

Table 5-16
Elastic constants of various soils (after AASHTO 2004 with 2006 Interims)

Soil Type	Typical Range of Young's Modulus Values, E_s (tsf)	Poisson's Ratio, ν
Clay: Soft sensitive Medium stiff to stiff Very stiff	25-150 150-500 500-1,000	0.4-0.5 (undrained)
Loess	150-600	0.1-0.3
Silt	20-200	0.3-0.35
Fine Sand: Loose Medium dense Dense	80-120 120-200 200-300	0.25
Sand: Loose Medium dense Dense	100-300 300-500 500-800	0.20-0.36 0.30-0.40
Gravel: Loose Medium dense Dense	300-800 800-1,000 1,000-2,000	0.20-0.35 0.30-0.40

If you use these values for
Schmertmann's analysis for r
retaining walls, $X=1$