

FIRE SPRINKLER DESIGN

STATIC PRESSURE

The procedure agreed upon by Irvine Ranch Water District (IRWD) and Orange County Fire Authority for static pressure determination in fire sprinkler designs is as follows:

1. Determine, with your civil engineer, the pressure zone from which your project is being served.
2. Determine the High Water Level (HWL) for the appropriate service zone from Figure 6-3 below.
3. Subtract 30 feet from the HWL to get the Low Water Level (LWL).
4. Subtract the site elevation for your project from the LWL.
5. Multiply the result by 0.433 to get the static pressure in pounds per square inch (psi) for your sprinkler design.

EXAMPLE:

Let's assume your project is served by Central Zone 2, with a HWL of 355 from Figure 6-3 and the site elevation is 185 feet. Start by subtracting 30 feet from the HWL, ($355 - 30 = 325$). Subtract the site elevation from the LWL, ($325 - 185 = 140$). Multiply that result by 0.433 to get the static pressure for your design, ($140 \times 0.433 = 60.62$ psi).

Figure 6-3: Existing Potable Water Tank Services Zones:

