Central Coast Council

Water service installation requirements

Water Planning and Development Unit,
Water and Sewer Division

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1 Introduction

1.1 Purpose / objectives

The purpose of this document is to standardise the installation of DN20 and DN25 water services with the Central Coast Council potable water supply network.

This document must be read in conjunction with Water Services Association of Australia's Water Supply code – WSA 03-2002 Version 2.2 – Sydney Water Edition and the Central Coast Council WSA Development Supplement Water. Please consult Council's website for the current version of the WSA Code Supplement.

All materials must be manufactured to the relevant Australian Standard and installed as per the manufactures recommendations.

Please consult with Central coast Council website for the latest version of the Water service installation requirements for DN20 and DN25 Services document.

1.2 Scope

This document applies to and must be followed and complied with by:

- Land / Property developers and their nominated contractors
- Central Coast Council's Water and Sewer staff
- Central Coast Council's Roads, Transport and Drainage staff
- Central Coast Council's Development Construction staff
- Central Coast Council's Engineering assessment staff
- Central Coast Council's nominated water service installation contractors

1.3 References

- Water Services Association of Australia's Water Supply code – WSA 03-2002 Version 2.2 – Sydney Water Edition
- Central Coast Council WSA Development Supplement Water

2 Tapping bands

2.1 CI, AC, DICL, PVC

For tapping of CI, AC, DICL and PVC; a tapping band with the following characteristics shall be used:

- 2 Piece design
- Cast Ductile Iron in construction
- Must be rated to a minimum PN16 (1600Kpa) or greater
- Be internally and externally coated with a fusion bonded Polymeric coating in accordance with AS/NZS 4158:2003
- Must use Stainless steel bolting
- Fixing bolts must be held and located in place so tightening can be achieved without the need to hold the bolt head
- Be designed in a way or have spacers installed to prevent overtightening on the water main
- Use a secondary seal which includes a brass BSP thread to suit DN20 or DN25 ancillary fittings
- All tapping and off take clamps must be supplied with a polyethylene tubercular bush.

2.2 Polyethylene water mains

For tapping of Polyethylene water mains a tapping band with the following characteristics shall be used:

- 2 Piece design
- Brass in construction
- Must be rated to a minimum PN16 (1600Kpa) or greater
- Must use Stainless steel bolting
- Fixing bolts must be held and located in place so tightening can be achieved without the need to hold the bolt head
- Be designed in a way or have spacers installed to prevent overtightening on the water main

3 Main cocks

Main cocks shall be:

- brass construction standard ferrule main cock that is clockwise close in DN20 (¾") or DN25 (1") and manufactured to AS 3718:2005.

- brass construction TPFNR ferrule main cock that is clockwise close in DN20 (¾) or DN25 (1") and manufactured to AS 3718:2005. These are only to be used where "live" tapping of a water main is required.

4 No 64 union bends

No 64 union bends shall be:

- brass construction capillary weld long radius union bend in DN20 (¾) or DN25 (1") and manufactured to AS 3688:2016.

- brass construction threaded male long radius union bend in DN20 (¾) or DN25 (1") and manufactured to AS 3688:2016.

5 Male / female connectors

Male / female connectors shall be:

- brass construction capillary weld male connector to suit DN20 (¾) or DN25 (1") Type "A" copper pipes and manufactured to AS 3688:2016
- brass construction Veiga Propress, Conex B-Press, Ezipress or Kempress male connector or equivalent council approved equivalent to suit DN20 (¾) or DN25 (1") Type "A" copper pipes and manufactured to AS 3688:2016
- RAUTITAN MX DZR Brass fittings or council approved equivalent and manufactured to AS 2345:2006. RAUTITAN MX sleeves are to be made of thermally annealed brass

6 Poly connectors

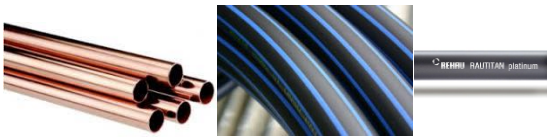
Poly connectors shall be:

- Polyethylene connectors to suit DN20 (¾) x DN25 or DN25 (1") x DN32 mm PN16 Poly Pipe and manufactured to AS/NZS 4129: 2008. Poly connectors shall include split and grip rings and NBR O-rings compliant with potable water systems. Connectors shall be provided with a 50 year manufactures warranty.
    - Suggested fitting suppliers include but not limited to Plasson and Talbot
- Conex B-Press, Ezipress or council approved equivalent brass water Rehau adaptor when joining from Rautitan Platinum polyethylene pipe to type "A" copper pipe

7 Pipes

- All copper pipe shall be Type “A” DN20 (¾) or DN25 (1”) to AS/NZS 1432:2004. Copper pipes are only to be used on short water services, and the transition area between the poly water service and meter assembly as required by WAT-1109 note 2.
- Polyethylene pipes shall be Type PE100 to AS/NZS 4130, minimum SDR 11 (PN16 @ 20° Celsius) and black in colour with blue stripes indicating potable water. Where a DN20 (¾) water service is required a DN 25mm Polyethylene pipe shall be used. Where a DN25 (1”) service is required a DN 32mm Polyethylene pipe shall be used.
- Rehau polyethylene pipe shall be PN16 Rautitan Platinum SDR 11 (PN16 @ 20° Celcius) to AS 2492:2007. Where a DN20 (¾) water service is required a DN25mm Rautitan Platinum Polyethylene pipe shall be used. Where a DN25 (1”) service is required a DN 32mm Rautitan Platinum Polyethylene pipe shall be used.

***Note: Polyethylene pipe shall not be used in ground containing hydrocarbons or any other contaminants as these contaminants are known to permeate through the walls of the pipe. In instances where contaminated ground has been identified, the use of type “A” copper shall be used for all water services.**



8 Joining of pipes

- Copper pipes - Copper pipes are to be joined as per AS/NZS 3500, Plumbing Code of Australia.
- Brazing – All brazing rods used for capillary jointing in copper and copper alloy pipework shall be B4 alloy to AS/NZS 1167.1:2005 containing nominal silver content of 15%.
- Polyethylene pipes - A full continuous unjoined length of Polyethylene pipe must be laid. Under no circumstances can polyethylene pipe joiners be used.

9 Conduits

Conduits shall comply with the following:

- Where polyethylene water services are to be installed under road or pavements using a trenched or bored installation method the installer shall install conduits to allow the pipe to be protected during construction and allow replacement as/if required. Where significant construction constraints exist, the use of conduits may be overlooked after formal approval from council has been granted.
- Conduits shall be a minimum of PN6, DN50 PVC-U to suit water application, white in colour, solvent cement weld joint and orientated in a way which allows any factory markings to be seen from above when excavated.
- The conduits shall have the open ends treated in a semi-permanent manner to eliminate the ingress of trench backfill material but allow future removal if required. Examples include Silicone or expanding construction foam.
- When installed the conduit shall span a minimum from back of kerb to back of kerb.
- Where conduits are used the trace wire shall run through the conduit with the polyethylene water pipe.

10 Trace wires

Where Polyethylene pipes are used, the following trace wires will be accepted:

- a minimum 2.5mm² SDI double insulated white cable;
- Blue “Copperhead” high strength 1830 Trace wire or equivalent. It shall be installed along the full length of polyethylene pipe and secured with tape or zip ties at no greater intervals than 1 meter or;
- Detectable mesh, manufactured from high strength coloured rot resistant homopolymer polyethylene plastic mesh incorporating a traceable stainless steel wire and overprint with a warning message in black. Plastic mesh manufactured to BS EN 12613:2001. Specialised wire crimping tools are to be used to ensure a continuous signal along the length of the detectable mesh.

When installing trace wires the following installation requirements shall be followed:

- The surface of the copper pipe shall be prepared in a way that provides a good bond between the clamp and copper tube. The trace wire ***must*** be paired back approx. 30mm and secured to the copper tube approx. 300mm from the Polyethylene connector at the water meter end using a ***Brass*** Clipsal Size 3 earth clip or equivalent for DN20 (¾) water services. A ***Brass*** Clipsal Size 1 earth clip or equivalent for DN25 (1”) water services shall be used where applicable.
- A brass nut and bolt ***must*** replace the zinc plated mild steel nut and bolt. The water main end of the trace wire shall terminate at the No 64 union bend and be secured with tape or zip tie to the Polyethylene pipe.
- The installation of the trace wire is solely for the purposes of service locations once the service has been backfilled. The trace wire is not to be used for electrical earthing purposes.

****Note: Do not use trace wire for electrical earthing purposes****

11 Bends

When installing bends underground, the preferred method is to “pull” a long radius bend using tube benders. If this is not achievable a 90° Capillary weld, Veiga Propress, Conex B-Press, Ezipress, Kempress or council approved alternative elbow may be used.

Note: When cold pulling bends in type “A” copper the copper pipe must not be annealed prior to bending.

12 No 13 fittings

No 13 fittings shall be:

- brass construction capillary weld male 90° connector to suit DN20 (¾) or DN25 (1") Type "A" copper pipes

- brass construction Veiga Propress, Conex B-Press, Ezipress or Kempress male 90° connector or equivalent Council approved alternative to suit DN20 (¾) or DN25 (1") Type "A" copper pipes

13 Capping of pipe

Where a meter assembly is not being installed, a Brass or Polyethylene cap shall be used on the No 13 fitting to allow pressure testing to be carried out. (The cap is to be removed when the new water meter assembly is being installed)

14 Meter cocks

Meter cocks shall be a brass construction Male and Female threaded ¼ turn stop cock (where applicable, Central Coast Council is to install).

15 Path boxes

Path boxes hall be installed in areas where the surface directly above the main cocks are to be covered by improved pavements such as concrete footpath, cycle ways, pavers, asphalt or other concrete surfaces. The 90mm PVC pipe and lids shall be installed in a way that will allow the main cock to be accessed when the lid is opened.

16 Water meters and unions

The water meter and associated fittings such as meter cock, unions and seals will be supplied and installed by Central Coast Council staff or Councils nominated sub-contractor after a Water Meter Application Form and payment has been received and processed by a Central Coast Council Customer Service Representative.

For all new services installed as part of subdivision works within greenfield sites, the services shall be capped in accordance with the provisions of Section 12. No meter will be required at the time of subdivision due to the risk of meter theft in an undeveloped area. A meter installation application will be required to be lodged prior to the commencement of subsequent building works on the site.

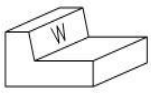
For all new services installed as part of subdivision within previously developed, infill areas, the installation of a meter is required as part of the service installation by Council. This practice ensures the installation of meter and associated backflow prevention prior to any subsequent building works commencing while the risk of meter theft is managed due to the developed nature of the surrounding properties.

The above requirements aim to minimise water quality risks associated with illegal use of Council's water supply network in the absence of a Council supplied water meter. The provisions also seek to minimise the risk of meter theft by not installing meters within undeveloped areas prior to the commencement of building works on or within in the vicinity of those sites.

17 Kerb markings

Kerb markings shall be installed where kerb and gutter exists.

See WSA 03-2002-2.2, Standard drawing WAT-1106



KERB MARKING

18 Timber stakes

Where water meters are installed and are not to be connected to the domestic water service, a 75 x 50 x 600 hardwood timber stake is to be installed to provide support for the copper water service riser. The copper riser shall be firmly attached to the support with at least one copper coated water pipe saddle and self-inserting screws.

The timber stake shall be painted white prior to installation.

19 Water meter placement

With reference to WSAA standard drawings WAT-1106 and WAT-1109 the following shall apply:

- Locate the meter riser 300mm inside the front boundary of the proposed lot and between 400mm to 700mm off the side boundary.
- Terminate the water service with a type “A” copper pipe meter riser that protrudes 250mm above the ground.
- Where polyethylene water services are used, extend the copper pipe meter riser approx. 700mm below ground, outside the front boundary, where it will join to the polyethylene pipe using one of the approved methods listed in this document.
- Make sure the water meter runs 90° to the front boundary.
- Provide a minimum clearance of 225mm around the water meter assembly for future access.

20 Long water services

Certain areas of the Central Coast are subject to decreased available pressure owing to surface topography. To manage this risk, there are two standard dimension requirements for long services based on geographical location. This is described below and shown in Appendix A.

1. Long water services which fall to the north of Wyong Road and Ourimbah Creek as indicated by the green line in Appendix A, shall be installed utilising a tapping band with a 20mm offtake, 20mm drilling, 20mm main cock and 64 union bend with 25mm polyethylene pipework to a 20mm water meter.
2. Long water services which fall to the south of Wyong Road and Ourimbah Creek as indicated by the green line in Appendix A, shall be installed utilising a tapping band with 25mm offtake, 25mm drilling, 25mm main cock and 64 union bend with 32mm polyethylene pipework to a 20mm water meter.
3. Where long services exceed 20 meters in total length then the service shall be installed as per paragraph 2. above.

21 Notes

- All images used in this document are for illustration purposes only and do not necessarily reflect the exact fitting or products to be used.
- Seal all BSP thread fittings using Teflon tape or a liquid sealant paste that is approved to be used on potable water supply system.

The Water Authority retains the right to change, modify or deviate from the previously described standards to meet its operational needs and manage any risks which may emerge.

22 Appendix A – Long water service boundaries