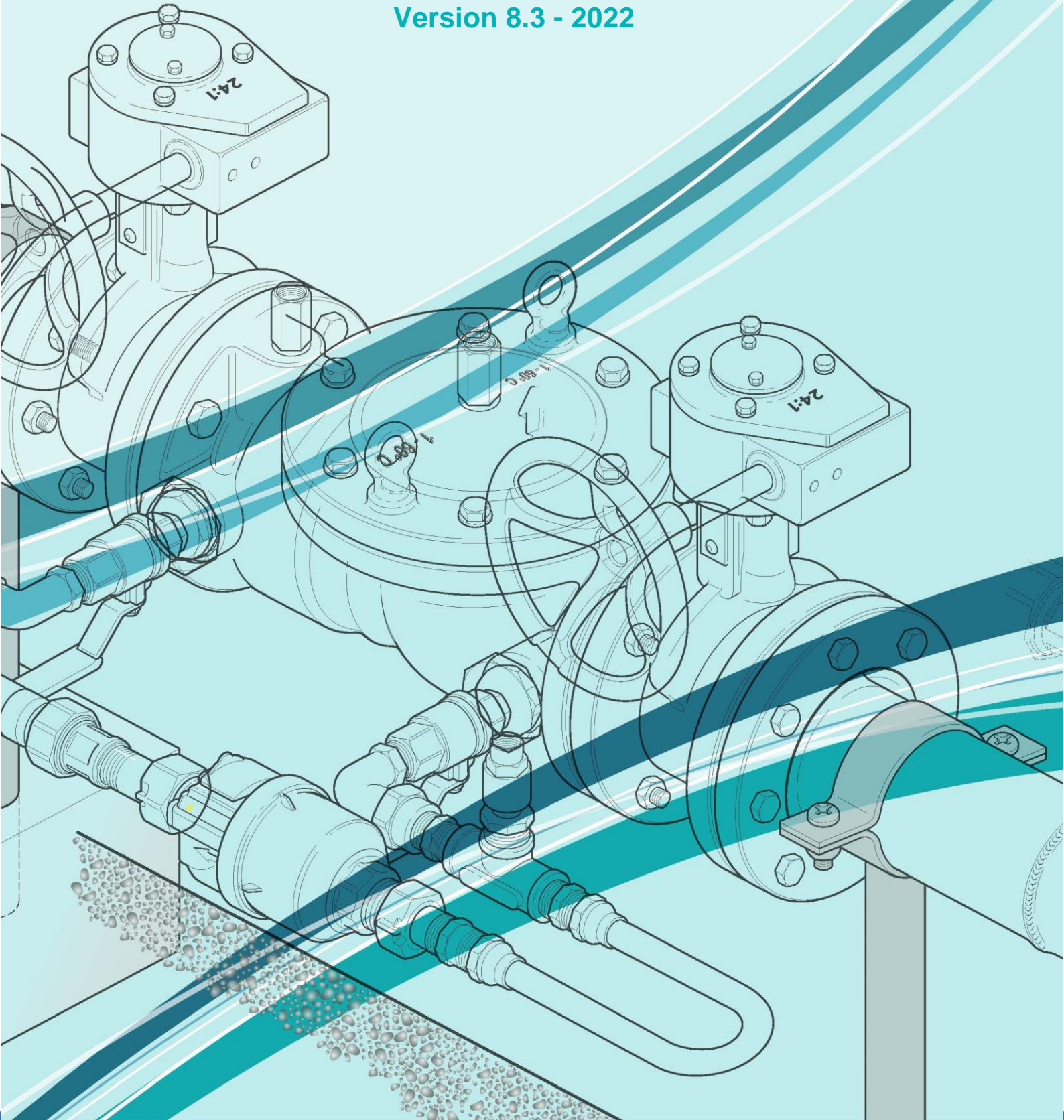


Water Metering & Servicing Guidelines

Version 8.3 - 2022



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Acronyms & Abbreviations

| | |
|--------------|---|
| AS | Australian Standard |
| GWIP | Galvanised Wrought Iron Pipe |
| RW | Recycled Water (Class A) |
| Ø | Nominal Internal Pipe Diameter |
| DPU | Dependent Persons Unit |
| EPA Victoria | Environment Protection Authority Victoria |
| DH | Department of Health |
| DELWP | Department of Environment, Land, Water and Planning |
| EIP | Environment Improvement Plan (formerly known as an Environment Management Plan) |
| VBA | Victorian Building Authority |

1 INTRODUCTION

These Water Metering and Servicing Guidelines provide consistency across the three Metropolitan Melbourne Water Corporations where possible.

The guidelines have been developed to assist developers, plumbers, designers, builders, plumbing specialists, property owners and Water Corporation staff. Guidelines contained within this document aim to build understanding around water metering and plumbing work/s at the interface with Water Corporation's assets.

2 PURPOSE

These guidelines document necessary water metering and water servicing conditions required by Water Corporations for new developments, alterations to existing developments and existing water metering arrangements. Guidelines and illustrations are not technical documents and should be used as a guide only. For detailed technical information refer to the Plumbing Code of Australia incorporating AS/NZS 3500 National Plumbing and Drainage Code, or Water Services Association of Australia (WSAA). Where possible, conditions have been standardised to assist industry/customers. Water metering guidelines refer to standard development projects and apply to the majority of development proposals. Where these policies are inappropriate for a particular development, the relevant Water Corporation will determine the necessary requirements on a case-by-case basis.

These guidelines are to be read in conjunction with the Water Corporation's Conditions of Connection in accordance with section 145 of the Water Act 1989 (VIC) and the Water (Estimation, Supply and Sewerage) Regulations 2014.

3 WATER SERVICE METERING

Water Corporations require the installation of an approved water meter (known as a main water meter) to measure the volume of water supplied through property service works to a parcel of land.

In addition to this, additional water meters (known as sub/check meters) are supplied by the Water Corporation to measure the individual volume of water supplied to certain types of "dwellings/occupancies" located within that parcel of land.

Where sub/check meters are installed on individual dwellings/occupancies in Yarra Valley Water's service area, sub/check meters must also be installed to all shared facilities within the development. Shared facilities include but are not limited to; bulk hot water services, irrigation services, shared laundries, cleaner's rooms and common areas supplied with a water service.

Water meters will be provided by Water Corporations at the owner's cost. The water meter will be appropriate to the type of development, intended purpose and required flow rates.

Refer to the relevant Water Corporation for additional requirements.

Note:

- All water meters must be supplied by the Water Corporation for the purpose of billing and be fit for purpose.
- Water meters approved for horizontal installation shall be installed horizontally and must have a register at or near vertical to the horizontal axis of the water meter.

4 OUTLINE OF APPLICATION PROCESS AND PAYMENT OF FEES

For further information, please refer to the relevant website:

www.southeastwater.com.au

www.gww.com.au

www.yvw.com.au

5 DEFINITIONS & ABBREVIATIONS

5.1 Definitions

Backflow

Backflow is the reverse flow of a liquid within a piped plumbing system. It may be caused from back siphonage, back-pressure or a combination of both. It can result in contaminants being drawn back into the Water Corporation's water supply system through a cross connection. All connections to the water supply system must provide for an appropriate containment backflow prevention device at the outlet of the main water meter, in accordance with the relevant Australian Standard.

Class A Recycled Water

Class A recycled water is the highest quality of recycled water and is achieved after a tertiary treatment process combined with pathogen removal. The Department of Health & Human Services (DH) (www2.health.vic.gov.au) has classified Class A recycled water as safe for use on irrigation of food crops – including those eaten raw. DH requires an extensive verification process to ensure Class A water can be guaranteed. Environment Protection Authority Victoria (EPA Victoria) (www.epa.vic.gov.au) also supports its use.

Class A recycled water has a wide range of uses including:

- Residential garden watering
- Toilet flushing
- Process/cooling water for industry
- Fire hydrant systems (external to the property), subject to approval
- Irrigation of municipal parks and sports grounds
- Water for contained wetlands or ornamental ponds
- Food crops that are consumed raw or sold to consumers uncooked or processed

(Recycled Water is also known as 'Non Drinking Water')

Conditions of Connection

A list of conditions that the relevant Water Corporation issues as part of its consent to carry out plumbing work for water and sewerage. Provided for under section 145 of the Water Act 1989 (VIC) Control over Connections.

Drinking Water

The highest quality water, also known as potable water.

Dry Tapping

A dry tapping is generally 20mm in diameter (nominal Ø) and installed by the developer at the time the water mains are laid within residential estates. A dry tapping includes a connection and service pipe which terminates within each parcel of land (lot) within the estate. The Water Corporation installs the water meter assembly including the water meter on request and payment of the applicable fee.

Dwelling (Residential)

A building that is used, or is intended, adapted or designed for use, as a separate residence, (including kitchen, bathroom and sanitary facilities) for an occupier who has a right to the exclusive use of it but does not include—

- (a) a building that is attached to a shop, office, warehouse or factory and is used, or is intended, adapted or designed for use, as a residence for an occupier or caretaker of the shop, office, warehouse or factory; or
- (b) any part of a motel, residential club or residential hotel or residential part of licensed premises under the Liquor Control Reform Act 1998.

Source: Based on the definition of 'dwelling' in S. 46H of the Planning and Environment Act (Vic) 1987.

Extended Private Water Supply Works

Where a parcel of land is not fronted by a Water Corporation's water main, however is connected via a private water service (owned & maintained by the property owner/s) located generally in the road reserve to the Water Corporation's main some distance away. It is connected with the consent of the Water Corporation under section 145 of the Water Act 1989.

Please note: Section 145 of the Act provides that a Water Corporation may consent to a person's works being connected to the works of the Water Corporation and that consent may be subject to any reasonable terms and conditions the Water Corporation thinks fit.

Main Water Meter

A main water meter is the Water Corporation approved water meter connected directly from the water main located as close as possible to the properties' title boundary on any water service (drinking water, recycled water and fire).

Plug Off/ Plugging

When an existing tapping up to and including 50mm Ø is required to be removed. The plumber is responsible to excavate and expose the tapping band / ferrule and a Water Corporation representative will seal the service. Plug offs done in conjunction with new wet tapping's are to be carried out on the same day.

Private Fire Service

Part of any works from the water main of a Water Corporation to an outlet on a serviced property, where the outlet is designed to supply water to the property for the principal purpose of combatting an outbreak of fire on the property, whether or not that part of the works is also connected to another outlet used for purposes other than combating an outbreak of fire.

Private Water Supply Works (Internal property pipework)

The property service pipe (including any backflow prevention device and any other fixtures or fittings other than a water meter) from the outlet of any fixtures installed on the serviced property to the property service works, but does not include any extended private water supply works.

Property Service Pipe

The water supply pipe connecting the water main of a Water Corporation to the outlet of any fixtures installed on a serviced property.

Remote Reading Water Meter

A remote water meter may consist of a conventional water meter with a remote reading device attached or an integrated unit. A remote reading device electronically records the volume of water flowing through the water meter and transmits the reading by radio or similar technology when activated by the water meter reader. The benefits of remote water meters are that the Water

Corporation reads the water meter outside of the property thereby ensuring security and privacy for the customer.

Reticulated water/sewer supply system

A network of water/sewer mains, pump stations etc. owned and operated by the Water Corporation to provide for the community's water and sewerage needs.

SCDAT

A single check detector assembly testable is a testable device for use in 'low hazard' conditions in private fire services only, to prevent backflow caused by back-siphonage or back pressure. It is intended for use in private fire service lines under continuous pressure and to allow billing of small draw-offs of water by incorporating a metered bypass line (minimum 25mm diameter), bridging from upstream of the non-return valve to downstream of the non-return valve.

Self-Contained Occupancy Commercial/ Industrial

Has the same meaning as used by Council Valuers for producing valuations to determine municipal rates. The definition of the term has been developed as Commercial/Industrial by both Common law and legislation, in accordance with the Valuation of Land Industrial Act 1960 and Local Government Act 1989. For the purpose of determining the appropriateness of water metering/provisioning for metering, a self-contained occupancy shall contain a tea sink, toilet and basin as a minimum. The occupants are not required to utilise common facilities outside the individual occupancy. All parent property general water connections are required to be metered in accordance with the requirements documented in these guidelines.

Single Check Valve Testable (SCVT)

A single check valve testable is designed to prevent the unwanted reversal of flow from the private fire service into the Water Corporation's water supply system. Assists in the proactive management of water supply systems. A single check valve testable is designed for use in 'low hazard' conditions in private fire services to prevent backflow caused by back-siphonage or back pressure. It is intended for use under continuous pressure conditions.

Stop Valve (Isolation)

A flow control fitting capable of regulating and shutting off the flow in a water main or property service pipe, and includes any fitting of a stop tap type, gate valve, ball valve or ferrule tap type.

Sub Meter / Check Meter

A Water Corporation's approved water meter connected after a main water meter used to register water used by individual multi-dwelling /occupancy developments on a parcel of land. For billing reasons, a sub /check meter must not be supplied through another sub /check meter; it must be supplied directly from a main water meter.

Tapper

A Water Corporation representative authorised to carry out water tapping activities.

Tapping

The activity carried out to connect a new service to the water main.

Tee Insertion

Is similar to a wet tapping, however a tee insertion applies to a connection greater than 50mm Ø diameter where a tapping cannot be achieved under pressure, or due to site conditions, a divide valve being installed, or a hydrant service upsized in the same location. The plumber is responsible to excavate to expose the water main. The main is required to be shut off by the Water Corporation and therefore existing customers connected to the main must be notified prior to the work taking place. The relevant Water Corporation representative will cut a section of main out and insert the

tee piece or in some cases plug and seal the service. Tee removals done in conjunction with new wet tapplings are to be carried out on the same day.

Tee Removal

Is when an existing connection greater than 50mm Ø is required to be removed. The plumber is responsible to excavate and expose the tee/tapping band. The main may be required to be shut off and therefore existing customers connected to the main must be notified prior to the work taking place. The relevant Water Corporation representative will cut the tee piece out or in some cases seal the service. Tee removals done in conjunction with new wet tapplings are to be carried out on the same day.

Water Corporations

Refers to the three Melbourne Metropolitan Water Corporations licensed to provide drinking water, sewerage services and recycled water to properties in Urban Melbourne. The Water Corporations include Greater Western Water, Yarra Valley Water and South East Water.

Water Mains (Drinking & Recycled)

A water main owned and operated by the Water Corporation including any stop valve and any fittings located at the connection between a water main and a property service pipe.

Wet Tapping

A wet tapping is a type of connection which is made into the reticulated water supply main under pressure. A wet tapping may be for any size from 20mm Ø to 200mm Ø and greater.

Please note: The service pipework and water meter assembly must be in place prior to the connection being made.

5.2 Relevant Standards/Acts/Codes

- Plumbing Code of Australia (also known as National Construction Code Vol. 3)
- Victorian Plumbing Regulations 2018
- Customer Charter – each Water Corporation has their own Customer Charter
- AS/NZS 3500.1 – Water Services
- AS 3565 Meters for Water Supply
- National Measurement Act 1960
- National Measurements Regulations 1999
- AS 1851: 2012 Maintenance of Fire Protection Systems and Equipment
- Residential/Home Fire Sprinkler Services designed under the AS 2118.4, AS 2118.5 or FPAA101D, FPAA101H
- Fire System Design Standards – AS 2419, 2441, 2118.1-6, FPAA101D, FPAA101H
- Backflow Prevention Standards AS/NZS 2845 (Parts 1, 2 & 3)
- Water Act 1989 (VIC)
- Water (Estimation, Supply and Sewerage) Regulations 2014.
- Melbourne Retail Water Agencies Edition (MRWA) of the Water Supply Code of Australia

Note:

All plumbing works must be in accordance with Victorian Plumbing Regulations 2018, and the Plumbing Code of Australia.

6 WATER METER POSITIONING

6.1 Positioning of Main General Water/ Private Fire Service Meters

The water meter assembly* must be:

- Within two metres of the title boundary that abuts the water main (minimum 300mm from title boundary)
- Fitted so that meter stop/isolating valve is at right angles to the water main, in line with the tapping.
- Installed at right angles to the water main, in line with the tapping. However, where space constraints do not allow installation at right angles, the meter assembly can be installed to be parallel to the water main. The meter stop/isolating valve must still be at right angles to the water main. Where the meter assembly is to be installed parallel to the water main, drawings identifying this must be supplied to the water corporation. (Parallel meter configurations are not permitted on Recycled Water meter assemblies).
- Fully supported with minimum ground clearance of 150mm, and should not be greater than 300mm from the finished ground level to the base of the water meter assembly (where the Backflow prevention device is a Reduced Pressure Zone type, a minimum 300mm to the device vent is required). On a case by case basis consideration will be given to varying the height of the water meter up to a maximum of 1.5m subject to specific approval from the relevant Water Corporation. Approval must be sought from the Water Corporation prior to the commencement of any plumbing works.
- Set up with the riser pipe not encased in concrete with a minimum 6mm annular clearance around the pipe.
- Water meters may be installed in basements at the discretion of the Water Corporation provided:
 - The meter is only located no lower than the first basement level.
 - Access to the meter/s must be provided to the Water Corporation, in a manner agreed to by both the applicant and the Water Corporation.
 - Water meters are readily accessible for maintenance and replacement.
 - Aesthetics is not an acceptable reason in whether a meter assembly is to be located within a basement.
 - Remote meters may be required

*Please refer to Greater Western Water's Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

Water meters:

- Must be readily accessible for reading, maintenance and replacement.
- Can be installed in utility rooms or meter cabinets located within common access areas and must be readily accessible, subject to the Water Corporation approval.
- Must not be located within garages, roof cavities, ceiling spaces or inside pits. Water meter pits may be considered under Section 6.4.
- Must not be installed within dwellings (except in utility rooms as above).

Recycled water meters are to be positioned to the left of the drinking water meter assembly, maintaining 300mm separation from the drinking water meter. Refer to Figure 2.

Note:

Drinking /Recycled Water Supply. If the stop valve at the main water meter is not accessible at all times or the property service pipe is within or beneath a structure, a stop valve is required outside the property in accordance with the Water (Estimation, Supply and Sewerage) Regulations 2014.

Figure 1: Drinking Water Only

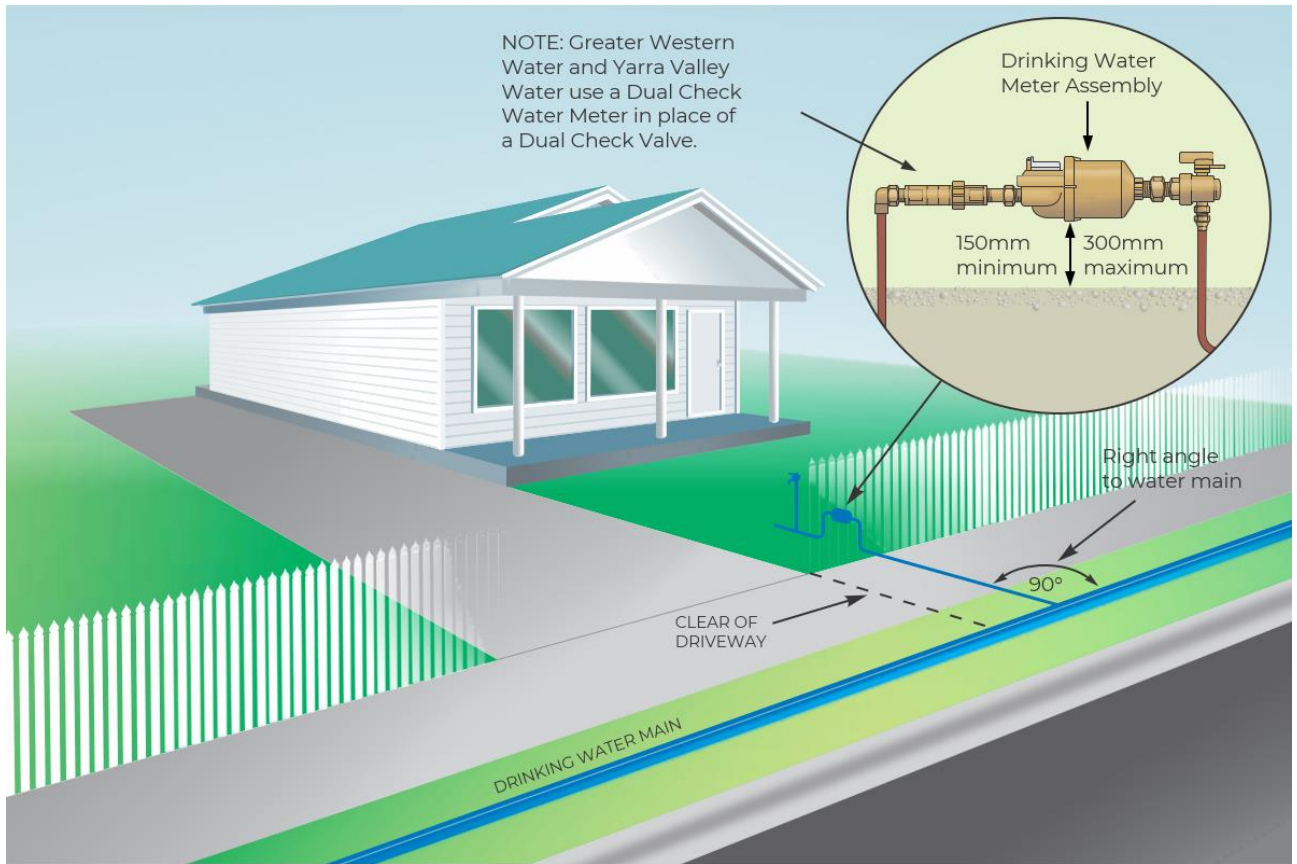


Figure 2: Drinking Water & Class A Recycled Water

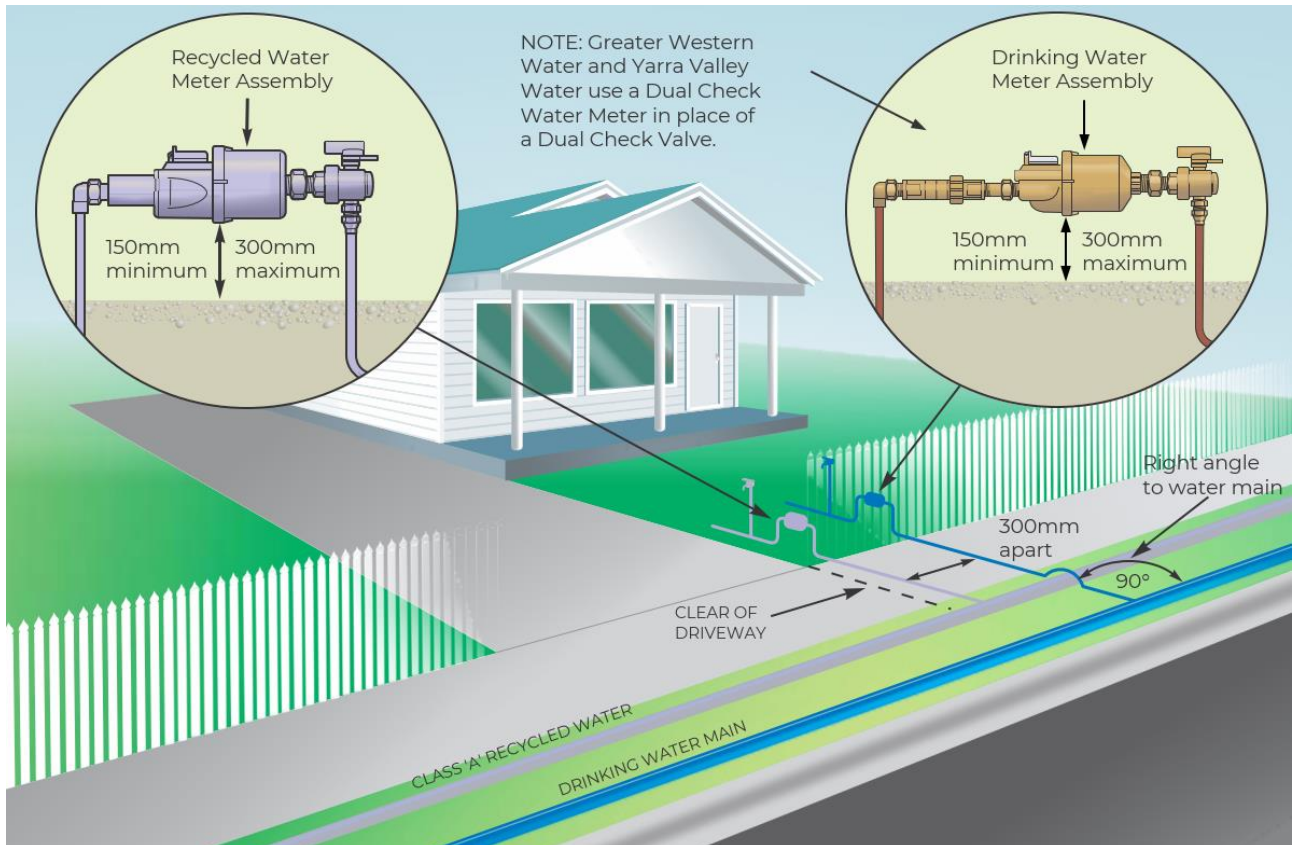
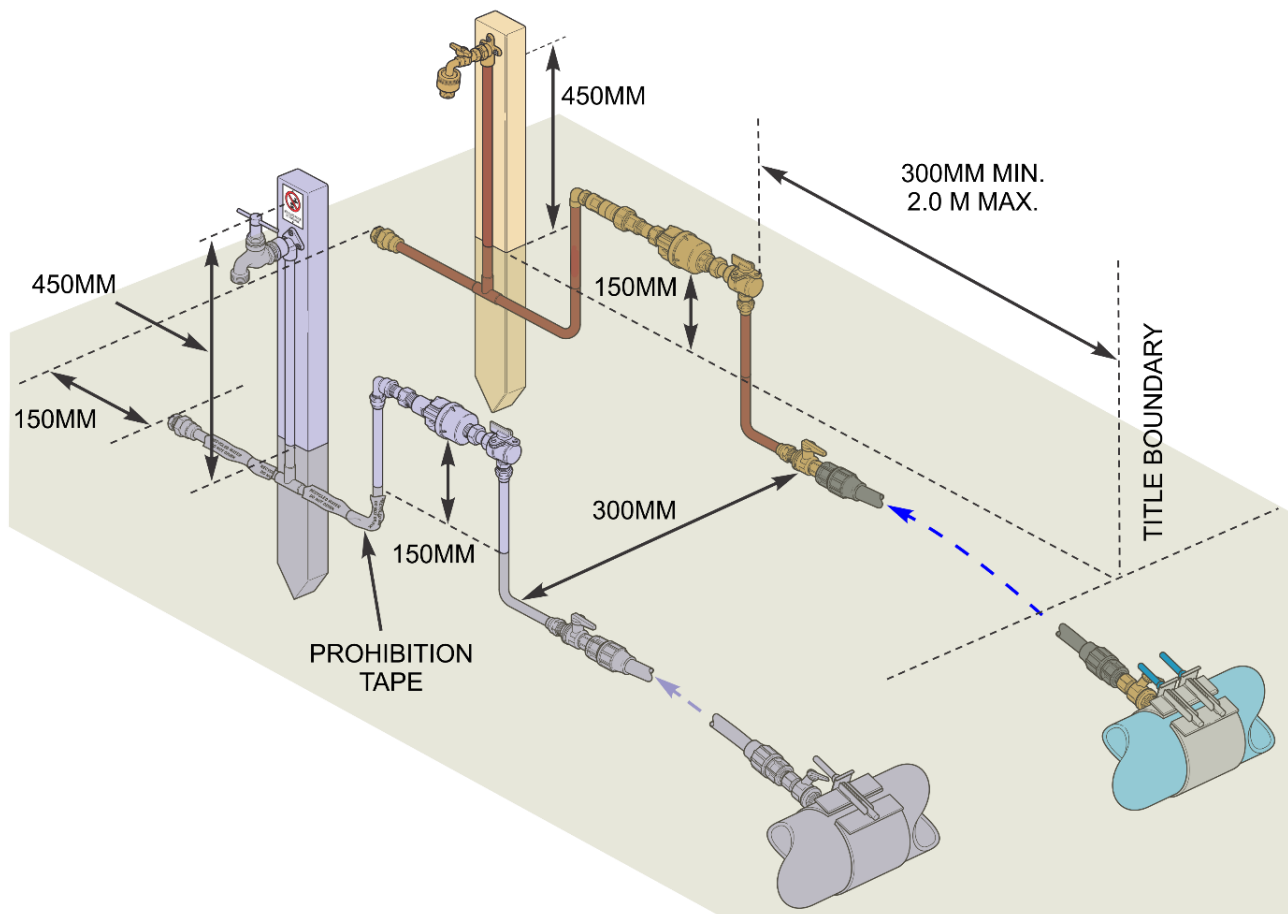


Figure 3: Drinking Water & Class A Recycled Water



6.2 Positioning of Sub / Check Meters (Drinking / Recycled Water)

Prior to any check meters being installed, the Licensed Plumber must ensure the following conditions are addressed.

Check meter assemblies are **correctly identified** with each assembly fitted with a **permanent legible tag**, as follows:

- The tag must be located adjacent to the proposed position of the check meter
- If **internal**, plastic key tags or similar are suitable
- If **external**, the tag must be made of a waterproof and UV / corrosion resistant material – e.g.:
 - Engraved plastic material
 - Stamped or engraved metal
- The tag as a minimum must provide the following information in a legible permanent print; floor level (if applicable) and unit number
- If the check meter is for a common area, the tag must have the common area purpose (i.e. lap pool etc.)

Check meters must be readily accessible for reading, maintenance and replacement. Where check meters do not meet these conditions due to being located in secured areas on the property, **remote read water meters** must be installed provided that the following conditions are met:

- Installed in common access areas on each level. Where located within utility rooms or meter cabinets, check meters must be readily accessible for maintenance and replacement in accordance with Figure 4 through to Figure 8 and the following clearances:
 - No less than 150mm above the finished floor level
 - No greater than 1.5m above the finished floor level (unless approved by the relevant Water

Corporation in writing). Consideration for approval must be sought from the Water Corporation prior to the commencement of any plumbing works.

- With a minimum clearance between the centre of each pipe of 250mm
- With a minimum clearance of 100mm between the back of the meter and any wall or door

■ Check meters **must not** be located:

- Inside the units / apartments, offices or factories
- Within the ceiling, wall or floor cavities of common access areas or pits.

The licensed plumber shall provide a typical water meter assembly including a temporary non-metallic water meter spacer for each water meter, prior to the water meter installation.

Separate isolating valves adjacent to each water meter installation in accordance with AS/NZS 3500 must be provided.

Where drinking and recycled water check meter assemblies are being installed, recycled water pipework is to remain to the left of the drinking water supply pipework. Refer to Figure 7 and Figure 8 High Rise Sub/Check Meter drinking and recycled water typical arrangement.

Note:

- An additional isolating valve is required on the outlet side of water meters where removal of the water meter may result in water damage to the building or excessive water wastage.
- Where water meter assemblies only are to be installed, the water meter spacer pipe is to be of an approved material type in accordance with the Plumbing Code of Australia. All other water metering requirements are to be complied with.
- Remote water meters may be required. See Section 8.2 Remote Water Meters.

Figure 4: Sub/Check Meter Typical Arrangement (Drinking Water Only)

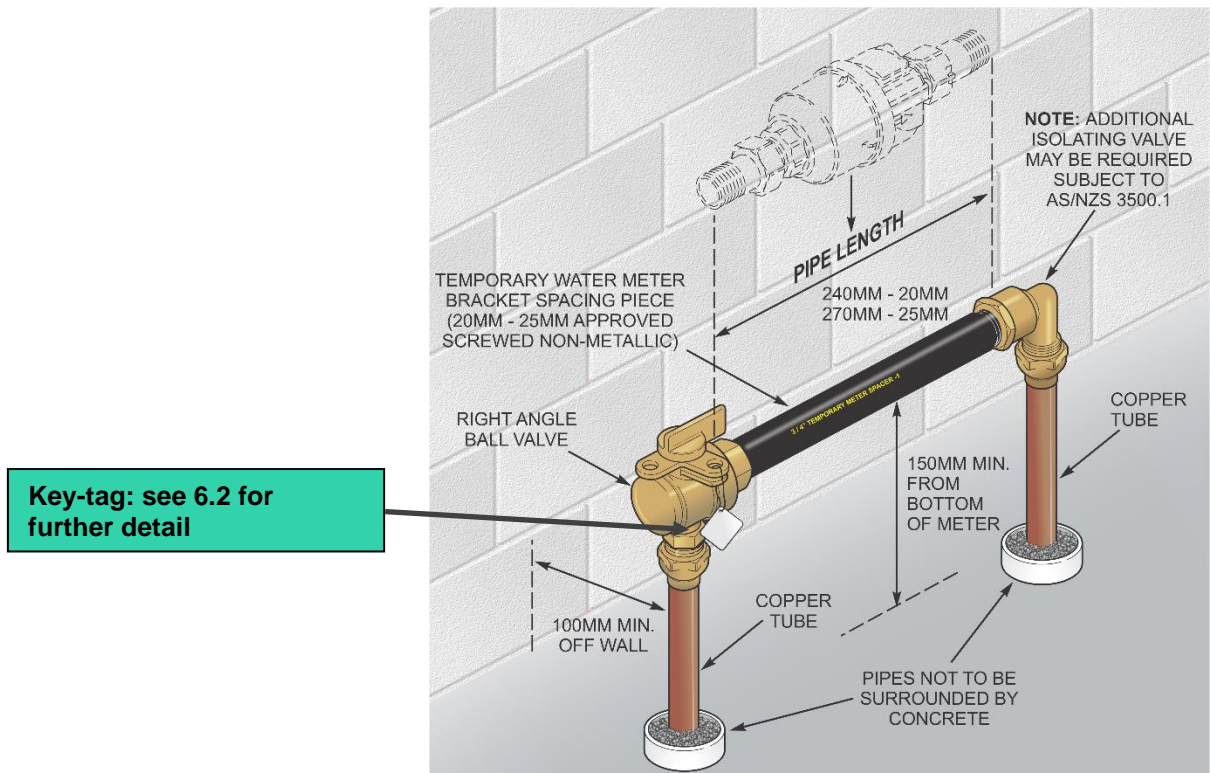


Figure 5: Meter Cupboard Located in Common Access Area

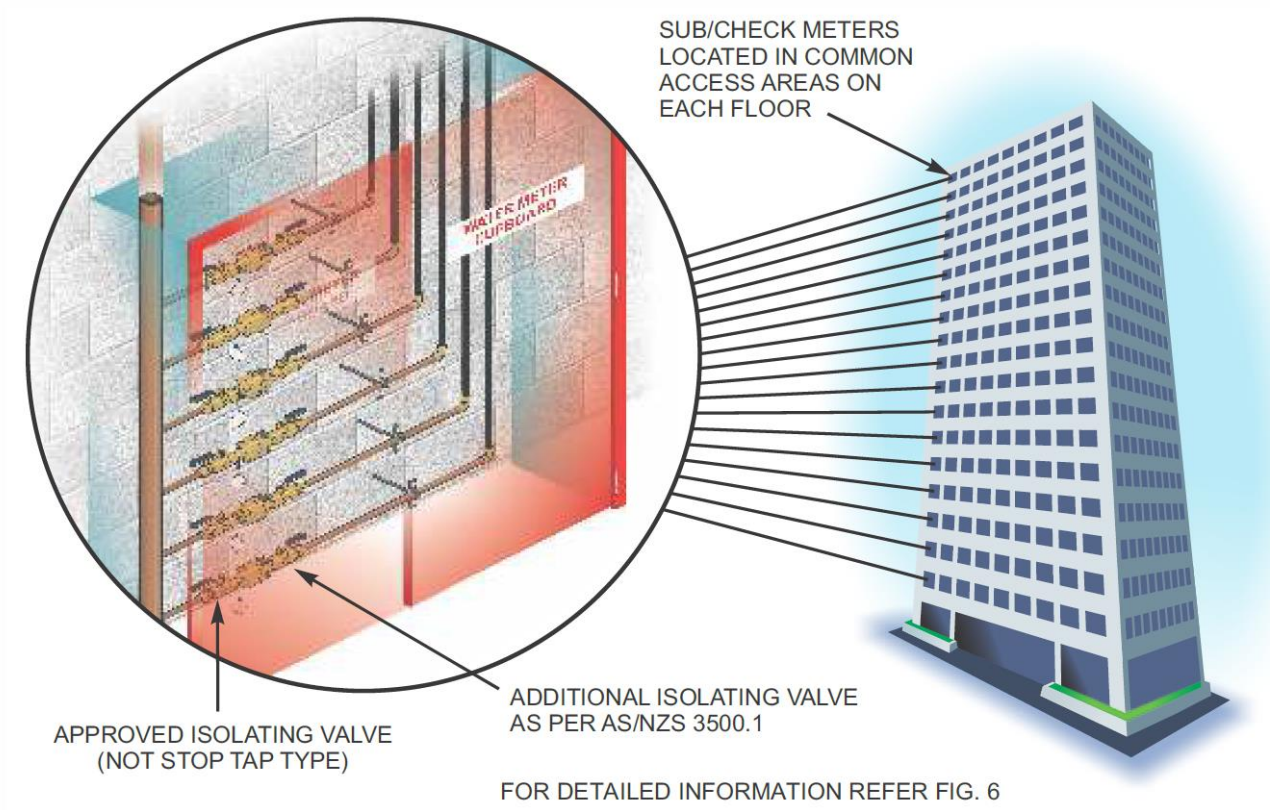


Figure 6: High Rise Sub/Check Meter Typical Arrangement

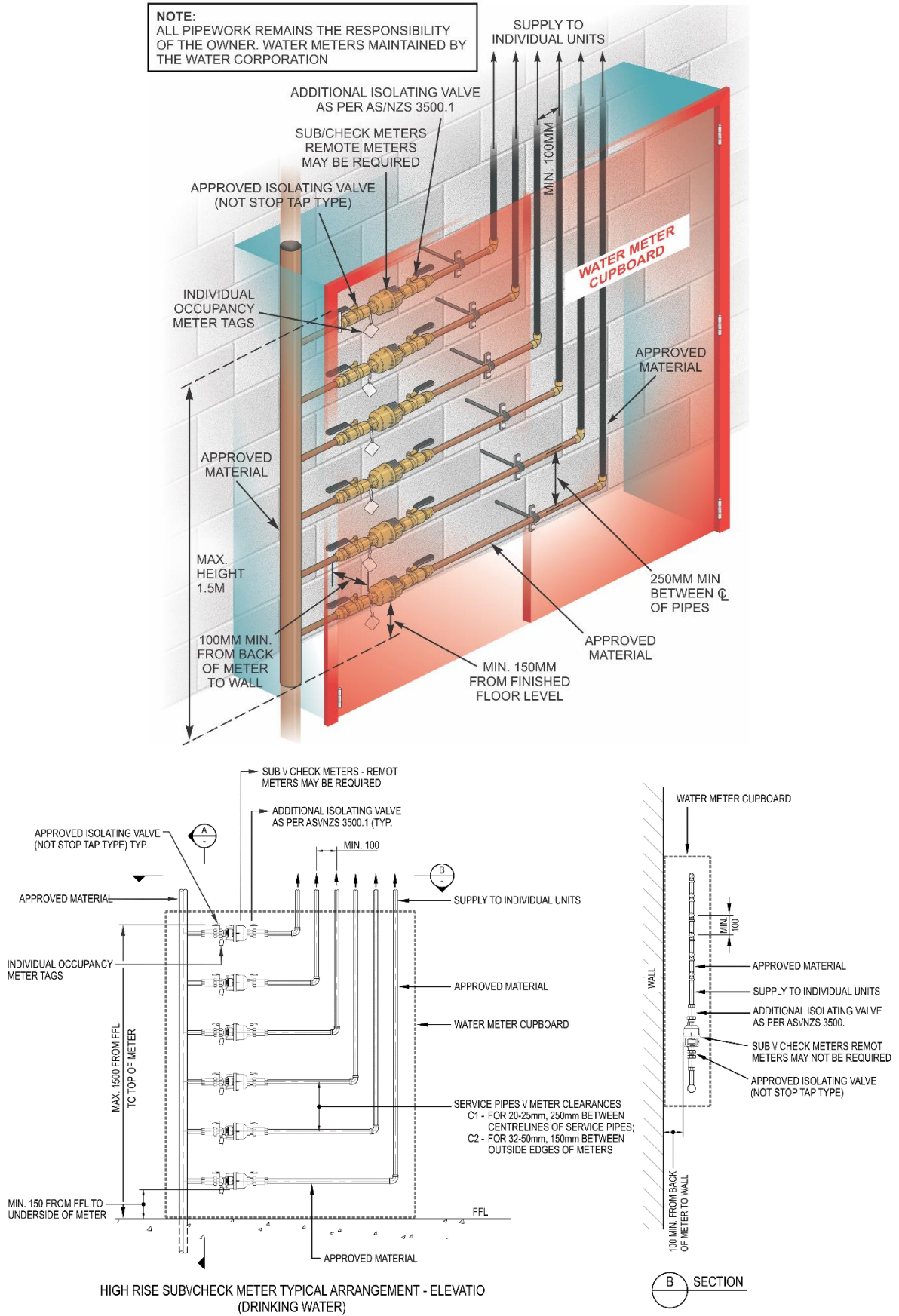


Figure 7: High Rise Sub/Check Meter Typical Arrangement Option 1 (Drinking / Recycled Water)

NOTE:
ALL PIPEWORK REMAINS THE RESPONSIBILITY OF THE OWNER. WATER METERS MAINTAINED BY THE WATER CORPORATION

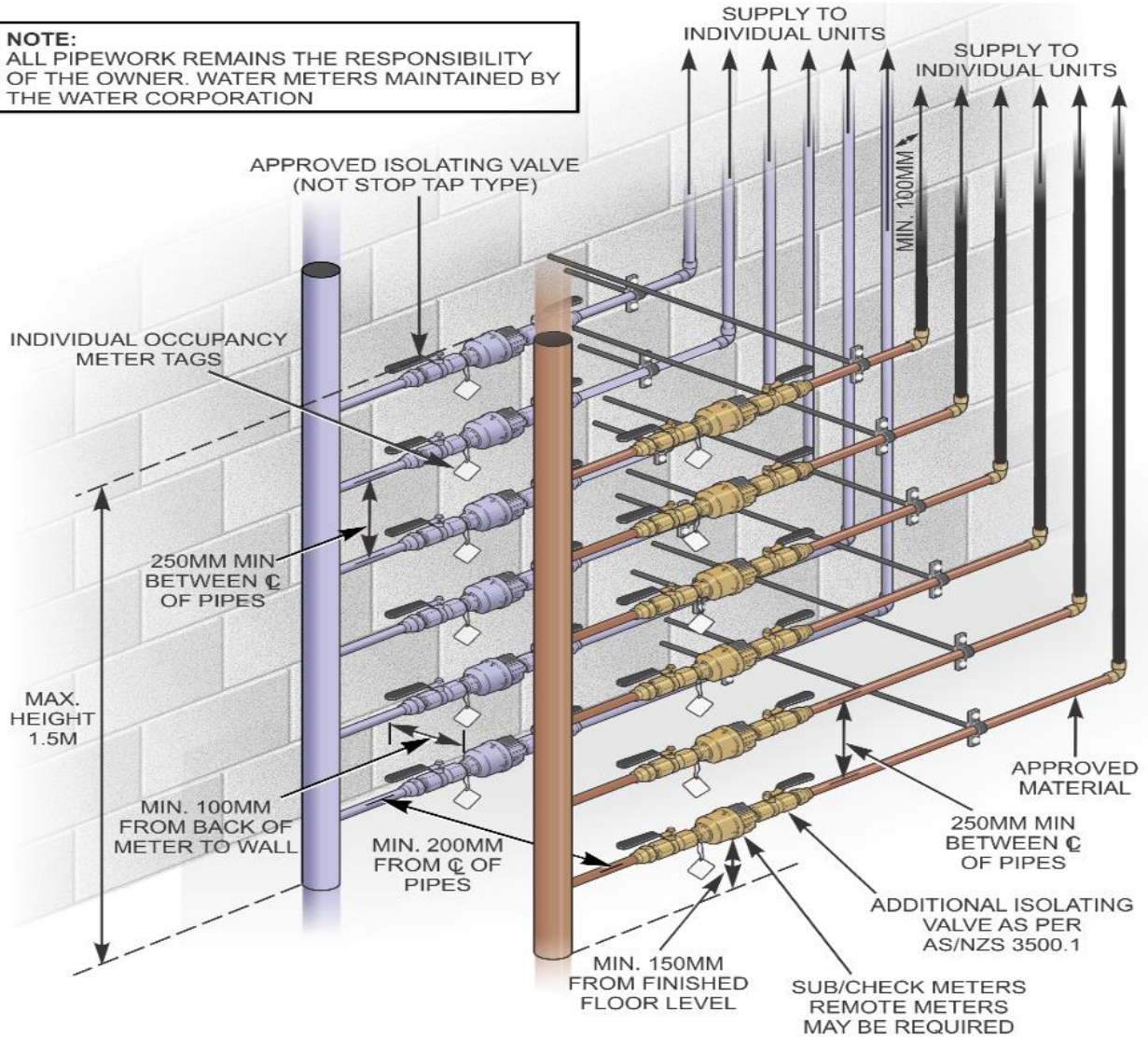
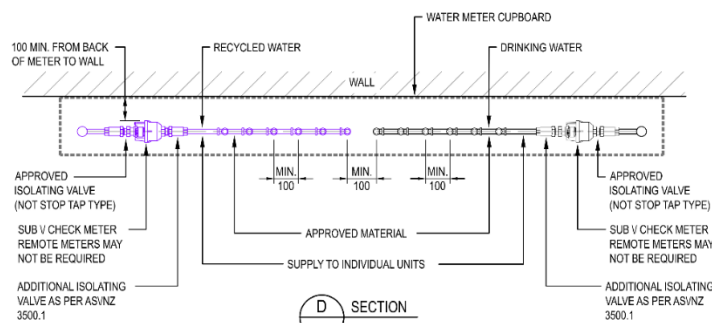
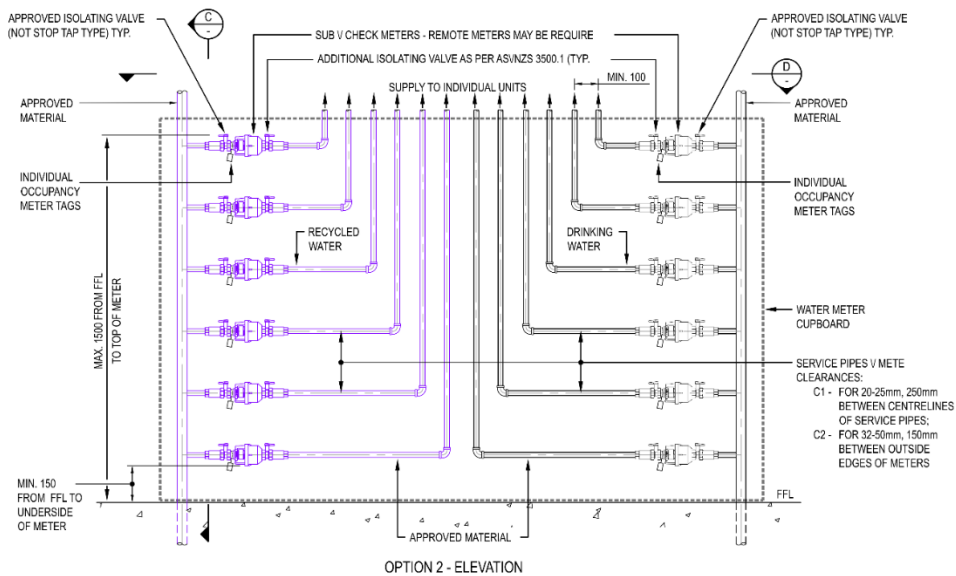
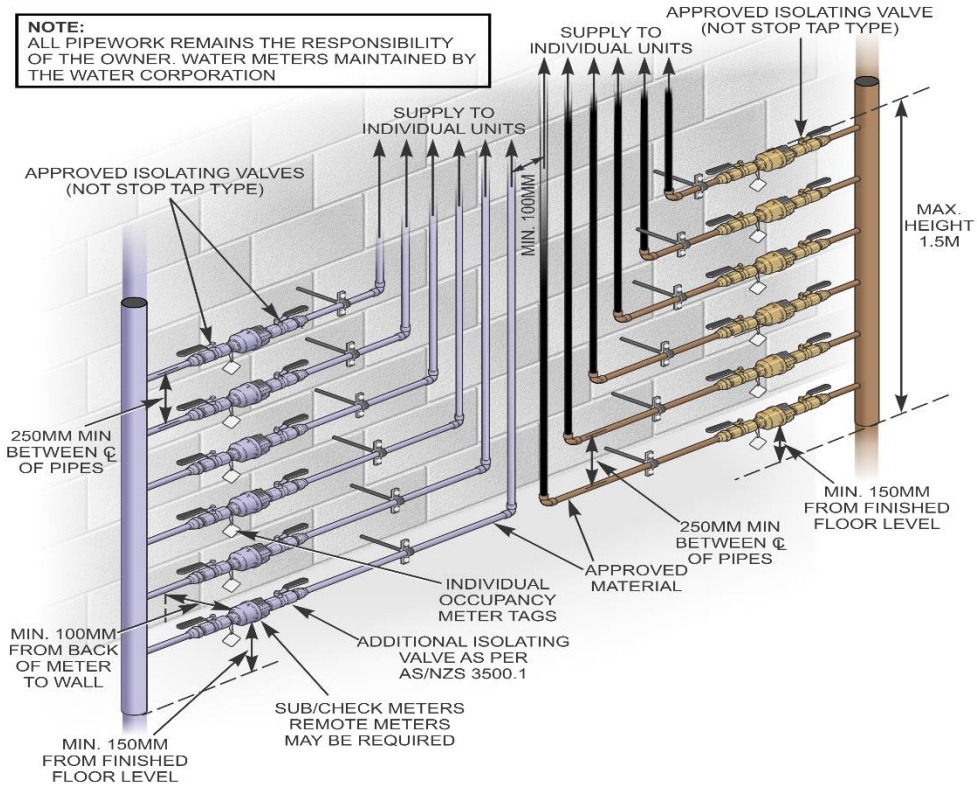


Figure 8: High Rise Sub/Check Meter Typical Arrangement Option 2 (Drinking / Recycled Water)



- NOTES:**
- ALL PIPEWORK REMAINS THE RESPONSIBILITY OF THE OWNER. WATER METERS MAINTAINED BY YARRA VALLEY WATER.
 - SUB/CHECK METERS LOCATED IN COMMON AREAS ON EACH FLOOR

6.3 Relocation of Existing Main Water Meters

Offsets in property services (water main to meter pipe work) will NOT be permitted.

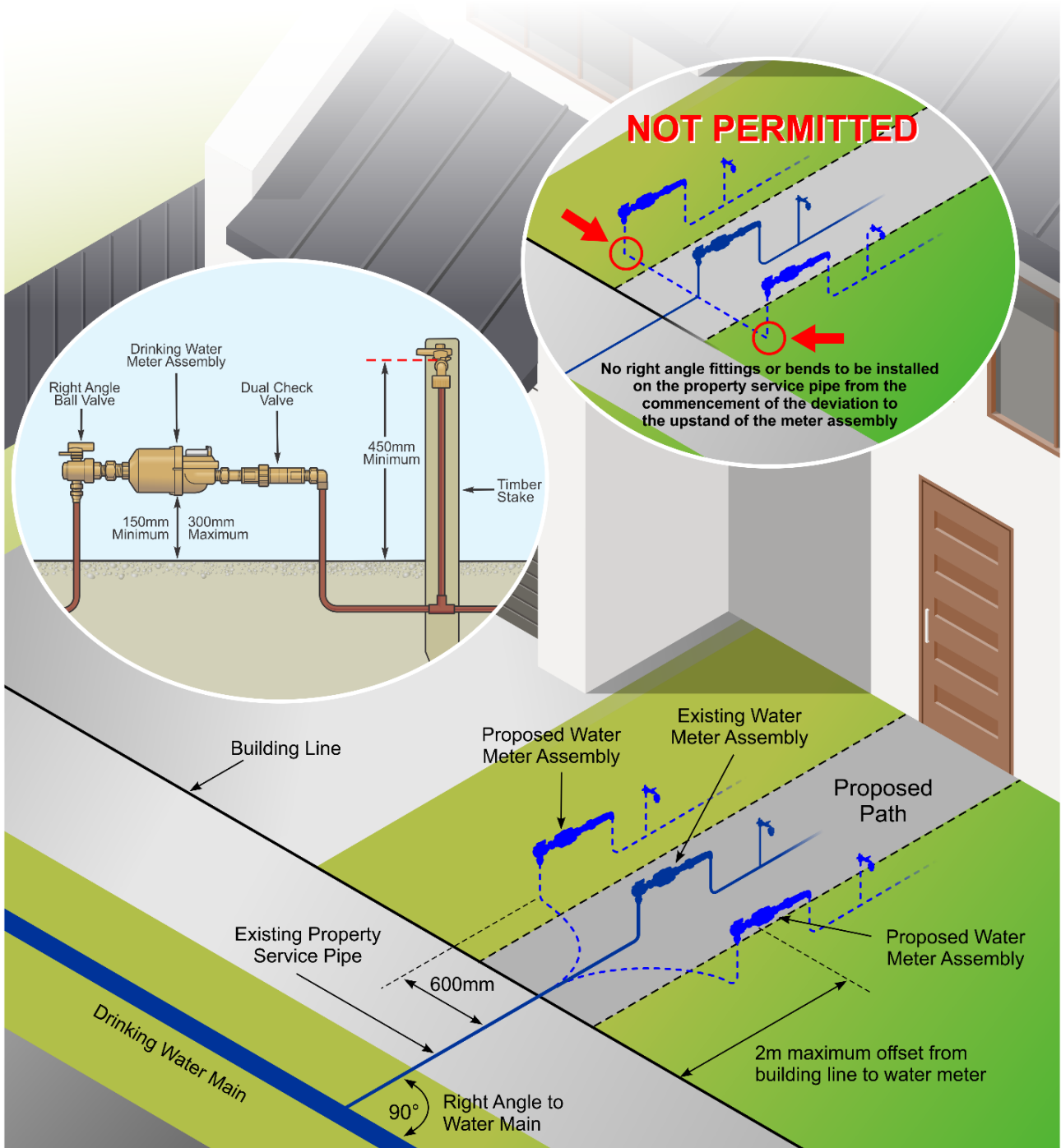
- The water meter/s may be deviated left or right of the alignment of the isolation valve on the water main up to a maximum of 600mm. This work is to be completed by a licensed plumber and all costs associated with the deviation of existing water meter(s) to be borne by the owner/applicant. Refer to Figure 9 and Figure 10.
- Any relocation of the meter assembly* greater than 600mm will require the service to be plugged and re-tapped at the water main. Refer to Section 7.5.
- If an existing water meter is removed from the assembly for any purpose, its accuracy may be affected, therefore it is necessary to replace it with a new Water Corporation meter at the owner's cost.
- The main water meter(s) is to be installed in accordance with Section 6.1.
 - **The property service pipe and connecting valve is to be located clear of any driveway crossing. (If not, a plug and re-tap will be required.)**
 - The water meter(s) must be located within two metres of the title boundary that abuts the water main.
 - Main to water meter* work is to be carried out by owner's licensed plumber in accordance with clause 6.1, at owners' cost, where no recycled water is present.

Note:

Where the relocation of either a Drinking Water or Class A recycled water meter assembly is required in a recycled water area, it is to be carried out by the relevant Water Corporation. Both assemblies (drinking water and Class A) must be relocated. Please lodge an application with the relevant Water Corporation to determine necessary requirements and costs.

*Please refer to Greater Western Water's Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

POTABLE WATER ONLY METER DEVIATIONS



Typical drawing showing a deviation of a drinking water service

Figure 9: Deviation of Existing Main General Water Meters (Short Side)

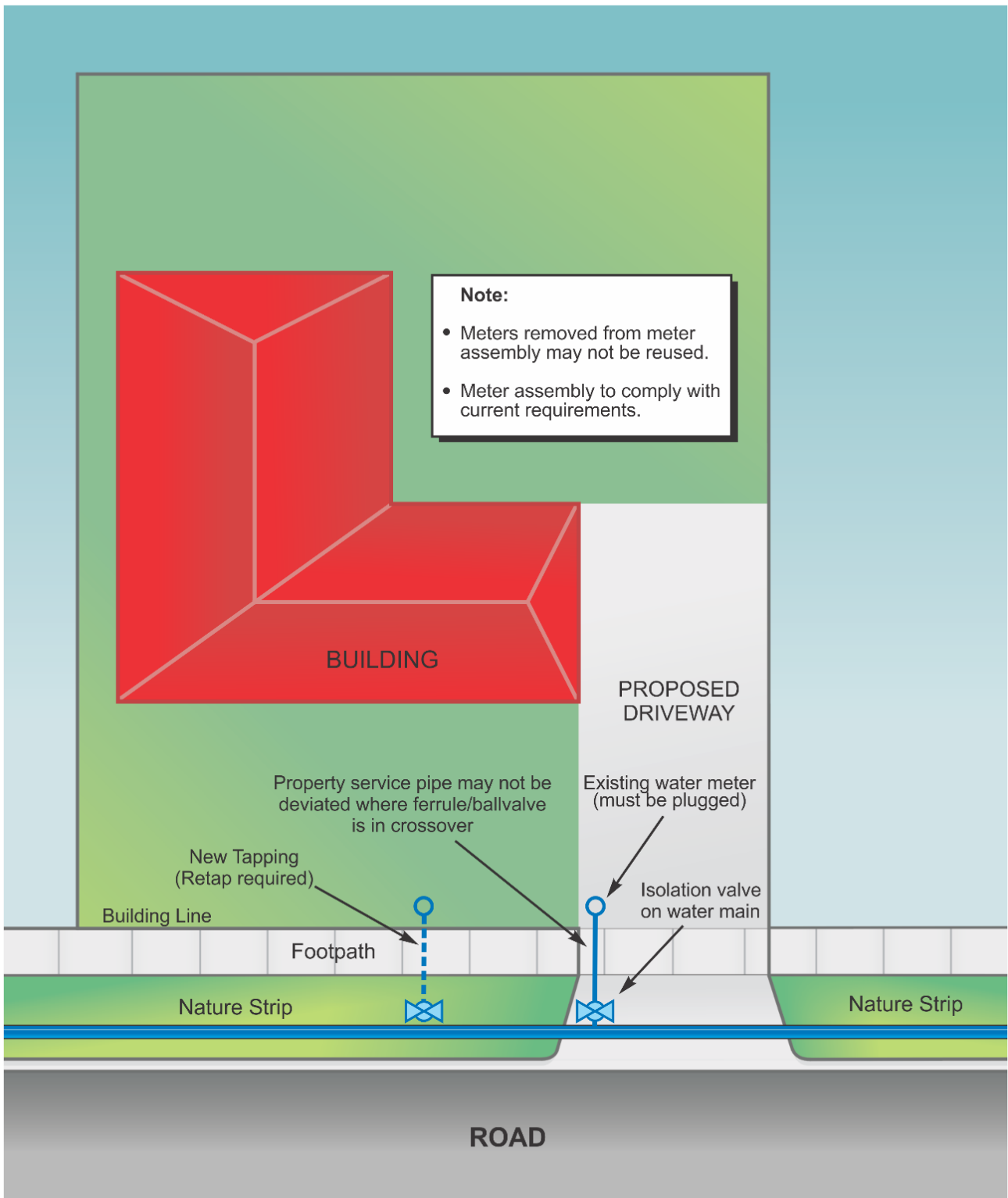
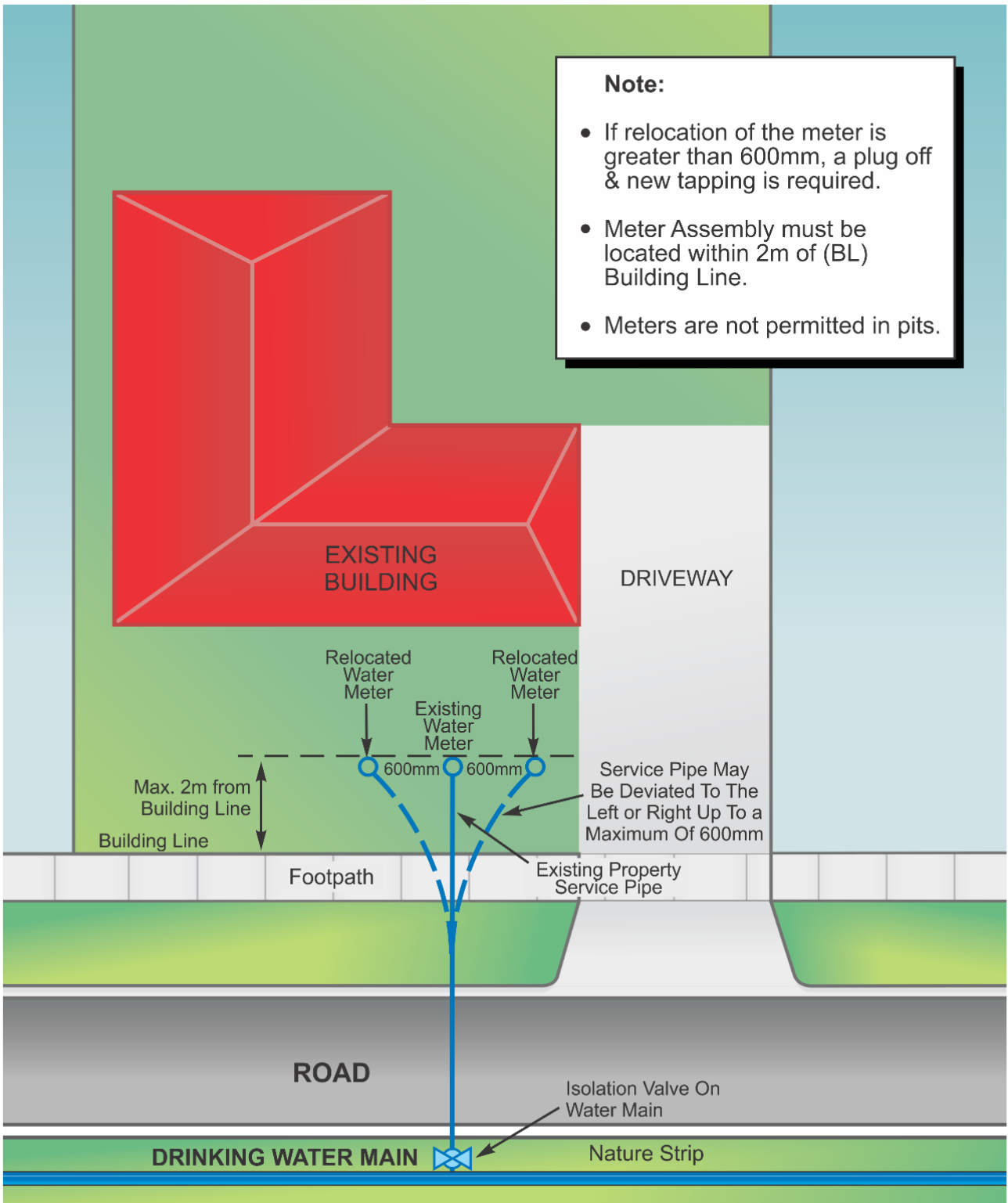


Figure 10: Deviation of Existing Main - General Water Meters (Long Side)



6.4 Water Meter Pits

Where conditions in Section 6 'WATER METER POSITIONING' cannot be met, main and/or sub/check meters may be permitted to be installed in a pit, **at the Water Corporation's discretion**. However it must be demonstrated that all options to install the water meter above ground have been adequately explored to the satisfaction of the relevant Water Corporation. In such cases, the pit must conform to the following requirements:

- Be constructed of an impervious material and be of a standard adequate to the location it is to be installed.
- Have a lid which can be safely and easily removed by one person.
- In trafficable areas must provide for a cover adequate to the loads experienced as well as access for reading.
- Provide adequate space around the water meter (within the pit) for maintenance and replacement.
- Where a testable backflow prevention device is installed, the pit provides for ease of maintenance of the device and assembly components.
- Be self-drained to prevent the pit retaining water
- The property owner is the owner of the pit and is responsible to maintain the pit in safe working order, conforming to the above requirements at all time and is responsible for any applicable costs.
- A pit located outside the title boundary and/or on council property requires the property owner to gain appropriate council approval prior to the installation of the pit.
- Remote read meters are required.

Note:

- Aesthetics is not considered a valid reason to locate a water meter in a pit.
- Reduced Pressure Zone backflow devices must not be installed in pits

6.5 Protection of Water Meters

In order to provide protection for water meters, the Water Corporation may require the installation of a water meter cage.

In such cases the cages must conform to the following requirements:

- Must have a gate which can be safely and easily opened by one person. If lockable, it must suit a standard industry key (003).
- Provide adequate space around the water meter (within the cage) for maintenance and or substitution of the water meter.
- The property owner is the owner of the cage and is responsible for the maintenance and safekeeping of the cage.
- Cages servicing meters to private property located on council property require the property owner to gain appropriate council approval prior to the installation of the cage/s.
- Safety bollards may be applicable in some cases.

7 WATER MAIN CONNECTIONS (TAPPINGS)

7.1 Wet Tappings

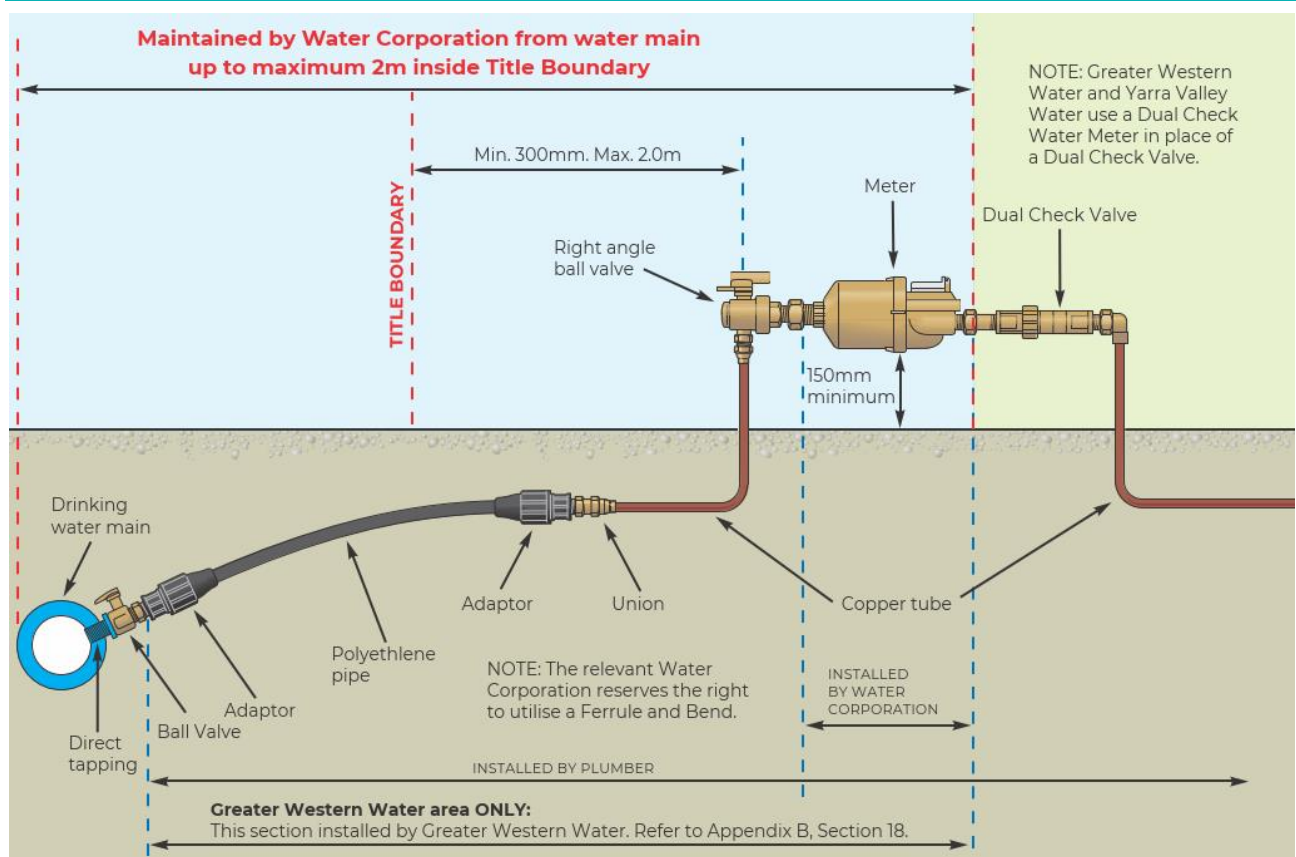
The responsible Water Corporations approved tapping contractor will carry out the tapping off the reticulated water main. Plumbers are not permitted to carry out this work. However, the plumber is responsible for exposing the water main by means of excavation, installing the new property service pipe, and constructing the meter assembly*. The selection of water main used for the tapping is at the discretion of the Water Corporation.

- A completed Plumbing Application must be submitted / lodged electronically to the relevant Water Corporation. Applicable fees must be paid and consent issued **prior** to any works being carried out.
- The water meter assembly, including the containment backflow prevention device must be installed by the plumber prior to the connection to the water main.
- Generally the maximum length of property service pipe is 30m. If a longer connection is required, an extension of the water reticulation main will be necessary.
- The property service pipe must be at right angles to the property.
- Tappings across dual lane roads with median strips are at the Water Corporation's discretion and may require an extension of the water reticulation main.
- Where the existing main does not have capacity to the service the proposed development, as determined by the Water Corporation, the water main will need to be upsized prior to any new tappings. Such upgrades will be at the applicants cost.
- Refer to Section 6.1 'Positioning of Main General Water/ Private Fire Service Meters' for water meter locations.
- Refer to the relevant Water Corporation for timing of water meter delivery or pick up.
- Some large water meters may take longer to be supplied and therefore customers should allow a minimum of 10 days lead time when arranging the water connection.

Note:

*Please refer to Greater Western Water's Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

Figure 11: Drinking Water Wet Tapping



Note:

- Prior to commencing any works in the vicinity of existing operational or abandoned water mains, the material type of the water main must be identified. In the event Asbestos Cement (AC) water mains are present, precautions as detailed in the WorkSafe Compliance Code “Removing asbestos in workplaces” must be followed for the removal and disposal of the non-friable asbestos containing material.
- The supply and installation of property service pipes, meter assemblies, backflow devices, excavation, reinstatement and traffic management are the responsibility of the owner or developer. It is the developer and/or owners’ responsibility to ensure that property service pipes be laid having regard to the applicable road owner’s requirements.

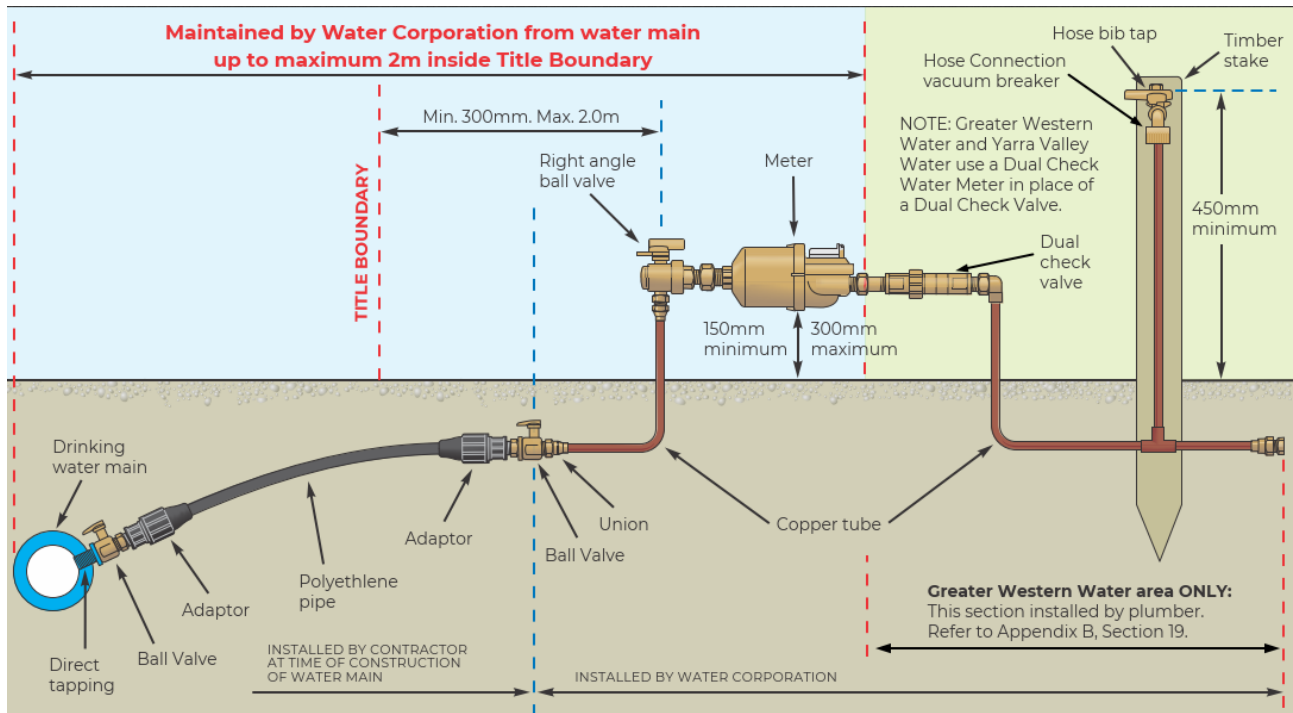
*Please refer to Greater Western Water’s Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

7.2 Dry Tappings for Drinking Water Supply (Residential Only)

The water meter assembly for 20mm Ø dry tappings is installed by the Water Corporation. Plumbers are not permitted to carry out this work.

- A fully completed Plumbing Application must be submitted to the relevant Water Corporation with applicable fees paid and consent issued **prior** to any works being carried out.
- A connection point is provided on the outlet side of the water meter assembly for the plumber to connect the internal water service pipe. The location of the dry tapping can be obtained from the relevant Water Corporation.
- In the event that the location of the water meter assembly requires moving by more than 600mm in either direction, the existing tapping is to be plugged at the water main and a new tapping provided. Refer to Section 7.5.
- Refer to Section 6.1 ‘Positioning of Main General Water/ Private Fire Service Meters’ for water meter locations.

Figure 12: Drinking Water Dry Tapping



7.3 Dry Tappings for Class A Recycled Water (where available)

The water meter assembly for Class A Recycled water dry tappings is installed by the Water Corporation. Plumbers are not permitted to carry out this work.

- A fully completed Plumbing Application must be submitted to the relevant Water Corporation with applicable fees paid and consent issued **prior** to any works being carried out.
- A connection point is provided after the water meter assembly for the plumber to connect the internal recycled water service pipe.
- The location of the dry tapping can be obtained from the relevant Water Corporation.
- In the event that the location of the recycled water meter assembly requires deviation by more than 600mm in either direction, the existing tapping is to be plugged at the recycled water main and a new tapping provided. Refer to Section 7.5.
- Refer to Section 6.1 'Positioning of Main General Water/ Private Fire Service Meters' for water meter locations.

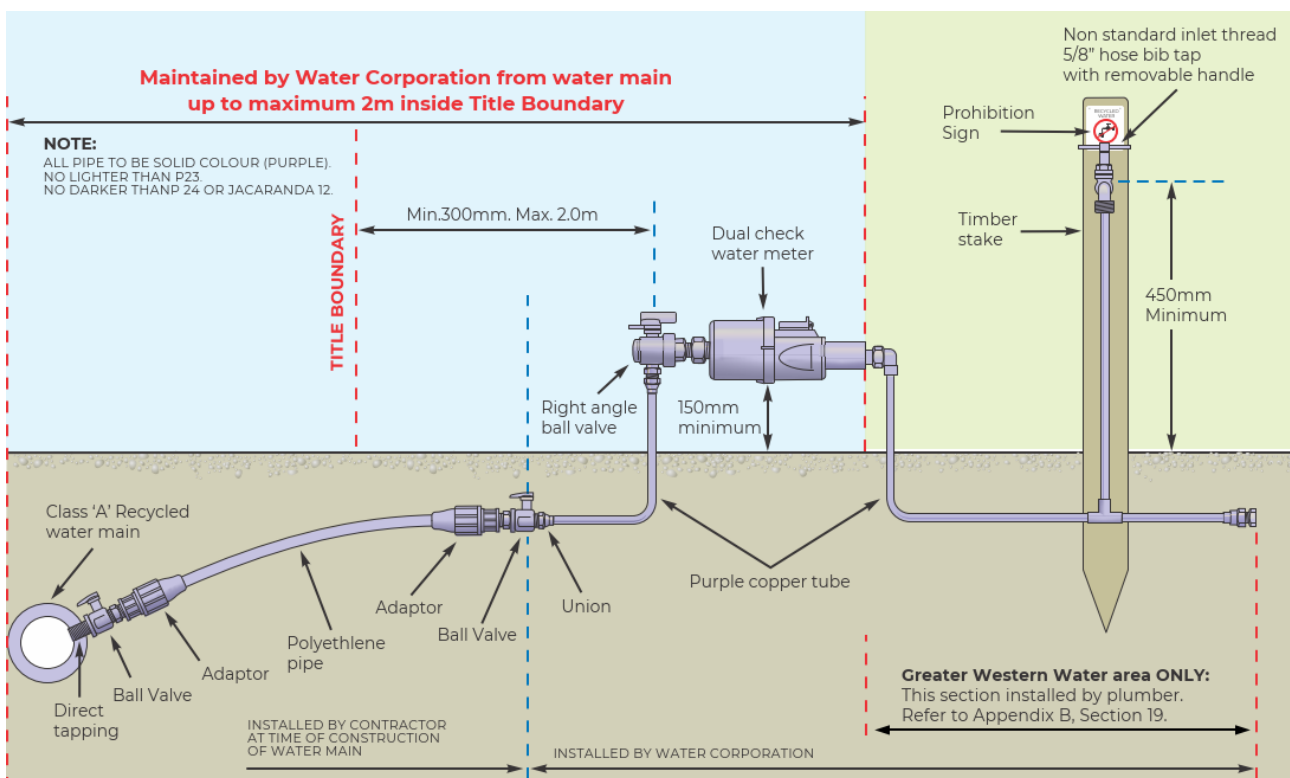
Note:

- If the Class A Recycled water dry tapping is not located in a suitable position, then both assemblies (Drinking Water and Class A Recycled water) will be required to be plugged and re-tapped. Refer to Sections 7.5.

Alteration to internal Class A Recycled Water Supply

Written approval is required from the relevant Water Corporation prior to the installation of any fittings and/or alteration of pipework. Class A Recycled Water alterations must comply with the Water Corporation's Conditions of Connection and/or alteration to Class A Recycled Water (fees apply).

Figure 13: Class A Recycled Water



7.4 Tapping / Plugging Excavations

Unless previously advised, the licensed plumber should confirm the tapping / plugging time by telephoning the relevant Water Corporation or its nominated agent on the working day prior to the tapping / plugging.

Prior to the commencement of any works, the contractor/licensed plumber is required to obtain the location of all services from **Dial Before You Dig (DBYD)** by telephoning 1100.

- The contractor/licensed plumber is required to have the water main exposed with adequate clearance and free of all ground water when the tapper arrives. Allow half an hour each side of the tapping time to allow for any unexpected time delays or changes. The **minimum** excavation size required for the tapper to do the work is specified in Figure 14.
- The water service pipe, water meter assembly, including isolating valve and appropriate backflow prevention device, must be installed prior to the tapping taking place
- Connection to the water main must be at right angles to the intended position of the water meter.

The contractor/licensed plumber **must be on site at the time of the tapping** and take all necessary precautions for safety in the vicinity of the excavation, including traffic management and the protection of pedestrians. **Safe access must be provided to the tapping location for the tapping contractor.**

Note:

- Property Services (Tapping from Water Main to Meter) are to be located clear of any existing/proposed driveways and/or crossovers.
- Prior to commencing any works in the vicinity of existing operational or abandoned water mains, the material type of the water main must be identified. In the event Asbestos Cement (AC) water mains are present, precautions as detailed in the WorkSafe Compliance Code “Removing asbestos in workplaces” must be followed for the removal and disposal of the non- friable asbestos containing material.
- It is the developer and/or owners’ responsibility to ensure that the property service pipe be laid having regard to the applicable road owners requirements.
- Failure to satisfactorily meet all of the above requirements will result in cancellation of the tapping for that day, making it necessary for the plumber to re-book and pay a re-booking fee.
- Loose polyethylene sleeving (Greensleeve) is used to protect ductile iron water mains against corrosion. The sleeving is essential to prolong the life of the reticulation system and care should be taken when exposing the main to protect this sleeving from damage.

Figure 14: Minimum Size of Excavation for Water Tappings and Pluggings

ALL WORKS TO COMPLY WITH OHS REGULATIONS 2017

Excavation Requirements

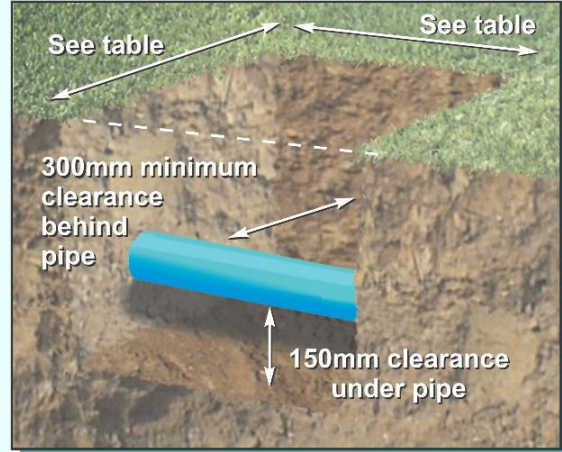
Maximum length from the main to the end of the valve is 450mm.

The Diagrams below show the minimum requirements. If the area is obstructed and prevents an excavation of this size, please contact the relevant Water Retailer, as they may still be able to work around the obstruction.

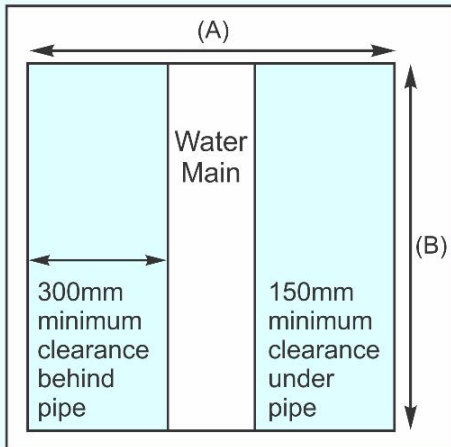
The excavation is to be dry and de-watered by the contractor.

Any other requirements that are directed to be on site, i.e. Tripods etc.

The contractor is to check 800mm from the centre of the excavation to ensure that there are no pipe collars or any other tappings.



20mm to 50mm Tappings

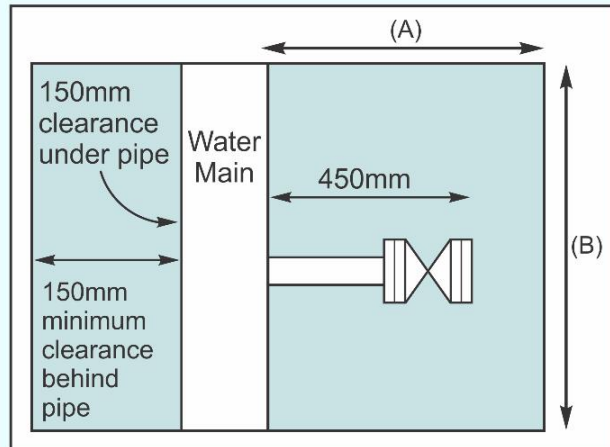


20mm to 50mm Tappings

Main Size = All

Depth to top of main

| | | |
|------------|------------|--------------------|
| (A) 1000mm | (B) 1000mm | Less than 750mm |
| (A) 1200mm | (B) 1200mm | Between 750-1500mm |
| (A) 1500mm | (B) 1500mm | Over 1500mm |



Larger than 50mm Tappings

Main Size

| | | |
|-------------|------------|------------|
| 80 - 150mm | (A) 1200mm | (B) 1000mm |
| 200 - 250mm | (A) 1500mm | (B) 1000mm |
| 300 - 450mm | (A) 2500mm | (B) 1500mm |

7.5 Plug and Re-Tap at the Water Main

For Relocating Meters greater than 600mm, New Developments and Redevelopments.

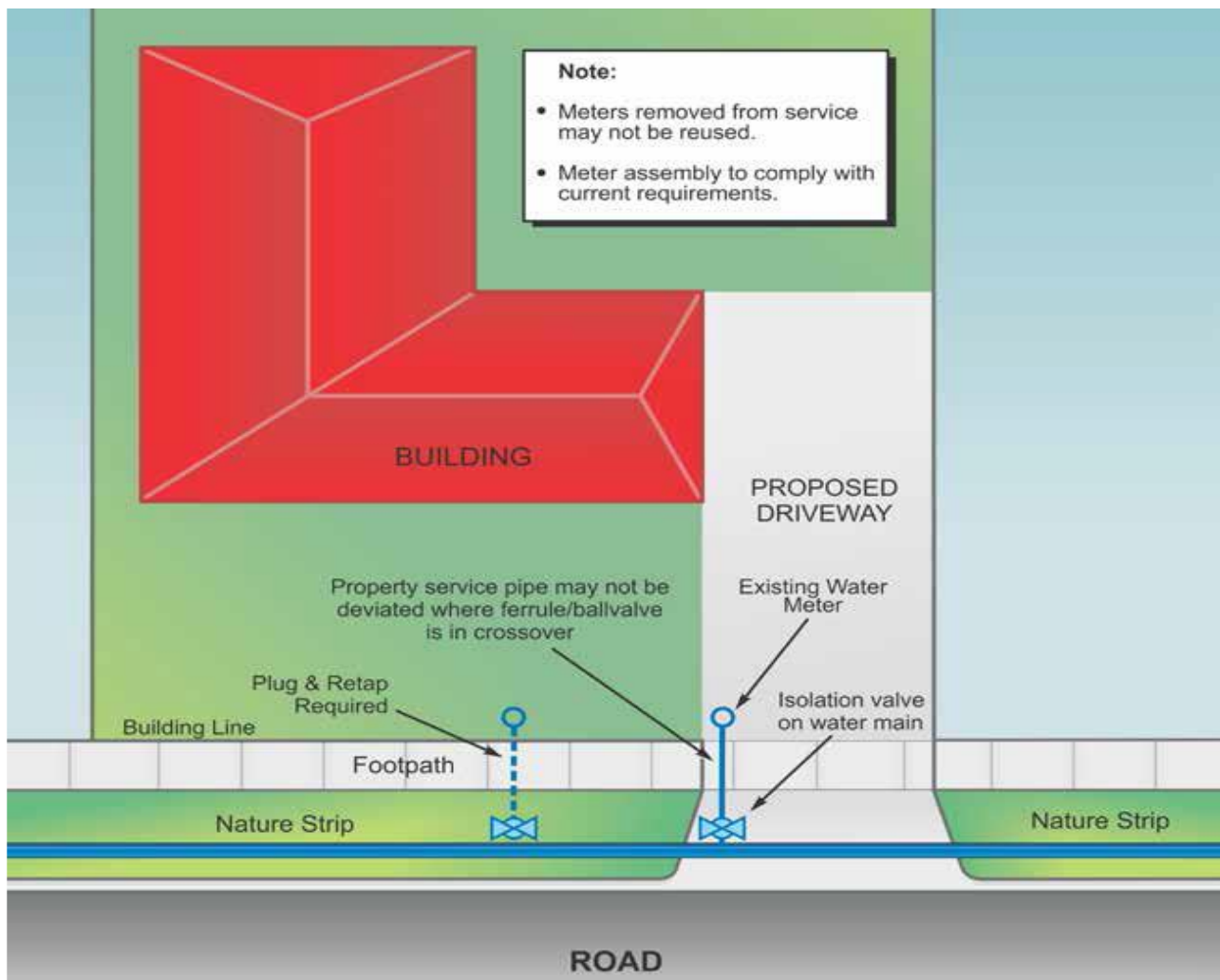
- If the re-tap involves only the drinking water meter assembly, the owner is to engage, at their cost, a licensed plumber to do the necessary work, with the exception of an actual tapping or plugging of the water main, which will be carried out by the Water Corporation, also at the owners cost.
- An application (with applicable fee) must be lodged with the relevant Water Corporation if an existing tapping is to be plugged and re-tapped.
- All excavation works are to be carried out by the owner's licensed plumber*.
- Any plug off required is to be carried out at the time of the new tapping being installed.
- The main water meter is to be installed in accordance with Section 6.1.
- If the existing water meter is removed from the assembly for any purpose, its accuracy may be affected, therefore it is necessary to replace it with a new meter at the owner's cost.

Note:

- Where relocation of any Class A recycled water property service pipe is required, it is to be carried out by the relevant Water Corporation. Both (drinking water and Class A Recycled water) assemblies will be relocated at the owner's cost. The assemblies shall remain 300mm apart with the drinking water meter assembly located to the right-hand side of the recycled water meter assembly, when facing the property.

*Please refer to Greater Western Water's Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

Figure 15: Plug and Re-tap Typical Arrangement



7.6 Re-Use of Existing Tappings

New developments and redevelopments.

Existing water tapping and existing property service pipes may be retained where:

- The existing water service is of approved material and is in sound condition (not GWIP).
- The new water meter is provided at owner's expense.
- The tapping is sized appropriately for new development in accordance with AS/NZS 3500.

If it can be demonstrated that the development's water supply demand does not impact on the performance of the water meter, the following applies:

- Where existing pressures and flows are found to be adequate to service the proposed development (to be substantiated in writing by a hydraulic consultant or licensed plumber), the existing property service pipe and water meter may be retained to service the new development.

7.7 Upsizing and Downsizing of Existing Services

- Existing tappings may be retained where the upsizing/downsizing of the property service pipe is no more than one pipe size (subject to approval by the Water Corporation*).
- The upsizing/downsizing is to occur directly at the first isolation valve located off the water main.
- Full replacement of the property service pipe is to be carried out by the owners' plumber at the owners' cost.

- Only approved polyethylene pipe is to be used for general services up to and including 50mm. Services larger than 50mm to be of an approved material in accordance with AS/NZS 3500.1.
- The owner or applicant is responsible to ensure pressures and flows will be adequate to service the proposed development, and substantiated in writing by a licensed plumber or hydraulic consultant.
- The request for the retention of the existing service must be submitted in writing for approval by the Water Corporation.

Where the above criteria for retention of the existing tapping cannot be satisfied, the existing tapping is to be plugged and an appropriately sized tapping installed. Refer to Section 7.5.

Note:

Where any water supply installation is proposed in contaminated or corrosive soil, the installation is to comply with AS/NZS 3500.1.

*Please refer to Greater Western Water's Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

7.8 Sizing of Water Meters and Property Service Pipes

All water meter sizes are to comply with relevant standards. For non-residential developments, the size of the property service pipe to the property is to be determined by the property owner or authorised agent.

7.9 Selection of Water Meters

The selection of the size and type of water meter will be dependent on the required flow rates nominated by the applicant and the intended use of the development. All water meters used by Water Corporations for billing purposes are to be of an approved type supplied by the Water Corporation.

8 OTHER RELATED GUIDELINES

8.1 Containment Backflow Prevention

Water Corporations require all new connections and redevelopments to have an appropriate backflow prevention device fitted at the outlet of the main water meter (Containment Protection) in accordance with the Plumbing Code of Australia.

- Water Corporations exercise their right under the Water (Estimation, Supply and Sewerage) Regulations 2014 to stipulate the minimum required backflow prevention device at the outlet of the main water meter as part of the assessment of applications for new, re-developed and/or refurbished developments.
- All new fire services require a Single Check Valve Testable as a minimum.
- An agreement is required to be executed between the Water Corporation and the property owner at the application stage when a testable backflow containment device is installed.
- If the risk category of a non-residential development is unknown at time of application, the Water Corporation will require the installation of a high hazard backflow prevention device.
- For single residential properties, generally a low hazard dual check valve is required to be installed at the outlet of the water meter.

Note:

- Where rainwater tanks are installed to provide toilet flushing, and it is intended to interconnect the reticulated drinking water supply system, an appropriate containment backflow prevention device may be required at the outlet of the main water meter to the property. In such cases, as a minimum, the device is to be a WaterMark approved dual check valve.
- If rainwater tanks are buried or partially buried, then a testable backflow prevention device will be required.
- Where the installation of an appropriate zone or individual hazard backflow prevention device is necessary in accordance with the provisions of AS/NZS 3500, the relevant Water Corporation will require, as a minimum, the same level of protection installed as a containment backflow prevention device at the outlet of the property main water meter.
- For residential properties within Yarra Valley Water's operating area, a dual check water meter (up to 25mm Ø diameter) is used.

8.2 Remote Water Meters

Where pre-arranged access would be necessary in order for the Water Corporation to read and/or exchange water meters, remote water meters are to be installed at the owner's cost. With approval from the relevant Water Corporation, 003 keys may be acceptable to access new developments. For existing properties, it is at the Water Corporation's discretion to retain keys and/or access codes.

- Remote water meters must be installed in new developments over two levels.
- Additional water meter reading equipment may be required for developments over four levels (including ground floor). Please contact the Water Corporation for specific site requirements.
- When applicable, water meters must have a minimum 100mm distance between the edge of the pipe and any wall and a minimum 250mm distance between the centres of the pipes of each water meter assembly.
- Remote water meters **must not** be located inside the units /apartments, or within the ceiling, wall or floor cavities of common access areas or pits.
- Remote meters will need to be installed when the meter is located behind a fence, gate (locked or unlocked) or within an area protected by a security system.
- Remote water meters are to be installed where the meter cannot be accessed due to long term construction fencing or site safety and accessibility issues.
- Remote water meters can be installed inside secure areas of main buildings provided that the

following conditions are met:

- Water meters are installed in utility rooms or meter cabinets located within common access areas on each level.
- Water meters are readily accessible for maintenance and replacement.
- Remote water meters may be installed in basements at the discretion of the Water Corporation provided:
 - The meter is only located no lower than the first basement level.
 - Access to the meter/s must be provided to the Water Corporation, in a manner agreed to by both the applicant and the Water Corporation.
 - Water meters are readily accessible for maintenance and replacement.
 - Aesthetics is not an acceptable reason in whether a meter assembly is to be located within a basement.

8.3 Material for Main to Water Meter Property Service Pipes (Drinking / Recycled Water)

- Only approved polyethylene pipe is to be used for general services up to and including 50mm.
- Services larger than 50mm to be of an approved material in accordance with the Plumbing Code of Australia
- Non-metallic pipes and fittings must not form any part of a water meter assembly.

Note:

Where the main meter or part of the property service pipe (other than a private fire service) is within or beneath the walls of a structure built on a serviced property, an additional stop valve must be installed externally to the property within 300mm of the property boundary unless otherwise approved by the relevant Water Corporation. Access for control of the valve shall be secured by placing a casing pipe and approved valve cover over the stop valve to the requirements of the Water Corporation and any other relevant authority. See Fig. 18 & 19 for further detail.

8.4 Material for Main to Water Meter Service Pipes (Private Fire Services)

Services may be installed in any approved material and installed in accordance with the Plumbing Code of Australia, refer to additional information in general notes of the meter configuration drawings.

Non-metallic pipes and fittings must not form any part of a water meter assembly.

8.5 Water Meter Ownership

Water meters are supplied by the relevant Water Corporation upon payment of a regulated fee. Once fitted, the water meter remains the property of the relevant Water Corporation and is maintained and replaced periodically at no cost to the owner unless the owner has altered the water meter surrounds and/or impeded accessibility to the water meter.

8.6 Damaged, Missing and Stolen Water Meters

As soon as any damage or loss of a water meter has occurred, the owner/applicant is required to notify the Police and obtain a Police report. A copy of the report is to be immediately provided to the Water Corporation. A regulated fee for the supply and installation of the replacement water meter and any other associated works may be charged. The replacement of the meter will be conducted by the Water Corporation's authorised contractors.

It is the responsibility of the property owner to reinstate the assembly including any applicable valves, fittings and containment backflow devices.

8.7 Removal of Water Meters

Only the Water Corporation's authorised contractors are permitted to remove water meters. Penalties apply for non-compliance.

If the redevelopment of a site is occurring and the meter is no longer required, the existing service must be plugged and the meter removed. If a building is being demolished and an application has not been lodged for redevelopment of the property, the existing service must be plugged and the meter removed. Water meters removed are not to be reused as per the National Measurement Regulations.

If the redevelopment of a site is occurring and the meter is to be retained, the water meter **MUST** be protected from physical damage during demolition and construction works.

Note:

An application for the removal of meters must be made with the Water Corporation. Fees apply.

Note (South East Water only):

- Main Water Meter Removal Only (20mm – 50mm)
- South East Water will allow the removal of the main water meter if a property is to remain vacant for a period of over one year. In these instances, the meter assembly and meter will be removed and a below ground ball valve installed inside the curtilage of the property with a marker post to indicate the ball valve location. Where a ball valve cannot be installed, South East Water will consider alternative options. A form will be sent out to the customer to organise the main meter removal. This work is to be carried out by the Water Corporation (fees apply). The location of the live service pipe will be recorded on the Water Corporation's Mapbase.

8.8 Return of Water Meters

For redevelopments or demolitions where the service is to be plugged the water meter(s) will be collected by the Water Corporation's authorised contractors at the time of the plugging.

Sub/check meters are to be returned to the relevant Water Corporation within 5 business days of being removed.

Note (Yarra Valley Water only):

An application (at no cost) must be lodged with Yarra Valley Water to organise the pickup of check meters from the site.

8.9 Use of a Data Logger

Data loggers are not permitted to be fitted to Water Corporation water meters without prior written consent, which includes a list of conditions which must be met. For details please contact the relevant Water Corporation.

8.10 Property Service Pipes for Redevelopments

Where a redevelopment is proposed and the existing property service pipe is of GWI (Galvanized Wrought Iron) material the property service pipe is to be replaced.

- Only approved polyethylene pipe as per AS/NZS 3500 is to be used up to and including 50mm Ø.
- Any approved material can be used on private fire service property service pipes.
- General water supply services greater than 50mm Ø to be approved polyethylene or copper as per AS/NZS 3500.

Note:

Where any water supply installation is proposed in contaminated or corrosive soil, the installation is to comply with AS/NZS 3500.1.

8.11 Pressure Limiting Valve

When the maximum static pressure at any outlet (private fire services excepted) within a building exceeds 500Kpa, a pressure limiting valve may be required at the owner's cost.

8.12 Hot Water Meters

Water Corporations do not supply water meters for heated water or for individual billing of heated water.

8.13 General Water Supply – Inline Pumping

Inline Booster Pumping may be approved, subject to the written approval of the relevant Water Corporation. A written request for the approval of variable speed inline pumps must be lodged with the relevant Water Corporation, as part of the application for conditions of connection, and should include details of the pump. i.e. pump make, module, duty points and curves.

Note:

The maximum pump flow should not result in the minimum residual pressure allowable of the street main being exceeded under peak demand conditions. This must be checked and approved by the Water Corporation.

9 RESPONSIBILITIES

The following drawings have been created in line with the Water (Estimation Supply and Sewerage) Regulations 2014 SR No 87-2014 to assist in defining the responsibility of customers and Water Corporations.

9.1 Property Service Pipes (Drinking / Recycled Water)

Figure 16: Main Meter up to 2m inside property

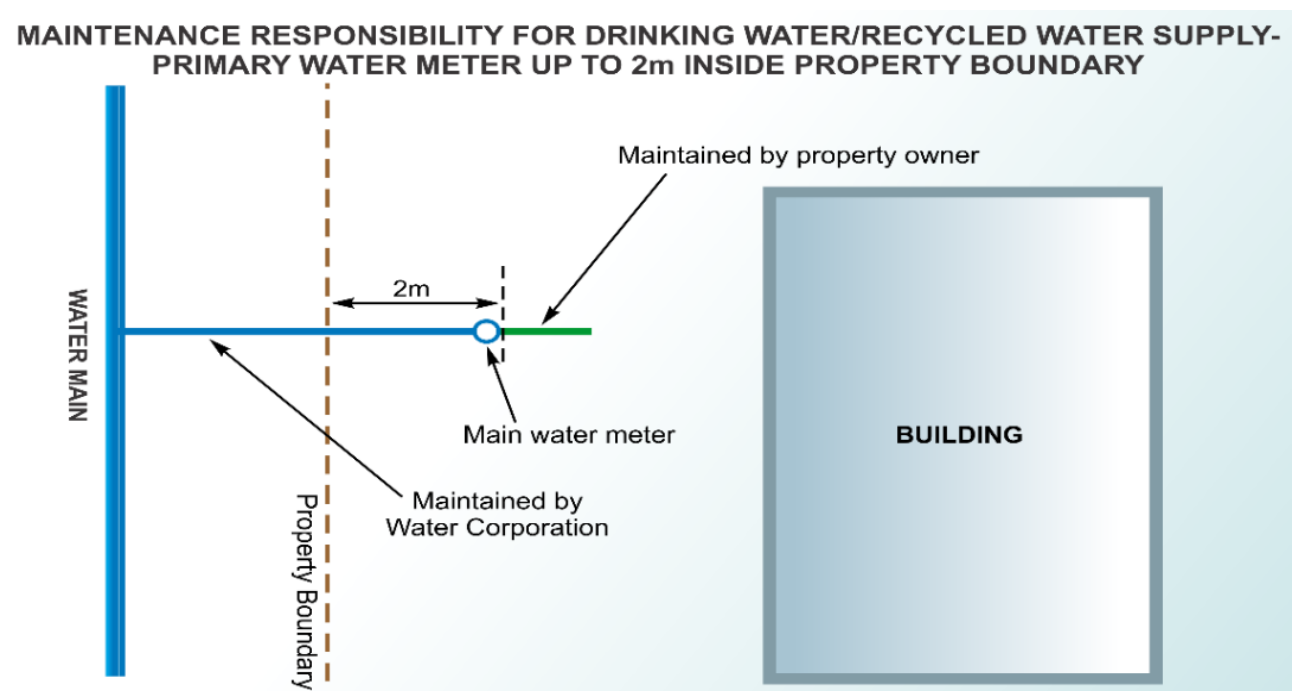
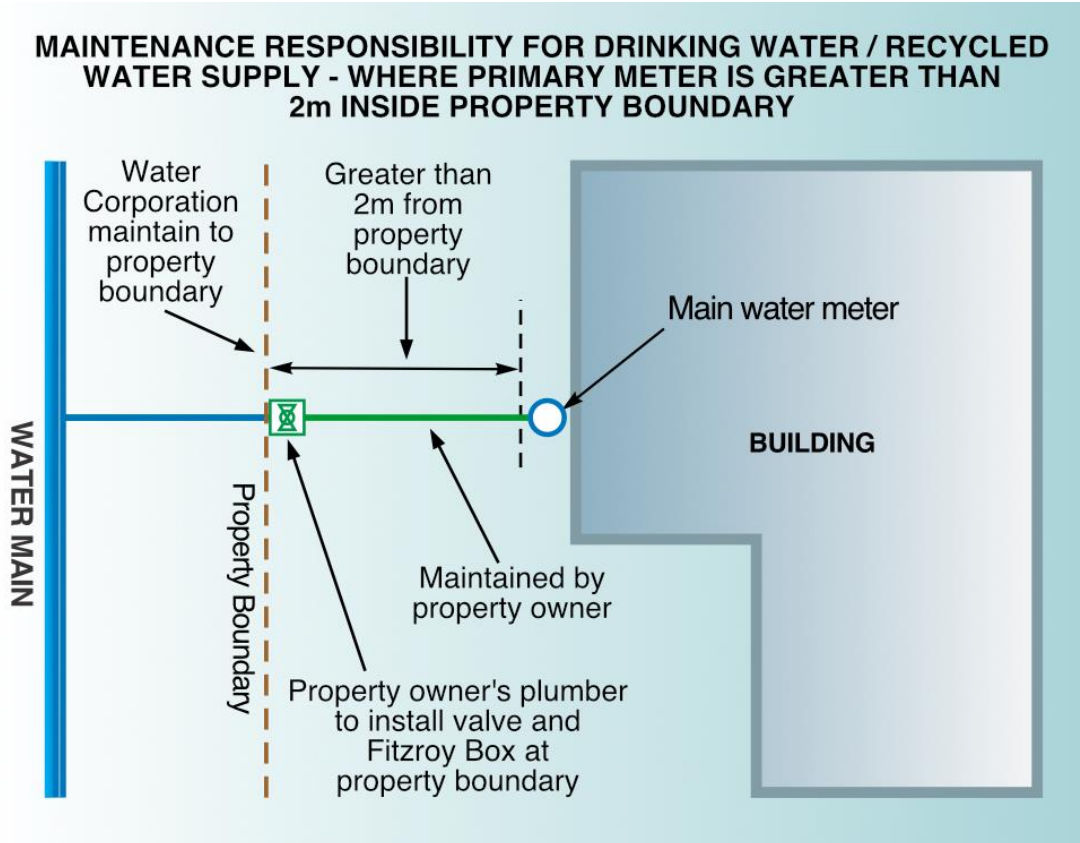


Figure 17: Main Meter Located Greater than 2m inside property



Water authority approval is required before a main water meter can be greater than 2 meters from property boundary.

Figure 18: No Main Meter or Main Meter located within a Structure

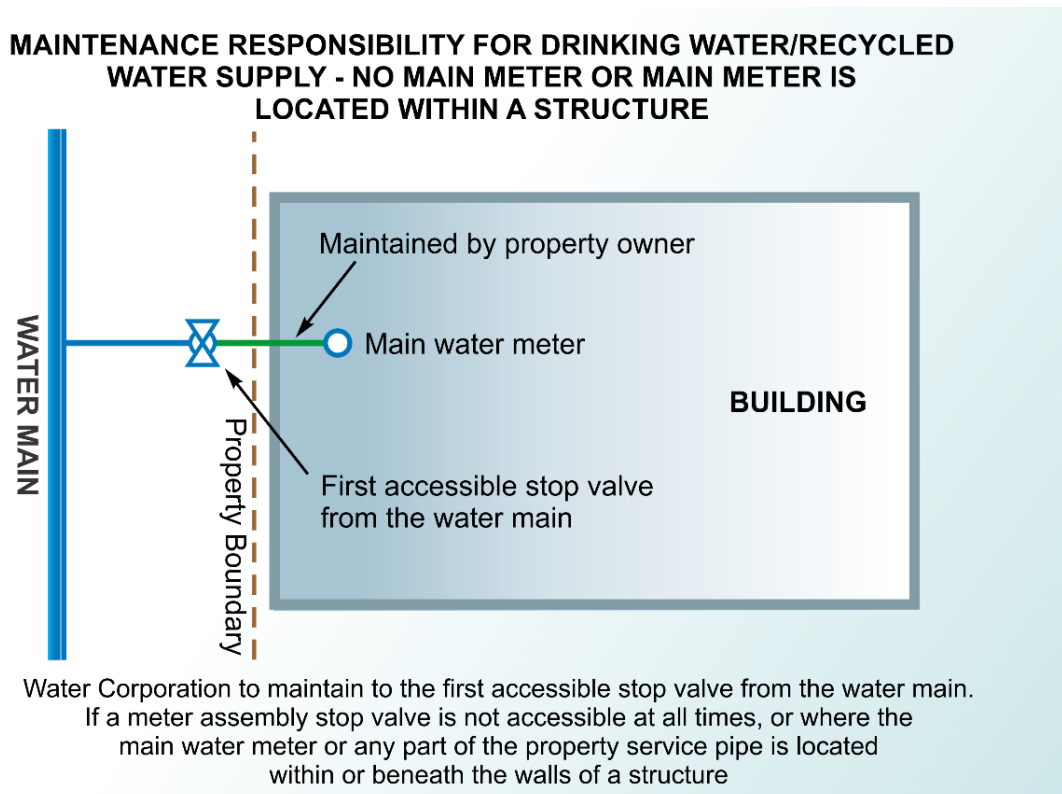
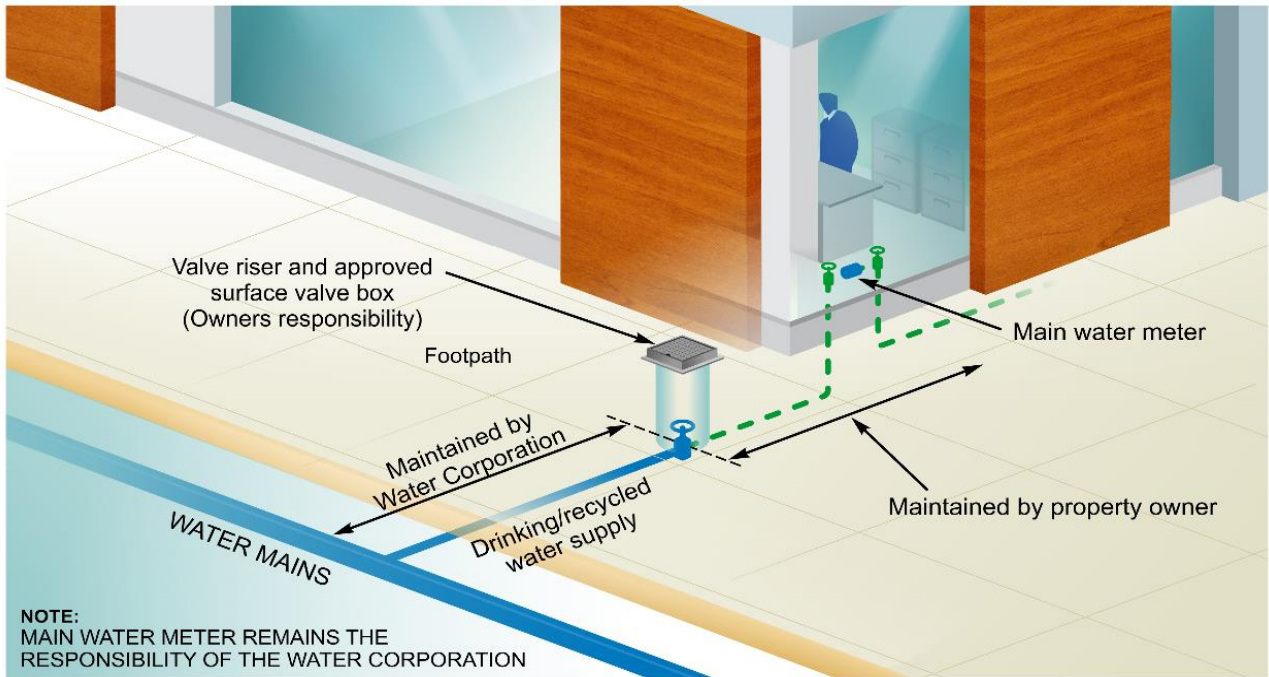


Figure 19: No Main Meter or Main Meter located within a Structure (Cross Section – Shop)

**MAINTENANCE RESPONSIBILITY FOR DRINKING WATER/RECYCLED WATER SUPPLY -
NO MAIN METER OR MAIN METER IS LOCATED WITHIN A STRUCTURE**



Water Corporation to maintain to the first accessible stop valve from the water main, main water meter or any part of the property service pipe is located within or beneath the walls of a structure

9.2 Property Service Pipes (Private Fire Services)

Figure 20: Private Fire Service Only

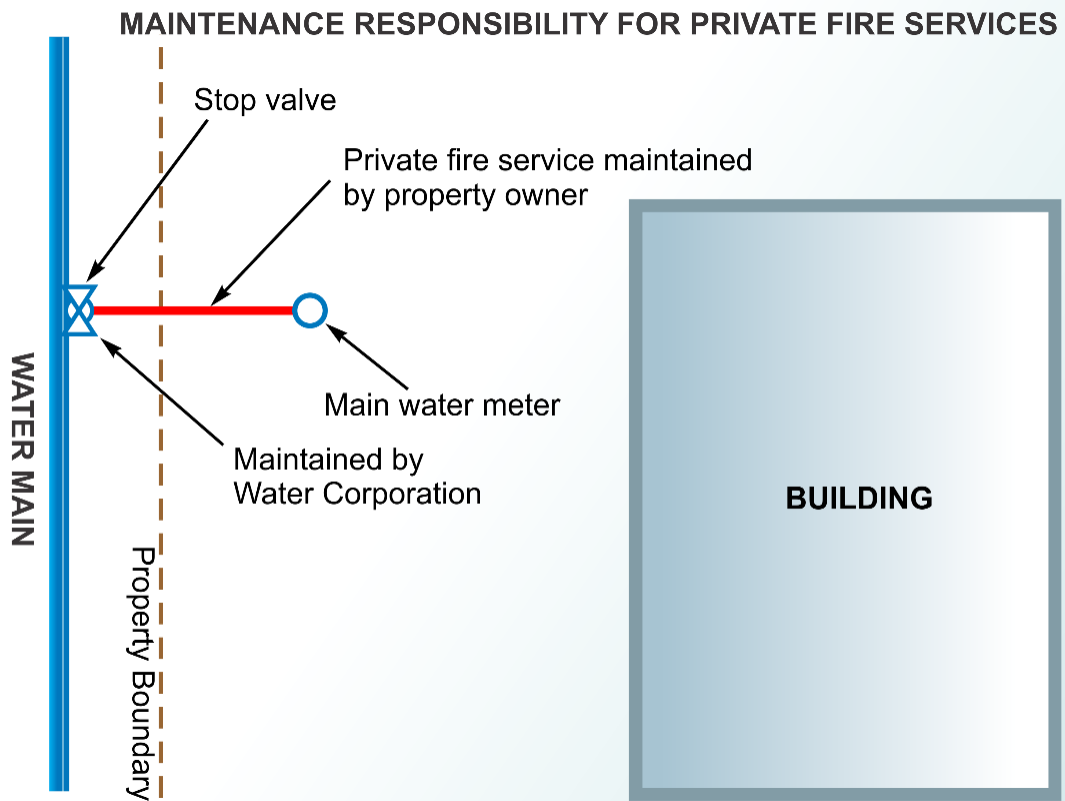
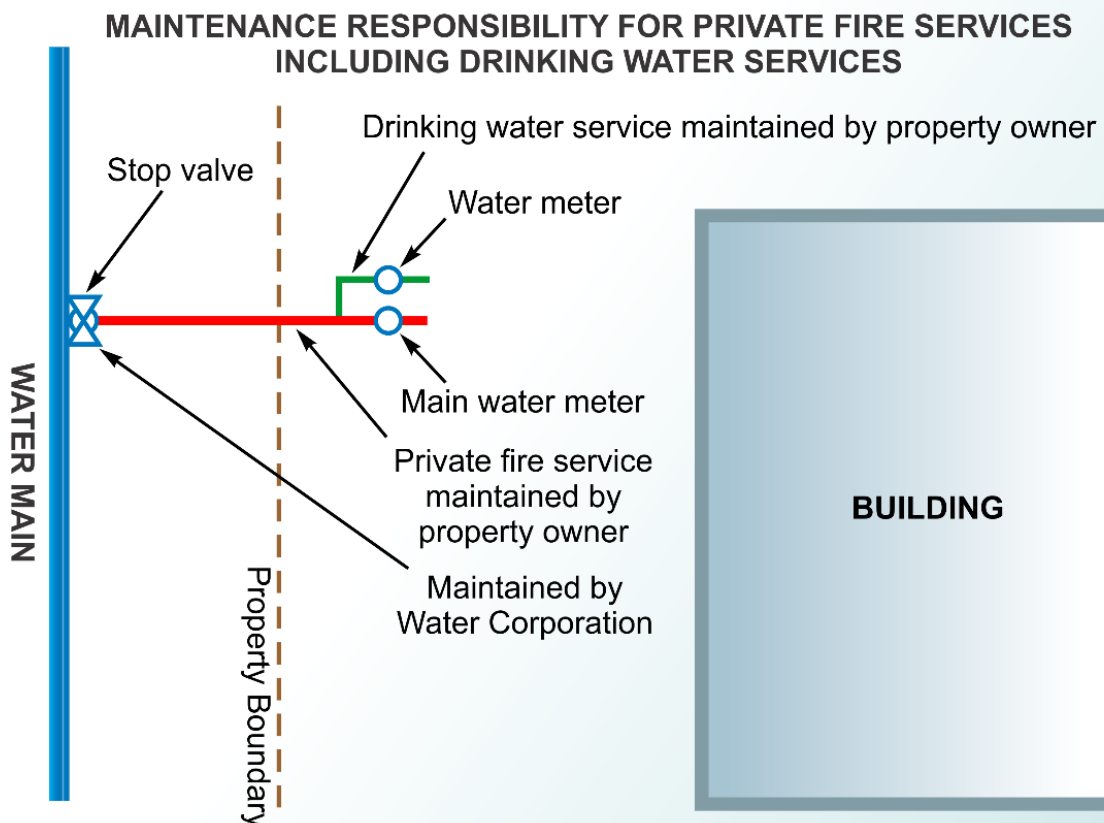


Figure 21: Private Fire Services Incl. Drinking Water Service



10 PRIVATE FIRE SERVICE

To be read in conjunction with typical arrangement /standard drawings.

10.1 Non- Compliant Installations

Where an installation is found to be non-compliant, it is the owners/applicants responsibility to rectify the installation in accordance with these guidelines and applicable standards within a nominated timeframe given by the relevant Water Corporation. Failure to do so may result in the disconnection of the main supply or rectification works will be carried out by the Water Corporation at owners/applicants cost.

10.2 Private Fire Services

All private fire services must be metered. Refer to Section 6.1 for positioning of private fire service meter assemblies. The type of meter used is dependent on the type of private fire service being installed and the applicable design standard to each installation. The relevant Water Corporation will supply the meter/s at the owner's cost. Refer to Section 10.3 for the metering requirements specific to the 'Private Fire Service'.

Where the private fire service is greater than 50mm Ø the general service shall be connected off the private fire service prior to the private fire service water meter and must be separately metered.

The metering of hydrant fire services with inline water meters requires prior approval from the applicable fire authority.

Refer to Figure 19 and Figure 20 for details on Private Fire Services.

Note:

- Water meter assemblies shall comply with the Water Service Assembly Arrangements located on individual Water Corporation Web sites and contained within this document.
- Where a private fire service is installed on the property, the primary supply is deemed to be the private fire service.

Redevelopments/Major Augmentation of Private Fire Services

In cases of redevelopments and/or change to a private fire service e.g. Changes to sprinklers and/or hydrants, the private fire service metering and containment backflow may need to be upgraded to meet current requirements. This will be at the discretion of the Water Corporation.

Recycled Water for Private Fire Services

The Water Corporation may grant approval for recycled water to be used for firefighting purposes subject to availability of supply and the type of fire system to be installed.

Where recycled water/alternative water is intended to be utilised for firefighting purposes, the appropriate hazard level of containment backflow prevention is to be based on the degree of risk of containment to the Water Corporation's water supply system.

Fire sprinkler systems **must not** utilise Class A Recycled water.

10.3 Private Fire Service Metering Guide

| Type of Fire System | Australian Standard | Single or Combination Standard * | Inline/ booster pumps | Metering Requirement | Water Saving Measures Required. ** |
|--|------------------------|----------------------------------|-----------------------|----------------------|------------------------------------|
| Fire Hydrant 80mm diameter or larger | AS 2419.1 | Single | No | SCDAT | No |
| | AS 2419.1 | Single | Yes | Mag meter | Yes |
| Fire Hydrant 80mm diameter or larger, combined with sprinkler service | FPA101H | Single | No | SCDAT | No |
| | FPA101H | Single | Yes | Mag Meter | Yes |
| Fire Hydrant 80mm diameter or larger & general service combined | AS 2419.1 | Single | No | Mag meter | No |
| Automatic Fire Sprinkler greater than 50mm diameter | AS 2118.1 | Single | No | Mag meter | No |
| | AS 2118.1 | Single | Yes | Mag meter | Yes |
| Automatic Fire Sprinkler / Fire Hydrant 80mm diameter or larger | AS 2118.6 | Combined | No | Mag meter | No |
| | AS 2118.6 | Combined | Yes | Mag meter | Yes |
| Automatic Fire Sprinkler, complete with hydrant system | AS 2118.1 | Combined | No | Mag meter | No |
| | AS 2419.1 | Combined | Yes | Mag meter | Yes |
| Automatic Fire Sprinkler, complete with hydrant system | AS 2118.4 | Combined | No | SCDAT | No |
| | AS 2419.1 | Combined | Yes | Mag meter | Yes |
| Automatic Fire Sprinkler Designed under Commercial and Residential Standards i.e. carpark under one standard / units under another | AS 2118.1 AS 2118.4 | Combined | No | SCDAT | No |
| | AS 2118.1 AS 2118.4 | Combined | Yes | Mag meter | Yes |
| Automatic Fire Sprinkler up to 50mm diameter | AS 2118.4 | Single | No | Mechanical meter | No |
| Automatic Fire Sprinkler greater than 50mm diameter | AS 2118.4 | Single | No | SCDAT | No |
| Automatic Fire Sprinkler up to 50mm diameter (incl. FPA101D) | AS 2118.5 | Single | No | Mechanical meter | No |
| Automatic Fire Sprinkler, Drenchers up to 50mm diameter | AS 2118.2 | Single | No | Mechanical meter | No |
| Automatic Fire Sprinkler, Drenchers greater than 80mm diameter | AS 2118.2 | Single | Yes | Mag meter | Yes |
| | AS 2118.2 | Single | No | SCDAT | No |
| Automatic Fire Sprinkler, Deluge up to 50mm diameter | AS 2118.3 | Single | No | Mechanical meter | No |
| | AS 2118.3 | Single | Yes | Mechanical meter | Yes |
| Automatic Fire Sprinkler, Deluge 80mm diameter or larger | AS 2118.3 | Single | No | SCDAT | No |
| | AS 2118.3 | Single | Yes | Mag meter | Yes |

* Designed under a Single Standard or in Combination with another Standard

** Yes or No– refer to the 'Water Saving Measures Definition' (Page 37)

Private Fire Service Metering Guide Definitions

Inline/Booster pumps

Used to pump water directly from the water main or via a break tank.

Booster Connections

Refers to providing a connection for Fire Brigade pumper trucks (No direct inline pumping).

Combined Fire Service System

A fire system designed under two separate Australian Standards i.e. carpark under one standard and the remainder of the development under another.

Drenchers, Systems

Provides automatic sprinkler protection to windows, doors and other openings from exposure to fire.

SCVT

Single Check Valve Testable backflow device.

SCDAT

Single Check Detector Assembly Testable backflow device.

Mag Meter

Magnetic Flow meters have no moving parts and are permitted for inline metering on fire services by Fire Authorities on request.

Mechanical Meter

A water meter having mechanical components within the body of the meter.

Combined Fire and General System

Where the Fire service also supplies general water fixtures. In such cases prior relevant Fire Authority consent is required to meter the fire service via a water meter other than a bypass meter.

Backflow prevention requirements must be in accordance with the hazard level identified for the development.

Water saving Measures

Recirculating tank or other means employed to save the test water i.e. Adjustment of pressure relief valve to maximise water savings.

Demonstrated Water Saving Measure Definition:

No: The fire system is required to be designed to accommodate monthly testing to AS 1851.

Yes: Provide a fire system to recirculate test water Or Adjust PRV & control valves to save water with a pressure gauge schedule to AS 2118.1 and incorporate monthly testing.

Fire Service Backflow Prevention

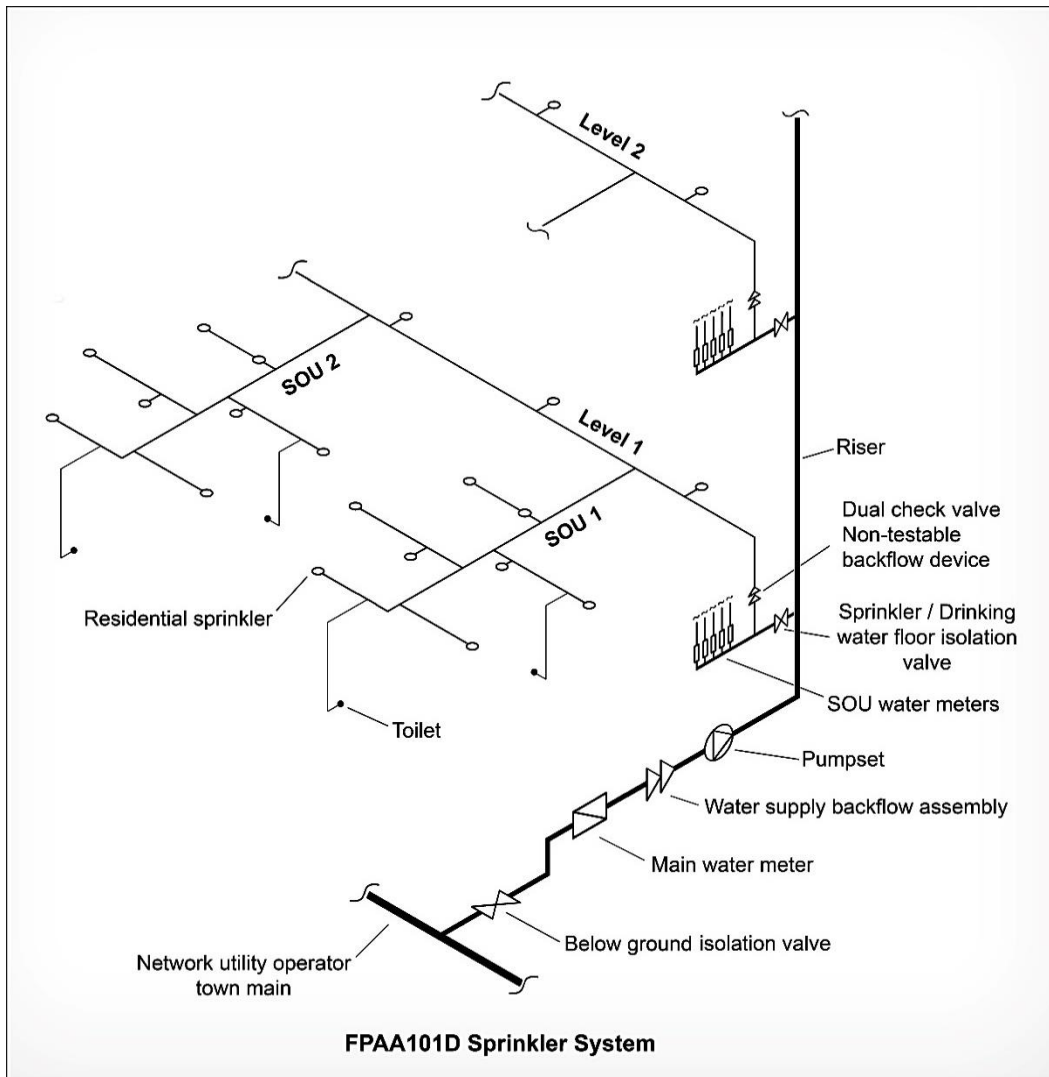
Fire services 80mm and larger require as a minimum a Single Check Testable Device. For a hydrant / hose reel service, a Single Check Detector Assembly is required with a by-pass meter assembly.

Note:

The device must be commissioned and retested annually. Copies of commissioning details and yearly test results must be forwarded to the relevant Water Corporation as a condition of supply.

10.4 FPAA101D Sprinkler Systems

Figure 22: FPAA101D Sprinkler System



This Technical Sprinkler Specification has been developed to provide a fit for purpose sprinkler system for use in Class 2 & 3 buildings, which are a minimum of 4 storeys, and less than 25mtrs high. This system is fed from the drinking water (general) supply rather than a dedicated fire service, and includes supply for toilets in each apartment. The following points should be considered by the Fire Service Designer:

a. Asset ownership:

In accordance with the Water (Estimation, Supply & Sewerage) Regulations 2014, it is the property owners' responsibility to maintain the private fire service from the water main to the property, excluding Water Corporation supplied meters. See Figure 20 for further detail on asset maintenance responsibility.

b. Backflow protection

The water corporation or an accredited backflow tester will conduct an assessment of potential backflow risks on the site, and will determine the hazard rating required of the backflow containment device. All buildings 4 storey and above will however require as a minimum a medium hazard backflow containment device. The pressure loss through the backflow containment device must be considered by the Fire Service Designer.

c. Mandated Class A Recycled Water areas

Class A Recycled Water cannot be used for fire sprinkler systems. In areas where Class A Recycled Water is supplied by the water corporation, potable (Drinking) water cannot be used for toilet flushing. In areas such as these, FPAA101D will not be suitable.

d. Impacts to the Owners Corporation

The configuration of a FPAA101D system does not allow for separate metering of toilet and fire sprinkler water use. Water usage will therefore be recognised as common usage and charged by the local water authority via measurement from the main water meter.

The Owners Corporation will be billed for the common usage water used in the toilets connected via the sprinkler system. This charge is typically then apportioned equally (by the Owners Corporation) amongst the apartment owners. It is recommended that the developer is made aware of these issues by the Fire Service Designer.

e. New Customer Contributions

On properties where contributions are to be charged as a ratio calculation, only the general supply flow rate will be used to determine the appropriate meter size (based upon the nominal or Q3 meter flow rate).

10.5 Private Fire Service Pumping

The use of inline pumps to boost supply directly from the local reticulation system may be permitted, subject to approval of the relevant Water Corporation.

A written request for the approval of inline boosting must be lodged with the relevant Water Corporation, as part of the application for conditions of connection, and should include details of pump curves and the pump design specifications to be used.

Note:

- The maximum pump flow should not result in the minimum allowable residual pressure in the street main being exceeded under peak demand conditions. This must be checked and approved by the Water Corporation.
- Variable speed pumps in accordance with AS 2941 are preferred, however consideration will be given for the use of direct drive pump sets. In some cases, consideration may also have to be given to installing a break pressure tank to provide added protection to the Water Corporation water supply infrastructure assets.

10.6 Disconnection of Fire Service

In addition to the procedure applicable to general water service disconnections, an owner who requests the fire service be disconnected and retain the general service must submit a report from a Building Surveyor or Fire Engineer that the building no longer requires the fire service in accordance with the Building Regulations. This report is not required where the site is being redeveloped, as a new building occupancy permit will be required.

Fees

A disconnection / plugging fee and new tapping fee are applied for this work.

Applicable fire service charges remain until the removal of the fire service connection at the water main, where applied by the relevant Water Corporation. Removal of fire service fixtures within the property do not warrant the fire service charge being removed.

Note:

A plumber must be acting for the owner and not the tenant if making the application.

11 RESIDENTIAL WATER METERING AND SERVICING

Water metering and servicing requirements for residential developments are detailed in this section to assist in determining the applicable servicing guidelines related to the proposed development.

11.1 Single Dwelling Residential Development

Definition

- House
- Terrace house
- Strata unit where there is no common land and all units are to be serviced via separate tapplings

Water Metering

- A main water meter is mandatory on the drinking water supply and also on the recycled water supply where available.
- Water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted, at the Water Corporation's discretion (see section 8.2 Remote Water Meters).

Servicing

- 20mm Ø tapping is required.
- For dry tapplings, the water meter assembly and water meter are to be installed by the Water Corporation (generally lots created after 1992 are dry tapped - see definition).
- For wet tapplings, the plumber* is to install the water meter assembly and property service pipe prior to the tapping time. The Water Corporation taps the water main (see definitions).
- Upsizing of the property service pipe may be approved following an assessment based on the required flow rate. Additional fees apply.

Note:

- All 20mm water connections within recycled water areas are to be installed by the Water Corporation at the owner's cost. This includes the installation of the property service pipe, water meter assembly and water meter.
- Refer to Figure 1 and Figure 2 for typical servicing arrangements with and without recycled water.

*Please refer to Greater Western Water's Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

11.2 New Dual Dwelling Residential Development where both dwellings have water main frontage

Definition

- Two dwellings on a residential parcel/s of land

Water Metering

- For each dwelling, a new main water meter is required on the drinking water supply and also on the recycled water supply where available. Refer to Figure 23.
- Water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted (see section 8.2 Remote Water Meters).

Servicing

- Generally separate 20mm Ø tapplings are required to service each dwelling.
- An existing 20mm Ø tapping may be retained for one dwelling if approved by the Water Corporation.

Corporation.

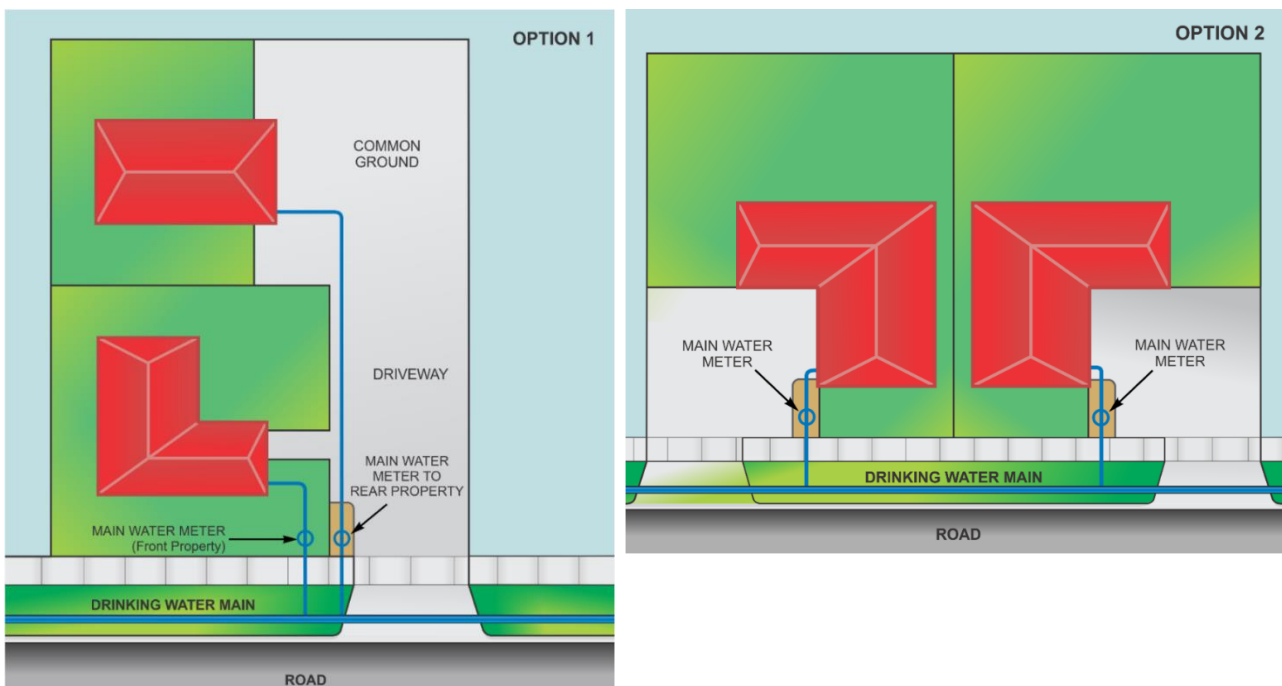
- On request, consideration will be given to servicing the development via a 25mm Ø tapping with 25mm main meter and individual sub/check meters on each dwelling. Refer to Figure 24. Any existing 20mm tapping is to be plugged. **Note: Yarra Valley Water does not offer this metering arrangement.**
- For wet tapplings, the plumber* is to install the water meter assembly and property service pipe prior to the tapping time. The Water Corporation taps the water main. Refer to Section 7.1.
- Upsizing of the property service pipe may be approved following an assessment based on the required flow rate. Refer to Section 7.7. Additional fees apply. **Note: Yarra Valley Water does not offer this option.**
- Should the development proceed to subdivision and services are shared or cross title boundaries, then 12(2) easements must be included on the plan of subdivision.

Note:

All 20mm water connections within recycled water areas are to be installed by the Water Corporation at the owner's cost. This includes the installation of the property service pipe, water meter assembly and water meter. Refer to Section 7.3.

*Please refer to Greater Western Water's Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

Figure 23: Typical Dual Occupancy Residential Development where both dwellings have water main frontage



11.3 New Dual Dwelling Residential Development Where only one dwelling has water main frontage (either for new dwellings or a proposed second dwelling):

Definition

Two dwellings on a residential parcel/s of land.

Water Metering

- A main water meter is required (generally 25mm) on the drinking water supply and also on the recycled water supply when available to service both dwellings. Refer to Figure 24. **Note: Yarra Valley Water does not offer this metering arrangement.**

- For each dwelling a sub/check meter is required on the drinking water supply and also on the recycled water supply when available. **Note: Yarra Valley Water does not offer this metering arrangement.**
- Water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted. Refer to section 8.2.
- Yarra Valley Water requires both dwelling to be serviced by individual main water meters (generally 20mm), to be installed on the drinking water supply and also on the recycled water supply when available. Refer to Figure 23.

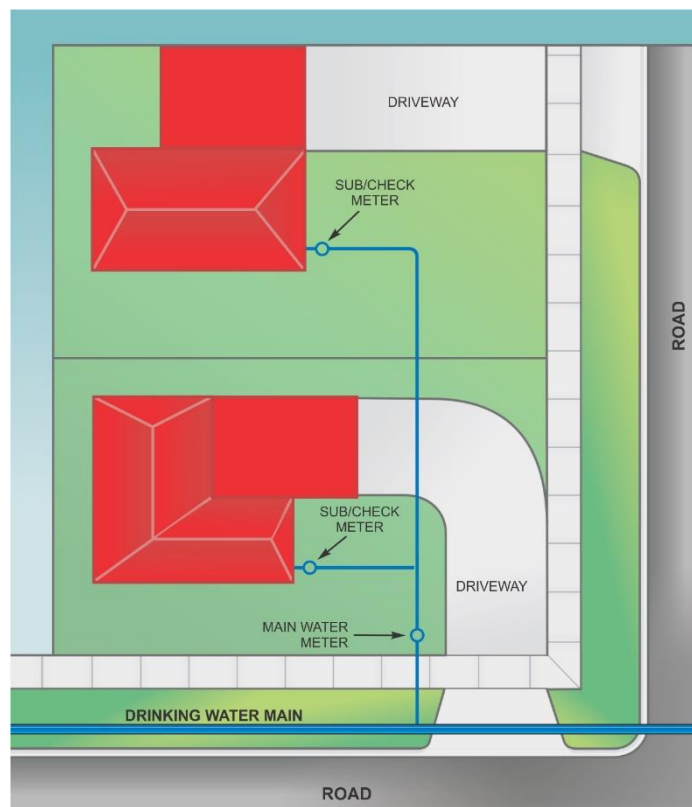
Servicing

- To be serviced by 25mm Ø tapping and 25mm main water meter with sub/check meters on each dwelling. Any existing 20mm tapping is to be plugged. **Note: Yarra Valley Water does not offer this metering arrangement.**
- For wet tapplings, the plumber* is to install the water meter assembly and property service pipe prior to the tapping time. The Water Corporation taps the water main. Refer to Section 7.1.
- Upsizing of the property service pipe may be approved following an assessment based on the required flow rate. Refer to Section 7.7. Additional fees apply. **Note: Yarra Valley Water does not offer this option.**
- When upsizing* a service, where possible, one size up from the ferrule / ball valve is acceptable. **Note: Not applicable in Yarra Valley Water's area.**
- Should the development proceed to subdivision and services are shared or cross title boundaries, then 12(2) easements must be included on the plan of subdivision.

Note:

*Please refer to Greater Western Water's Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

Figure 24: Typical Dual Occupancy Residential Development Where Only One Dwelling has Water Main Frontage



11.4 Existing dual occupancies constructed prior to 1997

Definition

With many existing developments, (generally constructed prior to 1997), only a main water meter was provided with the water usage divided among the owners of the individual dwellings. In these cases, some owners request to install individual main/check water meters to allow them to monitor their own water usage.

Water Metering

These developments are typically serviced by a 20mm Ø main water meter.

An additional main or sub/ check meter to each dwelling is able to be provided (for a fee) subject to the servicing requirements listed below. See Figure 25.

Servicing

Option 1

Separate tapplings for each dwelling. The existing 20mm Ø tapping and water meter is to be retained for one dwelling with a new 20mm tapping and water meter being provided for the second dwelling.

Option 2

The existing 20mm Ø tapping is to be plugged. A new 25mm Ø tapping and 25mm Ø main water meter with 2 x 20mm Ø sub/check meters to be provided to each dwelling. [Note: Yarra Valley Water does not offer this metering arrangement.](#)

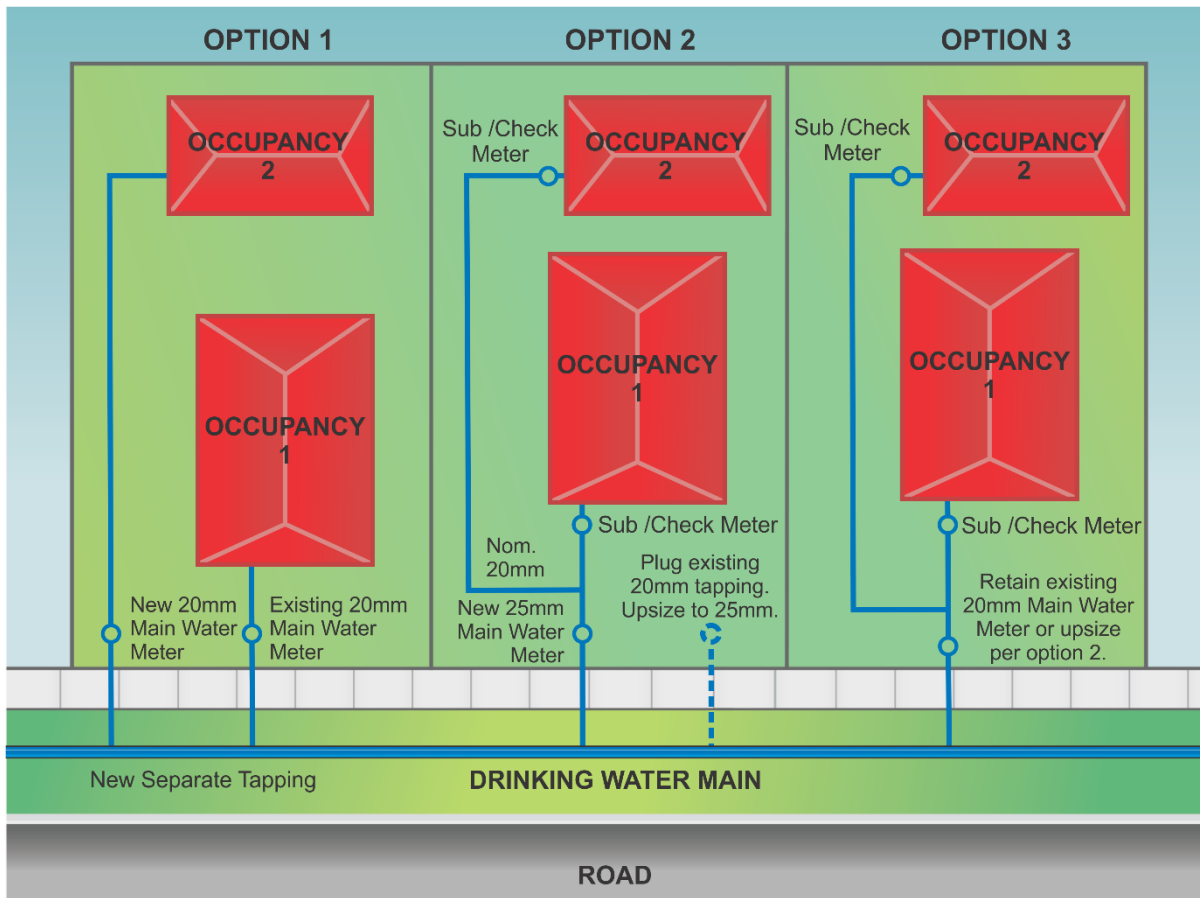
Option 3

The existing 20mm Ø tapping and property service pipe is to be retained and the existing 20mm Ø main water meter to remain in place with a 20mm Ø check/sub meter provided to each dwelling. Existing pressures and flows are to be proven adequate and substantiated in writing by a hydraulic consultant or licensed plumber. [Note: Yarra Valley Water requires confirmation that the existing dual occupancy has an active Owners Corporation.](#)

Note:

[If the current or proposed demand for water supply affects the performance of the 20mm main water meter, option 3 will not be acceptable. This is to be determined by the relevant Water Corporation. Permission is required from all property owners for the preferred option.](#)

Figure 25: Existing Dual Occupancy Developments with a main meter only



11.5 Multi-Dwelling Residential Development (Greater than Two Units)

Definition

- Multiple dwellings on a single title or Owners Corporation:
- Flats
- Apartments
- Units

Water Metering

- A main water meter is required on the drinking water supply and also on the recycled water supply where available to service all dwellings. Refer to Figure 26.
- For each dwelling a sub/check water meter is required on the drinking water supply and also on the recycled water supply where available.
- Water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted. Refer to see section 8.2.

Servicing

- A single tapping is to be provided to service the total development.
- Upon application, a second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected.
- Existing services are to be plugged with all dwellings to be serviced from the same main water meter.
- Dual supply from water mains in different pressure supply zones will not be permitted.

- Should the development proceed to subdivision, then 12(2) easements and an owner's corporation schedule must be included on the plan of subdivision.

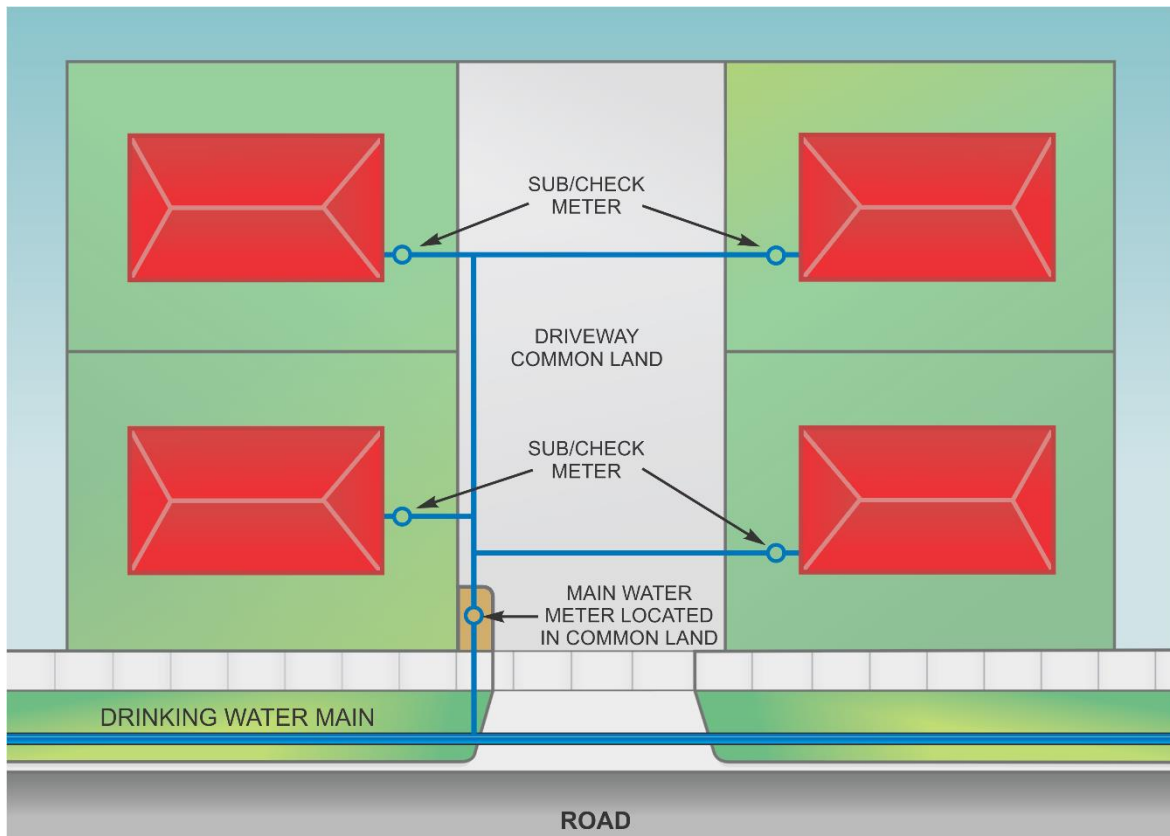
Private Fire Services

Refer to Section 10.2 & 10.3

Note:

- Yarra Valley Water only offers this metering arrangement for Residential and Non-Residential developments of seven (7) or more dwellings/occupancies. For Multi (3-6 units/lots) Residential and Non-Residential developments within Yarra Valley Water's service area, refer to the attached appendix – Yarra Valley Water's independent servicing requirements.
- Additional servicing conditions may apply for Multi-Dwelling Residential Developments in Greater Western Water's service area, refer to the attached appendix – Greater Western Water's independent servicing requirements.
- Where all properties front the water main and there is no common area, Greater Western Water will permit separate tapplings for each allotment.

Figure 26: Typical Multi-Dwelling Residential Development



11.6 Multi-Dwelling Residential Development (High Rise multi dwelling, greater than two floors)

Definition

Multiple dwellings on a single title or Owners Corporation:

- Flats
- Apartments
- Units

Water Metering

- A main water meter is required on the drinking water supply and also on the recycled water supply where available to service all dwellings/units.
- For each dwelling/unit a remotely read sub/check water meter is required on the drinking water supply and also on the recycled water supply where available. Refer to Section 8.2.
- Additional water meter reading equipment may be required for developments over four levels (including ground floor). Refer to section 8.2.

Servicing

- A single tapping is to be provided to service the total development.
- On application, a second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected.
- Existing services are to be plugged with all dwellings to be serviced from the same main water meter.
- Dual supply from water mains in different pressure supply zones will not be permitted.

Private Fire Services

Refer to Section 10.2 & 10.3

Note:

*Additional servicing conditions may apply for Multi-Dwelling Residential Developments in Greater Western Water's service area, refer to the attached appendix – Greater Western Water's independent servicing requirements.

11.7 Dependent Persons Unit (DPU) / Granny Flat

Definition

- A self-contained building erected on the land of the property owner, used or intended to be used as a separate residence from the main residence. The dwelling must contain a kitchen, bathroom and sanitary facilities. The requirements are outlined below. The occupier of the dwelling has the right to exclusive use, but does not need to have paid or contributed to the purchase price of the dwelling.
- Evidence is required that the person/s residing or intending to reside in the dwelling is/are a dependent relative.

Source: Based on the definition of 'dwelling' in Section 46H of the Planning and Environment Act (Vic) 1987.

New Customer Contributions

Where the proposed development satisfies the definition of 'dwelling' under the provisions of the Planning and Environment Act 1987, or the applicant requests separate water meters, new customer contributions will apply. The fees will be charged in accordance with the Essential Services Commission Determination requirements.

Property Declaration

In cases where the development does not meet the definition of a 'dwelling' under the provisions of the Planning and Environment Act 1987 Section 46H, and the customer does not require separate water meters, the owner will be required to enter into an agreement with the Water Corporation. The agreement will provide for payment of new customer contributions only when the property is subdivided in the future or provided with separate water meters at the request of the property owner.

Water Metering

Individual sub/check metering of the dwelling is optional. Water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote read water meters will be required to be fitted. Refer to Section 8.2.

Servicing

These developments may be serviced in several ways (Refer to Figure 27):

Option 1

Separate tapplings for each dwelling.

Option 2

- Upsize existing 20mm Ø property service pipe to 25mm. A 25mm main meter with sub/check meters to each dwelling. **Note: Yarra Valley Water does not offer this metering arrangement.**
- If it can be demonstrated that the developments increased demand for water supply does not impact on the performance of the water meter (to be substantiated in writing by a hydraulic consultant or licensed plumber), the existing property service pipe may be retained to service both dwellings, with sub/check meters to each dwelling.

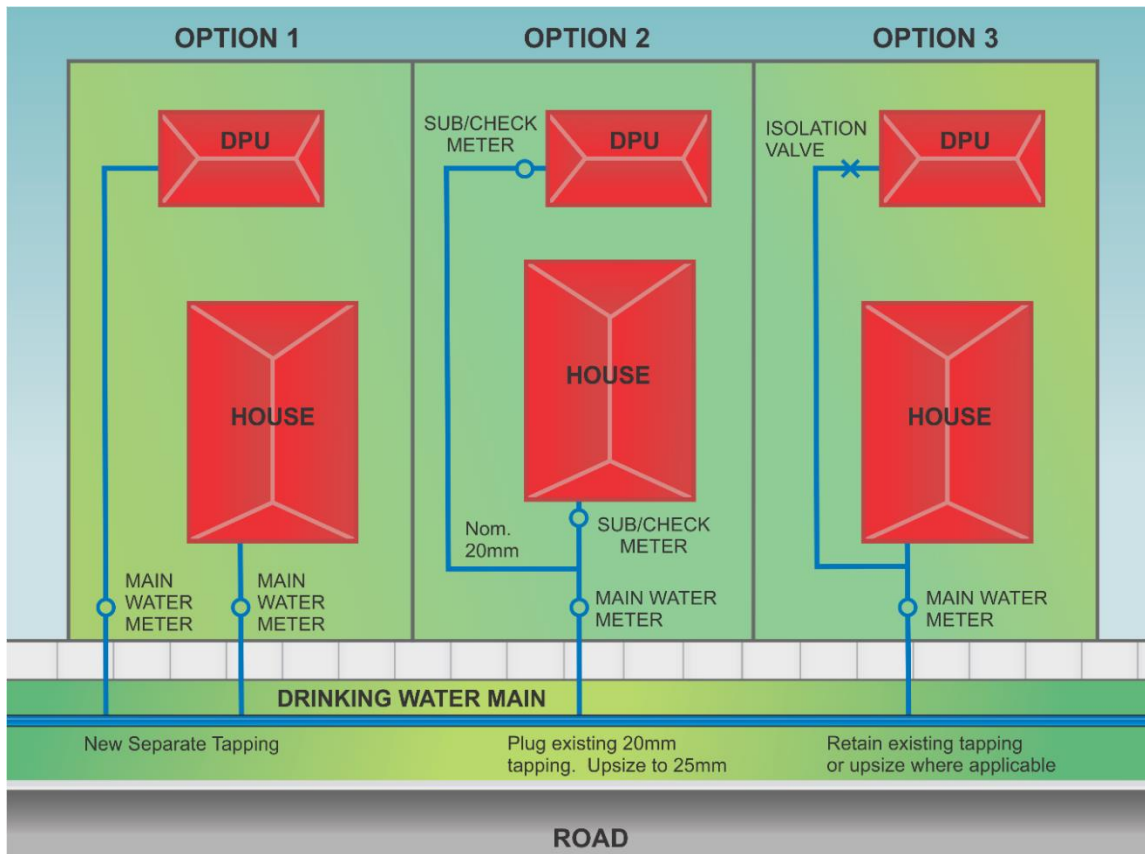
Option 3

- If the development is not proceeding to subdivision and there is no request for separate meters, the existing property service pipe may be retained to service both dwellings. This is provided that it can be demonstrated that the developments increase demand for water supply does not impact on the performance of the water meter (to be substantiated in writing by a hydraulic consultant or licensed plumber).
- If the flow is insufficient, the service is to be upsized to 25mm.
- New Customer Contributions can be deferred if a DPU Declaration Form is provided.

Note:

- New Customer Contributions are payable for Options 1 & 2.
- Where the development does not meet the definition of a 'dwelling' under the provisions of the Planning and Environment Act 1987 Section 46H, sub/check metering arrangements will not be required, and the existing service may be utilised.

Figure 27: Dependent Persons Unit (DPU) / Granny Flats



11.8 Moveable Residential Units (DH ‘Granny Flats’)

Definition

Provided by the DH and deemed by section 15 of the Housing Act 1983 as owned by the DH, in the occupation of hirer, and is not a permanent fixture on the property. DH are required to provide the Water Corporations with an approved plan and letter for endorsement.

Water Metering

- Not to be individually metered.
- Contact relevant Water Corporation for servicing requirements.

11.9 Residential Caravan Parks

Definition

Section 156 (3A) of the Local Government Act provides: “For the purposes of this Part and Part II of the Valuation of Land Act 1960, a caravan park is a single rateable property of which the caravan park owner is taken to be the occupier”.

Water Metering

- Transient caravan sites are not individually metered.
- Contact relevant Water Corporation for servicing requirements.

12 NON-RESIDENTIAL WATER METERING AND SERVICING

Water metering and servicing requirements for non-residential occupancies are detailed in this section to assist in determining the applicable servicing guidelines related to the proposed development.

All properties not classified as either residential or mixed developments are non-residential. Developments that have a mixture of “occupancies” used for non-residential purpose and of “occupancies” used for residential purpose dealt with in Section 13.

12.1 Single Occupancy Non- Residential Development

Definition

Parcels of land or developments where all of the “occupancies” located on the parcel of land are for non-residential purposes:

- Factories
- Warehouses
- Shops
- Offices
- Schools
- Hospitals
- Sporting Facilities
- Childcare Centres
- Nursing Homes
- Council Building
- Irrigation Systems

Water Metering

- A main water meter is required on the drinking water supply and also on the recycled water supply where available.
- Meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted (see section 8.2 - Remote Water Meters).

Servicing

- A single tapping is to be provided to service the total development. Refer to Figure 28.
- Upon application, a second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected.
- Dual supply from water mains in different pressure supply zones will not be permitted.

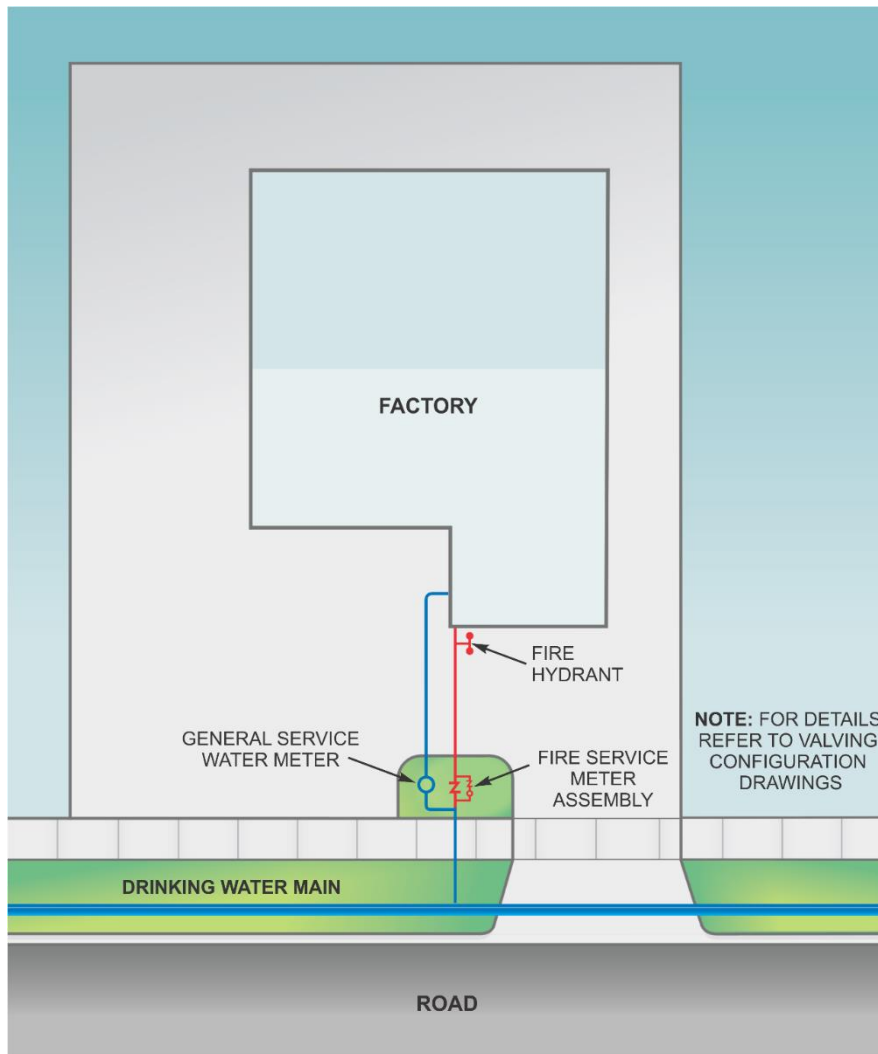
Private Fire Services

Refer to Section 10.2 & 10.3

Note:

For Single Occupancy Non-Residential Development servicing Critical Customers within Yarra Valley Water’s service area, refer to Appendix A – Yarra Valley Water’s independent servicing requirements.

Figure 28: Single Occupancy Non-Residential Development



12.2 Multi-Occupancy Non-Residential Development

Definition

Parcels of land or developments where all of the “occupancies” located on the parcel of land are for non-residential purposes:

- Factoryettes
- Strip shops (all shops have a separate frontage to street)
- Multiple Sporting Facility Complexes

Water Metering

- A main water meter is required on the drinking water supply and also on the recycled water supply where available.
- For each occupancy a sub /check water meter is required on the drinking water supply and also on the recycled water supply where available.
- Meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted (see section 8.2 - Remote Water Meters).

Exceptions

- Large shopping centres (each respective Water Corporation encourages water metering of these developments, however specific requirements apply).
- Office blocks.
- Serviced apartments. Where a lease arrangement is in place that the development will be operated as a motel, check meter assemblies must be installed, however the installation of water meters is not mandatory. The Water Corporation may require a letter from the owner to confirm the lease arrangement.
- Student accommodation. Where a lease arrangement is in place that the development will be operated as a single entity, check meter assemblies must be installed, however the installation of water meters is not mandatory. The Water Corporation may require a letter from the owner to confirm the lease arrangement.
- Motels. Where a lease arrangement is in place that the development will be operated as a motel, check meter assemblies must be installed, however the installation of water meters is not mandatory. The Water Corporation may require a letter from the owner to confirm the lease arrangement.

Note:

Water Corporations encourage individual water metering of these development types however it is not compulsory.

Servicing

- A single tapping is to be provided to service the total development.
- Upon application, a second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected.
- Dual supply from water mains in different pressure supply zones will not be permitted.

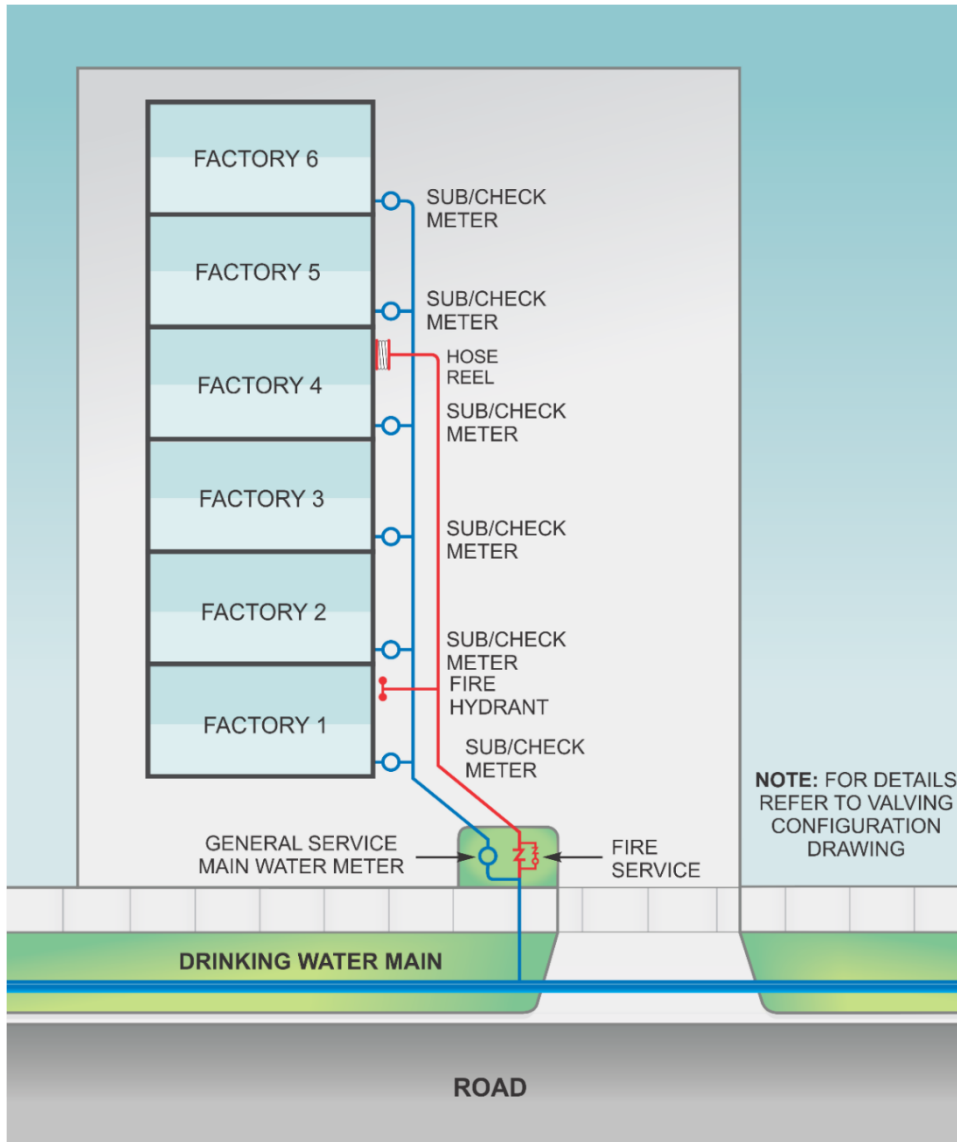
Private Fire Services

Refer to Section 10.2 & 10.3

Note:

- For Multi-Occupancy Non-Residential Development within Yarra Valley Water's service area, refer to Appendix A – Yarra Valley Water's independent servicing requirements.
- Additional servicing conditions may apply for Multi-Occupancy Non-Residential Developments in Greater Western Water's service area, refer to Appendix B – Greater Western Water's independent servicing requirements.

Figure 29: Multiple Occupancy Non-Residential Development



13 WATER METERING IN SPECIAL CASES

13.1 Mixed Developments

Definition

Parcels of land or developments that have within their title boundary 'dwellings'/'occupancies' used for both residential and for non- residential purposes.

Water Metering

- A main water meter is required on the drinking water supply and also on the recycled water supply where available
- All 'dwellings'/'occupancies' that are deemed to be self-contained must have their supply individually sub/ check metered.
- Meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted (see section 8.2 - Remote Water Meters).
- For multi-level developments of three floors or more, remote sub/check water meters are required.
- Additional water meter reading equipment may be required for developments over four levels (including ground floor). Refer to section 8.2 – Remote Water Meters.
- For developments between 3 and 6 lots in Yarra Valley Water's area, please refer Yarra Valley Water Appendix A.

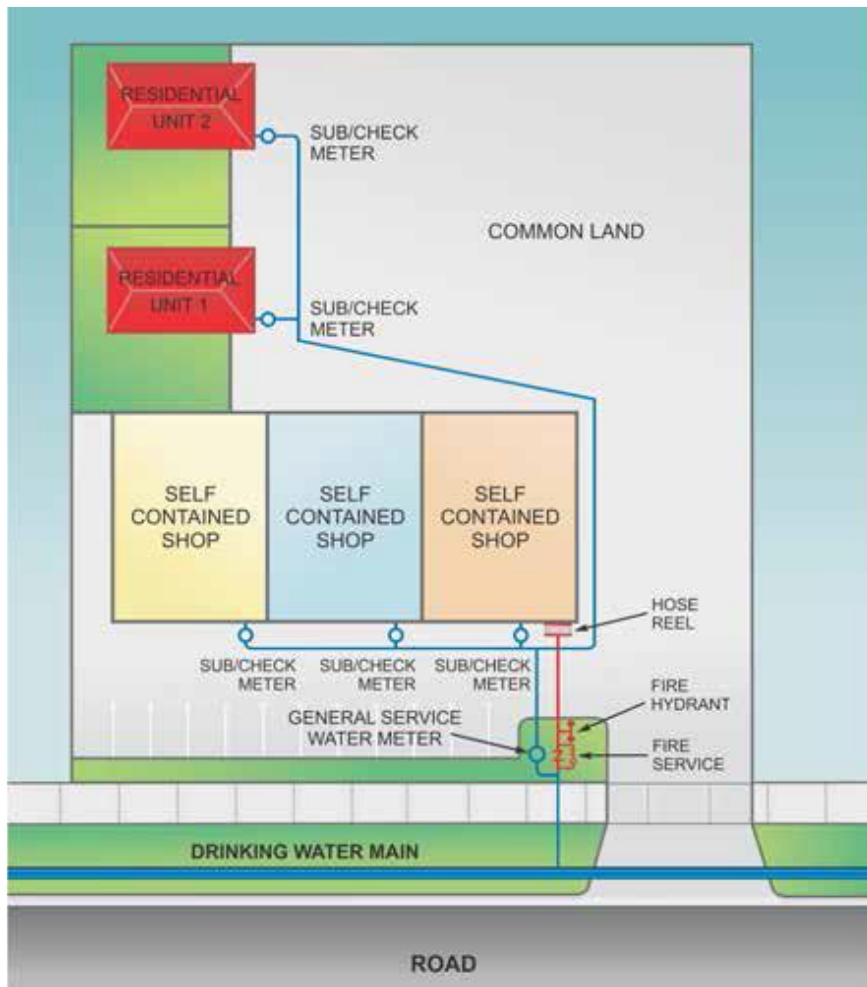
Servicing

- A single tapping is to be provided to service the total development. Refer to Figure 30.
- On application a second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected.
- Dual supply from water mains in different pressure supply zones will not be permitted.

Private Fire Services

Refer to Section 10.2 & 10.3

Figure 30: Typical Mixed Development



13.2 Additional Units or Factories to Existing Developments

Definition

Where additional units or factories are added to existing developments that are not individually metered; these types of developments will be treated on a case by case basis.

Water Metering

If it is not possible nor can an agreement be reached to meter the existing units, then a separate tapping may be required to service the new units or factories with sub/check meters (See Section 8.2 - Remote Water Meters).

Servicing

The existing service can be utilised if the tapping/meter has capacity to service the additional units or factories. Otherwise the service may need to be upsized or a second tapping provided. Refer to Figure 31.

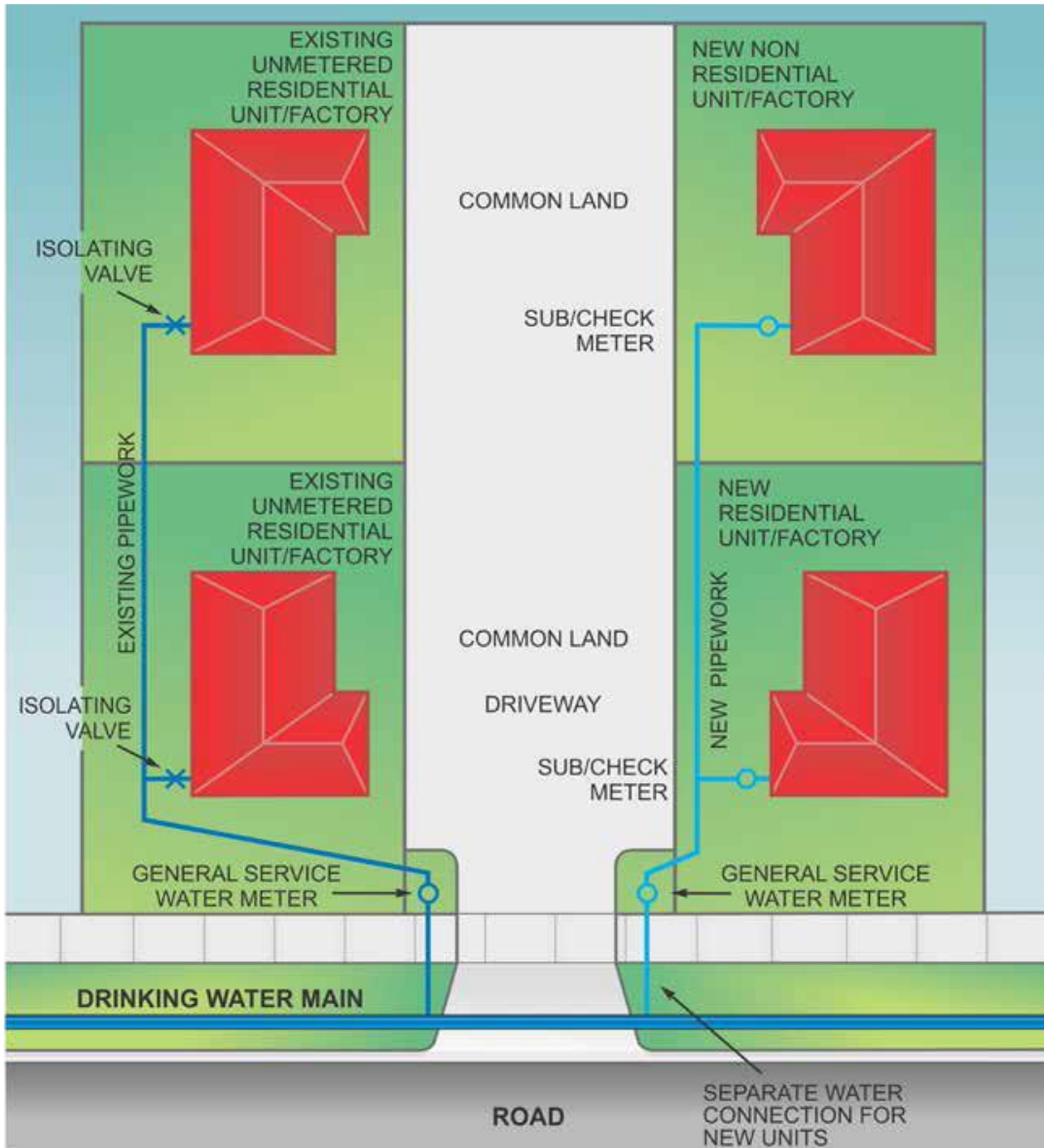
Consideration is also required that the existing service complies with the current firefighting standards. Each development will be treated on a case by case basis.

Note:

- For Existing Multi- Occupancy Residential and Non- Residential Developments with no existing sub/check meters within Yarra Valley Water’s service area, refer to Appendix A – Yarra Valley Water’s servicing requirements.

- Additional servicing conditions may apply for multiple lot Developments in Greater Western Water’s service area, refer to Appendix B – Greater Western Water’s independent servicing requirements.

Figure 31: Additional Units or Factories to Existing Developments where Existing Unit Owners Do Not wish to be Individually Metered



13.3 Existing Multi- Occupancy Residential and Non- Residential Developments with no existing Sub/Check Meters

Definition

With many existing developments (generally constructed prior to 1997) only a main water meter was provided with the water usage divided among the owners/occupants of the individual dwellings. In these cases some customers request to install individual water meters to allow them to monitor their own water usage.

Water Metering

Existing dwellings/occupancies are permitted to be individually metered, however in the case where one occupancy owner requires a separate water meter but cannot reach agreement with the other owners to install sub/check water meters to all dwellings/occupancies, the following applies:

A letter from the Owners Corporation authorising the installation of the water meter/s. The letter must also state that they are aware that any common water usage will be split over the dwellings/occupancies that remain unmetered.

Or

The signatures of all of the dwelling/occupancy owners consenting to the partial water metering of the development. A letter must state that they are aware that any common water usage will be split over the dwellings/occupancies that remain unmetered.

Note

- Yarra Valley Water permits existing dwellings/occupancies to be individually metered only where all dwellings/occupancies are metered at the same time (partial water metering is not permitted). A letter from the Owners Corporation authorising the installation of the water meters is required to be submitted to Yarra Valley Water. The letter must state that they are aware that any common water usage will be billed to the Owners Corporation
- Contact the relevant Water Corporation for servicing requirements. Depending on the Water Corporation and number of dwellings/occupancies a check/sub meter manifold arrangement may be necessary.

13.4 Properties Serviced by Extended Private Water Supply Works

Definition

A Private Water Supply Service external to the property is installed by the owner's contractor at the owner's cost where a reticulated water main is not required to be extended to service:

- Houses
- Farms
- Factories

Note

- Private water services are temporary and may be disconnected by
- The Water Corporation at its discretion.
- Private water services must be removed from service where a reticulated water supply main is installed in the future. All costs are to be borne by the property owners.

Water Metering

- All new and/or upgraded external private water supply services must be metered by a private water service main water meter at a point as close as practicable to the connection with the reticulated water main. Refer to Figure 32.
- The water meter must be located in a position that prevents damage and provides ease of reading and maintenance within a lockable cage fitted over the water meter assembly to prevent tampering.
- For each property connected, a water meter is required on the drinking water supply, at the property boundary.

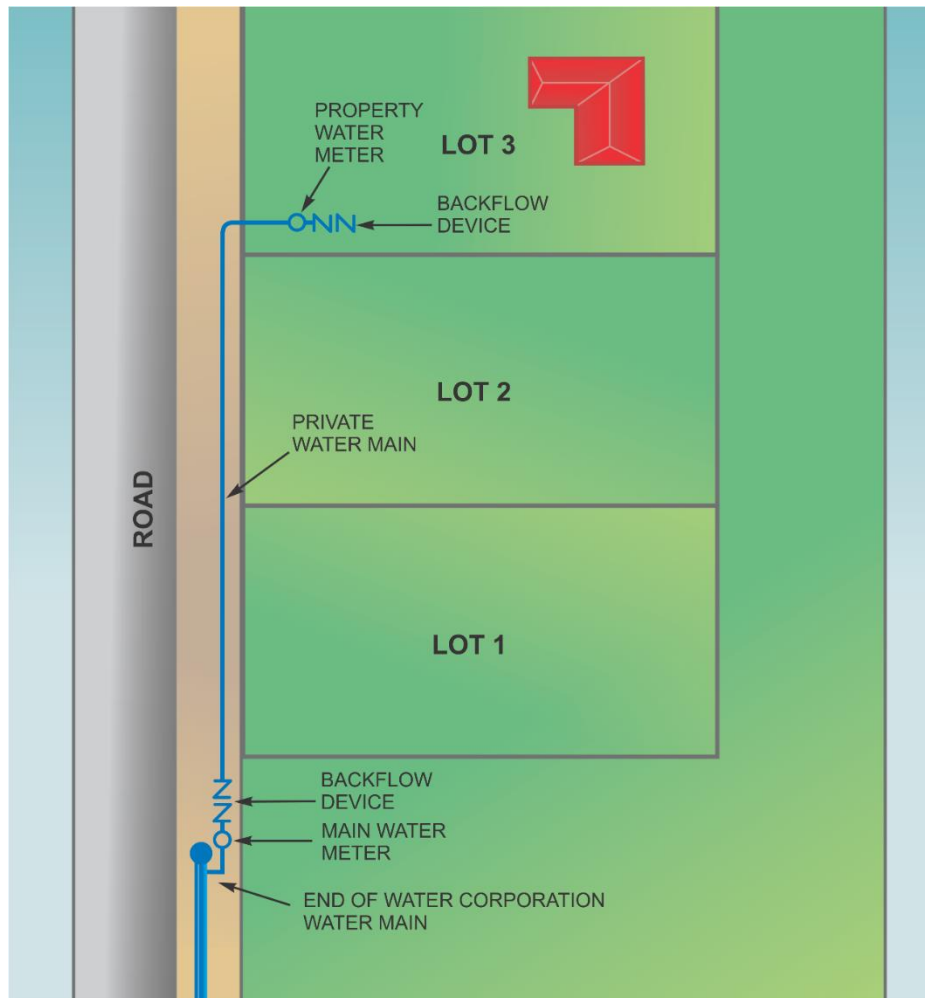
Servicing

- Private water supply services will only be allowed upon application and at the Water Corporation's discretion.
- Private water supply services will only be permitted in cases where the Water Corporation determines that a property is too remote from existing reticulated water infrastructure. This will be assessed having regard to potential future development and the distance from existing infrastructure.
- Where multiple properties are to utilise the private water main the Water Corporation will require

a letter nominating either the owner of the private main or a property owner responsible to manage payment of the water consumption through the main water meter.

- A design plan of the proposed private water service is required to be submitted to the Water Corporation for approval prior to commencement of works.
- Details are to be provided to the relevant Water Corporation regarding Council/other authorities approval in relation to the following:
 - Location and depth of the proposed service.
 - Relevant environmental/cultural assessment has been carried out.
 - Pipe material must be WaterMark approved and in accordance with AS/NZS3500.
 - All plumbing to be in accordance with the Plumbing Code of Australia
 - Isolation valves are to be installed at 300m maximum intervals along the length of the private water service. All valves are to be fitted with risers, valve covers and concrete surrounds at surface level.
 - The owner is required to contact the Water Corporation to arrange for the work to be verified prior to final backfilling of trenches. A pressure test is to be carried out on the pipeline in the presence of a Water Corporation representative.
 - The alignment of the as-constructed private water service is to be surveyed on completion and forwarded to the Water Corporation.
 - The owner must agree to indemnify the Water Corporation from and against all claims for loss, damage, injury or whatsoever which may arise out of the installation, operation or use of the private water supply service.
 - All owner obligations shall transfer to Successors in title in accordance with Section 145 Water Act 1989.
 - Individual property water meters, on the private water supply service will be totalled at the quarterly water meter readings and checked against the private water service main water meter (located at as close as practicable to the connection at the reticulated water main). Any variation between the total of the property water meters and the private water supply service main water meter, will be divided equally between the property owners of the private water main.
- The service is provided with no guarantee of quality, pressure, flow and continuity of supply.
- Private water supply services are not intended to be provided for firefighting purposes.

Figure 32: Extended Private Water Supply Remote from Reticulation Supply



13.5 Bulk Water/Common Water

Definition

On Owners Corporation developments which are individually metered and have bulk water supplied for hot water purposes, swimming pools and other common uses, bulk water usage will be determined to be the balance of water supplied between the sub/check meters and the main water meter. Bulk Water usage will be billed to the Owners Corporation.

Yarra Valley Water require bulk hot water to be separately metered. Please see YVW appendix.

13.6 Trade Waste

Definition

The discharge from premises as a result of development (ground water), trade, industrial, medical, dental and commercial practise. Premises are required to discharge trade waste to comply with terms and conditions set out in the Water Corporation's Trade Waste Agreement.

Water Metering

Flow metering of trade waste effluent is required if requested by the Water Corporation. Water metering is required to monitor water usage associated with trade waste discharge, in accordance with these requirements.

General Requirements

Trade waste flow meters are owned, maintained and installed by the owner at the request of the Water Corporation. It is the responsibility of the owner to ensure that the flow meter:

- Is installed, operated and maintained in good working order.
- Continually records the rate of flow of trade waste.
- Incorporates a totaliser, calibrated to record in kilolitres, which cannot be reset to zero.
- Is capable of activating an automatic sampler.
- Is calibrated annually by an accredited company

The owner must also:

- Give the Water Corporation a copy of each calibration certificate, within two weeks of receipt.

Additional References

Refer to the Water Corporation's trade waste policy.

13.7 Non- Residential Irrigation Systems/Council Open Space Drinking Water Supply

Definition

Irrigation systems typically found in Council reserves, nature strips, median strips and school reserves.

Water Metering

A water meter is required on irrigation systems not supplied through an existing main meter for the property or where there is no other connection available.

Water meters are to be:

- Installed above ground in accordance with Section 6.1.
- Protected from damage and have regard to all Occupational Health and Safety requirements for public areas.
- For nature strips, as close as practicable and adjacent to the water main connection in accordance with the relevant land owner's requirements. It may be necessary to provide protection for the water meter in accordance with Section 6.5. This is at the Water Corporation's discretion.
- Water meters are to be supplied by the Water Corporation at the owner's cost.

Servicing

- Irrigation main line piping that traverses roadways shall be either copper or polyethylene pipe. It must be solid jacketed polyethylene pipe (PE100 PN 12.5 as a minimum) and be Watermarked. PE pipe must not form any part of the water meter assembly. Fittings must be rated to a minimum PN12.5.
- Irrigation pipework installed external to property boundaries is subject to land owner approval.
- Street reserve mainline piping must be laid to provide a horizontal clearance of 600mm from a water or sewer asset.
- Irrigation systems must be fitted with an approved master solenoid valve to ensure that main lines up to individual sprinkler station solenoid valves are not under constant pressure. The master solenoid should be located close to the water meter assembly to reduce the length of pressurised irrigation piping.
- Irrigation systems must incorporate moisture sensors to ensure watering is controlled during or following periods of rain.
- Time of operation must comply with permanent water restriction requirements and be limited to the hours of 10pm to 6am.

- Where the irrigation system installation is not of a temporary nature, the water service pipes shall not exceed 30 metres in length between the water main and the water meter. A water main extension will be required where this cannot be achieved.
- The licensed plumber* engaged by the owner/applicant is required to obtain a road opening permit from the relevant authority before commencing any excavation work within a road reserve. The licensed plumber engaged by the owner/applicant must also comply with every traffic management requirement contained in that permit.
- Property service pipe should be laid having regard to the applicable road owner's requirements. Loose polyethylene sleeving (Greensleeve) is used to protect ductile iron water mains against corrosion. The sleeving is essential to prolong the life of the reticulated system and care should be taken when exposing the main to protect this sleeving from damage.
- Prior to commencing any works in the vicinity of existing operational or abandoned water mains, the material type of the water main must be identified. In the event Asbestos Cement (AC) water mains are present, precautions as detailed in the WorkSafe Compliance Code "Removing asbestos in workplaces" must be followed for the removal and disposal of non-friable asbestos containing material.

Pumped Irrigation systems

The use of inline pumps may be permitted subject to:

- Installation of soft start pumps;
- Installation of variable speed pumps; and
- Installation of a low pressure cut out.
- A dole valve or orifice plate may be required to be installed in accordance with the maximum flow rate approved by the Water Corporation and is required to be tagged and sealed by the Water Corporation to prevent tampering or adjustment.

Storage Tanks

The use of Storage tanks may be permitted subject to approval from the Water Corporation.

Containment Backflow Prevention

- For non-residential properties a Testable Double Check valve is required as a minimum to be installed at the outlet of the boundary water meter.
- Additional zone and individual Backflow Prevention devices may be required in accordance with the provisions of the Plumbing Code of Australia.

General Conditions

- Plumbing works must be installed by a licensed plumber in accordance with the Plumbing Code of Australia.
- The installation shall also comply with AS/NZ 3500 and the Water Corporation's Conditions of Connection.
- The design of the irrigation service is the responsibility of the applicant.
- All work must be maintained in accordance with the Water Corporation's Customer Charter.

Note:

- The workmanship, valves, fitting and all materials on the upstream side of, and including the last pressurised valve on the line, shall meet this standard. Property service pipes and water meter assembly requirements must comply with the relevant sections of this guide.
- Please refer to Greater Western Water's Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

13.8 Non-Residential Irrigation Systems/Council Open Space Class A Recycled Water Supply

Definition

Irrigation systems typically found in Council reserves, nature strips, median strips and school reserves.

Water Metering

A water meter is required on irrigation systems not supplied through an existing main meter for the property or where there is no other connection available. Water meters are to be:

- Installed above ground in accordance with Section 6.1.
- Protected from damage and have regard to all Occupational Health and Safety requirements for public areas.
- For nature strips, as close as practicable and adjacent to the water main connection in accordance with the relevant land owner's requirements. It may be necessary to provide protection for the water meter in accordance with Section 6.5. This is at the Water Corporation's discretion.
- Water meters are to be supplied by the Water Corporation at the owner's cost.

Servicing

- The property service pipe (water main to primary water meter) must be solid jacketed purple polyethylene pipe (PE100 PN 12.5 as a minimum) and be Watermarked. PE pipe must not form any part of the water meter assembly. Fittings must be clearly identifiable.
- Irrigation systems must be fitted with an approved master solenoid valve to ensure that main lines up to individual sprinkler station solenoid valves are not under constant pressure. The master solenoid should be located close to the water meter assembly to reduce the length of pressurised irrigation piping.
- Irrigation main line piping that traverses roadways shall be either copper or polyethylene pipe.
- Irrigation pipework installed external to property boundaries is subject to land owner approval.
- Street reserve mainline piping must be laid providing a horizontal clearance of 600mm from a water or sewer asset.
- Irrigation systems must incorporate moisture sensors to ensure watering is controlled during or following periods of rain.
- Time of operation must comply with permanent water restriction requirements and be limited to the hours of 10pm to 6am.
- Where the irrigation system installation is not of a temporary nature, the water service pipes shall not exceed 30 metres in length between the water main and the water meter. A water main extension will be required where this cannot be achieved.
- The licensed plumber* engaged by the owner/applicant is required to obtain a road opening permit from the relevant authority before commencing any excavation work within a road reserve. The licensed plumber engaged by the owner/applicant must also comply with every traffic management requirement contained in that permit.
- Property service pipe should be laid having regard to the applicable road owner's requirements. Loose polyethylene sleeving (Greensleeve) is used to protect ductile iron water mains against corrosion. The sleeving is essential to prolong the life of the reticulated system and care should be taken when exposing the main to protect this sleeving from damage.
- Prior to commencing any works in the vicinity of existing operational or abandoned water mains, the material type of the water main must be identified. In the event Asbestos Cement (AC) water mains are present, precautions as detailed in the WorkSafe Compliance Code "Removing asbestos in workplaces" must be followed for the removal and disposal of non-friable asbestos containing material.

- For irrigation services incorporating drinking water and Class A Recycled water, services must remain 300mm apart with the drinking water service located on the right-hand side.

Pumped Irrigation systems

- The use of inline pumps may be permitted subject to:
 - Installation of soft start pumps;
 - Installation of variable speed pumps; and
 - Installation of a low pressure cut out.
- A dole valve or orifice plate may be required to be installed in accordance with the maximum flow rate approved by the Water Corporation and is required to be tagged and sealed by the Water Corporation to prevent tampering or adjustment.

Storage Tanks

- The use of Storage tanks may be permitted subject to approval from the Water Corporation. If a tank with an overflow is to be incorporated into the design of the system, the overflow must discharge to sewer. Alternatively, the tank may incorporate a quick-fill device utilising electronically controlled valves to eliminate the requirement for an overflow.

Containment Backflow Prevention

- For non-residential properties an appropriate testable Backflow Prevention device as determined by the relevant Water Corporation is to be installed at the outlet of the primary water meter.
- Additional zone and individual Backflow Prevention devices may be required in accordance with the provisions of the Plumbing Code of Australia.

General Conditions

- Plumbing works must be installed by a licensed plumber in accordance with the Plumbing Code of Australia.
- The installation shall also comply with the Water Corporation's Conditions of Connection.
- The design of the irrigation service is the responsibility of the applicant.
- All work must be maintained in accordance with the Water Corporation's Customer Charter.

Note:

- The workmanship, valves, fittings and all materials on the upstream side of, and including the last pressurised valve on the line, shall meet this standard. Property service pipes and water meter assembly requirements must comply with the relevant sections of this guide.
- *Please refer to Greater Western Water's Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

Inspection of Work

- The owner/applicant must ensure that the installation of the connecting works for recycled water is inspected in accordance with the Water Corporation's Conditions of Connection, at the owners/applicants cost.
- 100% mandatory inspections of property service pipes and water meter assembly, up to the last pressurised valve is required.
- As a minimum developments will be inspected at the following stages:
 - **Stage 1** Main to water meter prior to backfilling
 - **Stage 2 (R1 – YVW)** Water meter to building (where applicable)
 - **Stage 3 (R2 – YVW)** Rough-in /Irrigation System
 - **Stage 4 (R3 – YVW)** Commissioning prior to the development commencing operation

Alteration to Internal Class A Recycled Water Supply

Written approval is required from the Water Corporation prior to the installation of any fittings and/or alteration of pipework. A fully completed plumbing application must be submitted to the Water Corporation with applicable fees paid and Consent given prior to any works being carried out. Class A Recycled water alterations must comply with the Water Corporation's Conditions of Connection.

Auditing

Where applicable Water Corporation will audit the site to check that the recycled water is being used in accordance with the Environment Improvement Plan.

Environment Requirements

- Development of an Environment Improvement Plan (EIP) may be required.
- Customers will need to prepare an EIP in accordance with requirements of the current EPA Guidelines for Environmental Management – Victorian Guideline for Water Recycling (publication 1911).
- The Guidelines set out management requirements to ensure long term sustainable use of recycled water without risk to the environment and also human and animal health. The relevant Water Corporation will provide an EIP template and assist the customer in preparing an EIP for their site. The EIP must be prepared and submitted to the relevant Water Corporation for execution, prior to commencing construction of the irrigation system. If the customer fails to prepare or comply with an EIP, the relevant Water Corporation will not permit the flow of recycled water.

13.9 Residential Properties having Drinking water and Class A Recycled water (other than single residential dry tapped properties)

Definition

- Townhouses
- Owner Corporation Developments

Note:

The installation of internal plumbing in relation to Class A Recycled water will be determined by individual Water Corporations. Where the Water Corporation requires the installation of recycled water in addition to the drinking water supply, plumbing work must be installed by a licensed plumber in accordance with the Plumbing Code of Australia. The installation shall also comply with the Water Corporation Conditions of Connection.

Water Metering

- A main water meter is required on the drinking water supply and also on the recycled water supply.
- Both the Class A Recycled water and drinking water property service pipes, meter assemblies and main meters are to be installed at the same time with both tappings to be carried out concurrently.
- The Class A Recycled water meter must always be located 300mm to the left of the drinking water meter assembly when facing the property. Refer to section 'Positioning of Main General Water / Private Fire Service Meters'.
- Water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted (Refer to section 'Remote Water Meters').
- Where check/sub meters are required to be installed these must be installed on both the drinking water supply and also the on the Class A Recycled water supply (Refer to section 'Positioning of Sub/Check Meters')

- Where Check/sub water meter assemblies only are to be installed, the water meter spacer pipe is to be of an approved material type in accordance with the Plumbing Code of Australia
- All other metering requirements are to be complied with.

Servicing

The owner/applicant must arrange to install both the property service and the connecting works at the property owners/applicants cost.

Main Meter services

A licensed plumber engaged by the owner/applicant must expose the water mains in accordance with the Water Corporation's requirements (Refer to section 'Water Main Connections (Tappings)') and install the appropriate property service pipes (water main to property boundary*), meter assembly and main meters prior to the Water Corporation's contractor conducting the tapping at the main.

The main meters will be delivered by the Water Corporation's contractor at the time of the tapping. The water meter assembly pipework must be of an approved type, Watermark approved and must be of an approved colour. Fittings must be readily identifiable.

In the case of short side installations the service pipe is to be laid on the left of the drinking water property service pipe when viewed from the front of the property and maintain 300mm separation.

In the case of long side installations the same conduit for the drinking water property service may be utilised, however the 300mm separation is to be maintained on both the upstream and downstream ends of the conduit.

General Conditions

- Plumbing works must be installed by a licensed plumber in accordance with the Plumbing Code of Australia.
- The installation shall also comply with the Water Corporation's Conditions of Connection.
- The property service pipe must be solid jacketed polyethylene pipe (PE100 PN 12.5 as a minimum) and WaterMarked. Fittings must be clearly identifiable.
- The water meter assembly pipework and fittings must be of an approved type, WaterMark approved and must be of an approved colour (purple). Fittings must be readily identifiable. PE pipe must not form any part of the water meter assembly.
- If at the time of connection, the above works that the plumber is responsible for have not been completed, the tapping will be cancelled and a re-booking fee, as approved by the Essential Services Commission, will apply.
- Services must remain 300mm apart with the drinking water service located on the right-hand side when viewed from the front of the property.
- The licensed plumber* engaged by owner/applicant is required to obtain a road opening permit from the relevant authority before commencing any excavation work within a road reserve. The licensed plumber engaged by owner/applicant must also comply with every traffic management requirement contained in that permit.
- Property service pipes should be laid having regard to the applicable road owners' requirements. Loose polyethylene sleeving (Greensleeve) is used to protect ductile iron water mains against corrosion. The sleeving is essential to prolong the life of the reticulation system and care should be taken when exposing the main to protect this sleeving from damage.
- Prior to commencing any works in the vicinity of existing operational or abandoned water mains, the material type of the water main must be identified. In the event Asbestos Cement (AC) water mains are present, precautions as detailed in the WorkSafe Compliance Code "Removing asbestos in workplaces" must be followed for the removal and disposal of the non-friable asbestos containing material.
- The recycled water meter inlet ball valve will be closed and fitted with a locking device by the

Water Corporation at the time of connection to the property.

- The locking device is only to be removed by either the Water Corporation, or its authorised agent for the purpose of conducting the commissioning 'Water Check' of internal Class A recycled water plumbing. Penalties apply for the unauthorised removal of the locking device.
- A purple Class A recycled water 5/8" inlet thread tap having a removable handle and sign reading "Recycled Water. Do not drink" must be installed to service any rear external area of each allotment.
- A recycled water prohibition sign with the words "Recycled Water. Do Not Drink" and complying with AS 1319 is to be installed above each recycled water tap outlet.
- Any pipe, tap or other fitting used or intended to be used to supply recycled water must be of an approved type and colour in accordance with AS/NZS 3500.
- All pipes must never be painted any other colour.
- Where rainwater is to be used for flushing of toilets via a rainwater tank, backup supply is only to be provided via an automatic change over device connected to the Class A recycled water supply. Pipework from the changeover device must default to approved Purple pipe.

Inspection of Work

- The owner/applicant must ensure that the installation of the connecting works for recycled water is inspected in accordance with the Water Corporation's Conditions of Connection, at the owners/applicant's cost.
- 100% mandatory inspections of property service pipes and water meter assemblies is required.
- As a minimum, developments will be inspected at the following stages:
 - **Stage 1** Main to water meter prior to backfilling
 - **Stage 2 (R1 – YVW)** Water meter to building
 - **Stage 3 (R2 – YVW)** Rough-in
 - **Stage 4 (R3 – YVW)** Commissioning prior to the development commencing operation

Note:

- Where the pressure testing of pipework installed for the provision of Class A Recycled water requires temporary interconnection with the drinking water supply plumbing, such interconnection is to be removed prior to the commissioning inspection. The temporary interconnection is to be installed above ground at or near the water meter assembly.
- Please refer to Greater Western Water's Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

Alteration to Internal Class A Recycled Water Supply

- Written approval is required from the relevant Water Corporation prior to the installation of any fittings and/or alteration of pipework. A fully completed plumbing application must be submitted to the relevant Water Corporation with applicable fees paid and Consent given prior to any works being carried out. Class A Recycled water alterations must comply with the relevant Water Corporation's Conditions of Connection.
- If any existing drinking and/or recycled water service to the property is to be disconnected, the owner/applicant must engage a licensed plumber to expose the existing property service connection water main/s (as the case requires) at the owners/applicant cost, to allow the Water Corporation or its contractor to disconnect and plug the existing property service. The licensed plumber engaged by the owners/applicant must disconnect the relevant water meter and return it to the relevant Water Corporation or its contractor.

Onsite private fire services excluding Fire Sprinkler Systems

The use of Class A recycled water for firefighting purposes will be assessed on a case by case basis.

Note:

In the case where approval is given for the connection of a private fire service to the Class A recycled water supply, the isolating valve at or near the property boundary will also be locked closed.

Use of Class A Recycled Water

The owner/applicant may only use Class A recycled water which we supply for the following purposes:

- Clothes Washing
- Garden irrigation
- Toilet flushing
- Vehicle washing
- Washing down outdoor furniture and the exterior of buildings
- Filling or topping up ornamental water features and ponds that are not used for swimming.

The use of Class A Recycled water for any other purpose will be subject to entering into a Recycled Water Agreement and approval of a specific Environment Improvement Plan (EIP).

Note

Additional servicing conditions may apply for multiple lot Developments in Greater Western Water's service area, refer to the attached appendix – Greater Western Water's independent servicing requirements.

13.10 Non-Residential Properties having Drinking water and Class A Recycled water

Definition

Public Buildings i.e. Schools, Child Care Centres, Hospitals.

Note:

The installation of internal plumbing in relation to Class A Recycled water will be determined by individual Water Corporations. Where the Water Corporation requires the installation of recycled water in addition to the drinking water supply, plumbing work must be installed by a licensed plumber in accordance with the Plumbing Code of Australia. The installation shall also comply with the Water Corporation's Conditions of Connection.

Water Metering

- A main water meter is required on the drinking water supply and also on the recycled water supply.
- Both the Class A Recycled water and drinking water property service pipes, meter assemblies and main meters are to be installed at the same time with both tappings to be carried out concurrently.
- The Class A Recycled water meter must always be located 300mm to the left of the drinking water meter assembly when facing the property. Refer to section 'Positioning of Main General Water / Private Fire Service Meters'.
- Water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted (Refer to section 'Remote Water Meters').
- Where check/sub meters are required to be installed these must be installed on both the drinking water supply and also the on the Class A Recycled water supply (Refer to section 'Positioning of Sub/Check Meters')
- Where Check/sub water meter assemblies only are to be installed, the water meter spacer pipe is to be of an approved material type in accordance with the Plumbing Code of Australia.

- All other metering requirements are to be complied with.

Servicing

The owner/applicant must arrange to install both the property service and the connecting works at the property owners/applicants cost.

Main Meter services

A licensed plumber engaged by the owner/applicant must expose the water mains in accordance with the Water Corporation's requirements (Refer to section 'Water Main Connections (Tappings)') and install the appropriate property service pipes (water main to property boundary), meter assembly and main meters while the Water Corporation's contractor* is installing the connecting valves at the main.

The main meters will be delivered by the Water Corporation's contractor at the time of the tapping. The water meter assembly pipework must be of an approved type, WaterMark approved and must be of an approved colour (purple). Fittings must be readily identifiable.

The recycled water service pipe is to be laid on the left of the drinking water property service pipe when viewed from the front of the property and maintain 300mm separation.

General Conditions

- Plumbing works must be installed by a licensed plumber in accordance with the Plumbing Code of Australia.
- The installation shall also comply with the Water Corporation's Conditions of Connection.
- The property service pipe (water main to property boundary) must be solid jacketed polyethylene pipe (PE100 PN 12.5 as a minimum) and must be Watermarked. PE pipe must not form any part of the water meter assembly.
- The water meter assembly pipework and fittings must be of an approved type, WaterMark approved and must be of an approved colour (purple).
- If at the time of connection, the above works that the plumber is responsible for have not been completed, the tapping will be cancelled and a re-booking fee will apply.
- Services must remain 300mm apart with the drinking water service located on the right-hand side when viewed from the front of the property.
- The licensed plumber* engaged by owner/applicant is required to obtain a road opening permit from the relevant authority before commencing any excavation work within a road reserve. The licensed plumber engaged by owner/applicant must also comply with every traffic management requirement contained in that permit.
- Property service pipes should be laid having regard to the applicable road owner's requirements. Loose polyethylene sleeving (Greensleeve) is used to protect ductile iron water mains against corrosion. The sleeving is essential to prolong the life of the reticulation system and care should be taken when exposing the main to protect this sleeving from damage.
- Prior to commencing any works in the vicinity of existing operational or abandoned water mains, the material type of the water main must be identified. In the event Asbestos Cement (AC) water mains are present, precautions as detailed in the WorkSafe Compliance Code "Removing asbestos in workplaces" must be followed for the removal and disposal of the non-friable asbestos containing material.
- The recycled water meter inlet ball valve will be closed and fitted with a locking device by the Water Corporation at the time of connection to the property.
- The locking device is only to be removed by either the Water Corporation, or its authorised agent for the purpose of conducting the commissioning 'Water Check' of internal Class A recycled water plumbing. Penalties apply for the unauthorised removal of the locking device.
- A purple Class A recycled water 5/8" inlet thread tap having a removable handle and sign reading "Recycled Water. Do not drink" must be installed to service any rear external area of each allotment.

- A recycled water prohibition sign with the words “Recycled Water. Do Not Drink” complying with AS 1319 is to be installed above each recycled water tap outlet.
- Any pipe, tap or other fitting used or intended to be used to supply recycled water must be of an approved type and colour in accordance with AS/NZS 3500.
- Pipes must never be painted any other colour.
- Where rainwater is to be used for flushing of toilets via a rainwater tank, backup supply is only to be provided via an automatic change over device connected to the Class A recycled water supply. Pipework from the changeover device must be purple

Inspection of Work

- The owner/applicant must ensure that the installation of the connecting works for recycled water is inspected in accordance with the Water Corporation’s Conditions of Connection, at the owners/applicants cost.
- 100% mandatory inspections of property service pipes and water meter assembly is required.
- As a minimum, developments will be inspected at stages 1 – 4 (below):
 - **Stage 1** Main to water meter prior to backfilling
 - **Stage 2 (R1 – YVW)** Water meter to building
 - **Stage 3 (R2 – YVW)** Rough-in
 - **Stage 4 (R3 – YVW)** Commissioning prior to occupancy
 - **Stage 5 (R4 – YVW)** Post construction check based on usage, or repairs to services

Note:

Where the pressure testing of pipework installed for the provision of Class A Recycled water requires temporary interconnection with the drinking water supply plumbing, such interconnection is to be removed prior to the commissioning inspection. The temporary interconnection is to be installed above ground at or near the water meter assembly.

*Please refer to Greater Western Water’s Independent Servicing Requirements in Appendix B for main to meter installations on a general service.

Educational & public buildings/areas –schools, kindergartens, health care centres

All external recycled water hose bib taps must conform to the requirements as previously detailed and in addition must either:

Be fitted with a ‘Hose Bib Tap Lock’

Or

Be installed in a secured location.

Other development types where hose bib taps require secured locations or tap locks to be determined on a case by case basis.

Alteration to Internal Class A Recycled Water Supply

- Written approval is required from the relevant Water Corporation prior to the installation of any fittings and/or alteration of pipework. A fully completed plumbing application must be submitted to the relevant Water Corporation with applicable fees paid and Consent given prior to any works being carried out. Class A Recycled water alterations must comply with the relevant Water Corporation’s Conditions of Connection.
- If any existing drinking and/or recycled water service to the property is to be disconnected, the owner/applicant must engage a licensed plumber to expose the existing property service connection water main/s (as the case requires) at the owners/applicant cost, to allow the Water Corporation or its contractor to disconnect and plug the existing property service. The licensed plumber* engaged by the owners/applicant must disconnect the relevant water meter and return it to the Water Corporation or its contractor.

Onsite private fire services excluding Fire Sprinkler Systems

The use of Class A recycled water for firefighting purposes will be assessed on a case by case basis. Class A Recycled Water cannot be used for fire sprinkler systems.

Note:

In the case where approval is given for the connection of a private fire service to the Class A recycled water supply, the isolating valve at or near the property boundary will also be locked closed.

Backflow Prevention Requirements

- From the information provided, an initial assessment of the application will be made to determine the hazard level for both the drinking water and Class A Recycled water.
- In line with current regulations, Water Corporations require the owner/applicant to employ a suitably qualified person to check the business process onsite to verify the anticipated level of hazard and install an appropriate containment device (WaterMark approved) located at the water meter, at or near the property boundary for the prevention of backflow.
- In the interest of health and safety it is the responsibility of the property owner to ensure that containment, zone and individual backflow prevention is provided.
- When a testable backflow prevention device is to be installed, the provided Backflow Prevention agreement form must be completed and returned to the respective Water Corporation to allow the device to be recorded on the Water Corporation's register and enable the water meter/tapping to be arranged.

Use of Class A Recycled Water

The owner/applicant may only use Class A recycled water which we supply for the following purposes:

- Clothes Washing
- Garden irrigation
- Toilet flushing
- Vehicle washing
- Washing down outdoor furniture and the exterior of buildings
- Filling or topping up ornamental water features and ponds that are not used for swimming.

The use of Class A Recycled water for any other purpose will be subject to approval of a specific Environment Improvement Plan (EIP) to be approved by the EPA, endorsed by the Victorian Department of Health (if required) and endorsed by the Water Corporation.

Note:

Additional servicing conditions may apply for multiple lot Developments in Greater Western Water's service area, refer to the attached appendix – Greater Western Water's independent servicing requirements.

Non-Residential and Residential Properties having Drinking water and Class A Recycled water

In addition to single residential developments in mandated areas, Class A Recycled water is to be utilised in all new developments where suitable.

Please refer to the relevant Water Corporation's appendix for a table which has been prepared as a guide to assess the appropriate use of Class A Recycled water for multi residential & non-residential developments.

Recycled Water Plumbing Commissioning Procedure

To check that only drinking water is connected to drinking water fixtures and appliances

- Turn off the drinking water supply to the property at the meter (drinking water meter and recycled water meters will be different colours). The recycled water meter is purple and located to the left of the drinking water meter as you face the property. The recycled water supply is to remain on.
- Turn on all sink, basin, bath, shower, laundry trough and clothes washing machine taps (both hot and cold drinking water) one by one. All drinking water taps should run dry after a short period of time.
- Turn on all appliances / appliance water connection taps such as those to dishwashers and clothes washing machines both hot and cold drinking water one by one. All appliances and taps should run dry after a short period of time.
- Turn on all outside drinking water taps. The external drinking water taps should run dry.

To check that Recycled Water is connected only to recycled water fixtures, external recycled water hose bib taps and where applicable the clothes washing machine

- After all drinking water taps have run dry, turn on any recycled water hose bibs, run the clothes washing machine recycled water tap and flush all toilets. Toilets should refill and the recycled water taps will run as normal provided they are connected to the recycled water supply.
- Turn off the recycled water supply at the meter and turn the drinking water supply back on at the meter. Run the recycled water supply dry via the outside recycled water hose bib taps, toilet flushing and clothes washing machine recycled water tap.
- Turn on the internal appliances / appliance water connections (both hot and cold drinking water) one by one. If the appliances fill and or water is present, they are connected to the correct supply.
- Turn both the recycled water and drinking water supplies back on slowly at the meters and turn on the taps that are located furthest away from the meters so that any trapped air is purged from the drinking and recycled water pipelines.

Note:

It is the responsibility of the installing plumbing practitioner to commission their work. All plumbing systems must be tested and commissioned in the presence of the Water Corporation's representative before occupancy and use by the consumer.

To check that **only** drinking water is connected to drinking water fixtures and appliances.

Note: It is the responsibility of the installing plumbing practitioner to commission their work. All plumbing systems must be tested and commissioned in the presence of the Water Corporation's representative before occupancy and use by the consumer

Turn off the drinking water supply to the property at the meter (drinking water meter and recycled water meters will be different colours). The recycled water meter is purple and located to the left of the drinking water meter as you face the property. The recycled water supply is to remain on.

Turn on all sink, basin, bath, shower, laundry trough and clothes washing machine taps (both hot and cold drinking water) one by one. All drinking water taps should run dry after a short period of time.

Turn on all appliances / appliance water connection taps such as those to dishwashers and clothes washing machines both hot and cold drinking water one by one. All appliances and taps should run dry after a short period of time.

Turn on all outside drinking water taps. The external drinking water taps should run dry.

To check that Recycled Water is connected only to recycled water fixtures, external recycled water hose bib taps and where applicable the clothes washing machine

After all drinking water taps have run dry, turn on any recycled water hose bibs, run the clothes washing machine recycled water tap and flush all toilets. Toilets should refill and the recycled water taps will run as normal provided they are connected to the recycled water supply.

Turn off the recycled water supply at the meter and turn the drinking water supply back on at the meter. Run the recycled water supply dry via the outside recycled water hose bib taps, toilet flushing and clothes washing machine recycled water tap.

Turn on the internal appliances / appliance water connections (both hot and cold drinking water) one by one. If the appliances fill and or water is present they are connected to the correct supply.

Turn both the recycled water and drinking water supplies back on slowly at the meters and turn on the taps that are located furthest away from the meters so that any trapped air is purged from the drinking and recycled water pipelines.

Turn the recycled water supply back on at the meter. Turn on the tap connected to the recycled water supply that is located furthest away from the meter. Turn the tap back on slowly so that all air will be purged from the pipeline while it is being recharged.

14 DRAWINGS (TYPICAL WATER SERVICES ASSEMBLY ARRANGEMENTS)

General Installation Notes

Water Assembly Dimension and Spatial Requests

| | |
|-----|--|
| 1 | 20-25mm General Water Service (Wet Tapping) Low Hazard Residential/ Commercial / Industrial |
| 1a | 20mm Drinking Water (Dry Tapping) Low Hazard Residential (Installed By Relevant Water Corporation) |
| 1b | 20mm Recycled Water Residential (Dry Tapping) Low Hazard Residential (Installed By Relevant Water Corporation) |
| 2 | 20 -25mm General Water Service Medium Hazard Residential/ Commercial/ Industrial |
| 3 | 20 -25mm General Water Service High Hazard Residential/ Commercial/ Industrial |
| 4 | 32 – 50 mm General Water Service Low Hazard Residential/ Commercial/ Industrial |
| 5 | 32 – 50 mm General Water Service Medium/High Hazard Residential/ Commercial/ Industrial |
| 6 | 80mm + General Water Service Low Hazard Residential/ Commercial/ Industrial |
| 7 | 80mm+ General Water Service Medium/High Hazard Residential/ Commercial/ Industrial |
| 8 | 25 – 50mm Hose Reel/Sprinkler & General Service |
| 9 | 80mm + Fire Hydrant/Hose Reel with Single Check Detector Assembly Testable |
| 10 | 80mm+ Fire Hydrant/Hose Reel with Double Check Detector Assembly Testable |
| 11 | 80mm+ Fire & General Service Combined Residential/ Commercial/ Industrial |
| 12 | 80mm+ Fire Sprinkler & Hydrant Service Meter Configuration |
| 12a | 80mm+ Fire Sprinkler & Hydrant Service Single Detector Assembly (Testable) (No Booster Pumps) |
| 12b | Interconnected Fire Sprinkler/Hydrant and General Services Same Water Main Connection |
| 13 | Booster Connection Around Meter Fire Sprinkler Supply |
| 14 | Booster Connection Around Meter Fire Hydrant Supply |
| 15 | Interconnected Fire & General Services Single Water Main Supply From Both Directions |
| 15A | Interconnection Supply to Feed Hydrant Outlet- Relating to Drawings 15 &16 |
| 16 | Interconnected Fire Sprinkler/Hydrant & General Services Different Water Mains Connection |
| 17 | Private Fire Service Tapping Configurations |
| 18 | Drinking/Recycled Water Tapping Configurations |
| 19 | Requirements for Class 'A' Recycled Water for use with washing machines |
| 20 | Minimum Clearances for Meter Assemblies in Areas of Restricted Space |

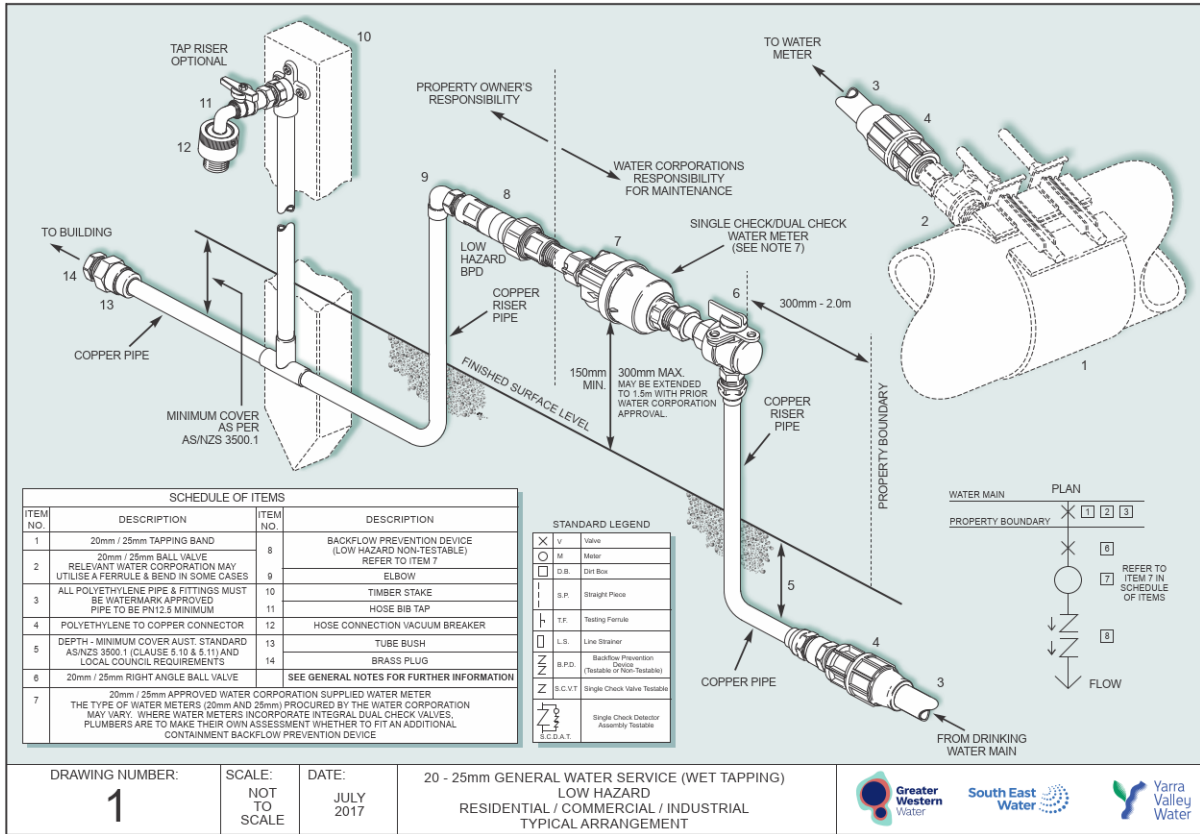
Note:

Testing ferrules cannot be used for a temporary or permanent connection.

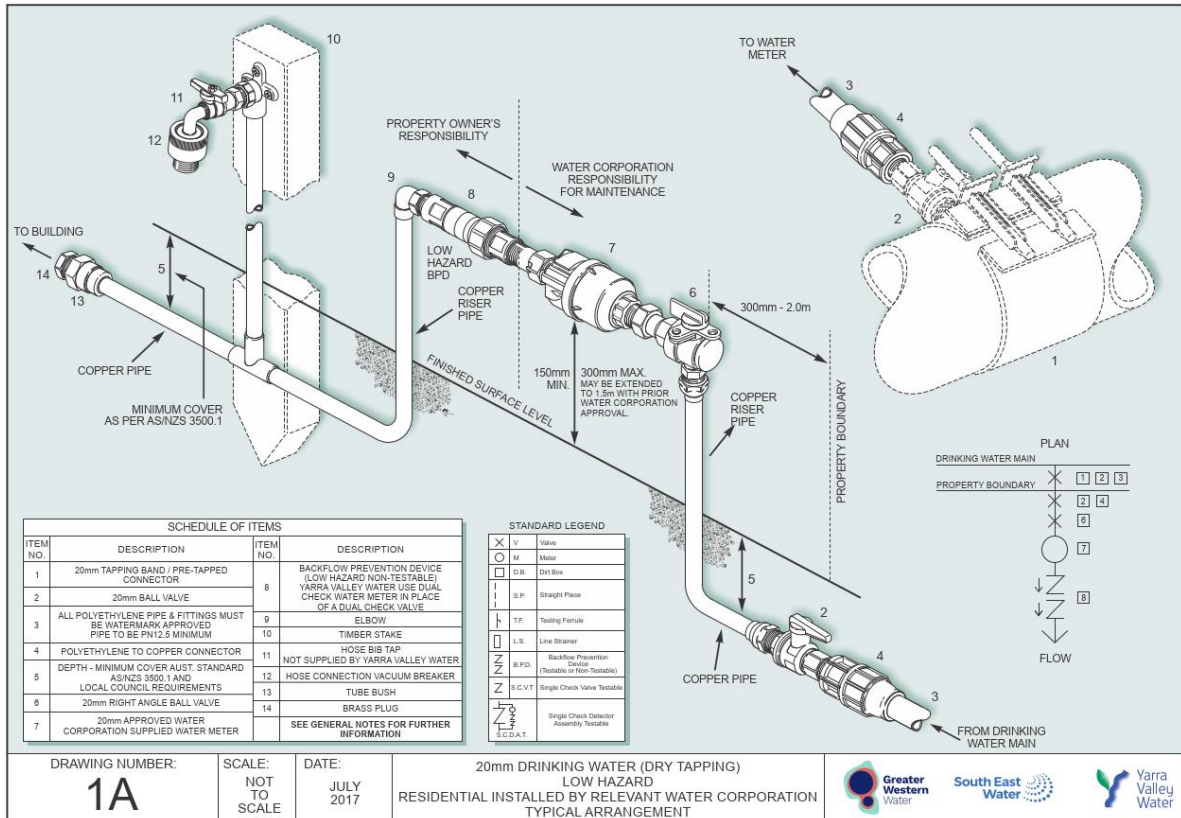
Water Assembly Dimension and Spatial Requirements

| Meter Size (mm) | Meter Assembly Type | Meter Type | Upstream Meter Assembly Elbow / Bend Length (mm) | Upstream Isolating Valve Length (mm) | Dirt Box Yes / No | Minimum Length of Pipe Upstream of Meter (mm) = 5 x dia of pipe | Meter Length (mm) including dirt box where applicable for meters up to 50mm | Minimum Length of Pipe Downstream of Meter (mm) = 3 x dia of pipe | Meter Downstream Isolating Valve Length (mm) | Line Strainer Length (mm) | Typical Backflow Prevention Device Length (mm) | Isolating Valve Down Stream of Backflow Device | Downstream Meter Assembly Elbow / Bend Length (mm) | Total Length |
|-----------------|---|-----------------------|--|--------------------------------------|-------------------|---|---|---|---|---------------------------|--|--|--|--|
| 20mm | Main General Low Hazard | Mechanical (Mech) | N/A | Right angle (L) ball valve 60mm | N/A | N/A | 220 inc. couplings | N/A | N/A | N/A | 110 | N/A | 50 | 440 |
| | Main General with Testable device | Mech | N/A | L ball valve 60mm | N/A | N/A | 220 inc. couplings | N/A | 84 | 100 | 233 | 84 | 50 | 831 |
| | Check | Mech | N/A | L ball valve 60mm | N/A | N/A | 220 inc. couplings | N/A | 84 Only required where damage may occur in removing meter | N/A | N/A | N/A | 50 | 330 or 414 with additional isolating valve |
| | Recycled Water | Mech Dual Check | N/A | L ball valve 60mm | N/A | N/A | 220 inc. couplings non standard threads to meter | N/A | N/A | N/A | Cross connection control within meter | N/A | 50 | 330 |
| 25mm | Main General Low Hazard | Mech | N/A | L ball valve 75mm | N/A | N/A | 250 inc. couplings | N/A | 99 Only required where damage may occur in removing meter | N/A | 114 | N/A | 60 | 499 or 613 with additional isolating valve |
| | Main General with Testable device | Mech | N/A | L ball valve 75mm | N/A | N/A | 250 inc. couplings | N/A | 99 | 99 | 233 | 99 | 60 | 816 |
| | Check | Mech | N/A | L ball valve 75mm | N/A | N/A | 250 inc. couplings | N/A | 99 Only required where damage may occur in removing meter | N/A | N/A | N/A | 60 | 484 |
| 32mm | Main General Low Hazard | Mech | 70 | 100 | Yes | N/A | 325 | N/A | N/A | N/A | 160 | 100 | 70 | 825 |
| | Main General with Testable device | Mech | 70 | 100 | Yes | N/A | 325 | N/A | 100 | 112 | 233 | 100 | 70 | 1110 |
| | Fire Hosereel & General Low Hazard | Mech | 70 | 100 | Yes | N/A | 325 | N/A | N/A | N/A | 160 | 100 | 70 | 825 |
| | Check | Mech | 70 | 100 | Yes | N/A | 325 | N/A | 100 Only required where damage may occur in | N/A | N/A | N/A | 70 | 565 or 665 with additional isolating valve |
| 40mm | Main General Low Hazard | Mech | 75 | 125 | Yes | N/A | 350 | N/A | N/A | N/A | 312 | 125 | 75 | 1062 |
| | Main General with Testable device | Mech | 75 | 125 | Yes | N/A | 350 | N/A | 125 | 124 | 312 | 125 | 75 | 1187 |
| | Fire Hosereel & General | Mech | 75 | 125 | Yes | N/A | 350 | N/A | N/A | N/A | 312 | 125 | 75 | 1062 |
| | Check | Mech | 75 | 125 | Yes | N/A | 350 | N/A | 125 Only required where damage may occur in | N/A | N/A | N/A | 75 | 750 |
| 50mm | Main General Low Hazard | Mech | 93 | 152 | Yes | N/A | 523 | N/A | N/A | N/A | 367 | N/A | 93 | 1228 |
| | Main General Testable device | Mech | 93 | 152 | Yes | N/A | 523 | N/A | 152 | 140 | 367 | 152 | 93 | 1670 |
| | Fire Hosereel & General | Mech | 93 | 152 | Yes | N/A | 523 | N/A | N/A | N/A | 367 | 152 | 93 | 1380 |
| | Check | Mech | 93 | 152 | Yes | N/A | 523 | N/A | 152 Only required where damage may occur in | N/A | N/A | 152 | 93 | 1013 or 1165 with additional isolating valve |
| 80mm | Main General Low Hazard | Mech | 170 | 282 | 258 | 440 | 344 | 280 | N/A | N/A | 400 | 282 | 170 | 2626 |
| | Main General Testable device | Mech | 170 | 282 | 258 | 440 | 344 | 280 | 282 | 315 | 400 | 282 | 170 | 3223 |
| | Fire Hosereel & General | Mech | 170 | 282 | 258 | 440 | 344 | 280 | 282 | N/A | 400 | 282 | 170 | 2908 |
| 100mm | Main General Low Hazard | Mech | 210 | 305 | 292 | 540 | 318 | 340 | 305 | N/A | 535 | 305 | 210 | 3730 |
| | Main General High Hazard | Mech | 210 | 305 | 292 | 540 | 318 | 340 | 305 | 370 | 535 | 305 | 210 | 3730 |
| | Fire Hydrant / Sprinkler | Mag Meter (full flow) | 210 | 305 | N/A | 540 | 250 | 340 | 305 | N/A | 410 SCVT | 305 | 210 | 3235 |
| | Fire Hydrant / Sprinkler | SCDAT | 210 | 305 | N/A | N/A | By-pass only | N/A | N/A | N/A | 410 SCDAT | 305 | 210 | 1440 |
| | Fire Hydrant / Sprinkler & | Mag Meter (full flow) | 210 | 305 | N/A | 540 | 250 | 340 | 305 | N/A | 535 | 305 | 210 | 3000 |
| 150mm | Main General Low Hazard | Mech | 360 | 403 | 381 | 790 | 300 | 490 | N/A | 510 | 685 | 403 | 360 | 4682 |
| | Main General High Hazard | Mech | 360 | 403 | 381 | 790 | 300 | 490 | 403 | 510 | 685 | 403 | 360 | 4279 |
| | Fire Hydrant / Sprinkler | Mag Meter (full flow) | 360 | 403 | N/A | 790 | 300 | 490 | 403 | N/A | 410 SCVT | 403 | 360 | 3919 |
| | Fire Hydrant / Sprinkler & General Hazard | Mag Meter (full flow) | 360 | 403 | N/A | 790 | 300 | 490 | 403 | N/A | 685 | 403 | 360 | 4194 |
| | Fire Hydrant / Sprinkler | SCDAT | 360 | 403 | N/A | N/A | By-pass only | N/A | N/A | N/A | 572 SCDAT | 403 | 360 | 2098 |
| 200mm | Main General Low Hazard | Mech | 420 | 403 | 428 | 1040 | 350 | 640 | N/A | N/A | 960 | 419 | 420 | 5080 |
| | Main General High Hazard | Mech | 420 | 419 | 428 | 1040 | 350 | 640 | 419 | 600 | 960 | 419 | 420 | 6115 |
| | Fire Hydrant / Sprinkler | Mag Meter (full flow) | 420 | 419 | N/A | 1040 | 350 | 640 | 419 | N/A | 673 SCVT | 419 | 420 | 4800 |
| | Fire Hydrant / Sprinkler & | Mag Meter (full flow) | 420 | 419 | N/A | 1040 | 350 | 640 | 419 | N/A | 960 | 419 | 420 | 5087 |
| | Fire Hydrant / Sprinkler | SCDAT | 420 | 419 | N/A | N/A | By-pass only | N/A | N/A | N/A | 673 SCDAT | 403 | 360 | 2339 |

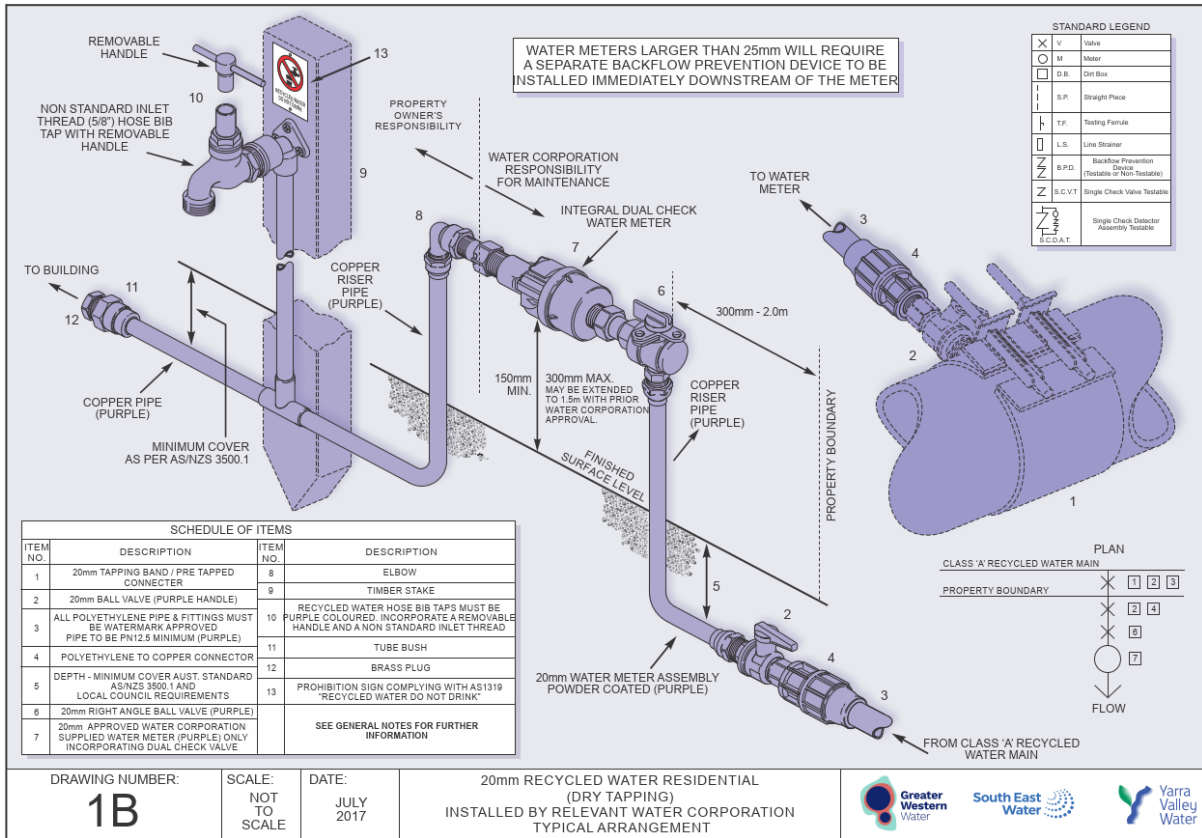
1. 20-25mm General Water Service (Wet Tapping) Low Hazard Residential/ Commercial / Industrial



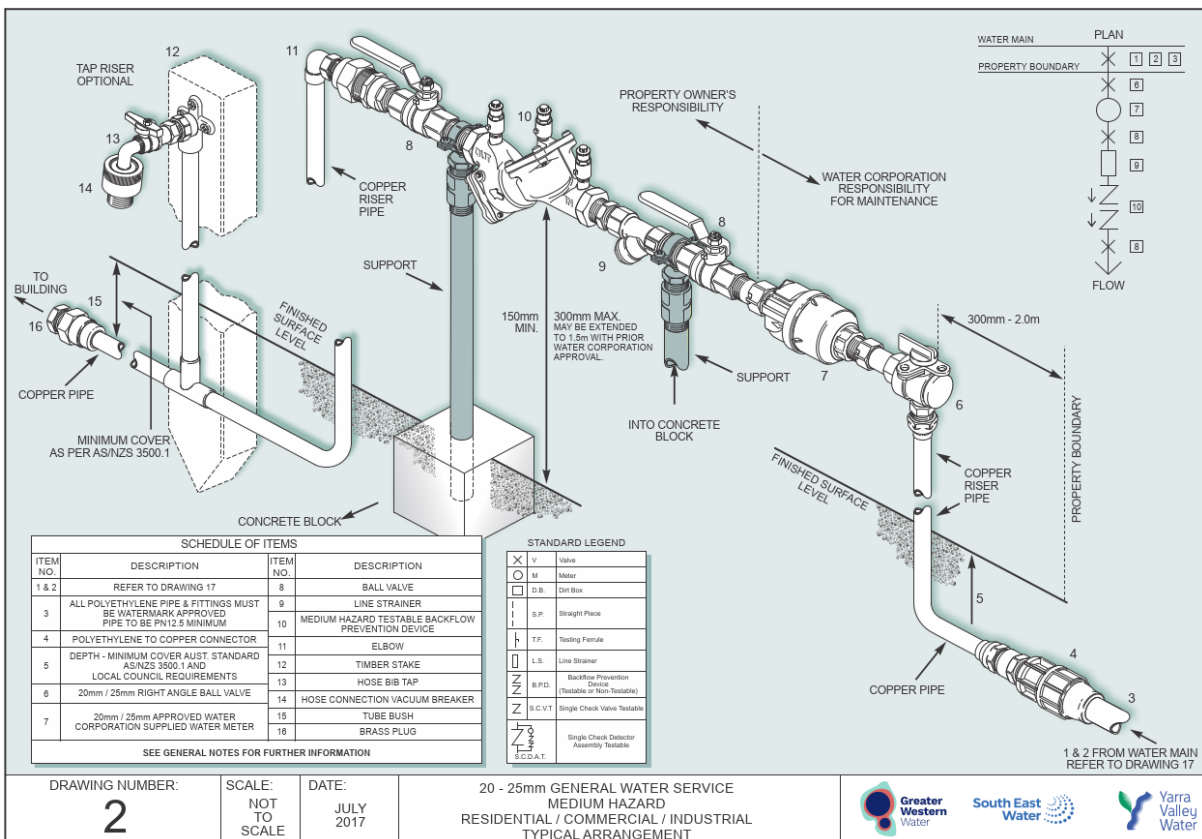
1a. 20mm Drinking Water (Dry Tapping) Low Hazard Residential (Installed By Relevant Water Corporation)



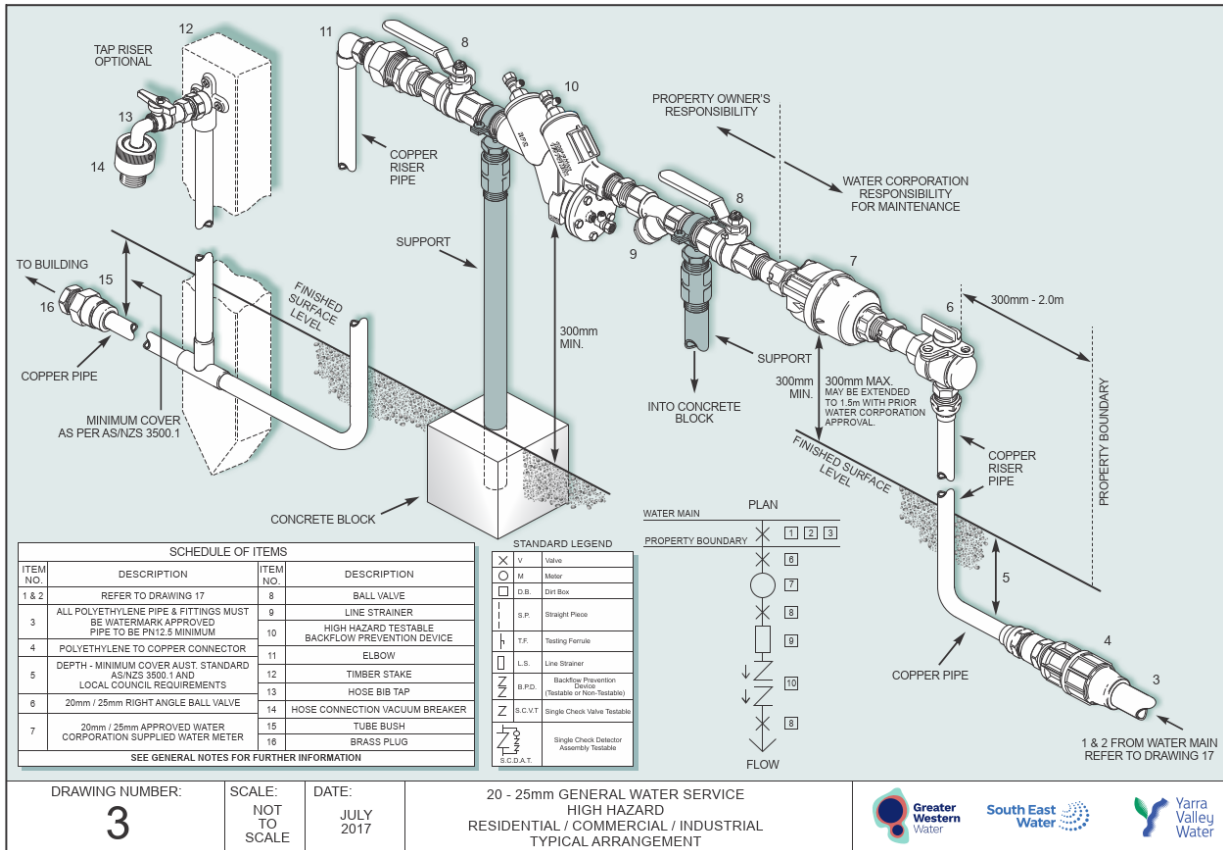
1b. 20mm Recycled Water Residential (Dry Tapping) Low Hazard Residential (Installed By Relevant Water Corporation)



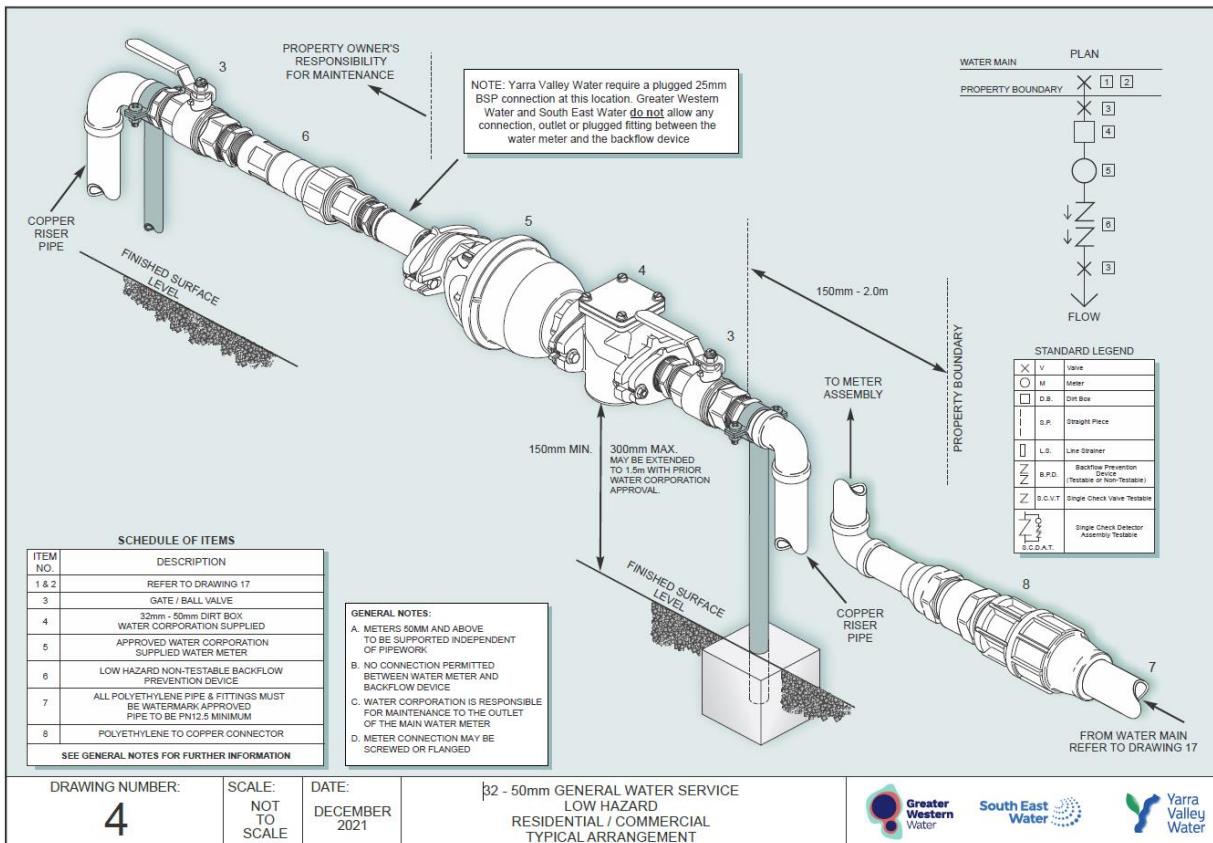
2. 20 -25mm General Water Service Medium Hazard Residential/ Commercial/Industrial



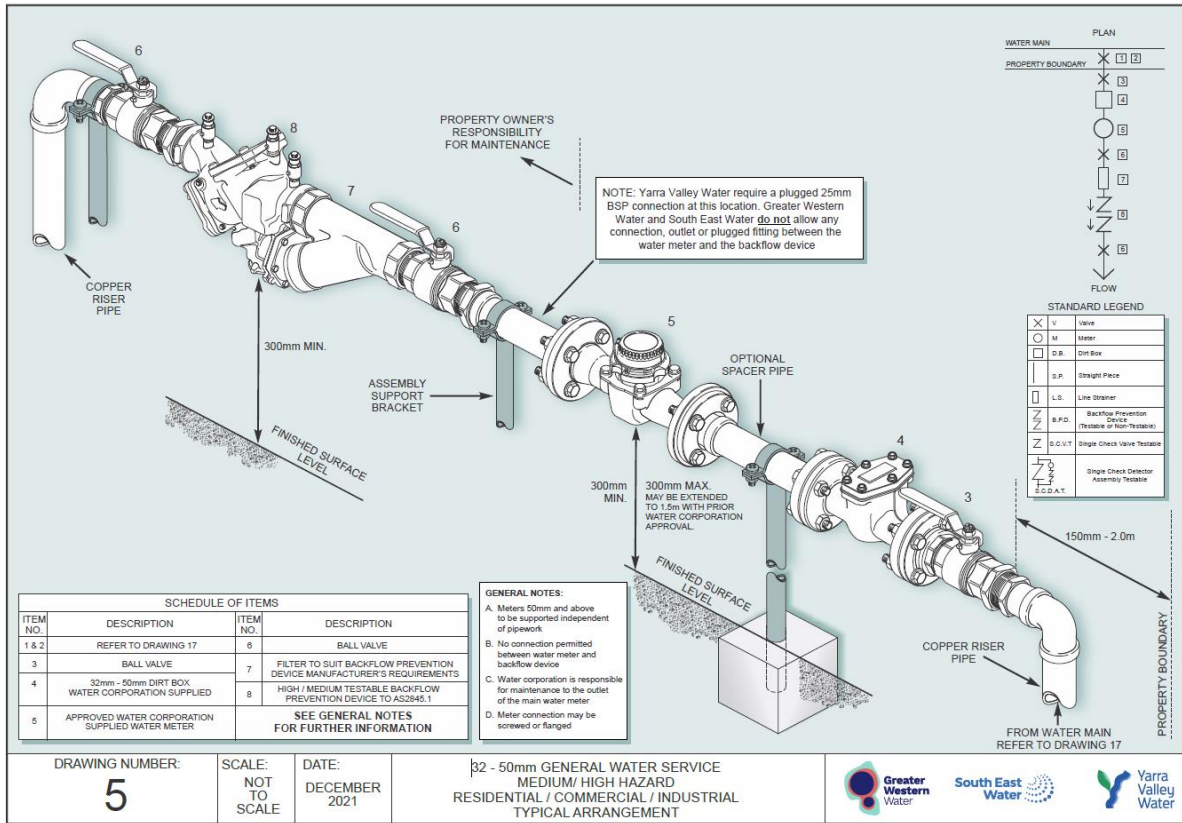
3. 20 -25mm General Water Service High Hazard Residential/ Commercial/ Industrial



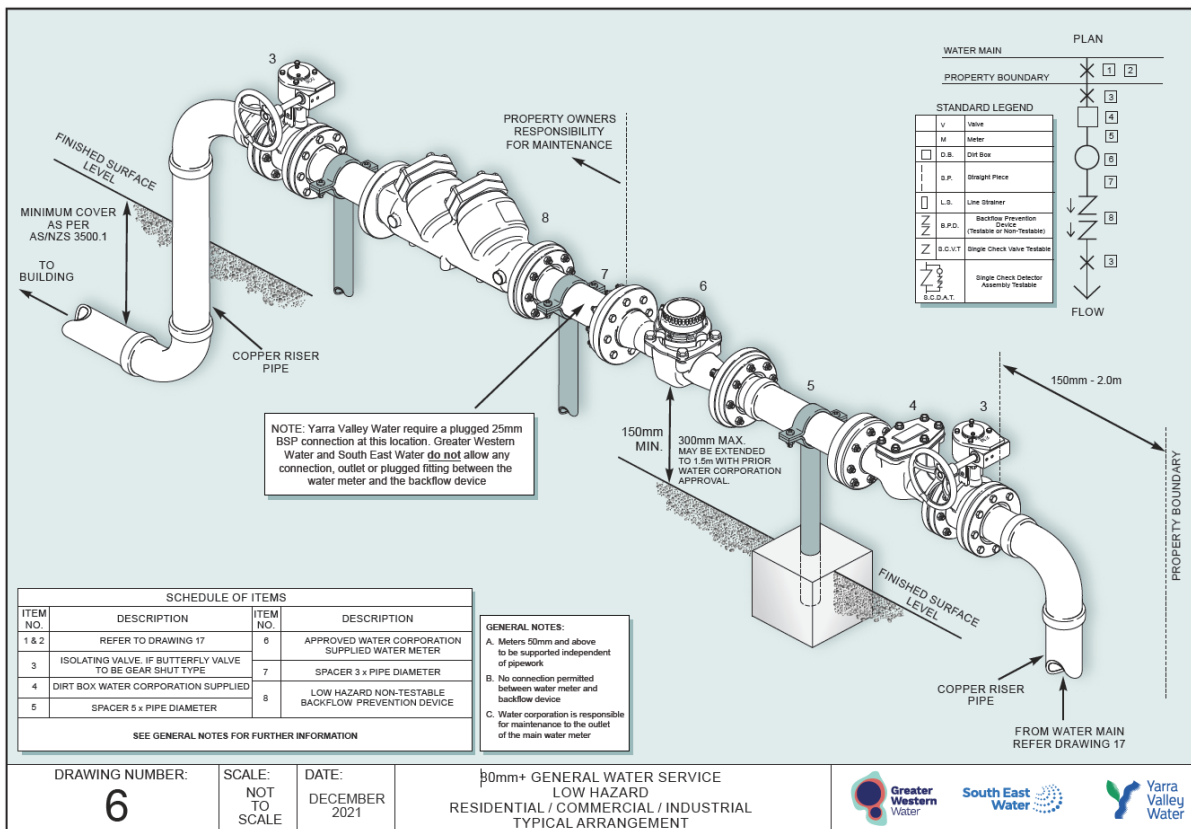
4. 32 – 50 mm General Water Service Low Hazard Residential/ Commercial/ Industrial



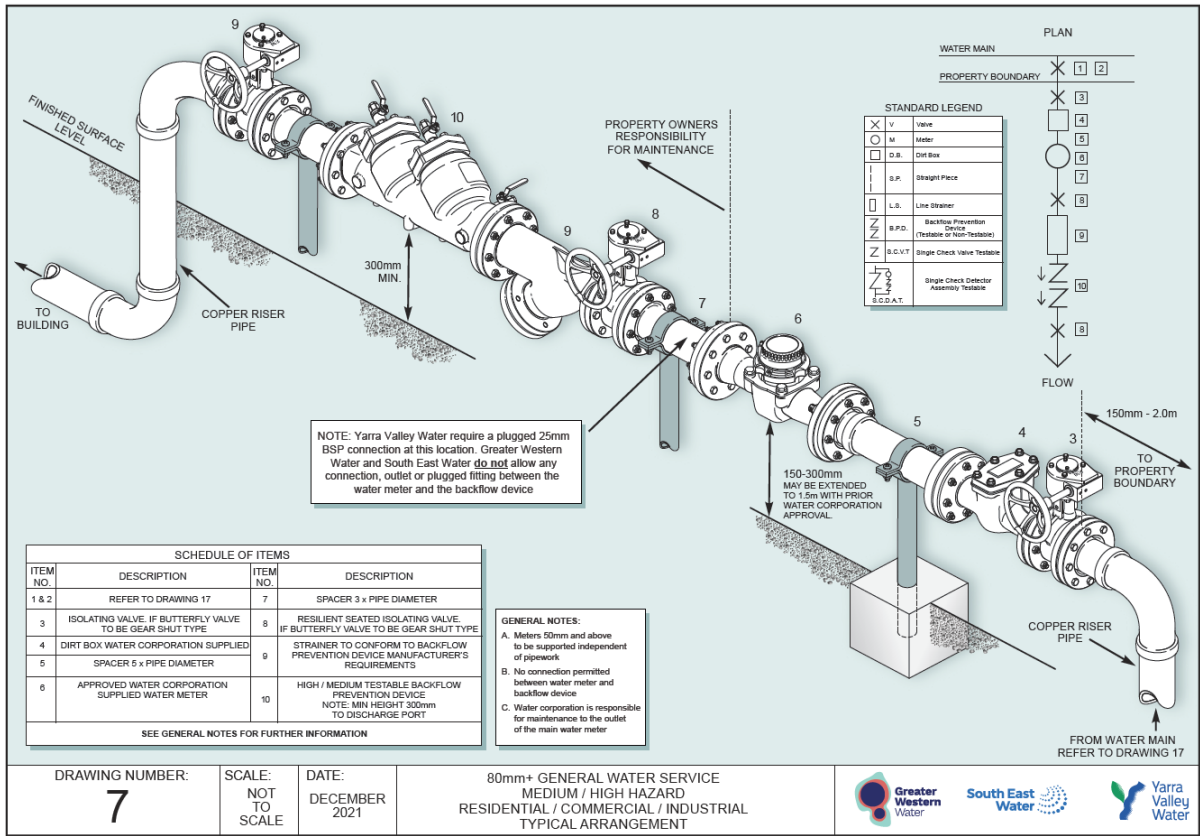
5. 32 – 50 mm General Water Service Medium/High Hazard Residential/Commercial/Industrial



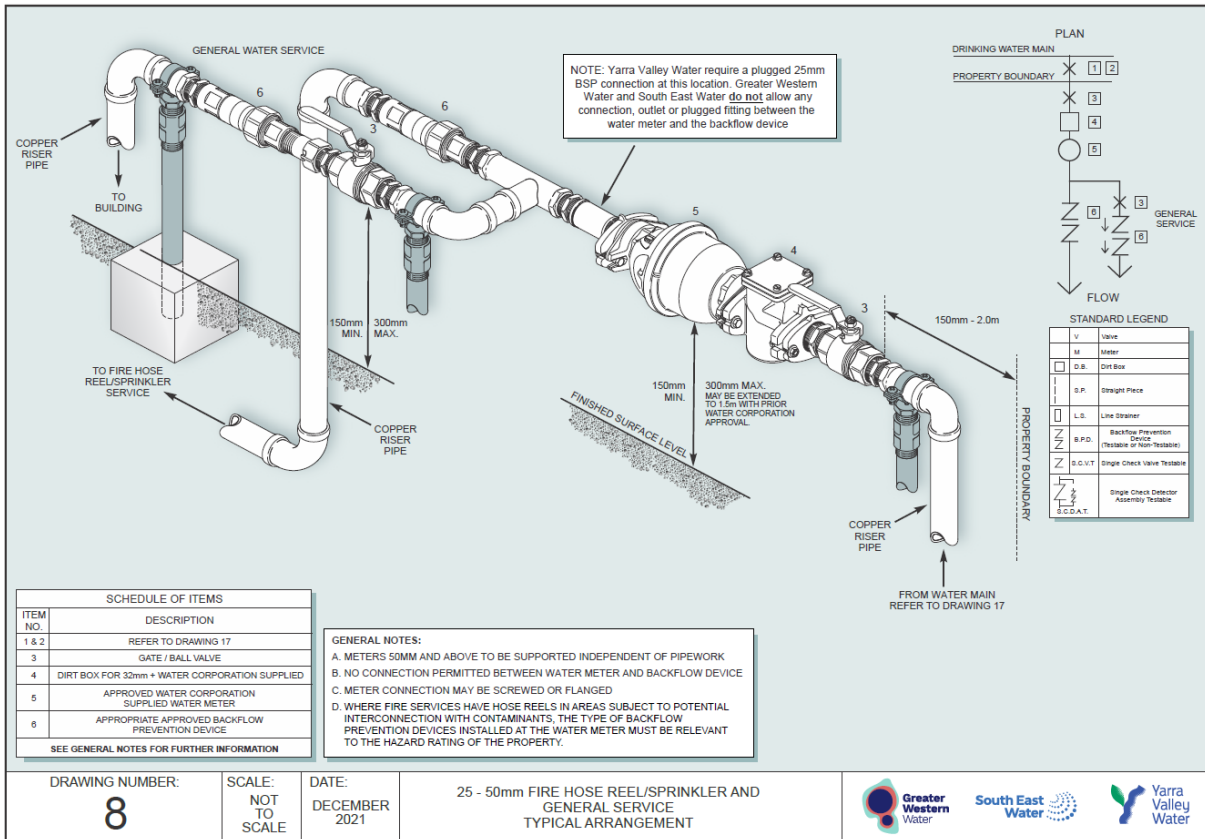
6. 80mm + General Water Service Low Hazard Residential/ Commercial/ Industrial



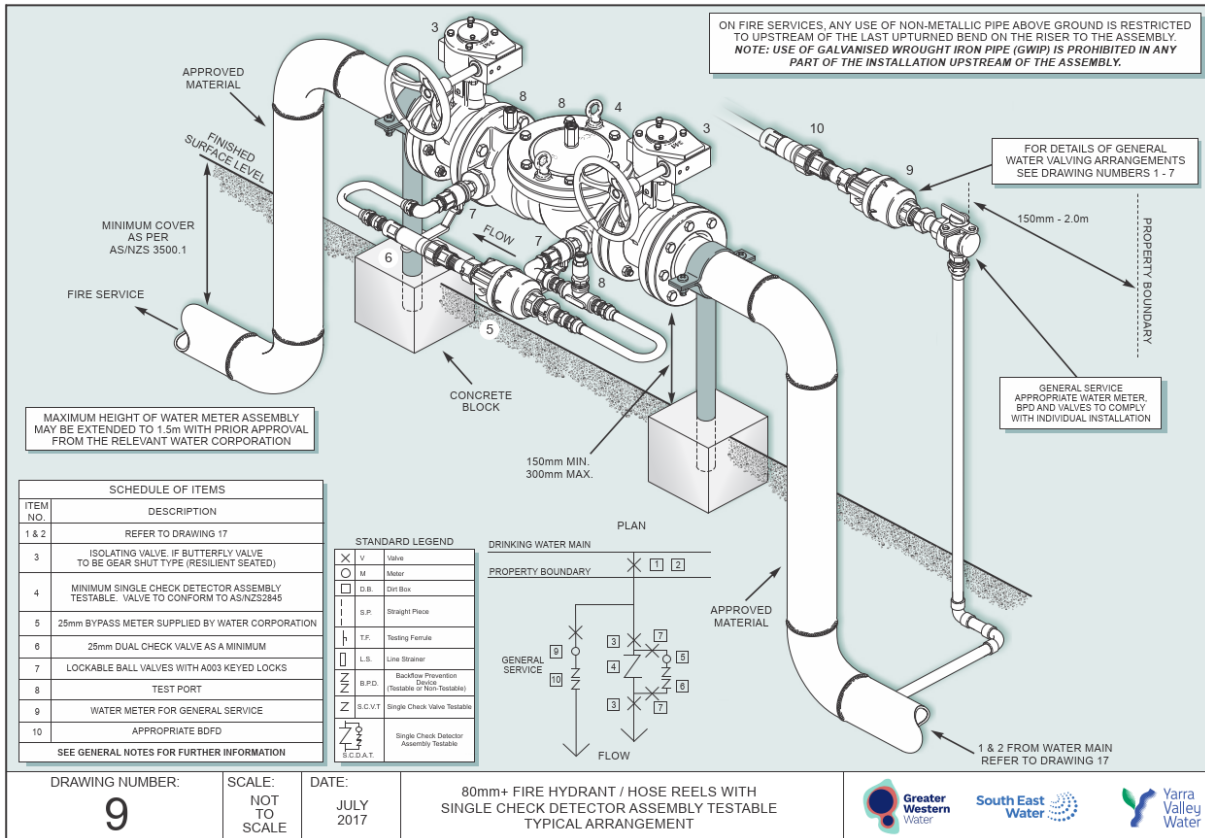
7. 80mm+ General Water Service Medium/High Hazard Residential/ Commercial/ Industrial



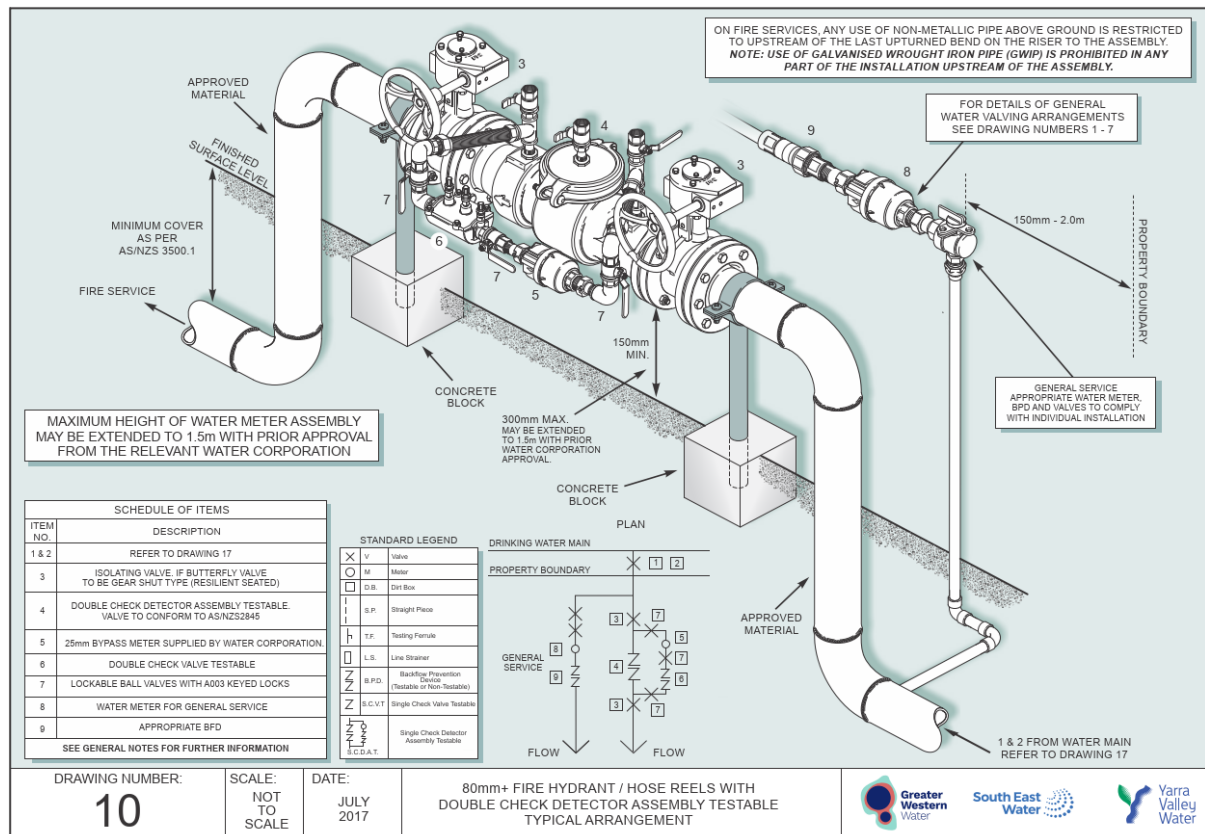
8. 25 – 50mm Hose Reel/Sprinkler & General Service



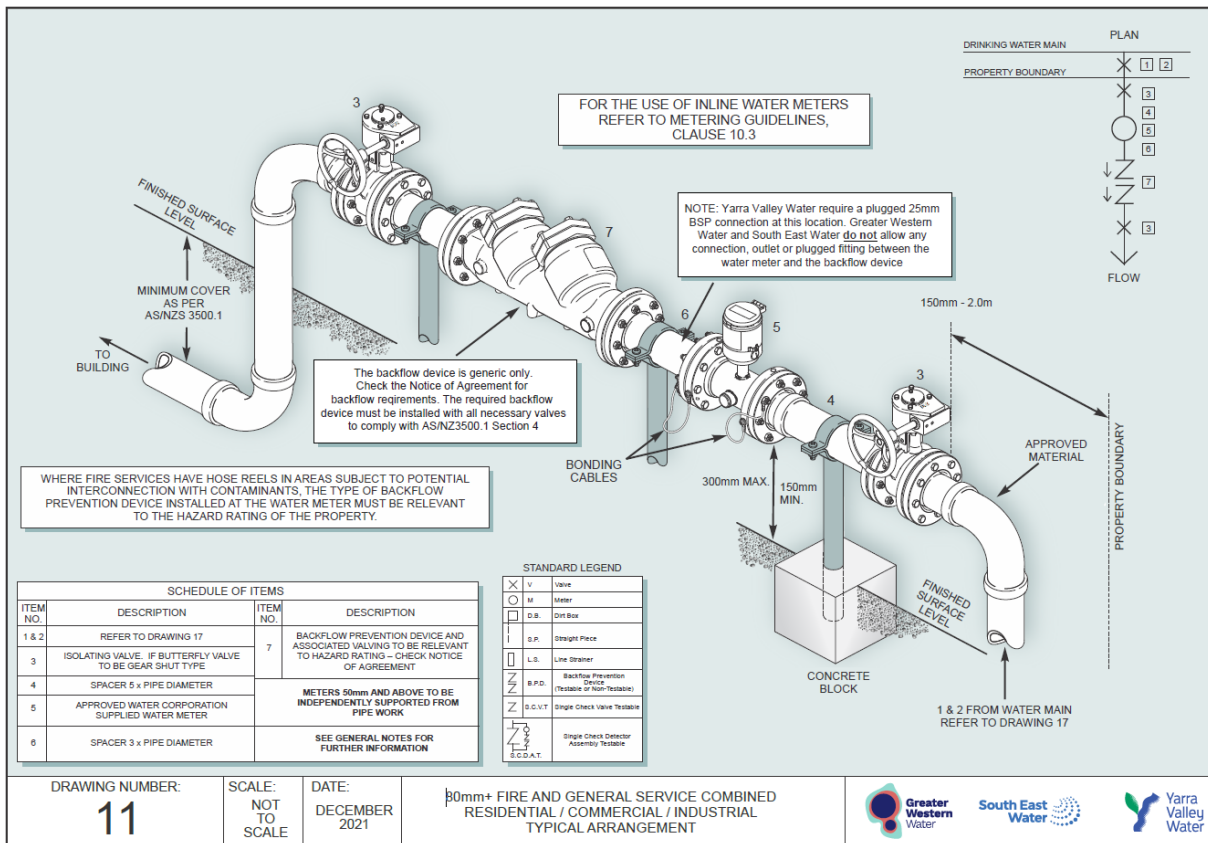
9. 80mm + Fire Hydrant/Hose Reel with Single Check Detector Assembly Testable



10. 80mm+ Fire Hydrant/Hose Reel with Double Check Detector Assembly Testable

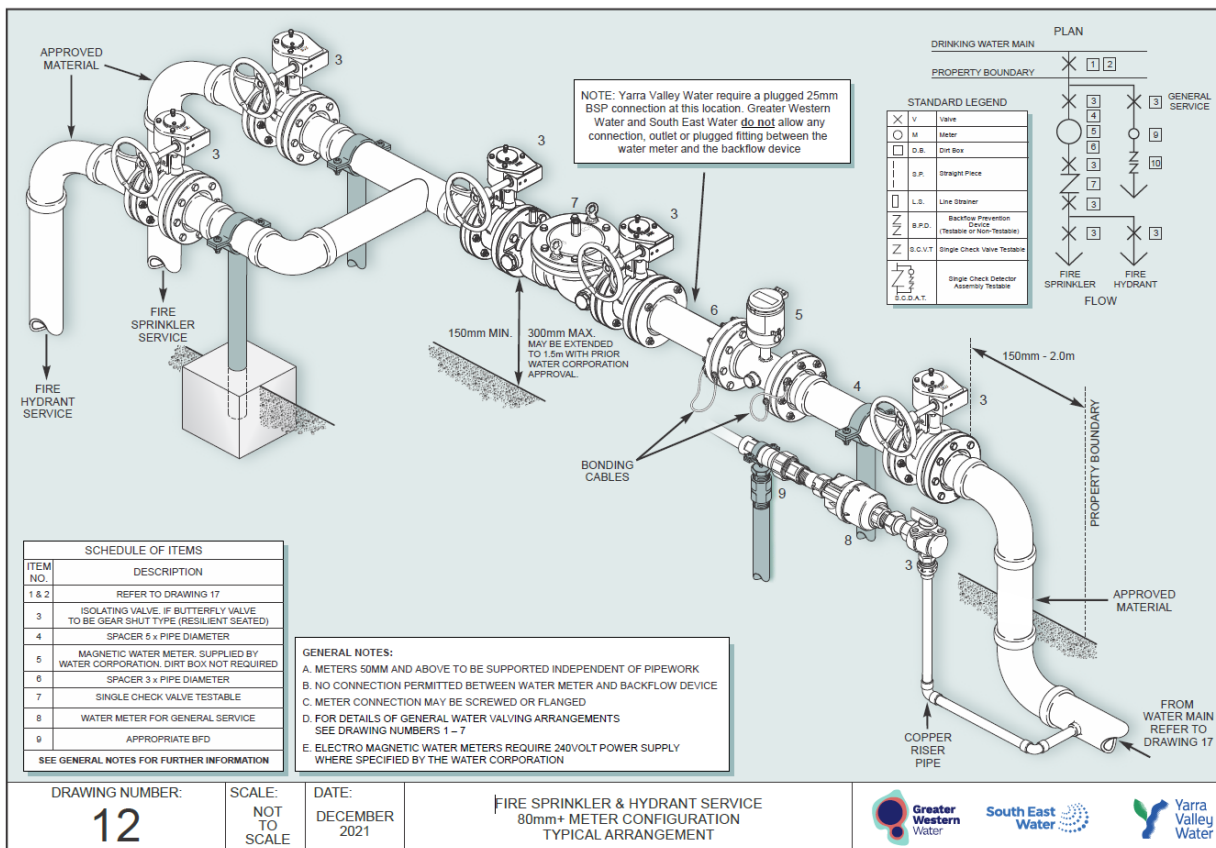


11. 80mm+ Fire & General Service Combined Residential/ Commercial/ Industrial

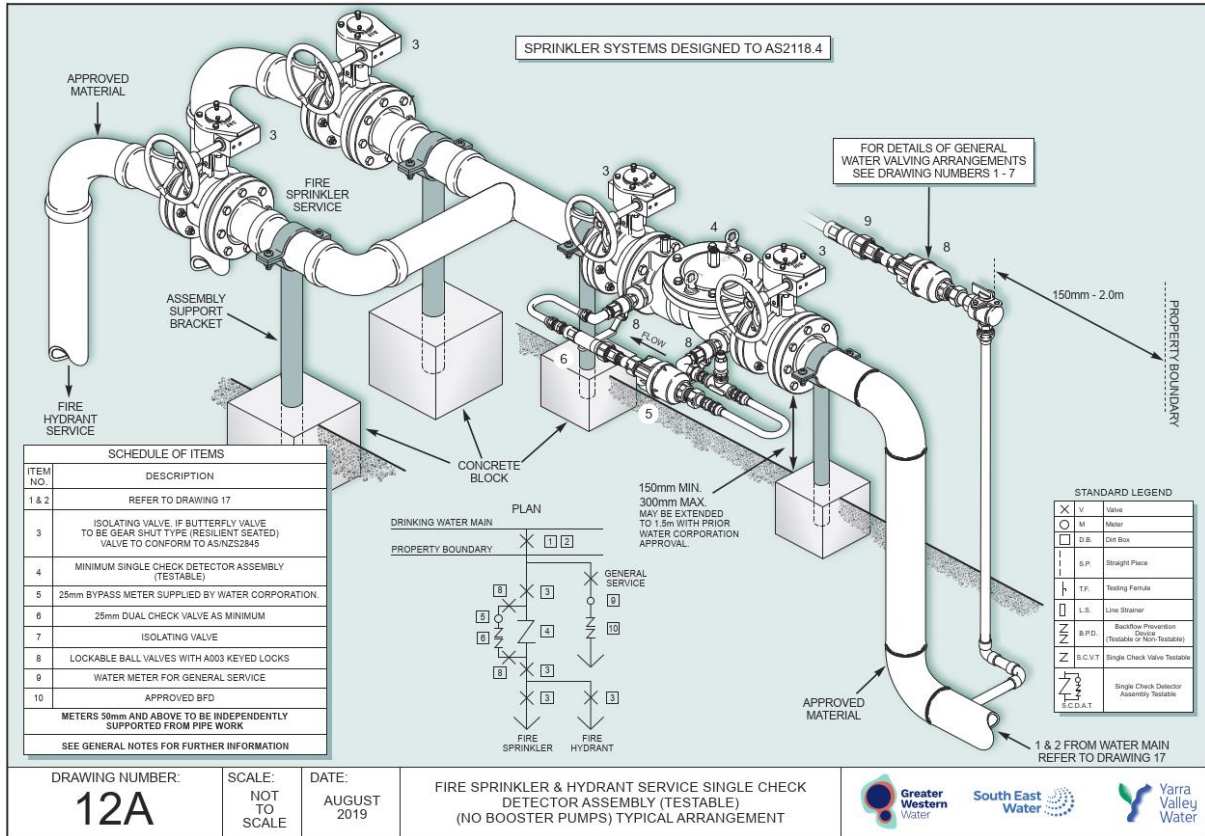


Combined fire & general arrangements greater than 50mm are not Yarra Valley Water’s preferred option and are generally not permitted

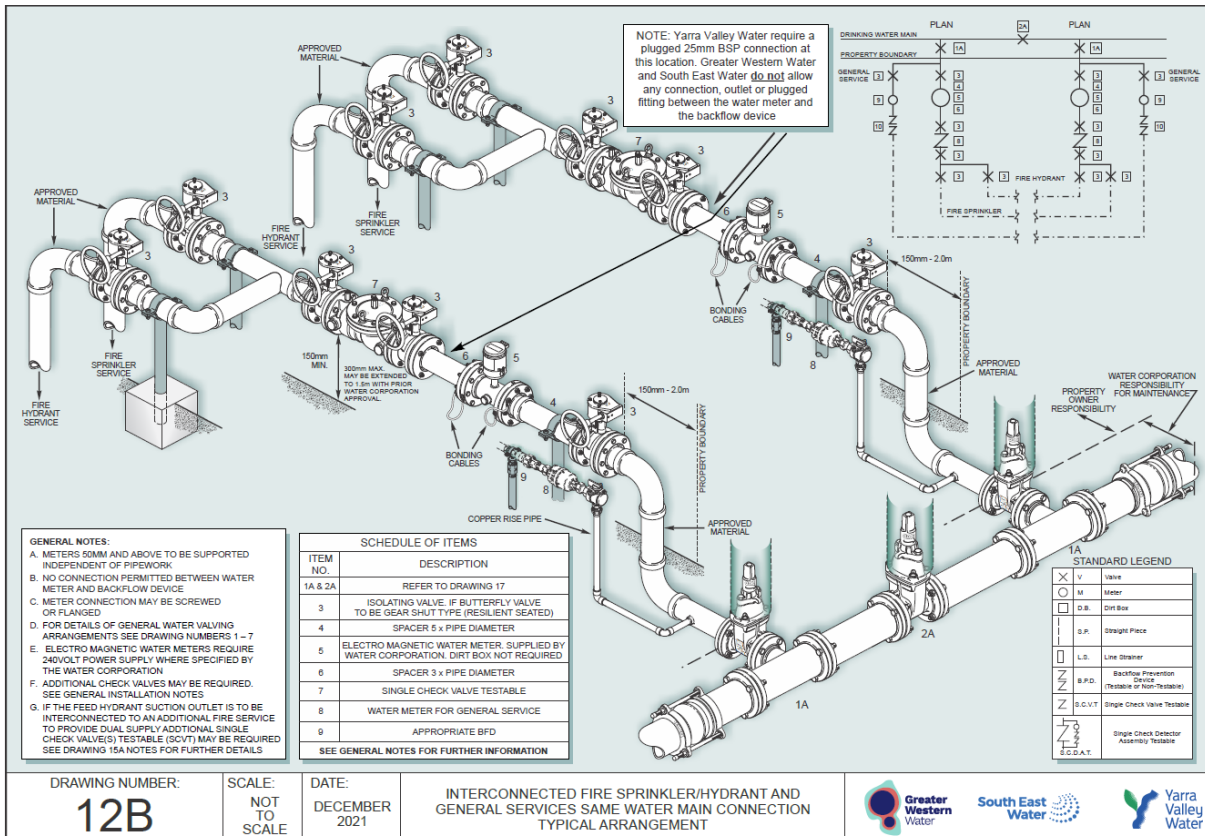
12. 80mm+ Fire Sprinkler & Hydrant Service Meter Configuration



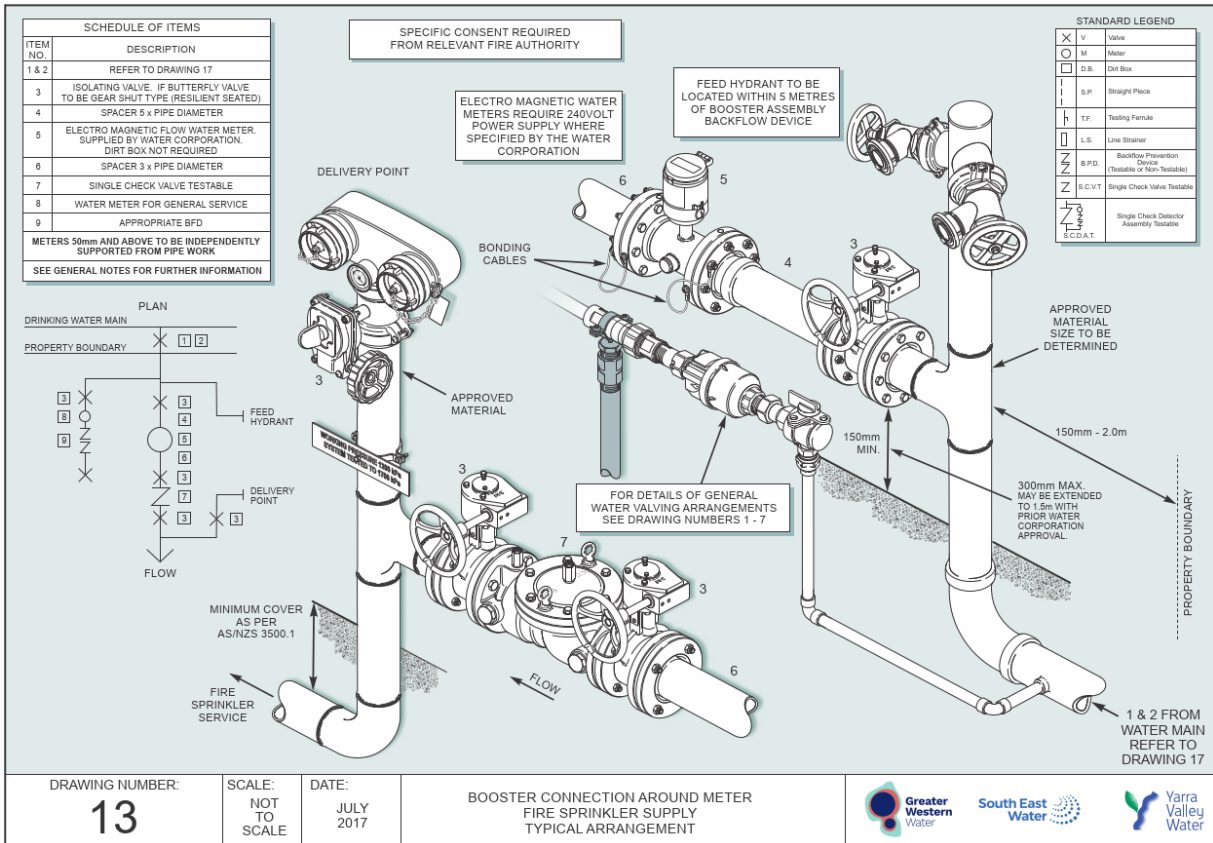
12a. 80mm+ Fire Sprinkler & Hydrant Service Single Detector Assembly (Testable) (No Booster Pumps)



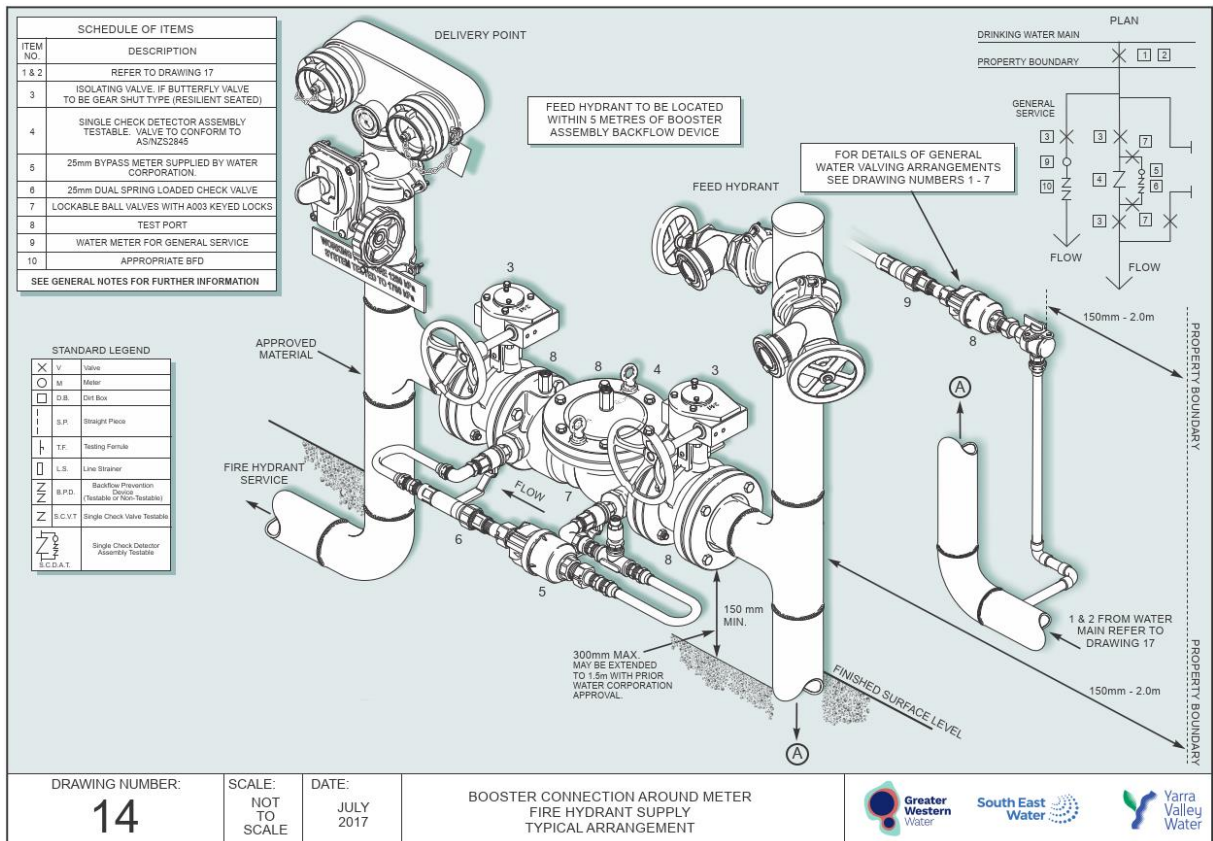
12b. Interconnected Fire Sprinkler/Hydrant and General Services Same Water Main Connection



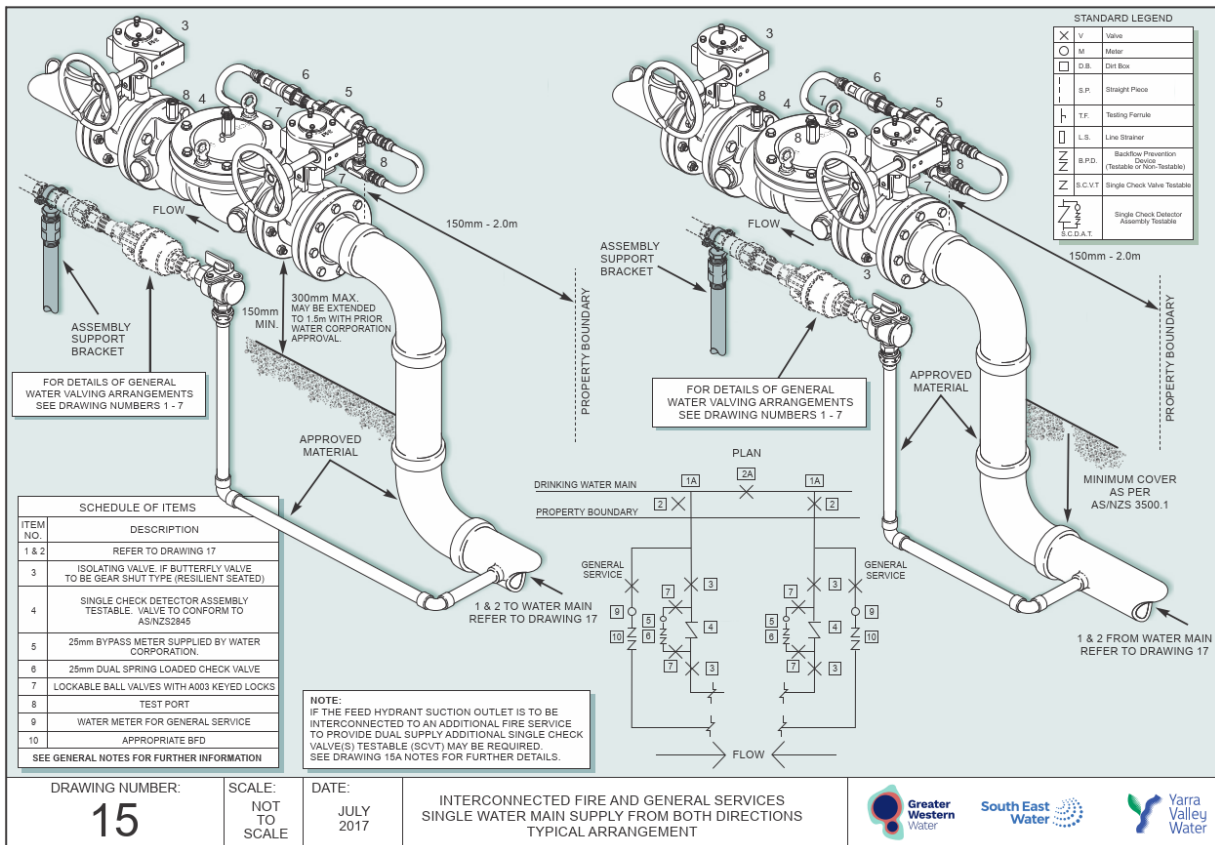
13. Booster Connection around Meter Fire Sprinkler Supply



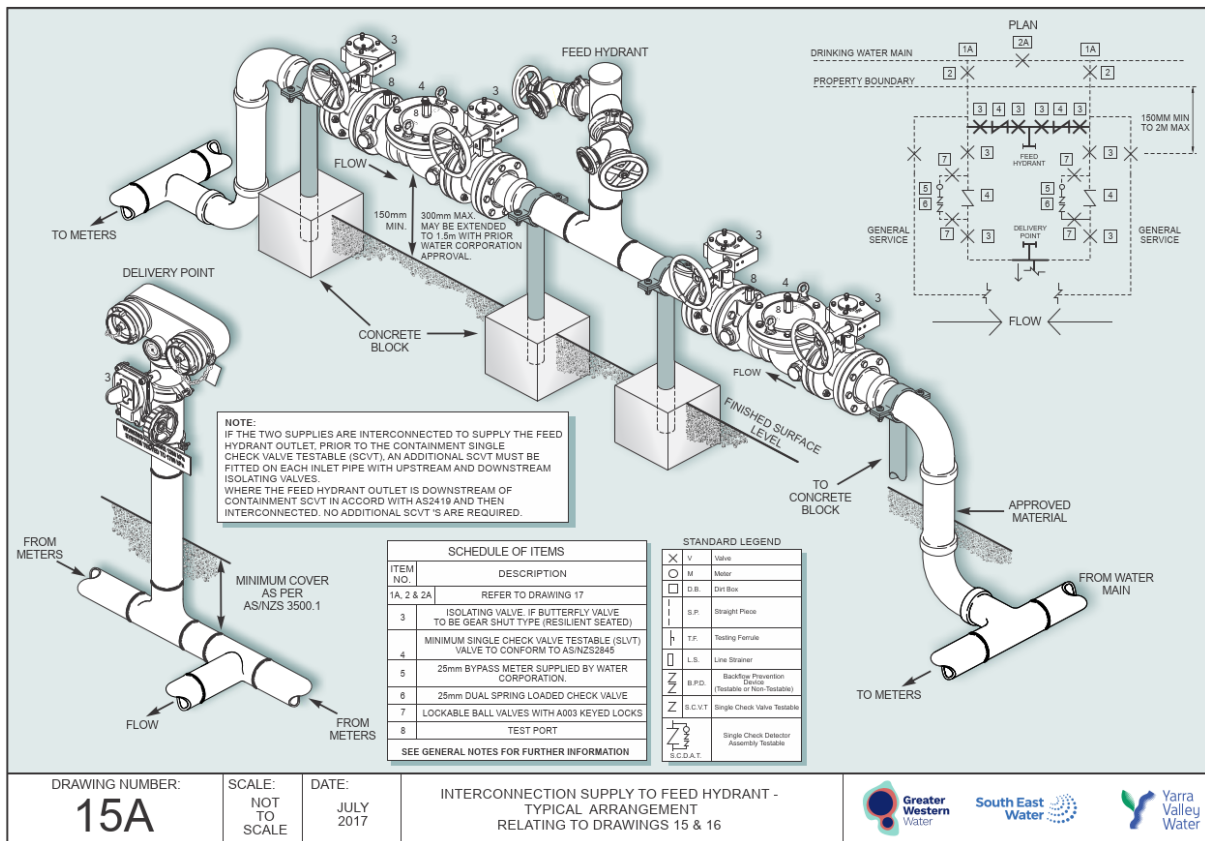
14. Booster Connection around Meter Fire Hydrant Supply



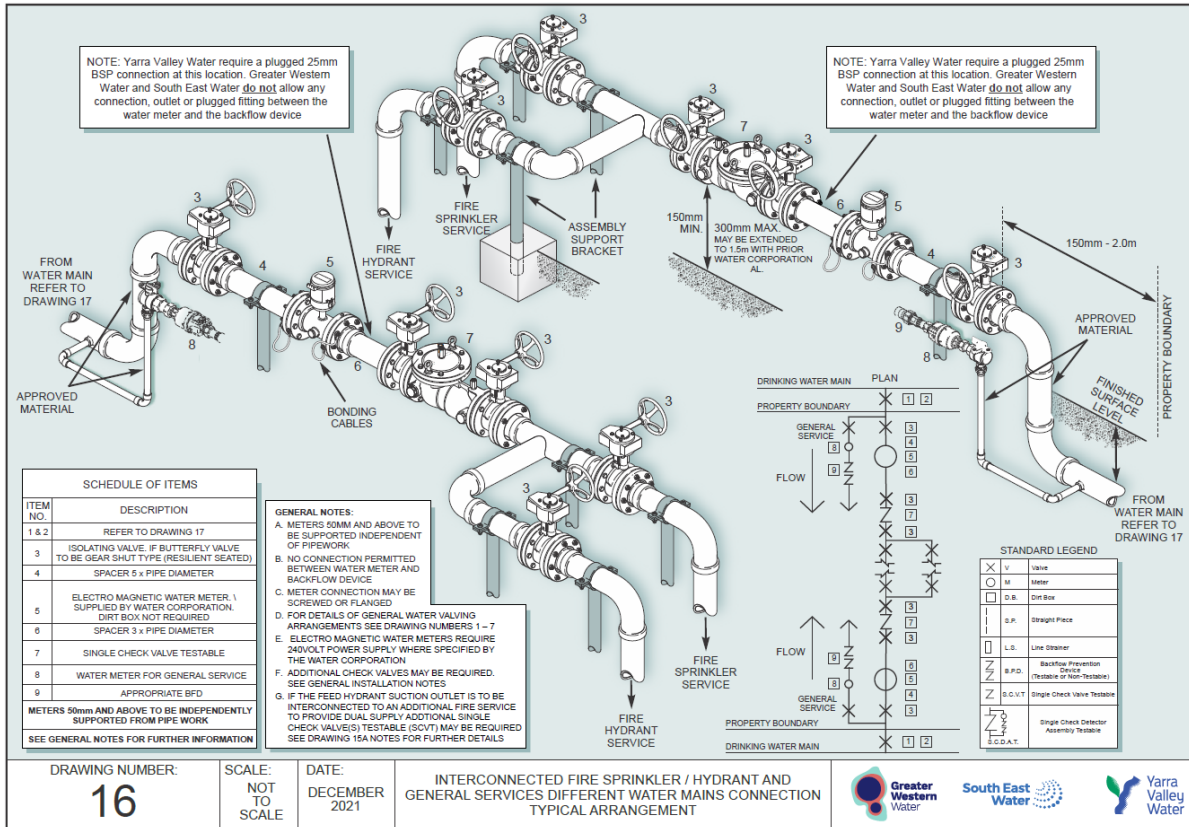
15. Interconnected Fire & General Services Single Water Main Supply from Both Directions



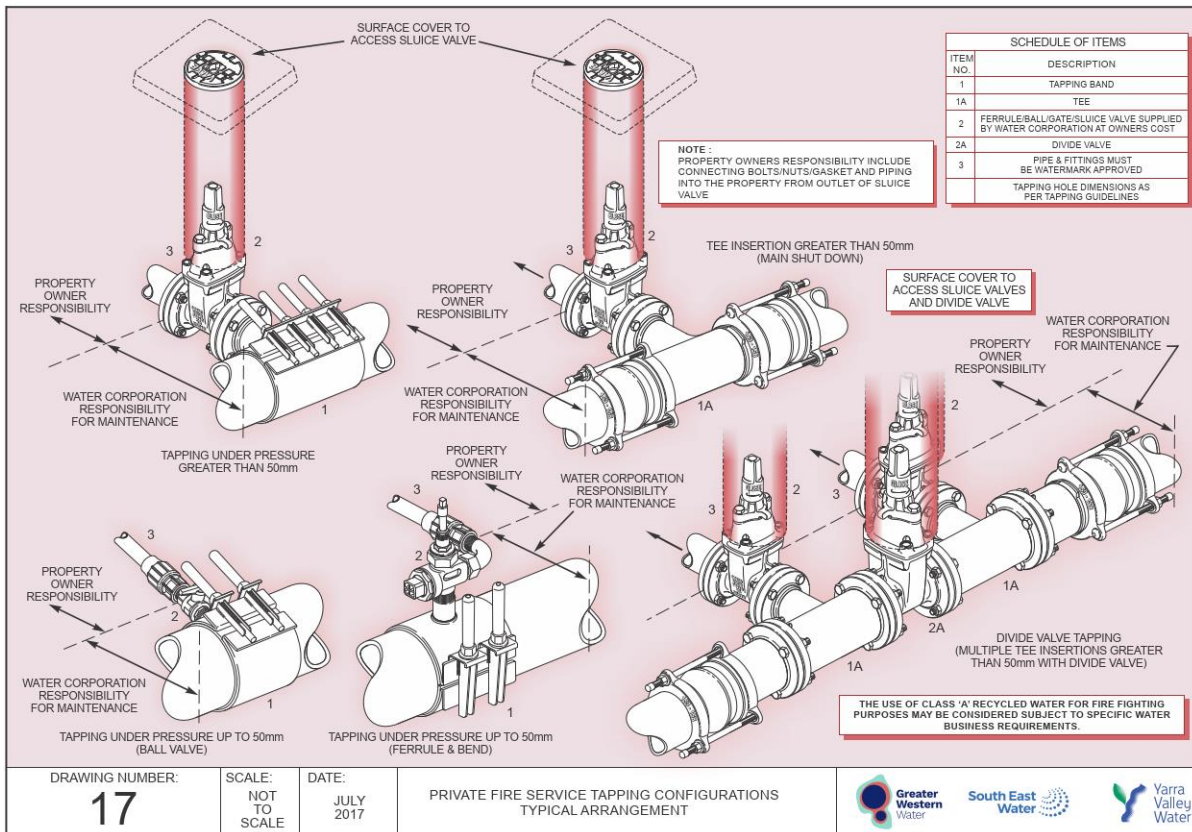
15a. Interconnection Supply to Feed Hydrant Suction Outlet- Relating to Drawings 15 & 16



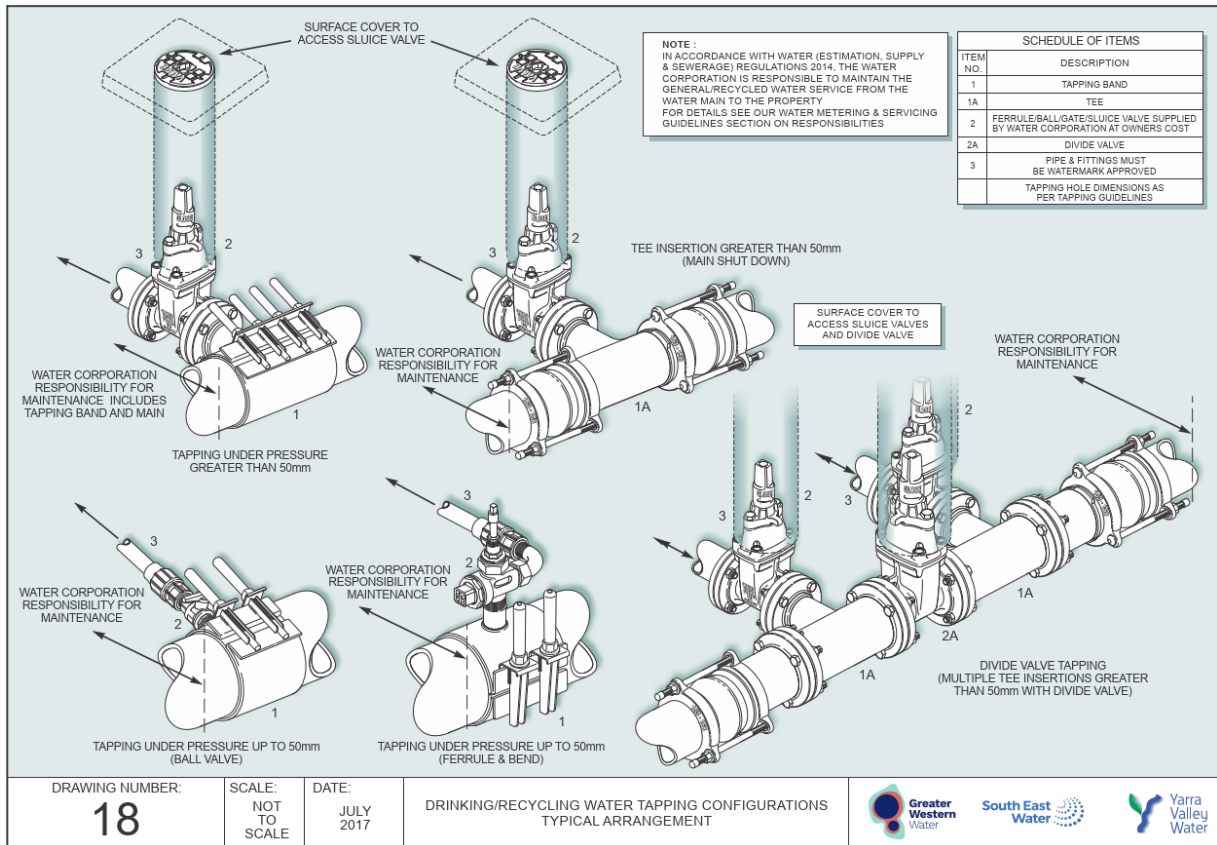
16. Interconnected Fire Sprinkler/Hydrant & General Services Different Water Mains Connection



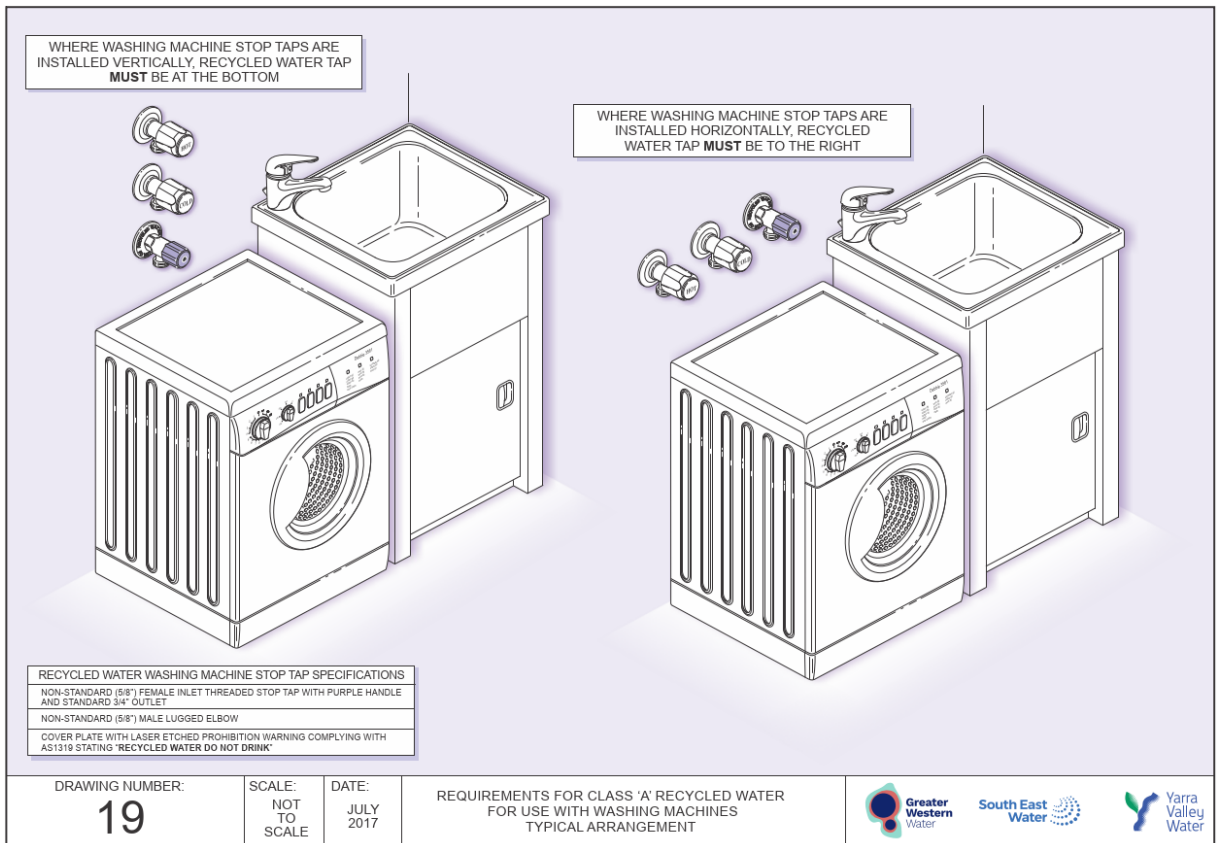
17. Private Fire Service Tapping Configurations



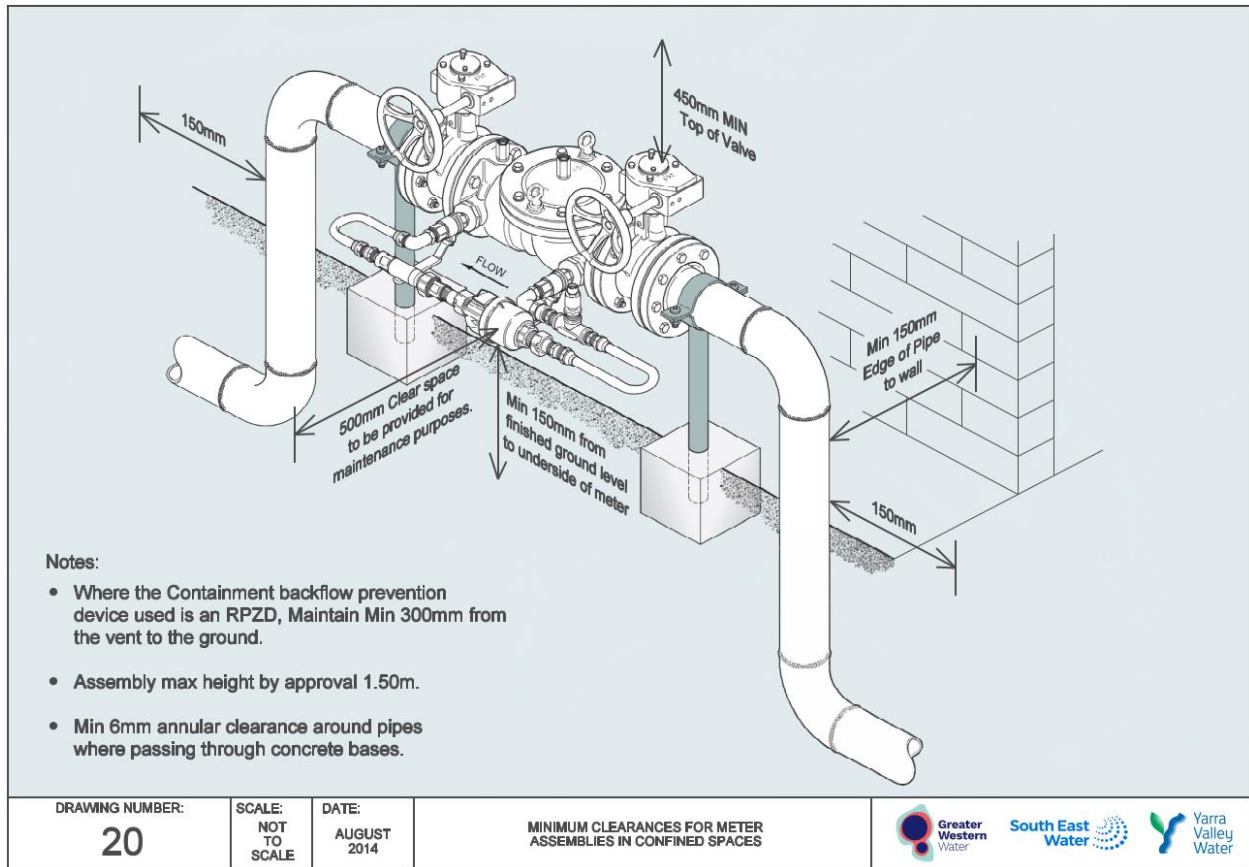
18. Drinking/Recycled Water Tapping Configurations



19. Requirements for Class 'A' Recycled Water for use with Washing Machines



20. Minimum Clearances for Water Meter Assemblies



APPENDIX A – YARRA VALLEY WATER'S INDEPENDENT SERVICING REQUIREMENTS

15 RESIDENTIAL WATER METERING AND SERVICING

15.1 Multi – Dwelling Residential Development (Ground Floor and Ground and First Floor, Three (3) to Six (6) Units)

Definition

Multiple dwellings on a single title or Owners Corporation:

- Flats
- Apartments
- Units

Water Metering

- A manifold arrangement is to be provided.
- For each dwelling a main water meter is required on the drinking water supply and also on the recycled water supply where available, to be taken from the manifold.
- A common area main meter may be incorporated into the manifold system. Where a common area main meter is installed all common usage for the development is to be serviced through the one common area main meter.
- Meters installed off the manifold cannot exceed the size of the tapping/manifold.
- Water meters must be installed within 2 metres of the property boundary.
- Water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted (see section 8.2 - Remote Water Meters).

These developments must have a main meter with individual check meters for each dwelling/lot to be taken from this supply. If shared facilities are being installed within the development a separate check meter must also be installed at that facility.

Examples of shared facilities are:

- Bulk hot water service
- Water used for irrigation
- Shared laundry
- Cleaners room
- Any common areas supplied with a water service

This will ensure that each unit and common area in the development has a separately metered service, and that all water delivered to the property is measured.

Servicing

- A single tapping is to be provided to service the total development.
- A manifold arrangement is to be provided for the drinking water supply and also on the recycled water supply where available
- Existing services are to be plugged with all dwellings to be serviced from a manifold arrangement.
- Upon application, second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected.
- Dual supply from water mains in different pressure supply zones will not be permitted.

Manifolds are to be installed in accordance with the following guidelines:

- Be a 'T Bar', 'Straight' or vertical arrangement similar to Figure 33.
- Installed within 2 metres of the property boundary.
- Located below ground and left exposed for the Water Corporation's plumbing contractor to inspect prior to installation of the meters.

When installing meters off a manifold the following spacing requirements are to be met:

- The distance between the ground and the base of the meter needs to be no less than 150mm and no more 300mm
- For 20mm to 25mm Meters – 250mm minimum clearance between the centreline of the pipe
- For 32mm Meters and above – 150mm minimum clearance from the outside edge of each meter

Private Fire Services

Refer to Sections 10.2 & 10.3

Additional References

See Melbourne Metropolitan Water Corporation 'Water Service Assembly Arrangements'.

Figure 33: Typical Multi-Dwelling Residential Development with Manifold

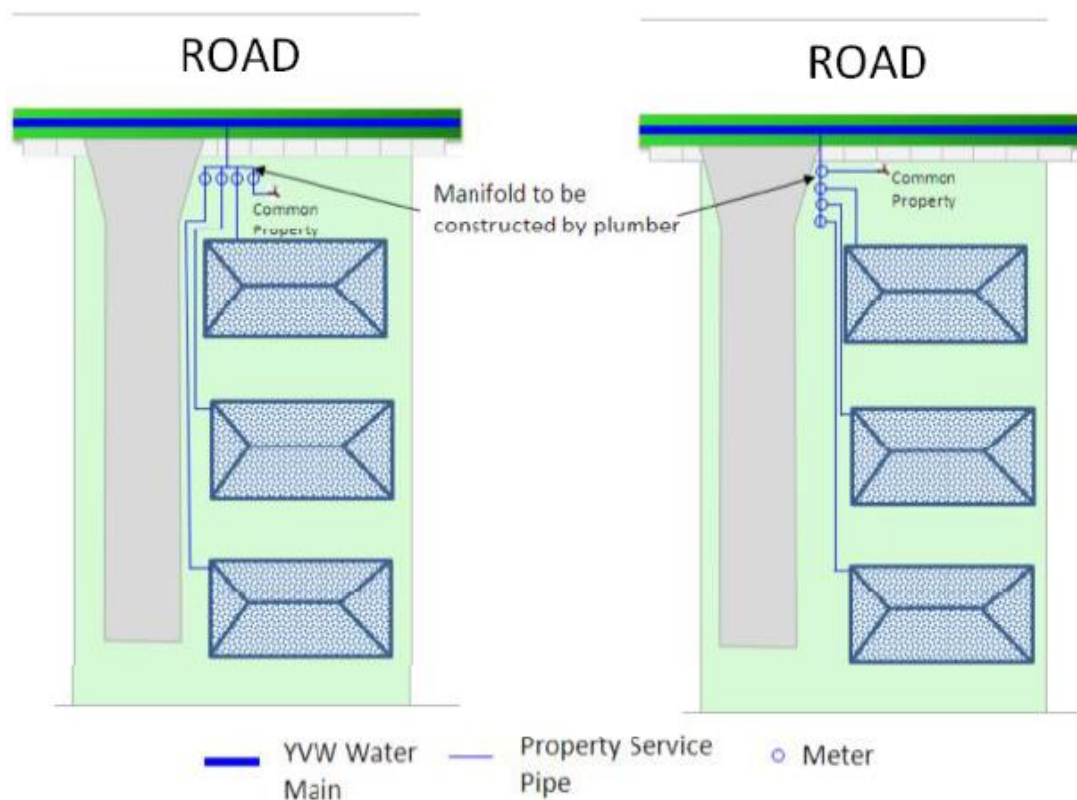


Figure 34: Typical Multi-Dwelling Residential Development with Potable and Recycled Water Manifold

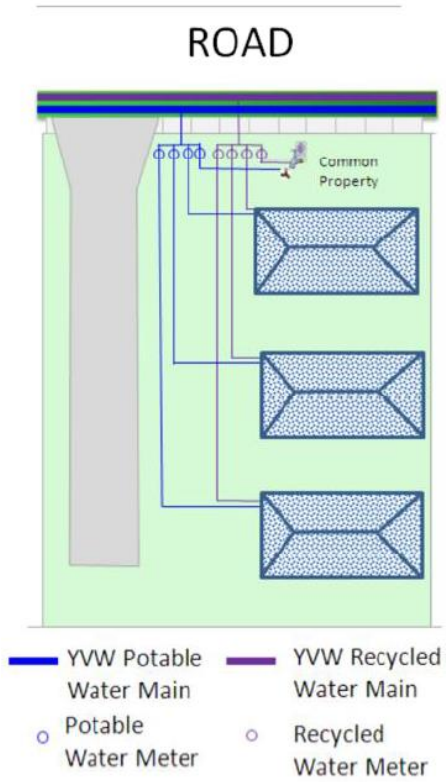


Figure 35: Multi Meter Manifold Installations "T" Arrangements

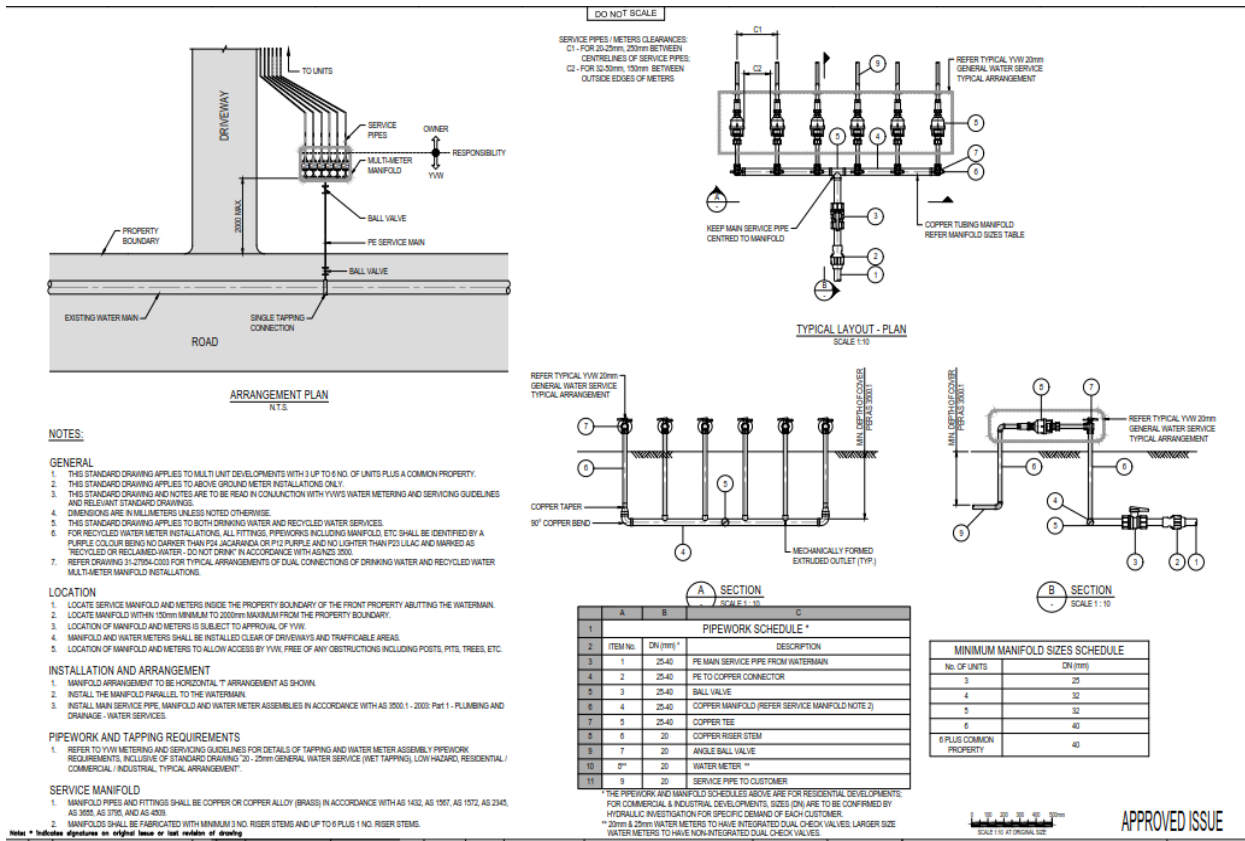


Figure 36: Multi Meter Manifold Installations Straight Arrangements

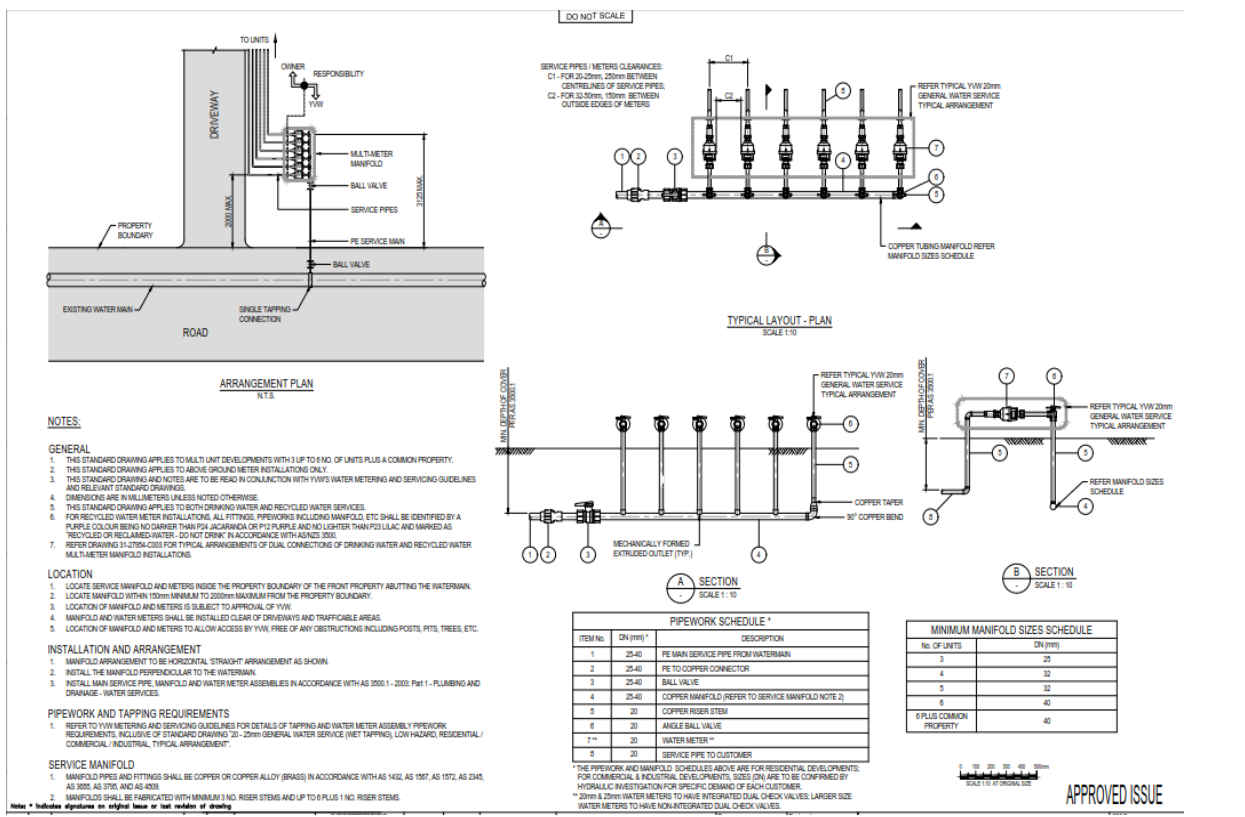
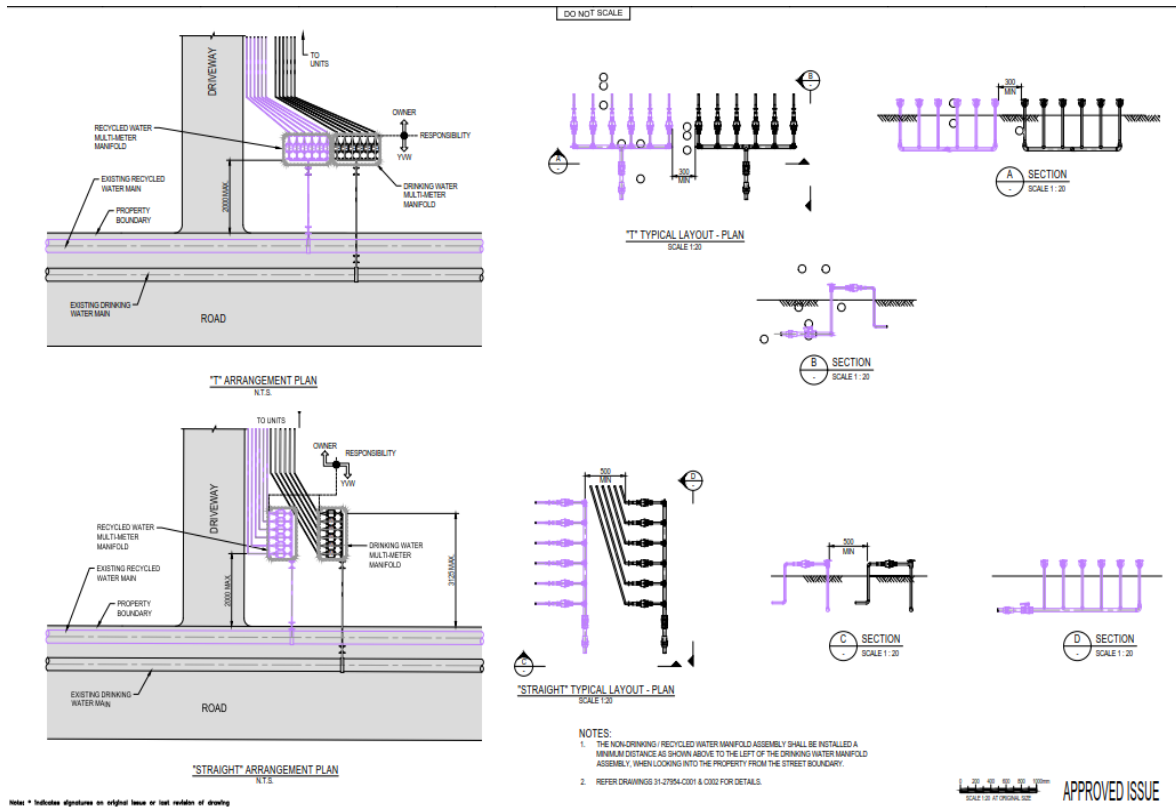


Figure 37: Multi Meter Manifold Installations Drinking & Recycled Water Arrangements



16 NON-RESIDENTIAL WATER METERING AND SERVICING

Water metering and servicing requirements for non-residential occupancies within **Yarra Valley Water's** service area are detailed in this section to assist in determining the applicable servicing guidelines related to the proposed development.

All properties not classified as either residential or mixed developments are non-residential.

Developments that have a mixture of "occupancies" used for residential and non-residential purpose are addressed in Section 13 of the main guide.

16.1 Single Occupancy Non- Residential Development Servicing Critical Customers

Definition

Critical Customers –Dual Supply **Mandated**

- Hospitals
- Large Medical Clinics
- Aged Care Facilities/Nursing Homes (greater and including 75 bedsits – equivalent to approximately 25 households)
- Large Shopping Centres

Sensitive Customers –Dual Supply **Recommended**

- Small Medical Clinics
- Aged Care Facilities/Nursing Homes (less than 75 bedsits – equivalent to 25 households)
- Small Shopping Centres
- Childcare Facilities
- Schools

Water Metering

- A main water meter is required on the drinking water supply and also on the recycled water supply where available.
- Meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted (see section 8.2 - Remote Water Meters).

Servicing

- Critical Customers – mandated dual supply
 - A dual drinking water supply via a second tapping is to be provided to service the total development
 - The two drinking water supply tappings must be separated by a divide valve on the water main
 - A single tapping with a divide valve on each side of the tapping is not acceptable
 - Only a single recycled water supply is required where available.
 - Dual supply from water mains in different pressure supply zones will not be permitted
- Sensitive Customers – recommended dual supply
 - A dual drinking water supply via a second tapping is to be provided to service the total development
 - The two drinking water supply tappings must be separated by a divide valve on the water main

- A single tapping with a divide valve on each side of the tapping is not acceptable
- Only a single recycled water supply is required where available.
- Dual supply from water mains in different pressure supply zones will not be permitted

Private Fire Services

Refer to Sections 10.2 &10.3

Additional References

See Melbourne Metropolitan Water Corporation 'Water Service Assembly Arrangements'.

16.2 Multi-Occupancy Non-Residential Development (Two (2) to Six (6) lots) with or without a Fire Service

Definition

Parcels of land where all of the “occupancies” located on the parcel of land are on an on an Owners Corporation and used for non-residential purposes:

- Factoryettes
- Strip shops (all shops have a separate frontage to street)
- Warehouses
- Offices

Water Metering

- A manifold arrangement is to be provided for the General Service.
- Where a Fire Service is applicable to the development the General Service is to be taken from the Fire Service, by way of a manifold.
- For each dwelling a main water meter is required on the drinking water supply and also on the recycled water supply where available, to be taken from the manifold.
- A common area main meter may be incorporated into the manifold system. Where a common area main meter is installed all common usage for the development is to be serviced through the one common area main meter.
- Meters installed off the manifold cannot exceed the size of the tapping/manifold.
- Water meters must be installed within 2 metres of the property boundary.
- Water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted (see section 8.2 - Remote Water Meters).

Servicing

- A single tapping is to be provided to service the total development.
- A manifold arrangement is to be provided for the drinking water supply and also on the recycled water supply where available.
- Existing services are to be plugged with all dwellings to be serviced from a manifold arrangement.
- Upon application, a second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected.
- Dual supply from water mains in different pressure supply zones will not be permitted.

Manifolds are to be installed in accordance with the following guidelines:

- Be a ‘T Bar’ or ‘Straight’ manifold arrangement.
- Installed within 2 metres of the property boundary.
- Located below ground and left exposed for the Water Corporation’s plumbing contractor to inspect prior to installation of the meters.

When installing meters off a manifold the following spacing requirements are to be met:

- The distance between the ground and the base of the meter needs to be no less than 150mm and no more 300mm
- For 20mm to 25mm Meters – 250mm minimum clearance between the centreline of the pipe
- For 32mm Meters and above – 150mm minimum clearance from the outside edge of each meter

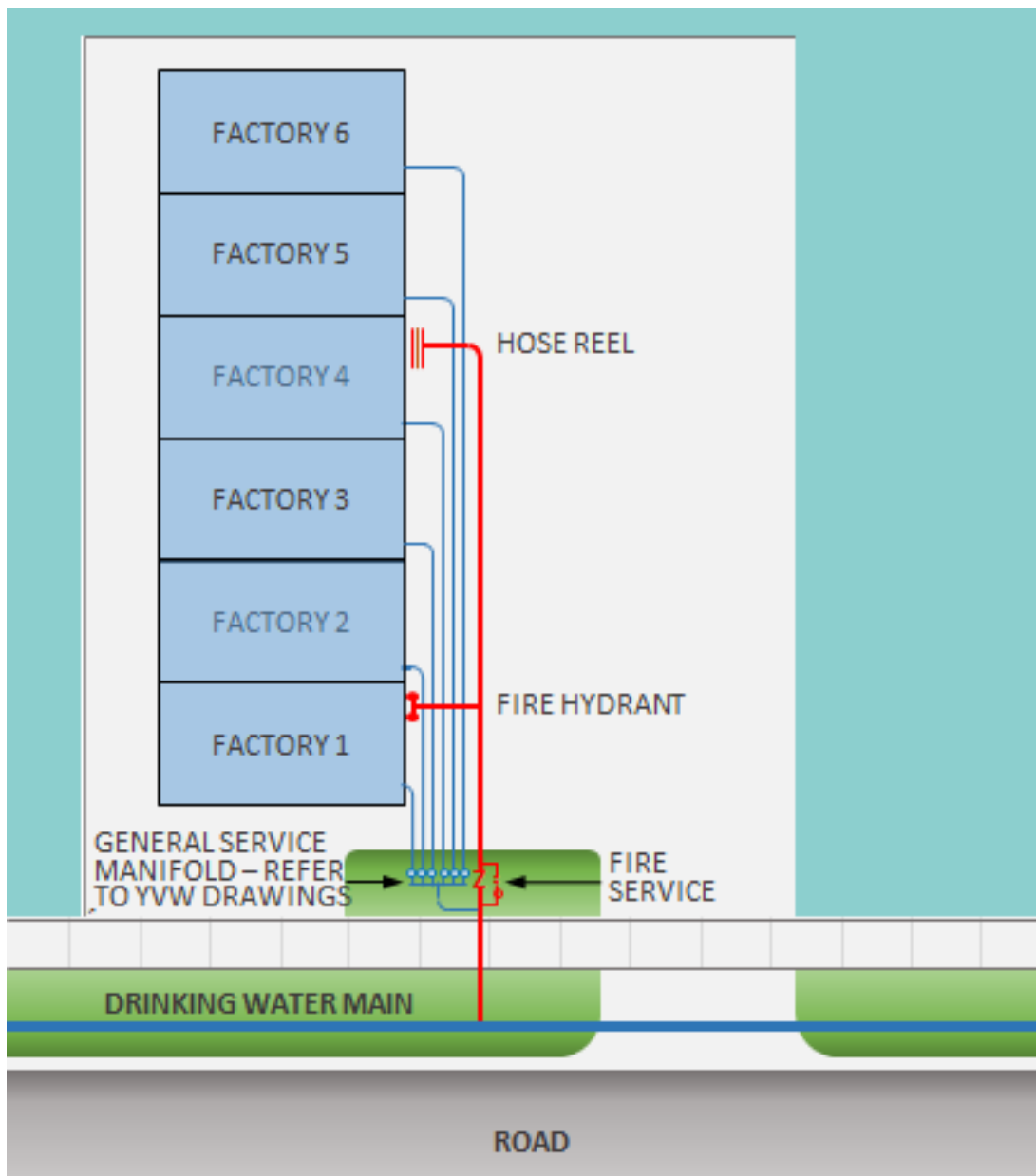
Private Fire Services

Refer to Sections 10.2 & 10.3

Additional References

See Melbourne Metropolitan Water Corporation 'Water Service Assembly Arrangements'.

Figure 38: Typical Multi-Occupancy Non-Residential Development (Two (2) to Six (6) lots) with a Fire Service and manifold arrangement General Service



17 WATER METERING IN SPECIAL CASES

17.1 Multi - Occupancy (Greater than 25 lots) Residential and Non- Residential Developments (Shut Off Block)

Definition

The water reticulation network is divided into shut-off areas defined by stop valves that limit the number of property service interruptions when a water main failure occurs.

Yarra Valley Water requires that the number of property services connected in a 'shut-off' area shall be no greater than 25.

When assessing property service numbers, community title and strata title properties such as apartment buildings and multi-unit developments are counted as multiple connections.

This requirement is applicable to residential developments and non-residential developments servicing critical customers. (See section 16.1 for a definition of critical customers).

Water Metering

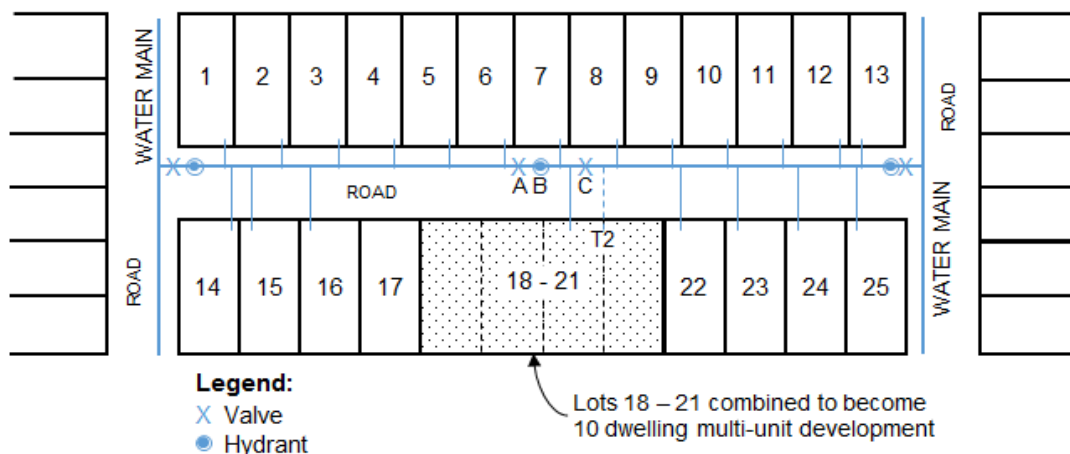
Refer to relevant Metering Requirements within this document.

Requirements

Where new development increases the number of services connected between existing valves on the water reticulation network as defined above, additional valves shall be provided to maintain the number of services connected to no greater than 25.

Where a single water service is to be provided for multi-unit developments hosting greater than 25 dwellings or critical customers, a valving arrangement for two-directional supply shall be provided.

Figure 39: Shut Off Block



The creation of the 10 dwelling multi-unit development has resulted in a shut-off area with greater than 25 service connections. Valve 'A' is required to create shut-off areas with less than 25 service connections. Hydrant 'B' may be required dependant on the Water Corporation or Council requirements.

Where the multi-unit development services critical customers or contains more than 25 service connections, a dual supply tapping arrangement is required. In this scenario, this may be achieved by installing valve 'C' and additional tapping 'T2', instead of valve 'A'.

17.2 Non-Residential Properties having Drinking Water and Class A Recycled Water

In addition to single residential developments in mandated areas, Class A Recycled water is to be utilised in all new developments where suitable.

This table has been prepared as a guide to assess the appropriate use of Class A Recycled water for non-single residential developments **in Yarra Valley Water's area**.

| Development Type | Recycled Water to be utilised for Fire Fighting Purposes (Hydrant / Hose Reel only) | General (e.g. Toilet Flushing, Laundry) | Irrigation |
|--|---|---|---------------|
| Owner Corporations, Residential / Retirement Village | YVW Preferred | Mandatory | Mandatory |
| High Rise Developments | Not Applicable | Mandatory | Mandatory |
| Industrial Estates | YVW Preferred | Mandatory | Mandatory |
| Schools | On Request | YVW Preferred | Mandatory |
| Open Space Facilities (e.g. Golf Course, Sports Grounds) | On Request | YVW Preferred | Mandatory |
| Shopping Centres | Not Applicable | YVW Preferred | Mandatory |
| Commercial – Others | On Request | YVW Preferred | Mandatory |
| Nursing Homes / Hospitals | No | No | No |
| Child Care | On Request | On Request | YVW Preferred |
| Other / Unique Cases | On Request | On Request | Mandatory |

Note:

In the event that the development is to be serviced by a fire sprinkler service, the use of reticulated Class A Recycled water will not be permitted for any firefighting purposes with the development.

All connections will be subject to normal water supply capacity requirements and viability assessed on a case by case basis.

Where tanks for rainwater/stormwater management are to be used in conjunction with Class A recycled water please consult with Yarra Valley Water to ascertain their requirements.

APPENDIX B – GREATER WESTERN WATER’S INDEPENDENT SERVICING REQUIREMENTS

18 MAIN TO METER INSTALLATION PROCESS

As of 1 July 2017, Greater Western Water engaged their meter services contractor to install all main to meter connections for all sized drinking and recycled water services. This includes:

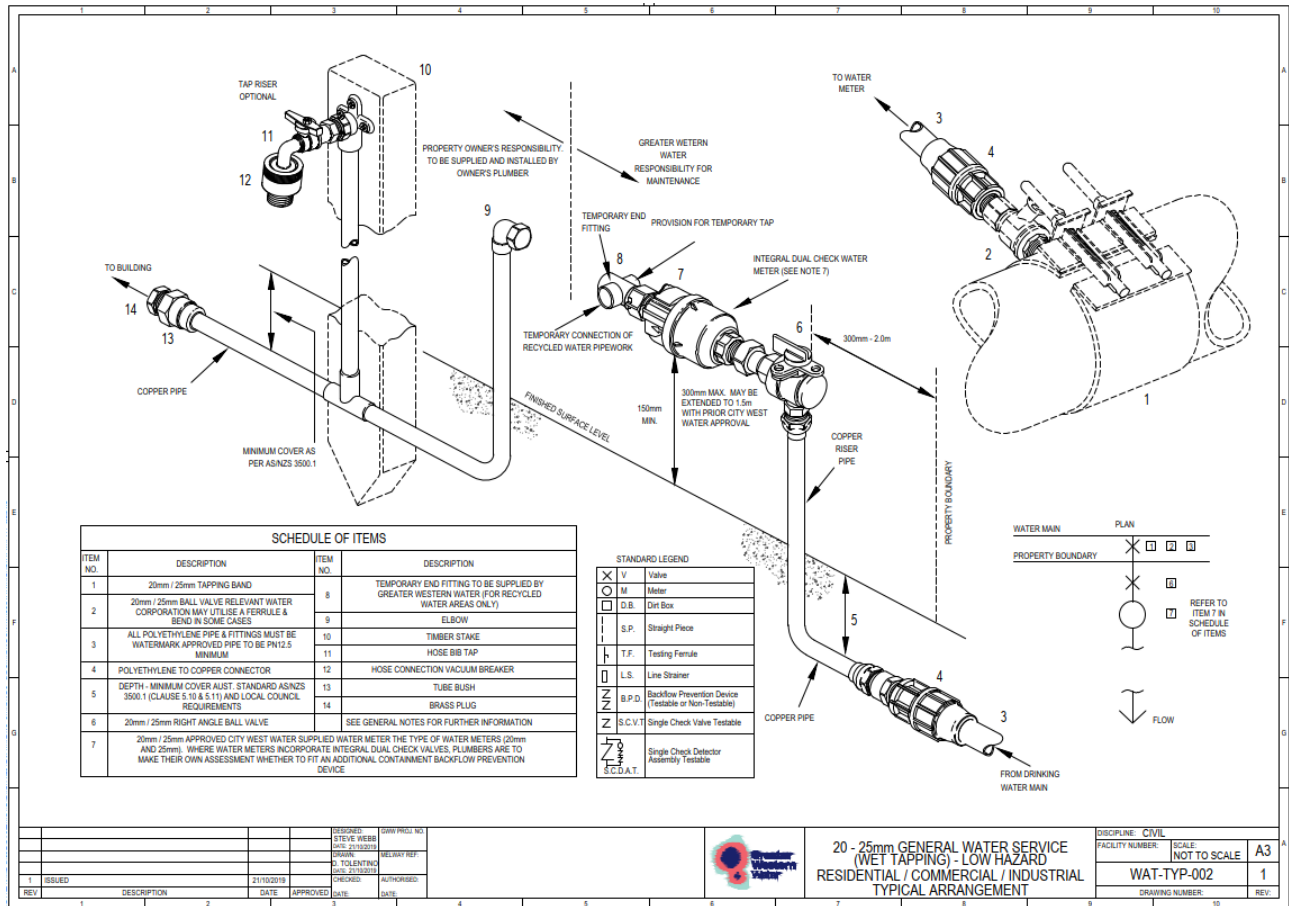
- Installation of the Greater Western Water approved meter(s)
- The installation of the main to meter pipework, where required, (Greater Western Water asset) in the nature strip/roadway into the property boundary, inclusive of excavation and reinstatement
- Tapping of the Greater Western Water drinking/recycled water main(s)
- Plugging of a redundant drinking/recycled water service.

Specific details and all applicable costs will be included on the plumbing application and/or the applicable development offer. Greater Western Water believes this process improvement will standardize the installation of all related works, as well as protect plumbers and the community due to the ongoing changes and requirements associated with:

- Traffic management laws
- OHS requirements with excavation works, including working on asbestos mains
- Meeting relevant Australian, MRWA and WSAA standards
- Water meter manufacturer installation requirements.

As a value-added service, we will also offer the customer the option to have the installation and testing of the required backflow device on the drinking water service (containment only) during the main to meter connection. This would be at an additional cost to the described works above and there will be an option on the plumbing application for customers to select this option. The customer may still request their own plumber to install and required backflow devices(s).

Figure 40: Greater Western Water: 20-25mm Wet Tapping Drawing



| | | | | |
|--|---|-----------------------|---------------------|------|
| DESIGNED: STEVE WEBB DATE: 21/10/2019 | DRAWN/PROJ. NO: 21/10/2019 | DISCIPLINE: CIVIL | SCALE: NOT TO SCALE | A3 |
| ISSUED: 21/10/2019 | CHECKED: D. TOLENTINO DATE: 21/10/2019 | APPROVED: [Signature] | WAT-TYP-002 | 1 |
| REV | DESCRIPTION | DATE | APPROVED | DATE |

20 - 25mm GENERAL WATER SERVICE (WET TAPPING) - LOW HAZARD
RESIDENTIAL / COMMERCIAL / INDUSTRIAL TYPICAL ARRANGEMENT

DRAWING NUMBER: 10

19 WATER METERING IN SPECIAL CASES

19.1 Non-Residential Properties having Drinking Water and Class A Recycled Water

In addition to single residential developments in mandated areas, Class A Recycled water is to be utilised in all new developments where suitable.

This table has been prepared as a guide to assess the appropriate use of Class A Recycled water for non-single residential developments **in Greater Western Water's area.**

| Development Type | Recycled Water to be utilised for Fire Fighting Purposes (Hydrant / Hose Reel only) | General (e.g. Toilet Flushing, Laundry) | Irrigation |
|--|---|---|------------|
| Owner Corporations, Residential / Retirement Village | Assessed on request | Mandatory | Mandatory |
| High Rise Developments | No | Mandatory | Mandatory |
| Industrial Estate | Assessed on request | Mandatory | Mandatory |
| Schools | Assessed on request | Mandatory | Mandatory |
| Shopping Centres | Assessed on request | Mandatory | Mandatory |
| Open Space Facilities (e.g. Golf Course, Sports Grounds) | Assessed on request | Mandatory | Mandatory |
| Commercial - Others | Assessed on request | Mandatory | Mandatory |
| Child Care / Nursing Homes / Hospitals | Assessed on request | Mandatory | Mandatory |
| Other / Unique Cases | Assessed on request | Assessed on request | Mandatory |

Note:

In the event that the development is to be serviced by a fire sprinkler service, the use of reticulated Class A Recycled water will not be permitted for any firefighting purposes with the development.

All connections will be subject to normal water supply capacity requirements and viability assessed on a case by case basis.

19.2 Dry Tapping Meter assembly installations

As of 1 February 2020, Greater Western Water’s 20mm residential meter installations for recycled and/or potable water supply will end at the outlet of the water meter with the property owner’s plumber to supply and install remainder of meter assembly pipework including garden standpipe and tap.

In recycled water area’s a temporary plastic cross fitting will be installed on the potable meter outlet to allow temporary connection of internal recycled and potable pipework for pressure testing during construction. In area’s that don’t have recycled water the temporary plastic cross fitting is not required.

No separate backflow prevention device will be required as the water meter will have an integral dual check valve.

More information is available on Greater Western Water’s website at: www.gww.com.au or call Greater Western Water on 1300 299 228.

Figure 41: Greater Western Water: 20mm Dry Tapping – Drinking Water

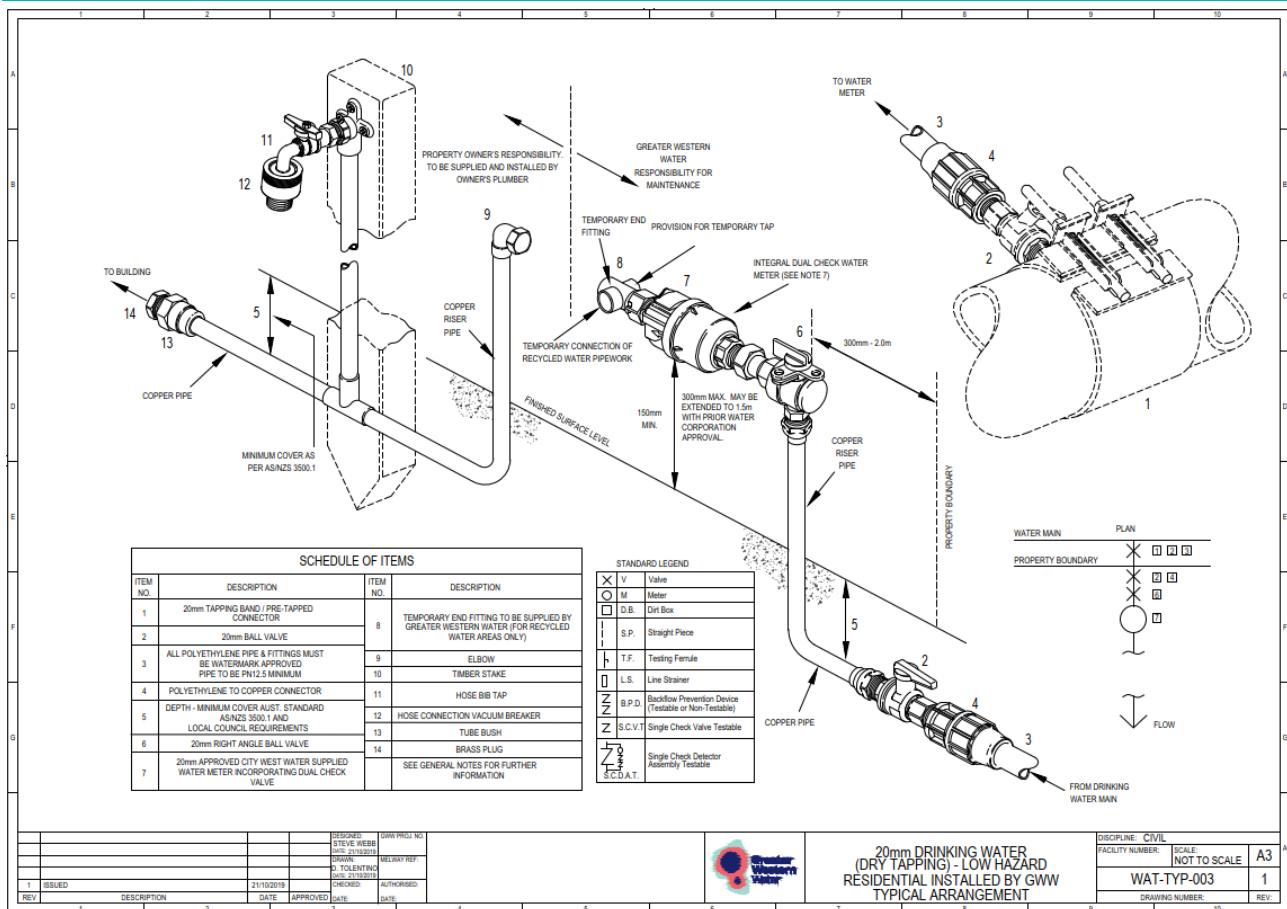
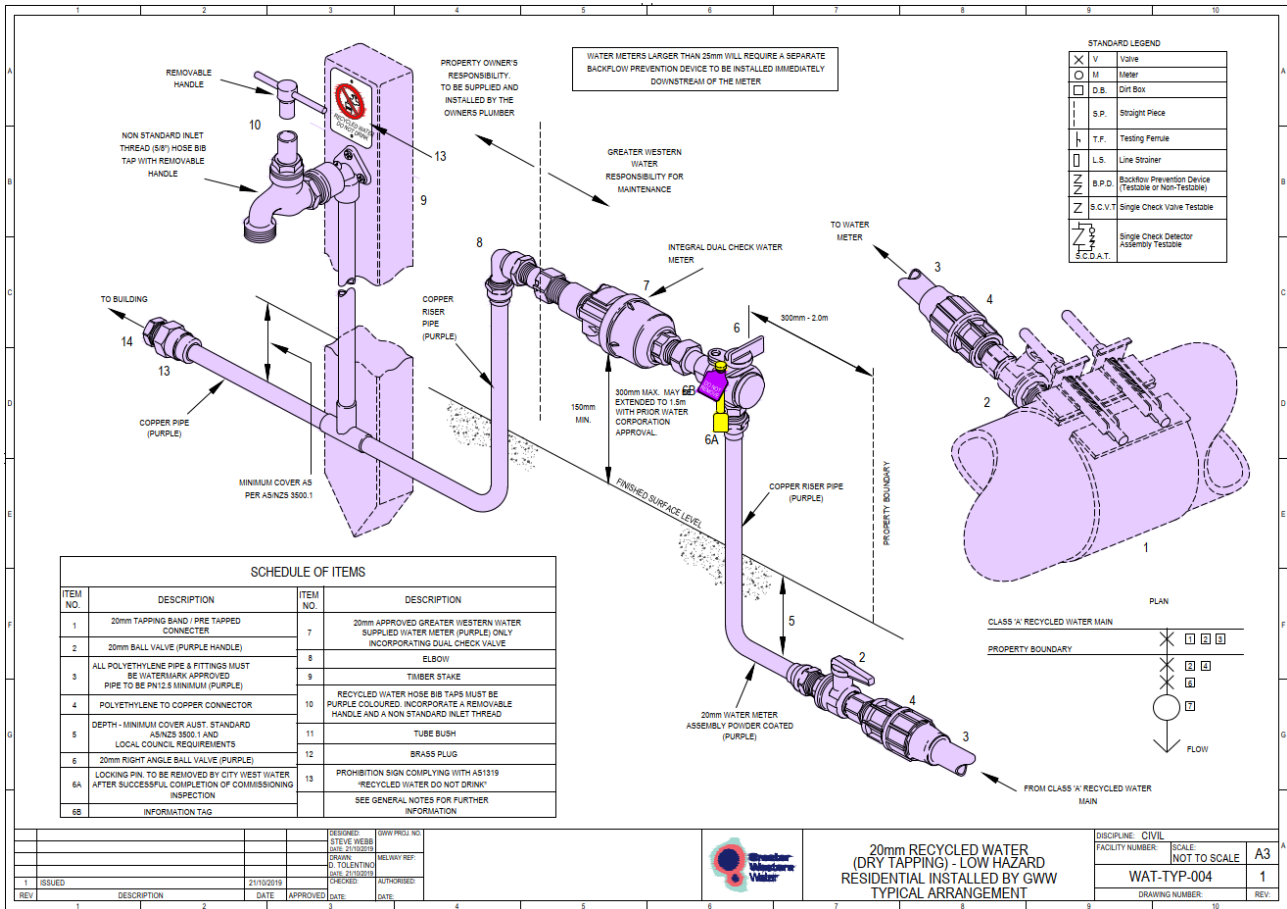


Figure 42: Greater Western Water: 20mm Dry Tapping – Recycled Water



20 ADDITIONAL SERVICING CONDITIONS FOR MULTI LOT DEVELOPMENTS (RESIDENTIAL AND NON-RESIDENTIAL)

20.1 Dual Supply

Definition

Dual supply in specific cases will see the installation of additional valve/s on the water reticulation network creating shut-off areas defined by stop valves.

This is to limit the number of property service interruptions and to improve the security of water supply for long term customers.

When assessing property service numbers, community title and strata title properties such as apartment buildings and multi-unit developments are counted as multiple lots.

This requirement is applicable to residential developments and non-residential developments.

Water Metering

See Melbourne Metropolitan Water Corporation 'Water Service Assembly Arrangements' drawings 12b, 15, 15a and 16 for acceptable meter configurations in a dual supply scenario.

Requirements

A divide valve is required to be installed on the fire and general service/s for developments;
greater than 40 lots where a water main size $\leq 150\text{mm}$

And / or;

greater than 100 lots where a water main size $\geq 200\text{mm}$

Additional References

Refer to relevant Metering Requirements within this document.

APPENDIX C – SOUTH EAST WATER’S INDEPENDENT SERVICING REQUIREMENTS

21 WATER METERING IN SPECIAL CASES

21.1 Multi Residential & Non-Residential Properties having Drinking water and Class A Recycled water – Fisherman’s Bend precinct

Property Definition

- Townhouses
- Apartments
- Owner Corporation Residential Developments
- Commercial / Industrial buildings

Note:

The installation of internal plumbing in relation to Class A Recycled water will be determined by South East Water. Where South East Water requires the installation of recycled water in addition to the drinking water supply, plumbing work must be installed by a licensed plumber in accordance with the Plumbing Code of Australia. The installation shall also comply with the relevant South East Water Conditions of Connection.

Inspection of onsite plumbing works for recycled water by South East Water is mandatory regardless of whether recycled water is supplied by the South East Water’s reticulated Class A Recycled water main/s or drinking water mains

Water Metering

- A main water meter is required on the drinking water supply and also on the recycled water supply.
- Both the Class A Recycled water and drinking water property service pipes, meter assemblies and main meters are to be installed at the same time.
- A check meter may be required to be installed on the outlet of the rainwater harvesting system, and on the inlet to the rainwater tank..
- The Class A Recycled water meter must always be located 300mm to the left of the drinking water meter assembly when facing the property. Refer to section 6.1 'Positioning of Main General Water / Private Fire Service Meters'.
- Water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted (Refer to section 8.2 'Remote Water Meters').
- Where check/sub meters are required to be installed these must be installed on both the drinking water supply and also the on the Class A Recycled water supply (Refer to section 6.2 'Positioning of Sub/Check Meters')
- Where Check/sub water meter *assemblies only* are to be installed, the water meter spacer pipe is to be of an approved material type in accordance with the Plumbing Code of Australia incorporating AS/NZS 3500 and the South East Water’s Conditions of Connection.
- All other metering requirements are to be complied with.

Servicing

The owner/applicant must arrange to install both the property service and the connecting works at the property owners/applicants cost.

Main Meter services

A licensed plumber engaged by the owner/applicant must expose the water mains in accordance with South East Water's requirements (Refer to section 'Water Main Connections (Tappings)') and install the appropriate property service pipes (water main to property boundary), meter assembly and main meters while South East Water's contractor is installing the connecting valves at the main.

The water meter assembly pipework and fittings must be of an approved type, Watermark approved and in the case of Class A Recycled Water, must be of an approved colour (purple).

In the case of short side installations, the service pipe is to be laid on the left of the drinking water property service pipe when viewed from the front of the property and maintain 300mm separation.

In the case of long side installations, the same conduit for the drinking water property service may be utilised, however the 300mm separation is to be maintained on both the upstream and downstream ends of the conduit.

General Conditions

- Plumbing works must be installed by a licensed plumber in accordance with the Plumbing Code of Australia.
- The installation shall also comply with South East Water's Conditions of Connection.
- The property service pipe must be solid jacketed polyethylene pipe (PE100 PN 12.5 as a minimum) and WaterMarked.
- PE pipe must not form any part of the water meter assembly.
- If at the time of connection, the above works that the plumber is responsible for have not been completed, the tapping will be cancelled and a re-booking fee will apply.
- Services must remain 300mm apart with the drinking water service located on the right-hand side when viewed from the front of the property.
- The licensed plumber engaged by owner/applicant is required to obtain a road opening permit from the relevant authority before commencing any excavation work within a road reserve. The licensed plumber engaged by owner/applicant must also comply with all traffic management requirements contained in that permit.
- Property service pipes should be laid having regard to the applicable road owner's requirements. Loose polyethylene sleeving (Greensleeve) is used to protect ductile iron water mains against corrosion. The sleeving is essential to prolong the life of the reticulation system and care should be taken when exposing the main to protect this sleeving from damage.
- Prior to commencing any works in the vicinity of existing operational or abandoned water mains, the material type of the water main must be identified. In the event Asbestos Cement (AC) water mains are present, precautions as detailed in the WorkSafe Compliance Code "Removing asbestos in workplaces" must be followed for the removal and disposal of the non-friable asbestos containing material.
- The recycled water meter inlet ball valve will be closed and fitted with a locking device by South East Water at the time of connection to the property.
- The locking device is only to be removed by either South East Water, or its authorised agent for the purpose of conducting the commissioning 'Water Check' of internal Class A recycled water plumbing. Penalties apply for the unauthorised removal of the locking device.
- Purple Class A recycled water 5/8" inlet thread taps having a removable handle must be installed to service any external area of each allotment.
- A recycled water prohibition sign with the words "Recycled Water. Do Not Drink" complying with AS 1319 is to be installed above each recycled water tap outlet.

- Any pipe, tap or other fitting used or intended to be used to supply recycled water must be of an approved type and colour (purple) in accordance with AS/NZS 3500.
- Recycled Water pipes must never be painted any other colour.
- Where rainwater is to be used for approved uses via a rainwater tank, backup supply is only to be provided via an automatic change over device connected to the Class A recycled water supply. Pipework from the changeover device must default to Purple pipe.

Inspection of Work

- The owner/applicant must ensure that the installation of the connecting works for recycled water is inspected in accordance with South East Water's Conditions of Connection, at the owners/applicants cost.
- 100% mandatory inspections of property service pipes and water meter assemblies is required.
- Inspection of the installation of onsite plumbing for recycled water by the Water Corporation and /or contractor engaged by the Water Corporation is mandatory regardless of whether on site recycled water is supplied by the Water Corporation's reticulated Class A Recycled water main/s.
- As a minimum, developments will be inspected at the following stages:
 - **Stage 1** Main to water meter prior to backfilling
 - **Stage 2** Water meter to building
 - **Stage 3** Rough-in
 - **Stage 4** Commissioning prior to operation

Note:

Where the provision of Class A Recycled water requires temporary interconnection with the drinking water supply plumbing, such interconnection is to be installed above ground at the main water meter assembly, as directed by South East Water

Alteration to Internal Class A Recycled Water Supply

- Written approval is required from South East Water prior to the installation of any fittings and/or alteration of pipework. A fully completed plumbing application must be submitted to the relevant South East Water with applicable fees paid and Consent given prior to any works being carried out. Class A Recycled water alterations must comply with the relevant South East Water's Conditions of Connection.
- If any existing drinking and/or recycled water service to the property is to be disconnected, the owner/applicant must engage a licensed plumber to expose the existing property service connection water main/s (as the case requires) at the owners/applicant cost, to allow the South East Water or its contractor to disconnect and plug the existing property service. The licensed plumber engaged by the owners/applicant must disconnect the relevant water meter and return it to the relevant South East Water or its contractor.

Fire Services

Onsite private fire services excluding Fire Sprinkler Systems

- The use of Class A recycled water for firefighting purposes in Fisherman's Bend is not permitted.

Backflow Prevention Requirements

- From the information provided, an initial assessment of the application will be made to determine the hazard level for both the drinking water and Class A Recycled water.
- In line with current regulations, Water Corporations require the owner/applicant to employ a suitably qualified person to check the business process onsite to verify the anticipated level of hazard and install an appropriate containment device (WaterMark approved) located at the water meter, at or near the property boundary for the prevention of backflow.
- In the interest of health and safety it is the responsibility of the property owner to ensure that

containment, zone and individual backflow prevention is provided.

- When a testable backflow prevention device is to be installed, the provided Backflow Prevention agreement form must be completed and returned to the respective Water Corporation to allow the device to be recorded on the Water Corporation's register and enable the water meter/tapping to be arranged.

Use of Class A Recycled Water

The owner/applicant may only use Class A recycled water which we supply for the following purposes:

- Clothes Washing
- Garden irrigation
- Toilet flushing
- Vehicle washing
- Washing down outdoor furniture and the exterior of buildings
- Filling or topping up ornamental water features and ponds that are not used for swimming.

In Fishermans Bend, Class A recycled water **must** be provided for:

- Clothes Washing (in addition to drinking water – cold water only)
- Toilet Flushing
- Garden Irrigation

The use of Class A Recycled water for any other purpose will be subject to entering into a Recycled Water Agreement and approval of a specific Environment Improvement Plan (EIP).

21.2 Non-Residential and Residential Properties having Drinking water and Class A Recycled water

In addition to single residential developments in mandated areas, Class A Recycled water is to be utilised in all new developments where suitable.

This table has been prepared as a guide to assess the appropriate use of Class A Recycled water for multi residential & non-residential developments in **South East Water's** area.

| Development Type | Recycled Water to be utilised for Fire Fighting Purposes (Hydrant / Hose Reel only) | General (e.g. Toilet Flushing, Laundry) | Irrigation | Is an EIP** required? |
|--|---|---|------------|-----------------------|
| Owner Corporations Residential / Retirement Village | Mandatory | Mandatory | Mandatory | On Request |
| High Rise Developments | No | Mandatory | Mandatory | No |
| Industrial Estates | On Request | On Request | Mandatory | No |
| Schools | On Request* | No | Mandatory | Yes |
| Open Space Facilities (e.g. Golf Course, Sports Grounds) | On Request | On Request | Mandatory | Yes |
| Shopping Centres | No | On Request | Mandatory | No |
| Commercial - Others | On Request | On Request | Mandatory | On Request |
| Child Care / Nursing Homes / Hospitals | No | No | No | No |
| Other / Unique Cases | On Request | On Request | Mandatory | On Request |
| Fishermans Bend | No | Mandatory | Mandatory | No |

*External to buildings only

**EIP – The use of Class A Recycled water for may be subject to approval of a specific Environment Improvement Plan (EIP), approved by the EPA, endorsed by the Victorian Department of Health (if required) and also endorsed by the Water Corporation.

Note:

In the event that the development is to be serviced by a fire sprinkler service, the use of reticulated Class A Recycled water will not be permitted for any firefighting purposes with the development.

All connections will be subject to normal water supply capacity requirements and viability assessed on a case by case basis.

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