling Coefficient  $K_{sH}$

$K_{sH} = \sqrt{C_0 / C_{1H}}$

$K_{sH} = \sqrt{26.84 / 23.74} = 1.06$

Deepwater Wave Height  $H_{0\_H}$  (ft)

$H_{0\_H} = H / K_{sH}$

$H_{0\_H} = 1.93 / 1.06 = 1.82$

Deepwater mean wave height: 1.82 feet

---

END RUNUP2 CONVERSIONS

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RUNUP2 RESULTS

for transect: CM-127-1

RUNUP2 SWEL:

8.90

8.90

8.90

8.90

8.90  
8.90  
8.90  
8.90  
8.90

RUNUP2 deepwater mean wave heights:

1.73  
1.73  
1.73  
1.82  
1.82  
1.82  
1.91  
1.91  
1.91

RUNUP2 mean wave periods:

4.98  
5.24  
5.50  
4.98  
5.24  
5.50  
4.98  
5.24  
5.50

RUNUP2 runup above SWEL:

2.38  
2.53  
2.69  
2.41  
2.58  
2.74  
2.42  
2.60  
2.78

RUNUP2 Mean runup height above SWEL: 2.57 feet

RUNUP2 2-percent runup height above SWEL: 5.65 feet

RUNUP2 2-percent runup elevation: 14.55 feet-NAVD88

RUNUP2 Messages:

No Messages

---

END RUNUP2 RESULTS

---

ACES BEACH RUNUP

Incident significant wave height: 3.09 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 2.55 feet

Peak wave period: 6.17 seconds

Average beach Slope: 1:21.24 (H:V)

ACES RUNUP CALCULATED USING 'Aces\_Beach\_Runup.m'

ACES Beach 2-percent runup height above SWEL: 2.52 feet

ACES Beach 2-percent runup elevation: 11.42 feet-NAVD88

ACES BEACH RUNUP is valid



\_\_\_\_\_END ACES BEACH RESULTS\_\_\_\_\_

PART 5 COMPLETE\_\_\_\_\_

FEMA  
RUNUP2 transect: CM-127-1

sjh

job 2  
1

5.00  
-18.81 -517.6 0.8  
-18.40 -500.6 0.8  
-15.63 -419.6 0.8  
-11.58 -319.6 0.8  
-11.54 -318.6 0.8  
-8.21 -255.6 0.8  
-8.19 -254.6 0.8  
-7.07 -170.6 0.8  
-6.61 -131.6 0.8  
-6.60 -130.6 0.8  
-6.16 -68.6 0.8  
-6.10 -58.6 0.8  
-6.03 -57.6 0.8  
-0.77 -7.6 0.8  
-0.66 -6.6 0.8  
2.94 29.4 0.8  
3.31 41.9 0.8  
5.93 68.9 0.8  
7.25 91.9 0.8  
1 10.79 110.9 0.8  
8.9 1.73 4.98  
8.9 1.73 5.24  
8.9 1.73 5.50  
8.9 1.82 4.98  
8.9 1.82 5.24  
8.9 1.82 5.50  
8.9 1.91 4.98  
8.9 1.91 5.24  
8.9 1.91 5.50



CLIENT- FEMA  
PROJECT-RUNUP2 transect: CM-127-1

\*\* WAVE RUNUP-VERSION 2.0 \*\*

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JOB job 2  
RUN 1 PAGE 1

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CROSS SECTION PROFILE

	LENGTH	ELEV.	SLOPE	ROUGHNESS
1	-517.0	-18.8		
2	-500.0	-18.4	.00	.80
3	-419.0	-15.6	28.93	.80
4	-319.0	-11.5	24.39	.80
5	-318.0	-11.5	FLAT	.80
6	-255.6	-8.2	18.97	.80
7	-254.6	-8.2	50.00	.80
8	-170.6	-7.1	75.00	.80
9	-131.6	-6.6	84.78	.80
10	-130.6	-6.6	100.00	.80
11	-68.6	-6.2	140.91	.80
12	-58.6	-6.1	166.67	.80
13	-57.6	-6.0	14.29	.80
14	-7.6	-.8	9.51	.80
15	-6.6	-.6	9.09	.80
16	29.4	3.0	10.00	.80
17	41.9	3.3	33.78	.80
18	68.9	5.9	10.31	.80
19	91.9	7.3	17.42	.80
20	110.9	10.8	5.37	.80
	LAST SLOPE	5.00	LAST ROUGHNESS	.80

CLIENT- FEMA  
PROJECT-RUNUP2 transect: CM-127-1

\*\* WAVE RUNUP-VERSION 2.0 \*\*

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JOB job 2  
RUN 1 PAGE 2

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OUTPUT TABLE

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INPUT PARAMETERS			RUNUP RESULTS			
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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.)
8.90	1.73	4.98	11	20	2.38	3.15
8.90	1.73	5.24	11	20	2.53	3.21
8.90	1.73	5.50	11	20	2.69	3.27
8.90	1.82	4.98	11	20	2.41	3.28
8.90	1.82	5.24	11	20	2.58	3.34
8.90	1.82	5.50	11	20	2.74	3.41
8.90	1.91	4.98	11	20	2.42	3.41
8.90	1.91	5.24	11	20	2.60	3.48
8.90	1.91	5.50	11	20	2.78	3.54

### Runup2 2% runup elevation for Transect: CM-127-1

