PART 5: RUNUP2

for transect: CM-126-1

Station locations shifted by: -0.89 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input

RUNUP2 INPUT CONVERSIONS
for transect: CM-126-1

Incident significant wave height: 3.73 feet

Peak wave period: 11.30 seconds

Mean wave height: 2.34 feet

Local Depth below SWEL: 22.91 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 = 22.91
Period, T = 9.61
Waveheight, H = 2.34
Deep water wavelength, L0 (ft)
L0 = g*T*T/twopi
L0 = 32.17*9.61*9.61/6.28 = 472.61
Deep water wave celerity, C0 (ft/s)
C0 = L0/T
C0 = 472.61/9.61 = 49.19
Angular frequency, sigma (rad/s)
sigma = twopi/T
sigma = 6.28/9.61 = 0.65
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
y = sigma.*sigma.*D./g
y = 0.65*0.65*22.91/32.17 = 0.30
C1H = sqrt(g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)))
C1H = 25.77
Shoaling Coefficient KsH
KsH = sqrt(C0/C1H)
KsH = sqrt(49.19/25.77) = 1.38
Deepwater Wave Height H0_H (ft)
H0_H = H/KsH
H0_H = 2.34/1.38 = 1.69

Deepwater mean wave height: 1.69 feet

END RUNUP2 CONVERSIONS

RUNUP2 RESULTS
for transect: CM-126-1

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:
1.61
1.61
1.61
1.69
1.69
1.69
1.78
1.78
1.78

RUNUP2 mean wave periods:
9.13
9.61
10.09
9.13
9.61
10.09
9.13
9.61
10.09

RUNUP2 runup above SWEL:
1.28
1.40
1.49
1.34
1.45
1.56
1.43
1.52
1.65

RUNUP2 Mean runup height above SWEL: 1.46 feet

RUNUP2 2-percent runup height above SWEL: 3.21 feet

RUNUP2 2-percent runup elevation: 12.11 feet-NAVD88

RUNUP2 Messages:
No Messages

_____END RUNUP2 RESULTS_____

_____ACES BEACH RUNUP_____

Incident significant wave height: 3.73 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 2.37 feet

Peak wave period: 11.30 seconds

Average beach Slope: 1:11.42 (H:V)

ACES RUNUP CALCULATED USING 'Aces_Beach_Runup.m'

ACES Beach 2-percent runup height above SWEL: 5.75 feet

ACES Beach 2-percent runup elevation: 14.65 feet-NAVD88

ACES BEACH RUNUP is valid

_____________END ACES BEACH RESULTS____________________

PART 5 COMPLETE____