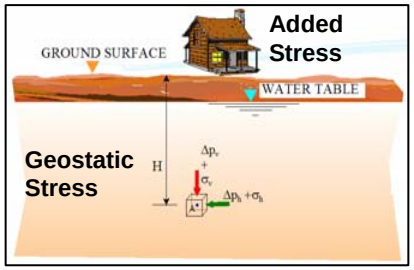
By: Kamal Tawfiq, Ph.D., P.E



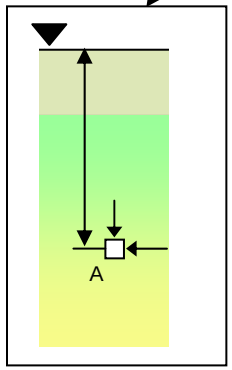
Stress Distribution in Soils

Geostatic Stresses

Total Stress
Effective Stress
Pore Water Pressure

Total Stress= Effective Stress+ Pore Water Pressure

$$\sigma_{total} = \sigma_{eff} + u$$

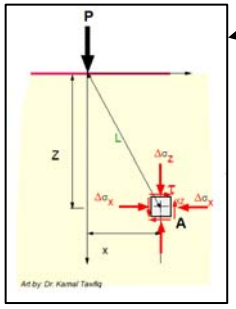


Added Stresses (Point, line, strip, triangular, circular, rectangular)

Bossinisque Equations

1.Point Load
2.Line Load
3.Strip Load
4.Triangular Load
5.Circular Load
6.Rectangular Load

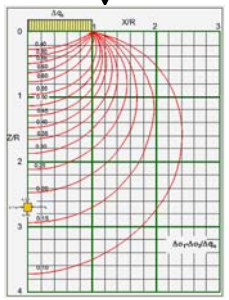
σ_y
σ_x
τ_{xy}



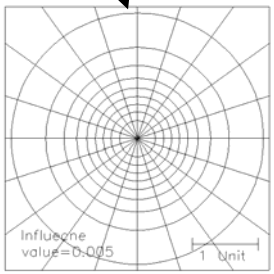
Influence Charts

$$\Delta\sigma_z = I_\sigma \cdot q$$

Stress Bulbs



Newmark Charts



Westergaard's Method
(For Pavement)

Approximate Method
1:2 Method