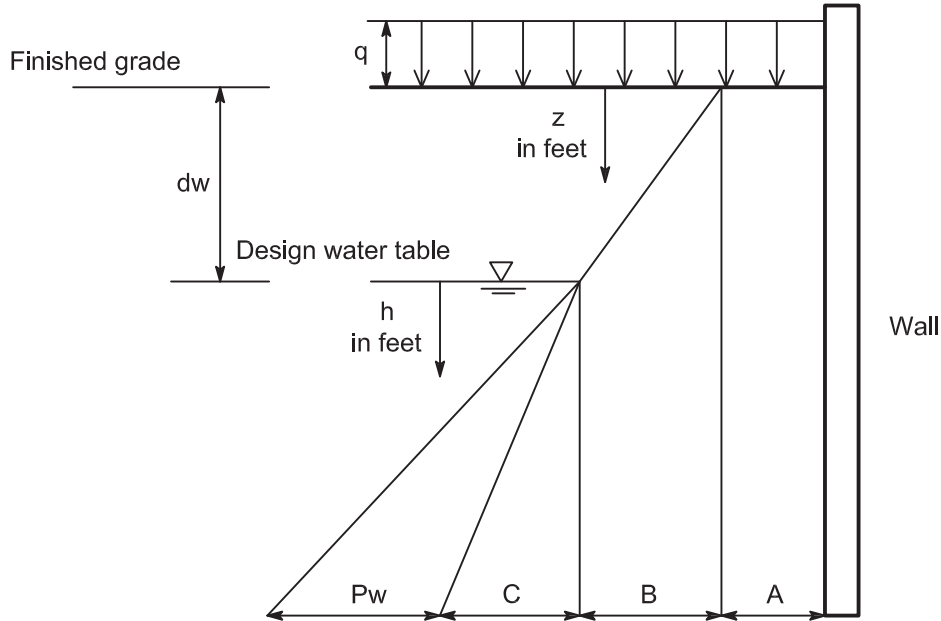


At-Rest Earth Pressure on 1-ft Wide Vertical Strip



$A = K_0 (q) =$ Effect of uniform full coverage surface surcharge
 $B = K_0 \gamma_s (z) =$ Earth pressure at-rest above water table
 $C = K_0 \gamma' (h) =$ Earth pressure at-rest increment below water table
 $P_w = 62.4 (h) =$ Hydrostatic pressure increment
 $H = A + B =$ Static lateral earth pressure above water table ($z < dw$)
 $H = A + K_0 \gamma_s (dw) + K_0 \gamma' (z - dw) =$ Static lateral earth pressure below water table
 $(z > dw)$ (P_w not included)

Conditions on information:

- Units of pressure, psf
- Backfill of granular material compacted to 96% maximum dry density by ASTM D1557
- No heavy compaction equipment used within 5 ft of wall
- γ_s = saturated unit weight of granular backfill above water table, pcf
- γ' = submerged unit weight of granular backfill, pcf
- $\phi = 35$ degrees = angle of internal friction of soil
- $K_0 = 1 - \sin(\phi) =$ At-rest earth pressure coefficient of soil
- Plane strain conditions (corner adjustment factors not included)
- Dynamic soil pressure not included

USCS Type	γ_s	γ'	K_0
GW	150	87.6	0.426
GP	142	79.6	0.426
SW	136	73.6	0.426

WLS COL 2.5-13

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FIGURE 2.5.4-255b Rev 2