

**altogether.**

# **developer guide**

Infrastructure (Water)

contents

1 Introduction...3
1.1 Purpose...3
1.2 Scope...3
1.3 Responsibilities...3
1.4 Scheme Creation Process...3
2 Standards...5
3 Notice of Requirements...6
4 Network Design...7
4.1 Property Type & Servicing...7
4.2 Property Sewerage Servicing Design Guidelines...7
4.2.1 Wastewater Collection Tank Locations...7
4.2.2 Reduced Area Lots (Refer Altogether standard drawings)...7
4.2.3 Lots with Mass Stone / Mass Masonry Boundary Retaining Walls...8
4.3 Recycled Water and Potable Water Servicing to Public/Common area...8
4.3.1 Irrigation Hydrants...8
4.3.2 Recycled Water Services to Public/Common areas...8
4.4 Detailed Design...8
5 Reticulation Infrastructure Construction and Quality Control...9
5.1 Installer Qualification...9
5.2 Inspection and Test Plans...9
5.3 Inspections...9
5.3.1 Final Walkover...9
5.4 Quality Control & Records...10
5.5 Payment for QC Inspections...11
5.6 Other water authorities...12
6 Certificate of Compliance...13
6.1 Relevant water supply authority...13
6.2 Issue of Certificate of Compliance...13
7 Asset Handover...14
7.1 Asset Dedication...14
7.2 Asset Responsibilities...14

## 1 Introduction

### 1.1 Purpose

The purpose of this document is to describe the quality assurance process involving the design, construction, inspection, testing and certification of Developer Infrastructure Works by or on behalf of Altogether (or its licensed network operator) ('Utility') and dedication of the same.

### 1.2 Scope

This procedure shall be used for all projects where the commercial agreement, usually known as the project delivery agreement (**PDA**), between the Utility and a Developer identifies that the Developer is responsible for the construction of drinking water, recycled water and/or sewerage network infrastructure (**Developer Infrastructure Works**) prior to its dedication to the Utility or its nominee.

### 1.3 Responsibilities

The parties responsible for the implementation of the requirements of this procedure are:

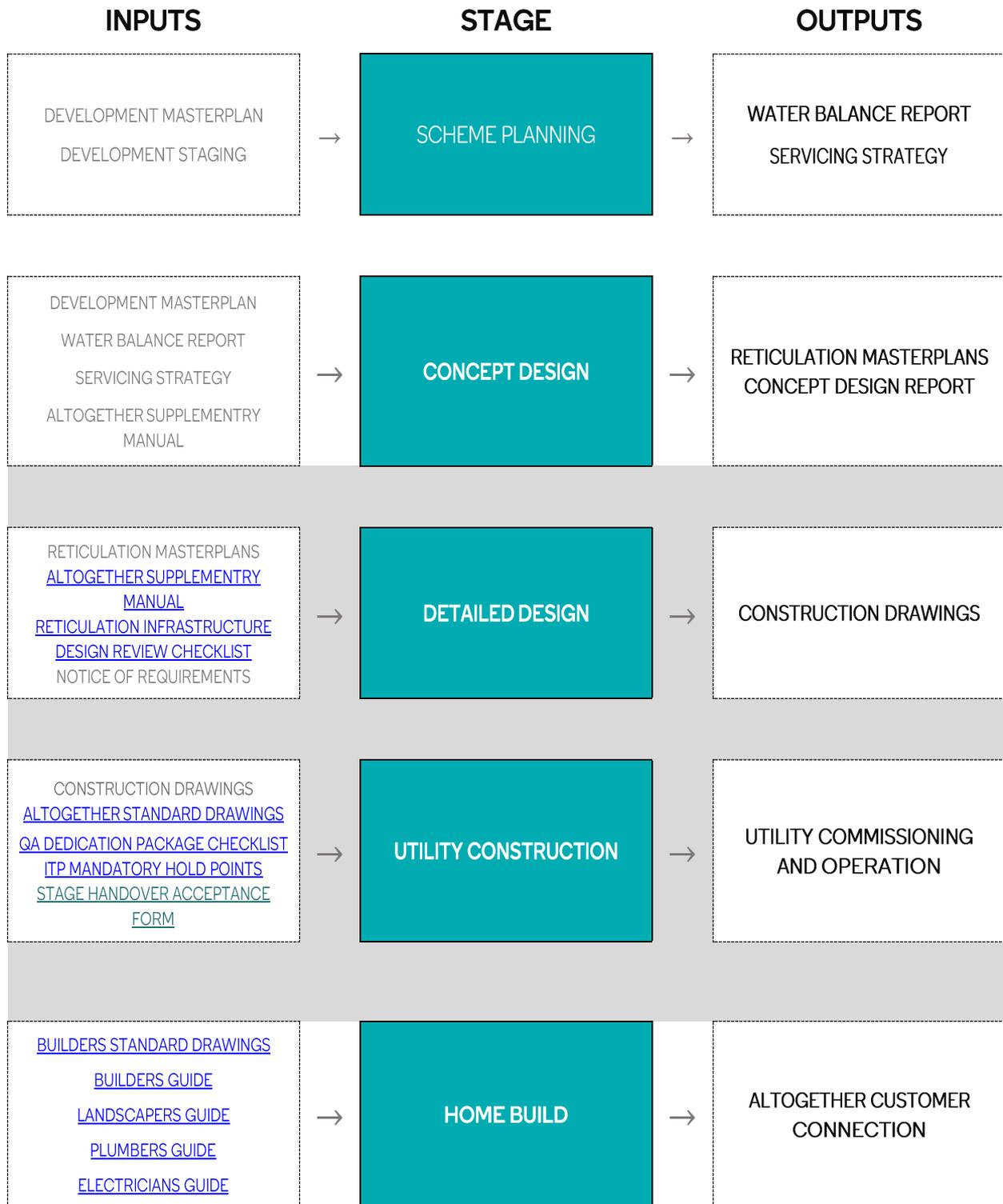
The **Developer** (which for the purpose of this procedure) includes all parties engaged by or affiliated with the Developer that have a responsibility to design, supply, construct/install, test or commission the Developer Infrastructure Works.

**Altogether** (which for the purpose of this procedure) includes Altogether Group Pty Ltd, its licensed network operator (a wholly-owned subsidiary), quality control inspector (**QC Inspector**), nominee, contractor or consultant as the party responsible for all or part of the Utility's responsibilities outlined in the PDA or Altogether's responsibilities in this document).

### 1.4 Scheme Creation Process

The diagram below provides an overview of the scheme creation process. Each stage requires key inputs to achieve the desired outputs and to progress to the next stage.

The Detailed Design and Utility Construction stages (shaded grey below) are applicable to the Developer and this document.



## 2 Standards

Before the Developer undertakes any design of Developer Infrastructure Works, including pressure sewer, recycled water and/or drinking water (where applicable) infrastructure, the [Reticulation Infrastructure Design Checklist](#) must be completed and provided to Altogether for review. This document provides a list of standards and drawings which are to be used by the Developer's design and construction contractors for the delivery of Developer Infrastructure Works. These include (in this order of precedence):

1. Altogether Supplementary Manual to WSAA Codes (FS-MN-PRD-270);
2. Altogether Standard Drawings
3. Water Services Association of Australia Water Supply Code of Australia – Sydney Water edition (WSA-03);
4. Water Services Association of Australia Pressure Sewer Code of Australia (WSA- 07);
5. National Construction Code of Australia which has replaced the Building Code of Australia, and all Australian Standards that are referenced in that Code;
6. Plumbing Code of Australia (PCA) and all Australian Standards that are referenced in that Code;
7. Relevant Australian Standards.

All documents referenced in this Section 2 are referred to generically in this document as the “Standards”.

### 3 Notice of Requirements

Before commencing construction on a stage of the Developer Infrastructure Works, the Developer must apply to the Utility for a Notice of Requirements (**NOR**). This NOR will outline the Utility's requirements of the Developer to achieve **Developer Infrastructure Works Practical Completion** and will generally include:

- Technical Requirements, including but not limited to the provision of:
  - Issued for Construction (IFC) status detailed design drawings approved by Altogether;
  - Records (as defined in section 4.4); and
  - Stage-specific installations;
- Administrative Requirements, including but not limited to:
  - Lot registration details;
  - Costs payable by the Developer to the Utility; and
  - Site Inspection by the Developer and the Utility;
- Plans of the relevant stage; and
- any Miscellaneous Requirements specific to the project and the PDA (Project Delivery Agreement) relating to such project.

The form of this NOR is as contained within the PDA for the relevant scheme or as otherwise agreed in writing. Click [here](#) to request an NOR from Altogether for your development.

## 4 Network Design

### 4.1 Property Type & Servicing

Altogether requires a single point of connection for each lot.

Property Types	Sewer Connection Type	Water Connection Type
1. Single Residential Lots	Standard E One wastewater collection tank system	Standard 20mm domestic connection point for drinking and recycled water
2. Commercial Lots	50mm boundary connection (boundary kit)	No water connections provided
3. Residue Lots	No sewer connections provided	No water connections provided

Standard E One on lot wastewater systems are designed to service loads from single residential lots. Altogether only require additional connections (including tanks) when a lot is subdivided. Commercial lots or non-standard residential lots (multi-dwelling) typically require alternative servicing solutions. Click [here](#) for guidelines on commercial and multi-residential lot developments.

Developers are encouraged to work with the non-residential / commercial purchases of these lots to submit their design as early as possible, so that newly constructed roads and/or footpaths may not need to be disturbed to install the relevant connections.

### 4.2 Property Sewerage Servicing Design Guidelines

Altogether networks (reticulation) must be designed in accordance with Altogether's [Supplementary Manual to Water Services](#), which is a supplement to Water Services Association of Australia (WSAA) codes.

#### 4.2.1 Wastewater Collection Tank Locations

Altogether prefer that wastewater collection tanks are located on the boundary of the lot closest to the main (usually the front) to enable easy access for service/maintenance and to minimise infrastructure on lot (discharge line and conduits). There are three standard wastewater collection tank sizes; 650L, 800L, and 950L. The maximum depth to the sanitary drainage invert level for each tank is; 1,090mm, 1,390mm, and 1,690mm, respectively. The depth can be increased by a maximum of 300mm using two 150mm drywell extender sections – refer Altogether standard drawings.

- Preferable location: front, lower section of lot.
- Alternative location: rear, lower section of lot – with clear service / maintenance access provided.

#### 4.2.2 Reduced Area Lots (Refer Altogether standard drawings)

These lot types range from 200m<sup>2</sup> to 400m<sup>2</sup> and include:

- Terrace / Abutting Lots
- Courtyard Dwelling Lots

- Small / Compact Lots
- Transition Dwelling

### 4.2.3 Lots with Mass Stone / Mass Masonry Boundary Retaining Walls

These lots are generally formed to create a relatively level finished ground formation. The use of mass stone or mass masonry blocks for boundary retaining walls creates an encroachment on the lot area due to the width of blocks used, which in turn pushes any on-lot infrastructure further into the lot and potentially into any allowable building envelope, measured from the property boundary. Altogether prefer to create the property boundary along the centreline of the block wall or along the face of the wall closest to the on-lot infrastructure to minimise this encroachment.

Refer to Altogether standard drawings for details.

## 4.3 Recycled Water and Potable Water Servicing to Public/Common area

### 4.3.1 Irrigation Hydrants

Recycled water main extensions and additional hydrants are to be provided for irrigation purposes as identified in the recycled water reticulation masterplan and where specified in the detailed design (to be developed by the Developer's design consultant).

### 4.3.2 Recycled Water Services to Public/Common areas

Metered recycled water property service connections must be provided to all open space areas identified during the detailed design review. In the case of large recreational areas, multiple connections are to be allowed by the Developer's design consultant.

## 4.4 Detailed Design

The detailed design of the pressure sewer, recycled water and drinking water reticulation (when applicable) infrastructure will be developed by a qualified design consultant engaged by the Developer. The design shall be compliant with the Standards as outlined in this document at Section 2 and will be verified by Altogether in conjunction with the [Reticulation Infrastructure Design Checklist](#). The Developer must only construct in accordance with the plans reviewed by Altogether and the Standards. The Developer must allow 7 days for Altogether to review the Developer's design.

The detailed design must include a check for each lot to ensure that the proposed tank location is adequate to service the entire lot, taking into consideration Altogether tank installation standards for lots with retaining walls and slopes / batters, namely SK03A and SK03B.

Non-serviceable areas on lots must be clearly identified on the detailed design drawings.

## 5 Reticulation Infrastructure Construction and Quality Control

### 5.1 Installer Qualification

The Developer shall ensure that Altogether is notified of the proposed reticulation infrastructure installer prior to the commencement of works. The Developer must demonstrate the proposed installer has demonstrated relevant industry experience as necessary for proceeding with the installation works. This may be demonstrated through capability statements, reference checks, documentary evidence and/or equivalent qualification with other water authorities. Installation works must not commence until the Developer demonstrates, to the utilities satisfaction, that the installer is qualified for the works. The utilities satisfaction of an installer's experience and qualifications is not a guarantee of future performance and the Developer remains responsible for satisfactory installation of infrastructure at all times.

### 5.2 Inspection and Test Plans

The Developer is responsible for preparation of its own inspection and test plans (ITPs) and check sheets in accordance with its own Quality Management System. However, as a minimum the contractor's ITPs must include the mandatory hold points outlined in Altogether's [Mandatory Hold Points](#).

### 5.3 Inspections

The Developer is responsible for ensuring that all works are constructed and tested in accordance with the relevant NOR and Standards.

Altogether will frequently (weekly as a minimum) inspect the construction of the Developer Infrastructure Works to monitor compliance with the design and Altogether Standards, and may notify the Developer of an area of those works that do not comply with the same. This inspection regime shall not be construed as a proxy for the Developer's own quality inspection checks and any non-compliance in the Developer's works may be identified and communicated to the Developer at any time.

The Developer will ensure that the QC Inspector is given adequate notification (minimum 48 hours) and access to carry out inspections and be available for witness points identified by the ITPs.

Failure by the Developer to ensure access for the QC Inspector may result in Altogether issuing a requirement for the Developer to re-excavate and expose Developer Infrastructure Works to allow inspection. This will be at the cost of the Developer.

#### 5.3.1 Final Walkover

A final walkover must be organised and completed with the QC Inspector, Developer and Altogether representative, prior to requesting a Certificate of Compliance.

Allow 7 days notice for Altogether to confirm the date of walkover.

The walkover will check the quality and compliance of the Developer Infrastructure Works against Altogether's [Stage Handover Acceptance Form](#). Any defects identified will be noted in a Notice of Outstanding Works (NOW) and issued to the Developer. These outstanding works must be completed with the nominated timeframe, with evidence of completion provided to Altogether.

## 5.4 Quality Control & Records

Prior to Developer Infrastructure Works Practical Completion or the Developer's request for a Certificate of Compliance associated with the completion of a stage of the Developer's works, the Developer must provide the following "Records" to Altogether:

- Completed and signed off ITPs including Altogether's Mandatory Hold Points;
- As-built survey for each of the services including, but not limited to:
  - Pressure Sewer:
    - Sewer Collection Tank – including RL
    - Flushing Points
    - Stop Valves
    - Tees
    - Bends
    - Boundary Kits
    - Conduits (if placed at rear of lots)
    - Pipeline (if different from the design)
  - Recycled Water and Drinking Water:
    - Hydrants
    - Stop Valves
    - Tees
    - Bends
    - Pipeline (if different from the design)
- Clear, legible red-line mark-up of the IFC drawings (suitable to be used as the basis for preparation of works-as-executed drawings by Altogether);
- Test results of trench backfill compaction at frequency in accordance with WSA-07 and WSA-03;
- Compressive strength test results of any stabilised sand and/or concrete used as backfill to confirm compliance with WSA-03 and WSA-07;
- Hydraulic pressure testing certificate by NATA-qualified pipe testing contractor in accordance with WSA-03 and WSA-07 of the entire network including reticulation mains and lateral connections into all lots up to each lot's isolation valve within the pressure sewer boundary kit and the taps at the ends of the drinking water and recycled water lateral pipes, plus the section of discharge pipe between the wastewater collection tank and the boundary kit (1000kPa);

- All PVC Pipes and fittings are to be tested to 1500KPa (STP) or to the lowest rated fitting for a minimum of 2 hours and concluded within 5 hours to 8 hours
- All PE Pipes and fittings are to be pressure tested to 1600KPa (STP) or to the lowest rated fitting for 5 hours
- Sections of pipe and fittings that are repaired or rectified will have to undergo a post-repair pressure test. That is, undertake a re-test if the repair takes place after the initial pressure test).
- Connections should be tested where practical, that is, when shut down of live mains are not required.
- Quality Assurance Inspector is to conduct a visual inspection (photographic records required) of the service prior to concrete pour where required
- Delivery dockets are to be supplied for all permanent pipework and fittings, including Evidence of conformance of pipe to relevant Australian standards
- Geotechnical testing of anchor blocks and thrust blocks where applicable;
- Evidence of pipe flushing, cleaning, disinfection and water quality test results in accordance with WSA 03 and Altogether's Supplementary Manual to Water Services.
  - The completed [Water Mains Acceptance Testing Report](#) must be provided as part of this evidence.
- Bill of materials for all infrastructure installed, complete with quantities, units and supply rates in Australian dollars;
- Evidence that all on-lot wastewater collection tanks have been handed over by the Developer's contractor clean and free of debris and fluid;
- Photographic record of all lateral connections for all services, from main to lot, complete with a sign in each photo identifying the lot to which it belongs; and
- Photographic record of all major appurtenances on the reticulation networks and their connections to the reticulation system including, but not limited to:
  - Flushing points;
  - Pressure monitoring points;
  - Air valves; and
  - Scour valves.

The [QA Dedication Package Checklist](#) must accompany the complete records submission prior to the Developer's request for a certificate of compliance for the development stage works.

## 5.5 Payment for QC Inspections

For works completed by or on behalf of the Utility for QC inspections and preparation of work-as-executed drawings, the Developer must pay the Utility its agreed QC Fee.

### 5.6 Other water authorities

Connection work to another water authority's infrastructure must comply with that water authority's relevant requirements and do not form part of the Developer Infrastructure Works as defined in this document.

## 6 Certificate of Compliance

### 6.1 Relevant water supply authority

Altogether may issue a Certificate of Compliance for the Developer Infrastructure Works for which it is licensed under the *Water Industry Competition Act 2006* (NSW), in accordance with the requirements of the:

- Water Industry Competition (General) Regulation 2008 (NSW); and
- PDA; and
- The Developer's compliance with the Utility's requirements; and
- NOR for the relevant development stage.

And, in New South Wales, in order to satisfy section 109J(1)(e1) of the Environmental Planning and Assessment Act 1979 (NSW) for the purposes of enabling certification of subdivision.

### 6.2 Issue of Certificate of Compliance

The Utility may issue a Certificate of Compliance when Developer Infrastructure Works Practical Completion is achieved and all items listed in the NOR have been satisfied.

The Certificate of Compliance will not be issued until the final walkover has occurred (refer Section 5.3.1).

## 7 Asset Handover

### 7.1 Asset Dedication

Altogether or its nominee will confirm acceptance of the transfer of ownership of infrastructure (or taking responsibility for full operational and maintenance rights and obligations in respect of such infrastructure in the event legal ownership is not being transferred) resulting from Developer Infrastructure Works once the processes described in the previous sections and any outstanding defects have been rectified (unless otherwise agreed by Altogether).

### 7.2 Asset Responsibilities

Altogether’s policy regarding who is responsible (as between the Developer and Altogether) for the initial provision, ongoing ownership, operation and maintenance of ‘on- property’ sewerage assets is based upon land ownership title. The table below provides a summary:

DESIGN / CONSTRUCTION / INSTALLATION OF WASTEWATER ASSETS		
Property Title	Asset Description	Responsibility
Torrens Title - Freehold	Wastewater collection tank, property discharge line, boundary kit	Developer
	Grinder pumps, control panel, level sensor, Data Management Unit, RW meter & DW meter (where DW provided by Altogether)	Altogether
Strata Title	All wastewater assets	Developer
Community Title	All wastewater assets	Developer
Leasehold Title	All wastewater assets	Developer
ONGOING ASSET OWNERSHIP		
Torrens Title - Freehold	Wastewater collection tank, property discharge line, boundary kit	Altogether
	Grinder pumps, control panel, level sensor, Data Management Unit, RW meter & DW meter (where DW provided by Altogether)	Altogether
Strata Title	All wastewater assets	Altogether
Community Title	All wastewater assets	Altogether
Leasehold Title	All wastewater assets	The Lessor
WASTEWATER ASSET OPERATION and MAINTENANCE		
Torrens Title - Freehold	Wastewater collection tank, property discharge line, boundary kit	Altogether
	Grinder pumps, control panel, level sensor, Data Management Unit, RW meter & DW meter (where DW provided by Altogether)	Altogether
Strata Title	All wastewater assets	Altogether
Community Title	All wastewater assets	Altogether
Leasehold Title	All wastewater assets	The Lessor