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#### **Symbols**

b = width of slice

BH = bore hole

c = cohesion of soil

c' = effective cohesion of soil

c\_' = mobilized effective cohesion of soil

CPT = Cone penetration test

CU = Consolidated Undrained Triaxial Compression with Pore Pressure Measurement

E = inter-slice normal force

 $f_{\theta}$  = correction factor (Simplified Janbu method)

f(x) = arbitrary function

F = factor of safety

F<sub>f</sub> = factor of safety satisfied force equilibrium

F<sub>m</sub> = factor of safety satisfied moment equilibrium

FS = factor of safety

FOS = factor of safety

h = average height of slice

H = vertical height of a slope

k = additive unknown value (Spencer method)

length of slice

M = moment

n = a number of vertical slices

N = normal force on the base

N' = effective normal force

N/A = not available

R = radius of rotation

RBSM = Rigid Bodies-spring Method

RI = reliability index

S = shear strength along the failure surface

SPT = Standard penetration test

T = shear force on the base

u = pore water pressure

Vi = relative vertical displacement (Slice spring method)

W = total weight of slice

X = inter-slice shear force

Z = inter-slice resultant force

 $Z_{DVI}$  = the virtual shear forces along the inter-slice plane (Slice spring method)

 $Z_{Hi}$  = horizontal inter-slice force (Slice spring method)

α = inclination of the base to the horizontal

 $\beta$  = inclination angle of slope

 $\delta$  = inclination angle of inter-slice force

 $\delta_{Di}$  = the virtual inclination angle of the inter-slice force (Slice spring method)

 $\gamma$  = total unit weight of soil

λ = addition unknown (Morgenstern and Price method)

 $\phi$  = friction angle of soil

 $\Phi'$  = effective friction angle of soil

 $\phi_{m}$ ' = mobilized effective friction angle of soil

ε = strain at the maximum deviator stress

σ = total normal stress on the failure surface

 $\sigma'$  = effective normal stress on the failure surface

 $\sigma_{\rm D}$  = standard deviation of the factor of safety

 $\Delta \sigma_3$  = increment of cell pressure

 $\tau_{\rm f}$  = shear strength of the soil

 $\tau_{m}$  = shearing stress along failure surface

 $\theta$  = scaling factor (Spencer method)