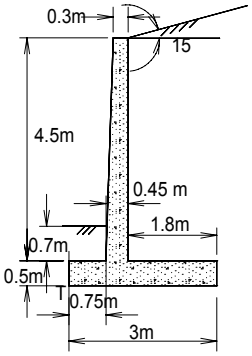
Example 1

Check the retaining wall safety for overturning, sliding, and bearing capacity. Stem: top = 0.30 m, bottom = 0.45 m, length = 4.5 m. Base: thickness = 0.5 m, length = 3 m, front projection = 0.75 m, footing's bottom 1.2 m below ground, γ_{conc} = 23.58 kN/m^3. For underlying soil and soil in front of the wall use ϕ = 22°, c = 50 kPa, and γ = 19.3 kN/m^3. Backfill ϕ = 30°, c = 0, $\delta = 0.67\phi$, slope = 15°, and γ = 18.5 kN/m^3.



Solution

Example 2

Use empirical method to determine active and passive forces for Example 1. Assume backfill Type 1

Solution