

## CHAPTER 5

### Plumbing for Rainwater Harvesting System

#### Plumbing Guideline

Rainwater tank installations may be designed, installed and maintained so as to allow a cross connection with the potable water supply. Where a property has both a rainwater tank system and a potable water supply from a reticulated system, the plumbing for rainwater tank should have a cross-connection control and backflow prevention.

The need for a secure water supply means that many people want the ability to switch back to the mains water supply if their pump fails; electricity fails or the tank needs to be cleaned.

Suggested plumbing configuration for rainwater tanks in urban areas with a reticulated supply – direct connection with the potable supply is shown in Figure 5.1.

Proximity to other services - Separation between above ground rainwater services and any parallel potable water supply must be a minimum of 100mm, below ground rainwater services must be separated by a minimum of 300mm from any parallel potable water supply pipe.

Marking and labeling – It is a common practice in marking and labeling of the rainwater services for identification and future maintenance purposes.

Above and below ground rainwater pipes shall be continuously marked 'AIR HUJAN'.

Every rainwater tank outlet and all taps, valves and rainwater tank apertures shall be identified as 'AIR HUJAN' with a sign complying with (refer Figure 5.2) or a green colored indicator with the letters 'SPAH'. Alternatively, a permanent sign, at the front of the premises and visible to all

visitors, may be displayed advising that rainwater is in use.

Identification tape marked 'AIR HUJAN' shall be at least 75mm wide. The identification tape shall be installed on top of the rainwater pipeline installed within the trench, running longitudinally, and fastened to the pipe at not more than three meter intervals.

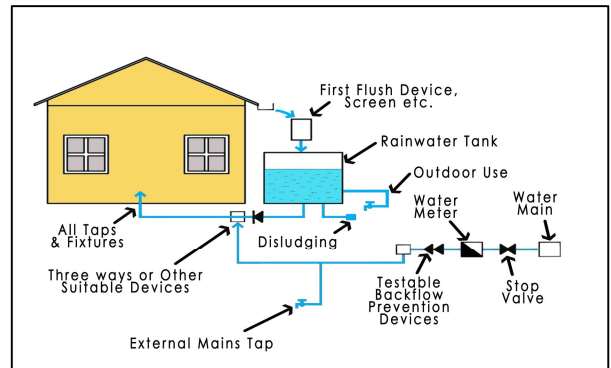


Figure 5.1: Typical Direct Connection Plumbing Configuration



Figure 5.2: Typical Signage for rainwater tanks and outlets

## Plumbing Water Closet Cisterns

The interconnection of rainwater and reticulated potable water for flushing purposes requires separation of the potable supply by the installation of a dual check valve (Figure 5.3).

Typical installation options are shown below (Figure 5.4, 5.5, 5.6 & 5.7). A Dual Check Valve should be fitted at the cross-connection point between the two water sources.

A pump is shown at the rainwater tank outlet to pressurize supply for satisfactory operation of the ball float valve in the cistern.

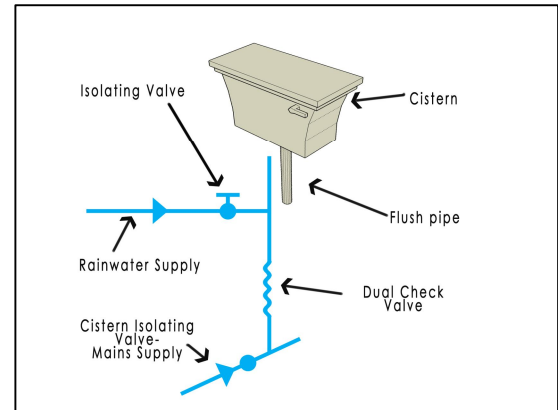


Figure 5.5: Installation of Check Valve for Water Cistern

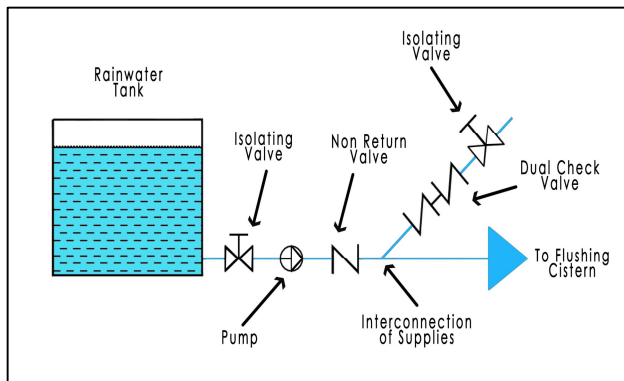


Figure 5.3: Typical Installation of Dual Check Valve for Rainwater Tank.

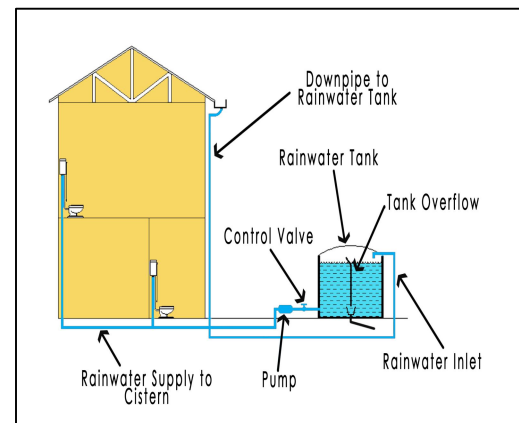


Figure 5.6: Typical Schematic Layout for Rainwater Tank at Ground Level.

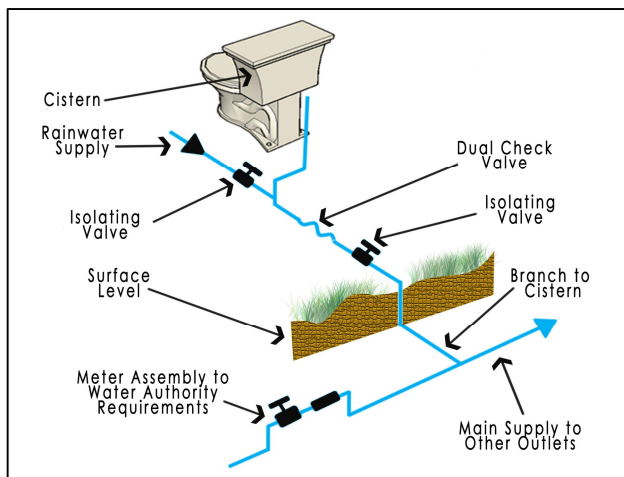


Figure 5.4: Typical Connections at or Near Cistern

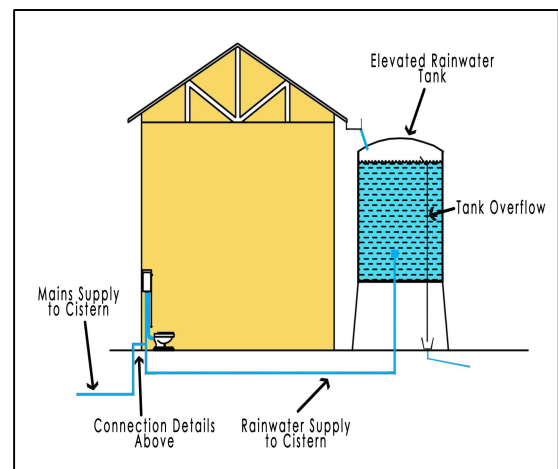


Figure 5.7: Typical Schematic Layout for Rainwater Tank on Stand.