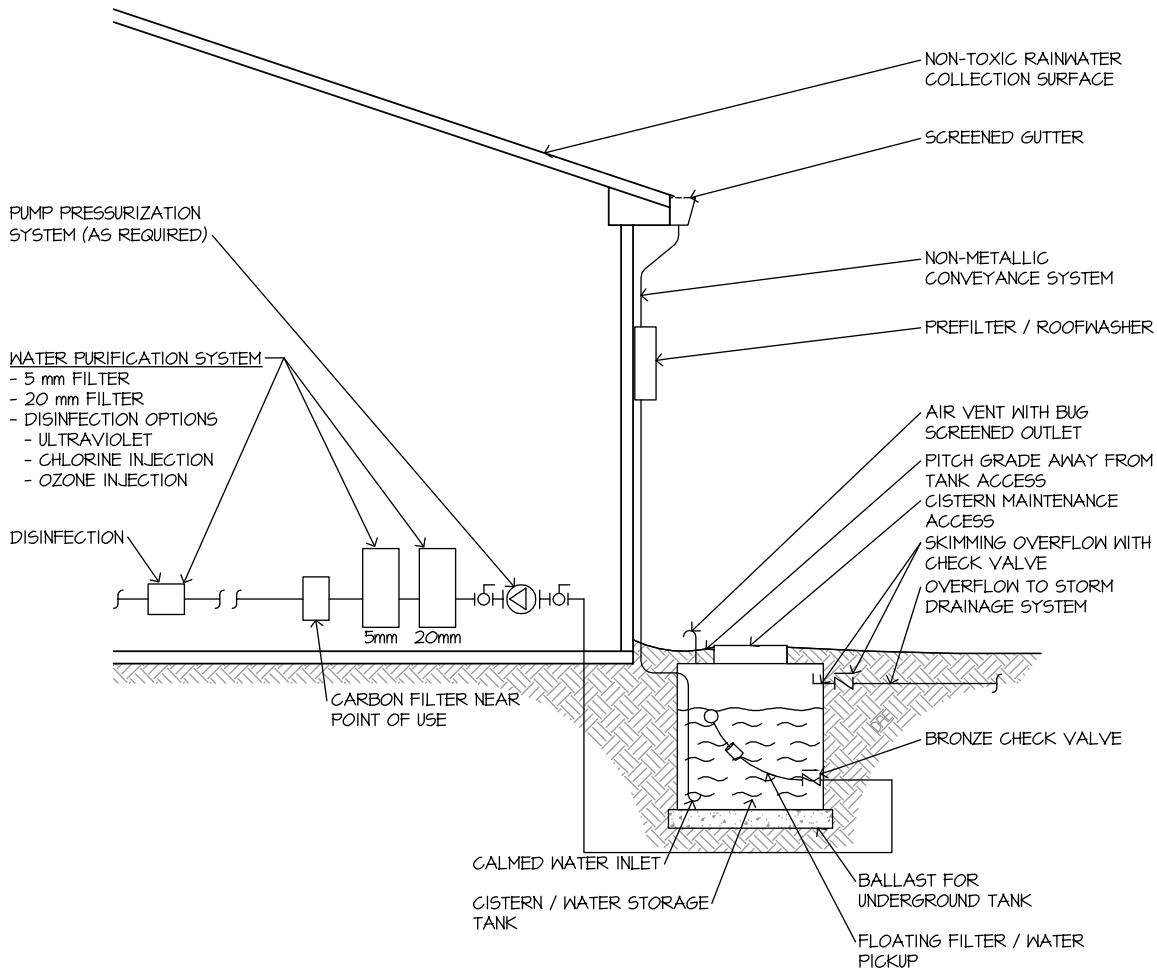


Figure B.2 Underground Exterior Cistern for Potable Application

Note: The user of this standard is advised to check with the local authority having jurisdiction prior to implementing a design project intended to deliver potable water. Additional requirements may exist and the potable water system may fall under the responsibility of a state, federal, or tribal agency having responsibility over public water systems.



RAINWATER COLLECTION DETAIL

- POTABLE APPLICATION
- EXTERIOR UNDERGROUND TANK

NO SCALE

Where soil saturation is a possibility, it is recommended that the combined weight of the tank and ballast must meet or exceed the buoyancy upward force of an empty cistern. This buoyancy force is calculated as follows:

For 3,785.4-liter tank, buoyant force = 3,785.4 kg (1 liter = 1 kg)

[For 1,000-gallon tank, buoyant force = (1,000 gallons/7.48) x 62.4 lbs/cubic foot = 8,342 lbs]

Buoyancy force of cistern (kg) = 1,000 liters x 28.3 1 kg/liter = 28,300 1,000 kg

[Buoyant force of cistern (lbs) = Volume (cubic feet) x 62.4 (lbs/cubic foot)]

If concrete is used for ballast, the volume needed will be:

Volume (cubic meters) = 28,300 1,000 kg x cubic meters/2,400 kg = 11.8 0.42 cubic meters

[Volume (cubic feet) = 8,342 lbs x cubic feet/150 lbs = 55.6 cubic feet (2.1 cubic yards)]