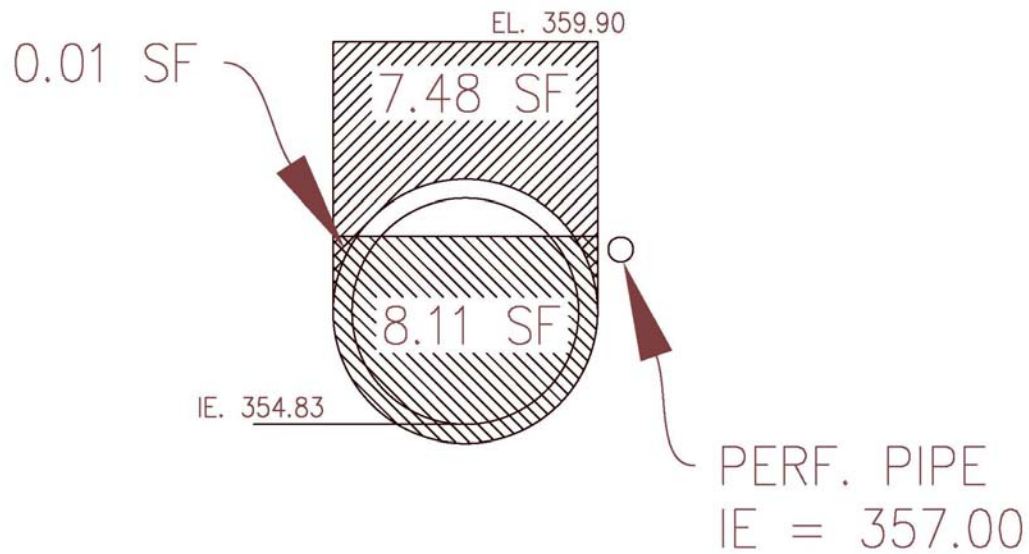**Detention Pipe Buoyancy Analysis**

Downward force

Soil above: (7.48 + 0.01 + 0.01) sf x 120 lb/cf = 900 lb/lf

Pipe weight per ADS = 19.8 lb/ft

Total = 920 lb/lf

Buoyancy force

Volume below saturated zone: 8.11 + 0.01 + 0.01 = 8.13 sf/lf

Upward force = 8.13 x 62.4 = 507 lb/lf

Safety Factor = 974/507 = 1.8