SOIL/ROCK PARAMETERS FOR LATERAL ANALYSIS
CITY OF SWEETWATER FLOODWALL - NORTHEAST CORNER OF SW 8TH STREET AND SW 109TH AVENUE
CITY OF MIAMI, FLORIDA
HR ENGINEERING SERVICES. INC.
HRES PROJECT No. HR14-1027R
JANUARY 27, 2015

Description	Boring No.	Average Range of Elevation, ft		N_{avg}	N_{avg}	ϕ	k	γ total	G	ν	τ_f	Ultimate Unit End Bearing (q_{ult}), ksf	Remarks
		From	To	Auto	Safety	deg.	lb/in^3	pcf	ksi		psf		
Floodwall	B-1 & B-2	8.6	5.6	22	27	35	60	115	2.2	0.3	1023		Sand/Fill
		5.6	-8.0	20	25	39	100	120	2.0	0.2	491	177	Limestone as sandy gravel
		-8.0	-32.0	45	56	40	100	120	4.5	0.2	1126	405	Limestone as sandy gravel
		-32.0	-42.5	21	26	40	100	120	2.1	0.2	528	190	Limestone as sandy gravel

Notes:

ϕ = 28+N(safety)/4 for sand and fill

ϕ = 33+N(safety)/4 for limestone (modeled as sandy gravel)

γ = 105*ϕ/30 for sand, γ = 120 pcf for limestone

τ_f = 0.019 N(safety) (tsf) - sand (Concrete Pile)

τ_f = 0.01 N(safety) (tsf) - limestone (Concrete pile)

k was estimated using FB-Multipier Help Manual (Figures B-7 and B-8) -sand and limestone

G = E/2(1+ν)

ν = 0.3 - sand

ν = 0.2 - limestone

Ultimate End Bearing (q_{ult})= 3.6 N(safety)(tsf) - limestone (Concrete Pile)