

## Customer Information

# Standard Notes for Water and Sewer Services for Building Developments, Extensions and Subdivisions

**The proponent's hydraulic designer/draftsperson, must include these standard notes as a minimum on water and sewer project drawings. Ensure your development drawings include these notes before submitting to Services Development.**

For more information contact Customer Service on **1800 245 092** or visit [www.powerwater.com.au](http://www.powerwater.com.au)

\*Note - Power and Water reserve the right to request variation to, or add notes as required.

- Variations to Power and Water's standard notes may be requested by the consultant with Power and Water's approval.
- Show other project notes in a separate section to Power and Water's standard notes.

## Power and Water Standard Notes

### General

- WS.1. Construction of the water and sewerage works shall be carried out in accordance with the latest amendment of the approved project drawings and specification, as signed by a Services Development Officer, and the Power and Water Connection Code and associated documents.
- WS.2. Construction site design drawings must be signed as 'approved for construction' by a Power and Water Services Development officer.
- WS.3. Prior to commencement of works the constructor shall check the location of all underground services, and confirm finished surface levels and check the material, diameter, alignment, level and location of existing pipework at the connection point. It is not guaranteed that all services have been shown on the drawings.
- WS.4. Changes requested by any party to the design of the works during any stage of the development must be endorsed by the certifying hydraulic consulting engineer/designer with amended drawings submitted to Power and Water for approval prior to the change being carried out.
- WS.5. Seven (7) days written notice must be given to Services Development, Power and Water, with a 'Notice of intention to start work' prior to commencement of work. (Form available on the Connection Code website).
- WS.6. The contractor should confirm with Services Development if a meeting is required with Power and Water, the hydraulic certifier and the developer prior to commencement of site works.
- WS.7. Existing service connections to remain in service at all times prior to the completion of construction.
- WS.8. All levels given are to A.H.D.
- WS.9. All dimensions are in millimetres and all chainages and levels level in metres unless shown otherwise.
- WS.10. Minimum cover to pipe is 750mm in trafficable areas, 600mm in other areas. 1500mm cover required for thrust boring under road.
- WS.11. Minimum clearances between underground services is as per WSA 02-2003 Table 4.2 for sewer, and WSA 03-2003 Table 4.1 for water.

### Excavation and Backfilling

- WS.12. Obtain permit/s from the relevant road authority or Council prior to any excavation within the road reserve.
- WS.13. Backfilling material, outside road pavement or drain, must comply with the specification requirements for general backfill. Use type 2 embedment wrapped with geotextile with selected backfill or 2% cement stabilised sand backfill for all road crossings. Use 5% cement stabilised gravel backfill beneath all OUD crossing.

- WS.14. Provide a minimum of type 2 embedment for PVC pipe or type 4 embedment for steel pipe unless geotechnical investigations have been completed and the resultant report supports the use of lower quality embedment. Any change to the proposed bedding type must be approved by PWC.
- WS.15. When embedment type changes, a vertical geotextile barrier shall be inserted between the embedment types.
- WS.16. Reinstatement of all surfaces upon completion of the works as specified or as good as existing to the satisfaction of the relevant Authority.

### Commissioning

- WS.17. Signed hard copy (A3 size - required for all subdivisions) and electronic format (both \*.pdf and \*.dgn/\*.dwg) 'As-constructed' drawings, other installation documentation, and appropriate records of construction progress (photos) must be provided to Services Development, Power and Water prior to handover inspection. Ensure all As-constructed information has been picked up by the surveyor prior to backfilling.
- WS.18. 'As-constructed' drawings to be certified by the certifying engineer. 'As-constructed' survey by a registered surveyor.
- WS.19. Designer to contact Services Development, Power and Water, to arrange for handover inspections. Seven (7) days notice must be provided prior to handover inspections.
- WS.20. The constructor is responsible for all connection fees, all excavation, shoring if required, backfilling, reinstatement of area, supply of digging and lifting machinery where required, permits, traffic control, supply of all materials, pipes and fittings. Power and Water personnel shall install all water and sewer connections to existing mains only after acceptance of the work has been achieved. For water connections the connection can be completed prior to the construction of the service. This is only allowed if a stainless steel spade is installed by Power and Water directly after the sluice valve to the water main. The stainless steel spade will be removed by Power and Water after the hand-over of the asset has been achieved.
- WS.21. At no stage shall any contractor carry out work on PWC infrastructure, unless approved by Power and Water.

### Acceptance and Defects Liability Period

- WS.22. At least seven (7) working days notice must be provided to Services Development, Power and Water for application of a Certificate of Final Compliance/Development Permit Clearance allowing for an inspection and report of outstanding defects/issues. Upon notice to Services Development that rectification of outstanding defects/issues has been addressed, an additional seven (7) working days should be allowed for.
- WS.23. A twenty-four (24) month defects liability period for extensions and subdivisions, and a twelve (12) month defects liability period for building developments, will commence once the Certificate of Final Compliance/Development Permit Clearance has been issued. All defect liabilities identified within this period is the responsibility of the Developer. Any works subject to a defect during the defect period that requires PWC to undertake an emergency repair, shall be subject to an extended defect period of 5 years.

### Water

- W.1. Water pipes shall be buried PVC-M series 1 class 12 for pipe DN150 and DN100, and series 2 class 16 for pipes DN200 and above, with DICL fittings, unless noted otherwise. Class 16 pipes shall be used for all areas where design pressure is above 350kPa.
- W.2. All ductile iron cement lined (DICL) pipes shall be class PN16 flanged or class 35 rubber ring jointed (RRJ). All buried DICL pipes and fittings shall be wrapped in polyethylene sleeving before and during installation. Markings on pipes shall face upwards.
- W.3. Pipes under road pavement, open drain and drainage structures shall be DICL class 16 flange jointed or class 35 Tyton-Lok, RRJ.
- W.4. Provide anchorage for all valves, reducers, vertical bends and terminal /end points. Provide Thrust block for all horizontal bends and tees.

- W.5. All sluice valves shall be resilient seated flanged class 16 to PWC standards with raised flanges, unless noted otherwise.
- W.6. All flanges shall be class 16 raised type complying with AS 4087 figure B5 for DICL and figure B7 for MSCL, unless noted otherwise.
- W.7. Water mains shall be offset from property boundaries a distance of 2.4m in road reserves and 1.5m in private property, except where shown otherwise on the drawings.
- W.8. The coating on the fittings shall be fully protected by a felt or geotextile barrier when the thrust block is poured and thrust blocks must not overlap the joint.
- W.9. Watermains shall be laid over storm water, sewer, non-potable and recycled water pipes.
- W.10. Joint deflection and bending are not allowed for PVC pipes. Use SO-SO DICL connectors to achieve a maximum 2 degree joint deflection or bends for larger deflection.
- W.11. Marking tape coloured green and marked 'Water Main' shall be laid continuously and located 300mm above the water pipework.
- W.12. Hydrostatic test pressure shall be 1000kPa for reticulation mains and 1200kPa for DICL or MSCL distribution mains over a 4 hour period. Hydrostatic test shall be in accordance with Power and Water standard drawing W1-2-07.
- W.13. Connections to existing water mains will only be carried out when all works and testing (hydrostatic testing, disinfection flushing and microbiological test) are complete in accordance with the approved design drawings and procedures, and have satisfactorily passed final handover inspection.

## Sewer

- S.1. All gravity sewer pipes shall be UPVC DWV class SN8 with styrene-butadiene rubber ring joints (SBR), unless noted otherwise.
- S.2. Sewers shall be offset from property boundaries a distance of 1.6m in road reserves and 1.5m in private property, except where shown otherwise on the drawings.
- S.3. For sewer show position (MGA and levels to AHD) of all maintenance holes, maintenance shafts, inspection openings, separation distances/levels to crossing services, all other values required to certify compliance of the drawings.
- S.4. All gravity sewers are to be a minimum of DN150, unless noted otherwise.
- S.5. Maintenance hole/shaft covers and slabs shall finish at: finished surface level in road reserves and footpaths and match cross fall away from maintenance holes, 150 mm above surface level in private property and open space (backfill to be graded at 1 in 10 from maintenance holes to finished surface level).
- S.6. The constructor shall either inscribe or attach a plate to the maintenance hole or maintenance shaft cover with the identifying number as shown on the drawings.
- S.7. Flexible joints with concrete surround shall be constructed on both upstream and downstream sides of the Maintenance holes
- S.8. Depth to invert at maintenance holes is calculated from the top of maintenance holes.
- S.9. Minimum concrete strength for all sewerage structures including maintenance holes shall be N50. Use GP cement with silica fume content as specified.
- S.10. Align maintenance hole cover such that the long side of the lid is parallel with the sewer main.
- S.11. All sewer rising mains shall be PVC-0 class 16 RRJ, unless noted otherwise.
- S.12. Use DIFBL SO-SO connectors (of maximum 2 degree deflection) or DIFBL bends for sewer rising mains, unless noted otherwise.
- S.13. Marking tape coloured orange and marked 'Sewer Main' shall be laid continuously and located 300mm above the water pipework.
- S.14. Connections to existing sewer mains will only be carried out when all works and testing (hydrostatic and CCTV) are complete in accordance with the approved design drawings and procedures, and have satisfactorily passed final handover inspection.