PART 5: RUNUP2

for transect: CM-132

Station locations shifted by: 0.07 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input

RUNUP2 INPUT CONVERSIONS
for transect: CM-132

Incident significant wave height: 3.35 feet

Peak wave period: 4.76 seconds

Mean wave height: 2.10 feet

Local Depth below SWEL: 24.84 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 = 24.84
Period, T = 4.05
Waveheight, H = 2.10
Deep water wavelength, L0 (ft)
L0 = g*T*T/twopi
L0 = 32.17*4.05*4.05/6.28 = 83.84
Deep water wave celerity, C0 (ft/s)
C0 = L0/T
C0 = 83.84/4.05 = 20.72
Angular frequency, sigma (rad/s)
sigma = twopi/T
sigma = 6.28/4.05 = 1.55
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
y = sigma.*sigma.*D./g
y = 1.55*1.55*24.84/32.17 = 1.86
C1H = sqrt(g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)))
C1H = 19.90
Shoaling Coefficient KsH
KsH = sqrt(C0/C1H)
KsH = sqrt(20.72/19.90) = 1.02
Deepwater Wave Height H0_H (ft)
H0_H = H/KsH
H0_H = 2.10/1.02 = 2.06

Deepwater mean wave height: 2.06 feet

END RUNUP2 CONVERSIONS

RUNUP2 RESULTS
for transect: CM-132

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:
1.95
1.95
1.95
2.06
2.06
2.06
2.16
2.16
2.16

RUNUP2 mean wave periods:
3.84
4.05
4.25
3.84
4.05
4.25
3.84
4.05
4.25

RUNUP2 runup above SWEL:
1.15
1.12
1.10
0.92
0.87
0.84
0.71
0.66
0.63

RUNUP2 Mean runup height above SWEL: 0.89 feet

RUNUP2 2-percent runup height above SWEL: 1.96 feet

RUNUP2 2-percent runup elevation: 10.86 feet-NAVD88

RUNUP2 Messages:
No Messages

_____END RUNUP2 RESULTS_____

_____ACES BEACH RUNUP_____

Incident significant wave height: 3.35 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 2.88 feet

Peak wave period: 4.76 seconds

Average beach Slope: 1:30.39 (H:V)

ACES RUNUP CALCULATED USING 'Aces_Beach_Runup.m'

ACES Beach 2-percent runup height above SWEL: 1.76 feet

ACES Beach 2-percent runup elevation: 10.66 feet-NAVD88

ACES BEACH RUNUP is valid

_______________END ACES BEACH RESULTS_______________________

PART 5 COMPLETE____