sunwater

Final Service and Performance Plan 2023

Bundaberg Bulk Water Service Contract

20 December 2023

Contents

At a glance

Our customers

The majority of our 1046 customers in this scheme are irrigators who grow crops including sugar cane, tomatoes, rockmelons, watermelons, capsicum, zucchini, beans, macadamia nuts and avocados. Water is also supplied to the city of Bundaberg and communities in the Bundaberg Regional Council area.

Our irrigation charges

Table 1 - Irrigation charges for 2023-24[1,2]

Charges by tariff group 2023-24							
Bundaberg		Irrigation charge[3]		Cost-reflective charge[4]		Δ to cost reflective	
River	Part A	$11.10	$/ML	$13.13	$/ML	-$2.03	$/ML
	Part B	$0.90	$/ML	$1.08	$/ML	-$0.18	$/ML
Channel or watercourse supplemented by a channel	Part A	$10.91	$/ML	$13.13	$/ML	-$2.22	$/ML
	Part B	$0.90	$/ML	$1.08	$/ML	-$0.18	$/ML

1. *This table includes bulk water charges only. For distribution charges, please refer to the Distribution Service Contract S&PP.*
2. *Excludes BWPL charges (Paradise Dam).*
3. *Includes the Queensland Government's 15 per cent discount for irrigation customers. Refer to www.rdmw.qld.gov.au for more information.*
4. *Is the cost-reflective price determined by the Queensland Competition Authority (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.*

For more information on Sunwater's fees and charges, refer to: www.sunwater.com.au/customer/fees-and-charges/

Our performance

Operations and maintenance costs		QCA $'000	Sunwater $'000	Δ to QCA	
Actual	2022-23	$1,677.4	$2,453.1	46.2%	▲
Forecast	2023-24	$1,717.5	$2,411.9	40.4%	▲

Operations and maintenance cost transfer from Gin Gin main channel and Monduran pump station		QCA $'000	Sunwater $'000	Δ to QCA	
Actual	2022-23	$39.6	$43.6	9.9%	△
Forecast	2023-24	$40.4	$45.4	12.6%	▲

Expenditure funded by the annuity		QCA $'000	Sunwater $'000	Δ to QCA	
Actual	2022-23	$659.2	$1,061.9	61.1%	▲
Forecast	2023-24	$501.6	$1,400.9	179.3%	▲
Actual + Forecast	∑ Price path	$14,906.7	$9,698.3	-34.9%	▼

▲	△	◆▶	▽	▼
10% above the QCA target	5% above the QCA target	In line with the QCA target	5% below the QCA target	10% below the QCA target

Water delivered	Total		To irrigators		
2021-22	74,234	ML	60,707	ML	
2022-23	76,548	ML	69,367	ML	
	3.1%	◆▶	14.3%	▲	*YoY change by group*

▲	◆▶	▼
5%	0%	-5%

Service targets	Exceedances	Notes
2021-22	0	Unplanned shutdowns (duration) and maximum number of interruptions were not met.
2022-23	0	Unplanned shutdowns (duration) and maximum number of interruptions were not met.

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 sets out Sunwater's actual costs for 2022-23.

The purpose of this year's S&PP for Bundaberg Bulk is to:

- examine Sunwater's performance in 2022-23 against cost and service targets
- present to customers Sunwater's projected costs[1] for 2023-24 and 2024-25
- consult with our customers on forecast operating and annuity-funded costs for 2023-24 and the forward program of works.

In addition to this S&PP, Sunwater submitted its irrigation pricing proposal to the Queensland Competition Authority (QCA) on 30 November 2023 which explains the types of costs we incur in delivering water to our customers and how those costs are allocated to service contracts. The pricing proposal and associated customer material is available at: www.sunwater.com.au/projects/price-path/.

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.

Sunwater engages with its customers both formally and informally throughout the year and customer feedback is a valuable part of our planning process.

The publication of an annual S&PP is an important part of the formal feedback process, providing a snapshot of Sunwater's performance over the most recently completed financial year, as well as an outline of the areas of focus for the current year.

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

Email: sppfeedback@sunwater.com.au
Post: S&PP Feedback

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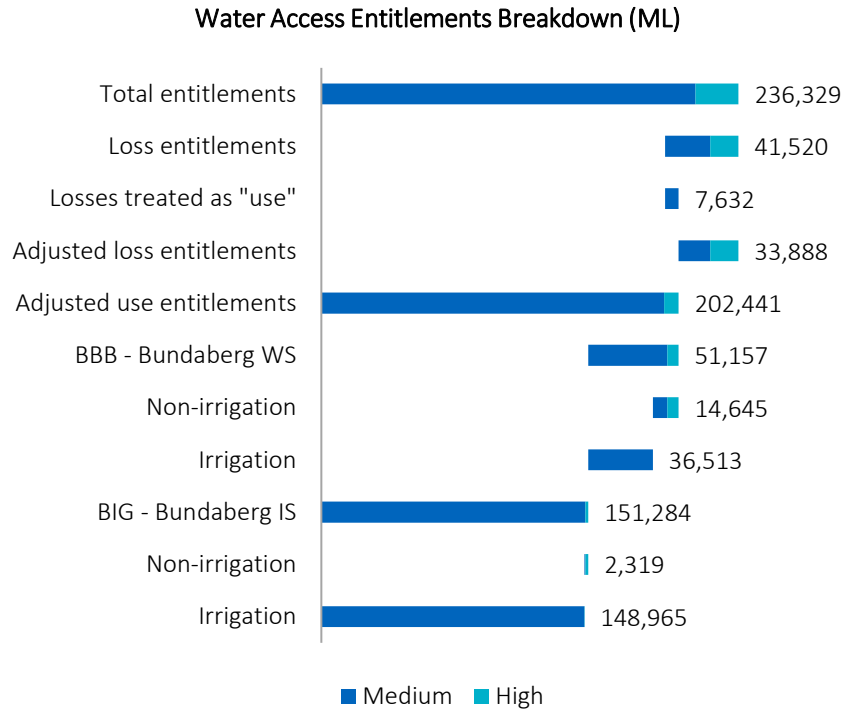
[1] All financial figures reported in this document are in nominal dollars, i.e. dollars of the day. Figures may not sum due to rounding.

Delivering services to our customers

Entitlements

The water allocations for each customer segment are shown below.

Figure 1 - Bundaberg regulated service contracts water access entitlements (as at 30 June 2023

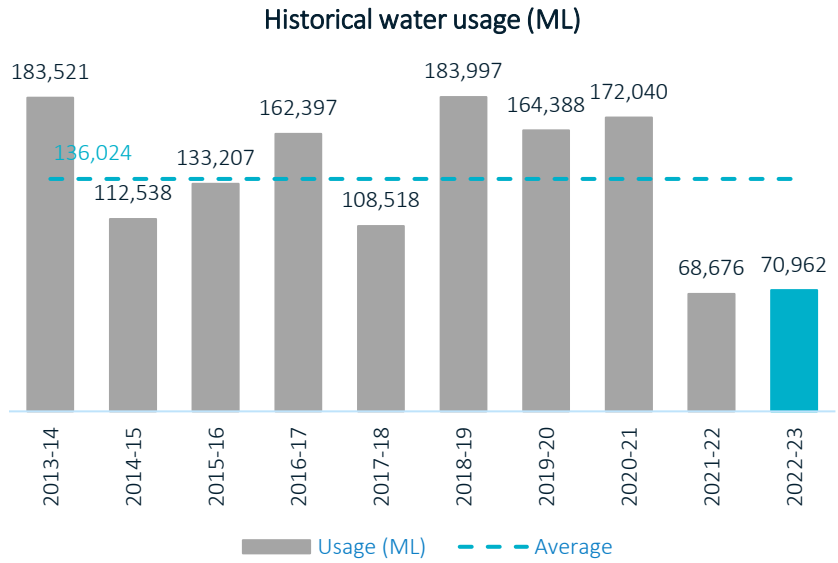


1. *Includes distribution system. Excludes Burnett Water Pty Ltd (BWPL) (Paradise Dam).*

Historical water usage

The chart below shows annual water usage for the past 10-years. It excludes water delivered to Burnett Water Pty Ltd (BWPL).

Figure 2 - Scheme historical water usage for the past 10-years excluding BWPL



- Usage in 2022-23 was broadly in line with the usage level in 2021-22.
- Part B prices for the current period were set using a 20-year average of 106,790 ML.

Service targets

Sunwater and customers have agreed Water Supply Arrangements and Service Targets for Bundaberg Bulk. Table 2 below sets out our recent performance against selected service targets for this scheme.

Table 2 - Scheme service targets and performance

Service target		Target	Number of exceptions		
			2020-21	2021-22	2022-23
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	72 hours	0	0	0
Maximum number of interruptions[1]	Planned or unplanned interruptions per water year	10	0	0	0

1. *This is the total number of bulk customers in the scheme that have been interrupted in excess of the target.*

In addition, Sunwater has company-wide customer interactions service targets. Our performance in 2022-23 against these service targets is shown in Table 3.

Table 3 - Customer interactions service targets and performance

Service target	Target	2022-23
Telephone answering[1]	80.00%	92.50%
Requests actioned within Service Level Agreement (SLA) timeframes[2]	> 95.00%	99.47%

1. *This target measures the percentage of 13 15 89 calls that are answered within 60 seconds.*
2. *This target measures the percentage of email or workflow requests (such as property transfers and temporary transfers) to the Customer Support team that are completed within the agreed SLAs. The SLA timeframes range between two and 10 business days, depending on the request.*

Key infrastructure

Table 4 lists the key infrastructure used to deliver bulk water services to our customers in Bundaberg.

Table 4 - Key infrastructure

Asset	Description	Capacity
Fred Haigh Dam	Earth and rock fill dam. Classified as a referable dam under the *Water Supply (Safety and Reliability) Act 2008*.	562,000 ML
Ben Anderson Barrage	Tidal barrage with a four-gated vertical slot fishway.	30,300 ML
Ned Churchward Weir	Fully automated fish lock. Includes a small anabranch weir built to prevent the river from deepening at the anabranch.	29,500 ML
Bucca Weir	Roller compacted concrete.	11,600 ML
Kolan Barrage	Tidal barrage with a vertical slot fishway.	4020 ML
Monduran pump station	Three pumps. The pump station is also a distribution system asset.	1100 ML/day

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 5 sets out actual and forecast operating expenditure for Bundaberg Bulk.

Our performance in 2022-23

In 2022-23, total operating costs were higher than the QCA's recommended cost target. Further information is provided in the pricing submission proposal and associated scheme summaries.

Outlook for 2023-24

Operations

Bundaberg Bulk Water Service Contract's total operations budget (prior to cost transfers) in 2023-24 is 39.8 per cent above the QCA's recommended cost target.

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. The escalation of insurance premiums has directly contributed to the rise in Sunwater's operating expenditure.

Sunwater's focus in 2023-24 is on performing operation and maintenance activities to a standard that ensures the scheme's reliability and functionality for delivering water to customers within the agreed service standards, while also meeting current asset maintenance standards and compliance obligations.

Table 5 - Operating expenditure[1]

Operations and maintenance costs - by sub-category							
	2022-23 actuals $'000				2023-24 forecast $'000			
	QCA[2]	Sunwater[4]	Δ to QCA		QCA[2]	Sunwater[4]	Δ to QCA	
Insurance	$337.7	$305.7	-9.5%	▽	$345.4	$368.4	6.7%	△
Electricity	$9.8	$9.3	-4.9%	◆▶	$9.9	$11.8	18.7%	▲
Operations & maintenance	$579.7	$906.2	56.3%	▲	$593.9	$756.2	27.3%	▲
Support costs	$750.2	$1,231.7	64.2%	▲	$768.3	$1,275.5	66.0%	▲
Gin Gin main channel and Monduran pump station cost transfer from Bundaberg distribution[2]	$39.62	$43.56	9.9	△	$40.36	$45.45	12.6%	▲
Total opex[3]	$1,717.0	$2,496.6	45.4%	▲	$1,757.9	$2,457.4	39.8%	▲

▲	△	◆▶	▽	▼
10% above the QCA target	5% above the QCA target	In line with the QCA target <5%	5% below the QCA target	10% below the QCA target

1. *Reflects the QCA's 2020–2024 irrigation price investigation final recommendations. Excludes recreational facility costs.*
2. *Under the water planning framework, the Gin Gin main channel and Monduran pump station (part of the Bundaberg distribution system) perform a bulk water function. In its 2020–2024 irrigation price investigation final recommendations, the QCA transferred a share of the Gin Gin main channel and Monduran pump station costs from the Bundaberg Distribution Service Contract to the Bundaberg Bulk Water Service Contract. Refer to section 6.4.1 of the QCA's final Part B report at: www.qca.org.au/project/rural-water/irrigation-price-investigations/. The cost transfer costs may differ from our Irrigation Pricing Proposal.*
3. *From 1 July 2020, irrigation customers no longer contribute towards the cost of operating and maintaining recreational facilities. These costs have been excluded from the total operating expenditure.*
4. *Sunwater's 2022-23 actual expenditure figures presented in this table are pre-adjustment and will differ from our Irrigation Pricing Proposal and its engagement materials. Sunwater's 2023-24 figures align with our pricing submission, these figures may differ from the budget.*

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

Renewals discussion

Sunwater recovers expenditure required to renew (maintain the current level of service an asset provides) its assets via a renewals annuity. The annuity treats all renewals related expenditure as an expense (i.e., not capital) and amortises a multi-year expenditure forecast (30-years) such that the amount customers pay is smoothed, relative to the actual expenditure profile. Negative opening balances reflect expenditure incurred by Sunwater which has not yet been recovered via the annuity contribution amount, while positive opening balances reflect expenditure which has been pre-recovered via the annuity contribution amount. Forecast annuity balances, and the impacts of budgeted spend, are shown in Table 7 below.

The QCA and Sunwater closing balances differ due to differences in the expenditure profile allowed by the QCA in its 2020-24 final recommendations and actual expenditure incurred by Sunwater in 2022-23 and what we expect to spend in 2023-24.

Annuity-funded expenditure includes funds for planned corrective maintenance (PCM), as well as large, one-off operations activities. Activities include monitoring of the asset condition to inform when an asset needs to be refurbished or replaced under the PCM program.

Non-annuity funded expenditure largely relates to Sunwater's Dam Improvement Program and recreational facility costs.

Our performance in 2022-23

Performance against the QCA target

Sunwater updates our program of works based on our whole-of-life replacement and maintenance strategy, which looks at the risk and condition of each asset and uses this information to estimate the future work required to ensure the asset will continue to provide the required level of service into the future. Other factors such as changes in project delivery timing (e.g. due to weather) may also affect the program of works.

These factors mean the actual program of works delivered in any given year will differ to the program assessed by the QCA. At a project level, cost variances may also occur due to changes in the scope of work and cost inputs.

Further information is provided in the pricing submission proposal and associated scheme summaries.

Project level cost variances

Table 9 provides a comparison of the annuity-funded projects planned for 2022-23 and the actual projects undertaken, together with justification for the variances.

Outlook

Details of the major annuity-funded projects planned for the 2023-24 and 2024-25 period are set out in Table 10.

Table 6 - Annuity and non-annuity funded expenditure and roll forward[1]

Annuity funded expenditure (and roll forward)										
		2022-23 actuals $'000					2023-24 forecast $'000			
		QCA[2]		Sunwater[4]	Δ to QCA		QCA[2]		Sunwater[4]	Δ to QCA	
Opening balance	*O*	$(24,120.0)	→	$(17,732.6)	-26.5%	▼	$(23,410.7)	→	$(17,146.8)	-26.8%	▼
Annuity funded expenditure	***E***	$(659.2)	→	$(1,061.9)	**61.1%**	▲	$(501.6)	→	$(1,400.9)	179.3%	▲
Annuity revenue[3]	*R*	$2,423.0	→	$2,423.0	-	-	$2,460.1	→	$2,460.1	-	-
Interest	*I*	$(1,054.6)	→	$(775.3)	-	-	$(1,023.6)	→	$(749.7)	-	-
Closing balance *C = (O + E + R + I)*	*C*	$(23,410.7)	→	$(17,146.8)	-26.8%	▼	$(22,475.7)	→	$(16,837.2)	-25.1%	▼
Other expenditure (not part of prices)											
Dam improvement program		-		$0.0	-		-		$0.0	-	
Recreational facility projects[1]		-		$0.0	-		-		$0.0	-	
Metered offtakes and dividend reinvestment		-		$3.7	-		-		$0.0	-	

▲	△	◆▶	▽	▼
10% above the QCA target	5% above the QCA target	In line with the QCA target <5%	5% below the QCA target	10% below the QCA target

1. *Forecast annuity-funded costs from 2020-21 exclude recreational facility projects.*
2. *Reflects the QCA's 2020–2024 irrigation price investigation final recommendations.*
3. *The annuity contribution is included in the prices paid by bulk water and distribution customers. From 2020-21 to 2023-24, the annuity contribution is based on the QCA's irrigation price investigation 2020–2024 final recommendations.*
4. *Sunwater's 2022-23 actual expenditure figures presented in this table are pre-adjustment and will differ from our Irrigation Pricing Proposal and its engagement materials. Sunwater's 2023-24 figures align with our pricing submission, these figures may differ from the budget.*

Annuity balance—Gin Gin main channel and Monduran pump station

The Gin Gin main channel and Monduran pump station, which form part of the Bundaberg distribution system, perform a bulk water function under the water planning framework. In recognition of this, a share of the Gin Gin main channel and Monduran pump station annuity-funded costs is transferred from the Bundaberg Distribution Service Contract to the Bundaberg Bulk Water Service Contract. These costs are recovered in customers' bulk water prices via the annuity contribution.

Table 7 - Gin Gin main channel and Monduran pump station annuity balance

Annuity funded expenditure (and roll forward)										
		2022-23 actuals $'000					2023-24 forecast $'000			
		QCA		Sunwater	Δ to QCA		QCA		Sunwater	Δ to QCA	
Opening balance	*O*	$425.3	→	$(368.7)	-186.7%	▼	$619.0	→	$(569.5)	-192.0%	▼
Annuity funded expenditure	***E***	$(113.4)	→	$(473.2)	**317.3%**	▲	$(33.2)	→	$(44.8)	34.6%	▲
Annuity revenue[1]	*R*	$288.5	→	$288.5	-	-	$289.6	→	$289.6	-	-
Interest	*I*	$18.6	→	$(16.1)	-	-	$27.1	→	$(24.9)	-	-
Closing balance	*C*	$619.0	→	$(569.5)	-192.0%	▼	$902.4	→	$(349.5)	-138.7%	▼
C = (O + E + R + I)											

▲	△	◆▶	▽	▼
10% above the QCA target	5% above the QCA target	In line with the QCA target <5%	5% below the QCA target	10% below the QCA target

1. *The annuity contribution is included in the prices paid by bulk water and distribution customers. From 2020-21 to 2023-24, the annuity contribution is based on the QCA's irrigation price investigation 2020–2024 final recommendations.*
2. *In its 2020–2024 irrigation price investigation final recommendations, the QCA transferred a share of the Gin Gin main channel and Monduran pump station costs from the Bundaberg Distribution Service Contract to the Bundaberg Bulk Water Service Contract. Refer to section 6.4.1 of the QCA's final Part B report at: www.qca.org.au/project/rural-water/irrigation-price-investigations/.*
3. *The annuity contribution included in the prices paid by Bundaberg Bulk water customers in 2022-23 is $14.4k and $14.5k in 2023-24. The annuity cost transfer may differ from our Irrigation Pricing Submission.*

Comparison of forecast and actual annuity-funded projects for 2022-23

The below table sets out the major annuity-funded projects planned for Bundaberg Bulk in 2022-23[2] and the actual projects undertaken.

Table 8 - Comparison of forecast and actual annuity-funded projects for 2022-23[1]

Facility	Activity description	Forecast $'000	Actual $'000	Commentary
Ben Anderson Barrage	Replace – build eight new shutters and commence an options study on the rail, thrust plate and slides replacement.	343	311	This project was completed under budget.
Ben Anderson Barrage	Replace – sluice gates 1 and 2 based on known asset condition and age.	119	0	This project was deferred to fund the carryover of gate 3 & 6 replacement from financial year 2022.
Scheme	Replace – customer meters based on known asset condition and age.	284	191	Fewer meters required replacement than planned.
Ben Anderson Barrage	Study – options study to replace upstream crane rail.	63	0	This project was deferred to financial year 2024.
Kolan Barrage	Replace – fishway baffle supports based on known asset condition and age.	61	0	This project was deferred to financial year 2026 based on the revised condition and assessment.
Multiple	Various projects.	289	238	One project to recoat the outlet pipe was deferred ($6k). Additionally, only 1 regulating valve was refurbished at Fred Haigh Dam due to asset availability. Work will continue in the following financial year.
Multiple	Non-scheduled projects	-	323	This expenditure mostly relates to carryover projects from 2021-22. • The scope of work for the vent system replacement changed due to inherent issues at site. The revised design was more expensive to install ($59k). • Contractor and materials costs needed for a carryover project to replace the bulkhead gates and guides increased since this work was originally budgeted ($61k). • Inspection of the concrete works at Kolan Barrage deferred due to weather conditions was completed ($6k). • Two gates were replaced at Ben Anderson Barrage that were not completed in financial year 2022 ($145k) and continuation of the arc flash study ($37k).
2022-23 Total		**1160**	**1062**	

[2] Based on information extracted from Sunwater's systems in mid-2023. See the 2023 S&PP at www.sunwater.com.au/schemes/Bundaberg/

Annuity-funded projects for 2023-24 to 2024-25

The below table sets out Sunwater's currently planned annuity-funded projects for 2023-24 and 2024-25[3] 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. Please note that the data in Table 10 is presented at a granular level and may not align with the overarching program names in our pricing submission.

Table 9 - Annuity-funded projects planned for 2023-24 and 2024-25

Year	Facility	Activity description	Forecast $'000
2023-24	Fred Haigh Dam	Refurbish – regulating valve seals and leakages based on known condition.	11
	Ned Churchward Weir	Refurbish – modify outlet gates to reduce movement on guides.	34
	Ben Anderson Barrage	Replace – build 16 shutters and complete options analysis for rail, thrust plate and slide replacement.	1087
	Fred Haigh Dam	Study – Level 2 Bridge inspection based on Department of Transport and Main Roads' Structures Inspection Manual.	51
	Scheme	Replace – customer meters based on known asset condition and age.	217
	2023-24 Total		**1401**
2024-25	Scheme	Arc Flash Program.	166
	Fred Haigh Dam	Instrumentation program to upgrade current instrumentation to meet new dam safety standards.	201
	Ben Anderson Barrage	Replace – electrical outlets, lighting and associated wiring based on known condition and age.	9
	Scheme	Replace – customer meters based on known asset condition and age.	221
	Bucca Weir	Study – 5-year comprehensive dam inspection based on asset management standards and to better understand asset condition and risk.	25
	Fred Haigh Dam	Replace – supervisory control and data acquisition (SCADA) software.	8
	Ben Anderson Barrage	Replace – main distribution board. Covers design and procure.	24
	Ben Anderson Barrage	Replace – build 32 shutters and install 24 shutters.	1431
	Ben Anderson Barrage	Refurbish – clean out floating debris on the left bank.	68
	2024-25 Total		**2153**

[3] The project forecasts provided in this table align with our pricing submission. It is important to acknowledge that these projects are inherently dynamic and susceptible to changes influenced by various factors.

Comparison of Gin Gin main channel and Monduran pump station forecast and actual annuity-funded projects for 2022-23

The below table sets out the major annuity-funded projects planned for Gin Gin main channel and Monduran pump station in 2022-23[4] and the actual projects undertaken. Customers in the Bundaberg Bulk Water Service Contract contributed towards 5 per cent of these costs.

Table 10 - Comparison of Gin Gin main channel and Monduran pump station forecast and actual annuity-funded projects for 2022-23

Facility	Activity description	Total forecast project costs $'000	Bulk share of forecast project costs $'000	Total actual project costs $'000	Bulk share of actual project costs $'000	Commentary
Monduran pump station	Refurbish – pump unit 4 suction valve based on known asset condition and age.	22	1	0	0	This project was deferred to 2023-24.
Monduran pump station	Refurbish – pump unit 4 discharge valve based on known asset condition and age.	27	1	0	0	This project was deferred to 2023-24.
Monduran pump station	Study – electrical meter compliance tests based on regulatory requirements.	8	0	71	4	This project was completed in conjunction with the high voltage testing and inspection project below.
Monduran pump station	Inspect and test – HV equipment in accordance with Asset Management Standard AM26.	27	1	0	0	This project was completed with the electrical meter compliance test.
Monduran pump station	Study – calculate new pump impeller diameter to improve pump efficiency.	29	1	0	0	This project was deferred to 2023-24.
Gin Gin main channel	Refurbish – concrete lining based on known asset condition and age (Stage 2).	115	6	344	17	The scope of works was greater than anticipated. Additional earthwork repairs were needed to stabilise the channel bank.
Gin Gin main channel	Refurbish – fencing, gates and grids based on known asset condition and age (Stage 2).	460	2	33	2	Less fencing was replaced than originally planned.
2022-23 Total		**273**	**14**	**508**	**25**	

[4] Based on information extracted from Sunwater's systems in mid-2023. See the 2023 S&PP at www.sunwater.com.au/schemes/Bundaberg/

Gin Gin main channel and Monduran pump station annuity-funded projects for 2023-24 and 2024-25

The below table sets out Sunwater's currently planned Gin Gin main channel and Monduran pump station annuity-funded projects for 2023-24 and 2024-25[5] period. Customers in the Bundaberg Bulk Water Service Contract contribute towards 5 per cent of these costs. 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. Please note that the data in Table 12 is presented at a granular level and may not align with the overarching program names in our pricing submission.

Table 11 - Forecast annuity-funded projects for Gin Gin main channel and Monduran pump station for 2023-24 and 2024-25

Year	Facility	Activity description	Total forecast project costs $'000	Bulk water share of forecast project costs $'000
2023-24	Gin Gin main channel	Refurbish – fencing, gates and grids based on known asset condition and age (Stage 3).	45	2
	2023-24 Total		**45**	**2**
2024-25	Gin Gin main channel	Refurbish – fencing, gates and grids based on known asset condition and age	36	2
	Monduran pumpstation	Replace – supervisory control and data acquisition (SCADA) computer system and lighting based on known asset condition and age.	16	1
	St Agnes main channel	Replace – outlet screens based on known condition and age.	17	1
	Gin Gin main channel	Refurbish – concrete lining based on known age and condition.	59	3
	2024-25 Total		**128**	**6**

[5] The project forecasts provided in this table align with our pricing submission. It is important to acknowledge that these projects are inherently dynamic and susceptible to changes influenced by various factors.