PART 5: RUNUP2

for transect: CM-150-1

Station locations shifted by: -6.77 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input

RUNUP2 INPUT CONVERSIONS
for transect: CM-150-1

Incident significant wave height: 1.50 feet

Peak wave period: 2.30 seconds

Mean wave height: 0.94 feet

Local Depth below SWEL: 25.11 feet

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

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

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

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

Depth, D = 25.11
Period, T = 1.95
Waveheight, H = 0.94
Deep water wavelength, L0 (ft)
L0 = g*T*T/twopi
L0 = 32.17*1.95*1.95/6.28 = 19.57
Deep water wave celerity, C0 (ft/s)
C0 = L0/T
C0 = 19.57/1.95 = 10.01
Angular frequency, sigma (rad/s)
sigma = twopi/T
sigma = 6.28/1.95 = 3.21
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
y = sigma.*sigma.*D./g
y = 3.21*3.21*25.11/32.17 = 8.06
C1H = sqrt(g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)))
C1H = 10.01
Shoaling Coefficient KsH
KsH = sqrt(C0/C1H)
KsH = sqrt(10.01/10.01) = 1.00
Deepwater Wave Height H0_H (ft)
H0_H = H/KsH
H0_H = 0.94/1.00 = 0.94

Deepwater mean wave height: 0.94 feet

END RUNUP2 CONVERSIONS

RUNUP2 RESULTS
for transect: CM-150-1

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:
0.89
0.89
0.89
0.94
0.94
0.94
0.99
0.99
0.99

RUNUP2 mean wave periods:
1.86
1.95
2.05
1.86
1.95
2.05
1.86
1.95
2.05

RUNUP2 runup above SWEL:
0.82
0.85
0.90
0.84
0.88
0.92
0.86
0.90
0.95

RUNUP2 Mean runup height above SWEL: 0.88 feet

RUNUP2 2-percent runup height above SWEL: 1.94 feet

RUNUP2 2-percent runup elevation: 10.84 feet-NAVD88

RUNUP2 Messages:
No Messages

_____END RUNUP2 RESULTS_____

_____ACES BEACH RUNUP_____

Incident significant wave height: 1.50 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 1.31 feet

Peak wave period: 2.30 seconds

Average beach Slope: 1:9.57 (H:V)

ACES RUNUP CALCULATED USING 'Aces_Beach_Runup.m'

ACES Beach 2-percent runup height above SWEL: 1.44 feet

ACES Beach 2-percent runup elevation: 10.34 feet-NAVD88

ACES BEACH RUNUP is valid

_____________END ACES BEACH RESULTS____________________

PART 5 COMPLETE____