



Draft Service and Performance Plan 2021/22

Barker Barambah Bulk Water Service Contract

4 January 2021

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At a glance

Our performance in 2019/20

 **Operating costs:**
\$1.20 million (5.7% more than forecast)


Key drivers of cost variance:

- greater than forecast electricity and insurance costs
- an increase in non-direct costs allocated to the service contract.


 **Annuity-funded costs:**
\$1.13 million (24.5% less than forecast)

Key drivers of cost variance:

- works on the Silverleaf Weir refurbishment were partially delayed due to COVID-19. The project is expected to be completed in 2020/21.
- input studies for the comprehensive risk assessment have been carried over into 2020/21 or were completed for less than budget due to the packaging of multiple studies with one consultant
- the scheme’s contingency amount was not drawn down.

 **Total water deliveries:**
6511 ML

Water delivered to irrigators: 6006 ML

 **Service targets: Met**


No exceptions

Outlook for 2021/22

 **Forecast operating costs:**
\$1.33 million

Significant areas of expenditure:

- insurance (\$0.33 million)
- operations (\$0.85 million).

 **Forecast annuity-funded costs:**
\$0.06 million

Key projects planned:

- a comprehensive inspection of Joe Sippel Weir (\$0.02 million)
- replacement of customer meters, as required, during the year (\$0.03 million).

Introduction

This Service and Performance Plan (S&PP) details a range of proposed scheme activities and projects, and presents a breakdown of anticipated costs for review. It also compares Sunwater’s actual costs for 2019/20 with our previous forecasts for this scheme.

The purpose of this year’s S&PP for the Barker Barambah Bulk Water Service Contract is to:

- present to customers Sunwater’s projected costs¹ for the upcoming five-year period, i.e. 2021/22 to 2025/26
- consult with our customers on forecast operating and annuity-funded costs for 2021/22 and the forward program of works
- examine Sunwater’s performance in 2019/20 against previous forecasts and service targets.

Our focus during 2021/22 will be delivering water to customers within agreed service standards, ensuring assets are maintained and works are completed in a safe, timely and efficient manner.

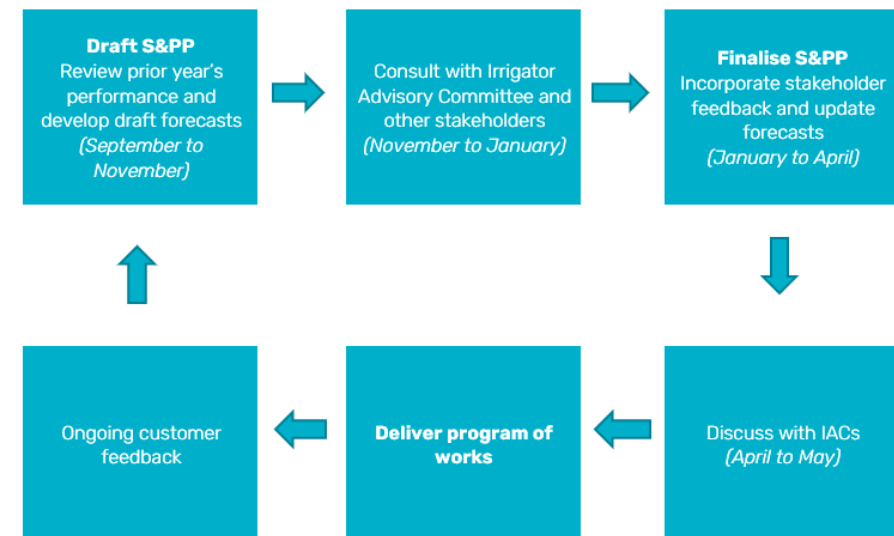
In addition to this S&PP, Sunwater has published an information sheet which explains the types of costs we incur in delivering water to our customers and how those costs are allocated to service contracts. The information sheet is available at:

www.sunwater.com.au/customer/products-and-services/service-and-performance-plans/

¹ All financial figures reported in this document are in nominal dollars, i.e. dollars of the day. Figures may not sum due to rounding.

Input from customers is a valuable part of Sunwater’s planning process and ensures that we invest in areas which support the services we provide to customers. Figure 1 outlines how Sunwater and customers work together in relation to S&PPs.

Figure 1: Customer consultation and S&PPs



We welcome and encourage your feedback on this S&PP. To have your say and shape future S&PPs, please contact us via email or post:

Email: sppfeedback@sunwater.com.au

Post: S&PP Feedback
PO Box 15536
City East Qld 4002

Delivering services to our customers

At Sunwater we are committed to working collaboratively with our customers to deliver value and fit-for-purpose water solutions.

Our customers

The majority of our 158 customers in this service contract are farmers in the areas of Redgate, Murgon and Mondure. Water is also provided to supplement the town water supply for the townships of Murgon, Wondai, Bye and Cherbourg.

The water allocations for each customer segment are included in Table 1, together with water deliveries in 2019/20. Historical total water usage is available in **Appendix 1**.

Table 1: Water allocations and usage data

| Customer segment | Total water allocations (ML) | High priority water allocations (ML) | Medium priority water allocations (ML) | Total water deliveries 2019/20 (ML) |
|------------------|------------------------------|--------------------------------------|--|-------------------------------------|
| Irrigation | 30,712 | 0 | 30,712 | 6006 |
| Industrial | 649 | 0 | 649 | 14 |
| Urban | 2115 | 2100 | 15 | 491 |
| Sunwater | 839 | 136 | 703 | 0 |
| Total | 34,315 | 2236 | 32,079 | 6511 |

Irrigation charges

The 2021/22 charges and cost per megalitre from the Queensland Competition Authority's (QCA) 2020–2024 irrigation price investigation are shown in Table 2. The Barker Barambah Bulk Water Service Contract is not expected to fully recover irrigation's share of costs.

Table 2: Irrigation charges for 2021/22

| Tariff group | Product | 2021/22 (\$/ML) ¹ | QCA cost-reflective (\$/ML) ² | Subsidy (\$/ML) |
|----------------|----------------------------|------------------------------|--|-----------------|
| Redgate Relift | Allocation Charge – Part A | 31.97 | 44.83 | 12.86 |
| | Allocation Water – Part B | 23.58 | 54.67 | 31.09 |
| River | Allocation Charge – Part A | 31.97 | 44.57 | 12.60 |
| | Allocation Water – Part B | 4.35 | 4.35 | n/a |

- As recommended by the QCA. The Queensland Government has not yet determined the irrigation charges to apply in 2021/22.
- Reflects the cost-reflective price determined by the QCA in its 2020–2024 irrigation price investigation. Costs reflect lower bound cost recovery, i.e. recovery of future replacement and ongoing maintenance and operations. Charges do not allow for any returns on existing assets.

For more information on Sunwater's fees and charges, refer to:

www.sunwater.com.au/customer/fees-and-charges/

Service targets

Sunwater and customers have agreed Water Supply Arrangements and Service Targets for the Barker Barambah Bulk Water Service Contract. Table 3 below sets out our recent performance against selected service targets for this scheme.

Table 3: Scheme service targets and performance

| Service target | | Target | Number of exceptions | | |
|----------------------------------|--|----------|----------------------|---------|---------|
| | | | 2017/18 | 2018/19 | 2019/20 |
| Planned shutdowns – notification | For shutdowns planned to exceed 2 weeks | 8 weeks | 0 | 0 | 0 |
| | For shutdowns planned to exceed 3 days | 2 weeks | 0 | 0 | 0 |
| | For shutdowns planned to be less than 3 days | 5 days | 0 | 0 | 0 |
| Unplanned shutdowns – duration | Unplanned shutdowns will be fixed so that at least partial supply can be resumed | 48 hours | 0 | 0 | 0 |
| Maximum number of interruptions | Planned or unplanned interruptions per water year | 6 | 0 | 0 | 0 |

In addition, Sunwater has company-wide customer interactions service targets. Our performance in 2019/20 against these service targets is shown in Table 4.

Table 4: Customer interactions service targets and performance

| Service target | Target | 2019/20 |
|--|----------|---------|
| Telephone answering ¹ | 80.00% | 94.87% |
| Requests actioned within Service Level Agreement (SLA) timeframes ² | > 95.00% | 95.46% |

1. This target measures the percentage of 13 15 89 calls that are answered within 60 seconds. The 2019/20 result reflects the average monthly performance over the November 2019 to June 2020 period.
2. This target measures the percentage of email or workflow requests (such as property transfers and temporary transfers) to the Customer Support email address that are completed within the agreed SLAs. The SLA timeframes range between two and 10 business days, depending on the request. The 2019/20 result covers the October 2019 to June 2020 period.

Key infrastructure

Table 5 lists the key infrastructure used to deliver bulk water services to our customers in Barker Barambah.

Table 5: Key infrastructure

| Asset | Description | Total storage capacity (ML) |
|-------------------------------|---|-----------------------------|
| Bjelke-Petersen Dam | Earth and rock fill dam, consisting of a saddle wall and a main wall. The spillway is located on the left abutment. Classified as a referable dam under the <i>Water Supply (Safety and Reliability) Act 2008</i> . | 134,900 |
| Joe Sippel Weir | Cascading concrete wall. | 710 |
| Silverleaf Weir | Timber piled, earth and rock structure. | 580 |
| Redgate Diversion Pipeline | Gravity, with a pumping unit installed when the dam level is too low. Transfers water from Bjelke-Petersen Dam to Joe Sippel Weir. | n/a |
| Upper Redgate Relift Pipeline | Includes a pump. | n/a |

Financial summary—Revenue and expenditure

A high-level summary of the budgeted financial performance of the Barker Barambah Bulk Water Service Contract is presented in Table 6.

The revenue Sunwater receives from urban and industrial customers is agreed by term contract. The revenue we receive from irrigation customers is determined by the Queensland Government, based on recommendations made by the QCA as part of its review of irrigation prices.

Sunwater anticipates an increase in revenue for the Barker Barambah Bulk Water Service Contract in 2021/22.

In 2021/22, Sunwater expects to spend \$489 million across all parts of our business, i.e. regulated and non-regulated. A breakdown of the forecast total cost pool at the direct and non-direct cost level is shown in Figure 2, together with the percentage of these costs allocated to the Barker Barambah Bulk Water Service Contract. Detail on the planned spend for this scheme is outlined on subsequent pages of this S&PP.

Figure 2: Total Sunwater cost pools and allocation to scheme—2021/22 forecast (\$M)

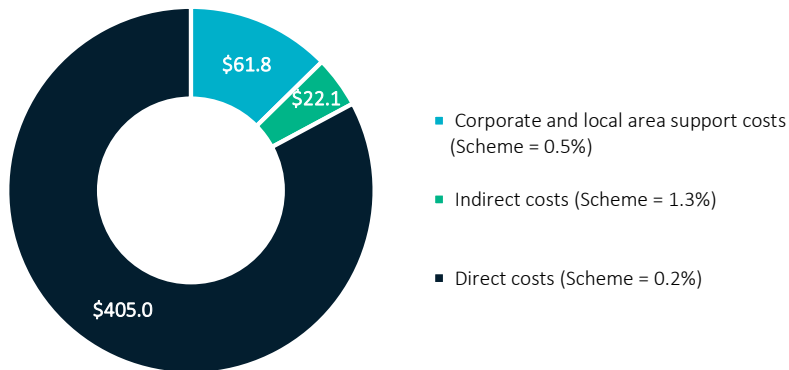


Table 6: Service contract financial summary

| Barker Barambah Bulk Water Service Contract | 2017/18 Actual \$'000 | 2018/19 Actual \$'000 | 2019/20 Actual \$'000 | 2020/21 Forecast \$'000 | 2021/22 Forecast \$'000 |
|---|-----------------------|-----------------------|-----------------------|-------------------------|-------------------------|
| Revenue | | | | | |
| Irrigation | 813.1 | 864.2 | 843.9 | 904.1 | 1091.1 |
| Community Service Obligation | - | - | - | - | - |
| Industrial ¹ | - | - | - | - | - |
| Urban ¹ | 256.5 | 260.9 | 264.8 | 264.8 | 271.4 |
| Revenue transfers | - | - | - | - | - |
| Drainage | - | - | - | - | - |
| Other | 7.4 | 3.5 | 6.2 | 1.0 | 1.0 |
| Revenue total | 1077.0 | 1128.5 | 1114.9 | 1169.9 | 1363.6 |
| Less – Operating expenditure | 876.6 | 1129.7 | 1200.5 | 1318.0 | 1355.9 |
| Less | | | | | |
| Annuity-funded | 197.1 | 171.6 | 1126.5 | 3936.2 | 55.8 |
| Non-annuity funded ² | 5.6 | - | - | 62.1 | - |
| Surplus (deficit) | (2.3) | (172.8) | (1212.2) | (4146.3) | (48.1) |

- Forecast revenues for industrial and urban customers are based on current contractual arrangements.
- This is expenditure which has not been funded by irrigation customers. An example of this in the Barker Barambah Bulk Water Service Contract is recreational facility projects from 2020/21.

Cost of delivering services—Operating expenditure

Operating expenditure includes funds for: operations activities, i.e. operations, electricity and insurance; preventative maintenance; and corrective maintenance.

Table 7 sets out actual and forecast operating expenditure for the Barker Barambah Bulk Water Service Contract. For a more detailed breakdown by cost category, refer to **Appendix 2**.

Our performance in 2019/20

In 2019/20, operating costs were broadly in line with our previous forecast.² Operations costs were above budget, primarily driven by higher direct costs such as electricity and insurance and higher non-direct costs. Increases in preventative maintenance costs were partially offset by lower corrective maintenance costs.

Table 7: Operating expenditure¹

| Barker Barambah Bulk Water Service Contract | 2017/18 | 2018/19 | 2019/20 | | | 2020/21 | | 2021/22 | | 2022/23 | 2023/24 | 2024/25 | 2025/26 |
|--|------------------------|------------------------|--------------------------|------------------------|-----------------|--------------------------|--------------------------------|--------------------------|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Sunwater Actual \$'000 | Sunwater Actual \$'000 | Sunwater Forecast \$'000 | Sunwater Actual \$'000 | Variance \$'000 | Sunwater Forecast \$'000 | QCA Target \$'000 ² | Sunwater Forecast \$'000 | QCA Target \$'000 ² | Sunwater Forecast \$'000 | Sunwater Forecast \$'000 | Sunwater Forecast \$'000 | Sunwater Forecast \$'000 |
| Operations | 734.4 | 999.1 | 984.8 | 1039.6 | 54.8 | 1186.2 | 932.3 | 1220.1 | 954.8 | 1293.2 | 1296.8 | 1350.9 | 1353.1 |
| Electricity | 39.5 | 86.2 | 39.6 | 46.1 | 6.5 | 43.0 | 40.5 | 44.1 | 44.1 | 45.2 | 46.3 | 44.2 | 45.3 |
| Insurance | 192.5 | 207.0 | 229.2 | 236.0 | 6.7 | 318.2 | 260.8 | 326.1 | 266.0 | 334.3 | 342.6 | 351.2 | 360.0 |
| Operations | 502.4 | 705.8 | 716.1 | 757.6 | 41.6 | 825.0 | 631.1 | 849.9 | 644.7 | 913.7 | 907.9 | 955.6 | 947.9 |
| Preventative maintenance | 108.9 | 110.5 | 108.9 | 137.6 | 28.7 | 66.0 | 94.3 | 68.0 | 96.4 | 73.3 | 72.7 | 76.9 | 77.3 |
| Corrective maintenance | 33.3 | 20.1 | 42.3 | 23.3 | (19.0) | 38.2 | 33.9 | 39.4 | 34.6 | 42.1 | 42.0 | 44.1 | 44.5 |
| Operating costs total | 876.6 | 1129.7 | 1136.0 | 1200.5 | 64.6 | 1290.4 | 1060.5 | 1327.5 | 1085.8 | 1408.5 | 1411.5 | 1471.9 | 1475.0 |
| Recreational facility costs ³ | | | | | | 27.6 | | 28.4 | | 30.5 | 30.4 | 32.0 | 31.8 |
| Operating costs total (incl. recreational facility costs) | 876.6 | 1129.7 | 1136.0 | 1200.5 | 64.6 | 1318.0 | | 1355.9 | | 1439.1 | 1441.9 | 1503.9 | 1506.7 |

1. Sunwater's 2021/22 to 2025/26 budget figures are draft as at the time of consultation. These figures will not be locked down until late in the financial year prior.
2. Reflects the QCA's 2020–2024 irrigation price investigation final recommendations. Excludes recreational facility costs.
3. From 1 July 2020, irrigation customers no longer contribute towards the cost of operating and maintaining recreational facilities. Forecast costs have been separately identified for transparency.

² See the 2019/20 Network Service Plan at www.sunwater.com.au/schemes/Barker-Barambah/

Electricity

One of the key challenges for Sunwater is managing the cost of electricity. In 2019/20, Sunwater undertook the following energy improvement initiatives in the Barker Barambah Bulk Water Service Contract:

- a review of our electricity tariff selections, to ensure that we are using the most cost-effective tariffs. Our review focused on the Upper Redgate pump station as it represents 88 per cent of consumption and most of the scheme's electricity costs. There was no change in tariff for 2019/20.
- an interval meter was installed at the Upper Redgate pump station to provide the granular level of consumption and demand information required to identify operational optimisation and renewable generation opportunities
- a solar assessment, which found that it is not currently cost-effective to invest in a solar installation.

Outlook for 2021/22 Operations

Barker Barambah Bulk Water Service Contract's total operations budget in 2021/22 is 27.8 per cent above the QCA's recommended cost target. This variance is largely driven by increased insurance costs (see below), as well as higher labour and non-direct costs related to complying with dam safety obligations. Sunwater will continue to seek efficient ways to deliver operations activities, with a view to aligning with the QCA target.

Insurance

Insurance is one of Sunwater's largest expenditure items. These costs have increased significantly in recent years due to multiple flood events in Queensland and global insurable events impacting premiums. Although Sunwater is subject to market forces in the pricing of insurance premiums, we have also been actively managing insurance premium costs by reviewing coverage levels and policy specifications (including deductibles) to ensure that our insurance coverage is appropriate and reflective of the risks faced by our business.

In 2020/21, Sunwater experienced a significant price increase in insurance premiums. Our insurance broker has indicated this is the beginning of an upward trend in premiums due to, among other factors, the number and size of natural disasters that have occurred in Australia over the past 12 months. Insurance premiums in 2021/22 are therefore expected to be higher than the QCA's recommended allowance and historical costs.

Electricity

In 2021/22, Sunwater will continue our focus on managing the cost of electricity in this service contract. The following energy improvement initiatives are currently planned:

- annual tariff optimisation analysis
- operational optimisation assessment (as required)
- renewable generation opportunity assessment.

Preventative maintenance

The forecast preventative maintenance costs for the Barker Barambah Bulk Water Service Contract are 29.4 per cent below the QCA's recommended cost target. This is attributed to a rebalancing of resources assigned to perform preventative maintenance and operational activities.

Corrective maintenance

In 2021/22, Sunwater anticipates spending \$39.4k on corrective maintenance in the Barker Barambah Bulk Water Service Contract. This is 13.8 per cent above the QCA's recommended cost target; however, it is aligned with historical forecasts.

Electricity metrics

Table 8 sets out electricity usage and efficiency-related information for the Barker Barambah Bulk Water Service Contract.

Table 8: Electricity usage and efficiency-related metrics

| Metric | 2016/17 | 2017/18 | 2018/19 | 2019/20 |
|---|---------|---------|---------|---------|
| Electricity usage (kWh) | 182,665 | 125,314 | 276,771 | 56,130 |
| Water usage (ML) | 18,010 | 10,641 | 13,134 | 6511 |
| Actual electricity cost per ML (\$/ML delivered) | 4.16 | 3.71 | 6.56 | 7.07 |
| Average pump energy indicator ¹ (kWh/ML/per meter of head) | 4.96 | 5.68 | 6.62 | 5.32 |

1. The industry standard is 3.4 to 4.5, depending on the size of the pump station with the benchmark for larger pump stations being more efficient.

To effectively monitor pump efficiency, a granular level of both energy and water data is required. With the installation of interval meters in early 2020 to capture energy consumption at a granular level, Sunwater is now able to more frequently monitor our performance against this metric.

Cost of delivering services—Annuity and non-annuity funded expenditure

Annuity expenditure include funds for preventative and corrective maintenance, as well as large, one-off operations activities. The preventative maintenance activities monitor the asset condition and inform the corrective maintenance program when an asset needs to be refurbished or replaced. Non-annuity funded expenditure largely relates to Sunwater’s Dam Improvement Program and recreational facility costs.

Table 9 outlines our annuity and non-annuity funded expenditure. A comparison of forecast and actual annuity-funded projects for 2019/20 is provided in **Appendix 3**, with details of the major annuity-funded projects planned for the 2020/21 to 2025/26 period set out in **Appendix 4**.

Table 9: Annuity and non-annuity funded expenditure^{1,2}

| Barker Barambah Bulk Water Service Contract | 2017/18 | 2018/19 | 2019/20 | | Variance \$'000 | 2020/21 | | 2021/22 | | 2022/23 | 2023/24 | 2024/25 | 2025/26 |
|---|-------------------------------------|-------------------------------------|--------------------------|------------------------|-----------------|--------------------------|--------------------------------|--------------------------|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Sunwater Actual \$'000 ³ | Sunwater Actual \$'000 ³ | Sunwater Forecast \$'000 | Sunwater Actual \$'000 | | Sunwater Forecast \$'000 | QCA Target \$'000 ⁴ | Sunwater Forecast \$'000 | QCA Target \$'000 ⁴ | Sunwater Forecast \$'000 | Sunwater Forecast \$'000 | Sunwater Forecast \$'000 | Sunwater Forecast \$'000 |
| Annuity-funded | | | | | | | | | | | | | |
| Operations | 5.7 | - | - | - | - | - | - | - | - | - | - | - | - |
| Preventative maintenance | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Planned corrective maintenance | 191.4 | 171.6 | 1492.8 | 1126.5 | (366.2) | 3936.2 | 2213.7 | 55.8 | 558.0 | 494.6 | 256.1 | 78.3 | 1953.3 |
| Unplanned corrective maintenance | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Annuity-funded total | 197.1 | 171.6 | 1492.8 | 1126.5 | (366.2) | 3936.2 | 2213.7 | 55.8 | 558.0 | 494.6 | 256.1 | 78.3 | 1953.3 |
| Non-annuity funded | | | | | | | | | | | | | |
| Dam Improvement Program | - | - | - | - | - | - | - | - | - | - | 1263.4 | 3377.7 | 15,861.7 |
| Recreational facility projects | | | | | | 62.1 | | | | 108.4 | - | - | 92.1 |
| Metered offtakes and dividend reinvestment | 5.6 | - | - | - | - | - | | | | - | - | - | - |
| Non-annuity total | 5.6 | - | - | - | - | 62.1 | | - | | 108.4 | 1263.4 | 3377.7 | 15,953.8 |

1. Sunwater’s 2021/22 to 2025/26 budget figures are draft as at the time of consultation. These figures will not be locked down until late in the financial year prior.
2. Forecast annuity-funded costs from 2020/21 exclude recreational facility projects.
3. The annuity-funded spend for 2017/18 and 2018/19 reflects the QCA’s 2020–2024 irrigation price investigation final recommendations, which included adjustments to Sunwater’s actual costs.
4. Reflects the QCA’s 2020–2024 irrigation price investigation final recommendations.

Asset management and planning improvements

In its final report for the 2020–2024 irrigation price investigation, the QCA identified several potential improvements to Sunwater’s asset management and planning framework. It suggested Sunwater should:

- improve our predictive maintenance and asset condition reporting arrangements to better inform the timing of asset replacement
- review our cost estimation approach and ensure that asset values are based on modern equivalent replacement values where appropriate
- develop transparent guidelines for options analyses.³

Sunwater acknowledges there is room for improvement in our asset management system and is working on several initiatives to address specific potential improvements and the broader asset management and planning processes as outlined below. We will report on our progress on the implementation of these initiatives in the final S&PP for 2021/22.

Asset management performance growth

This initiative provides the opportunity to improve predictive maintenance capability and focuses on monitoring asset performance data of critical assets. The asset data will provide a greater insight into asset performance, condition, and refurbishment and replacement planning.

Asset management planning

A change to Sunwater’s asset planning cycle has improved the near-term cost estimation of annuity-funded work. The change targets 18 months of fully cost-estimated work and will help improve future asset replacement values.

Asset management improvement

Sunwater is implementing improvements to our asset management system with a fit for purpose alignment to the ISO55001 asset management standard. Key to the alignment is the simplification of how we identify and deliver maintenance work. Low value, low complexity work follows a standard work management methodology and is managed at a service contract level. High value, high complexity work is managed at an individual level and follows Sunwater’s Portfolio, Program and Project Management Framework (P3MF). P3MF defines the management and governance of projects including when an options analysis is required.

³ See pages 58 to 60, www.qca.org.au/wp-content/uploads/2020/02/irrigation-price-review-part-b-sunwater-final-report.pdf

Annuity balance

Annuities are managed by Sunwater on behalf of each service contract. They allow for customer charges to reflect a constant amount necessary to recoup the costs of refurbishment/replacement of the assets over a pre-determined period of time. The forecast annuity balances, and the impacts of budgeted spend, are shown in Table 10 below.

The QCA and Sunwater closing balances differ due to differences in the expenditure profile allowed by the QCA in its 2020–2024 final recommendations and actual expenditure incurred by Sunwater in 2019/20 and what we expect to spend thereafter.

Table 10: Annuity balance

| Barker Barambah Bulk Water Service Contract | 2017/18 Actual \$'000 | 2018/19 Actual \$'000 | 2019/20 Actual \$'000 | 2020/21 Forecast \$'000 | 2021/22 Forecast \$'000 | 2022/23 Forecast \$'000 | 2023/24 Forecast \$'000 | 2024/25 Forecast \$'000 | 2025/26 Forecast \$'000 |
|---|-----------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Opening balance ¹ | (909.3) | (922.4) | (866.4) | (1793.1) | (5119.5) | (4642.7) | (4201.0) | (3492.0) | (1686.7) |
| Spend ² | (197.1) | (171.6) | (1126.5) | (3936.2) | (55.8) | (494.6) | (256.1) | (78.3) | (1953.3) |
| Insurance proceeds receipts (if applicable) | | | | | | | | | |
| Prior year | - | - | - | - | - | - | - | - | - |
| Current year | - | 38.4 | - | - | - | - | - | - | - |
| Annuity contribution ³ | 252.0 | 258.3 | 264.8 | 688.1 | 756.4 | 1139.4 | 1148.8 | 2036.2 | 2039.9 |
| Interest/financing costs | (68.1) | (69.1) | (64.9) | (78.4) | (223.8) | (203.0) | (183.7) | (152.7) | (73.7) |
| Sunwater – Closing balance | (922.4) | (866.4) | (1793.1) | (5119.5) | (4642.7) | (4201.0) | (3492.0) | (1686.7) | (1673.9) |
| QCA – Closing balance | (922.4) | (866.4) | (2081.4) | (3698.0) | (3661.3) | (3181.7) | (2397.1) | | |
| Difference | - | - | 288.4 | (1421.5) | (981.4) | (1019.3) | (1094.8) | | |

1. The opening balances for 2017/18, 2018/19 and 2019/20 reflect the QCA's 2020–2024 irrigation price investigation final recommendations.
2. The spend for 2017/18 and 2018/19 reflects the QCA's 2020–2024 irrigation price investigation final recommendations, which included adjustments to Sunwater's actual costs. The 2019/20 spend reflects Sunwater's actual costs. Thereafter, the spend is based on Sunwater's forecasts.
3. The annuity contribution is included in the prices paid by customers. It was set by the QCA from 2012/13 to 2016/17 and was rolled forward with the Consumer Price Index (CPI) for 2017/18, 2018/19 and 2019/20. From 2020/21 to 2023/24, the annuity contribution is based on the QCA's 2020–2024 irrigation price investigation final recommendations. Thereafter, it is based on Sunwater's projections.

Appendix 1—Historical water usage

The below table contains the scheme’s recent water use, together with the 18-year average for the 2002/03 to 2019/20 period.

| Year | Usage (ML) |
|-----------------------------------|---------------|
| 2010/11 | 2651 |
| 2011/12 | 7974 |
| 2012/13 | 9819 |
| 2013/14 | 24,852 |
| 2014/15 | 17,435 |
| 2015/16 | 15,187 |
| 2016/17 | 18,010 |
| 2017/18 | 10,641 |
| 2018/19 | 13,134 |
| 2019/20 | 6511 |
| 18-year historical average | 12,617 |

Appendix 2—Operating and annuity-funded costs by expense type

| Barker Barambah Bulk Water Service Contract | 2017/18 | 2018/19 | 2019/20 | | 2020/21 | | 2021/22 | | 2022/23 | 2023/24 | 2024/25 | 2025/26 | |
|---|------------------------|------------------------|--------------------------|------------------------|-----------------|--------------------------|-------------------|--------------------------|-------------------|--------------------------|--------------------------|--------------------------|---------------|
| | Sunwater Actual \$'000 | Sunwater Actual \$'000 | Sunwater Forecast \$'000 | Sunwater Actual \$'000 | Variance \$'000 | Sunwater Forecast \$'000 | QCA Target \$'000 | Sunwater Forecast \$'000 | QCA Target \$'000 | Sunwater Forecast \$'000 | Sunwater Forecast \$'000 | Sunwater Forecast \$'000 | |
| Operating costs | | | | | | | | | | | | | |
| Operations | 734.4 | 999.1 | 984.8 | 1039.6 | 54.8 | 1186.2 | 932.3 | 1220.1 | 954.8 | 1293.2 | 1296.8 | 1350.9 | 1353.1 |
| Labour | 140.9 | 181.9 | 182.9 | 174.1 | (8.7) | 191.0 | 152.9 | 196.7 | 156.4 | 202.6 | 207.7 | 212.8 | 218.2 |
| Contractors | 5.3 | 6.9 | 11.0 | 134.8 | 123.8 | 24.3 | 19.3 | 24.9 | 19.7 | 25.5 | 26.1 | 26.8 | 27.5 |
| Materials | 0.3 | 0.5 | 3.0 | 1.4 | (1.6) | 2.9 | 0.9 | 3.0 | 0.9 | 3.1 | 3.1 | 3.2 | 3.3 |
| Electricity | 39.5 | 86.2 | 39.6 | 46.1 | 6.5 | 43.0 | 40.5 | 44.1 | 44.1 | 45.2 | 46.3 | 44.2 | 45.3 |
| Insurance | 192.5 | 207.0 | 229.2 | 236.0 | 6.7 | 318.2 | 260.8 | 326.1 | 266.0 | 334.3 | 342.6 | 351.2 | 360.0 |
| Other | 27.0 | 85.0 | 96.9 | 110.1 | 13.3 | 101.8 | 74.9 | 102.8 | 76.4 | 106.9 | 107.9 | 109.1 | 110.3 |
| Local area support costs | 109.8 | 104.4 | 69.3 | 84.3 | 15.0 | 106.3 | 64.7 | 109.5 | 66.1 | 112.8 | 115.6 | 118.5 | 121.4 |
| Corporate support costs | 66.2 | 172.3 | 136.5 | 133.1 | (3.5) | 143.2 | 118.2 | 147.5 | 120.7 | 151.9 | 155.7 | 159.6 | 163.6 |
| Indirect costs | 152.9 | 154.8 | 216.5 | 119.8 | (96.7) | 255.6 | 200.1 | 265.5 | 204.5 | 311.0 | 291.7 | 325.6 | 303.7 |
| Preventative maintenance | 108.9 | 110.5 | 108.9 | 137.6 | 28.7 | 66.0 | 94.3 | 68.0 | 96.4 | 73.3 | 72.7 | 76.9 | 77.3 |
| Labour | 28.5 | 29.2 | 33.9 | 42.2 | 8.2 | 16.7 | 28.8 | 17.2 | 29.4 | 17.8 | 18.2 | 18.7 | 19.1 |
| Contractors | 20.0 | 23.2 | 12.0 | 9.0 | (3.0) | 11.7 | 6.2 | 11.9 | 6.3 | 12.2 | 12.6 | 12.9 | 13.2 |
| Materials | 2.5 | 0.8 | 1.0 | 0.1 | (0.9) | 1.0 | 1.3 | 1.0 | 1.3 | 1.0 | 1.0 | 1.1 | 1.1 |
| Other | 1.8 | 2.6 | 1.0 | 4.2 | 3.2 | 1.9 | 3.1 | 2.0 | 3.2 | 2.0 | 2.1 | 2.1 | 2.2 |
| Local area support costs | 22.2 | 15.4 | 12.1 | 22.0 | 9.9 | 9.2 | 12.2 | 9.5 | 12.4 | 9.8 | 10.0 | 10.3 | 10.5 |
| Corporate support costs | 12.3 | 24.2 | 25.3 | 33.3 | 8.0 | 12.6 | 22.2 | 12.9 | 22.7 | 13.3 | 13.6 | 14.0 | 14.3 |
| Indirect costs | 21.6 | 15.1 | 23.6 | 26.9 | 3.3 | 12.9 | 20.5 | 13.5 | 20.9 | 17.1 | 15.2 | 17.9 | 16.8 |
| Corrective maintenance | 33.3 | 20.1 | 42.3 | 23.3 | (19.0) | 38.2 | 33.9 | 39.4 | 34.6 | 42.1 | 42.0 | 44.1 | 44.5 |
| Labour | 5.8 | 2.9 | 10.1 | 2.1 | (8.1) | 8.0 | 7.7 | 8.3 | 7.9 | 8.5 | 8.7 | 8.9 | 9.2 |
| Contractors | 11.8 | 5.7 | 7.0 | 17.3 | 10.3 | 6.8 | 4.9 | 7.0 | 5.0 | 7.1 | 7.3 | 7.5 | 7.7 |
| Materials | 1.3 | 6.5 | 7.0 | 0.2 | (6.8) | 6.8 | 5.7 | 7.0 | 5.8 | 7.1 | 7.3 | 7.5 | 7.7 |
| Other | 2.5 | - | - | - | - | - | 0.8 | - | 0.8 | - | - | - | - |
| Local area support costs | 4.5 | 0.9 | 3.6 | 0.8 | (2.8) | 4.4 | 3.3 | 4.5 | 3.3 | 4.7 | 4.8 | 4.9 | 5.0 |
| Corporate support costs | 3.0 | 2.4 | 7.5 | 1.5 | (6.0) | 6.0 | 6.0 | 6.2 | 6.1 | 6.4 | 6.5 | 6.7 | 6.9 |
| Indirect costs | 4.4 | 1.8 | 7.0 | 1.5 | (5.6) | 6.2 | 5.5 | 6.4 | 5.6 | 8.2 | 7.3 | 8.6 | 8.1 |
| Operating costs total | 876.6 | 1129.7 | 1136.0 | 1200.5 | 64.6 | 1290.4 | 1060.5 | 1327.5 | 1085.8 | 1408.5 | 1411.5 | 1471.9 | 1475.0 |
| Annuity-funded costs | | | | | | | | | | | | | |
| Labour | | | 183.2 | 287.2 | 103.9 | 42.7 | 24.0 | 4.5 | 45.1 | 46.2 | 20.3 | 9.2 | 324.8 |
| Contractors | | | 603.3 | 258.0 | (345.2) | 3730.2 | 2097.9 | 19.1 | 190.6 | 140.7 | 86.3 | 23.6 | 357.5 |
| Materials | | | 338.4 | 29.7 | (308.7) | 68.9 | 38.8 | 22.8 | 228.2 | 203.7 | 106.2 | 24.9 | 377.7 |
| Other | | | 34.0 | 23.2 | (10.9) | 6.2 | 3.5 | - | - | - | - | - | 184.1 |
| Local area support costs | | | 69.7 | 118.8 | 49.1 | 23.2 | 13.1 | 2.5 | 25.0 | 24.7 | 11.2 | 4.9 | 179.6 |
| Corporate support costs | | | 136.8 | 219.1 | 82.3 | 32.0 | 18.0 | 3.4 | 33.8 | 34.7 | 15.2 | 6.9 | 243.6 |
| Indirect costs | | | 127.3 | 190.6 | 63.2 | 32.9 | 18.5 | 3.5 | 35.2 | 44.6 | 16.9 | 8.9 | 286.0 |
| Annuity-funded total¹ | 197.1 | 171.6 | 1492.8 | 1126.5 | (366.2) | 3936.2 | 2213.7 | 55.8 | 558.0 | 494.6 | 256.1 | 78.3 | 1953.3 |
| Total costs² | 1073.7 | 1301.3 | 2628.7 | 2327.1 | (301.7) | 5226.5 | 3274.2 | 1383.3 | 1643.8 | 1903.1 | 1667.6 | 1550.3 | 3428.3 |

1. The 2017/18 and 2018/19 costs reflect the QCA's 2020–24 irrigation price investigation final recommendations, which included adjustments to Sunwater's actual costs. Sunwater has provided cost information at the lowest level of granularity available.

2. Excludes recreational facility costs from 2020/21.

Appendix 3—Comparison of forecast and actual annuity-funded projects for 2019/20

The below table sets out the major annuity-funded projects planned for the Barker Barambah Bulk Water Service Contract in 2019/20 and the actual projects undertaken.

| Project | Forecast \$'000 | Actual \$'000 | Commentary |
|--|--------------------|------------------|---|
| Silverleaf Weir – Refurbishment (20BBA03) | 959 | 747 | This project was planned to run over two financial years, with the 2019/20 scope on track until COVID-19 delayed the works planned for the fourth quarter. Works including design finalisation, procurement and contract award were impacted which postponed several activities and subsequent cashflow. Works are on track for completion in 2020/21. |
| Bjelke-Petersen Dam – Refurbish guard valve No. 2 (17BBA03) | 76 | 92 | The guard valve was in worse condition than anticipated, which led to more extensive refurbishment costs. The low allocation early in the water year also limited the ability to leave the outlet offline hence a valve from Boondooma Dam was installed to maintain release capability. This led to additional costs related to isolation and installation aspects. |
| Bjelke-Petersen Dam – Comprehensive risk assessment (CRA) inputs (20BBA08 and 20BBA09) | 207 | 70 | The seismic study was completed for less than estimated due to packaging the work with other studies with one consultant. Commencement on the remaining studies was delayed, therefore less budget was utilised in 2019/20. This work has been carried over to 2020/21. |
| Redgate Pipeline – Replace valve (13BBA02) | 34 | 25 | Access to the valve was made easier due to the low allocation (no demand) on this pipeline. This equated to less labour and time needed for dewatering and isolations, which increased efficiency for the works. |
| Bjelke-Petersen Dam – Level 2 bridge assessment (20BBA05) | 30 | 35 | The original estimate for this work was based on similar market costs for completed studies at other dam sites. The consultant costs for this facility were higher than the budgeted allowance. |
| Other works | 187 | 140 | The key cost variances related to the following projects: <ul style="list-style-type: none"> additional meters and faulty meter components were replaced throughout the scheme (20BBA11 and 20BBA12; \$24k above forecast) the contingency budget for the scheme was not drawn down (\$66k) the estimate to return the observation bore to the original design depth included an allowance for the hire cost of drilling a new bore if necessary. The original bore was able to be cleared and returned to service for \$8k less than the budgeted amount (20BBA07). |
| Non-scheduled works | - | 17 | There was an unplanned project to replace the original booster pump on the Redgate Pipeline (20BBA13). The original pump was due for maintenance but was subsequently deemed unserviceable and beyond economic refurbishment. |
| 2019/20 Total | 1493 | 1127 | |

Appendix 4—Annuity-funded projects for 2020/21 to 2025/26

The below table sets out Sunwater’s currently planned annuity-funded projects for the 2020/21 to 2025/26 period for this scheme. While the immediate program is well defined, estimates become more uncertain further into the planning timeline. Forecasts are likely to change in future S&PPs, reflecting changes in project delivery timing; asset condition and risk updates; outcomes from scheduled asset inspections; and customer feedback.

| Year | Project title | Project scope | Forecast \$'000 |
|---------|---|---|--------------------|
| 2020/21 | Silverleaf Weir – Refurbishment | The options study on the refurbishment of Silverleaf Weir recommended the installation of sheet piling on the upstream side, concrete capping the weir and installing new outlet works. Three other weirs have been successfully refurbished using this method so Sunwater is confident this is the optimum solution. Other options at a far higher cost include a new weir upstream and buying back water allocations. | 3335 |
| | Bjelke-Petersen Dam – Comprehensive risk assessment (CRA) | A CRA is conducted with new data collected from previous studies (safety review, input studies) to assess the level of dam and community safety risks identified and further refine their priority for refurbishment. A CRA is considered best practice among dam safety owners. | 190 |
| | Bjelke-Petersen Dam – CRA input studies | The CRA relies on current and accurate data upon which to conduct the risk assessments. In this case, updated geotechnical and failure consequence assessments will be conducted to inform the full level of societal risk. | 154 |
| | Bjelke-Petersen Dam – Replace secondary winch | The secondary bulkhead winch has been hydraulically actuated in the past; however, the hydraulic system is in poor condition. It is prudent to replace it with an electrically actuated system as there is an electrical supply to the site already. The current hydraulic system is a mobile system that is designed specifically for this site, so it is not the optimal solution. | 34 |
| | Bjelke-Petersen Dam – Refurbish guard valve No. 2 | The No.2 guard valve at Bjelke-Petersen Dam required painting and the seal to be replaced to prevent corrosion and water loss. Most of the work was completed in 2019/20; however, the valve could not be installed due to operational constraints. This work is to re-install the valve and complete the remaining refurbishment. | 26 |
| | Other works | There are four other annuity-funded projects planned for 2020/21. Two are an allowance for meter replacements; one is for an asset revaluation; and the fourth is a safety-related study into electrical arc flash following updated safety guidelines. The balance is a contingency allowance. | 197 |
| | 2020/21 Total | | 3936 |
| 2021/22 | Meter replacements | This is an allowance to replace failed customer meters in the Barker Barambah scheme. If meters are not replaced, the funds will remain in the annuity. | 32 |
| | Joe Sippel Weir – Comprehensive inspection | Sunwater conducts comprehensive inspections on our dams and weirs every five years to maintain current asset condition knowledge and improve the planned corrective maintenance programs. | 16 |
| | Upper Redgate and Bjelke-Petersen Dam – Crane inspections | Cranes, hoists and winches are required to have a safety inspection seven years after installation according to the crane standard. In this case, both assets were replaced in 2014/15 so the inspection is due in 2021/22. | 8 |

| Year | Project title | Project scope | Forecast \$'000 |
|---------|--|---|--------------------|
| | Other works | There are no other annuity-funded projects planned for 2021/22. | - |
| | 2021/22 Total | | 56 |
| 2022/23 | Bjelke-Petersen Dam – 20-year dam safety review | The Queensland Dam Safety Management Guidelines and condition schedule require each referable dam to undergo a dam safety review every 20 years to identify any deficiencies in design when compared to current standards and practices. | 372 |
| | Bjelke-Petersen Dam – Passive anchor tests | Several passive anchors will be pulled during the 20-year dam safety review to determine their contact with the foundation rock. The force needed to pull them will be compared with design standards and refurbishment planned if needed. This is a lesson learnt from Fairbairn Dam where the anchors had proven to have failed due to corrosion. | 90 |
| | Meter replacements | This is an allowance to replace failed customer meters in the Barker Barambah scheme. If meters are not replaced, the funds will remain in the annuity. | 33 |
| | Other works | There are no other annuity-funded projects planned for 2022/23. | - |
| | 2022/23 Total | | 495 |
| 2023/24 | Bjelke-Petersen Dam – Comprehensive inspection | The Queensland Dam Safety Management Guidelines require Sunwater to undertake a comprehensive dam safety inspection every five years. The inspection identifies any defects and allows Sunwater to assess their risks and prioritise their scheduled work in accordance with the asset planning methodology. | 141 |
| | Bjelke-Petersen Dam – Level 2 bridge inspection | Level 2 bridge inspections to Department of Transport and Main Roads standards are being introduced to all Sunwater intake tower and spillway bridges to ensure the safety of operators and the public. A five-year frequency is the maximum time between inspections recommended by the Department. | 35 |
| | Bjelke-Petersen Dam – Replace dehumidifier | This is an allowance to replace the dehumidifier in the outlet building. It is needed to keep electrical switchboards etc. dry and will complement any electrical upgrades recommended from the options study. | 21 |
| | Stream gauging stations – Replace ageing equipment | The stream gauging station equipment is ageing and needs to be replaced with modern equivalents. An options study is not needed as the technology and likely solutions remain well defined. | 16 |
| | Bjelke-Petersen Dam – Electrical upgrade options | Components of the outlet building electrical system not replaced as part of flood damage repair works are coming towards their end of life. It is prudent to better understand their condition and prepare options for their replacement before they fail. Options are needed as electrical technology has changed considerably since this equipment was installed. | 8 |
| | Other works | There are two other annuity-funded projects planned for 2023/24 related to meter replacements. | 35 |
| | 2023/24 Total | | 256 |
| 2024/25 | Bjelke-Petersen Dam – Instrument replacement options studies | The Sunwater dam safety team is reviewing the need for instrumentation on some dams, particularly where the instruments have failed or are returning spurious results. Options for replacing failed piezometers and total pressure cells (TPC) will be investigated. Piezometers and TPCs measure the pore pressure in the dam. | 38 |
| | Meter replacements | This is an allowance to replace failed customer meters in the Barker Barambah scheme. If meters are not replaced, the funds will remain in the annuity. | 35 |

| Year | Project title | Project scope | Forecast \$'000 |
|---------|--|--|--------------------|
| | Upper Redgate pump station – Fencing replacement | This is an allowance to replace fencing, gates and grids at the Upper Redgate pump station area. The funds will remain in the annuity if the assets are in a functional condition. | 6 |
| | Other works | There are no other annuity-funded projects planned for 2024/25. | - |
| | 2024/25 Total | | 79 |
| 2025/26 | Bjelke-Petersen Dam – Intake tower bridge refurbishments | This is an allowance to refurbish the intake tower bridge, as it will be at 50 per cent of its design life. The Level 2 bridge inspection from 2023/24 will better inform whether the work needs to proceed. If not, it will be removed from the program. | 517 |
| | Bjelke-Petersen Dam – Replace instruments | The outcome of the 2024/25 options studies will inform if this work needs to occur. | 408 |
| | Bjelke-Petersen Dam – Control and electrical components | The 2023/24 options study will better inform the scope of works to be undertaken in relation to the control equipment and electrical upgrade. | 186 |
| | Bjelke-Petersen Dam – Refurbish left spillway shotcrete | The shotcrete on the approach channel to the spillway is showing signs of deterioration due to floods and natural fault lines. It needs to be maintained to ensure the spillway left wall remains viable. If the shotcrete fails the material behind the left wall could scour during floods, causing the entire spillway to fail. The 2023/24 comprehensive inspection will assist in defining the required scope of works. | 136 |
| | Bjelke-Petersen Dam – Fencing refurbishment | This is an allowance to replace fencing at Bjelke-Petersen Dam, including around the compound area. | 122 |
| | Bjelke-Petersen Dam – Intake tower refurbishment | This is an allowance to refurbish the intake tower structure. The prior comprehensive inspection, dam safety review and CRA will determine the scope of works, if any, for this project. | 102 |
| | Redgate Pipeline – Outlet valve and actuator replacement | The outlet valve and actuator at the end of the Redgate Pipeline will be replaced if the condition closer to 2025/26 determines replacement is needed. | 90 |
| | Redgate Diversion Pipeline – Non-destructive testing | Non-destructive testing of the Redgate Diversion Pipeline will be carried out to determine the thickness of the walls. This will enable Sunwater to plan for sectional replacements, if needed. | 68 |
| | Other works | There are 16 other annuity-funded projects planned in 2025/26. They include: five gauging station equipment replacements; an asset revaluation; meter replacement allowances; Upper Redgate pipeline valve pit and valve refurbishment; two spillway ground penetrating radar jobs at Bjelke-Petersen Dam to search for voids and damaged underdrainage; a 10-year crest survey of Bjelke-Petersen Dam; three valve replacements at the Upper Redgate pump station; a winch refurbishment allowance at Upper Redgate pump station; and an allowance to clear any trees and vegetation from the Bjelke-Petersen Dam discharge channel to allow flood waters to disperse easily. | 324 |
| | 2025/26 Total | | 1953 |

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