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**DRINKING WATER QUALITY  
MANAGEMENT PLAN  
ANNUAL REPORT 2021-22**

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## GLOSSARY

<b>BWAN</b>	Boil Water Advisory Notice
<b>cfu</b>	Colony forming unit
<b>FAC</b>	Free Available Chlorine
<b>HPC</b>	Heterotrophic plate count
<b>MICC</b>	Mount Isa City Council
<b>MIWB</b>	Mount Isa Water Board
<b>MPN</b>	Most Probable Number
<b>Regulator</b>	Water Supply Regulation (Department of Regional Development, Manufacturing and Water)
<b>TDS</b>	Total Dissolved Solids
<b>THM</b>	Trihalomethanes

## 1. INTRODUCTION

This report documents the performance of Mount Isa City Council's (MICC) drinking water service with respect to water quality and performance in implementing the actions detailed in the drinking water quality management plan (DWQMP) as required under the *Water Supply (Safety and Reliability) Act 2008* (the Act).

The report assists the Regulator to determine whether the approved DWQMP and any approval conditions have been complied with and provides a mechanism for providers to report publicly on their performance in managing drinking water quality.

## 2. OVERVIEW OF OPERATIONS

MICC manages and operates two drinking water schemes – Mount Isa and Camooweal.

To supply the city of Mount Isa, MICC receives treated water from Mount Isa Water Board (MIWB) before distributing it to approximately 17,936 consumers via 7,283 connections.

Water for the Mount Isa scheme is obtained from two storage dams – Lake Julius and Lake Moondarra – both located on the Leichhardt River to the north of the city. Lake Julius is owned and operated by SunWater, while Lake Moondarra is owned by Mount Isa Mines and operated by MIWB.

Water is processed through an ultrafiltration plant and chlorinated by MIWB before being supplied to MICC.

Camooweal utilises a local groundwater source via two sub-artesian bores. Chlorine disinfection is the only form of treatment in Camooweal. Drinking water is supplied to an estimated population of just over 200 people via 86 connections.

### 3. DWQMP IMPLEMENTATION

#### 3.1 Risk management improvement program (RMIP)

Attachment 1: RMIP actions provides a breakdown on progress regarding the actions taken to reduce drinking water risks in 2021-22.

#### 3.2 Monitoring

The results from the verification monitoring for the reporting period are discussed in section 5.

#### 3.3 Amendments to the plan

No amendments were made to the plan during this period.

## 4. NOTIFICATIONS TO THE REGULATOR

The following incidents were reported to the Regulator:

### 4.1 Chlorinator – High FAC – October 2021

#### 4.1.1 Nature of incident

On Tuesday (12/10/2021) Council received several complaints about clothes suffering in the wash and a complaint that the water smelt like a pool. This triggered field sampling which returned results between 0.78 and 4.38 mg/L for free available chlorine (FAC) in the area.

#### 4.1.2 Incident information and initial response

The chlorinator was checked and found to be operating outside of its set parameters. It was reset, recalibrated, and left operational about 4:00 PM. Chlorine levels were rechecked approx. 7:00 PM and an out-of-range result was recorded.

At approx. 7:00 PM on Tuesday (12/10) the chlorinator was turned off. Hydrant standpipes were placed at the end of the network, in Old Mica Creek Road and Bendall Drive, respectively. There are only two long mains and a couple of minor mains serviced from this in-line booster chlorinator. Water was drawn through these two hydrants until the measured FAC level dropped to < 1 mg/L. Normal levels (~0.1 mg/L) were re-established within an hour. This ensured that the water was being supplied directly from the town reservoirs and any over-chlorinated water had been drawn from the system.

#### 4.1.3 Investigation and corrective actions

The chlorinator was checked and tested again on (13/10/2021). Adjustments were made to the control circuitry to add an interlock that will prevent the pump from supplying chlorinated water if the measured chlorine level is > 2 mg/L. Presently the chlorinator and the pump run independently.

Additional alarms will also be added to provide alerts if other conditions are met, such as the chlorinated water exceeding 2 mg/L FAC, or the chlorinator attempting to dose at a rate higher than 5 mg/L. These alarms are available via SMS and via telemetry.

### 4.2 Camooweal – Boil Water Advisory Notice – April 2022

#### 4.2.1 Nature of incident

The existing chlorine system was taken offline on the 13th of April 2022 due to a small gas leak on the chlorinator. The system was isolated and shutdown safely. There were no issues with the water quality at the time.

#### 4.2.2 Incident information and initial response

A boil water advisory notice (BWAN) was issued advising the members of the community to boil their water before consuming it. This was a precautionary public health measure due to the chlorinator being off-line.

The initial response included engaging a private contractor to safely isolate the Chlorine gas system and initiate the shutdown process. As a precautionary measure, QFES and the local Police was notified of the incident to ensure the locals stay away from the site.

#### 4.2.3 Investigation and corrective actions

BWAN was not formally rescinded until early June, which was an administrative oversight by MICC. The existing facility was repaired and reinstalled. Subsequently, samples were taken at the farthest point in the network to see if they meet the desired water quality parameters. This returned to operation on the 3rd of June 2022.



## 5. COMPLIANCE WITH WATER QUALITY CRITERIA

Verification of drinking water quality provides an assessment of the overall performance of the system and the ultimate quality of the drinking water being supplied to customers. It confirms compliance with water quality criteria set by the Regulator, Queensland Health and any other formal requirements.

MICC undertakes verification monitoring in both schemes to ensure that the water quality provided to consumers is safe. MICC exceeds the required monitoring frequency outlined in the *Public Health Regulation 2018*.

### 5.1 Mount Isa Scheme

The verification monitoring data is summarised in Table 1, Table 2 and Table 3 on the following pages.

*Table 1 - Mount Isa Terminal Reservoir monitoring data, 2021-22*

Parameter	Minimum	Median	Maximum	Average	Number of Tests
<b>E. Coli (CFU/100mL)</b>	0	0	0	0	51
<b>Available Chlorine (mg/L)</b>	0.05	0.58	1.18	0.58	51
<b>pH</b>	6.55	7.43	7.75	7.37	51
<b>Turbidity (NTU)</b>	0.49	1.25	9.98	1.88	51
<b>Iron (mg/L)</b>	0.00	0.06	0.44	0.09	45
<b>Total Coliforms (CFU/100mL)</b>	0	0	6	1	51
<b>HPC (CFU/100mL)</b>	1	4	2420	699	12
<b>THMs (µ/L)</b>	41	88	126	85	12

Table 2 - Annual testing results, Mount Isa Terminal Reservoir, 2021-22

Analyte	Result (mg/L)
Total Oxidized Nitrogen	0.05
Nitrate	0.05
Nitrite	0
Aluminium	0
Arsenic	0.002
Barium	0.027
Cadmium	0
Chromium	0
Copper	0.007
Iodide	0
Lead	0.002
Manganese	0.005
Mercury	0
Molybdenum	0
Nickel	0
Selenium	0
Silver	0
Zinc	0.053
Fluoride	0.4
Hardness	55
TDS	154

Table 3 - Mount Isa reservoirs and reticulation monitoring data, 2021-22

Parameter	Minimum	Median	Maximum	Average	Number of Tests
<i>E. Coli</i> (CFU/100mL)	0	0	0	0	578
Available Chlorine (mg/L)	0.01	0.21	1.16	0.27	578
pH	7.17	7.51	7.78	7.5	577
Turbidity (NTU)	0.16	0.47	1.96	0.57	577
Iron (mg/L)	0.00	0.01	0.30	0.04	510
Total Coliforms (CFU/100mL)	0	2	45	3	578
HPC (CFU/100mL)	6	434	2038	943	136
THMs (µ/L)	71	128	176	129	136

## 5.2 Camooweal Scheme

The verification monitoring data for the Camooweal scheme reticulation sites (combined), and level of compliance are summarised in Table 4 and Table 5, below and overleaf.

Table 4 - Camooweal Reticulation Monitoring Data, 2021-22

Parameter	Minimum	Median	Maximum	Average	No. of Tests
<b>E. Coli (CFU/100mL)</b>	0	0	0	0	297
<b>Available Chlorine (mg/L)</b>	0.00	0.57	5.06	1.09	218
<b>pH</b>	6.87	7.35	7.80	7.36	319
<b>Turbidity (NTU)</b>	0.17	0.65	7.88	1.01	312
<b>Iron (mg/L)</b>	0.00	0.01	0.40	0.05	198
<b>Total Coliforms (CFU/100mL)</b>	0	0	142	4	297
<b>HPC (CFU/100mL)</b>	1	107	1203	327	83
<b>THMs (µ/L)</b>	0	0	36	5	57

Table 5 - Camooweal annual testing data, 2021–22 (averaged over all sites)

Analyte	Result (mg/L)
<b>Total Oxidized Nitrogen</b>	0.31
<b>Nitrate</b>	0.31
<b>Nitrite</b>	0
<b>Aluminium</b>	0
<b>Arsenic</b>	0
<b>Barium</b>	0.119
<b>Cadmium</b>	0
<b>Chromium</b>	0
<b>Copper</b>	0.006
<b>Iodide</b>	0
<b>Lead</b>	0
<b>Manganese</b>	0
<b>Mercury</b>	0
<b>Molybdenum</b>	0
<b>Nickel</b>	0
<b>Selenium</b>	0
<b>Silver</b>	0
<b>Zinc</b>	0.005
<b>Fluoride</b>	0.5
<b>Hardness</b>	226
<b>TDS</b>	587

### 5.3 Public Health Regulation compliance summary

Council is required to monitor for *E. coli* in its drinking water schemes as per the *Public Health Regulation 2018*. Our performance against the requirements is summarised in Table 6 below.

Table 6 - Public Health Regulation Compliance Summary, 2021-22

Scheme	Number of Samples Required	Numbers of Samples Collected	Compliance	Performance Requirement (% samples negative)	Actual Performance (% samples negative)	Compliance
Mount Isa	76	578	✓	98	100	✓
Camooweal	12	297	✓	98	100	✓

## 6. CUSTOMER COMPLAINTS

No dirty water or taste/odour complaints have been recorded for either Camooweal or Mount Isa. The rate of customer complaints (less than 1 per 1000 customers per year) is very low. Nevertheless, MICC's complaint management system is being reviewed and upgraded. The recording of complaints is rather haphazard and may not reflect the real level of complaints, albeit very low.

## 7. DWQMP REVIEW

An internal review of the DWQMP noted the following changes required to keep the plan accurate and relevant. These changes included:

- Updates to scheme descriptions and schematics
- Updates to water quality information
- Updates to hazards, hazardous events and assessed risks
- Updates to risk management measures
- Inclusion of cybersecurity information
- Updates to risk management improvement program
- Updates to operational and verification monitoring
- Other general changes

These changes to the DWQMP will be reflected in the annual review of the DWQMP which is due in Decemeber2022.

## 8. DWQMP AUDIT

An external audit was undertaken by Northern Water Management in October 2021. The recommendations from the audit have been included in the RMIP attached.

## Attachment 1: RMIP actions

The RMIP identified actions from the following audits:

- Mount Isa Drinking Water Service Audit 2020 – Regulator
- RMIP actions from DWQMP
- Northern Water Management Audit October 2021
- Grenof condition assessment and system review 2020

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## Mount Isa Drinking Water Service Audit 2020

Recommendation/Action	Responsibility	Due Date	Status	Comment
12 Implement the recommendations provided in previous reports, giving priority to those that concern achieving compliance with Queensland's water quality criteria and the protection of public health.	Manager Water and Sewer	30-Jun-21	Completed	The recommendations and the proposed actions have each been dealt with separately.
13 Ensure an adequate free chlorine residual is maintained in the Mount Isa drinking water supply to continually assure the microbial quality of this water.	Manager Water and Sewer	30-Jun-21	Completed	Additional chlorinators have been installed in Mount Isa and at the reservoirs. A new chlorinator has been installed in Camooweal.
14 Include operational target levels, alert levels and critical limits for free and total chlorine, based on ADWG and water industry best practice guidelines, along with appropriate corrective actions and reporting requirements, for excursions from these values, in Council's next amended DWQMP.	Manager Water and Sewer	30-Jun-21	Completed	The DWQMP has been updated to include operational targets and alert limits for free chlorine.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
15 Ensure all preventive measures and corrective actions are implemented as required by its approved DWQMP, at all times.	Manager Water and Sewer	30-Dec-21	Completed	The RMIP from the 2020 DWQMP has been largely closed out. Over 100 additional items have been identified and actioned.
16 Develop and implement a chlorate management plan. Ensure each new batch of sodium hypochlorite is tested for chlorine strength and chlorates upon delivery. Ensure that the sodium hypochlorite storage tanks are emptied/cleaned before new chemical is added. Procure smaller, sodium hypochlorite storage tanks, e.g. 2 x 500 litre tanks instead of 1 x 1,000 litre tank. Sample sodium hypochlorite in the onsite, bulk storage containers and water within the network at least monthly and have it tested for chlorates by a NATA accredited laboratory. Incorporate all these changes into Council's next amended DWQMP.	Manager Water and Sewer	31-May-21	Completed	Chlorate management plan developed and published online. The NaCl is routinely tested when the reservoirs are checked.



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Recommendation/Action	Responsibility	Due Date	Status	Comment
17 Sample drinking water at appropriate points in the distribution network and have it tested by a NATA accredited laboratory for disinfection by-products, such as Haloacetic acids and trihalomethanes, at least monthly. Incorporate all these changes into Council's next amended DWQMP.	Manager Water and Sewer	30-Jun-21	Completed	Sampling was carried out. All DBPs are well within limits.

Recommendation/Action	Responsibility	Due Date	Status	Comment
18 Provide a suitable, alternative laboratory location for Council's in- house testing and analysis of drinking water samples.	Manager Water and Sewer	30-Jun-21	Completed	Alternative locations have been trialled. E.coli samples are now tesated using a different apparatus, which negates the possibility of cross contamination.

Recommendation/Action	Responsibility	Due Date	Status	Comment
19 Ensure relevant water service staff are trained to properly use all water testing instruments and equipment. Ensure all water testing equipment and instruments are maintained in accordance with manufacturer's instructions and equipment service certification and maintenance records are readily available.	Manager Water and Sewer	30-Jun-21	Completed	Backup staff have received training in basic laboratory procedures, sampling and testing techniques.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
20 Provide a dedicated, appropriately fitted out vehicle for Council's water sampling staff. A portable refrigerator should be provided with this vehicle.	Manager Water and Sewer	30-Jun-21	Completed	A dedicated vehicle has been provided.

Recommendation/Action	Responsibility	Due Date	Status	Comment
21 Ensure field sampling data is collected appropriately, either in hard copy format on the dedicated run sheets or directly onto a portable electronic device, noting IT issues will need to be resolved.	Manager Water and Sewer	30-Jun-21	Completed	Data is collected manually or via tablet and transferred to the SWIMLocal database.

Recommendation/Action	Responsibility	Due Date	Status	Comment
22 Ensure full access to Council's data is restricted to the laboratory staff, only, with 'read only' access provided to other Council officers that require the drinking water quality data for operational and decision making purposes.	Manager Water and Sewer	30-Jun-21	Completed	The introduction of an SQL database, with read only privileges has been completed. The database also has full audit tracing when data is added or changed.

Recommendation/Action	Responsibility	Due Date	Status	Comment
23 Install dedicated (labelled) and enclosed sample taps at appropriate locations, throughout the drinking water network. Relocate the sample taps at reservoir re-chlorination facilities to be at or near the reservoir outlet.	Manager Water and Sewer	30-Jun-21	Completed	Dedicated sample taps have been installed at approx. 40 sites in Mount Isa and Camooweal.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
24 Ensure laboratory staff always use aseptic techniques when taking drinking water samples. Ensure appropriate flushing of the pipeline from which a drinking water sample is to be taken, occurs each time a drinking water sample is taken. Ensure sample taps are properly sanitised before each drinking water sample is taken.	Manager Water and Sewer	30-Apr-21	Completed	Laboratory staff have received refresher training in sampling techniques.

Recommendation/Action	Responsibility	Due Date	Status	Comment
25 Ensure drinking water pipes and fittings are cleaned, upon receipt at Council's works depot, then sealed, plugged or covered and stored off the ground and/or in secured facilities, as appropriate.	Manager Water and Sewer	30-Jun-21	Completed	Additional storage racks have been installed to keep pipes safe and clean. Staff have been trained in water hygiene via the qldwater aqua card.

Recommendation/Action	Responsibility	Due Date	Status	Comment
26 Develop and implement a drinking water service asset management plan and infrastructure/equipment specific maintenance programs Include Council's asset management plan and maintenance programs in its next amended DWQMP.	Manager Water and Sewer	30-Sep-23	In Progress	The development of infrastructure/equipment specific maintenance plans is still progressing.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
27 Assess and replace Council's aging drinking water distribution pipe network, prioritising the replacement of all Asbestos Cement (AC) mains.	Manager Water and Sewer	30-Oct-21	Completed	A 5-year replacement program has been put in place.

Recommendation/Action	Responsibility	Due Date	Status	Comment
28 Ensure sufficient re-chlorination facilities are provided at appropriate places in the Mount Isa City drinking water distribution network, to enable an adequate free chlorine residual to be maintained throughout the network.	Manager Water and Sewer	30-Jun-21	Completed	Rechlorination points installed in July/August 2021 to provide booster chlorination to the extremes of the system.

Recommendation/Action	Responsibility	Due Date	Status	Comment
29 Ensure liquid sodium hypochlorite is stored securely, in accordance with the manufacturer's directions and in compliance with relevant standards for the safe handling and storage of liquid chlorine and hazardous substances.	Manager Water and Sewer	30-Dec-21	Completed	Deliveries are being made direct to site, avoiding unnecessary storage.

Recommendation/Action	Responsibility	Due Date	Status	Comment
30 Ensure appropriate security measures are implemented to prevent unauthorised access to electrical cabinets and switchboards.	Manager Water and Sewer	31-Jul-21	Completed	Switchboards have all been locked. An electronic keying system is being introduced to water/sewer assets.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
31 Fix the significant water leakage from and ponding around reservoir 3. Ensure all reservoirs are maintained and repaired, as necessary to avoid or minimise water loss from the structures.	Manager Water and Sewer	30-Jun-22	Completed	Reservoir 3 has been taken offline.

Recommendation/Action	Responsibility	Due Date	Status	Comment
32 Install appropriate telemetry, with alarms and as necessary, shut down capability, at key sites in the drinking water network, including reservoirs and water mains junctions. Alarms must have set alert and/or critical limit values and be enabled to ensure that timely corrective actions are taken, when alert and/or critical limits are breached.	Manager Water and Sewer	31-Dec-21	Completed	Telemetry has been installed at each of the chlorinators serving the reservoirs. A SCADA upgrade is programmed for 2024 FY.

Recommendation/Action	Responsibility	Due Date	Status	Comment
33 Provide a dedicated water service manager position in Council's organisational structure, which is to be responsible for the operation of its drinking water service and implementing its drinking water quality management plan then: •Appoint a suitably qualified and skilled person to this position; or •Train a suitable staff member to the level required to competently undertake this role and related responsibilities.	Manager Water and Sewer	30-Jun-21	Completed	A permanent Manager Water and Sewer has been appointed.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
<p>34 Council to develop and implement protocols and procedures to ensure clear lines of communication are maintained between all corporate areas involved with the operation of its drinking water service.</p> <p>Council to develop and implement all procedures, identified in its approved DWQMP, as being available to staff and/or used to consistently manage the drinking water service operation.</p>	Manager Water and Sewer	30-Dec-21	Completed	The reporting and communication lines have been considerably shortened, with the Water and Sewer department taking responsibility for all regulatory matters pertaining to water quality.
Recommendation/Action	Responsibility	Due Date	Status	Comment
<p>35 Ensure Council's Environmental Health department:</p> <ul style="list-style-type: none"> <li>•is routinely consulted on the interpretation of drinking water quality data; and</li> <li>•provides public health risk and intervention related advice to Council and its drinking water service staff, when necessary.</li> </ul>	Manager Water and Sewer	30-Sep-21	Completed	The reporting and communication lines have been considerably shortened, with the Water and Sewer department taking responsibility for all regulatory matters pertaining to water quality.
Recommendation/Action	Responsibility	Due Date	Status	Comment
<p>36 Ensure all Council drinking water service staff have the appropriate experience, qualifications and/or skills and knowledge required to competently operate its drinking water service.</p>	Manager Water and Sewer	30-Dec-21	Completed	Operational staff have all completed the qldwater aqua and brown cards, as well as other relevant training.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
37 Develop and implement job/role descriptions, job specific work procedures and instructions, induction programs for new starters and hand-over procedures for all water service employees.	Manager Water and Sewer	30-Dec-21	Completed	Job descriptions have been updated. The induction program for new starters includes the qldwater Aqua and Brown Cards. Procedures continue to be revised and implemented.
38 Develop and implement structured vocational training and professional development programs for Council's drinking water service staff.	Manager Water and Sewer	30-Dec-21	Completed	Water and Sewer staff have all completed the qldwater aqua and brown cards, as well as other relevant training. The Manager and Water and Sewer Engineer attend relevant AWA conferences.
39 Ensure Council staff remediate workplace and public health and safety hazards arising in its drinking water service, as soon as possible after Council first becomes aware of them. Ensure all drinking water service staff are provided or can readily access required PPE. Develop and implement a strategy to embed occupational health and safety into Council's workforce culture, Develop and implement appropriate training programs and exercises, for Council's water service staff.	Manager Water and Sewer	30-Jun-21	Completed	Operational staff have all completed the qldwater aqua and brown cards, as well as other relevant training. Council is using a mobile app to better support WH&S compliance, plus maintenance management.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
40 Ensure full access to Council's MAGIQ data system is restricted to authorised data entry staff, with other Council staff having 'read only' access rights. Review cyber security preventive and response measures and include in Council's next amended DWQMP.	Manager Water and Sewer	30-Jun-21	Completed	Access to Council's document management system has been limited to those with a 'need to know'.

Recommendation/Action	Responsibility	Due Date	Status	Comment
41 Conduct a Regional Water Supply Security Assessment and develop a Regional Water Supply Strategic Plan.	Manager Water and Sewer	30-Jun-24	Not Started	A regional water supply security assessment for Mount Isa was prepared in 2018. It is due to be updated by 2023. A regional water supply security strategy is due by 2024.

Recommendation/Action	Responsibility	Due Date	Status	Comment
42 Implement Council's Regional Water Supply Strategic Plan.	Manager Water and Sewer	30-Jun-25	Not Started	A regional water supply security assessment for Mount Isa was prepared in 2018. It is due to be updated by 2023. A regional water supply security strategy is due by 2024.



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## Grenof Condition Assessment and System Review 2020

Recommendation/Action	Responsibility	Due Date	Status	Comment
44 Install chlorine re-dosing facilities at each reservoir that contain telemetry which automatically alerts when FAC is outside of set parameters. Install mixers in each of the reservoirs to ensure FAC is uniform throughout the reservoir storage. Develop and Implement ongoing preventive maintenance programs for chlorine dosing and reservoir mixers.	Manager Water and Sewer	30-Jun-22	Completed	Chlorine dosing has been established at each operational reservoir. These have telemetry attached. Automatic notifications are made via SMS messaging. This will be converted to a more active system when the SCADA is upgraded in the 2024 FY.

Recommendation/Action	Responsibility	Due Date	Status	Comment
46 Implement network sampling points for each reservoir catchment.	Manager Water and Sewer	30-Jun-21	Completed	Approx. 40 new sample points have been established in Mount Isa and Camooweal.

Recommendation/Action	Responsibility	Due Date	Status	Comment
47 Install a chlorine analyser and telemetry at Camooweal that remotely alerts when the FAC levels are outside set water quality limits.	Manager Water and Sewer	30-Jun-21	Completed	New chlorine dosing facilities have been established at Camooweal. These have telemetry attached. Automatic notifications are made via SMS messaging. This will be converted to a more active system when the SCADA is upgraded in the 2024 FY.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
48 Implement a mains cleaning program as per water industry standard.	Manager Water and Sewer	30-Jun-21	Completed	A mains cleaning program has been put in place, aimed at cleaning 25% of the network each year.
49 Implement a water cross contamination awareness training package (such as the 5Cs) for existing employees and contractors as part of the induction process.	Manager Water and Sewer	30-Jun-21	Completed	All staff have been through the qldwater Aqua card training to ensure understanding of water hygiene.
50 Implement the practice of laboratory testing broken water mains to understand the condition of water main assets.	Manager Water and Sewer	30-Apr-21	Completed	This requirement isn't being actioned. It has been closed out.
51 Align water management practices to the HACCP standard with a view to achieving accreditation to the standard.	Manager Water and Sewer	30-Jun-23	In Progress	

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Recommendation/Action	Responsibility	Due Date	Status	Comment
55 Develop a system leakage management plan and implement: - Water meter audit - Customer water meter replacement strategy - Verification of bulk water meter billing accuracy - Metered standpipes and resolve all unmetered taps (including council taps) - Active leak detection program - Pressure management, ideally through the establishment of DMAs.	Manager Water and Sewer	30-Jul-21	Completed	A System Leakage Management Plan is in preparation. Cardno has been engaged to complete this.

Recommendation/Action	Responsibility	Due Date	Status	Comment
56 Implement a robust asset management system and function within Mount Isa Council, with a view to aligning the asset management function with the ISO 55000 standard.	Manager Water and Sewer	30-Jun-22	Completed	The implementation of the new ERP is progressing. The requirements of the new asset management system have been reviewed and agreed. The asset hierarchy has been established and templates for asset capture have been developed.

Recommendation/Action	Responsibility	Due Date	Status	Comment
57 Implement a capital project governance committee lead by the CEO or Executive that is responsible for capital project execution. All Project Managers must report on project status at each meeting	Manager Water and Sewer	30-Jun-21	Completed	Council has a major projects steering committee that meets at least monthly.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
58 Implement an enterprise Project Management Office (PMO) that adopts a consistent project management and project reporting approach. The PMO reports monthly to the governance committee. Implement a project stage gate process for all projects.	Manager Water and Sewer	30-Jun-21	Completed	A department, entitled Major Projects, has been established with the Infrastructure Directorate.

Recommendation/Action	Responsibility	Due Date	Status	Comment
59 Create a centralised procurement function that supports not only project delivery but the entire organisation	Manager Water and Sewer	30-Jun-21	Completed	This has been completed. The procurement team sits within the Finance and IT department.

Recommendation/Action	Responsibility	Due Date	Status	Comment
60 Complete the installation of the SCADA system by using the existing, already installed SCADA infrastructure	Manager Water and Sewer	30-Jun-21	Completed	SCADA is installed on all high risk infrastructure. This is being upgraded I the 2024 FY, to bring all SCADA onto a single platform.

Recommendation/Action	Responsibility	Due Date	Status	Comment
61 Conduct a safety investigation and implement corrective actions to prevent re-occurrence.	Manager Water and Sewer	30-Jun-21	Completed	This has been corrected.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
62 Implement ISO accredited safety management system	Manager Water and Sewer	30-Jun-21	Completed	A safety system is being implemented Council-wide. All procedures and processes within Water and Sewer meet requirements.

Recommendation/Action	Responsibility	Due Date	Status	Comment
63 Update the Mount Isa Council lock out tag out procedure and re-train all operations and maintenance staff.	Manager Water and Sewer	30-Jun-21	Completed	The procedure has been updated and staff put through a refresher.

Recommendation/Action	Responsibility	Due Date	Status	Comment
64 Conduct a fault study of each switchboard to understand arc flash potential. Implement PPE and electrical isolation control measures and procedures to prevent injury from arc flash	Manager Water and Sewer	30-Jul-21	Completed	The non-compliant switchboards are being gradually replaced.

Recommendation/Action	Responsibility	Due Date	Status	Comment
65 Conduct a complete detailed review of all chlorine facilities and how they are managed, and rectify non-compliances	Manager Water and Sewer	30-Sep-21	Completed	All chlorine facilities have been updated or replaced. Staff have received training in chlorine handling.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
66 Implement a housekeeping system to initially declutter and clean followed by ongoing maintenance of the new housekeeping standard. 5S is a system easily implemented and commonly used in industry to organise a workplace.	Manager Water and Sewer	30-Dec-21	Completed	The various operational sites have been cleaned up and decluttered.

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## External DWQMP Audit 2021

Recommendation/Action	Responsibility	Due Date	Status	Comment
67 Continue with the plan to add the 34 rotational sites to the sampling plan	Manager Water and Sewer	30-Jun-23	Completed	Approx. 40 sampling points have been installed in Mount Isa and Camooweal.
Recommendation/Action	Responsibility	Due Date	Status	Comment
68 Ensure that the chlorine residual is above 0.1 mg/L as stated in the DWQMP in both reticulation systems	Manager Water and Sewer	30-Jun-22	Completed	
Recommendation/Action	Responsibility	Due Date	Status	Comment
69 Continue with the completion of the commissioning of the air mixers	Manager Water and Sewer	30-Jun-22	Completed	All on-line reservoirs have mixers installed.
Recommendation/Action	Responsibility	Due Date	Status	Comment
70 Consider increasing the minimum residual to 0.2 mg/L in the reticulation systems in alignment with the ADWG	Manager Water and Sewer	30-Jun-23	In Progress	Noted. To be reviewed during 2023.
Recommendation/Action	Responsibility	Due Date	Status	Comment
71 Furthermore, consider raising the minimum chlorine residual to 0.5 mg/L to control Naegleria fowleri and include it in the next DWQMP revision	Manager Water and Sewer	30-Jun-24	In Progress	Noted. Will be reviewed in line with item #70.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
72 Discuss with MIWB an increase in the minimum outlet chlorine residual, and include this in the MICC-MIWB Bulk Water Agreement. Alternatively, consider a MICC chlorine injection site at the point of supply.	Manager Water and Sewer	30-Jun-24	Not Started	This item will await the completion of the network reconfiguration project, when it is no longer expected to be needed. To be taken up with MIWB and resolved at a future operational meetings.

Recommendation/Action	Responsibility	Due Date	Status	Comment
73 Continue with plans to update the water model in consideration of the abovementioned water age issues.	Manager Water and Sewer	30-Jun-23	In Progress	Consultants Cardno (Stantec) are presently undertaking a revision of the Mount Isa hydraulic model.

Recommendation/Action	Responsibility	Due Date	Status	Comment
74 Consider adding the suburb of Breakaway to the testing regime.	Manager Water and Sewer	30-Jun-23	Completed	Three sampling points have been installed in Breakaway.

Recommendation/Action	Responsibility	Due Date	Status	Comment
75 Move sample locations to the outside of property boundaries.	Manager Water and Sewer	30-Jun-23	Completed	All testing points are being removed to the outside of the properties, to a point immediately prior to the meter.



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Recommendation/Action	Responsibility	Due Date	Status	Comment
76 Consider alternative sampling taps that are suitable for convenient and secure sampling in alignment with accepted industry practice.	Manager Water and Sewer	30-Jun-23	Completed	A total of approx. 40 'Ned Kelly' sampling points have been installed in Mount Isa and Camooweal. All new sampling points have an easily disinfected spigot which removes the need for flaming the tap.

Recommendation/Action	Responsibility	Due Date	Status	Comment
77 Plan and undertake the training of employees to a certificate III level as a minimum appropriate to the type of work the client undertakes.	Manager Water and Sewer	30-Jun-24	In Progress	Noted. Council presently has 4 plumbers completing Cert III and Cert IV qualifications. A source of training for Water Industry Worker Cert III is being sought, after Qld TAFE withdrew from the industry in 2022.

Recommendation/Action	Responsibility	Due Date	Status	Comment
78 Create a procedure to check that the sample and the testing schedule have been completed by the lab and the results have been checked by the client.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. Preparation of procedure is underway.

Recommendation/Action	Responsibility	Due Date	Status	Comment
79 Ensure that the filled-out sample submission forms are recorded in the council system upon sending these to the lab.	Manager Water and Sewer	30-Jun-23	Completed	All forms and other correspondence is captured in Council's document management system.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
80 Continue with plans to move across to SWIMLocal.	Manager Water and Sewer	30-Jun-22	Completed	SWIMLocal is the sole point of truth for water quality sampling data and the results.

Recommendation/Action	Responsibility	Due Date	Status	Comment
81 It is suggested that the water sampling be undertaken before the wastewater sampling to further reduce the likelihood of false results.	Manager Water and Sewer	30-Jun-22	Completed	Noted. This is the current procedure. Water sampling is undertaken on Mondays and Tuesdays. Wastewater sampling on Wednesdays and Fridays. There have been no adverse results since mid-2021.

Recommendation/Action	Responsibility	Due Date	Status	Comment
82 Add all test result documents to MagiQ.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. All forms and other correspondence are captured in Council's document management system.

Recommendation/Action	Responsibility	Due Date	Status	Comment
83 Create a procedure for internal reporting of test results and ensure that all test results are carbon copied to at least 2 persons in the MICC water and wastewater department including the manager, and it is suggested that the regulator also be copied in.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. A procedure will be prepared.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
84 Ensure that all incidents are closed out in an appropriate timeframe.	Manager Water and Sewer	30-Jun-22	Completed	Noted. All incidents are closed out ASAP.

Recommendation/Action	Responsibility	Due Date	Status	Comment
85 There is an opportunity to add all water quality incidents to the electronic management system in addition to the email system. This may avoid any action issues such as when someone leaves the business or is away.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. The current procedure will be revised.

Recommendation/Action	Responsibility	Due Date	Status	Comment
86 Consider adding field temperature readings for verification sample sites where relevant to enable the client to pick up any seasonal trends in water quality.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. The current procedure will be revised.

Recommendation/Action	Responsibility	Due Date	Status	Comment
87 Ensure that the 2019-2020 annual report is available for customers on the council website.	Manager Water and Sewer	30-Dec-21	Completed	Noted.

Recommendation/Action	Responsibility	Due Date	Status	Comment
88 Inspect all reservoir rooves to determine if there are any vermin entry points.	Manager Water and Sewer	30-Jun-23	Completed	Reservoir rooves are inspected every six months.

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<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
89 Physically remove the Camooweal compound bypass valve, and install blanks to ensure that untreated water cannot leak into the town chlorinated supply	Manager Water and Sewer	30-Jun-23	Not Started	Noted. This valve will be removed.
<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
90 Update the DWQMP to include the information on the A3 schematic which was found on the wall inside the chlorine room.	Manager Water and Sewer	30-Jun-23	Completed	Noted. The current schematic has been revised.
<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
91 Ensure that the chlorine instruments are working at Reservoir No.2 and Camooweal.	Manager Water and Sewer	30-Jun-23	In Progress	Procedure to be prepared for routine maintenance and calibration.
<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
92 Update the weekly Compliance Sheet and undertake chlorine residual testing at Reservoir 3A whilst Reservoir 4 is offline.	Manager Water and Sewer	30-Jun-22	Completed	Noted. The current procedure has been revised.
<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
93 Order new HPC tablets and ensure that are ordered in anticipation of their use-by date.	Manager Water and Sewer	30-Jun-22	Completed	Noted.

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<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
94 Create an instrument calibration register and program.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. A procedure and program will be prepared.

<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
95 Undertake a regular check of operational calibration record checks to ensure that the instruments are being calibrated regularly and effectively.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. Procedure to be prepared.

<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
96 Consider taking control over the MICCs reservoir assets in terms of water level control by introducing a dedicated inlet main and a separate outlet main.	Manager Water and Sewer	30-Jun-24	In Progress	Noted. A consultant is currently working on designs to bring this into effect. This is being addressed as part of the network reconfiguration project.

<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
97 Improve the customer management system to identify and track and close water quality related complaints.	Manager Water and Sewer	30-Jun-23	In Progress	This will improve with the implementation of the new ERP in May 2023. The new ERP promises a much better CMS which should allow for better interrogation and enhanced decision making.

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<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
98 Update procedures to include machinery disinfection prior to use in water management situations where cross contamination may be a risk.	Manager Water and Sewer	30-Jun-23	Not Started	Noted. The current procedure will be revised.
<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
99 Undertake extra training such as with WIOA.	Manager Water and Sewer	30-Jun-24	In Progress	Noted.
<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
100 Ensure that the existing procedures are followed for disinfection and flushing of mains after a repair has occurred, and add a hyperchlorination procedure	Manager Water and Sewer	30-Jun-23	In Progress	Noted. The current procedure will be reinforced. All operational staff have undertaken the Aqua Card training provided by the Queensland Water Directorate.
<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
101 Investigate if NQWROC has a standard for mains repair protocols. If not introduce your own standard.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. The current procedure will be revised.
<b>Recommendation/Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Status</b>	<b>Comment</b>
102 Create a flushing procedure and program.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. Program to be prepared in conjunction with 2023-24 budget.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
103 Add a scenario for water treatment for the next mock emergency practice.	Manager Water and Sewer	30-Jun-23	Not Started	Noted.
104 A procedure needs to be in place to ensure that all drinking water materials purchased are certified to Australian Standards or are WaterMark approved.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. The current procedure will be revised. All materials are purchased from reputable retailers and from reputable manufacturers.
105 Continue with the plan to create a maintenance management system, including a condition inspection program such as that undertaken for a reservoir cleaning program.	Manager Water and Sewer	30-Jun-23	Completed	Fulcrum is being used as an interim MMS. It may continue in this role even after the implementation of the new corporate ERP. Procedures to be prepared.
106 Consider undertaking the maintenance items raised in this section.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. This will be included in revised procedures and 2023/24 budget.
107 Ensure the required documentation is completed by the due dates.	Manager Water and Sewer	30-Jun-23	Completed	Noted.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
108 Ensure state government correspondence is stored in the client's document management system.	Manager Water and Sewer	30-Jun-23	Completed	Noted. All external documentation is recorded in Council's document management system.

Recommendation/Action	Responsibility	Due Date	Status	Comment
109 Consider having a quarterly meeting to manage all elements of the DWQMP framework.	Manager Water and Sewer	30-Jun-23	In Progress	Quarterly meetings will commence in January 2023.

Recommendation/Action	Responsibility	Due Date	Status	Comment
110 Ensure that staff use the existing procedures and that they demonstrate system management and maintenance by filling out the forms contained in the DOMMs.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. A mobile-based app is being used to enhance data collection and compliance with procedures. This has expanded from a single user to 25 users, and from a single form to 16 forms between November 2021 and November 2022.

Recommendation/Action	Responsibility	Due Date	Status	Comment
111 Ensure required procedures are created and prioritise their creation.	Manager Water and Sewer	30-Jun-23	In Progress	Noted.

Recommendation/Action	Responsibility	Due Date	Status	Comment
112 Provide training in the use of existing and proposed procedures.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. Training will take place at the monthly staff meetings.



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Recommendation/Action	Responsibility	Due Date	Status	Comment
113 Complete all RMIP actions that are outstanding or negotiate with the Regulator a change to the due dates.	Manager Water and Sewer	30-Jun-23	In Progress	Noted. The majority of the items from the 2020 version of the DWQMP have been completed. Changes in the due dates will be negotiated as part of the 2022 DWQMP Amendment application.
Recommendation/Action	Responsibility	Due Date	Status	Comment
114 Include actions from previous audits in the RMIP to ensure these are actioned.	Manager Water and Sewer	30-Jun-23	Completed	Noted. Refer to DWQMP 2022 version, which addresses all outstanding actions from various sources.
Recommendation/Action	Responsibility	Due Date	Status	Comment
115 Ensure that the DWQMP is accurate in terms of existing procedures.	Manager Water and Sewer	30-Jun-23	Completed	Noted. The DWQMP has been reviewed and the procedure list updated.
Recommendation/Action	Responsibility	Due Date	Status	Comment
116 Update the Camooweal schematic.	Manager Water and Sewer	30-Jun-23	Completed	The schematic has been revised.
Recommendation/Action	Responsibility	Due Date	Status	Comment
117 Ensure that the risk assessment includes any risks associated with the attached irrigation system.	Manager Water and Sewer	30-Jun-23	Completed	Noted. The irrigation system includes an air gap and is not part of the Camooweal network.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
118 Add the new infrastructure changes to the DWQMP risk assessment.	Manager Water and Sewer	30-Jun-23	Completed	Noted. This has been completed.

Recommendation/Action	Responsibility	Due Date	Status	Comment
119 Describe in the next DWQMP and RMIP the proposed reservoir group pipework arrangements that are aimed at ensuring turnover.	Manager Water and Sewer	30-Jun-23	Completed	Noted. This has been completed.

Recommendation/Action	Responsibility	Due Date	Status	Comment
120 Continue developing a strategy to resolve the chlorine residual issue.	Manager Water and Sewer	30-Jun-24	In Progress	The central plank of this strategy is disconnecting the reticulation from the bulk delivery lines. The present arrangement results in a dynamic change in chlorine levels, depending on whether the pumps are operating.

Recommendation/Action	Responsibility	Due Date	Status	Comment
121 Address the chlorate questions and actions from the 2020 state government audit.	Manager Water and Sewer	30-Jun-23	Completed	Noted. These items are complete.

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## RMIP Actions from 2020 DWQMP

Recommendation/Action	Responsibility	Due Date	Status	Comment
122 Implement backflow program	Manager Water and Sewer	30-Jun-24	In Progress	Previous item WQ3. This has not been progressed. The recent resignation of the Plumbing Inspector will allow for the role to be reviewed and a suitable appointment made.
123 Improve visibility of Camooweal chlorination system operation & performance (SCADA)	Manager Water and Sewer	30-Jun-22	Completed	Previous item WQ6. The installation of SCADA at Camooweal was completed in late 2021.
124 Dosing and mixing to be installed in all Mount Isa reservoirs, with alarms for dosing failure or faults.	Manager Water and Sewer	30-Jun-23	Completed	Previous item WQ8. All active reservoirs will have chlorination and mixing, once the installation at Reservoir 1 is completed in January 2023.
125 Undertake hydraulic modelling of network in collaboration with MIWB and reconfigure network to improve water circulation and decrease water age.	Manager Water and Sewer	30-Jun-24	In Progress	Previous item WQ13. Cardno (Stantec) are currently revising the Mount Isa hydraulic model and building a model for Camooweal. This work will be completed in mid-2023.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
126 Consider operational philosophy to improve water turnover in Mount Isa (i.e. review reservoir levels, undertake periodic draw down of Reservoir levels)	Manager Water and Sewer	30-Jun-24	Completed	Previous item WQ14. This has been achieved in part by taking reservoirs 3 and 4 offline. This will be addressed more definitively by the new network reconfiguration project.
Recommendation/Action	Responsibility	Due Date	Status	Comment
127 Begin measurement of Haloacetic Acids and review frequency of THM monitoring	Manager Water and Sewer	30-Jun-22	Completed	Previous item WQ15. Testing for HAA and THM is carried out quarterly.
Recommendation/Action	Responsibility	Due Date	Status	Comment
128 Review scheduling for mains replacement program	Manager Water and Sewer	30-Jun-22	Completed	Previous item WQ16. A 5-year water main replacement program was developed in 2021.
Recommendation/Action	Responsibility	Due Date	Status	Comment
129 Review procedure implementation (mains repairs and hygiene) and provide training	Manager Water and Sewer	30-Jun-23	In Progress	Previous item WQ17. Aqua Card training has been provided to all Water and Sewer department employees.
Recommendation/Action	Responsibility	Due Date	Status	Comment
130 Recruit Trade Waste Officer	Manager Water and Sewer	30-Jun-24	Completed	Former item WQ18. This is not a water quality related matter and has been closed.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
131 Recruit Lab Technician Assistant	Manager Water and Sewer	30-Jun-21	Completed	Former item WQ19. A laboratory technician was recruited in 2020.

Recommendation/Action	Responsibility	Due Date	Status	Comment
132 Recruit additional Water team members	Manager Water and Sewer	30-Jun-22	Completed	Previous item WQ20. The Water and Sewer department is now adequately resourced, with the recruitment of a Laboratory Technician in 2020, and a manager and an engineer for the department in 2021.

Recommendation/Action	Responsibility	Due Date	Status	Comment
133 Review sampling locations and consider additional sites if required	Manager Water and Sewer	30-Jun-23	Completed	Previous item WQ21. A total of approx. 40 sampling points have been installed in Mount Isa and Camooweal.

Recommendation/Action	Responsibility	Due Date	Status	Comment
134 Development of a new training & competency plan around drinking water management	Manager Water and Sewer	30-Jun-23	In Progress	Former item WQ25. All Water and Sewer staff have undertaken the qldwater Aqua card training. This is part of the requirement and induction for new starters.

Recommendation/Action	Responsibility	Due Date	Status	Comment
135 Undertake capital works to repair Reservoir 4	Manager Water and Sewer	30-Jun-25	Not Started	Previous item WQ26. The fate of reservoir 4 has not been determined. It is not needed for water security, and only serves to increase water age.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
136 Review sample point design and install new sample points where required to ensure that representative samples can be taken and the tap disinfected	Manager Water and Sewer	30-Jun-23	Completed	Previous item WQ27. Approx. 40 new dedicated sampling points have been installed around Mount Isa and Camooweal (and Breakaway).
137 Consider upgrade to Camooweal chlorination system (e.g. dual cylinder, auto-changeover)	Manager Water and Sewer	30-Dec-21	Completed	Previous item WQ28. A new chlorinator, including dual scales with automatic changeover, was installed in Camooweal in late 2021.
138 Consider internal DWQMP audit program	Manager Water and Sewer	30-Jun-24	Not Started	Previous item WQ29. Council has had three external audits and/or reviews in 2020 and 2021. This will not be actioned until at least the 2024 FY.
139 Consider refurbishment of Camooweal bores	Manager Water and Sewer	30-Jun-25	Completed	Previous item WQ30. This action isn't valid. The bores do not need refurbishment.
140 Consider whether additional treatment is warranted at Camooweal	Manager Water and Sewer	30-Jun-23	In Progress	Previous item WQ31. Tenders for the investigation and design of a suitable water treatment plant for Camooweal were released in late 2022.

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Recommendation/Action	Responsibility	Due Date	Status	Comment
141 Consider replacement of Camooweal Header Tanks	Manager Water and Sewer	30-Jun-22	Completed	Previous item WQ32. This requirement is not valid. The header tanks are relatively new and should have a further life of another 40 years.
Recommendation/Action	Responsibility	Due Date	Status	Comment
142 Consideration of options around external resourcing	Manager Water and Sewer	30-Jun-23	Completed	Previous item WQ33. The resourcing of the water and sewer function has been resolved.