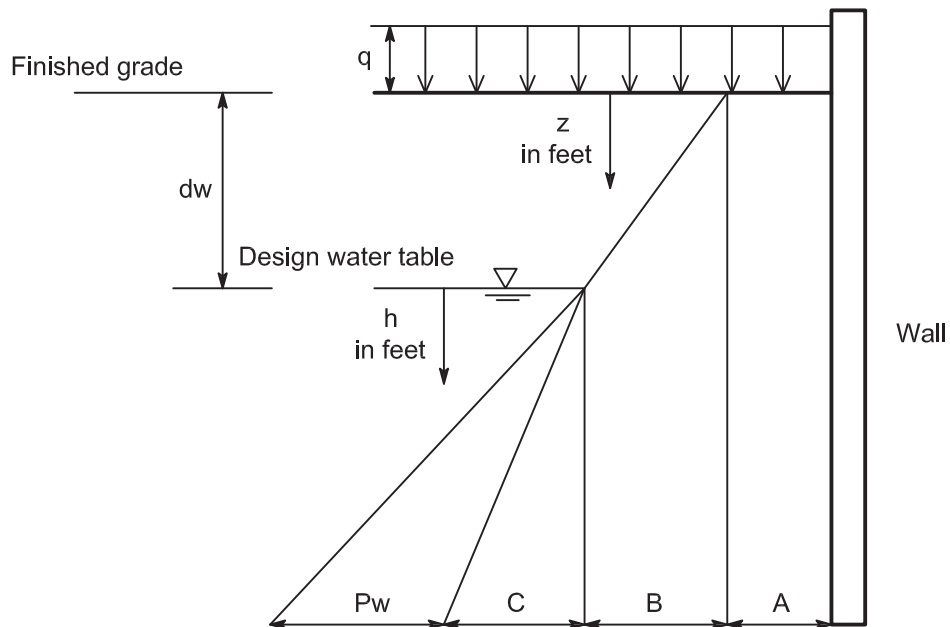


Passive Earth Pressure on 1-ft Wide Vertical Strip



- $A = K_p (q)$ = Effect of uniform full coverage surface surcharge
 $B = K_p \gamma_s (z)$ = Passive earth pressure above water table
 $C = K_p \gamma' (h)$ = Passive earth pressure increment below water table
 $P_w = 62.4 (h)$ = Hydrostatic pressure increment
 $H = A + B$ = Static lateral earth pressure above water table ($z < dw$)
 $H = A + K_p \gamma_s (dw) + K_p \gamma' (z - dw)$ = 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
- $K_p = \tan^2 (45 + \phi/2)$ = Passive earth pressure coefficient of soil
- Plane strain conditions (corner adjustment factors not included)
- Dynamic soil pressure not included

USCS Type	γ_s	γ'	K_p
GW	150	87.6	3.690
GP	142	79.6	3.690
SW	136	73.6	3.690

WLS COL 2.5-13

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Passive Lateral Pressure on
Nuclear Island

FIGURE 2.5.4-255c

Rev 2