Barry Robbins Engineering &
Project Management
11th March 2014

SHIRE OF BROOKTON

REPORT

2013 ASSET MANAGEMENT REVIEW

OF

BROOKTON SEWERAGE & NON-POTABLE WATER SUPPLY SERVICES,

EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

INTRODUCTION

The Shire of Brookton (The Shire) operates the Brookton Sewerage & Non-Potable Water Supply under the provisions of a Water Services Operating Licence issued by the Economic Regulation Authority (ERA) of Western Australia. This review of the Shire's asset management system is based on the ERA Licence No.12 version OL2 dated 15th May 2009, issued in accordance with the provisions of the Water Services Licensing Act 1995.

Section 36 of the Act and Clause 17 of the licence require that the Licensee provides and maintains an Asset Management System for the ongoing operations, maintenance, monitoring the condition of and future replacement of its assets. Also, an independent review of the asset management system is required to be undertaken not less than once in 24 months, or such other period allowed by the Economic Regulation Authority.

Reviewer notes that the above licence has been replaced by licence No. WL 12 Version 3, dated 18th November 2013, issued by ERA - in accordance with the provisions of the Water Services Act 2012 (WA).

OBJECTIVES AND SCOPE

The Water Services Licensing Act 1995 requires that the Shire provide for and maintain an asset management system. The system should set out the processes to be taken by the Shire to ensure the proper planning, operation, financing, maintenance, repair and renewal of its assets and for monitoring of its water services. The Act requires the Shire to provide the ERA with a report by an independent expert on the effectiveness of the system.

This review will provide the Authority with an independent opinion on whether or not the Shire has in place the appropriate systems for the planning, construction, operation and maintenance of its water services assets.

A detailed description of the scope of the asset management review investigations is given in the main report.

TIME FRAME AND DATE OF ASSET MANAGEMENT REVIEW

The Asset Management Review covers the period from 1st December 2012 to 30th November 2013.

The review was undertaken during a field visit to Brookton on 10th and 11th December 2013

The previous review covered the period 1st December 2011 to 30th November 2012

SUMMARY OF CONCLUSIONS

The Asset Management Review concluded that the recommendations of the 1st December 2011 to 30th November 2012 review of its Asset Management System have been largely addressed. An asset management information package has been installed, basic maintenance is regularly undertaken and recorded - as are measurements of raw sewage and treated effluent flow rates and quality sampling /testing.

The 2008 AMP has been updated to 2013, but requires further editing in some areas. Additional data input to the AMIS is required in order to complete its set up and to gain maximum benefit from its installation.

During the review period, the Shire was able to comply with the requirements of its ERA and Department of Environmental Regulation (DER) licences.

The Shire has written DOH approval to dispose of treated effluent to irrigate the town oval. Relevant monitoring and water quality standards required by the DOH approval are generally achieved.

Due to its basic simplicity, Brookton sewerage and non-potable water services systems are achieving their basic requirements, ie, the collection and treatment of discharge from individual septic tanks and disposal of effluent.

The Shire has appointed an operator to undertake the day to day operation and maintenance tasks associated with the water services and the consequent improvement in maintenance and operations is noted. However, it is still without the services of an Environmental Health or other suitable officer to undertake the management, administration, coordination and operation of the water services, or the associated reporting, review and up-dating of the AMP and AMIS. Without the appointment of an EHO or suitable officer, the above tasks will not be performed and the management of the services will revert to the previous level.

Reviewer considers such an appointment is both critical and urgent. The Reader will note that such an appointment is the reason for the many of the lower implementation scores and the basis of many recommendations associated with this review.

PREVIOUS REVIEW - 2012

The recommendations of the 1st December 2011 to 30th November 2012 review and subsequent status are summarised in red in the following. Details of actions taken by the Shire and Reviewer's assessment are provided in Table B of the accompanying report

1 - Asset Planning

The 2008 AMP should be updated as a matter of urgency. Specific attention should be given to completing the asset register,(including asset life expectancy and condition) commenced by the former EHO and its inclusion in the AMP – and implementation of a procedure for regular, say two yearly, assessment of the condition of all assets and updating of the asset register ***Mainly resolved***

2 - Asset Creation / Acquisition

The 2008 AMP should be updated as a matter of urgency. Specific attention should be given to completing the asset register,(including asset life expectancy and condition) commenced by the former EHO and its inclusion in the AMP.

Mainly Resolved

The AMP should include a basic flow path for the evaluation of options and a proforma document for evaluations similar to those already provided ***Resolved***

3 - Asset Disposal

As recommended for Item 1 – Asset Planning and Item 2 – Asset Creation and Acquisition, a procedure should be implemented for regular, say two yearly, assessment of the condition of all assets. ***Outstanding***

4 - Environmental Analysis

The material described should be reviewed and updated in the AMP. In particular, the text relevant to Environmental Analysis should be transferred from the various sections of the existing AMP and consolidated under the heading "Environmental Analysis" in the reviewed document ***Partly Resolved***

The existing SWAT analysis should be expanded and consolidated (as above) in the reviewed document. ***Resolved***

5 - Asset Operations

Prepare a simple operation manual - including daily operation checks and flow measurement etc. for the system to be used primarily to support training ***Outstanding***

Appoint an Operator to, the Works Manager's staff, with responsibility for day to day operation of the systems including visual checks, flow measurement, pumping station operations. ***Resolved***

Appoint a suitably qualified Officer to have administrative responsibility for the management and coordination of the water systems and the setting up and implementation of an appropriate Asset Management System on the Shire's computer system

Outstanding

Provide the Operator and Administration Officer with training in the operation and Maintenance of the water services and Contingency Plans ***Outstanding***

Implement a training program ***Outstanding***

The flow meter at the treatment plant should be removed and sent for repair, or replaced with a new unit. Both this meter and that on the chlorination plant should be read concurrently at least weekly ***Resolved***

Take comparative water samples to determine the difference in quality (BOD and Suspended Solids) at a depth of 600 mm at the floating pump location and the diagonally opposite end of the lagoon. If the difference is significant consideration should be given to relocating the offtake pump at the far end of the pond to reduce short circuiting within the treatment lagoon

Resolved

The Shire should consider the practicability and means by which customers could be encouraged to have their septic tanks pumped out on a regular basis ***Partly Resolved***

6 – Asset Maintenance

That the existing maintenance description and table be reviewed, upgraded and used in conjunction with the Operations Manual for training of the Operator and Administration Officer as in Item 5 above. ***Mainly Resolved***

The upgraded maintenance should be incorporated in the AMP as an Appendix ***Resolved***

The Shire should immediately implement the maintenance procedures of the 2008 AMP – particularly items associated with the pumping station. ***Mainly Resolved***

7 - Asset Management Information System

The Shire should install a basic computerised asset management system - either by purchasing a standard product or by further in house addition to the generic spread sheets already installed on the Shire's computer system. As recommended for Item 1 – Asset Planning, the system should include an asset register and a procedure for regular updating of the register and the condition of the registered assets ***Mainly Resolved***

Whichever system is installed, it should be subject to the existing password and other backup and security systems currently in place in the Shire's office. ***Resolved***

8 - Risk Management

Review and update the risk management table to match any equipment changes. Provide more detail for control measures where these are currently dealt with by implication. ***Outstanding***

Review and update the range of risks. ***Outstanding***

9 - Contingency Planning

Contingency plans should be prepared from the results of the risk assessment review, using the existing "Emergency Procedures" as a baseline. ***Outstanding***

The plans should include and or update action to be taken in each instance, details of Shire staff responsibilities and contact information, together with details and contact information for relevant public authorities and specialist contractors and suppliers with service agreements with the Shire. ***Outstanding***

10 - Financial Planning

Review and update the financial planning documents for the current 2012/2013 financial year and annually for subsequent years. ***Outstanding***

11 - Capital Expenditure Planning

Extend the existing capital works plan to encompass a five years period. Maintain the five years period for each subsequent year ***Partly Resolved***

12 - Review of AMS

The Shire should:

- *review and update its AMP as stated throughout this report The updated AMP should include the documents listed in the "Reviewer's Comments" column of this Item 12 as appendices.* ***Mainly Resolved***
- *install an Asset Management Information system as recommended for Item 7 above.* ***Resolved***

The Asset Management system created by the above recommendations should be reviewed at intervals of two years, or in the event of significant changes to the assets or the operating mode of the water services. ***Mainly Resolved***

The reviewer will sign off on the review on the face sheet of the AMP, noting the review date and information regarding additions or amendments. ***Outstanding***

ERA SECTION 39 NOTICE

On 23rd April 2013, ERA issued the Shire of Brookton with a Notice under Section 39 of the Water Licensing Act 1955 requiring the Shire to correct deficiencies noted in Table 1 of the notice as set out in the following. The comments in red summarise the outcome. More detail is provided in Section 2 of the accompanying report.

Asset Planning.

The Asset Management Plan (**AMP**) has not been implemented, nor has it been reviewed or updated since it was prepared in 2008

The AMP contains no asset register, asset life expectation, or condition. Consequently, formal planning for ongoing development or replacement of assets has been undertaken.

Mainly Resolved

Environmental Analysis

Since 2008, the regulatory environment section in the AMP has not been updated to account for changes in conditions of the licence. ***Outstanding***

Asset Operations

The flow meter o**n** the inlet to the treatment plant does not function. ***Resolved***

Asset Operations

The original design of the treatment pond has been altered by relocating the off-take pump on the same side as the inlet pump. Consequently, the flow that used to travel the full 95 m diagonal length of the pond (ensuring maximum detention period) now travels 30 metres. It is uncertain whether or not the system currently treats the effluent to an appropriate level**.** ***Resolved***

Asset Maintenance

There are generic maintenance plans included in the AMP but they have not been implemented. Maintenance is unplanned and mainly associated with repairs. Many of the maintenance items in the AMP have never been undertaken, including flushing of the collection system. ***Mainly Resolved***

Asset Maintenance

The pump station has not been maintained adequately. All the surfaces are covered with accumulate grit and grease. Over time this layer becomes septic and corrosive, which can interfere with the operation of level control switches and can cause significant wear on pumps. ***Mainly Resolved***

Asset Management Information System (**AMIS**)

There is no formal AMIS. The Shire should have a system for regular updating of the asset register and asset condition, and to maintenance programs and documentation summaries of flow measurement and water quality results, reports etc. ***Mainly Resolved***

Risk Management

The AMP contains a risk management, but it has not been reviewed or updated. Control measures should be more specific. ***Outstanding***

Contingency Planning.

The AMP contains emergency procedures that are essentially contingency plans, but they have not been reviewed or updated. ***Outstanding***

Review of Asset Management System

The Shire does not have a formal AMIS in place and the overall management of the wastewater assets is reactive rather than proactive. The Shire has not undertaken inspections/reviews of the wastewater assets as required by the licence. The operations and maintenance documents produced by the former EHO are not actioned or kept up to date. ***Partly Resolved***

REVIEWER'S EFFECTIVENESS TABLE

Tables 5 & 6 of ERA's "Audit Guidelines", August 2010, provided the basis of assessment of the effectiveness rating levels associated with Process and Policy Definition and Asset Management Performance during the Asset Management Review

The Reviewer's assessment, (based on the above tables) of the effectiveness of the Shire's Asset Management System for Brookton Sewerage and Non-Potable Water Services is summarised (overleaf) in Table A - Reviewer's Effectiveness Summary. A summary key to the assessment is provided at the foot of the table.

TABLE A –REVIEWER'S EFFECTIVENESS SUMMARY

Asset Management System	Asset Management Process & Policy Definition Adequacy Rating	Asset Management Performance Rating
1 - Asset Planning	**B**	**3**
2 - Asset creation / acquisition	**B**	**2**
3 - Asset Disposal	**B**	**2**
4 - Environmental Analysis	**B**	**2**
5 - Asset Operations	**C**	**3**
6 - Asset Maintenance	**C**	**2**
7 - Asset Management Information System	**B**	**2**
8 - Risk Management	**B**	**2**
9 - Contingency Planning	**C**	**3**
10 - Financial Planning	**C**	**2**
11 - Capital Expenditure Planning	**C**	**2**
12 - Review of Asset Management Plan	**C**	**3**

Process & Policy Definition Key **A** = adequately defined. **B** = requires some improvement.

C = requires significant improvement **D** = inadequate

Performance Ratings Key **1** = performing effectively **2** = opportunity for improvement.

3 = corrective action required **4** = serious action required.

SHIRE OF BROOKTON

REPORT

ON

2013 ASSET MANAGEMENT REVIEW

FOR

BROOKTON SEWERAGE & NON-POTABLE WATER SUPPLY SERVICES

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SHIRE OF BROOKTON

REPORT ON THE 2013 ASSET MANAGEMENT

REVIEW

BROOKTON SEWERAGE & NON-POTABLE WATER SUPPLY SERVICES

SECTION 1 – ASSET MANAGEMENT REVIEW

1.1 – INTRODUCTION

Under Licence No. WL 12 issued by the Economic Regulation Authority of Western Australia, the Shire of Brookton (the Shire) operates and maintains the Sewerage and Non-Potable Water Services for the town of Brookton.

John Seabrook settled in the area in 1846 – naming his property "Brookton House". During the 1860s and 1870s more settlers moved into the area, engaging in wheat and sheep farming and sandalwood cutting. When the Great Southern Railway was constructed in 1889, Brookton was one of the stations and became a centre for the area's isolated farms. The government gazetted the town as Seabrook in 1895, but the name was changed to Brookton in 1899.

In 1906 the Brookton Roads Board was formed. The board became the Shire of Brookton in 1961.

The town of Brookton is situated on the Brookton Highway, some 140 km east south east of Perth and is a key centre for the surrounding agricultural area. The resident population at the 2006 census was recorded as 576 persons

The town's sewerage system was established in 1976. The facility is described as a "Septic Tank Effluent Disposal System" (STED) as it accepts only (primary settled) effluent from septic tanks within private and commercial properties in the town site. All sewage is conveyed to a pumping station, from which it is discharged to the treatment plant. The annual sewage flow to the treatment lagoon is approximately 38,000 kl.

The length of gravity sewers is 4740 metres. The rising main from the pumping station to the treatment plant is 640 metres in length

The WWTP is comprised of a single pond. Effluent from the pond is flocculated, clarified and chlorinated before pumping to either the enclosed irrigation storage tank at the town oval, or to the 50 mgl storage dam which forms part of the town site water utilization scheme

In addition to its water services licence issued by ERA, the Shire holds a Department of Regulation Licence No. Licence No.L7994/2003/3 for the WWTP. The Department of Health have indicated its approval (subject to certain conditions) for the Shire to use disinfected treated effluent from the treatment plant for irrigation of the town oval area.

1.2 - OBJECTIVES AND SCOPE

The Water Services Act 1995 requires that the Shire provide for and maintain an asset management system. The system should set out the processes to be taken by the Shire to ensure the proper planning, operation, financing, maintenance, repair and renewal of its assets and for monitoring of its water services. The Act requires the Shire to provide the ERA with a report by an independent expert on the effectiveness of the system.

Such a review provides ERA with an independent opinion on whether or not the Shire has in place appropriate systems for the planning, construction, operation and maintenance of its water services assets

This review therefore examined;

- The adequacy or otherwise of the outputs of the system - including documentation of performance standards and statutory requirements, system opportunities and threats, preparation of operations manuals, maintenance schedules and action records, registers of the location, condition, age etc of assets.
- The extent to which the risks associated with the system environment and / or unexpected system failures have been assessed, quantified, documented as contingency plans and reduced by specific practices - such as stocking selected spare parts or, equipment items subject to extended delivery or repair periods, additional storage etc
- The existence and effectiveness of systems implemented for the assessment, planning, financing and construction of new, replacement and major maintenance works and disposal of redundant assets.
- Whether or not the system has been subject to regular internal review; with systems in place to ensure that plans are regularly updated to current status, provide for prior identification of new or replacement assets, their implementation; and initiatives to improve the overall effectiveness of the asset management system.
- The Shire's response to the recommendations made in previous reviews.

The review also identifies any aspects of the asset management system, which are considered to require correction, amendment, or improvement.

1.3 - KEY DOCUMENTS INSPECTED / RECEIVED DURING THE REVIEW

Shire of Brookton's Water Services Operating Licence No. 12 version OL2 for the Brookton Sewerage & Non-Potable Water Services, issued by the Economic Regulation Authority of Western Australia (ERA) on 15th May2009

ERA letter to Shire of Brookton dated 9th January 2013 acknowledging receipt of revised post audit and post review management plans

Department of Environmental Regulation– Licence No.L7994/2003/3 – Brookton Wastewater Treatment Plant

Economic Regulation Authority – Section 39 Notice of Contravention of Licence

Shire of Brookton Annual Compliance Report to ERA for the period 1st July 2012 to 30th June 2013

Proposed Budget (part) of income and expenditure (capital works, maintenance, labour etc) for the 2013/14 financial year

Shire of Brookton – Forward Capital Works Plan – Infrastructure – 1st July 2011 to 30th June 2016

Shire of Brookton - Asset Management Plan - Brookton Town Sewerage Scheme – November 2013 Reviewed and mainly up-dated

Shire of Brookton - Asset Management Review 2012 - *Final Report dated March 2013*

Pathwest – report on chemical analysis of effluent / irrigation water at town oval

Department of Health – Approval letter and conditions for the initial water re-use scheme. 23 July 2003

1.4 - REVIEW PERIOD AND DATE OF REVIEW

This Asset Management Review covers the period from 1st December 2012 to 30th November 2013.

The review was undertaken during visits to the Shire's offices at Brookton 10th & 11th December 2013.

1.5 - KEY REVIEW PARTICIPANTS

The review was undertaken by Barry Robbins – of Barry Robbins Engineering & Project Management, with the assistance of the following staff of Shire of Brookton

Mr K O'Connor – Chief Executive Officer**, Ms. J Oliver –** Deputy CEO and Senior Finance Officer**, Mr A Ramsay –** Former Environmental Health Officer, **Mr G Forward –** Principal Works Supervisor

Ms N Love - Admin Officer, Technical. **Mr G Smyth** - Water Services Operator

1.6 - REVIEW OF RECOMMENDATIONS FROM THE PREVIOUS REVIEW

Recommendations from the 1st December 2011 to 30th November 2012 review by this (2013) reviewer are set out in Table B below

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TABLE B - REVIEW OF RECOMMENDATIONS FROM THE PREVIOUS REVIEW

Item	Recommendation	Action Taken	Further Action Required	Resolved /Outstanding
1 - Asset Planning	*The 2008 AMP should be updated as a matter of urgency. Specific attention should be given to completing the asset register,(including asset life expectancy and condition) commenced by the former EHO and its inclusion in the AMP – and implementation of a procedure for regular, say two yearly, assessment of the condition of all assets and updating of the asset register*	*The AMP has been updated. The current issue is dated 2013 and includes a detailed asset register including asset life expectancy. Asset condition is yet to be included.* *The AMP notes a requirement for review annually – specifically of the financial plan . capital expenditure plan and asset register*	*A program for assessing asset condition and necessary action should be addressed in the AMP* *The AMP should clarify that the whole AMP should be reviewed not just the financial plans and asset register*	*Mainly Resolved*
2 – Asset Creation / Acquisition	*The 2008 AMP should be updated as a matter of urgency. Specific attention should be given to completing the asset register,(including asset life expectancy and condition) commenced by the former EHO and its inclusion in the AMP.* *The AMP should include a basic flow path for the evaluation of options and a proforma document for evaluations similar to those already provided*	*As for Item 1 above* *The AMP contains adequate procedures for assessing asset condition and evaluation of acquisition options*	*A program for assessing asset condition and necessary action should be addressed in the AMP*	*Mainly resolved* *Resolved*
3 – Asset Disposal	*As recommended for Item 1 – Asset Planning and Item 2 – Asset Creation and Acquisition, a procedure should be implemented for regular, say two yearly, assessment of the condition of all assets.*	*While the AMP contains adequate procedures for assessing asset condition and evaluation of acquisition options, there is no program for ongoing assessment of assets condition*	*A program for assessing asset condition and necessary action should be addressed in the AMP*	*Outstanding*

4 – Environmental Analysis	*The material described should be reviewed and updated in the AMP. In particular, the text relevant to Environmental Analysis should be transferred from the various sections of the existing AMP and consolidated under the heading "Environmental Analysis" in the reviewed document* *The existing SWAT analysis should be expanded and consolidated (as above) in the reviewed document*	*Text related to Environmental Analysis is included in separate sections of the AMP headed "System Environment", "Levels of Service", and "Regulatory Requirements". These should be amalgamated in sequence under the heading of "Environmental Analysis* *The SWAT analysis is adequate*	*Amalgamate relevant text of "System Environment", "Levels of Service" and "Regulatory Environment" in a section headed "Environmental Analysis"*	*Partly Resolved* *Resolved*
5 – Asset Operations	*Prepare a simple operation manual - including daily operation checks and flow measurement etc. for the system to be used primarily to support training* *Appoint an Operator to, the Works Manager's staff, with responsibility for day to day operation of the systems including visual checks, flow measurement, pumping station operations.* *Appoint a suitably qualified Officer to have administrative responsibility for the management and coordination of the water systems and the setting up and implementation of an appropriate Asset Management System on the Shire's computer system* *Provide the Operator and Administration Officer with training in the operation and Maintenance of the water services and Contingency Plans*	*Operational checks and flow measurements are now undertaken on a daily or fortnightly basis as appropriate. While the procedures associated with each are well understood by the operator, they are not adequately documented eg checking operation of the chlorination plant at the treatment plant* *A competent operator has been appointed and significant improvement in recording / reporting noted* *An appointment has not been made. The former EHO attends the Shire monthly, but has insufficient time to attend adequately to the water services. As a result, there is little flow of information from the field to the IMIS or ongoing, management, administration, or control of the system. The Shire is actively canvassing shared appointment of a suitable officer with two neighbouring Shires* *The operator although qualified in operation of similar systems eg, the operation of chlorination equipment and water sampling associated with public swimming pools, has not been trained in the theory or operation of sewerage facilities*	*As per the previous recommendation* *No further action* *As per previous recommendation* *Actively pursue the appointment a suitable officer* *As per the previous recommendation*	*Outstanding* *Resolved* *Outstanding* *Outstanding*

			No further action	
	The flow meter at the treatment plant should be removed and sent for repair, or replaced with a new unit. Both this meter and that on the chlorination plant should be read concurrently at least weekly	*The flow meter has been replaced and the recommended flow readings are being taken*		*Resolved*
	Take comparative water samples to determine the difference in quality (BOD and Suspended Solids) at a depth of 600 mm at the floating pump location and the diagonally opposite end of the lagoon. If the difference is significant consideration should be given to relocating the offtake pump at the far end of the pond to reduce short circuiting within the treatment lagoon.	*Comparative water samples have been taken and indicate no variation of water quality in the treatment pond. Short circuiting of the incoming flow (if occurring) is apparently not a treatment quality issue.*	*No further action*	*Resolved*
	The Shire should consider the practicability and means by which customers could be encouraged to have their septic tanks pumped out on a regular basis	*The Shire issued a letter to all customers advising them to arrange for their septic tanks to be pumped out. There has been little if any response. Reviewer consider the Shire should take firm action to ensure the regular pump out of all septic tanks connected to the water services*	*Compare BOD and SS analysis of incoming flows with expectation of these values for septic tanks. If differences are significant, consider action to enforce pump out of septic tanks connected to the system.*	*Outstanding*
6 – Asset Maintenance	*That the existing maintenance description and table be reviewed, upgraded and used in conjunction with the Operations Manual for training of the Operator and Administration Officer as in Item 5 above.*	*A new maintenance description and program has been produced, together with pro-forma sheets for recording maintenance and flow results and reporting operating / maintenance issues as appropriate. The documentation on maintenance detail should be broadened*	*Edit the maintenance description to provide more detail*	*Mainly resolved*
	The upgraded maintenance should be incorporated in the AMP as an Appendix	*The maintenance schedules are included in the AMP*	*No further action*	*Resolved*
	The Shire should immediately implement the maintenance procedures of the 2008 AMP – particularly items associated with the pumping station.	*Maintenance procedures have been implemented and significant improvement in condition of the pumping station noted.*	*Clear weeds within pumping station enclosure*	*Mainly resolved*

7 – Asset Management Information System	*The Shire should install a basic computerised asset management system - either by purchasing a standard product or by further in house addition to the generic spread sheets already installed on the Shire's computer system. As recommended for Item 1 – Asset Planning, the system should include an asset register and a procedure for regular updating of the register and the condition of the registered assets* *Whichever system is installed, it should be subject to the existing password and other backup and security systems currently in place in the Shire's office.*	*The Shire has installed a standard AMIS package now being used by several Authorities. The contents of the package include: Asset Register for both sewerage and effluent disposal, Condition / Performance, Financial Planning, Spare parts inventory Maintenance Management and Risk Assessment. Much of the Shire related data has been entered on the system by consultants and the Shire's part time EHO. Some data is outstanding* *The package is supported by recently developed spread sheets within the Shire's Synergy system for recording maintenance and various reports. Minor further development of these spread sheets is required* *As stated for Item 5 – Operations, the Shire does not have a suitable officer to implement the necessary ongoing, management, administration, and control of the water services system, or the AMIS. Until such an appointment is made, improvements recently accomplished will falter.* *The Shire's computer data including all elements of the AMIS are backed up daily. Password protected access is allocated to various staff levels.*	*Complete and update data input to the AMIS package to keep records etc up to date.* *Expand existing spread sheets to provide broader recording of maintenance verification, flow recording and sampling, operations issues etc* *Actively pursue the appointment of a suitable officer*	*Mainly Resolved*
8 – Risk Management	*Review and update the risk management table to match any equipment changes. Provide more detail for control measures where these are currently dealt with by implication.* *Review and update the range of risks.*	*The Risk Management section of the AMP is essentially unchanged from the previous review* *As above* *However, the AMIS contains an excellent template*	*As per previous review* *As per the previous review* *Adopt the AMIS Risk Analysis template, review and determine the*	*Outstanding* *Outstanding*

		Risk Analysis, from which the user can choose applicable risk situations for automatic evaluation. Reviewer prefers use of the AMIS risk analysis	*risks relevant to the water services facilities / operations*	
9 – Contingency Planning	*Contingency plans should be prepared from the results of the risk assessment review, using the existing "Emergency Procedures" as a baseline.* *The plans should include and or update action to be taken in each instance, details of Shire staff responsibilities and contact information, together with details and contact information for relevant public authorities and specialist contractors and suppliers with service agreements with the Shire.*	*Contingency Plans are covered in the AMP as Emergency Procedures and appear unchanged from the previous review except that some contact details have been amended.* *The plans are too inclusive and generic. Pump or Electrical failure should not have an identical response, nor should Pipeline Burst or Blockage.* *There is no mention of action to contain water overflows other than advise the EHO and for someone to advise ERA and DER of the event within five days*	*As for previous recommendation* *As for previous review*	*Outstanding* *Outstanding.*
10 – Financial Planning	*Review and update the financial planning documents for the current 2012/2013 financial year and annually for subsequent years.*	*Financial planning is undertaken based on a separate AMP prepared by consultants in 2009. The ten year financial plan has a horizon of four years remaining as it has not been projected annually to retain a ten year rolling estimate* *The financial plan from the new AMIS differs from that included in the 2013 AMP. Neither are reflected in the current official financial papers. This appears largely due to Shire having no EHO or other suitable officer to provide a link between the AM system and the Shire's finance department.*	*Ensure that future financial papers reflect the financial planning of the AMIS.* *Actively pursue the appointment of a suitable officer*	*Outstanding*
11 – Capital Expenditure Planning	*Extend the existing capital works plan to encompass a five years period. Maintain the five years period for each subsequent year*	*A five years Capital Expenditure Plan estimate is now presented in the 2013 AMP. However it bears no relationship to that resulting from the AMIS or*	*Ensure that future financial papers and the AMP reflect the financial planning of the AMIS.*	*Partly Resolved*

		as provided in the 2013 Budget papers *This also appears largely due to the Shire having no EHO or other suitable officer to provide a link between the AM system and the Shire's finance department*	*Actively pursue the appointment of a suitable officer*	
12 – Review of AMS	*The Shire should:* • *review and update its AMP as stated throughout this report The updated AMP should include the documents listed in the "Reviewer's Comments" column of this Item 12 as appendices.* • *install an Asset Management Information system as recommended for Item 7 above.* • *The Asset Management system created by the above recommendations should be reviewed at intervals of two years, or in the event of significant changes to the assets or the operating mode of the water services.* *The reviewer will sign off on the review on the face sheet of the AMP, noting the review date and information regarding additions or amendments.*	*The 2013 AMP contains a statement requiring an annual review of the capital expenditure and financial plans, together with the asset register – following each year's budget preparation. This approach is agreed subject to all other areas of the AMP being reviewed at the same time each second year.* *A suitable AMIS has been installed but requires the Shire's employment of a suitable officer to implement and manage the system* *A basic revision and sign-off table is provided inside the front of the 2013 AMP. There is provision for recording the date of revision and the Reviewer's identity. However, there is no provision for recording the nature of the revision or it's number*	*Make provision for the AMP to be fully reviewed at two year intervals, concurrently with the annual reviews of the financial and asset register documents* *Actively pursue the appointment of a suitable officer* *Provide a face sheet sign-off table as per the previous review*	*Mainly resolved* *Resolved* *Mainly Resolved* *Outstanding*

1.7 - ASSET MANAGEMENT REVIEW – EFFECTIVENESS CRITERIA

The effectiveness ratings assigned to each aspect of the review are set out in the following two Tables (overleaf) - taken from ERA's "Audit Guidelines: Electricity, Gas and Water Licences – August 2010"

Asset Management Process and Policy Definition Adequacy Ratings

(ERA Guidelines - August 2010, Table No.5)

Rating	Description	Criteria
A	Adequately Defined	Process policies are documented Process & policies adequately document the required performance of assets Processes and policies are subject to regular reviews and updated where necessary. The asset management information systems(s) are adequate in relation to the assets managed
B	Requires some improvement	Process & policy documentation requires improvement. Processes & policies do not adequately document the required performance of assets. Reviews of process & policies are not conducted regularly enough. The asset management information system(s) require minor improvements (considering the assets being managed)
C	Requires significant improvement	Process & policy documentation is incomplete or requires significant improvement. Processes do not document the required performance of the assets. Processes & policies are significantly out of date. The asset management information system(s) require significant improvements (considering the assets managed)
D	Inadequate	Processes & policies are not documented. The asset management system(s) is not fit for purpose (considering the assets managed)

Asset Management Performance Ratings

(ERA Guidelines - August 2010, Table No.6)

Rating	Description	Criteria
1	Performing Effectively	The performance of the process meets or exceeds the required levels of performance. Process effectiveness is regularly assessed and corrective action taken where necessary
2	Opportunity for Improvement	The performance of the process requires some improvement to meet the required level. Process effectiveness reviews are not performed regularly enough.. Process improvement opportunities are not actioned.
3	Corrective action required	The performance of the process requires significant improvement to meet the required level. Process effectiveness reviews are performed irregularly, or not at all. Process improvement opportunities are not actioned
4	Serious action required	Process is not performed, or the performance is so poor that the process is considered ineffective.

1.8 – EFFECTIVENESS SUMMARY

Based on the criteria set out in ERA Guidelines Tables 5 and 6 above, the Table C (overleaf) summarises the reviewer's effectiveness ratings of the various areas of the Shire's asset management system. More detail is provided in Table D – "Reviewer's Comments On Shire Of Brookton Asset Management System"

Table C –REVIEWER'S EFFECTIVENESS SUMMARY

ASSET MANAGEMENT SYSTEM	Asset Management Process & Policy Definition Adequacy Rating	Asset Management Performance Rating
1 - Asset Planning	**B**	**3**
2 - Asset creation / acquisition	**B**	**2**
3 - Asset Disposal	**B**	**2**
4 - Environmental Analysis	**B**	**2**
5 - Asset Operations	**C**	**3**
6 - Asset Maintenance	**C**	**2**
7 - Asset Management Information System	**B**	**2**
8 - Risk Management	**B**	**2**
9 - Contingency Planning	**C**	**3**
10 - Financial Planning	**C**	**2**
11 - Capital Expenditure Planning	**C**	**2**
12 - Review of Asset Management Plan	**C**	**3**

1.9 – REVIEWER'S GENERAL COMMENTS

Table D (overleaf) sets out the Reviewer's comments, recommendations for each aspect of the Shire's Asset Management Plan.

Table D – REVIEWER'S COMMENTS ON SHIRE OF BROOKTON ASSET MANAGEMENT SYSTEM

Key Processes & General Requirements	Reviewer's Comments and Recommendations	Process & Policy Definition Adequacy Rating	Performance Rating
1 Asset Planning Asset planning strategies should focus on meeting customer needs in an effective and efficient manner. (delivering the right service at the right price)	The current issue of the AMP is dated November 2013, it includes a detailed asset register and asset life expectancy. Asset condition is yet to be included. The AMP notes that although the town population is increasing slowly, the capacity of the water services are more than adequate for the foreseeable future. The AMP nominates Shire officers responsible for the various operations. It is noted that the EHO is consistently nominated. However, the Shire does not have an EHO or other suitable office to accept the nominated responsibilities. The AMP notes a requirement for review annually – specifically of the financial plan. capital expenditure plan and asset register. Review of the whole document is not addressed. ***Recommendation*** ***A program for assessing asset condition and necessary action should be addressed in the AMP*** ***The Shire should actively pursue the appointment of an EHO or other suitable officer to manage and accept responsibility for the water services*** ***The AMP should clarify that the whole AMP should be reviewed, not just the financial plans and asset register. The intention to review the financial plans and asset register annually following preparation of the annual budget is agreed. However the whole AMP documentation should be reviewed at intervals of two years following preparation of the budget***	**B**	**3**

2 Asset Creation & Acquisition The provision or improvement of an asset where the outlay can be expected to provide benefits beyond the year of outlay.	No new assets were created during the review period. The Shire complies with the requirements of the Local Government Act regarding purchase /acquisition of goods and services.	**B**	**2**
3 Asset Disposal Effective asset disposal frameworks incorporate consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets. Alternatives are evaluated in cost-benefit terms	The Shire is bound by Local Government requirements for asset sale. The water services system is basic in concept and operation. It is unlikely that changing conditions will render any assets redundant. Replacement of any assets in the future will be due to failure, or end of life. Those assets replaced (mostly buried pipes, manholes, or worn out pumps) are unlikely to have any second hand market value – and would normally be left in ground or disposed of to landfill ***Recommendation.*** ***A program for assessing asset condition and necessary action – including disposal, should be addressed in the AMP***	**B**	**2**
4 Environmental Analysis examines the asset system environment and assesses all external factors affecting the asset system	Section 1 of the 2013 AMP describes the Community, Climatic and Regulatory environment associated with the system. These include details of ERA and DOR licenses (both of which are out of date) and relevant health and safety requirements. Section 2 of the AMP describes the levels of service to be achieved by the system. These include performance levels for Availability, Capacity, Continuity, Odour Control, Emergency response and Blockages. Sections 1 and 2 above relate primarily to Environmental Analysis. These should be amalgamated in sequence under the heading of "Environmental Analysis for conformity with the ERA 's key process descriptions and for review clarity.	**B**	**2**

	The Shire's report to ERA indicate that performance standards were met for the 2012/2013 year A basic SWAT analysis is included in Section 3.2 of the AMP is considered adequate, but should be relocated under the Risk Management section. ***Recommendation*** ***The text relevant to Environmental Analysis should be transferred from the various sections of the existing AMP and consolidated under the heading "Environmental Analysis" in the reviewed document. The number and date of the ERA and DER licences should be corrected to indicate the current licences***		
5 Asset Operations Operations functions relate to the day to day running of assets and directly affect service levels and costs	Section 4.2 of the AMP - headed "Operational Procedures" explains the purpose of the various facilities of the water services, but contains little or no information regarding how these are operated or what task are associated with their operation. Operational checks and flow measurements and recordings are now undertaken -by a recently appointed competent operator, on a daily or fortnightly basis as appropriate. While the procedures associated with each are well understood by the operator, they are not adequately documented for use by others in emergencies, or for training purposes.eg checking operation of the chlorination equipment, starting or shutting down pumps, flow measurement , general observations etc. As stated throughout this report, the Shire has no EHO or other suitable officer to manage control and administer the water services. The Shire is actively canvassing shared appointment of a suitable officer with two neighbouring Shires The operator although qualified in operation of similar systems eg, the operation of chlorination equipment and water sampling associated with public swimming pools, has not been trained in the theory or operation of sewerage facilities While samples of treated water from the treatment plant are sampled, flow entering the plant is not. Consequently, the strength of sewage entering the plant cannot be compared with the outflow to determine the efficiency of the treatment plant. Similarly, the strength of the inflow cannot be compared with that expected from a septic tank in order to assess whether or not septic tanks connected to the system are (as a whole) operating effectively. ***Recommendations*** ***Prepare a simple operation manual - including daily operation checks and flow measurement etc. for the system to be used primarily to support training*** ***Appoint a suitably qualified Officer to have administrative responsibility for the management and coordination of the water systems and the setting up and implementation of an appropriate Asset Management System on the Shire's computer system***	**C**	**3**

	Provide the Operator and Administration Officer (when appointed) with training in the operation and Maintenance of the water services and Contingency Plans ***Implement a training program for other Shire staff who may be called on from time to time to undertake the duties of the operator.*** ***The Shire should actively pursue the appointment of an EHO or other suitable officer to manage and accept responsibility for the water services*** ***Arrange for the operator to receive training in sewerage services operation and maintenance. Such training is available via the Water Corporation*** ***Commence monthly sampling of incoming flows to the plant and analyse for BOD and Suspended Solids.*** ***Compare BOD and SS analysis of incoming flows with expectation of these values for septic tanks. If differences are significant, consider action to enforce pump out of septic tanks connected to the system.***		
6 .Asset Maintenance Maintenance functions relate to the up keep of assets and directly affect service levels and costs	Section 4.3 of the 2013 AMP contains a basic description and schedule of maintenance works for the system. An Appendix B is referred to which is not attached to the AMP. Another maintenance schedule - which has no apparent relationship to that within the AMP. is contained within the AMIS It is appears that the AMIS schedule is that which is being implemented. A maintenance check sheet is issued to the operator covering fortnightly maintenance tasks over an eight weeks period. Each task is ticked and signed off by and the operator. The check sheet has spaces for recording flow meter readings, general comments and breakdowns The frequency of the maintenance tasks differs from that indicated in the AMIS The standard of maintenance and recording is significantly improved since the previous review. However, the documentation associated with maintenance should be edited and broadened and superfluous text removed from the AMP. The schedule of maintenance tasks should be reviewed eg the pumping station wet well pumps and float switches should be hosed down weekly. Also the pumping station should be inspected daily to check normal operation. It is noted that a flashing light at the pumping station compound is the only indicator of a fault. This relies on a member of the public to report or a Shire officer to note the problem. Conceivably a fault condition could occur for many hours prior to Shire staff becoming aware of the situation. Arrangements should be made for the transfer of the alarm to the Shire's emergency call system The AMP contains adequate procedures for assessing asset condition and evaluation of acquisition options. Although these	**C**	**2**

	documents are dated 2008, there is no evidence of their use. As recently as two years ago, the Shire commissioned a cctv inspection of its collection system pipework and subsequently re-lined sections of the system. The Shire has no formal procedure for assessment of the condition of all of its assets, including pumping and treatment facilities. Such a program should be implemented, including asset life condition. Advice is that further cctv examinations will be undertaken at unstated intervals and subsequent relining undertaken if necessary. A trigger for undertaking cctv examinations will include any increase in gravity system blockages or collapse. The Shire's Works Manager advised that both pumping station pumps are replaced at four yearly intervals and that spare pumps are held for emergency use if required. Reviewer was unable to verify this advice in discussion with other officers or in associated documentation ***Recommendations*** ***Verify that the AMIS maintenance schedule is that which will be adopted. Delete AMP text that does not support the AMIS schedule and tasks.*** ***Review the range and timing of maintenance tasks in the AMIS and edit both the schedule , list of tasks and reporting sheets as necessary*** ***Arrange for the operating fault alarm condition at the pumping station to be automatically transferred to the Shire's emergency call number.*** ***Although it has recently undertaken a cctv inspection of its collection system pipework and commenced the implementation of a replacement program, the Shire has no formal procedure for assessment of the condition of all of its assets, including pumping and treatment facilities. Such a program should be implemented.*** ***A program for assessing the condition of all assets and necessary action should be addressed in the AMP and implemented*** ***The Shire should ensure that the procedures and documentation for asset creation and acquisition are followed. Also, the Shire should confirm that main pumpsets are replaced on a four yearly basis and prepare the associated documentation***		
7. Asset Management Information	The Shire has installed a standard AMIS package now being used by several water services licensees. The contents of the package include: Asset Register for both sewerage and effluent disposal, Condition / Performance, Financial Planning, Spare parts inventory Maintenance Management and Risk Assessment. Much of the Shire related data has been entered on the		

Systems (MIS) A combination of processes, data and software that support the asset management functions.	system by consultants and the Shire's part time EHO. The package is supported by recently developed spread sheets within the Shire's Synergy system for recording maintenance and various reports. Further development of these spread sheets is required in order to support the changes recommended to the Asset maintenance system in Item 6 above. The Shire's input to preparation of the spread sheets and the resulting improvement in operations and maintenance recording is noted. As stated for Item 5 – Operations, the Shire does not have a suitable officer to implement the necessary ongoing, management, administration, and control of the water services system, or the AMIS. Until such an appointment is made, improvements recently accomplished will falter. ***Recommendation*** ***Continue and update input to the AMIS package to keep records etc up to date.*** ***Edit and expand existing spread sheets to support the changes recommended to the Asset Maintenance system.*** ***Actively pursue the appointment of a suitable officer.***	**B**	**2**
8. Risk Management involves the identification of risks and their management within an acceptable level of risk	The Risk Management section of the 2013 AMP is essentially unchanged from the previous review. And the same recommendations regarding review and editing still apply. However, the AMIS contains an excellent template Risk Analysis, from which the user can choose applicable risk situations for automatic evaluation. Reviewer prefers use of the AMIS risk analysis. ***Recommendation*** ***That the Shire adopt the AMIS Risk Analysis template to determine the risks relevant to its water services facilities / operations.*** ***That the risk analysis text from the 2013 AMP be deleted and either:*** ***1. Attach a copy of the completed template analysis to the AMP as an appendix , or*** ***2. Add a reference to the relevant AMIS package.*** ***3.***	**B**	**2**

9. Contingency Planning Contingency plans document the steps to deal with the unexpected failure of an asset	*Contingency Plans are covered in the AMP as Emergency Procedures and appear unchanged from the previous review, except that some contact details have been amended.* *The plans are too inclusive and generic. Pump or Electrical failure should not have an identical response, nor should Pipeline Burst or Blockage.* *There is no mention of action to contain water overflows other than to advise the EHO and for "someone" to advise ERA and DER of the event within five day.* *Some plans require the EHO to be contacted. The Shire currently has no EHO or other suitable officer to coordinate response, administer, or report emergency events to relevant authorities.* ***Recommendation*** ***Review and broaden the contingency plans as recommended in the previous review. Change the section title from Emergency Response to Contingency Plans.*** ***Actively pursue the appointment of a suitable office.r***	**C**	**3**
10. Financial Planning The financial planning component of the asset management plan brings together elements of the service delivery to ensure its financial viability over the long term.	The annual budget provides a statement of planned expenditure and income, together with funding sources as required by the WA Local Government Act. Expenditure is monitored against budget on a monthly basis. The current 2013/2014 financial plan is based on a separate AMP prepared by consultants in 2009. The ten year financial plan contained in that document now has a horizon of six years remaining as it has not been extended annually to retain a ten year rolling estimate. The financial plan contained in the new AMIS and the 2013 AMP is not reflected in the current official financial papers. This appears due to Shire having no EHO or other suitable officer to manage the water services and to ensure that the financial planning of the AMP is included in budget papers presented for Council's consideration. ***Recommendation*** ***Ensure that future financial papers reflect the financial planning of the AMIS.*** ***Actively pursue the appointment of a suitable officer.***	**C**	**2**

11. Capital Expenditure Planning The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure on each over the next five or more years.	A five year Capital Expenditure Plan is presented in the 2013 AMP. A second (template) capital expenditure plan is also presented in the AMIS. There is no similarity or agreement between the capital expenditure estimates of these documents. The Shire should decide which financial system to continue using. Reviewer prefers the Capex plan presented in the AMIS, as it is directly linked to other elements of the AMIS The document can be simplifies by deleting / editing template items which are irrelevant or incorrectly described. The 2013/2014 budget papers contain figures based on a separate AMP prepared by consultants in 2009 - which includes capital expenditure amounts which match neither the 2013 AMP or the AMIS estimates. Whilst Reviewer is not disputing the adequacy of figures in the Shire's financial papers, there is clearly a need for consistency between the AMP, AMIS and the annual financial documents. The necessary consistency can only be achieved by the appointment of an EHO or other suitable officer to coordinate and provide a consistent link between the estimates of the AM system and the annual budget papers and their associated projections. ***Recommendation*** ***Review and edit the capital expenditure template and estimates contained in the AMIS.*** ***Ensure that estimates in the AMP are derived from the AMIS.*** ***Ensure that future financial papers reflect the financial planning of the AMIS.*** ***Actively pursue the appointment of a suitable officer.***	**C**	**2**
12. Review of Asset Management System The asset management system is regularly reviewed and up-dated.	The Shire has produced a new (2013) AMP - implying a review of all aspects. While there are significant changes from the previous (2008) document, some elements eg, contingency plans and risk analysis are unchanged, leaving the impression that they may not have been reviewed. The 2013 AMP contains a statement requiring an annual review of the capital expenditure and financial plans, together with the asset register – following each year's budget preparation. This approach is agreed subject to all other areas of the AMP being reviewed at the same time each second year. A basic revision and sign-off table is provided inside the front of the 2013 AMP. There is provision for recording the date of revision and the Reviewer's identity. However, there is no provision for recording the nature of the revision or it's number. A suitable AMIS has been installed but requires the Shire's employment of a suitable officer to implement and manage the	**C**	**3**

	system. ***Recommendation*** ***Provide a face sheet sign-off table as per the previous review.*** ***Make provision for the AMP to be fully reviewed at two year intervals, concurrently with the annual reviews of the financial and asset register documents.*** ***Actively pursue the appointment of a suitable officer.***		

SECTION 2 – ERA SECTION 39 NOTICE

2.1 – SHIRE'S RESPONSE

On 23rd April 2013, ERA issued the Shire of Brookton with a Notice under Section 39 of the Water Licensing Act 1955 requiring the Shire to correct deficiencies noted in Table 1 of the notice as set out in the following. The comments in red summarise the outcome.

Asset Planning.

The Asset Management Plan (**AMP**) has not been implemented, nor has it been reviewed or updated since it was prepared in 2008.

The AMP contains no asset register, asset life expectation, or condition. Consequently, formal planning for ongoing development or replacement of assets has been undertaken.

The AMP has been reviewed and updated to 2013. It contains an asset register and life expectancy. Some further editing/ input is required regarding asset condition Mainly Resolved

Environmental Analysis

Since 2008, the regulatory environment section in the AMP has not been updated to account for changes in conditions of the licence. ***Outstanding***

Asset Operations

The flow meter o**n** the inlet to the treatment plant does not function. ***Resolved***

Asset Operations

The original design of the treatment pond has been altered by relocating the off-take pump on the same side as the inlet pump. Consequently, the flow that used to travel the full 95 m diagonal length of the pond (ensuring maximum detention period) now travels 30 metres. It is uncertain whether or not the system currently treats the effluent to an appropriate level**.**

Sampling and Analysis of pond water near both the inlet and the far end of the pond indicate adequate mixing – hence short circuiting is not an issue. Resolved

Asset Maintenance

There are generic maintenance plans included in the AMP but they have not been implemented. Maintenance is unplanned and mainly associated with repairs. Many of the maintenance items in the AMP have never been undertaken, including flushing of the collection system.

Planned general maintenance is now regularly undertaken and recorded. The maintenance program requires broadening and some editing Mainly Resolved

Asset Maintenance

The pump station has not been maintained adequately. All the surfaces are covered with accumulate grit and grease. Over time this layer becomes septic and corrosive, which can interfere with the operation of level control switches and can cause significant wear on pumps.

Maintenance of the pumping station is much improved. Wall surfaces, pumps and control switches are regularly cleaned. Mainly Resolved

Asset Management Information System (AMIS)

There is no formal AMIS. The Shire should have a system for regular updating of the asset register and asset condition, and to maintenance programs and documentation summaries of flow measurement and water quality results, reports etc.

A formal AMIS package has been installed and partly implemented. Further data input – mainly related to asset condition, is required Mainly Resolved

Risk Management

The AMP contains a risk management, but it has not been reviewed or updated. Control measures should be more specific. ***Outstanding***

Contingency Planning.

The AMP contains emergency procedures that are essentially contingency plans, but they have not been reviewed or updated. ***Outstanding***

Review of Asset Management System

The Shire does not have a formal AMIS in place and the overall management of the wastewater assets is reactive rather than proactive. The Shire has not undertaken inspections/reviews of the wastewater assets as required by the licence. The operations and maintenance documents produced by the former EHO are not actioned or kept up to date.

An AMIS is in place, but requires further data input - mainly related to asset condition. General maintenance and operation tasks are undertaken by a recently appointed operator. Operation and maintenance tasks require further documentation for emergency and training purposes. The Shire remains without an EHO or other suitable officer to manage the water services and the associated Amp and AMIS Partly Resolved

SECTION 3 - CONCLUSIONS & RECOMMENDATIONS RESULTING FROM THE ASSET MANAGEMENT REVIEW

3.1 – CONCLUSIONS

The Asset Management Review concluded that the recommendations of the 1st December 2011 to 30th November 2012 review of its Asset Management System have been largely addressed. An Asset Management Information System (AMIS) package has been installed, basic maintenance is regularly undertaken and recorded - as are measurements of raw sewage and treated effluent flow rates and quality sampling /testing. The elements of the Asset Management System as now installed are adequate for the monitoring, management and reporting requirements of the Brookton water services. However, unless a suitable officer is appointed to manage the system the overall effectiveness will decline.

The 2008 AMP has been updated to 2013, but requires further editing in some areas. Additional data input to the AMIS is required in order to complete its set up and to gain maximum benefit from its installation.

During the review period, the Shire was able to comply with the requirements of its ERA and Department of Environmental Regulation (DER) licences.

The Shire has written DOH approval to dispose of treated effluent to irrigate the town oval. Relevant monitoring and water quality standards required by the DOH approval are generally achieved.

Due to its basic simplicity, Brookton sewerage and non-potable water services systems are achieving their basic requirements, ie, the collection and treatment of discharge from individual septic tanks and disposal of effluent.

The Shire has appointed an operator to undertake the day to day operation and maintenance tasks associated with the water services and the consequent improvement in maintenance and operations is noted. However, it is still without the services of an Environmental Health or other suitable officer to undertake the management, administration, coordination and operation of the water services, or the associated reporting, review and up-dating of the AMP and AMIS. Without the appointment of an EHO or suitable officer, the above tasks will not be performed and the management of the services will revert to the previous level.

Reviewer considers such an appointment is both critical and urgent. The Reader will note that such an appointment is the reason for the many of the lower implementation scores and the basis of many recommendations associated with this review.

3.2 - RECOMMENDATIONS

The Reviewer's comments and recommendations are set out in foregoing Table D. Due to the inter-relationship of the key processes reviewed, many of the recommendations overlap one another. The recommendations for each process are set out in the following:

1 – Asset Planning

A program for assessing asset condition and necessary action should be addressed in the AMP.

The Shire should actively pursue the appointment of an EHO or other suitable officer to manage and accept responsibility for the water services.

The AMP should clarify that the whole AMP should be reviewed, not just the financial plans and asset register. The intention to review the financial plans and asset register annually following preparation of the annual budget is agreed. However the whole AMP documentation should be reviewed at intervals of two years following preparation of the budget.

2 - Asset Creation and Acquisition

No Recommendation

3 – Asset Disposal

A program for assessing asset condition and necessary action – including disposal, should be addressed in the AMP.

4 – Environmental Analysis

The text relevant to Environmental Analysis should be transferred from the various sections of the existing AMP and consolidated under the heading "Environmental Analysis" in the reviewed document. The number and date of the ERA and DER licences should be corrected to indicate the current licences.

5 – Asset Operations

Prepare a simple operation manual - including daily operation checks and flow measurement etc. for the system to be used primarily to support training.

Appoint a suitably qualified Officer to have administrative responsibility for the management and coordination of the water systems and the setting up and implementation of an appropriate Asset Management System on the Shire's computer system.

Provide the Operator and Administration Officer (when appointed) with training in the operation and Maintenance of the water services and Contingency Plans.

Implement a training program for other Shire staff who may be called on from time to time to undertake the duties of the operator.

The Shire should actively pursue the appointment of an EHO or other suitable officer to manage and accept responsibility for the water services.

Arrange for the operator to receive training in sewerage services operation and maintenance. Such training is available via the Water Corporation.

Commence monthly sampling of incoming flows to the plant and analyse for BOD and Suspended Solids.

Compare BOD and SS analysis of incoming flows with expectation of these values for septic tanks. If differences are significant, consider action to enforce pump out of septic tanks connected to the system.

6 – Asset Maintenance

Verify that the AMIS maintenance schedule is that which will be adopted. Delete AMP text that does not support the AMIS schedule and tasks.

Review the range and timing of maintenance tasks in the AMIS and edit both the schedule , list of tasks and reporting sheets as necessary.

Although it has recently undertaken a cctv inspection of its collection system pipework and commenced the implementation of a replacement program, the Shire has no formal procedure for assessment of the condition of all of its assets, including pumping and treatment facilities. Such a program should be implemented.

A program for assessing the condition of all assets and necessary action should be addressed in the AMP and implemented.

The Shire should ensure that the procedures and documentation for asset creation and acquisition are followed. Also, the Shire should confirm that main pumpsets are replaced on a four yearly basis and prepare the associated documentation.

Arrange for the operating fault alarm condition at the pumping station to be automatically transferred to the Shire's emergency call number.

7 – Asset Management Information System

Continue and update input to the AMIS package to keep records etc up to date.

Edit and expand existing spread sheets to support the changes recommended to the Asset Maintenance system.

Actively pursue the appointment of a suitable officer.

8 – Risk Management

That the Shire adopt the AMIS Risk Analysis template to determine the risks relevant to its water services facilities / operations.

That the risk analysis text from the 2013 AMP be deleted and either:

1. ***Attach a copy of the completed template analysis to the AMP as an appendix , or***
2. ***Add a reference to the relevant AMIS package.***

9 – Contingency Planning

Review and broaden the contingency plans as recommended in the previous review. Change the section title from Emergency Response to Contingency Plans.

Actively pursue the appointment of a suitable officer.

10 - Financial Planning

Ensure that future financial papers reflect the financial planning of the AMIS.

Actively pursue the appointment of a suitable officer

.11 – Capital Expenditure Planning

Review and edit the capital expenditure template and estimates contained in the AMIS.

Ensure that estimates in the AMS are derived from the AMIS.

Ensure that future financial papers reflect the financial planning of the AMIS.

Actively pursue the appointment of a suitable officer.

12 – Review of AMS

Provide a face sheet sign-off table as per the previous review.

Make provision for the AMP to be fully reviewed at two year intervals, concurrently with the annual reviews of the financial and asset register documents.

Actively pursue the appointment of a suitable officer.

SECTION 4 – REVIEWER'S TIME AND POST REVIEW IMPLEMENTATION PLAN

4.1 – REVIEWER'S PROFESSIONAL TIME INPUT

Barry Robbins spent 40 hours preparing for, and conducting this review and preparing the report document.

4. 2 – POST REVIEW IMPLEMENTATION PLAN

A post review implementation plan prepared by the Shire is attached as Appendix A.

NOTE – The "Action and Date" columns of Appendix A are to be completed by Shire of Brookton and submitted to ERA with this report when finalised.

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APPENDIX A

POST REVIEW IMPLEMENTATION PLAN

REVIEW ITEM	RECOMMENDATION	POST REVIEW IMPLEMENTATION PLAN ACTION	SHIRE OFFICER RESPONSIBLE / DATE OF IMPLEMENTATION
1 – Asset Planning	***A program for assessing asset condition and necessary action should be addressed in the AMP*** ***The Shire should actively pursue the appointment of an EHO or other suitable officer to manage and accept responsibility for the water services*** ***The AMP should clarify that the whole AMP should be reviewed, not just the financial plans and asset register. The intention to review the financial plans and asset register annually following preparation of the annual budget is agreed. However the whole AMP documentation should be reviewed at intervals of two years following preparation of the budget***	This shall be completed using Form 02 in Appendix D. The maintenance schedule outlines frequency of checking asset condition An EHO officer works the required hours to complete tasks, and David Wills and Associates (DWA) assist if required The entire AMP has been reviewed and required changes completed	04/02/2014 EHO & CEO
3 - Asset Disposal	***A program for assessing asset condition and necessary action – including disposal, should be addressed in the AMP***	Form 02 in Appendix D shall be used to assess asset condition. Asset disposal shall be done in accordance with Section 5.6 'Asset Disposal'	04/02/2014 EHO & CEO

4 – Environmental Analysis	***The text relevant to Environmental Analysis should be transferred from the various sections of the existing AMP and consolidated under the heading "Environmental Analysis" in the reviewed document. The number and date of the ERA and DER licences should be corrected to indicate the current licences***	This has been completed, the relevant information has been consolidated under the heading 'Environmental Analysis' The AMP has been amended to include the most recent ERA and DER licence details.	15/03/2014 EHO & CEO 15/03/2014
5 – Asset Operations	***Prepare a simple operation manual - including daily operation checks and flow measurement etc. for the system to be used primarily to support training*** ***Appoint a suitably qualified Officer to have administrative responsibility for the management and coordination of the water systems and the setting up and implementation of an appropriate Asset Management System on the Shire's computer system*** ***Provide the Operator and Administration Officer (when appointed) with training in the operation and Maintenance of the water services and Contingency Plan*** ***Implement a training program for other Shire staff who may be called on from time to time to undertake the duties of the operator.*** ***The Shire should actively pursue the appointment of an EHO or other suitable officer to manage and accept responsibility for the water services*** ***Arrange for the operator to receive training in sewerage services***	The maintenance schedule in conjunction with the planned works program shall be used for required maintenance checks and frequency, an operational manual is being prepared which includes plans of the system. Currently the system is being operated by two suitably experienced shire employees, with the addition of approx. 8 hours per month from the EHO and 3 hours per week by the Admin Officer for coordination and administration. DWA have set up the AMIS, the EHO is appointed to the management of the AMIS who works with DWA to maintain the system and keep it up to date. Section 4.2 'Operational Procedures' has been updated and provides sufficient information for new staff members to maintain system, when used in conjunction with the maintenance schedule and planned works program The current arrangement for the EHO appointment is only on a temporary basis until another suitably qualified Officer can be sourced and appointed.	04/05/2014 EHO & CEO 04/02/2014 EHO & CEO Admin Officer

	operation and maintenance. Such training is available via the Water Corporation	The current operator and another back up staff member will be provided with training through the Water Corporation.	June 2014 EHO & CEO
	Commence monthly sampling of incoming flows to the plant and analyse for BOD and Suspended Solids.	This has been included in the AMP, to check BOD and SS on a three month basis. It is also included in the maintenance schedule and planned works program.	On going EHO
	Compare BOD and SS analysis of incoming flows with expectation of these values for septic tanks. If differences are significant, consider action to enforce pump out of septic tanks connected to the system.	If the results are continually poor, then actions will be taken to rectify, either by enforcement or alternatively by engaging consultants to look into the feasibility of an additional treatment pond.	04/02/2014 EHO & CEO
6 – Asset Maintenance	***Verify that the AMIS maintenance schedule is that which will be adopted. Delete AMP text that does not support the AMIS schedule and tasks.***	The AMIS documents have been updated and are up to date, matching the information listed in the AMP and financial management	04/02/2014 EHO & CEO
	Review the range and timing of maintenance tasks in the AMIS and edit both the schedule , list of tasks and reporting sheets as necessary	The maintenance schedule has been updated to match the planned works program and financial management. The Shire is currently implementing the range and timing of maintenance tasks including the pumping station walls, pumps and float switches.	
	Arrange for the operating fault alarm condition at the pumping station		

	to be automatically transferred to the Shire's emergency call number. ***Although it has recently undertaken a cctv inspection of its collection system pipework and commenced the implementation of a replacement program, the Shire has no formal procedure for assessment of the condition of all of its assets, including pumping and treatment facilities. Such a program should be implemented.*** ***A program for assessing the condition of all assets and necessary action should be addressed in the AMP and implemented*** ***The Shire should ensure that the procedures and documentation for asset creation and acquisition are followed. Also, the Shire should confirm that main pumpsets are replaced on a four yearly basis and prepare the associated documentation***	The Shire of Brookton is to install a telephone relay to notify them if a failure occurs at the pumping station The planned works program and maintenance schedule detail when scheduled condition checks and maintenance is to take place. Regular CCTV inspection of pipes is to occur at yearly intervals which will ensure proactive maintenance of all access chambers and pipes As above The pump effective life has been updated to 4 years, and capital annuity adjusted accordingly. Asset creation and acquisition forms are available in Appendix D	
7- Asset Management Information System	***Continue and update input to the AMIS package to keep records etc up to date.*** ***Edit and expand existing spread sheets to support the changes recommended to the Asset Maintenance system*** ***Actively pursue the appointment of a suitable officer***	This will be done at yearly intervals, with DWA assisting the Shire of Brookton as required The current AMIS spreadsheets accommodate the entire system. If the system is to expand DWA are able to update these spreadsheets accordingly. Will occur as required As above	04/02/2014 EHO & CEO

8 – Risk Management	***That the Shire adopt the AMIS Risk Analysis template to determine the risks relevant to its water services facilities / operations*** ***That the risk analysis text from the 2013 AMP be deleted and either:*** ***1. Attach a copy of the completed template analysis to the AMP as an appendix , or*** ***Add a reference to the relevant AMIS package***	The current system is already in accordance with all clauses of the operating license The risk table has been previously updated to include potential risks, risk ratings, and likelihood of risk occurrence which appears to be sufficient for this system. The current Risk Management documentation is a workable model and we believe it should remain as is.	04/02/2014 EHO & CEO
9 – Contingency Planning	***Review and broaden the contingency plans as recommended in the previous review. Change the section title from Emergency Response to Contingency Plans*** ***Actively pursue the appointment of a suitable officer***	The contingency plans have been expanded upon and now include individual action plans for each type of emergency	04/02/2014 EHO & CEO
10 – Financial Planning	***Ensure that future financial papers reflect the financial planning of the AMIS.*** ***Actively pursue the appointment of a suitable officer.***	To be completed by the Shire of Brookton As above	04/05/2014 D/CEO
11 – Capital Expenditure Planning	***Review and edit the capital expenditure template and estimates contained in the AMIS*** ***Ensure that estimates in the AMS are derived from the AMIS.***	DWA have reviewed the AMIS information and ensured that the AMS values are derived correctly from the AMIS. This has been further reviewed and confirmed by the Shire of Brookton	04/02/2014 D/CEO

	Ensure that future financial papers reflect the financial planning of the AMIS. ***Actively pursue the appointment of a suitable officer.***	To be completed by the Shire of Brookton	04/05/2014 D/CEO
12 – Review of Asset Management System	***Provide a face sheet sign-off table as per the previous review.*** ***Make provision for the AMP to be fully reviewed at two year intervals, concurrently with the annual reviews of the financial and asset register documents.*** ***Actively pursue the appointment of a suitable officer.***	The face sign off sheet has been updated to now include the nature of the review and the revision number. The AMP will be fully reviewed on an annual basis by David Wills and Assoc, with input from the Shire	04/02/2014 EHO & CEO