SC6.1.10 WSA Addenda

SC6.1.10.1 Preliminary

SC6.1.10.1.1 Application of WSA Codes

For the purposes of the planning scheme the design standards for water supply and sewerage reticulation identified in the WSA water supply and sewerage codes apply as amended by the Council Addendum below.

SC6.1.10.1.2 Water service provider and water agency

Gympie Regional Council is the water service provider and water agency referred to in the WSA codes.

SC6.1.10.2 Council Addendum to WSA Codes

SC6.1.10.2.1 Codes amended by Council Addendum

This addendum amends:
(1) Sewerage Code of Australia – WSA 02-2002; and
(2) Water Supply Code of Australia – WSA 03-2002; and
(3) Sewage Pumping Station Code of Australia – WSA 04-2001.

SC6.1.10.2.2 Council amendments to Sewerage Code WSA 02-2002

(1) **PART 0: GLOSSARY**
  (a) Section Glossary
  The Average Dry Weather Flow for localities in Gympie Region shall be 240L/EP/d;
(2) **PART 1: PLANNING AND DESIGN**
  (a) Section 2.2.3(c)
  The design flow containment standard ARI (Annual Recurrence Interval) for determining flow and sizing of mains shall be 10 years.
  (b) Section 2.3.1 Loading per Serviced Property
  The loading rate per serviced property shall be 240L/EP/d;
  (c) Section 2.3.2 Assessment of Future Loads
  The loading rate per serviced property shall be 240L/EP/d;
  (d) Section 3.2.1 – **General**.
  Add new paragraph:
  "As an alternative methodology a Water Agency may adopt the methodology for estimating sewage flow as detailed in "Guidelines for Planning and Design of Sewerage Schemes" Water Resources 1991. The design flow shall not be less than 1100 L/p/d."
  (e) Section 4.2.3 Sewer Layout
  Alignment of Sewers shall be as follows:
    (i) Where practicable, all sewer lines shall be located within properties as shown in **Error! Reference source not found.** Preferred Alignment of Sewer Lines.

Table SC6. 9 Preferred alignment of sewer lines

COLUMN 1	COLUMN 2
Location	**Alignment**
Roadway	Crossings, only
Footpath	On application
Private Property (side, rear and front boundaries)	1.5 metres from boundary (2.0 metres where parallel to roof water drainage systems)

    (ii) Where sewer lines are located along the road frontage of allotments, the preferred alignment is 2.0 metres inside the allotment. However, to minimise the number of manholes where truncations occur, the sewer may be located within a zone from 1.0 metre to 3.0 metres from the road frontage.
  (f) Section 4.3.7 Horizontal curves in sewers
  Horizontal curves in sewers are not permitted.
  (g) Section 4.6.7 Vertical curves in sewers
  Vertical curves in sewers are not permitted.
  (h) Section 4.6.8 Compound curves in sewers
  Compound curves in sewers are not permitted.

(i) Section 6.1 – **TYPES OF MAINTENANCE STRUCTURES**
Insert new paragraph at end of section: "Use of Maintenance Shafts (MSs) and/or Terminal Maintenance Shafts (TMSs) is subject to the agreement of the Water Agency."

(j) Section 6.3.1 – **General**
Insert in paragraph 2, line 3 after "readily accessible public land."
"The equipment and service vehicle shall be based on the equipment and service vehicle normally used by the Water Agency and where a Water Agency does not own or use equipment installed on a service vehicle access to every part of the sewer shall be based on the sewer maintenance equipment normally used by the Water Agency."

(k) Section 6.6.8 Ladders, step irons and landings
Ladders or step irons in manholes are not permitted.

(l) Section 6.7.2 Design parameters for maintenance shafts and terminal maintenance shafts
Maintenance shafts shall not exceed 1.5 metres depth and shall not be further than 50 metres from a maintenance hole.

(3) **PART 2: PRODUCTS AND MATERIALS**
Section 10.6 Selection Guide for Pipeline Systems
Minimum PVC pipe class shall be SN8.

(4) **PART 3: CONSTRUCTION**
Section 24 Connection to Existing Sewers
All connections and alterations to live sewers shall be made by Council staff or, by licensed plumbers under the supervision of Council's inspectors, all at the applicant's expense. Applications for Council cost estimates for the works shall be made in accordance with Council procedures for Private Works applications.

SC6.1.10.2.3 Council amendments to Water Supply Code WSA 03-2002

(1) **PART 1: PLANNING AND DESIGN**

(a) Section 3.2.4 – **Fire Flows**
Delete the first paragraph "unless otherwise……specify design requirements.", and insert:
"Allowance for fire flows shall be in accordance with the Guidelines for Planning and Design of Urban Water Supply Schemes Chapter 21A – Fire Fighting as released in the Department of Natural Resources Technical Bulletin TB No.:3/1997 September 1997."

(b) Section 3.7.2 Minimum Pressure Class
Delete "Class 9" in Line 1 and insert in its stead "Class 16".

(c) Section 4.3 Location of Water Mains
Where as a result of the development, existing mains are located on non-standard alignments or have less than minimum cover, the developer shall bear the cost of relocation, replacement or lowering, subject to the approval of the Council. Pavement widening associated with some developments can place existing mains under the new pavement. In such cases, where the existing main is asbestos cement pipe, the developer shall bear the cost of replacement in material approved by the Council.

(d) Section 4.3.7 Crossings
(i) Main Road Crossings – Written approval from the Department of Transport and Main Roads or other relevant State Authority is required if a main is to be constructed underneath a State controlled road.
(ii) All crossings of collector roads and streets shall be bored or jacked with no disturbance to the pavement, shoulders or kerb.
(iii) Council may permit open trenching to streets below collector, determined by the location, traffic conditions and age of the existing pavement. The details of the crossing, pipe materials and backfilling shall be submitted to Council's Engineer for approval.
(iv) Written approval from Queensland Rail is required if a main is to be constructed underneath a railway line or a Railway Reserve. In such cases the crossing shall generally be designed and constructed in accordance with the requirements of Queensland Rail.
(v) Enveloping pipes shall be provided on all road crossings except on local roads.

(e) Section 4.6 Water Main Alignment
Alignment within road reserve is to be 2.0 metres from the property boundary, with horizontal centring deviations permissible provided the main remains entirely within a 450mm wide footpath allocation.

(f) Section 4.7 Connection of New Mains to Existing Mains
All connections and alterations to existing water mains shall be made by Council staff or, a licensed plumber under the supervision of Council's inspectors all at the applicant's expense.

Applications for Council cost estimates for the works shall be made in accordance with Councils procedures for Private Works applications.

(g) Section 4.9 Property Services
  (i) Tapping bands to be no greater than 50mm service and full band brass type. Coastal townships are to have Class 12 poly services. All other areas are to have Table B lagged copper services.
  (ii) Alignment is from boundary to boundary when produced square from the kerb; selected so as to minimise the angle of the conduit across the road.
  (iii) Conduits shall extend 300mm behind the back of kerb, be laid at a minimum 100mm below the pavement subgrade, be located to avoid conflicts with electrical conduits and pillars, and have brass indicator discs inscribed "W" placed in the kerb above the service.

(h) Section 4.12.2 – Corrosion protection against aggressive environments
Add an additional item – **"(h) PE sleeving"**.

(i) Section 6.1.4 – Installation
Add an additional paragraph – **"Typical details for valve and hydrant identification are shown on Standard Drawing WAT-1300."**

(j) Section 6.2 Stop Valves
  (i) Valves shall be a fusion bonded epoxy coating or equivalent and shall be resilient seated. All valves to be spigot ended except where cutting into existing mains is required where flanged valves are to be used. All bolts to be grade 316 stainless steel.
  (ii) Valves and fittings are to be drilled Table C flanges.
  (iii) Locations – opposite the first truncation point at a three way intersection; or opposite the nearest RP boundary.
  (iv) Spacing – at a maximum spacing of 300m.
  (v) Valves shall be installed where necessary to isolate sections of the system for maintenance purposes such that maintenance can be carried out causing minimum inconvenience and disturbance to the consumers. Generally the maximum number of houses inconvenienced should be 30.

(k) Section 6.8 Hydrants
  (i) Hydrants and fittings are to be drilled with Table C flanges and be installed on 100mm diameter branches.
  (ii) All hydrants are required to have a Fusion Bond Epoxy (FBE) coating or equivalent.
  (iii) All fittings to be FBE coated with socket ends.
  (iv) Location – opposite RP boundaries.
  (v) Spacing – maximum 80m; and at crests; sags of lines and ends of lines.
  (vi) Orientation – spring hydrants shall be oriented with bolts parallel to the water main.
  (vii) Risers are to be installed such that hydrants are no more than 300m below the cover.

(2) **PART 3: CONSTRUCTION**

Section 5.16 Location Markers

(a) Kerb and channel shall be stamped or engraved. Timber posts with maker notice plates are to be located adjacent to each valve, air valve and scour valve in rural and industrial areas. The timber posts are to be located on the property alignment. Hydrants shall be marked on the sealed road with reflective markers.

(b) Kerb stamping or engraving, and marker posts (where required) shall be marked V, H, AV and S indicating sluice valve, hydrant, air valve and scour valve.

SC6.1.10.2.4 Council amendments to Sewage Pumping Station Code WSA 04-2002

(1) **PART 1: DESIGN**

(a) Section 2.0 Facility Needs
The combined storage in the wet-well and the gravity sewers shall comply with Council's requirements. A minimum of 4 hours at ADWF is required. Telemetry, remote alarms and dual pumps shall be provided at all pump stations.

(b) Section 3.0 Overall Design Criteria
  (i) Section 3.4.2 Wet-well design
  Wet-well minimum diameter to be 2.4m for duplex pumping stations. All pump station wet-wells shall allow for a minimum of 2 pumps.
  (ii) Section 3.7 Supporting Systems
  Where practicable, the base of the electrical control equipment and finished surface level of the top slab of the wet-well and be located above the 1 in 50 year flood level.

(c) Section 4.0 Detailed Design Criteria

(i) Section 4.1 Facility
Pumps with maximum impeller size are not permitted. For fixed speed pumps the range of operation on the pump curve shall be limited to 90% to 105% of the best efficiency flow. For variable speed pumps the efficiency shall be maximised.

(ii) Section 4.5.2 Wet-Well Design
Maximum number of starts per hour to be in accordance with manufacturer's recommendation or 10 starts/hour, whichever is the lesser

(iii) Section 4.5.4 Wet-Well Ventilation
Forced ventilation to be provided for Pump Stations with diameters greater than 2.4m.

(iv) Section 4.5.11 Wet-Well Washers
Automatic well washers shall be provided with either potable water or recycled water (where available) to be used.

(v) Section 4.6.2 Valves
All valves to be resilient seated.

(vi) Paragraph 4.6.4.8.2 Pressure Main Selection
Minimum pressure classes – Class 16.