

**Appendix F
Glossary**

<u>Symbol</u>	<u>Units</u>	<u>Term</u>	<u>Symbol</u>	<u>Units</u>	<u>Term</u>
			H_{mo}	ft	Wave height of zeroth moment of wave spectrum
a		Regression coefficient	H_o'	ft	Unrefracted deepwater wave height
b		Regression coefficient	H_s	ft	Significant wave height
B	ft	Minimum toe apron depth	H_1	ft	Average of highest 1 percent of all waves
C_0		Regression coefficient	H_{10}	ft	Average of highest 10 percent of all waves
C_1		Regression coefficient	i	in./in.	Hydraulic gradient
C_2		Regression coefficient	i_1	in./in.	Hydraulic gradient through filter fabric and the 1 in. of soil immediately above it
d_e	ft	Embedment depth below the natural bottom for a sheetpile bulkhead	i_2	in./in.	Hydraulic gradient through soil located between 1 and 3 in. above filter fabric
d_s	ft	Water depth at a structure	k_Δ		Empirical armor layer thickness
d_1	ft	Vertical distance from the still-water level to the top of the toe stone	K_D		Empirical armor unit stability coefficient
d_{15}	ft, mm	15 percent passing size of a soil or rock gradation	K_r	ft	Characteristic armor unit size
d_{50}	ft, mm	Equivalent spherical diameter of the median particle in a gradation	K_1		Empirical toe stone stability coefficient
d_{85}	ft, mm	85 percent passing size of a soil or rock gradation	L_o	ft	Deepwater wavelength
h	ft	Height of a structure crest above the bottom	m	ft/ft	Nearshore bottom slope (ratio of H/V)
h_s	ft	Height of a bulkhead crest above the original existing bottom	n		Number of equivalent spherical diameters of armor stone corresponding to the median stone weight that could fit within the layer thickness
H	ft	(a) Wave height (b) Horizontal dimension used in designating slope	N_r		Number of armor stones per unit surface area
H_b	ft	Maximum breaker height	P		Porosity of an armor layer
$H_{D=0}$	ft	Zero-damage wave height for armor stability determination	Q	cfs/ft	Wave overtopping rate

<u>Symbol</u>	<u>Units</u>	<u>Term</u>	<u>Symbol</u>	<u>Units</u>	<u>Term</u>
r	ft	(a) Armor unit layer thickness	$W_{15 \text{ max}}$	lb	Upper limit of the W_{15} stone weight for a riprap gradation
		(b) Rough slope runup correction factor	$W_{15 \text{ min}}$	lb	Lower limit of the W_{15} stone weight for a riprap gradation
r_{min}	ft	Minimum riprap layer thickness	W_{50}	lb	Median stone weight of a riprap gradation
R	ft	Wave runup height above the still water level	$W_{50 \text{ max}}$	lb	Maximum median stone weight of a riprap gradation
R_{max}	ft	Maximum wave runup height above the still water level	$W_{50 \text{ min}}$	lb	Minimum median stone weight of a riprap gradation
S_r		Specific gravity of armor unit	W_{100}	lb	Largest permissible stone weight within a riprap gradation
T	sec	Wave period	$W_{100 \text{ max}}$	lb	Upper limit of the W_{100} stone weight of a riprap gradation
T_p	sec	Wave period of peak energy density of the wave spectrum	$W_{100 \text{ min}}$	lb	Lower limit of the W_{100} stone weight of a riprap gradation
T_s	sec	Average wave period of highest 1/3 of all waves	γ_r	lb/ft ³	Unit weight of armor stone or armor unit
T_z	sec	Average wave period of a wave spectrum	γ_w	lb/ft ³	Unit weight of water
V	ft	(a) Vertical dimension of a slope	θ	deg, rad	Angle of a slope measured from the horizontal
	ft/sec	(b) Current velocity across the toe of a structure	ϕ	deg	Angle of internal friction of soil or rubble
W	lb	Armor unit weight			
W_{15}	lb	15 percent passing size of a riprap gradation			