



**BUSSELTON WATER**

## **Developer Guidelines**



## **Table of Contents**

1	Introduction .....	4
2	Design Requirements.....	4
3.	Initial Submission.....	4
4.	Final Submission.....	5
5.	Acceptance of a Final Submission .....	6
6.	Pre Start-Up Meeting Requirements.....	6
7.	Start-Up Meeting.....	7
8.	Inspection of Works during Construction .....	7
9.	Connection to Live Mains .....	8
10.	Joint Final Inspection .....	9
11.	Manufactures Data Records.....	9
12.	Handover of the Works.....	10
13.	Warranty .....	10
14.	Final Inspection.....	11
	Attachment A.....	12
	Attachment B.....	13
	Attachment C .....	14

## 1 Introduction

Busselton Water (BW) Developers Guidelines provides developers, contractors, consultants and BW staff with guidelines for new developments adding water infrastructure to BW's existing network. The guidelines have been produced to complement existing standards, such as BW Pipeline Construction and Design standards, WSAA Water Supply Code WSA03-2011 and the Water Corporation of WA for the development process. In the event of conflict, the BW Standard shall take precedence.

## 2 Design Requirements

- 2.1 To ensure that the concept and design adequacy of the proposed development plans conform to Busselton Water's planning and design initial requirements, the applicant's Design Engineer shall discuss the broad planning concepts of the design with Busselton Water's Manager Assets and Planning. An initial overall hydraulic assessment of the development proposal may be required by Busselton Water's consulting hydraulic engineer at the Developer expense to understand staging water infrastructure required to be designed by the applicant's Design Engineer.
- 2.2 All drawing and documentation forming the submission shall be signed by a qualified professional Engineer who has authority to act on behalf of the applicant.
- 2.3 It is the responsibility of the applicant's Design Engineer to ensure that the design complies with Busselton Water's *Pipeline Construction and Design Standard* and the *Water Supply Code of Australia (WSA 03-2011)*. Where the two are in conflict, Busselton Water's specification shall be used.
- 2.4 It is the responsibility of the applicant to request a Land Development Agreement (LDA) from BW, prior to the initial submission stage. This can be requested upon WAPC development approval.

## 3. Initial Submission

- 3.1 The major purpose of the initial submission is for Busselton Water to ensure that the planned works conform to the overall planning.
- 3.2 The initial submission shall consist of a covering letter, a submission cover sheet (refer Attachment A to these guidelines) and the following information:
  - (a) Reference to any previous correspondence quoting Busselton Water's relevant file number.
  - (b) The West Australian Planning Commission reference number where applicable and any other relevant information.
  - (c) A statement that the submission conforms to Busselton Water's planning requirements.
  - (d) A statement setting out the Developer's understanding of who is responsible for funding the various sections of work to the point where it connects to existing

Busselton Water infrastructure.

- (e) A statement confirming that the design has been prepared in accordance with Busselton Water's *Pipeline Construction and Design Standard* and the *Water Supply Code of Australia (WSA 03-2011)*. Variations to the standard will be considered separately and an explanation will be required.
  - (f) Letters from the owners of land, other than developer, agreeing in principle to the granting of any easements, reserves and freehold land considered by Busselton Water necessary for the works.
  - (g) Design Drawing in electronic DGN, DWG or DXF and pdf format to scale 1:1000 or 1:2000. The GDA2020/ MGA Zone 50 co-ordinate system should be used. The design drawings shall meet Busselton Water standards and use Busselton Water standard symbology for pipes, valves, hydrants, services, flushing points etc (refer Water Corporation drawing number BD62-12-1 showing typical reticulation design plan). The design drawings shall include the following.
    - (i) Water Reticulation Layout
    - (ii) Pre-calculated cadastral boundaries.
    - (iii) Development staging plan (if required)
    - (iv) Survey plan showing all existing and proposed services and significant features such as pavement layout, trees, landscaping etc.
  - (h) The anticipated number of pressure tests, and intermediate site inspections anticipated, for quoting purposes. Additional inspections may incur an additional cost.
- 3.3 When received, the submission will be checked for conformity with Busselton Water's planning and design requirements and returned within 20 days of the date of submission.
- 3.4 Where additional hydraulic planning is required, Busselton Water will request a review of the supply network and will engage Busselton Water's consulting hydraulic engineer to undertake that review. All costs associated with the review will be met by the developer. Fees for the review are to be paid prior to its commencement. A quote detailing payment required will be forwarded to the Project Manager/Developer.
- 3.5 Submissions will be stamped "Approved" with any amendments shown in red. The applicant's Design Engineer is to make the amendments required and resubmit to Busselton Water as a final submission.

## 4. Final Submission

- 4.1 The final submission shall consist of a covering letter, a submission cover sheet (refer Attachment B to these guidelines) and the following information:
- (a) A statement that the final submission conforms with the initial submission as accepted by Busselton Water including all amendments.
  - (b) A statement listing the authorities for which project approval has been obtained including environmental and cultural clearances along with copies of any conditions that have been imposed by those authorities on the construction or operation of works.
  - (c) Final copies of design drawings, Electronic Microstation / Autocad format (DGN/DWG) and PDF format spatially correct to (GDA2020/ MGA Zone 50) all levels to be based on AHD.

- 4.2 Final submissions for works associated with the subdivision will not be accepted by Busselton Water until it receives conditional approval from the Western Australian Planning Commission

## **5. Acceptance of a Final Submission**

- 5.1 Acceptance by Busselton Water of the submitted documents shall not relieve the applicant's Design Engineer of the responsibility for any discrepancies, errors, omissions, and adequacy of the design and or conformance with the relevant standards.
- 5.2 The plans shall be signed by Busselton Water to indicate that the final submission is approved. A copy of the stamped final drawings will be returned to the applicant's Design Engineer within 10 working days from the date received.
- 5.3 The final submission will remain valid for a period of 12 months from the date of the approved final plan. If construction has not started within this period, the acceptance will lapse and the submission will need to be reconsidered.
- 5.4 Once the final submission is approved any future alterations to the design will require further signed approval by Busselton Water. Design plans shall be resubmitted with new revision status.
- 5.5 The following payments are required at the approval of the final submission or prior to the commencement of the pre-start meeting:
- (a) Busselton Water supervision fee, 2.5% of agreed contract price (minimum \$500).
  - (b) Live mains connection fees.
  - (c) Pre-laid meter connection fees.
  - (d) Headworks contributions (per lot).\*
  - (e) Leak detection test (after 12 month defect liability period)
- 5.6 For early clearance, the developer will be required to provide a Bank Guarantee for the total cost of the works (Contract Price plus GST). Busselton Water may at its discretion increase the Bank Guarantee security contract price if deemed required.
- 5.7 Headworks contribution fees can be deferred upon request, subject to additional requirements, fees and agreement.

## **6. Pre Start-Up Meeting Requirements**

- 6.1 At least 10 working days notice shall be given to Busselton Water prior to the commencement of works. The developer shall provide the notice in writing with the following information:
- (a) The name of the Construction Engineer and its contact details.
  - (b) The name and contact details of the Contractor and or Subcontractors undertaking the works.
  - (c) The contract price of the works, including a cost breakdown of the works and GST where applicable.
  - (d) The proposed date for commencement of works.
- 6.2 Prior to start up meeting , the Construction Engineer shall ensure: (a)

The Final Submission has been approved by Busselton Water.

- (b) The Contractor employs personnel who have appropriate skills and certified accreditation for the performance of the tasks in which they are involved.
- (c) Confirmation that all fees required by Busselton Water have been paid.
- (d) Written notice is given to property owners affected by the works, (other than that owned by the developer).
- (e) Engineer shall ensure that written notice regarding the works is given to the occupiers of such properties at least 10 days notice prior to the commencement of works.

## **7. Start-Up Meeting**

- 7.1 No works shall commence on the construction of water reticulation pipelines until such time as a start-up meeting is held with the representatives of Busselton Water.
- 7.2 Prior to commencement of the works, the applicant's Construction Engineer shall contact Busselton Water's Inspector for the pre-start to works meeting. From this point forward, arrangements are to be made directly with that officer.
- 7.3 The applicant's Construction Engineer shall ensure that a record of the meeting is made. This record shall detail the key information and any agreements reached.
- 7.4 The following issues shall be addressed at the 'Start-Up' meeting:
  - (a) Dates for commencement and completion of construction.
  - (b) A method of isolating the new works from existing works, connections required during construction and any other construction issues from design drawings.
  - (c) An inspection plan, detailing hold points of the works (including testing). Proposed dates for inspections and any requirements necessary to facilitate these inspections.
  - (d) The nomination of additional staff who will access the site during the works, to carry out site inspections.
  - (e) Contact and reporting arrangements including signing of the site inspection reports.
  - (f) Arrangements for the protection of Busselton Water assets.
  - (g) Arrangements for the pressure testing of pipe work.
  - (h) Milestone meetings at which joint attendance is required.
  - (i) Commissioning of the asset including disinfection process.
  - (j) A copy of the meeting record shall be forwarded to Busselton Water's Inspector prior to the first inspection.
- 7.5 If there is a change in contractor before or during works, the Construction Engineer shall notify Busselton Water of the new contractor's name and contact information.

## **8. Inspection of Works during Construction**

- 8.1 The contractor shall be responsible for ensuring that safety and environmental practices comply with relevant acts with respect to the works and the work site at all times. Busselton Water's inspectors will not enter sites that they consider unsafe.
- 8.2 Should the contractor continue works past a hold point without approval from the Busselton Water representative, it shall be the contractor's responsibility to uncover and or test any works at the direction of Busselton Water. If at this time an inspection fails, all

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subsequent remedial repairs will require an additional inspection by Busselton Water.

- 8.3 The Construction Engineer shall arrange for the provision of all personnel and equipment required for scheduled inspections and tests.
- 8.4 The Construction Engineer shall ensure the works are inspected and tested in the presence of a Busselton Water representative, such that it meets Busselton Water's requirements.
- 8.5 The Construction Engineer shall ensure a log of all inspections and tests undertaken are maintained. Busselton Water will require a New Works Site Inspection Report to be signed by the Construction Engineer or his representative. The Construction Engineer's shall record the following information:
- (a) Inspections and or tests witnessed during the works, which were considered satisfactory. To this effect the Construction Engineer shall sign the following statement on the Construction Engineer's log. ("I am satisfied that the above inspection and tests have been carried out,").
  - (b) Inspections and/or tests witnessed during the works, which were considered unsatisfactory.
  - (c) Details of any remedial action undertaken during the works as a result of an unsatisfactory inspection prior to re-inspection.
  - (d) The Construction Engineer witnessing the inspection and or test shall sign the log.
  - (e) The Construction Engineer shall notify Busselton Water's Site Inspection Representative when the stages of construction as agreed at the 'Start-Up' meeting are about to be achieved. These stages may be revised during the construction period by mutual agreement.
- 8.6 The Construction Engineer shall give no less than 2 working days notice of any request for a progressive site inspection.
- 8.7 Upon arrival at the site, Busselton Water staff shall advise the person in charge of the site and comply with site safety protocols prior to conducting any inspection.
- 8.8 At each inspection the Busselton Water Inspector will complete a site inspection report. The report shall describe the works inspected and any non-conformances identified. Where practical, photos are to be taken.
- 8.9 The Site Inspection Report shall be signed on site by the site representative as agreed at the 'Start-Up' meeting.
- 8.10 The Busselton Water Inspector shall provide a copy of the Site Inspection Report to the site representative as agreed at the 'Start-Up' meeting.
- 8.11 Inspections by Busselton Water do not in any way relieve Construction Engineers of responsibility for ensuring works are in accordance and comply with requirements of Busselton Water's Pipeline Construction and Design Standard.

## **9. Connection to Live Mains**

- 9.1 Where applicable, a traffic management plan is to be prepared by the contractor and submitted to the relevant local authority for approval.
- 9.2 A site pressure test is required to be undertaken and witnessed by Busselton Water prior to disinfection, and the relevant test data sheet (refer Attachment C) is signed by the

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Contractor's representative and submitted to Busselton Water in accordance with Busselton Water's Pipeline Construction and Design Standard.

- 9.3 Disinfection and water quality sampling of the new mains must be undertaken by Busselton Water, and successful results received prior to any request for connection to the existing live potable water mains. The contractor should allow 20 working days for the disinfection and testing, to account for scheduling of the works and time for lab testing.
- 9.4 The Construction Engineer shall give no less than 10 working days notice following successful water quality sampling when requesting a connection (either by the contractor or BW) to live mains.
- 9.5 Pipe work to be connected shall be constructed on the same vertical and horizontal alignment as the existing pipe work and within the distance within 4 meters of existing infrastructure. Developer is to pot hole existing main in advance to confirm location.
- 9.6 All connections to be completed shall be free of obstructions.

## 10. Joint Final Inspection

- 10.1 When the works have been completed the Construction Engineer shall arrange a joint final inspection with Busselton Water's Inspector.
- 10.2 The Construction Engineer shall provide no less than two working days' notice for the joint final inspection.
- 10.3 At the conclusion of the joint final inspection, Busselton Water's Inspector will complete a New Works Site Inspection Report. The report shall describe the works inspected and any non-conformance. Any non-conformance remedial repairs will require a further inspection.
- 10.4 Where the works are deemed to be acceptable, Busselton Water's Inspector shall arrange for a final inspection clearance to be issued to the Construction Engineer.
- 10.5 Final inspection activities will include the following:
  - (a) Connections complete (by Busselton Water).
  - (b) Surface covers and markings to Busselton Water Standards.
  - (c) Hydrants, valves, pre-laid services and other fittings to Busselton Water Standards.
  - (d) Disinfection test data received. Bacteria test shall be arranged and taken by Busselton Water.
  - (e) Pressure test data received in accordance with Busselton Water's Pipeline Construction and Design Standard (refer Attachment C)
  - (f) Compaction test data in accordance with WSA-03 2011 and Busselton Water's standards. Data received shall be for every 50m chainage and at every pipe deflection.
  - (g) Programmed inspections completed (all hold points completed).
  - (h) Reinstatement works completed to the satisfaction of Busselton Water.

## 11. Manufactures Data Records

## 11.1 As Constructed Drawings

The as-constructed drawings shall be signed by the Engineering Surveyor. As-constructed drawings shall be drafted to meet Busselton Water's standard symbology for pipes, valves, hydrants, services, flushing points (refer Water Corporation drawing BD62-12-2 for typical drawings template). Copies are required in the following formats:

- (a) Details in accordance with BW Pipeline Construction and Design Standards, section 10 & 11.
- (b) Electronic Microstation / Autocad format (DGN/DWG) spatially correct to (GDA2020/ MGA Zone 50) all levels to be based on AHD.
- (c) Electronic pdf format with border, legend, title information on mains size/meterage laid, manufacturer, construction dates and number of lots serviced signed by the Engineering Surveyor.

## 12. Handover of the Works

- 12.1 The Developer shall remain fully responsible for the works until: A joint final inspection has been completed, and a final inspection clearance has been issued by Busselton Water's Site Inspector.
- 12.2 The Construction Engineer has certified that the works have been constructed in accordance with Busselton Water standards and the log of inspections and test data has been received.
- 12.3 The as-constructed information has been submitted and validated by Busselton Water. Validation of the data will be within 10 working days of its submission.
- 12.4 Confirmation that the Construction Engineer has certified that restoration has been performed to the satisfaction of any affected property owner and authority.
- 12.5 Confirmation that all fees required have been paid to Busselton Water.
- 12.6 Confirmation that all land requirements have been satisfied.

## 13. Warranty

- 13.1 The Contractor will remain responsible for any defects for a period of 12 months from the date of handover.
- 13.2 Busselton Water shall be responsible for operational maintenance of the works in accordance with normal practice.
- 13.3 During the warranty period, Busselton Water may, at its discretion, carry out remedial repairs where the fault affects the service to customers and/or public safety. Busselton Water will notify the Developer of the work carried out as soon as practicable where the remedial repairs are attributable to the construction of the works. The cost of the remedial repairs shall be charged to the Developer.

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## 14. Final Inspection

- 14.1 After 12 months if no defects or leaks are found from the leak detection test, Busselton Water will issue the developer a Final Acceptance Certificate. Where defects occur, Busselton Water shall be responsible to carry out corrective works on the live potable water mains at the Developer's cost.

**Attachment A**

**SUBMISSION COVER SHEET  
REVIEW OF INITIAL ENGINEERING DESIGN SUBMISSIONS**

Important information for Design Engineers:

The following details are required to be sent to Busselton Water with the initial submission of a design

- Please make sure that all information listed, including attachments, is included so that the submission can be processed without delay.
- Please verify the information by signing on the bottom of the page.
- Please include the signed original of this form with the initial design.

<b>GENERAL</b>		
WAPC number:		
Stage name / Number (if applicable):		
<b>DETAILS OF DESIGNER:</b>		<input type="checkbox"/>
Name of company:		
Address:		
Phone:	Fax:	<input type="checkbox"/>
Email:		
Project Manager:		
Qualified to carry out works:		
<b>INFRASTRUCTURE SCHEME PLANNING:</b>		
Works as designed conform with Busselton Water's planning		<input type="checkbox"/>
<b>TECHNICAL MANUALS AND DESIGN STANDARDS (Planning review undertaken with Busselton Water):</b>		
Holder of relevant manuals and standards		<input type="checkbox"/>
<b>DESIGN COMPLIANCE (Busselton Water standards &amp; WSA O3 - 2011):</b>		<input type="checkbox"/>
The attached design has been prepared in accordance with appropriate technical manuals and standards and is compliant with the requirements.		
<u>OR IF NOT:</u>		<input type="checkbox"/>
A written request for a design variation, complete with full justification, is attached		
<b>LIST OF EXISTING LOTS NOW SERVICABLE AS A RESULT OF WORKS:</b>		
The attached list details lot numbers and property use (e.g. house, industrial units, etc) of lots that have become serviceable because of the works carried out. (NB Property Owners names and addresses are not required).		<input type="checkbox"/>
<b>FUNDING (as per WAPC approval):</b>		
I confirm that the developer is aware that any easements and/or reserves considered by Busselton Water necessary, will be provided free of cost to Busselton Water.		<input type="checkbox"/>
I confirm that the developer is that aware the works are to be provided at their cost.		
<b>EXTERNAL APPROVALS:</b>		
A strategy for the approval of other parties, including preliminaries to works, has been developed with reference to the Busselton Water design and construction guidelines.		<input type="checkbox"/>
<b>DECLARATION OF CONSENT:</b>		
I am duly authorised to represent the landowner in the design matters		<input type="checkbox"/>
<b>VERIFICATION OF CONSENT:</b>		
Signature (Design Engineer): _____ Date: _____		

**Attachment B**

**SUBMISSION COVER SHEET  
ACCEPTANCE OF FINAL ENGINEERING SUBMISSIONS**

Important information for Design Engineers:

- Please make sure that all information is sent to Busselton Water with the final design submission of a design.
- Please verify the following information by signing on the bottom of the page.
- Please include the signed original of this form with the final submission.
- Acceptance of the final submission is conditional upon receiving the WAPC conditional approval.
- The information on this sheet is to be provided a minimum of 10 days prior to the commencement of works.

<b>GENERAL:</b>		
WAPC number		
Stage name / Number (if applicable):		<input type="checkbox"/>
<b>INITIAL DESIGN REVIEW:</b>		
I confirm that this submission conforms with the initial submission returned by the Busselton Water including required amendments. Or If any variations have been made, a description and reason for each variation is attached where a variation to a design standard has been approved (Relevant approvals attached).		<input type="checkbox"/>
<b>DETAILS OF CONSTRUCTION ENGINEER (if known):</b>		
Name of company:		
Address:		
Phone:	Fax:	
Email:		<input type="checkbox"/>
Project Manager:		
Qualified to carry out works:		
<b>DETAILS OF CONTRACT (if known):</b>		
Name of company:		
Address:		
Phone:	Fax:	
Email:		
Project Manager:		<input type="checkbox"/>
Contract Price (Excluding GST):		
Qualified to carry out works:		
<b>EXTERNAL APPROVALS:</b>		
A statement is attached listing the authorities from which project approval has been obtained, including environmental clearances and copies of any conditions that have been imposed by those authorities on the construction or operation of the works.  There are no unresolved objections arising from the preliminaries to works process for the proposed works.		<input type="checkbox"/>
<b>VERIFICATION OF CONTENT:</b>		
I hereby agree to adhere to Busselton Water Development Guidelines and Pipeline Construction and Design Standard. Signature (Design Engineer): _____ Date: _____		<input type="checkbox"/>

**Attachment C**

**WATER RETICULATION OFFICIAL PRESSURE TEST RECORD SHEET**

Subdivision Estate Name/Description of Main:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Busselton Water File No: \_\_\_\_\_

WAPC No: \_\_\_\_\_

Busselton Water DRG No: \_\_\_\_\_

Busselton Water Assessment Officer: \_\_\_\_\_

Contractor: \_\_\_\_\_  
\_\_\_\_\_

Mains Tested in accordance with the requirements of Busselton Water's Water Reticulation Standard.

MAIN DIA.	TYPE	LENGTH	REMARKS

**Note: There are no allowable leakage rates for any type of pipe.**

Date Tested: \_\_\_\_\_ PASSED/FAILED

Test Pressure: \_\_\_\_\_ kPa

Duration of Test: \_\_\_\_\_ MINUTES

Signature of Contractors Representative: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Contractors Representative: \_\_\_\_\_

Witnessed by: Busselton Water Assessment Officer: \_\_\_\_\_

Date: \_\_\_\_\_