

Development Engineering Supplement to the Sydney Water Edition of the “Water Supply Code of Australia”.

WSC 1st Version

Wyong Shire Council has adopted the Water Supply Code of Australia WSA 03 – 2002-2.2 Sydney Water Edition Version 2 for the Planning, Design and Construction of water supply networks across the Wyong Shire Area.

When using the code in The Wyong Shire Area for Development related works the adopted version shall be subject to the following amendments and supplementary information.

Introduction

CODE PURPOSE

Delete the sixth paragraph and replace with:

“Any reference to the Water Supply Code of Australia (“the Code”) shall be deemed to refer to the latest version of the Sydney Water Edition of the Code as amended by the latest version of the Wyong Shire Council Supplement. The Code specifies mandatory requirements for the planning, design and construction of water supply assets within the Wyong Shire Local Government area.”

In the seventh paragraph, replace all references to “Sydney Water” with “Wyong Shire Council”.

Part 0: Glossary of Terms, Abbreviations and References

Include the following abbreviation:

ABBREVIATION	INTERPRETATION
“ WSC	Wyong Shire Council”

Part 1: Planning and Design

1.1 SCOPE

Before the first paragraph insert:

“Where this Code requires “Water Agency” approval, input or intervention in relation to development design issues, the appropriate WSC Council contact person shall be the Principal Development Design Engineer.

Any water supply network that will be operated and/or maintained by WSC shall be designed and constructed in accordance with the Code.”

Part 1: Planning and Design (Continued)

1.1 SCOPE

At the end of the clause add:

"In general all references to Sydney Water in Part 1 shall be replaced with WSC unless noted otherwise."

1.2 PLANNING AND DESIGN OBJECTIVES

Delete SW 1.2.5 and insert:

SW 1.2.5 Safety in Design

Safety in Design shall be considered as required by the Work Health and Safety ACT.

SW 1.2.6 Instrumentation and control systems

Delete this clause

2.4 SYSTEM HYDRAULICS

2.4.3.3 Minimum allowable service pressure

Insert the following at the start of this clause:

"The minimum allowable service pressure is 15m (150Kpa) at the property boundary in the Wyong Shire Council area."

SW 2.4.3.4 Average Service Pressure

Delete this clause

4.1 GENERAL DESIGN REQUIREMENTS

4.1.2.4 Urban Salinity - Delete the second paragraph.

4.3 LOCATION OF WATER MAINS

4.3.1 General

In the first dot point delete "2.6m" and insert "2.4m".

4.3.3 Water Mains in Easements

Delete the last paragraph and insert:

"For easement requirements within the WSC Area contact Council's Principal Development Design Engineer if requirements have not been detailed in Water Management Act Section 306 letter."

6.2 STOP VALVES

FIGURE SW 6.11 INTERCONNECTION OF CROSSING MAINS

In addition to the arrangement shown add a hydrant to both sides of the additional vales.

Part 1: Planning and Design (Continued)

6.3 CONTROL VALVES

6.3.1 Automatic Inlet Control Valves (AICV)

Delete the second paragraph

6.8 HYDRANTS

6.8.4 Hydrant Installation - Delete the last paragraph

6.8.7 Hydrant Spacing – Delete the first paragraph and insert

“The maximum hydrant spacing in Wyong Shire shall be the same as that shown for Gosford City Council in table 6.4 except that the maximum spacing in rural areas shall be 120m provided that all dwellings will be adequately serviced.”

7.1 DESIGN REVIEW

Delete item (o).

7.2 DESIGN DRAWINGS

7.2.1 General - Delete the second sentence of the first paragraph.

PART 2 – PRODUCTS AND MATERIALS

8.1 PURPOSE

Insert the following after the first paragraph in the shaded box:

“WSC will generally only consider pipeline systems that have been appraised by WSAA and/or approved by Sydney Water. The use of any other product will require the prior written approval of WSC.”

8.6 SELECTION GUIDE FOR PIPELINE SYSTEMS

All references to “Sydney Water” shall be replaced with “Wyong Shire Council”.

PART 3 - CONSTRUCTION

9.1 SCOPE

In the second paragraph delete “*specific project contract documents, general conditions of contract e.g. AS2124*”

Add a third paragraph:

“ In the absence of a project specific specification this part of the code and referenced drawings shall be the specification.”

9.2 INTERPRETATION

In the definitions:

“**Specified**” delete “*and/or by the Superintendent*”.

“**Water Agency**” shall mean Wyong Shire Council

PART 3 – CONSTRUCTION (continued)

10 QUALITY

In section 10 all references to “*Superintendent*” shall be replaced with “*Water Agency*” or “*Wyong Shire Council*”.

10.1 QUALITY ASSURANCE

The heading “**QUALITY ASSURANCE**” shall be replaced with “**CONSTRUCTOR AND QUALITY CONTROL REQUIREMENTS**”.

The first paragraph shall be replaced with:

“This section covers the requirements for Constructors, quality control testing and inspections of Development related works in the Wyong Shire Council area.”

10.1.1. General

Delete the two paragraphs under this heading and insert:

“The Constructor shall be experienced in the construction of the relevant types of water supply works covered by this code. Evidence of the Constructors experience and references from other Water Agency type organisations may be required to be provided to Council prior to a Constructor being accepted by Wyong Shire Council as being suitable to construct the required water supply works. All Constructors shall carry appropriate levels of Public Liability Insurance and address the requirements of Part 1 and Part 2 and any other part of Wyong Shire Council’s “Civil Construction Specification” that is applicable to the required construction.”

10.1.2 Quality System

Delete the two paragraphs under this heading and insert:

“The Constructor shall plan and allow for the provision of all testing required by the code. The Constructor shall obtain all documentation from suppliers of materials as required by the code to confirm quality of materials to be incorporated into the works. All test results and product quality certification from suppliers shall be provided to Wyong Shire Council upon request and in all cases a copy of all test certificates, reports and product certification shall be provided to Wyong Shire Council with Work as Constructed Drawings at the completion of the works. All documentation must be provided and accepted by Wyong Shire Council prior to Wyong Shire Council issuing any certification confirming acceptance of the works.

The Constructor shall not incorporate into the works any materials that do not comply with the requirements of this code without first obtaining the approval of Wyong Shire Council. The Constructor shall immediately notify Council of any testing carried out on the works that do not comply with the requirements of this code. Failure to notify Wyong Shire Council of any non-compliance prior to covering up the subject section of works will result in Wyong Council not accepting the works until the non – compliance has been rectified. Council may consider acceptance of non-complying works in exceptional circumstance as determined by Wyong Shire Council.”

PART 3 – CONSTRUCTION (continued)

10.1.3 Project Management Plan

Delete this clause.

10.1.4 Inspection and test plans

Delete this clause.

10.1.5 Quality Tests

In the first paragraph delete "*under the contract*" and delete "*of the contract*" and replace with "*of this code*".

In the second paragraph delete "*the Superintendent*" and insert "*Wyong Shire Council*"

10.1.6 Quality Audits

Delete this clause

10.1.8 Quality Records

In the first paragraph delete "*the Superintendent*" and replace with "*Wyong Shire Council*" and delete "*contract period*" and replace with "*the works and up to acceptance of the works by Wyong Shire Council*".

In the first paragraph delete "*the Superintendent*" and replace with "*Wyong Shire Council*".

In the second paragraph delete "*practical completion*" and replace with "*Council acceptance of the works*".

Delete the last three paragraphs.

10.1.9 Inspections

Delete "*The Superintendent*" and replace with "*Wyong Shire Council*".

Add the following paragraph:

"Inspections will be carried out by Wyong Shire Council during construction of the works to confirm that various elements of the work are being constructed in accordance with the requirements of the approved design drawings and this code. Where works are found to not to comply with the requirements of the code the Constructors may be issued with an instruction to remedy the non-compliance except in the case that the non-compliance is necessary as determined by Council."

10.2 PERSONNEL QUALIFICATIONS

Delete this clause

PART 3 – CONSTRUCTION (continued)

11 GENERAL CONSTRUCTION

In section 11 all references to *"Superintendent"* shall be replaced with *"Wyong Shire Council"*.

11.3 CONTRACT INTERFACE

Delete *"Contract Interface"* and insert *"extent of works"*.

11.4 CUSTOMER FOCUS

11.4.2 Resolution of Complaints

In the second paragraph insert *"and"* between *"promptly"* and *"sensitively"* and delete all words after *"sensitively"*.

11.5 PROTECTION OF PEOPLE, PROPERTY AND ENVIRONMENT

11.5.1 Safety of People

In the third paragraph delete *"In accordance with the requirements designated by the Water Agency"*.

In the sixth and seventh paragraphs delete *"OH&S"* and insert *"WHS"*

11.5.2 Protection of other Services

Delete the last sentence of the first paragraph

Delete the third paragraph under item g.

11.5.4.2 Traffic Management

In the first paragraph delete *"to an approved national course"* and insert *"by the NSW Roads and Maritime Services"*.

Delete the third paragraph.

11.5.6 Protection of the environment and heritage areas

11.5.6.1 General

In the first sentence of the first paragraph delete *" in the project REF or EIS"* and replace with *" in documentation referred to or forming part of the development approval and/ or the Water Management Act Civil Design Approval."*

In the second sentence of the first paragraph delete *"the contract or development agreement"* and replace with *"the development approval and/ or the Water Management Act Civil Design Approval."*

11.5.6.5 Contaminated soils

Delete the last sentence of the second paragraph

PART 3 – CONSTRUCTION (continued)

12 PRODUCTS AND MATERIALS

In section 12 all references to *"Superintendent"* shall be replaced with *"Wyong Shire Council"*.

12.1 Replace reference to Sydney Water with "Wyong Shire Council".

13 EXCAVATION

In section 15 all references to *"Superintendent"* shall be replaced with *"Wyong Shire Council"*.

13.1 SAFETY

In the first sentence delete reference to *"Code of Practice: Excavation 2000"* and replace with *"the current Code of Practice for Excavation."*

13.6 SUPPORT OF EXCAVATIONS

Delete the first two paragraphs and replace with *"Support of excavations shall be in accordance with the current code of practice for excavation works issued by Work Cover Authority."*

13.8 FOUNDATIONS AND FOUNDATION STABILISATION

In the second paragraph delete *"from the Superintendent"* and insert *"from the Consultant Geotechnical Engineer"*.

Delete the third paragraph.

15 PIPE LAYING AND JOINTING

In section 15 all references to *"Superintendent"* shall be replaced with *"Wyong Shire Council"*.

15.1.1 General - Delete the last sentence of the first paragraph.

15.6 PROPERTY SERVICES AND WATER METERS

Delete the first paragraph.

In the second delete *"and water meters"*.

19 ACCEPTANCE TESTING

In section 19 all references to *"Superintendent"* shall be replaced with *"Wyong Shire Council"*.

19.1 GENERAL

At the start of this clause insert:

"Wyong Shire Council shall not accept any new development related works without appropriate testing having been completed to the satisfaction of Council's Principal Development Construction Engineer or his/her nominated representative."

PART 3 – CONSTRUCTION (continued)

20 DISINFECTION

In section 20 all references to *"Superintendent"* shall be replaced with *"Wyong Shire Council."*

20.1 GENERAL

SW 20.1.1 Procedure

Delete the words in Item "(c)" and replace with:

"Disinfect in accordance with ANSI/AWWA C651-99. Where it is not practical to disinfect pipes, fittings and appurtenances used to connect to an existing water main to a new water main, clean each connecting item and spray or swab with 1% solution of sodium or calcium hypochlorite immediately before installation."

22 CONNECTIONS TO EXISTING WATER MAIN

In section 22 all references to *"Sydney Water"* shall be replaced with *"Wyong Shire Council."*

22.1 General

Delete the first paragraph and replace with "Connection of new water reticulation mains to existing Council reticulation mains shall be carried out by Council unless specific approval is given for the Developer's Contractor to carry out this work. An application for connection is to be made by Developer or their Contractor. Council will provide a quotation/estimate for the connection(s). The quoted estimated fee is to be paid prior to the connection taking place. Applications are to be made well in advance of this work being required.

23 RESTORATION

Under this heading insert: *"Restoration shall be carried out in accordance with this section unless more specific restoration requirements are required in Wyong Shire Council's "Civil Works Construction Specification"*.

Part 4 – Standard Drawings

In PART 4 all references to *"the Superintendent"* shall be replaced with *"Wyong Shire Council"*.

25 INTRODUCTION

25.1 GENERAL

At the start of this clause added *"Sydney Water requirements contained in this part shall be the same as Wyong Shire Council Requirements"*

STANDARD DRAWINGS AND DRAWINGS

In all standard drawings all references to *"Sydney Water"* shall be replaced with *"Wyong Shire Council"*.

Part 4 – Standard Drawings (continued)

WAT – 1106

Delete note 9.

WAT – 1107

Delete this drawing. **Note that Split services are not permitted in Wyong Shire.**

WAT – 1108 - V

It shall be noted that main taps in Wyong Shire shall generally be the Narrow Clamp Tapping Band Method with the main tap on top of the main. No ball valve required.

WAT – 1109

This drawing is not generally applicable for development work in Wyong Shire. Refer to Wyong Shire Council Design Notes, located in this supplement, for termination of services inside property boundaries.

WAT – 1151 – S and WAT – 1152 – S

Delete this drawing. Note that Wyong Shire Council's standard water main alignment is 2.4m off the property boundary. If this is not achievable then an alternative alignment shall be proposed for Wyong Shire Council's acceptance.

WAT – 1201

This drawing shall only be referenced for general trench terminology and pipe cover requirements. Refer to WAT – 1250 – S and WAT – 1251 – S for other trench requirements

WAT – 1206

Delete this drawing.

WAT – 1300

Delete reference to "TYPE B" marker post. All marker posts in Wyong Shire shall be TYPE "A".

Posts shall be embedded into the ground a minimum of 450mm. A 10mm diameter 300mm long anti-turn key shall be provided approximately 100mm from the lower end of the embedded section. The post material shall generally be solid plastic or hardwood generally 100mm x 50mm cross section. Posts shall be white in colour. Lettering colour shall be Homebush RED. Lettering may be moulded or machined into the face of the post.

Posts shall be located 150mm off the property boundary.

The distance to and size of the main shall be shown on the post.

Kerb marking shall be placed on top of the kerb

Reflective pavement marker is not required.

WAT – 1352 - S AND WAT – 1353 - S

Delete these drawings and refer to WAT - 1300

APPENDICES

APPENDIX SW1

Delete all wording in the appendix and replace with:

Environmental impact for development related water and sewer reticulation works will generally be addressed as required under the Environmental Planning and Assessment Act. Recommendations and conditions of any approval resulting from the determination of any application made under the Environmental Planning and Assessment Act shall be addressed as part of the design and construction process.

Project specific documentation including but not limited to an Environmental Impact Assessments, Environmental Impact Statements, Review of Environmental Factors and Statements of Environmental Effects shall be reviewed and any recommendations within those documents shall be addressed as part of the design and construction of water and sewer reticulation works.

APPENDIX SW2

This appendix shall be read for general information only. The Designer of water and sewer reticulation works shall obtain site specific geotechnical advice were required in order to provide adequate specifications for construction. Where adequate specifications for construction have not been provided and it becomes necessary during construction to obtain geotechnical advice that advice shall be arranged by the Developer and/or their Contractors. Copies of all advices shall be provided to Wyong Shire Council.

Wyong Shire Council may at the design stage request the designer to obtain geotechnical engineering advice prior to issuing design approvals.

APPENDIX SW3

Note: All Water Reticulation design drawings for new developments shall include WSC's Water Reticulation and Water Services Construction notes. Copy of notes appended to this supplement

Replace all references to "Sydney Water" with "Wyong Shire Council".

Delete any references to "Work Number, Project Number or Case Number".

Delete any reference to "stormwater plans".

1 PLAN FORMS AND CASE/PROJECT NUMBERS - Delete this clause.

2 CAD REQUIREMENTS - Delete this clause

6 SPECIAL DESIGNS - Delete the last sentence of the fourth paragraph.

10 WORK SCHEDULE NOTATION - Delete this clause

APPENDICES(CONTINUED)

13 WORK AS CONSTRUCTED PLANS

In the first paragraph delete *"and using the Sydney Water drafting package"*.

Add the following dot points to (b) General Items for Constructed Mains (i) Items for Most Mains

- *Property water services to be shown at approximate location with respect to boundaries.*
- *Straight line distances between hydrants to be shown*
- *Distance along the main between fittings, valve, hydrants etc*

14 SAMPLE STANDARD DRAWINGS

Insert after the first paragraph:

"Drawing Title blocks do not have to be in accordance with the standard drawings. However information shown in the sample drawing title blocks, other than the case no., will generally be required on most plans."

APPENDIX SW4

Replace all reference to *"Sydney Water"* with *"Wyong Shire Council"*.

APPENDIX SW5

Replace all reference to *"Sydney Water"* with *"Wyong Shire Council"*.

APPENDIX SW 6

Delete this appendix. Proposals for Dual Water Reticulation systems shall be discussed with Wyong Shire Council. Construction and Design requirements for dual reticulation systems will be issued on a case by case basis.

APPENDIX 7

Replace all reference to *"Sydney Water"* with *"Wyong Shire Council"*.

2.2 LIMITATIONS

Add the following sentence under the heading:

"Wyong Shire Council may relax the following limitation in some circumstances."

**Wyong Shire Council Development Engineering Design Notes –
Water Reticulation and Water Services Construction**

1. Construction of water reticulation mains and water services shall be in accordance with the Sydney Water Edition of the “Water Supply Code of Australia” WSA03-2002 with Wyong Shire Council Supplements. These notes specify Wyong Shire Council’s particular requirements in these documents in relation to the construction of water reticulation mains and residential property services.
2. Connection of new water reticulation mains to existing Council reticulation mains shall be carried out by Council unless specific approval is given for the Developer’s Contractor to carry out this work. An application for connection is to be made by Developer or their Contractor. Council will provide a quotation/estimate for the connection(s). The quoted estimated fee is to be paid prior to the connection taking place. Applications are to be made well in advance of this work being required.
3. Water services on new mains are to be installed by the Developer’s Contractor. A single water service, each tapped from the main, generally where shown on the design drawings is to be provided for each proposed lot.
With reference to standard drawings WAT-1106 and WAT-1109 the following shall apply:
 - a. The meter riser is to be located 300mm inside the front boundary of the proposed lot and at least 400mm off the side boundary.
 - b. The water service is to terminate with a type A copper pipe meter riser which protrudes 250mm above the ground.
 - c. Water service sizes for residential lots shall be DN20 where less than 30m in length and DN25 where between 30m and 74m in length.
 - d. The meter riser shall terminate with a No. 13 90 degree elbow capillary fitting capped with a BSP galvanised cap which faces a line parallel to the front boundary. In the case of a DN25 service the elbow fitting shall be 25mm x 20mm.
 - e. The meter riser shall be supported by a minimum 75mmx50mm hardwood stake, painted white and driven firmly into the ground. The top of the stake shall match the top of the riser. The riser shall be fixed to the stake with a pipe saddle.
4. In reference to standard drawing WAT-1108-V tapping bands shall generally be a narrow clamp type with a standard main tap at the top of the main. Ball valves are not to be used at the tapping band. Details of proposed tapping bands shall be submitted to Council for acceptance.
5. Trench details for installation of new water mains in other than poor ground conditions or under existing road carriageways shall be in accordance with standard drawings WAT-1250-s and WAT-1251-S. Details of other installation types should be shown on the drawings. If not shown details to be provided by design consultant and submitted to Council for approval.

6. Thrust blocks shall be provided at all tees, bends, and tapers generally in accordance with standard drawing WAT-1205 for pipe sizes up to DN 375. Thrust blocks dimensions in stable ground are to satisfy the requirements for stiff clay/medium dense clean sand unless in sound rock in which case sizing appropriate to sound rock may be used. Details for thrust blocks shall be provided by the design consultant in ground conditions that do not provide the bearing equivalent to stiff clay/medium dense clean sand.
7. Thrust and anchor blocks for valves and vertical bend shall be provided in accordance with standard drawing WAT-1207 for pipe sizes up to DN 375. Details for thrust blocks shall be provided by the design consultant where ground conditions do not provide the bearing equivalent to stiff clay/medium dense clean sand.
8. Hydrants and valves shall be located where shown on the drawings and shall generally be installed in accordance with standard drawings WAT-1301-V, WAT-1302-V, WAT-1303-V and WAT-1304-V. Stop valves shall be anti-clockwise closing. Hydrants shall be spring hydrants.
9. Details of all materials proposed to be used construction of water reticulation mains and services shall be submitted to Council's Principal Development Construction Engineer for acceptance prior to the commencement of any works on site. These details shall include:
 - a. Pipe type, brand and certificate confirming suitability for mine subsidence ground strains if applicable.
 - b. Tapping bands.
 - c. Embedment and trench fill material.
 - d. Hydrant and valve, types, class, brand, specifications.
10. Surface restoration and pavement restoration shall be in accordance with the requirements of Wyong Shire Council's "Civil Works Construction Specification". Pavement restoration in existing road pavements shall be in accordance with section 4.9 of Wyong Shire Council's "Civil Construction Specification".
11. Acceptance testing of water mains and water services shall be arranged by the Contractor. Acceptance testing shall be in accordance with WSA-02 Part 3 Section 22 and include:
 - a. Hydrostatic pressure testing – Test pressure to be 1000kPa unless shown otherwise on the design drawings.
 - b. Bacteriological Test – only required when specifically requested by Council in the case that Council has requested the main to be disinfected.

Water services are to be purged, capped and the main cocks left open for hydrostatic testing.
12. Work as Executed (WAE) drawings shall be prepared using the Council approved design drawings as a base. Refer to Wyong Shire Council's Development Engineering Supplement to the Sydney Water Edition of the "Water Supply Code of Australia" for requirements.

13. Evidence of the Contractor's experience and references from other Water Agency type organisations may be required to be provided to Wyong Shire Council prior to a Contractor being accepted by Wyong Shire Council as being suitable to construct the required sewerage works. All Contractors shall carry appropriate levels of Public Liability Insurance and address the requirements of Part 1 and Part 2 and any other part of Wyong Shire Council's "Civil Construction Specification" that is applicable to the required construction."
14. Clarification of construction requirements should be obtained from Council's Principal Development Construction Engineer where requirements are not clear on the approved design drawings, these notes and/or the Sydney Water Version of WSA-02.
15. Bulkheads adjacent to kerb and gutter and at the shoulders of sealed roads as shown on standard drawing WAT-1209 may be replaced with trench stops where the pipe grade is less than 15 percent.
16. Pipes for new water reticulation mains for developments shall be PVC Series 2 rubber ring jointed minimum PN16 unless otherwise shown on the drawings. Pipe fittings are to be ductile iron unless shown otherwise on the design drawings. Pipes to be used in mine subsidence areas shall be certified by the pipe supplier to be suitable for the predicted ground strains as advised by the Mine Subsidence Board.
17. Install maker plates and posts for all valves and hydrants. Refer to standard drawing WAT-1300. Marker posts to be type "A". Post embedment to be 450mm into the ground with a 10mm diameter anti-turn key, 300mm long approximately 100mm from the lower end of the post. Post material to be solid plastic or hardwood generally 100mm x 50mm in section. Posts to be white in colour with lettering in Homebush Red. Lettering may be moulded or machined into the post face. Posts shall be located 150mm off the property boundary. The distance to and size of the main are to be clearly stencilled on the post in 25mm high text using blue exterior enamel . Kerb marking for stop valves and hydrants are required. Reflective pavement markers are not required.

