



Quantum  
Assurance



## **Rottnest Island Authority**

**2024 Asset Management System Review  
Water Services Licence WL10**

**Report**

**Economic Regulation Authority  
November 2024**



## TABLE OF CONTENTS

1. Executive Summary .....	2
1.1 Background .....	2
1.2 Summary .....	2
1.3 Conclusion.....	3
2. Asset Management System Review.....	4
2.1 Description of Infrastructure .....	4
2.2 Objectives and Scope .....	5
2.3 Asset Management Process and Performance Rating Scales .....	6
2.4 Summary of Asset Management System Effectiveness Ratings .....	7
2.5 Status of Previous Review Recommendations .....	12
2.6 Detailed Review Observations .....	15
2.7 Review Recommendations.....	39
Appendix A – Methodology.....	43
A1. Review Approach .....	43
A2. Key Documents Reviewed .....	44
A3. Key Contacts .....	45
A4. Consultants.....	45

Quantum Management Consulting and Assurance

ABN 83 083 848 168 Liability limited by a scheme approved under Professional Services Legislation

Level 28 AMP Tower, 140 St Georges Terrace, Perth **M.** PO Box 6882, East Perth WA 6892

**T.** 08 9278 2570 **F.** 08 9278 2571

**E.** [mail@quantumassurance.com.au](mailto:mail@quantumassurance.com.au) **W.** [www.quantumassurance.com.au](http://www.quantumassurance.com.au)



### **Limitations of this Report**

This report was prepared for distribution to the Economic Regulation Authority and the Rottnest Island Authority for the purpose of fulfilling Rottnest Island Authority's operational audit under its Water Services Licence. We disclaim any assumption of responsibility for any reliance on this report to any persons or users other than the Economic Regulation Authority and Rottnest Island Authority, or for any purpose other than that for which it was prepared.

Because of the inherent limitations of any internal control environment, it is possible that fraud, error or non-compliance may occur and not be detected. An audit is not designed to detect all instances of non-compliance with the procedures and controls over the licence obligations of the Water Services Licence, since we do not examine all evidence and every transaction. The audit conclusions expressed in this report have been formed on this basis.



*This page left blank.*



## 1. Executive Summary

---

### 1.1 Background

Rottnest Island Authority ('RIA') has a Water Services Licence, issued by the Economic Regulation Authority ('ERA') under the *Water Services Act 2012* ('Act'), provision of potable water supply, non-potable water supply, sewerage and drainage services at Rottnest Island.

There were two licences in force during the review period:

- Version 9 (From 1 May 2020)
- Version 10 (From 29 May 2024)

Not less than once in every period of 24 months or such other period notified by the ERA, the ERA requires an effectiveness review of the asset management system to comply with the licensing requirements of the ERA.

The review approach is based on the compliance obligations set out in the Licence, applicable legislation, regulatory guidelines (Water Compliance Reporting Manual July 2024) and the 2019 Audit and Review Guidelines: Water Licences (updated August 2022).

This review covers the period 1 July 2022 to 30 June 2024. The previous review was from 1 July 2019 to 30 June 2022.

### 1.2 Summary

This review has been conducted to assess the effectiveness of the Licensee's asset management system.

The assessment of the 12 asset management components prescribed in the ERA's 2019 Audit and Review Guidelines: Water Licences found that:

- 9 components were rated A1 (documentation adequately defined, performing effectively).
- 2 components (Asset Operations and Review of Asset Management System) were rated A2 (documentation adequately defined, performance requires some improvement).
- 1 component (Asset Planning) was rated B2 (documentation requires some improvement, corrective action required).

The review made five recommendations as follows:

#### 1. Asset Planning (Asset Processes)

- a) The draft Drainage Infrastructure (DI) Asset Management Plan (August 2024) should be completed and approved.
- b) The Drinking & Fire Water Infrastructure (DFW) Asset Management Plan 2021/22 should be revised and updated using the new DI Asset Management Plan format, including service levels and lifecycle costings.
- c) The Waste Recycled Water Infrastructure (WRW) Asset Management Plan 2021/22 should be revised and updated using the new DI Asset Management Plan format, including service levels and lifecycle costings.

#### 2. Asset Planning (Service Levels)

- a) The DFW Asset Management Plan should be updated to include the specific service objectives, performance measures and target levels for the customer and technical service levels.
- b) The WRW Asset Management Plan should be updated to include the service targets for all customer and technical service levels.



3. Asset Planning (Lifecycle Costs)

Based on the condition assessment work completed, a forecast of the long-term funding required for asset maintenance and replacement needs to be prepared for the asset maintenance and replacement needed to continue to provide the water and wastewater services. The DWF and WRW Asset Management Plans need to be updated with this assessment.

4. Asset Planning (Asset Failure)

Updates of the DFW and WRW Asset Management Plans should explain the process for reviewing asset risks following condition assessments.

5. Asset Planning (Review) and Asset Management System Review

All Asset Management Plans should be reviewed and updated yearly as stated in the Asset Management Plans.

Through the performance of the Review Plan and assessment and testing of the control environment, the information system, control procedures and compliance attitude, the review team members have gained reasonable assurance that the RIA has maintained an adequate control environment for ongoing compliance in respect of the asset management system except for the Asset Planning processes that require further improvement.

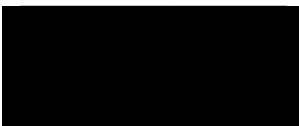
### 1.3 Conclusion

For the review period from 1 July 2022 to 30 June 2024, the potable and non-potable water, drainage and services under Water Services Licence WL10 are considered to be operated with a professional and effective approach. There have been substantial improvements in the infrastructure and the asset management system including the planning, operations and maintenance of the facilities since the previous review.

Overall, the provision of potable water supply, non-potable water supply, sewerage and drainage services at Rottnest Island is assessed as being well established, well maintained and in good working order.

We confirm that the ERA's 2019 Audit and Review Guidelines: Water Licenses have been complied with in the conduct of this review and the preparation of the report, and that the review findings reflect our professional opinion.

**Quantum Management Consulting & Assurance**



Geoff White  
Director

3 December 2024



## 2. Asset Management System Review

---

### 2.1 Description of Infrastructure

Rottnest Island - one of Western Australia's premier recreation and holiday areas, is situated some 15 kilometres to the west of Fremantle. The Island is an A-Class Reserve governed by the *Rottnest Island Act 1987* which establishes the Rottnest Island Authority (RIA) as a statutory body to control and manage the Island on behalf of the West Australian Government. The Island receives approximately half a million visitors annually – made up of day trippers and holiday makers, accommodated at the islands premium and budget holiday spaces, Discovery Rottnest Island, Samphire Rottnest, Rottnest Hostel and the Campgrounds.

The RIA has overall responsibility for the water services. The services are contracted to Programmed Facility Management (PFM) who's management and field staff on the Island perform the management, operation and maintenance of the water services, as set out in the Rottnest Island Facilities Utilities and Support Services (FUSS) Contract.

The Drinking and Fire Water (DFW) services provides drinkable water that has been treated under the legislation and regulatory requirements for visitors to use and for firefighting exercises. The water at Rottnest Island is produced by desalination of seawater. The primary water production is from the water extraction of six saline bores pumped to the Reverse Osmosis (RO) type desalination plant. The desalination plant comprises four independent trains each with the capacity of 250kL per day (total 750kL per day). Secondary supply is also available from fifteen freshwater bores that can extract up to 20,000kL per annum. Reject water from the RO system discharges back to the ocean. The chlorinated drinking quality water from the plant gravity feeds the island's reticulated supply system.

The Waste Recycled Water (WRW) service recovers wastewater and provides irrigation water to the golf course and oval which has been treated under the legislation and regulatory requirements. The facilities include the Waste Water Treatment Plant (WWTP) and the pipeline network across the Island.

In 2023/24, there were 130 connected properties, including commercial lessees on the Island.

The Rottnest Island Management Plan 2023-28, Section 2.2 Support Drinking Water Production, Supply, and Retention notes:

- The WA State government, as part of the WA Recovery Plan, has committed \$34.1 million for vital infrastructure upgrades to overhaul Rottnest Island's ageing drinking water production and supply network. Wadjemup / Rottnest Island's water infrastructure requires substantial investment to continue to provide water services for local, interstate, and international tourists, as well as the Rottnest Island businesses that provide goods and services to island visitors.
- The island's water distribution network and production plant have come under increasing pressure to provide adequate levels of service during peak tourist periods. RIA produces all the island's drinking water from an ageing desalination plant fed by saltwater bores. The system is at the end of its life, struggling to meet increasing demand. As such, the system needs to be renewed and upgraded.
- A leading state-owned utilities provider will deliver the initiative that will meet forecasted water demands for the next 20 years. This did not proceed, so from July 2024, RIA has continued to be responsible for the water supply and upgrades.
- The increasing demand will be met by upgrading the island's ageing water production plant and installing a new, robust, and efficient water distribution network. Planning for this project is in progress and RIA has completed early works to install new water mains in the Kingstown, South Thomson, Longreach Bay, and Fays Bay accommodation precincts. The upgrades have commenced and the wastewater systems are also being upgraded.

An Enterprise Asset Management System is in development, based on the Assetic platform, which will be customised to RIA's specifications. The new system includes all assets, whether they're managed and maintained under the FUSS contract or otherwise. Work on the system



is well advanced, with the majority of assets data loaded and initiatives for key utilities and maritime assets already developed.

## 2.2 Objectives and Scope

The objective of the review was to assess the adequacy and effectiveness of the asset management system in place for the undertaking, maintenance and monitoring of the licensee’s assets.

The scope of the review included an assessment of the adequacy and effectiveness of the asset management system by evaluating the key processes of:

- Asset planning
- Asset creation/acquisition
- Asset disposal
- Environmental analysis
- Asset operations
- Asset maintenance
- Asset management information system
- Risk management
- Contingency planning
- Financial planning
- Capital expenditure planning
- Review of the asset management system.

An initial risk assessment was performed to enable the review to be focused upon the higher risk areas by determining the audit priority from 1 to 5 of each area, as per the table below. Priority 1 and 2 audit areas require more in-depth testing that priority 4 and 5 audit areas.

### Assessment of Review Priority

		Control Risk		
		High (weak controls)	Moderate	Low (strong controls)
Inherent Risk	High	Audit priority 1	Audit priority 2	
	Medium	Audit priority 3	Audit priority 4	
	Low	Audit priority 5		

The highest priority asset components for review were:

- Asset Planning (*High inherent risk and the previous review noted the need to update the lifecycle costing and condition assessment of assets in the Asset Register*)
- Environmental Analysis (*High inherent risk*)
- Contingency Planning (*High inherent risk*).





### 2.3 Asset Management Process and Performance Rating Scales

The adequacy of process policy and definition and the performance of the key processes were assessed using the scales described in the tables below. The overall effectiveness rating for each asset management process is based on a combination of the process and policy adequacy rating and the performance rating.

#### Asset Management Process and Policy Definition - Adequacy ratings

RATING	DESCRIPTION	CRITERIA
A	Adequately defined	<ul style="list-style-type: none"> <li>Processes and policies are documented.</li> <li>Processes and policies adequately document the required performance of the assets.</li> <li>Processes and policies are subject to regular reviews and updated where necessary.</li> <li>The asset management information system(s) are adequate in relation to the assets that are being managed.</li> </ul>
B	Requires some improvement	<ul style="list-style-type: none"> <li>Process and policy documentation require improvement.</li> <li>Processes and policies do not adequately document the required performance of the assets.</li> <li>Reviews of processes and policies are not conducted regularly enough.</li> <li>The asset management information system(s) requires minor improvements (taking into consideration the assets being managed).</li> </ul>
C	Requires significant improvement	<ul style="list-style-type: none"> <li>Process and policies are incomplete or require substantial improvement.</li> <li>Processes and policies do not document the required performance of the assets.</li> <li>Processes and policies are considerably out of date.</li> <li>The asset management information system(s) requires substantial improvement (taking into consideration the assets being managed).</li> </ul>
D	Inadequate	<ul style="list-style-type: none"> <li>Processes and policies are not documented.</li> <li>The asset management information system(s) is not fit for purpose (taking into consideration the assets being managed).</li> </ul>

#### Asset Management Performance Ratings

RATING	DESCRIPTION	CRITERIA
1	Performing effectively	<ul style="list-style-type: none"> <li>The performance of the process meets or exceeds the required levels of performance.</li> <li>Process effectiveness is regularly assessed, and corrective action taken where necessary.</li> </ul>
2	Opportunity for improvement	<ul style="list-style-type: none"> <li>The performance of the process requires some improvement to meet the required level.</li> <li>Process effectiveness reviews are not performed regularly enough.</li> <li>Process improvement opportunities are not implemented.</li> </ul>
3	Corrective action required	<ul style="list-style-type: none"> <li>The performance of the process requires significant improvement to meet the required level.</li> <li>Process effectiveness reviews are performed irregularly, or not at all.</li> <li>Process improvement opportunities are not implemented.</li> </ul>
4	Some action required	<ul style="list-style-type: none"> <li>Process is not performed, or the performance is so poor that the process is considered to be ineffective.</li> </ul>



## 2.4 Summary of Asset Management System Effectiveness Ratings

The review’s assessment of the asset management system process and policy definitions and their effectiveness, based on the ratings scale in Section 2.3, is shown in the table below.

Section 2.6 provides further details of the current rating results for each process in the asset management system.

### Summary of Asset Management Performance Ratings

Process and Policy Definition – Adequacy Rating	Performance Rating for Effectiveness Criteria					Total
	Rating	1 Performing effectively	2 Opportunity for improvement	3 Corrective action required	4 Some action required	
A -Adequately defined	43	4	-	-	<b>47</b>	
B – Requires some improvement	-	5	5	-	<b>10</b>	
C – Requires significant improvement	-	-	1	-	<b>1</b>	
D – Inadequate	-	-	-	-	<b>-</b>	
Total	<b>43</b>	<b>9</b>	<b>6</b>	<b>-</b>	<b>58</b>	



### Asset Management System Performance Ratings

ASSET MANAGEMENT SYSTEM COMPONENT & EFFECTIVENESS CRITERIA	Process and Policy rating				Performance rating				
	Adequately defined	Requires some improvement	Requires significant improvement	Inadequate	Performing effectively	Opportunity for improvement	Corrective action required	Serious action required	Not Rated
	A	B	C	D	1	2	3	4	NR
<b>1. Asset planning</b>		<b>B</b>				<b>2</b>			
1.1 Asset management plan covers the processes in this table.			✓				✓		
1.2 Planning process and objectives reflect the needs of all stakeholders and are integrated with business planning.	✓				✓				
1.3 Service levels are defined in the asset management plan.		✓					✓		
1.4 Non-asset options (e.g. demand management) are considered.	✓				✓				
1.5 Lifecycle costs of owning and operating assets are assessed.		✓					✓		
1.6 Funding options are evaluated.		✓				✓			
1.7 Costs are justified and cost drivers identified.	✓				✓				
1.8 Likelihood and consequences of asset failure are predicted.		✓					✓		
1.9 Asset management plan is regularly reviewed and updated.		✓					✓		
<b>2. Asset creation/ acquisition</b>	<b>A</b>				<b>1</b>				
2.1 Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions.	✓				✓				
2.2 Evaluations include all life-cycle costs.	✓				✓				
2.3 Projects reflect sound engineering and business decisions.	✓				✓				
2.4 Commissioning tests are documented and completed.	✓				✓				
2.5 Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood.	✓				✓				
<b>3. Asset disposal</b>	<b>A</b>				<b>1</b>				
3.1 Under-utilised and under-performing assets are identified as part of a regular systematic review process.	✓				✓				
3.2 The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken.	✓				✓				



ASSET MANAGEMENT SYSTEM COMPONENT & EFFECTIVENESS CRITERIA	Process and Policy rating				Performance rating				
	Adequately defined	Requires some improvement	Requires significant improvement	Inadequate	Performing effectively	Opportunity for improvement	Corrective action required	Serious action required	Not Rated
	A	B	C	D	1	2	3	4	NR
3.3 Disposal alternatives are evaluated.	✓				✓				
3.4 There is a replacement strategy for assets.		✓				✓			
<b>4. Environmental analysis</b>	<b>A</b>				<b>1</b>				
4.1 Opportunities and threats in the asset management system environment are assessed.	✓				✓				
4.2 Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved.	✓				✓				
4.3 Compliance with statutory and regulatory requirements.	✓				✓				
4.4 Achievement of customer service levels.	✓				✓				
<b>5. Asset operations</b>	<b>A</b>					<b>2</b>			
5.1 Operational policies and procedures are documented and linked to service levels required.	✓				✓				
5.2 Risk management is applied to prioritise operations tasks.	✓				✓				
5.3 Assets are documented in an Asset Register including asset type, location, material, plans of components, and an assessment of assets' physical/structural condition.	✓					✓			
5.4 Accounting data is documented for assets.	✓				✓				
5.5 Operational costs are measured and monitored.	✓					✓			
5.6 Staff resources are adequate and staff receive training commensurate with their responsibilities.	✓					✓			
<b>6. Asset maintenance</b>	<b>A</b>				<b>1</b>				
6.1 Maintenance policies and procedures are documented and linked to service levels required.	✓				✓				
6.2 Regular inspections are undertaken of asset performance and condition.	✓				✓				
6.3 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.	✓				✓				
6.4 Failures are analysed and operational/maintenance plans adjusted where necessary.	✓				✓				



ASSET MANAGEMENT SYSTEM COMPONENT & EFFECTIVENESS CRITERIA	Process and Policy rating				Performance rating				
	Adequately defined	Requires some improvement	Requires significant improvement	Inadequate	Performing effectively	Opportunity for improvement	Corrective action required	Serious action required	Not Rated
	A	B	C	D	1	2	3	4	NR
6.5 Risk management is applied to prioritise maintenance tasks.	✓				✓				
6.6 Maintenance costs are measured and monitored.	✓				✓				
<b>7. Asset Management Information System</b>	<b>A</b>				<b>1</b>				
7.1 Adequate system documentation for users and IT operators.	✓				✓				
7.2 Input controls include appropriate verification and validation of data entered into the system.	✓				✓				
7.3 Security access controls appear adequate, such as passwords.	✓				✓				
7.4 Physical security access controls appear adequate.	✓				✓				
7.5 Data backup procedures appear adequate and backups are tested.	✓				✓				
7.6 Computations for licensee performance reporting are accurate.	✓				✓				
7.7 Management reports appear adequate for the licensee to monitor licence obligations.	✓				✓				
7.8 Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation.	✓				✓				
<b>8. Risk management</b>	<b>A</b>				<b>1</b>				
8.1 Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system.	✓				✓				
8.2 Risks are documented in a risk register and treatment plans are actioned and monitored.	✓				✓				
8.3 The probability and consequences of asset failure are regularly assessed.	✓				✓				
<b>9. Contingency planning</b>	<b>A</b>				<b>1</b>				
9.1 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.	✓				✓				



ASSET MANAGEMENT SYSTEM COMPONENT & EFFECTIVENESS CRITERIA	Process and Policy rating				Performance rating				
	Adequately defined	Requires some improvement	Requires significant improvement	Inadequate	Performing effectively	Opportunity for improvement	Corrective action required	Serious action required	Not Rated
	A	B	C	D	1	2	3	4	NR
<b>10. Financial planning</b>	<b>A</b>				<b>1</b>				
10.1 The financial plan states the financial objectives and identifies strategies and actions to achieve those.	✓				✓				
10.2 The financial plan identifies the source of funds for capital expenditure and recurrent costs.	✓				✓				
10.3 The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets).	✓				✓				
10.4 The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period.		✓				✓			
10.5 The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services.		✓				✓			
10.6 Large variances in actual/budget income and expenses are identified and corrective action taken where necessary.	✓				✓				
<b>11. Capital expenditure planning</b>	<b>A</b>				<b>1</b>				
11.1 There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates.	✓					✓			
11.2 The capital expenditure plan provides reasons for capital expenditure and timing of expenditure.	✓				✓				
11.3 The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan.	✓				✓				
11.4 There is an adequate process to ensure that the capital expenditure plan is regularly updated and implemented.		✓				✓			
<b>12. Review of asset management system</b>	<b>A</b>					<b>2</b>			
12.1 A review process is in place to ensure that the asset management plan and the asset management system described in it remain current.		✓					✓		
12.2 Independent reviews (e.g. internal audit) are performed of the asset management system.	✓				✓				



## 2.5 Status of Previous Review Recommendations

The previous review covered the period from 1 July 2019 to 30 June 2022 and was reported in August 2022. There were 3 recommendations in the previous review that have all been partially resolved. The recommendations, current status and further action required are listed below.

Reference (no./year)	Previously Assessed Process and Policy Deficiency (Rating, Asset management process, Details)	Previous Auditor’s Recommendation and <i>Action Taken</i>	Date Resolved	Further action required
<b>A. Resolved before end of previous review</b>				
	Nil			
<b>B. Resolved during current review period</b>				
	Nil			
<b>C. Not resolved</b>				
<b>1/2022</b>	<p><b>B3</b></p> <p><b>Asset Planning – Drainage Asset Management Plan</b></p> <p><i>Asset management plan covers the processes in this table</i></p> <p>For the water and wastewater assets, Asset Management Plans have been prepared and reference the SAMP as providing the overarching approach to managing the assets. The Asset Management Plans are:</p> <ul style="list-style-type: none"> <li>• Drinking &amp; Fire Water Infrastructure (DFW) Asset Management Plan 2021/22, and</li> <li>• Waste Recycled Water Infrastructure (WRW) Asset Management Plan 2021/22.</li> </ul> <p>An Asset Management Plan was not provided that addresses the drainage infrastructure that the RIA is also licenced to provide.</p>	<p>An Asset Management Plan is required that addresses the Drainage Infrastructure included in the RIA Water Services Licence.</p> <p><b>Current Status - Partially Resolved</b></p> <p><i>A Drainage Asset Management Plan has been prepared. However, this a draft document that need still needs to be finalised.</i></p>	<p><i>Partially resolved September 2024</i></p>	<p><i>The Drainage Asset Management Plan needs to be completed.</i></p> <p><i>Refer Recommendation 1/2024.</i></p>



Reference (no./year)	Previously Assessed Process and Policy Deficiency (Rating, Asset management process, Details)	Previous Auditor’s Recommendation and <i>Action Taken</i>	Date Resolved	Further action required
<b>2/2022</b>	<p><b>B3</b> <b>Asset Planning – Lifecycle Costs</b> <i>Lifecycle costs of owning and operating assets are assessed</i></p> <p>The lifecycle costs of the assets have not yet been assessed and budgeted for by the RIA.</p> <p>The DFW and WRW Asset Management Plans show a significant number of the water and wastewater assets have no condition rating (section 4.1.2) and that this is “a significant risk as it is likely that several of the assets that have not been assigned a condition rating are beginning to reach the end of their useful life”. No information has been provided on the condition assessment of drainage assets.</p> <p>The need to develop an understanding of lifecycle costs was raised in both the 2019 and 2017 Asset Management System reviews. The 2019 Post Audit Implementation Plan proposed an action to address this, being completion of asset condition assessments and population in the Enterprise Asset Management System. This action was to be completed by 30 October 2020.</p> <p>RIA provided a copy of a Business Case for the development of a new Enterprise Asset Management System which was endorsed 9 July 2020. The Business Case proposed the development of a new Computerised Maintenance Management System to address the shortcomings expressed about the absence of a proper RIA Asset Management System by utility licensing audits and external reviews. To date, the RIA has relied on PFM’s Maximo for its AMS. However, numerous shortfalls had been identified as described in the Business Case (including that Maximo asset and maintenance records are incomplete, inaccurate and not up to date) and the decision was made for the RIA to develop its own Enterprise Asset Management System which would include a CMMS to replace use of Maximo. The system is in the process of being loaded with asset information and is not yet in use by PFM.</p>	<p>The need for the RIA to develop lifecycle costing models has been observed in the past two Asset Management System Reviews. Completion of condition assessments is required so that the remaining asset lives can be estimated and included in an asset register. The lifecycle costing should then be developed to provide a forecast of the long term funding required for the asset maintenance and replacement needed to continue to provide the water, wastewater and drainage services.</p> <p><b>Current Status – Partially Resolved</b></p> <p><i>Improvements have been made as demonstrated by the condition assessments completed for major infrastructure (the RO treatment plant and main wastewater pump station) and by the up to date condition assessment information contained in the asset register within Maximo. However, a consolidated long-term forecast of the funding required for asset maintenance and replacement is not yet contained in the Asset Management Plans.</i></p>	<i>Partially resolved September 2024</i>	<i>Refer Recommendation 3/2024.</i>





Reference (no./year)	Previously Assessed Process and Policy Deficiency (Rating, Asset management process, Details)	Previous Auditor’s Recommendation and <i>Action Taken</i>	Date Resolved	Further action required
<b>3/2022</b>	<p><b>B2</b> <b>Asset Planning – Asset Failure</b> <i>Likelihood and consequences of asset failure are predicted.</i></p> <p>Section 4.1.4 of the Asset Management Plans discusses asset criticality and risk of failure. A table of water treatment and wastewater treatment assets assessed as critical is included. The documents are not clear about how asset risk is assessed for the full asset base. Section 4.1.4 states “any important assets should have an assessment conducted such as an Asset Risk Register to assist in mitigating any potential risks”.</p> <p>A demonstration of the Maximo system managed by PFM was provided. This showed many assets are listed with a risk rating. However, the process for reviewing the risk rating, especially following any asset condition assessment activities was not clear.</p> <p>With work proceeding on populating the new Assetic system at the current time there appears to be a lack of clarity around the process for updating asset risk assessments.</p>	<p>The Asset Management Plans need to describe how asset risk is determined and updated in response to condition assessment information, and processes need to be put in place to ensure asset risks are recorded and updated in the Enterprise Asset Management System (Maximo or Assetic).</p> <p><b><i>Current Status – Partially Resolved</i></b></p> <p><i>Demonstration of Maximo showed completion of recent condition assessments and asset risk ratings. Update of the DFW and WRW Asset Management Plans should explain the process for reviewing asset risks following condition assessments.</i></p>	<i>Partially resolved September 2024</i>	<i>Refer Recommendation 4/2024.</i>



## 2.6 Detailed Review Observations

Review Period: 2 Years from 1 July 2022 to 30 June 2024

Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
<b>1</b>		<b>ASSET PLANNING.</b>		<b>B</b>	<b>2</b>
1.1	2	Asset management plan covers the processes in this table	<p>Given the RIA manages an asset base extending beyond water services, some context is providing about the overall set of Asset Management documentation.</p> <p>The RIA has an Asset Management Policy with the objectives of:</p> <ul style="list-style-type: none"> <li>a) Define the principles and approach to asset management at Rottnest Island Authority</li> <li>b) Promote and imbed a culture of best-practice asset management</li> <li>c) Align with and support achievement of the strategic goals established in the Rottnest Island Management Plan 2023-2028.</li> </ul> <p>The Policy describes that RIA will establish and maintain an Enterprise Asset Management System which includes the Asset Management Policy, Asset Management Strategy, Asset Management Objectives, Asset Management Plans and the Computerised Maintenance Management System (CMMS) together with the tools, activities, processes and organisational structure for effective asset management.</p> <p>The Rottnest Island Management Plan 2023-28, Section 2.2 Support Drinking Water Production, Supply, and Retention notes:</p> <p>“The WA State government, as part of the WA Recovery Plan, has committed \$34.1 million for vital infrastructure upgrades to overhaul Rottnest Island’s ageing drinking water production and supply network. Wadjemup / Rottnest Island’s water infrastructure requires substantial investment to continue to provide water services for local, interstate, and international tourists, as well as the Rottnest Island businesses that provide goods and services to island visitors. “</p> <p>The Strategic Asset Management Plan 2024-25 (SAMP) for all RIA’s assets includes sections on asset planning for drinking and fire water and wastewater.</p> <p>Separate Asset Management Plans have been prepared and reference the SAMP as providing the overarching approach to managing the assets. The Asset Management Plans are:</p>	C	3



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
			<p>d) Drinking &amp; Fire Water Infrastructure (DFW) Asset Management Plan 2021/22, and            e) Waste Recycled Water Infrastructure (WRW) Asset Management Plan 2021/22.            f) Drainage Infrastructure (DI) Asset Management Plan (Draft - August 2024).</p> <p>The DFW and WRW AMPs have not been updated since the previous Asset Management Review. The DI Asset Management Plan notes “the purpose of asset management planning is to develop the detailed activities, resources, responsibilities, timescales and risks to achieve strategies and asset management objectives set out RIA Strategic Asset Management Plan (SAMP) 2021-2030 and address the asset requirements of the Rottneest Island Management Plan (RIMP) 2023-2028.</p> <p>AMPs are produced for each asset group and define the level of service required both from a technical and customer perspective.</p> <p>The separate Asset Management Plans include the processes in this table except for the draft DI Asset Management Plan where Section 6 – Financial Summary: Maintenance Expenditure and Capital Expenditure has not been completed.</p> <p>The previous review noted that a separate Asset Management Plan should be developed for drainage infrastructure. The draft DI Asset Management Plan is not yet completed.</p> <p>It was explained that a planned handover of the water and wastewater assets to the Water Corporation was intended to occur in 2024, however this arrangement did not eventuate. The RIA staff advised their focus through this period had been readying the assets for the handover, which resulted in a number of improvement projects but limited attention to the asset management documents.</p> <p><b>Recommendation 1/2024</b></p> <p>a) <i>The draft Drainage Infrastructure (DI) Asset Management Plan (August 2024) should be completed and approved.</i></p> <p>b) <i>The Drinking &amp; Fire Water Infrastructure (DFW) Asset Management Plan 2021/22 should be revised and updated using the new DI Asset Management Plan format, including service levels and lifecycle costings.</i></p> <p>c) <i>The Waste Recycled Water Infrastructure (WRW) Asset Management Plan 2021/22 should be revised and updated using the new DI Asset Management Plan format, including service levels and lifecycle costings.</i></p>		



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
1.2	4	Planning processes and objectives reflect the needs of all stakeholders and are integrated with business planning	<p>Section 1.3.3 of the DFW and WRW Asset Management Plans provide an assessment of stakeholder needs and interests and section 2.2 discuss strategic and corporate goals and how these influence the Asset Management Plan.</p> <p>The DI Asset Management Plan is integrated with the business planning (RIA Strategic Asset Management Plan) and consider the needs of stakeholders in Section 3.1 Levels of Service and Section 3.3 Criticality.</p>	A	1
1.3	4	Service levels are defined in the asset management plan	<p>Levels of Service are listed in section 2.4.1 of the DFW and WRW Asset Management Plans and section 3.1 of the DI Asset Management Plan.</p> <p>Actual Performance and Target Performance still need to be defined for some of the Level of Service measures in the DFW and WRW Asset Management Plans. The DFW Asset Management Plan only includes general customer and technical service levels. The specific service objectives, performance measures and target levels are not stated. The WRW includes tables of specific customer and technical service objectives, performance measures and target levels with the exception of 4 of the 13 service targets are "To be Determined" including planned maintenance, asset failures and preventative versus corrective maintenance ratio.</p> <p>Some of the service levels listed are compliance requirements (e.g. water quality to meet DOH requirements and treated wastewater quality to Environmental Licence requirements). Service levels are provided for the drainage service.</p> <p><b>Recommendation 2/2024</b></p> <ul style="list-style-type: none"> <li>a) The DFW Asset Management Plan should be updated to include the specific service objectives, performance measures and target levels for the customer and technical service levels.</li> <li>b) The WRW Asset Management Plan should be updated to include the service targets for all customer and technical service levels.</li> </ul>	B	3
1.4	4	Non-asset options (e.g. demand management) are considered	<p>The concept of non-asset options is briefly mentioned in the DFW and WRW Asset Management Plans (section 3.4 – Demand Management).</p> <p>Non-asset options are considered in planning any upgrades or replacement of assets, as evidenced in the Business Case for the Wastewater Infrastructure upgrade (9 January 2023). Option 1 (of 5 Options considered) was the option of no capital investment.</p>	A	1



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
			Non-asset options are considered in the DI Asset Management Plan (section 3.4 Demand Forecast).		
1.5	3	Lifecycle costs of owning and operating assets are assessed	<p>As recommended in the previous 2022 review, asset condition assessments and risk assessments are now completed in the Maximo system to enable lifecycle costs and remaining asset lives to be determined. The lifecycle costing can provide a forecast of the long-term funding required for the asset maintenance and replacement needed to continue to provide the water, wastewater and drainage services.</p> <p>Lifecycle costs are considered in planning any upgrades or replacement of assets, as evidenced in the Business Case for the Wastewater Infrastructure upgrade (9 January 2023).</p> <p>Improvements have been made as demonstrated by the condition assessments completed for major infrastructure (the RO treatment plant and main wastewater pump station) and by the up to date condition assessment information contained in the asset register within Maximo. However, a consolidated long-term forecast of the funding required for asset maintenance and replacement is not yet contained in the Asset Management Plans.</p> <p>Section 4.4 Remaining Useful Life in the DI Asset Management Plan includes an assessment of the lifecycle of major assets, and this is used to determine the annual maintenance costs and future capital replacement timing. The DFW and WRW Asset Management Plans do not include a specific section on “Remaining Useful Life” with asset life forecasts, costings and replacement options..</p> <p><b>Recommendation 3/2024</b></p> <p><i>Based on the condition assessment work completed, a forecast of the long-term funding required for asset maintenance and replacement needs to be prepared for the asset maintenance and replacement needed to continue to provide the water and wastewater services. The DWF and WRW Asset Management Plans need to be updated with this assessment.</i></p>	B	3
1.6	4	Funding options are evaluated	<p>The Rotttnest Island Management Plan 2023-28, Section 2.2 Support Drinking Water Production, Supply, and Retention notes:</p> <ul style="list-style-type: none"> <li>• “The WA State government, as part of the WA Recovery Plan, has committed \$34.1 million for vital infrastructure upgrades to overhaul Rotttnest Island’s</li> </ul>	B	2



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
			<p>ageing drinking water production and supply network. Wadjemup / Rottnest Island's water infrastructure requires substantial investment to continue to provide water services for local, interstate, and international tourists, as well as the Rottnest Island businesses that provide goods and services to island visitors. "</p> <p>The asset management objectives set out RIA Strategic Asset Management Plan (SAMP) 2021-2030 and address the asset requirements of the Rottnest Island Management Plan (RIMP) 2023-2028 including funding requirements.</p> <p>The Asset Management Plans including the draft DI Asset Management Plan make no reference to funding options. Funding options are considered on a project by project basis. An example of a comprehensive business case was provided for the Wastewater Infrastructure upgrade (9 January 2023) that considers available funding from the State Government.</p> <p>State Government Funding is sought as "While RIA's commercial operations generate significant net income, revenue streams and cost recovery opportunities across the Island have not been sufficient to comprehensively fund the provision of Island utilities or maintain and replace critical infrastructure including aged water supply infrastructure". An improvement is to update the Asset Management Plan for this funding process.</p>		
1.7	4	Costs are justified and cost drivers identified	<p>The Asset Management Plans describe the process for the RIA approving the annual planned maintenance program performed by Programmed Facility Management (PFM). Business Cases are written to support the need for capital investment projects which include investment drivers linked to Corporate Strategy, Service Impacts, Benefits and Performance Indicators.</p> <p>An example of a comprehensive business case was provided for the Wastewater Infrastructure upgrade (9 January 2023).</p>	A	1



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
1.8	3	Likelihood and consequences of asset failure are predicted	<p>Section 4.1.4 of the DFW and WRW Asset Management Plans discuss asset criticality and risk of failure. A table of water treatment and wastewater treatment assets assessed as critical is included. This includes a detailed risk assessment based on conditions assessments.</p> <p>Section 4.5 – Asset Risks of the DI Asset Management Plan considers the likelihood and consequences of failure. In the development of the AMP, a workshop was performed in June 2024 to identify and assess risks relevant to the management of drainage assets.</p> <p>Demonstration of Maximo showed completion of recent condition assessments and asset risk ratings. Update of the DFW and WRW Asset Management Plans should explain the process for reviewing asset risks following condition assessments. The likelihood and consequences of asset failure are based on condition assessments now performed at least annually and recorded in the Maximo system. Any failures are analysed and future actions updated.</p> <p><b>Recommendation 4/2024.</b>  <i>Updates of the DFW and WRW Asset Management Plans should explain the process for reviewing asset risks following condition assessments.</i></p>	B	3
1.9	4	Asset management plan is regularly reviewed and updated	<p>The DFW and WRW Asset Management Plans were developed in 2021/22 and have not been reviewed or updated in accordance with the stated review frequency of yearly. The DI Asset Management Plan is to be reviewed in annual budgets and issue of every Rottnest Island Management Plan, or if other major changes occur. The DI Asset Management Plan was developed in 2024 and is not yet due for review.</p> <p><b>Recommendation 5/2024.</b>  <i>All Asset Management Plans should be reviewed and updated yearly as stated in the Asset Management Plans.</i></p>	B	3



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
<b>2</b>		<b>ASSET CREATION/ ACQUISITION</b>		<b>A</b>	<b>1</b>
2.1	4	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions.	<p>A range of asset creation projects have been completed for both the water supply and wastewater system during the review period. Water projects included construction of numerous water mains, upgrade of pre-filtration at the desalination plant and the preliminary design and tender of a project for a new desalination plant. Wastewater projects included design and construction of a new flow balance tank at the WWTP, refurbishment of a wastewater pump station and addition of emergency overflow storage and a sewer extension.</p> <p>Examples of project evaluations completed were contained in a Project Management Plan for the North Thomson Sewerage Pump Station Upgrade and a Business Case evaluating overall options for upgrade of the Wastewater Infrastructure for the Island.</p> <p>The Project Management Plan discussed the basis for the pump station project, resulting from a combination of condition assessment of the wet well and the asset risks of overflow to the environment and ability to manage growth. The options of pump station refurbishment versus complete renewal were discussed and the refurbishment option selected based on the expectation of deferring the major expenditure of replacement by at least 20 years.</p> <p>The Business Case for the Wastewater Infrastructure Upgrade compared 5 strategic options for addressing wastewater system failures (and related compliance) and ability to provide the capacity to meet growth. The base case of no investment in improving the wastewater infrastructure was included in the assessment (as Option 1 - run to failure) but rejected in favour of an option that improves reliability and capacity. The Business Case proposed "Program Level Support" for the projects that would be required to deliver the stages of improvements to FY 2030.</p>	A	1
2.2	4	Evaluations include all life-cycle costs.	<p>The RIA has an extensive Whole of Asset Management System approach that is detailed in the Strategic Asset Management Plan 2024-25, including evaluation of lifecycle costs for major assets. This includes the process and supporting templates such as Business Case for major asset capital expenditure.</p> <p>The Wastewater Infrastructure Business Case was based on previous work described in the report "Wastewater Infrastructure Upgrade – Application for Concept Approval". This report discusses the 5 options compared including the</p>	A	1





Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
			basis for capital cost estimates, O&M costs, asset life and present value assessments. This included end of life forecast, and removal and disposal costs.		
2.3	4	Projects reflect sound engineering and business decisions.	<p>During the site visit the following sites were inspected:</p> <ul style="list-style-type: none"> <li>The water main replacement project at Geordie Bay,</li> <li>The new flow balance tank at the wastewater treatment plant,</li> <li>The North Thompson WWPS (refurbished and emergency overflow and backup pumping installed),</li> <li>The WWTP and a new storage for critical spares,</li> <li>The desalination plant where upgraded filtration has been added, a hire RO unit was in the process of being made permanent, condition of the existing RO trains was discussed and plans for the new RO trains discussed (currently subject to a design and construct contract)</li> </ul> <p>All projects demonstrated sound engineering decisions considering issues such as choice of materials, layout, link-ins to existing works, backup and redundancy for critical infrastructure, impact and benefits on the broader system and future requirements, timing of works and impact on users. Our Engineer confirmed with PFM and the site visit that commissioning tests are completed and documented.</p> <p>Sound business decisions were also demonstrated through the examples of business cases, project management plans and procurement approvals provided. Procurement decisions, project risks and impacts are considered and documented and there is broad circulation of project proposals within the RIA for information, comment and to gain support.</p>	A	1
2.4	4	Commissioning tests are documented and completed.	A selection of RIA Tender Documents was reviewed to assess the approach to Commissioning. Both the Geordie Bay Water Main specification and the Rottnest Island Seawater Desalination Upgrade specification included sections about testing required to commission works before being accepted into operation. Our Engineer confirmed with PFM and the site visit that commissioning tests are completed and documented	A	1
2.5	4	Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood.	The reviewer was provided with a copy of the RIA Compliance Obligations Register. This includes lists of relevant Legislation, Agreements, Memoranda of Understanding, Licences, Compliance documents and Compliance obligations.	A	1



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
			<p>The ongoing obligations of the asset owner, RIA, have been assigned to the contractor, PFM, under the Rottnest Island Facilities, Utilities and Support Services (FUSS) contract between the RIA and PFM. FUSS Volume 2 lists legal/environmental and safety obligations required of PFM in operating and maintaining the services on Rottnest Island including the water, wastewater and drainage services. The FUSS contract (Section 10.7) requires that “The Facilities Manager must ensure that the Managers possess the appropriate skill, expertise, authority and qualifications to exercise their functions.”</p> <p>A monthly FUSS service report includes a section on Regulatory Compliance – reporting on monitoring and licence conditions being met as per the Licence and Compliance register. Sighted FUSS service report for June 2024.</p>		
<b>3</b>		<b>ASSET DISPOSAL</b>		<b>A</b>	<b>1</b>
3.1	4	Under-utilised and under-performing assets are identified as part of a regular systematic review process.	<p>As reported in the previous Asset Management Review, the Drinking and Fire Water AMP and the Waste Recycled Water Infrastructure AMP provide a brief discussion of asset disposal (section 4.5) with the reasoning for asset disposal related to criteria for asset renewal (asset condition and risk).</p> <p>The draft Drainage Asset Management Plan (created August 2024) includes a brief discussion about asset “End of Life Strategy” (section 5.3), which identifies possible reasons to dispose of and replace drainage assets before end of life, being changes in capacity requirements and development of land providing the opportunity to upgrade assets to current design standards.</p> <p>Discussion with PFM outlined a process as part of the Facilities Contract where asset replacement needs are identified. An example of the “Notification of Works” process was provided. This documented a section of water main where repeated leaks had been found from leak detection activities, with recommendation for replacement. At least annual asset condition assessments are being performed and the results recorded in the Maximo system for annual review of any further action required..</p>	A	1
3.2	4	The reasons for under-utilisation or poor performance are critically examined and corrective	Under performing assets are identified by PFM from inspections and performance monitoring. PFM create work orders for corrective action (maintenance) and also use the Notification of Works process discussed above.	A	1



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
		action or disposal undertaken.	<p>A monthly leak tracker report has also been added to the monthly FUSS service report, which summarises information including reasons for the leak for reactive work orders related to water leaks.</p> <p>The review sighted an example of a detailed condition assessment report for the WWTP (August 2022) with a detailed assessment of asset condition, performance assessment and corrective action required. The site visit confirmed the corrective actions are being completed.</p>		
3.3	4	Disposal alternatives are evaluated.	<p>The process for considering disposal alternatives is described at a high level in the Asset Management Plans.</p> <p>Other than the routine component replacements undertaken by PFM, it was advised that there have been no asset disposals during the review period.</p> <p>A Notification of Asset Disposal Form requires the reason for disposal to be described. The disposal alternatives such as sale, scrapping, etc. are listed on the form.</p>	A	1
3.4	4	There is a replacement strategy for assets.	<p>As reported in the previous asset management review, the DFW and WRW Asset Management Plans both state in section 4.2 that new assets result from either:</p> <ul style="list-style-type: none"> <li>• Using the asset register to forecast the renewal using acquisition year and the useful life to estimate when renewal year will occur; or</li> <li>• Using capital renewal expenditure forecasts from external condition modelling systems.</li> </ul> <p>The (draft) Drainage Infrastructure AMP estimates the remaining asset lives of the island's drainage infrastructure in section 4.4. including an end-of-life strategy in Section 5.3 of the DI Asset Management Plan.</p> <p>The AMPs do not yet include planned expenditure forecasts for asset replacement, but this is the stated intention outlined in section 5.2.2 of the Drainage AMP.</p> <p>Outside of the AMPs, a considerable amount of work has been completed in assessing the condition of major facilities (the RO plant and the North Thompson wastewater pump station) to plan replacement and capacity upgrades.</p>	B	2



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
<b>4</b>		<b>ENVIRONMENTAL ANALYSIS</b>		<b>A</b>	<b>1</b>
4.1	2	Opportunities and threats in the system environment are assessed.	<p>The Strategic Asset Management Plan 2024-25 (SAMP) for all RIA's assets includes sections on asset planning for drinking and fire water and wastewater. Separate Asset Management Plans have been prepared and reference the SAMP as providing the overarching approach to managing the assets. The Asset Management Plans include a Risk Management Framework in Section 4.1.4 Asset Criticality and Risk that states "RIA has established a generic condition-based risk management methodology that can be used to prioritise investment decision making on its assets. The risks that are identified have a risk owner, and the treatments have a responsible person allocated. Across the business, RIA uses a standard criterion as a quantitative measure of consequence and impact to evaluate whether a risk treatment is required which can be found in the SAMP documentation. "</p> <p>Opportunities and threats are assessed in the Drinking Water HACCP Risk Assessment with a detailed risk register.</p> <p>The coverage is considered to comprehensively cover potential risks to the water wastewater and drainage services. PFM also have comprehensive Occupational Health and Safety management systems and the Drinking Water Quality Risk Management Plan and quarterly monitoring and reporting on drinking water quality.</p>	A	1
4.2	4	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved.	<p>The potable water quality is regularly tested and quarterly reports are provided to the Department of Health. The performance standards are being met apart from some aesthetic water quality tests not meeting the guidelines. These did not pose any health risks. Non-potable recycled water is also regularly tested and an annual report is provided to the Department of Health per the licence.</p> <p>The Annual Performance Reports to the ERA for 2022/23 and 2023/24 were sighted. Performance standards have been met apart from the lack of water pressure and flow monitoring which has not resulted in any customer complaints. The Performance Reports provided to the ERA for 2022/23 and 2023/24 reported that there were no unplanned interruptions to the water supply which is an improvement on previous years, with 8 in 2019/20 and 61 in 2020/21. The RIA and PFM have focused on Rottnest Island water losses/repair through the Potable water reticulation - leak detection, cost analysis and repair programme.</p>	A	1



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
			The audit concluded that “reasonable steps” are being taken and further works is continuing to minimise the risk of interruption of water services. The RIA has undertaken localised potable reticulation repairs and improved detection of water leaks via a monitoring system for bulk meters. However, there is still a risk of unplanned interruptions due to the ageing infrastructure.		
4.3	4	Compliance with statutory and regulatory requirements.	The RIA Licence and Compliance Register lists the statutory and regulatory licences and other compliance requirements including reporting to the regulatory authorities. The RIA’s Contracts and Project Officer monitors compliance.  Any breaches or non-compliance issues are logged in the Breaches and Non-Compliances Register. There were some minor issues logged and actioned in the audit period.	A	1
4.4	4	Achievement of customer service levels.	The Performance Reports to the ERA for 2022/23 and 2023/24 and the Complaints Register showed that there were no complaints about water supply or sewerage services.  It is considered that on this basis and from review of the operation of the system, that customer service levels are being achieved.	A	1
<b>5</b>		<b>ASSET OPERATIONS</b>		<b>A</b>	<b>2</b>
5.1	4	Operational policies and procedures are documented and linked to service levels required.	Operational procedures developed by PFM are loaded into Maximo as tasks to be carried out at regular intervals, which are generated as work orders. For facilities such as the desalination plant, equipment supplier O&M manuals are used to determine the tasks is created in Maximo. A sample O&M manual for a rented Reverse Osmosis plant in service at Rottneest was provided by PFM as an example.  As identified in the previous Asset Management review, activities for the sampling of water quality to manage drinking water quality safety and compliance and to manage the supply of reuse are also documented (e.g. Drinking Water Quality Risk Management Plan). Sampling and monitoring tasks are also scheduled and actioned through Maximo raised work orders.	A	1



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
5.2	4	Risk management is applied to prioritise operations tasks.	<p>Operations and Maintenance tasks loaded into Maximo are initially based on manufacturer O&amp;M manual recommendations.</p> <p>Work orders assigned from Maximo include a priority (1 to 4) based on risk which determines the required response time.</p> <p>Compliance monitoring which indicates issues such as out of spec. water quality have defined priority response protocols. Example “Event Response” procedures include suboptimal chlorine disinfection and storage integrity breach.</p>	A	1
5.3	4	Assets are documented in an Asset Register including asset type, location, material, plans of components, and an assessment of assets’ physical/structural condition.	<p>Asset records are included in the Maximo system maintained by PFM. The breakdown of the assets in Maximo is detailed, with each item included that is able to be maintained. Programmed maintenance tasks can then be assigned against each item.</p> <p>A spreadsheet export was provided from Maximo showing the asset register fields which included asset type, location, description (including material), installation date and condition rating (including date of the condition rating).</p> <p>The RIA staff also advised work had commenced on preparing a GIS plan to show the location of assets which are more meaningful when able to be viewed (such as pipelines). This will provide the actual physical location of each asset to improve response times for any incidents.</p>	A	2
5.4	4	Accounting data is documented for assets.	<p>Operations and Maintenance expenditure is tracked against budget in the RIA Financial Management System and monthly financial reports. Capital expenditure and the current depreciated value of the assets are recorded in the Financial Management system.</p> <p>There is also a detailed asset register maintained by Finance including accounting data in the Assetic asset register.</p>	A	1
5.5	4	Operational costs are measured and monitored.	<p>The DFW and WRW Asset Management Plans from 2022 (Section 5) provide Operations and Maintenance (O&amp;M) Cost annual forecasts for a 10 year period. However, the data in both reports is the same and section 5.1 explains work is still in progress to identify what the breakdown is between water and wastewater (including recycled water).</p> <p>The Opex and Capex budgets are set by Directors and approved by the Board before start of the Financial Year. The RIA Finance Team meet with the CFO</p>	A	2



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
			<p>monthly to discuss how actual spend is tracking against the budget. This is reported to the Board by the CFO at each Board meeting.</p> <p>Budget variations may require Board or Executive Director approval depending on the nature of the project.</p> <p>Project Management Plans are required for all Capex and Opex projects between \$50K and \$250K. An example sighted was for the North Thomson SPS 06 – Upgrade and Emergency Storage Construction (from 2022).</p> <p>Overall, operational costs are budgeted, recorded and monitored by RIA staff. The costs are reviewed and updated annually in the Financial Statements. However, as noted above an improvement is to review and update the operational cost stated in the DFW and WRW Asset Management Plans from 2022. Operational costs are stated in the DI Asset Management Plan and are measured and monitored through the Financial Statements.</p>		
5.6	4	Staff resources are adequate and staff receive training commensurate with their responsibilities.	<p>The interviews and site visit confirmed the PFM staff resources are adequate and perform their responsibilities.</p> <p>During the previous review, PFM was able to provide a staff training matrix which listed training courses and qualifications, and which employees have completed these. Some training for particular roles was shown as mandatory.</p> <p>The current approach to training records appears to have changed, now being a list of employees and the training that they have completed (rather than a list of requirements and an assessment against this).</p> <p><i>An improvement is that a training matrix, including mandatory training, for PFM employees should be reinstated.</i></p>	A	2
<b>6</b>		<b>ASSET MAINTENANCE</b>		<b>A</b>	<b>1</b>
6.1	4	Maintenance policies and procedures are documented and linked to service levels required.	<p>The Maximo system is used to schedule operations and maintenance activities which are initially built up from supplier provided O&amp;M manuals.</p> <p>Examples of adjustment of plans where service levels are impacted include a change to the pre-filtration at the Reverse Osmosis (RO) plant. As noted in the previous Asset Management Review, an issue was being experienced with clogging of filter cartridges requiring a high rate of replacement to protect the downstream reverse osmosis membranes. The prefiltration system has now been</p>	A	1



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
			upgraded, increasing the filter performance and removing the cartridge replacement activity.		
6.2	4	Regular inspections are undertaken of asset performance and condition.	<p>The Asset Register exported from Maximo indicated the majority of assets had condition assessments made in 2023 and 2024. Relatively few assets were recorded as having older condition assessments. All of the assets rated at condition 5 (near end of life) had condition assessments completed in 2023 and 2024. Replacement strategies have been developed to replace ageing assets. For example, the RI Water Infrastructure Improvement Program.</p> <p>The RIA also provided a sample of condition reports which focused on overall facilities, rather than the component level breakdown in Maximo. Assessments included the North Thomson Wastewater Pump Station wet well, the Flow Balance Tank at the WWTP and the RO treatment trains.</p>	A	1
6.3	4	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.	<p>Planned/preventative maintenance plans are scheduled in PFM's Maximo application. The DFW and WRW Asset Management Plans included a copy of the planned maintenance programs for 2021/22, but these have not been updated. The review confirmed the planned maintenance is being completed for the water, wastewater and drainage assets.</p> <p>Demonstration of Maximo was provided by PFM staff verifying the completion of sample allocated work orders. A sample monthly FUSS report (June 2024) was provided which includes tracking of planned maintenance for the month and showed a high level of achievement against target, with KPIs met for the Utilities service line (which also includes power generation).</p> <p>There is a detailed PFM Water Services and Recovery Plan (reviewed November 2023) that sets out the emergency plans.</p>	A	1
6.4	4	Failures are analysed and operational/maintenance plans adjusted where necessary.	<p>The FUSS monthly service report is a useful means for communicating exceptions (including failures). Sections of the report include Water Production and Distribution, Recycled Water Quality, and Regulatory Compliance issues.</p> <p>The section on Risk and Opportunities also allows for operational risks to be highlighted and responses planned. In the sample Fuss Report provided, ordering of critical spares for the WWTP and Desalination plant were discussed in preparation for the summer period, and a location which had experienced flooding in past years was highlighted for assessment of drainage solutions.</p>	A	1





Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
			<p>A summary of outstanding Notification of Works (NoW) advices is also included – the earlier discussed NoW relating to a water main that had experienced multiple leaks was included in the June report.</p> <p>The leak tracker is also a new initiative providing an ongoing log of leak locations and causes.</p>		
6.5	4	Risk management is applied to prioritise maintenance tasks.	<p>The review sighted the DW Risk Management Plan and Risk Register. Risk Management is included in all Asset Management Plans and is applied to prioritise the planned maintenance tasks.</p> <p>The Maximo system provides for reactive maintenance to be prioritised when required, which determines the required response time. PFM update the maintenance plans after any poor condition assessment. There was also one interruption to wastewater transfer in the audit period that was due to be pipe breakage. The breakage was identified and condition assessment of the asset update for future monitoring in the Maximo system.</p> <p>PFM also advised a poor condition assessment may be responded to with increased maintenance and inspection frequency to more closely monitor at risk assets.</p> <p>The review sighted an example of proactive maintenance being identified and performed in the RI Desalination Plant – Train 4 Condition Assessment (June 2024).</p>	A	1
6.6	4	Maintenance costs are measured and monitored.	<p>The DFW and WRW Asset Management Plans from 2022 (Section 5) provide Operations and Maintenance (O&amp;M) Cost annual forecasts for a 10 year period. However, the data in both reports is the same and section 5.1 explains work is still in progress to identify what the breakdown is between water and wastewater (including recycled water).</p> <p>The Opex and Capex budgets are set by Directors and approved by the Board before start of the Financial Year. The RIA Finance Team meet with the CFO monthly to discuss how actual spend is tracking against the budget. This is reported to the Board by the CFO at each Board meeting.</p> <p>Budget variations may require Board or Executive Director approval depending on the nature of the project.</p> <p>Project Management Plans are required for all Capex and Opex projects between \$50K and \$250K.</p>	A	1



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
			<p>Overall, operational costs are budgeted, recorded and monitored by RIA staff. The costs are reviewed and updated annually in the Financial Statements. However, as noted above an improvement is to review and update the operational cost stated in the DFW and WRW Asset Management Plans from 2022. Operational costs are stated in the DI Asset Management Plan and are measured and monitored through the Financial Statements.</p> <p>Overall, maintenance costs are budgeted, recorded and monitored by RIA staff.</p>		
<b>7</b>		<b>ASSET MANAGEMENT INFORMATION SYSTEM</b>		<b>A</b>	<b>1</b>
7.1	4	Adequate system documentation for users and IT operators.	RIA and PFM have adequate system documentation for the asset management system including the Asset Management Process Manual, Asset Register Management procedure and Assetic and Maximo system documentation.	A	1
7.2	4	Input controls include appropriate verification and validation of data entered into the system.	Data accuracy is controlled by edit checks of data fields in the Maximo system and checks by the Administrator when entering manually completed work order requests and updates – considered adequate.	A	1
7.3	4	Security access controls appear adequate, such as passwords.	RIA has an Information Security Policy (August 2023) that sets out the overall IT security policies. The Maximo system has global password rules that require complex passwords, password change every 60 days and restricted reuse of passwords. Only authorised staff are provided with access to the system. Also sighted the PFM Information Security Policy, including Acceptable Usage and the RIA Operational Procedure - Identity and Access Management.	A	1
7.4	4	Physical security access controls appear adequate.	<p>The RIA and PFM site offices on the Island are locked and alarmed outside of office hours. Entry permits are required.</p> <p>The servers for Maximo are at PFM's central office and not on the Island. The Assetic servers are at remote sites in Australia.</p>	A	1
7.5	4	Data backup procedures appear adequate and backups are tested.	<p>The Assetic AMIS is backed up continuously to remote sites in Australia as part of the standard IT data backup procedure. The backups are regularly tested by recovery of data files.</p> <p>Also sighted the backup procedures for the automated control system.</p>	A	1



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
7.6	4	Key computations related to licensee performance reporting are materially accurate.	From review of source data for the performance reporting, the calculations are considered to be accurate.	A	1
7.7	4	Management reports appear adequate for the licensee to monitor licence obligations.	Maximo reporting is largely online to responsible officers. PFM provide a monthly report to RIA on performance of the FUSS contract and a dashboard report of key performance indicators, which is reviewed by RIA to confirm that the licence obligations are being met. Considered adequate.	A	1
7.8	4	Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation.	PFM has adequate system documentation for the asset management system including the Asset Management Process Manual, Asset Register Management procedure and Maximo and Assetic system documentation, including IT access and cybersecurity controls.  RIA has an Identify and Access Management Policy (Reviewed July 2024) that provides for identification and access controls over asset management information, cyber security and prevention of unauthorised access.	A	1
<b>8</b>		<b>RISK MANAGEMENT</b>		<b>A</b>	<b>1</b>
8.1	4	Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system.	The RIA has a Risk Management Framework. Also, PFM has a risk management policy and procedure that has been applied to develop an Enterprise Risk Management Plan covering their FUSS services on the Island including the potable water supply, wastewater service and non-potable water supply. The Plan has been applied to the operations and maintenance activities as described above.  The Plan includes 17 risk statements covering external risks such as bushfire and water quality issues to internal risks such as performance management. The coverage is considered to comprehensively cover potential risks to the water services.  There is also a Drinking Water Quality Risk Management Plan (reviewed November 2022) that assessed the risk for these services in more detail and has been applied in the operations and maintenance activities.  PFM also have comprehensive Occupational Health and Safety management systems.	A	1



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
8.2	4	Risks are documented in a risk register and treatment plans are actioned and monitored.	<p>The Strategic Asset Management Plan 2024-25 and the Asset Management Plans (Drinking &amp; Fire Water Infrastructure (DFW) Asset Management Plan 2021/22 and Waste Recycled Water Infrastructure (WRW) Asset Management Plan 2021/22) include a risk management framework to prioritise the capital projects. There is also a Detailed Risk Register.</p> <p>The operational risks are documented in a risk register as part of the Drinking Water Quality Risk Management Plan and Risk Register (reviewed November 2022). Treatment plans are included in these Plans and actioned via the operating and maintenance procedures.</p> <p>Opportunities and threats are assessed in the Drinking Water HACCP Risk Register (reviewed November 2022) with a detailed risk register, including monitoring and corrective actions. The HACCP decision tree and risk assessment matrix are used to analyse hazards in a food manufacturing process for the establishment of critical control points. There are also RI Quarterly Drinking Water Reports produced for the review period that include water sampling and risk assessment.</p>	A	1
8.3	4	The probability and consequences of asset failure are regularly assessed.	<p>The probability and consequences of asset failure are included in the Enterprise Risk Management Plan. The Plan including the probability and consequence of asset failure is reviewed and updated every 6 months.</p> <p>The operational risks are documented in a risk register as part of the Drinking Water Quality Risk Management Plan and Risk Register (reviewed November 2022).</p> <p>The Risk Management Plans and Risk Register are considered to comprehensively cover potential risks to the water services. PFM also have comprehensive Occupational Health and Safety management systems and the Drinking Water Quality Risk Management Plan and quarterly monitoring and reporting on drinking water quality. There are also RI Drinking Water Quality reports for the review period prepared by PFM that include an assessment of any asset failures or condition deterioration.</p>	A	1



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
<b>9</b>		<b>CONTINGENCY PLANNING</b>		<b>A</b>	<b>1</b>
9.1	2	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.	<p>The RIA and PFM have documented the contingency plans in the Water Services Recovery and Contingency Plan. The Plan includes key contacts for RIA and PFM, including emergency contacts, incident scenarios, emergency response and other response procedures. The Plan includes various scenarios to cover higher risks including desalination plant failure and other scenarios for potable water; and wastewater treatment plant failure and other scenarios for wastewater services. The scenarios include detailed action plans. The Plan includes the scenarios expected from our review of the water supply services.</p> <p>There is also Rottnest Island Water Recovery and Contingency Plan (reviewed November 2023) that document the immediate response procedures. The next review is due November 2024.</p> <p>The plan is tested annually in a desktop scenario exercise with the latest test being in March 2024.</p> <p>Water services are not disrupted due to water main leaks. Temporary repairs are done live with permanent repairs scheduled after 72 hours notification has been provided to all customers.</p>	A	1
<b>10</b>		<b>FINANCIAL PLANNING</b>		<b>A</b>	<b>1</b>
10.1	4	The financial plan states the financial objectives and strategies and actions to achieve the objectives.	<p>The Rottnest Island Management Plan 2023-28, Section 2.2 Support Drinking Water Production, Supply, and Retention notes:</p> <ul style="list-style-type: none"> <li>The WA State government, as part of the WA Recovery Plan, has committed \$34.1 million for vital infrastructure upgrades to overhaul Rottnest Island's ageing drinking water production and supply network. Wadjemup / Rottnest Island's water infrastructure requires substantial investment to continue to provide water services for local, interstate, and international tourists, as well as the Rottnest Island businesses that provide goods and services to island visitors.</li> </ul> <p>The Strategic Asset Management Plan 2024-25 (SAMP) for all RIA's assets includes sections on asset planning for drinking and fire water and wastewater. Separate Asset Management Plans have been prepared and reference the SAMP</p>	A	1



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
			<p>as providing the overarching approach to managing the assets. The Asset Management Plans are:</p> <ul style="list-style-type: none"> <li>• Drinking &amp; Fire Water Infrastructure (DFW) Asset Management Plan 2021/22, and</li> <li>• Waste Recycled Water Infrastructure (WRW) Asset Management Plan 2021/22.</li> <li>• Drainage Infrastructure (DI) Asset Management Plan (Draft - August 2024).</li> </ul> <p>There are detailed capital expenditure budgets for water and wastewater based on the State Funded Capital Works Program for 2023/24, 2024/25 and 2025/6. The budget is reviewed and updated at least annually.</p>		
10.2	4	The financial plan identifies the source of funds for capital expenditure and recurrent costs.	<p>The Rottnest Island Management Plan 2023-28, Section 2.2 Support Drinking Water Production, Supply, and Retention notes “The WA State government, as part of the WA Recovery Plan, has committed \$34.1 million for vital infrastructure upgrades to overhaul Rottnest Island’s ageing drinking water production and supply network”.</p> <p>Further funding will also be required to replace the ageing wastewater treatment facilities and this will need to be sought from the State government.</p>	A	1
10.3	4	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets).	The Plan includes projections of operating costs. The RIA prepares annual budgets and produces monthly and annual financial statements of actual to budget income and expenses. Also, a Statement of Financial Position is produced.	A	1
10.4	4	The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period.	<p>The Rottnest Island Management Plan 2023-28, Section 2.2 Support Drinking Water Production, Supply, and Retention notes “The WA State government, as part of the WA Recovery Plan, has committed \$34.1 million for vital infrastructure upgrades to overhaul Rottnest Island’s ageing drinking water production and supply network”.</p> <p>The financial plan in the Asset Management Plans for Drinking Water and Waste Water state financial predictions until 2030/31 although this may not be fully funded. As noted in Section 1.1, the Asset Management Plans, including the financial forecast income have not been updated since 2020/21.</p>	B	2



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
10.5	4	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services.	<p>The Rottnest Island Management Plan 2023-28, Section 2.2 Support Drinking Water Production, Supply, and Retention notes “The WA State government, as part of the WA Recovery Plan, has committed \$34.1 million for vital infrastructure upgrades to overhaul Rottnest Island’s ageing drinking water production and supply network”.</p> <p>The financial plan in the Asset Management Plans for Drinking Water and Waste Water state financial predictions until 2030/31 although this may not be fully funded. As noted in Section 1.1, the Asset Management Plans, including the financial forecast income have not been updated since 2020/21.</p>	B	2
10.6	4	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary.	Variances in actual to budget income and expenses are analysed and reported in the monthly financial statements to the RIA. Any large variances are analysed and reported on in the monthly Financial Statement to the Executive management, including any action required.	A	1
<b>11</b>		<b>CAPITAL EXPENDITURE PLANNING</b>		<b>A</b>	<b>1</b>
11.1	4	There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates.	<p>The Strategic Asset Management Plan 2024-25 (SAMP) for all RIA’s assets includes sections on asset planning for drinking and fire water and wastewater including capital expenditure for the next 10 years to 2033/34.</p> <p>Separate Asset Management Plans have been prepared and reference the SAMP as providing the overarching approach to managing the assets, The Asset Management Plans are:</p> <ul style="list-style-type: none"> <li>• Drinking &amp; Fire Water Infrastructure (DFW) Asset Management Plan 2021/22, and</li> <li>• Waste Recycled Water Infrastructure (WRW) Asset Management Plan 2021/22.</li> <li>• Drainage Infrastructure (DI) Asset Management Plan (Draft - August 2024).</li> </ul> <p>The Plans includes priorities for capital expenditure in the next year capital and a 10-year unfunded capital expenditure plan. The Plans include the issues to be addressed, action proposed, responsibilities and timing over 10 years to 2030/31.</p> <p>As noted in Section 1.1, the DW and WTP Asset Management Plans, including the financial forecast income have not been updated since 2020/21.</p>	A	2



Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
11.2	4	The plan provides reasons for capital expenditure and timing of expenditure.	There are detailed capital expenditure budgets for water and wastewater based on the State Funded Capital Works Program for 2023/24, 2024/25 and 2025/6. The budget is reviewed and updated at least annually.	A	1
11.3	4	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan.	There are detailed capital expenditure budgets for water and wastewater based on the State Funded Capital Works Program for 2023/24, 2024/25 and 2025/6 that have considered the State Government funding and the ageing condition of the major assets. The budget is reviewed and updated at least annually.  A detailed condition assessment of the Desalination Plant (Trains 1, 2 and 3) was completed in October 2023 and Train 4 in June 2024. Condition assessment reports have also been completed for critical wastewater treatment assets.  PFM is updating the new Assetic system with the current asset condition to provide a more complete asset register for detailed assessment of the asset life and to update the capital expenditure forecast.	A	1
11.4	4	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned.	The RIA has a regular process to review and update their annual capital expenditure plan and to monitor actual against planned expenditure. This process is documented in the RIA's Financial Management procedures.  The Strategic Asset Management Plan 2024-25 (SAMP) for all RIA's assets includes sections on asset planning for drinking and fire water and wastewater including capital expenditure for the next 10 years to 2033/34.  However, as noted in Section 1.1, the DW and WTP Asset Management Plans, including the financial forecast income have not been updated since 2020/21.	B	2





Item no.	Review Priority (1 High to 5 Low)	Component and Effectiveness Criteria (per Audit Guidelines)	Observations and results (including any potential improvements)	Process and Policy Rating	Performance Rating
<b>12</b>		<b>REVIEW OF ASSET MANAGEMENT SYSTEM</b>		<b>B</b>	<b>2</b>
12.1	4	A review process is in place to ensure that the asset management plan and the asset management system described in it remain current.	<p>The Drinking &amp; Fire Water Infrastructure (DFW) Asset Management Plan and Waste Recycled Water Infrastructure (WRW) Asset Management Plan were developed in 2021/22 and have not been reviewed or updated in accordance with the stated review frequency of yearly.</p> <p>The Drainage Infrastructure (DI) Asset Management Plan is to be reviewed in annual budgets and issue of every Rottneest Island Management Plan, or if other major changes occur. The draft Plan has not yet been finalised for further review.</p> <p><b>Recommendation 5/2024.</b>  <i>All Asset Management Plans should be reviewed and updated yearly as stated in the Asset Management Plans.</i></p>	B	3
12.2	4	Independent reviews (e.g. internal audit) are performed of the asset management system.	An independent review is performed every 24 months as required by the licence. There are also reviews by the Department of Health via annual desktop testing of water quality scenarios.	A	1



## 2.7 Review Recommendations

Note: As per the Audit and Review Guidelines, only recommendations with a Policy or Process Rating of C or D and/or Performance Rating of 3 or 4 are included in this report. Other improvement opportunities are provided direct to the Licensee.

Table of Current Review Asset System Deficiencies and Recommendations			
A. Resolved during current review period			
Reference (no./year) Rating	Asset System Deficiency (AMS Component/Effectiveness Criteria/Details)	Auditor's Recommendation	Management Action taken by end of review period
	Nil		
B. Unresolved during current review period			
Reference (no./year) Rating	Asset System Deficiency (AMS Component/Effectiveness Criteria/Details)	Auditor's Recommendation	Management Action taken by end of audit period
1/2024  C3	<p><b>Asset Planning (Asset Processes)</b></p> <p><i>Criteria 1.1 - Asset management plan covers the processes in this table.</i></p> <p>For the water and wastewater assets, Asset Management Plans have been prepared and reference the SAMP as providing the overarching approach to managing the assets. The Asset Management Plans are:</p> <ul style="list-style-type: none"> <li>• Drinking &amp; Fire Water Infrastructure (DFW) Asset Management Plan 2021/22, and</li> <li>• Waste Recycled Water Infrastructure (WRW) Asset Management Plan 2021/22.</li> </ul> <p>The Drainage Infrastructure (DI) Asset Management Plan has been prepared. However, this a draft document that need still needs to be finalised.</p>	<p>a) The draft Drainage Infrastructure (DI) Asset Management Plan (August 2024) should be completed and approved.</p> <p>b) The Drinking &amp; Fire Water Infrastructure (DFW) Asset Management Plan 2021/22 should be revised and updated using the new DI Asset Management Plan format, including service levels and lifecycle costings.</p> <p>c) The Waste Recycled Water Infrastructure (WRW) Asset Management Plan 2021/22 should be revised and updated using the new DI Asset Management Plan format, including service levels and lifecycle costings.</p>	Nil



B. Unresolved during current review period			
Reference (no./year) Rating	Asset System Deficiency (AMS Component/Effectiveness Criteria/Details)	Auditor's Recommendation	Management Action taken by end of audit period
	<p>The DFW and WRW Asset Management Plans were developed in 2021/22 and have not been reviewed or updated in accordance with the stated review frequency of yearly.</p> <p>The DI Asset Management Plan (draft) is to be reviewed in annual budgets and issue of every Rottneest Island Management Plan, or if other major changes occur.</p>		
<p><b>2/2024</b> B3</p>	<p><b>Asset Planning (Service Levels)</b>  <i>Criteria 1.3 – Service levels are defined in the asset management plan.</i>            Levels of Service are listed in section 2.4.1 of the DFW and WRW Asset Management Plans and section 3.1 of the DI Asset Management Plan.</p> <p>Actual Performance and Target Performance still need to be defined for some of the Level of Service measures in the DFW and WRW Asset Management Plans. The DFW Asset Management Plan only includes general customer and technical service levels. The specific service objectives, performance measures and target levels are not stated. The WRW includes tables of specific customer and technical service objectives, performance measures and target levels with the exception of 4 of the 13 service targets are “To be Determined” including planned maintenance, asset failures and preventative versus corrective maintenance ratio.</p> <p>Some of the service levels listed are compliance requirements (e.g. water quality to meet DOH requirements and treated wastewater quality to Environmental Licence requirements).</p> <p>Service levels are provided for the drainage service.</p>	<p>a) The DFW Asset Management Plan should be updated to include the specific service objectives, performance measures and target levels for the customer and technical service levels.</p> <p>b) The WRW Asset Management Plan should be updated to include the service targets for all customer and technical service levels.</p>	Nil
<p><b>3/2024</b> B3</p>	<p><b>Asset Planning (Lifecycle Costs)</b>  <i>Criteria 1.5 - Lifecycle costs of owning and operating assets are assessed</i></p> <p>The need for the RIA to develop lifecycle costing models has been observed in the past two Asset Management System Reviews. Completion of condition assessments is required so that the remaining</p>	Based on the condition assessment work completed, a forecast of the long-term funding required for asset	Nil



B. Unresolved during current review period			
Reference (no./year) Rating	Asset System Deficiency (AMS Component/Effectiveness Criteria/Details)	Auditor's Recommendation	Management Action taken by end of audit period
	<p>asset lives can be estimated and included in an asset register. The lifecycle costing should then be developed to provide a forecast of the long-term funding required for the asset maintenance and replacement needed to continue to provide the water, wastewater and drainage services.</p> <p>Lifecycle costs are considered in planning any upgrades or replacement of assets, as evidenced in the Business Case for the Wastewater Infrastructure upgrade (9 January 2023).</p> <p>Improvements have been made as demonstrated by the condition assessments completed for major infrastructure (the RO treatment plant and main wastewater pump station) and by the up to date condition assessment information contained in the asset register within Maximo. However, a consolidated long-term forecast of the funding required for asset maintenance and replacement is not yet contained in the Asset Management Plans.</p> <p>Section 4.4 Remaining Useful Life in the DI Asset Management Plan includes an assessment of the lifecycle of major assets, and this is used to determine the annual maintenance costs and future capital replacement timing. The DFW and WRW Asset Management Plans do not include a specific section on "Remaining Useful Life" with asset life forecasts, costings and replacement options.</p>	<p>maintenance and replacement needs to be prepared for the asset maintenance and replacement needed to continue to provide the water and wastewater services. The DFW and WRW Asset Management Plans need to be updated with this assessment.</p>	
<b>4/2024</b>  B3	<p><b>Asset Planning (Asset Failure)</b></p> <p><i>Criteria 1.8 - Likelihood and consequences of asset failure are predicted.</i></p> <p>Section 4.1.4 of the DFW and WRW Asset Management Plans discuss asset criticality and risk of failure. A table of water treatment and wastewater treatment assets assessed as critical is included.</p> <p>Section 4.5 – Asset Risks of the DI Asset Management Plan considers the likelihood and consequences of failure. In the development of the AMP, a workshop was performed in June 2024 to identify and assess risks relevant to the management of drainage assets.</p>	<p>Updates of the DFW and WRW Asset Management Plans should explain the process for reviewing asset risks following condition assessments.</p>	Nil



B. Unresolved during current review period			
Reference (no./year) Rating	Asset System Deficiency (AMS Component/Effectiveness Criteria/Details)	Auditor's Recommendation	Management Action taken by end of audit period
	Demonstration of Maximo showed completion of recent condition assessments and asset risk ratings. Update of the DFW and WRW Asset Management Plans should explain the process for reviewing asset risks following condition assessments.		
5/2024  B3	<p><b>Asset Planning (Review)</b></p> <p><i>Criteria 1.9 - Asset management plan is regularly reviewed and updated.</i></p> <p><b>Review of Asset Management System</b></p> <p><i>Criteria 12.1 - A review process is in place to ensure that the asset management plan and the asset management system described in it remain current.</i></p> <p>The Drinking &amp; Fire Water Infrastructure (DFW) Asset Management Plan and Waste Recycled Water Infrastructure (WRW) Asset Management Plan were developed in 2021/22 and have not been reviewed or updated in accordance with the stated review frequency of yearly.</p> <p>The Drainage Infrastructure (DI) Asset Management Plan is to be reviewed in annual budgets and issue of every Rottneest Island Management Plan, or if other major changes occur. The draft Plan has not yet been finalised for further review.</p>	All Asset Management Plans should be reviewed and updated yearly as stated in the Asset Management Plans.	Nil



## Appendix A – Methodology

### A1. Review Approach

Our approach to meeting the requirements for the asset management system review is set out below.

#### **Review Planning**

- Conduct an initial meeting with the ERA to confirm the review approach and timing for the review.
- Contact the licensee to gain an understanding of the business, relevant management plans and systems that may affect the risk assessment for planning purposes.
- Prepare a risk assessment including any specific factors or changes relevant to the licensee (in tabular form against each asset management system component).
- Submit a draft Review Plan, including the risk assessment and proposed approach, to the ERA for review and approval.
- Send a Pre-Visit Checklist of information and documentation to the licensee to enable staff to prepare for the visit (and where possible, send us information prior to the site visit).

#### **Fieldwork**

- Undertake a visit to the licensee and conduct various meetings with stakeholders, including corporate services and works/facilities management personnel, to determine the effectiveness of systems and procedures in place and to compare actual performance against the licence standards. The on-site visit included our Principal Engineer.
- Obtain copies of the latest asset management plans, performance reporting statistics and relevant correspondence between the licensee and the ERA for the audit period.
- The activities in the Asset Management System Review include:
  - analyse the documented procedures and processes for the planning, construction, operation and maintenance of assets to assess whether they are consistent with regulatory requirements under the licence;
  - interview key personnel to assess whether they understand and comply with the documented processes and procedures;
  - physically inspect the key assets and infrastructure; and
  - assess the effectiveness of the processes and system in place.

#### **Review Reporting**

- Prior to the conclusion of the visit, the lead auditor will discuss any observations and recommendations with the licensee's management to confirm our understanding of the issues and to discuss the action to be taken.
- Provide a draft report to the ERA for review no later than two weeks before the final report is due and make any revisions necessary.
- Provide the updated draft report to the ERA for review and feedback prior to finalising the report.
- Issue the final report to the ERA.
- The ERA will arrange responses to the proposed actions in the Post Review Implementation Plan.



## A2. Key Documents Reviewed

### ***Regulatory Documents and Reports***

- Water Services Act 2012
- Water Services Regulations 2013
- 2019 Audit Guidelines: Water Licences (updated August 2022)
- Water Compliance Reporting Manual (updated July 2024)
- Water, Sewerage and Irrigation Licence Performance Reporting Handbook (May 2024)
- Water Services Operating WL10 – Version 9 (from 1 May 2020) and Version 10 (from 29 May 2024)
- Map of Licence Operating Area OWR-OA-189
- 2022 Asset Management System Review Report (August 2022)
- 2023 Performance Audit Report (September 2023)
- Compliance reports to ERA for 2022/23 and 2023/24
- Performance reports to ERA for 2022/23 and 2023/24
- Water, Sewerage and Irrigation Reporting Datasheets for 2022/23 and 2023/24
- Energy & Water Ombudsman membership.

### ***Water Quality***

- RIA and Department of Health – Memorandum of Understanding - Drinking Water
- Drinking Water Quality Risk Management Plan
- Drinking Water Quality HACCP Risk Register - Ecosafe Int.
- RIA / Programmed Facilities Management ('PFM'): Annual Drinking Water Quality Reports to Department of Health for 2022/23 and 2023/24
- RIA / PFM: quarterly drinking water reports to Department of Health – September 2022 to June 2024
- PFM: copies of drinking water quality test results
- PFM – Minutes of Annual Drinking Water Incident/Response Plan Desktop Exercise
- Network Quality and Reliability of Supply Independent Audit Report
- Annual Groundwater Monitoring Summary 2022-23

### ***Asset Management Documents and Reports***

- Rottnest Island Management Plan 2023-2028
- Strategic Asset Management Framework (SAMF)
- Strategic Asset Plan 2024-25
- Drinking & Fire Water Infrastructure (DFW) Asset Management Plan
- Waste Recycled Water Infrastructure (WRW) Asset Management Plan
- Rottnest Island - Water Customer Services Manual
- Utilities Licence and Compliance Register
- RIA Asset Management Policy
- Maximo Asset Register (water assets)
- Rottnest Island Facilities Utilities and Support Services contract ('FUSS contract') between RIA and Programmed Facility Management Pty Ltd ('PFM')
- PFM FUSS Contract Service Report – June 2024
- Notification of Works - Examples
- O&M Manual
- Condition Assessment Reports
- Procurement and Budget Approval Form – Desalination Plant Dec. 23 and Geordie Bay Water Main – Jan. 24



- State Funded Capital Works Program Budget (Water Audit 2024)
- Wastewater Capital Works Budget Forecast (Water Audit 2024)
- Mock Incident 2023 – Post Summary
- RIA: Project disposal form
- RIA: Business case form (short and long term)
- RIA: Business Case – Infrastructure Renewal Project
- RIA: Project funds approval form
- RIA: Asset project components form.
- RIA/PFM - Water supply interruption procedure
- Rottnest Island drinking water quality management – incident response protocols
- PFM – Safety Management Plan
- PFM – Water Services Recovery and Contingency Plan

### A3. Key Contacts

The licensee’s representatives participating in the audit onsite were:

- Martin Marerwa – Director, Infrastructure
- Peter Oliver – Manager, Water and Wastewater
- Rebecca Gabbitus – Manager, Environment, Compliance and Sustainability
- David Pond – Environmental Compliance and Approvals Coordinator
- Jason Currie - PFM
- Adam Stefaniuk - Water Operations Manager PFM

### A4. Consultants

NAME AND POSITION	BUDGET HOURS
Geoff White - Director	35
Geoff Hughes – Principal Engineer	35
<b>TOTAL</b>	<b>70</b>

END OF REPORT