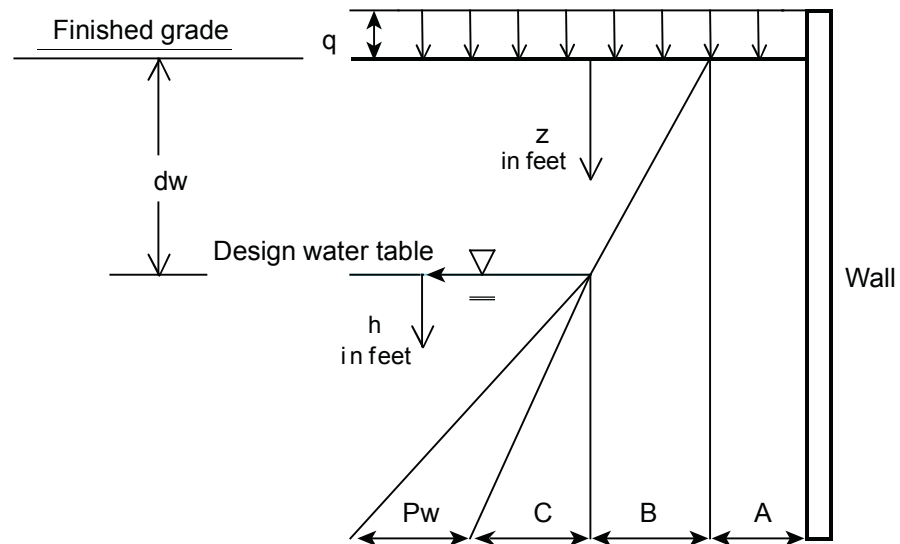


## At-rest earth pressure on 1-foot wide vertical strip



- A = 0.9 (q) = Effect of uniform full coverage surface surcharge
- B = 107.1 (z) = Earth pressure at-rest above water table
- C = 50.9 (h) = Earth pressure at rest increment below water table
- Pw = 62.4 (h) = Hydrostatic pressure increment
- H = A + B = Static lateral earth pressure above water table ( $z \leq dw$ )
- H = A + 107.1 (dw) + 50.9 (z - dw) = Static lateral earth pressure below water table ( $z > dw$ ) (Pw not included)

### Conditions on information:

- Units of pressure = lbs/ft<sup>2</sup>
- Backfill of sandy silt and silty sand native site soil compacted to 95% MDD by ASTM D698
- No heavy compaction equipment used within 5 ft. of wall
- $\gamma_s = 119 \text{ lbs/ft}^3$  saturated unit weight of backfill above water table
- $\gamma = 56.6 \text{ lbs/ft}^3$  = submerged soil density
- $\phi_{cu} = 13 \text{ deg}$  = angle of internal friction of soil (CU test-saturated total stress)
- $\nu = 0.49$  = Poisson's ratio of soil based on Seismic Conditions
- $K_0 = 0.9$  = At-rest earth pressure coefficient of soil
- Plane strain conditions (corner adjustment factors not included)
- Dynamic soil pressure not included