

**FIGURE 1613.7 LONG-PERIOD TRANSITION PERIOD,  $T_L$  (S), FOR THE UNITED ARAB EMIRATES**

**TABLE 1613.5.2 SITE CLASS DEFINITIONS**

SITE CLASS	SOIL PROFILE NAME	AVERAGE PROPERTIES IN TOP 100 feet, SEE SECTION 1613.5.5		
		Soil shear wave velocity, $\bar{v}_s$ , (ft/s)	Standard penetration resistance, $\bar{N}$	Soil undrained shear strength, $\bar{s}_u$ , (psf)
A	Hard rock	$\bar{v}_s > 5,000$	N/A	N/A
B	Rock	$2,500 < \bar{v}_s \leq 5,000$	N/A	N/A
C	Very dense soil and soft rock	$1,200 < \bar{v}_s \leq 2,500$	$\bar{N} > 50$	$\bar{s}_u \geq 2,000$
D	Stiff soil profile	$600 \leq \bar{v}_s \leq 1,200$	$15 \leq \bar{N} \leq 50$	$1,000 \leq \bar{s}_u \leq 2,000$
E	Soft soil profile	$\bar{v}_s < 600$	$\bar{N} < 15$	$\bar{s}_u < 1,000$
E z	-	Any profile with more than 10 feet of soil having the following characteristics: 1. Plasticity index $PI > 20$ , 2. Moisture content $w \geq 40\%$ , and 3. Undrained shear strength $\bar{s}_u < 500$ psf		
F	-	Any profile containing soils having one or more of the following characteristics: 1. Soils vulnerable to potential failure or collapse under seismic loading such as liquefiable soils, quick and highly sensitive clays, collapsible weakly cemented soils. 2. Peats and/or highly organic clays ( $H > 10$ feet of peat and/or highly organic clay where $H$ = thickness of soil) 3. Very high plasticity clays ( $H > 25$ feet with plasticity index $PI > 75$ ) 4. Very thick soft/medium stiff clays ( $H > 120$ feet)		

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m<sup>2</sup>, 1 pound per square foot = 0.0479 kPa. N/A = Not applicable

**1613.5.3 Site coefficients and adjusted maximum considered earthquake spectral response acceleration parameters.** The maximum considered earthquake spectral response acceleration for short periods,  $S_{MS}$ , and at 1-second period,  $S_{M1}$ , adjusted for *site class* effects shall be determined by Equations 16-36 and 16-37, respectively:

$$S_{MS} = F_a S_s \quad \text{(Equation 16-36)}$$

$$S_{M1} = F_v S_1 \quad \text{(Equation 16-37)}$$

where:

$F_a$  = Site coefficient defined in Table 1613.5.3(1).