



# Winton Shire Council

LEGENDARY SAFE SCENIC

## **Drinking Water Quality Management Plan Report 2019/20**

SPID: 131

This report has been prepared in accordance with the Drinking Water Quality Management Plan Report Guidance Note.

# Contents

- 1. Introduction ..... 3
- 2. Summary of schemes operated ..... 3
- 3. DWQMP implementation ..... 4
- 4. Verification Monitoring – water quality information and summary ..... 6
- 5. Incidents reported to the regulator ..... 9
- 6. Customer complaints..... 9
- 7. DWQMP review outcomes ..... 10
- 8. DWQMP audit findings ..... 11



## 1. Introduction

Drinking Water Quality Management Plan (DWQMP) report for Winton Shire Council (WSC) for the financial year 2019-20.

WSC is a registered service provider with identification (SPID) number 131. WSC is operating under an approved DWQMP to ensure consistent supply of safe quality drinking water in order to protect public health. This is done through proactive identification and minimization of public health related risks associated with drinking water.

This DWQMP report includes:

- the activities undertaken over the financial year in operating our drinking water service
- drinking water quality summary
- summary of our performance in implementing our approved DWQMP

This report is submitted to the Regulator to fulfill our regulatory requirement and is also made available to our customers through our website or for inspection upon request at Council office.

## 2. Summary of schemes operated

**Table 1 – Summary of schemes**

<b>Service Provider</b>	<b>Water Source</b>	<b>Treatment processes</b>	<b>Treatment capacity</b>	<b>Towns supplied</b>
Winton	Bore 4	Heat reduction only	3.2ML/day	Winton



### 3. DWQMP implementation

The DWQMP for Winton has ensured the consistent delivery of potable standard water for the Town of Winton. The DWQMP for Winton has reviewed each element of the supply chain in the drinking water system and assigned an acceptable outcome for each part of the supply chain.

- Bore Infrastructure including pipeline up to pump station
- Pump station infrastructure including heat exchange, hot water and cold water pump system
- Reticulation network
- Reservoir

Water (and sewerage) issues are discussed at monthly meetings of the Works Department chaired by the Director of Works and presented to the Winton Shire Council's monthly Council Meeting.

#### Operational Monitoring

The system is checked daily by the Water and Sewer department visually inspecting each of the following elements.

- The bore infrastructure
- The pump station
- The reticulation network
- The reservoir

#### Verification of System

The verification of system performance is able to be determined by checking each element:

- The bore infrastructure flow rate is checked;
- The pump station performance is checked with water temperature and flow rates monitored;
- The reticulation network is monitored with scour valves throughout the network periodically checked/opened;
- The reservoir is brought on and off line during the day when balancing flows; and
- The integrity of the reticulation network to maintain water quality is checked by the routine sampling and testing of water from the network on various nodes of the network.



### Progress in implementing the risk management improvement program

Refer to table 2 for a summary of progress in implementing each of the Improvement Program actions.

**Table 2 – Risk management improvement program implementation status**

Ref	Component	Improvement actions	Target date	Actions taken to date	Status and revised target date	Responsible Officer / Position
W1	Bores Distribution System Sourcing Infrastructure	Draft new Operational and Maintenance Procedures: <ul style="list-style-type: none"> <li>Develop procedures for isolation</li> <li>Develop Reticulation maintenance and repair procedure</li> <li>Develop Mains flushing procedure</li> <li>Develop water Sampling and Testing procedure</li> </ul>	June 2019	Engagement of external consultant to work on business plan which will drive processes – part of which will be O&M procedures	Ongoing and to be completed by 2020-21	Director of Works / Asset Manager / Water and Sewerage Technical Officer
W2	Sourcing infrastructure	Provide restricted access to bores sites	July 2019	Will be carried in conjunction with Geothermal power station	Fencing of bore completed.	Director of Works
W3	Elevated Reservoir	Cleaning of Elevated Reservoir every 5 years	Due 2020	Detailed 10 year budget has been developed including reservoir and mains cleaning	Ongoing with RAPADSWA– Delayed due to COVID – 19. (May 2021)	Water & Sewerage Technical Officer
W4	Distribution System	Improve sampling and testing process	April 2019	Engagement of external consultant to work on business plan which will drive processes – part of which will be testing	Ongoing /In-house Testing (Microbiology) facilities set up	Director of Works
W5	Elevated Reservoir	Improve vermin barriers.	July 2019	Detailed asset condition assessment to address concerns about reservoir	Completed	Director of Works
W6	Distribution System	Renewal of water meters with non-return valves.	2019 to 2025	Ongoing	Ongoing	Director of Works
W7	Whole of System	Implementation of central water quality data system	Feb 2019 to Aug 2019	Council are in the process of setting up a central repository for all water and sewer information.	Ongoing with W/S Asset Management Plan completed in 2020.	Director of Works
W8	Whole of System	Improve record keeping for maintenance records and complaints.	Feb 2019	Council are in the process of formalising the complaints mechanism.	Ongoing/ Completed a Complaints register	CEO / Directors

Risk management factors that are listed in the DWQMP have been adhered to and implemented; intervals for items such as the 10-year clean interval for the reservoir have not yet been reached.

**Revisions made to the operational monitoring program to assist in maintaining the compliance with water quality criteria in verification monitoring.**

No revisions have been made to the monitoring program.

**Amendments made to the DWQMP**

Council engaged an external Engineering firm to develop a new DWQMP, this was approved (with conditions) by the Regulator on the 15 April 2019. A revision of this management plan is due on 15 April 2020, relevant amendments will be made as part of this revision of the DWQMP.

After 15 April 2020 Council engaged in conversation with Water Supply Regulator and the recent IRN response copy has been submitted on 30<sup>th</sup> November 2020.

## 4. Verification Monitoring – Water Quality information and Summary

The water quality criteria meet health guideline values in the most current Australian Drinking Water Guidelines, as well as the standards in the Public Health Regulation 2005.

Testing of the Winton potable water was completed on a monthly basis for the 2018/19 financial year. A summary of the parameters from each of the 6 locations in town for the following 10 attributes.

- |                                  |             |
|----------------------------------|-------------|
| • Turbidity                      | • Manganese |
| • Fluoride (naturally occurring) | • Zinc      |
| • Nitrates                       | • Aluminium |
| • Sulphates                      | • Boron     |
| • Iron                           | • Copper    |

Details of Winton Shire Council's compliance with water quality criteria for drinking water are shown in table 3.



**Table 3 – Drinking water quality performance - verification monitoring**

Scheme name	Parameter	No. of individual samples collected	Average (2019'20)	Water quality criteria (i.e. ADWG health guideline value)	No. of non-compliant samples	Comments
Winton	E.coli	60			2	In the month of April 2 locations resulted in a FAIL (see detailed description below)
	HPC	60			15	Coliform detection in 15 individual samples
	pH	60	7.80	6.5 to 8.5		
	Turbidity	60	<1	5		
	Fluoride	60	0.322	1.5		
	Nitrate	60	<0.05	50		
	Sulphate	60	5.095	500		Aesthetic Guidelines 250
	Iron	60	0.07	0.3		
	Manganese	60	0.07	0.5		Aesthetic Guidelines 0.1
	Zinc	60	<0.06	3		
	Aluminium	60	<0.05	0.2		
	Boron	60	0.06	4		
	Copper	60	0.03	2		Aesthetic Guidelines 1

**Table 4. E. coli compliance with annual value**

Year	2019– 2020											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	6	6	Nil	6	6	Nil	6	6	6	6	6	6
No. of samples collected in which E. coli is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12 month period (2017-2018)	6	6	0	6	6	0	6	6	6	6	6	6
No. of failures for previous 12 month period (2017-2018)	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100	100	-	100	100	-	100	100	100	98	100	100
Compliance with 98% annual value	Yes	Yes	-	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes

September 2019 – Freight company failed to collect Council's Water Samples.

December 2019 – Council Shutdown Period



Winton Shire Council's new DWQMP has re-introduced inhouse testing. Inhouse testing has commenced but there is lack of equipment, trained personal and adequate testing location. The correct equipment has since been purchased, training will be conducted in the near future and an appropriate location is being sought. Currently Council are still sending samples from 6 locations monthly for testing by an accredited laboratory (Forensic and Scientific Services in Brisbane).

## 5. Incidents reported to the regulator

The report must include details of any information the provider gave the regulator under section 102 and 102A of the Act.

### Explanation of terms used in this section

**Incident** means a non-compliance with water quality criteria (e.g. exceeding an ADWG health guideline value).

**Event** means anything that has happened to you or your service that has escalated beyond your ability to control and you believe, or are concerned, that public health may be adversely impacted as a result.

**Table 5 – Incidents reported to the regulator**

Incident date	Scheme / location	Parameter / issue	Preventive actions
Nil			

## 6. Customer complaints

The majority of complaints received by council regarding the water in Winton are about the temperature of the water. Many residences on the eastern side of town do not have hot water systems and the residents rely on the water supplied to be warm enough to shower in, particularly during the winter months. During the summer months, however the water can be warmer than they want to have a cold shower and this cannot be afforded, unless they have large capacity cooling water tanks. Tourists also tend to complain about the smell of the bore water. These are general comments rather than complaints though and are common in areas where the source of potable water is from an artesian bore.

Council have implemented a complaints management system.



## 7. DWQMP review outcomes

**Table 7 – DWQMP review outcomes**

**Review Date: December 2018**

Review component	Findings	Outcomes	Status of actions	Responsible Officer / Position
Service description	No changes	Not applicable	Not applicable	
Details of infrastructure	Water Automation	Construction of a new water automation system	In process with RAPADSWA	Water & Sewerage Technical Officer / Asset Manager
Water quality and catchment characteristics	No change in water quality at supply point.	Not applicable	Not applicable	
Risk assessment	Risk assessment due for re-evaluation	Evaluation of DWQMP ongoing	Last submitted to DNRME 30 <sup>th</sup> November 2020	Director of Works / Water and Sewerage Technical Officer
Operations and maintenance procedures	Requirement for documented, written procedures.	Council investigating procedures and seeking to develop video procedures where possible	Ongoing	Director of Works / Water and Sewerage Manager/ Water and Sewerage Technical Officer
Management of incidents and emergencies	DWQMP includes detailed management procedures for incidents and emergencies	Introduction of high level incidents in the Local Disaster Management Plan.	Completed 2016	Director of Works / Disaster Management Committee
Risk management improvement program	Improvements to Risk Management Improvement Plan required	A large list of outcomes (procedures, improved testing and sampling, cleaning of mains, replacement program) identified	Short term solutions developed in 2020 and long-term strategies by 2025	Director of Works / Water and Sewerage Manager / Asset Manager
Service wide information management	Improvements to information collection, retention required	Business Plan in development includes document management	Business plan adopted.	Director of Works / Water and Sewerage Manager / Asset Manager
Operational monitoring	A mix of electronic and paper-based records currently used. Ability to model aspects of the data and seek trends.	More efficient digitisation of certain information. Retain some paper records with sample audits.	In progress (Consultants engaged)	Director of Works / Water and Sewerage Manager / Asset Manager
Verification monitoring	Verification sampling conducted twice per year.	Additional testing of analytes undertaken	Ongoing	Director of Works / Water and Sewerage Manager



## 8. DWQMP audit findings

The DWQMP was previously audited on the 4<sup>th</sup> and 5<sup>th</sup> of October 2017. The next Audit is due 2021 or sooner in order to align with RAPADWSA

**Table 8 – DWQMP audit findings and status**

Item	Recommendation or OFI	Action	Status of actions	Responsible Officer / Position
Regulatory and formal requirements	Include regulatory requirements within the DWQMP and reference the Australian Drinking Water Guidelines	Council have included the legislative context for the DWQMP in section 2.	Completed	Director of Works
Stakeholder Identification	Include a more detailed list of stakeholders such as customers, agencies, or community groups Create a mechanism for stakeholder involvement	Council have included a broad range of stakeholders in section 3.2 and table 3.3	Completed	Director of Works / Water & Sewerage Technical Officer
Documented key characteristics of the water supply system	Include additional operational information for the water system	Council have increased the detail and descriptions for water infrastructure (section 3.1)	Completed	Director of Works
Historical data for water sources, treatment, testing etc	Increase data time range to provide possible trend analysis	Council have increased the range of data back to 2011	Completed	Director of Works
Review and update Hazard identification and risk assessment	Address as part of 2017/18 review	Council have included a Hazard and Risk Team (4.2.2). Hazard analysis in table 6.1	Completed	Director of Works
Evaluation of alternative or additional preventative measures	Auditors opinion to investigate disinfection (chlorination) and cleaning of water distribution network	Council are planning to conduct a microbial risk assessment and chlorination feasibility study in conjunction with RAPADWSA	To be carried out 2020	Director of Works / Asset Manager
Fencing and Physical Security of bores	Documented only. Part of future works.	Council are planning to incorporate fencing of Bore 4 with the geothermal power station	Completed	Director of Works / Asset Manager
Review of Reservoir	Reservoir cleaning is due	Reservoir cleaning and condition assessment has been delayed due to COVID-19.	Completed by May 2020	Director of Works / Asset Manager / Water and Sewerage Technical Officer
Identify procedures required for processes and activities from catchment to consumer.	The DWQMP identifies that procedures need to be developed, and this is committed to in the RMIP.	Council actively engaged with a consultant (Water and Sewerage Technical Officer) to develop a business plan which includes operations activities such as documented procedures.	In progress	Director of Works / Asset Manager / Water and Sewerage Technical Officer
Document all procedures and compile into an operations manual.	Requirement for Operations and Maintenance procedures. Formalisation of important tasks such as - Water supply isolation - Water mains repair - New mains commissioning - Water tower inspection - Water tower disinfection - Water sample collection	Council actively engaged with a consultant to develop a business plan which includes operations activities such as documented procedures.	To be carried out 2020-21 FY.	Director of Works / Asset Manager / Water and Sewerage Technical Officer
Document monitoring protocols into an operational monitoring plan.	Update DWQMP to include target and critical levels for operational parameters	Council have identified the operational monitoring requirements in section 7.1 Improvements for fortnightly verification testing have been identified	Inhouse Testing Procedure Started.	Director of Works



Item	Recommendation or OFI	Action	Status of actions	Responsible Officer / Position
Establish a program for regular inspection and maintenance of all equipment, including monitoring equipment.	Plumber inspects reservoir but not to a scheduled frequency.	Council actively engaged with a consultant to work on asset management plans for key water infrastructure which includes inspection and condition assessment	To be carried out 2020-21.  Contract already given but delayed due to COVID -19.	Director of Works / Asset Manager
Establish and document a sampling plan for each characteristic, including the location and frequency of sampling.	DWQMP to clarify the locations at which sampling is being undertaken	DWQMP does not identify exact locations for sampling. Council do have detailed records of precisely where all samples have been sourced from.	Completed	Director of Works
Is the Verification Monitoring Program implemented?	Internal verification (fortnightly) for E.coli not performed routinely	Improvements for fortnightly verification testing have been identified	Implemented	Director of Works
Ensure monitoring data are representative and reliable	Increase internal E.coli monitoring by providing staff training. Consider verification sampling with another ORWA council.			
Establish a consumer complaint and response program, including appropriate training of employees.	Formalise complaints mechanism with appropriate record keeping and centralisation	Council in the process of formalising complaints mechanism and central record collection	Completed	CEO / Directors
Establish procedures for the daily review of drinking water quality monitoring data and consumer satisfaction.	Generate a master spreadsheet to capture all data frequently and monitor for trends	Council in process of setting up master spreadsheet for trend monitoring. Increased integration with SWIMs	Implemented	Director of Works
Establish and document procedures for corrective action in response to nonconformance or consumer feedback.	The process of identifying the required operational procedures (RMIP action W1) may result in the development of documents that relate to corrective action.	Council actively engaged with a consultant to develop a business plan which includes operations activities such as documented procedures.	Business Plan Completed Procedures to be carried out 2020-21 FY	Director of Works / Asset Manager
Define potential incidents and emergencies and document procedures and response plans with the involvement of relevant agencies.	Clarification in table 5.3 about how disinfection is carried out and monitored as an initial response to E.coli detection	Table 5.3 (now 6.3) requires additional information regarding what corrective action will be taken and what follow up monitoring will be done.	Completed	Director of Works
Investigate any incidents or emergencies and revise protocols as necessary.	Although there has been several E. coli detections since the Salmonella incidents; it is not clear whether any changes have been made to incident response protocols. From reviewing the reported incidents, Council's standard response is to dose the reservoir with chlorine, drain the reservoir, refill the reservoir, and re-test for E. coli. This could be stated in the DWQMP.	Council actively engaged with a consultant to develop a business plan which includes operations activities such as documented procedures.	Completed	Director of Works
Develop a document control system to ensure current versions are in use.	Create a document management system, appropriate file structure and naming. Training staff on the use of the system	Council is in the process of setting up a central knowledge store for all water related content.	In progress	Director of Works / Asset Manager / Water and Sewerage Technical Officer

