



2018/19 to 2023/24 Network Service Plan

Nogoa Mackenzie Bulk Water Service Contract

20 August 2018

Final

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Disclaimer

This Network Service Plan (NSP) has been prepared by SunWater to provide indicative information to our customers for the purpose of consultation. It contains estimates and forecasts which are based upon a number of assumptions. The actual financial performance of the Service Contract to which this NSP relates, and the operations and activities actually undertaken by SunWater during the relevant periods, may vary materially from the information contained in this NSP. This NSP should not be relied upon beyond its purpose as a tool for consultation and you should not rely on the information contained in this NSP in making decisions about your circumstances. SunWater will not be responsible or liable for any loss (including consequential loss), claim or damage (including in tort) that is in any way connected with the use of this NSP or the information contained within it.

Our plan for Nogoia Mackenzie

We’re focused on reliability, efficiency and safety, ensuring through ongoing consultation that the Nogoia Mackenzie Bulk Water Service Contract continues to meet the needs and expectations of our diverse customer base.

In this Network Service Plan (NSP) we outline a range of proposed immediate refurbishment and longer-term improvement projects, and provide a detailed breakdown of anticipated costs for review.

Over the coming years, our focus will be on meeting dam safety requirements at Fairbairn Dam, as well as the river weirs. We will replace ageing customer flow meters to ensure accurate flow metering and perform other replacement and upgrade works to enable safe, efficient and reliable operation of this Service Contract into the future. The site facilities at Fairbairn Dam will also undergo major replacement and upgrade works.

It is important to us that our customers are consulted in making important decisions. We welcome and encourage your feedback on this NSP, and look forward to working with you to deliver the programs of work.



Robert Lewis
General Manager Central

1. Introduction

A Network Service Plan details a range of proposed immediate and longer-term improvement projects, and provides a detailed breakdown of anticipated costs for review.

NSPs are an important part of our asset management framework, feeding into our strategic asset management and corporate strategic plans, as illustrated in **Appendix 1**.

The purpose of this year’s NSP is twofold:

1. to consult with customers on routine and non-routine expenditure throughout the coming financial year
2. to present to customers SunWater’s projected efficient costs for the six year period from 2018/19 to 2023/24.

In particular, the NSP covers:

- past performance for routine and non-routine expenditure
- forecast routine and non-routine expenditure for 2018/19 to 2023/24.

In this NSP, the focus of consultation was the draft budget figures for 2018/19 and thereafter. We have retained prior year actual results in **Appendix 2** for reference, as requested by customers.

Input from customers is a valuable part of SunWater’s planning processes and ensures that we invest in areas which support the services we provide to customers. Figure 1 below shows how SunWater and customers work together in relation to NSPs. SunWater has consulted with the Irrigator Advisory Committee (IAC) on the draft NSP and feedback from the Committee has been considered and incorporated where appropriate.

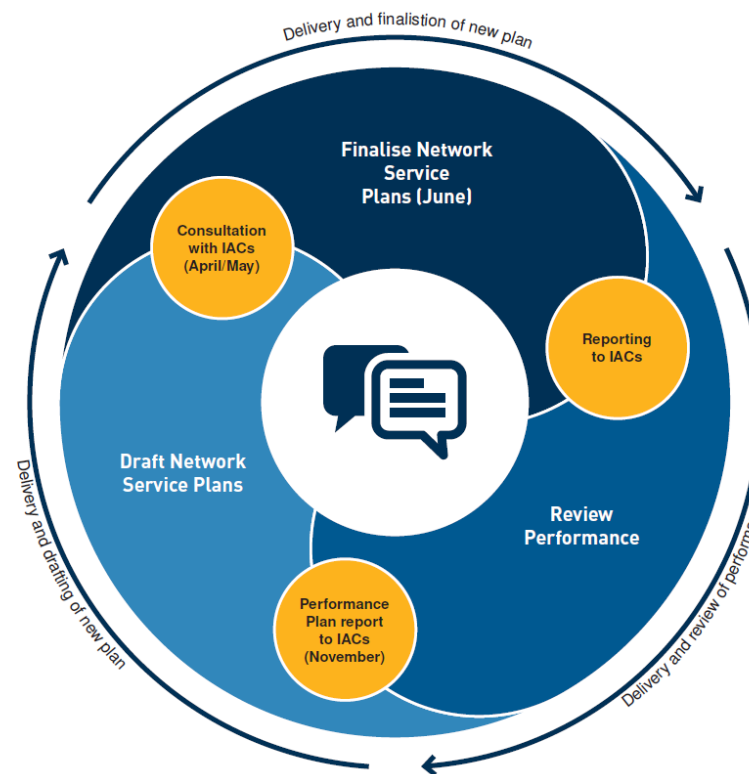
To have your say and shape future NSPs, please contact us via email or post:

Email: nspfeedback@sunwater.com.au

Post: NSP Feedback
PO Box 15536 City East
Brisbane Qld 4002

We consider and respond to all submissions, publishing all responses on our website.

Figure 1: Customer consultation and Network Service Plans



2. Delivering services to customers

At SunWater we are committed to working collaboratively with our customers to deliver value and fit-for-purpose water solutions. SunWater’s Customer Service Commitment can be viewed at: www.sunwater.com.au

2.1 Our customers

The majority of our customers in this Service Contract are irrigators of cotton, citrus (mandarins, oranges and lemons) and grapes. Other crops irrigated include wheat, pulse crops, sorghum, maize, lucerne, oats, macadamias and sunflowers.

Water from Fairbairn Dam is released down the Nogoa River to the Selma Weir for supply to the town of Emerald and is released to supply coal mining developments on the Bowen Basin.

The water entitlements for each customer segment are shown in Table 1.

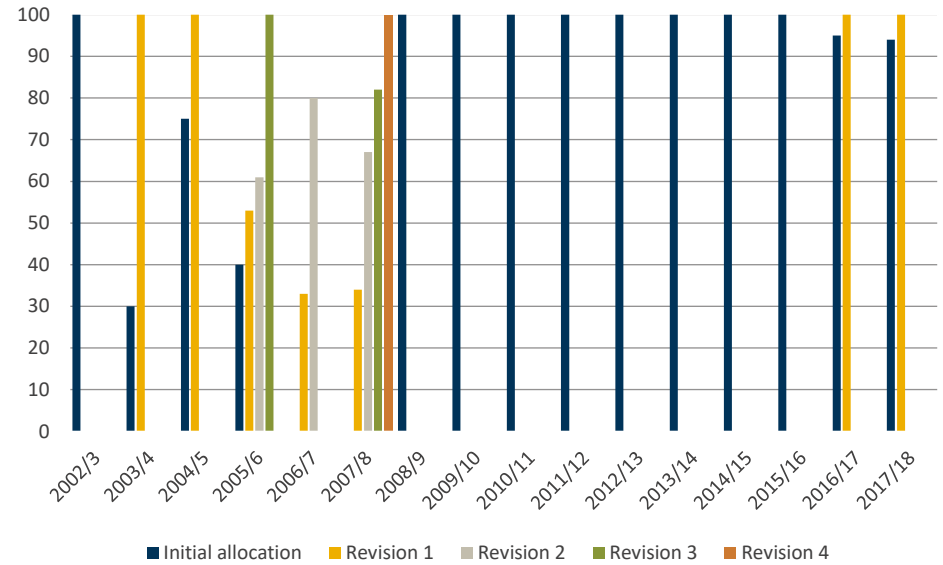
Table 1: Water entitlement and usage data¹

Customer Segment	Total Water Entitlements (ML)	High Priority Water Entitlements (ML)	Medium Priority Water Entitlements (ML)	Water Deliveries 2016/17 (ML)
Irrigation	80,324	1343	78,981	67,237
Urban	5700	5700	0	4151
Industrial	18,025	15,606	2419	7673
SunWater (excluding distribution loss)	3852	3060	792	73
SunWater distribution loss	28,697	6840	21,857	N/A
Total	136,598	32,549	104,049	79,134

1. Bulk water only.

The historical medium priority announced allocations for the Nogoa Mackenzie Bulk Water Service Contract are shown in Figure 2.

Figure 2: Medium Priority Announced Allocations¹



1. Data as at 28 February 2018.

The 2018/19 charges and cost per megalitre are shown in Table 2 below. The Nogoa Mackenzie Bulk Water Service Contract does not need additional subsidies to recover irrigation’s share of future renewals, maintenance and operating costs. For the full suite of charges that apply, refer to SunWater’s website.

Table 2: Irrigation charges for 2018/19¹

Product		2018/19 (\$/ML)	Cost (\$/ML) ^{2,3,4}	Subsidy (\$/ML)
Bulk water customers				
Medium Priority Allocation Charge	Bulk Water Charge – Part A (fixed charge based upon entitlement)	11.92	6.86	N/A
Medium Priority Allocation Water	Bulk Water Charge – Part B (variable charge based upon usage)	1.29	1.43	0.14
Bulk water customers who are also customers of a distribution system				
Medium Priority Allocation Charge	Bulk Water Charge – Part A (fixed charge based upon entitlement)	8.63	6.86	N/A
Medium Priority Allocation Water	Bulk Water Charge – Part B (variable charge based upon usage)	1.29	1.43	0.14

1. This table includes bulk water charges only. For distribution charges (Part C and Part D) please refer to the Distribution Service Contract NSP.
2. Costs reflect lower bound cost recovery ie recovery of future replacement and ongoing maintenance and operations. Charges do not allow for any returns on existing assets.
3. The notional High Priority Allocation Charge cost per megalitre is \$35.62.
4. Costs reflect a revised Medium Priority Headworks Utilisation Factor of 28 per cent (previously 45 per cent).

2.2 Service targets

SunWater and customers have agreed Water Supply Arrangements and Service Targets for the Nogoia Mackenzie Bulk Water Service Contract.

Table 3 below sets out our performance in 2016/17 against the service targets for: issuing notification of planned shutdowns; the duration of unplanned shutdowns; and the frequency of interruptions to supply.

In addition, SunWater will be setting targets for the time it takes to resolve complaints and will be able to report our performance against these targets in future NSPs.

Table 3: Service targets and performance

Service target		Target	Number of exceptions 2016/17
Planned shutdowns – notification	For shutdowns planned to exceed 2 weeks	4 weeks	0
	For shutdowns planned to exceed 3 days	2 weeks	0
	For shutdowns planned to be less than 3 days	5 days	0
Unplanned shutdowns – duration¹	Unplanned shutdowns during Peak Demand Period	48 hours	0
	Unplanned shutdowns outside Peak Demand Period	5 working days	
Maximum number of interruptions²	Planned or unplanned interruptions per water year	6	0

1. This is the number of times that the unplanned shutdown has exceeded the shortest of the peak/off peak periods.
2. This is the total number of bulk and distribution customers in the scheme that have been interrupted in excess of the target.

2.3 Key infrastructure

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

Table 4: Key infrastructure

Asset	Description	Total storage capacity (ML)
Fairbairn Dam	Earth and rock fill clay-core embankment, complemented by six secondary earth and rock fill saddle dams. Classified as a referable dam under the <i>Water Supply (Safety and Reliability) Act 2008</i> .	1,301,000
Bedford Weir	Mass concrete	22,900
Bingegang Weir	Mass concrete	8060
Selma Weir	Mass concrete	1180
Tartrus Weir	Ogee-crested mass concrete weir	12,000

3. Financial summary – revenue and expenditure

All financial figures in this report are presented in nominal dollars.

A high-level summary of the budgeted financial performance of the Nogoia Mackenzie Bulk Water Service Contract is presented in Table 5.

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 Queensland Competition Authority (QCA) as part of its review of irrigation charges and is intended to allow SunWater to recover its prudent and efficient costs of operating the Service Contract.

SunWater anticipates no material change to revenue for the Nogoia Mackenzie Bulk Water Service Contract in 2018/19.

In 2018/19, SunWater plans to increase routine expenditure and decrease non-routine annuity funded expenditure for the Nogoia Mackenzie Bulk Water Service Contract, with a focus on projects that improve efficiency and performance, and allow us to deliver the best possible service to our customers. This will continue to be our focus throughout the upcoming price path period.

Further detail on the planned spend and annuity revenue is outlined on subsequent pages of this NSP and a further breakdown of expenditure by type can be found in **Appendix 2**.

Table 5: Service contract financial summary¹

Nogoia Mackenzie Service Contract	2014/15 Actual \$'000	2015/16 Actual \$'000	2016/17 Actual \$'000	2017/18 Estimate \$'000	2018/19 Forecast \$'000
Revenue					
Irrigation	923.2	960.2	3602.5	1036.1	1062.0
Community Service Obligation	-	-	-	-	-
Industrial ²	2666.0	2877.5	2527.1	2819.8	2878.0
Urban ²	428.2	424.3	443.7	311.3	318.5
Revenue transfers ³	921.4	955.2	1009.6	1251.3	1282.4
Drainage	-	-	-	-	-
Other	733.4	107.8	60.5	-	-
Insurance proceeds – flood	-	-	-	-	-
Revenue Total	5672.2	5325.1	7643.3	5418.5	5540.9
Less – Routine expenditure	(1966.5)	(2003.7)	(2098.9)	(2345.6)	(2653.4)
Less – Non-routine expenditure					
Annuity funded	(1383.4)	(522.8)	(1325.2)	(1444.8)	(789.9)
Non annuity funded ⁴	(0.7)	(7863.6)	(23,484.9)	(33,821.7)	(35,453.8)
Surplus (deficit)	2321.7	(5065.0)	(19,265.8)	(32,193.7)	(33,356.2)

1. Totals may not add due to rounding.
2. Forecast revenues for industrial and urban customers are based on current contractual arrangements.
3. Revenue transfers represent the cost of bulk water supplies delivered through the distribution system(s) and the Blackwater Pipeline. The revenue accrues to the distribution system and the Pipeline Service Contract before it is transferred to the Bulk Water Service Contract as a contribution to the cost of the bulk water service.
4. This is expenditure which has not been funded by irrigation customers. An example of this in the Nogoia Mackenzie Bulk Water Service Contract is the dam improvement program (DIP).

As part of our commitment to transparency, Figure 3 and Figure 4 show a high-level breakdown of total Service Contract costs. The item 'Annuity Contribution' refers to the annualised renewals annuity component of the Service Contract's total costs.

Figure 3: Breakdown of total service contract costs – 2018/19 forecast

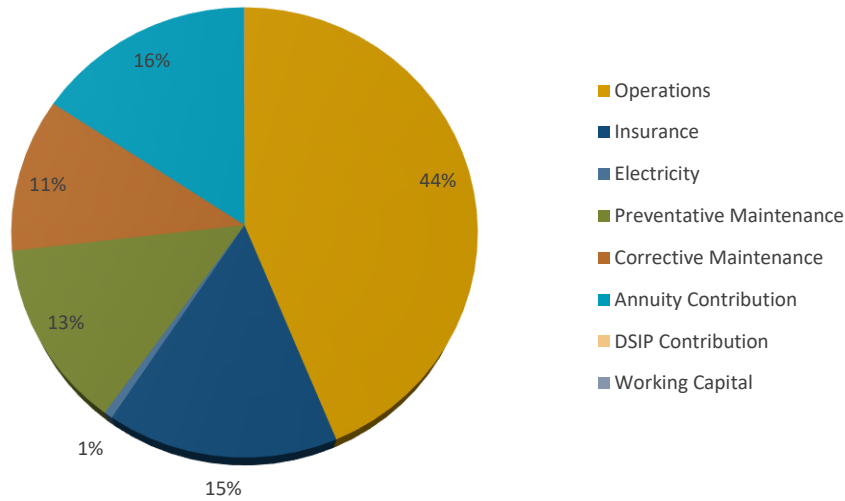
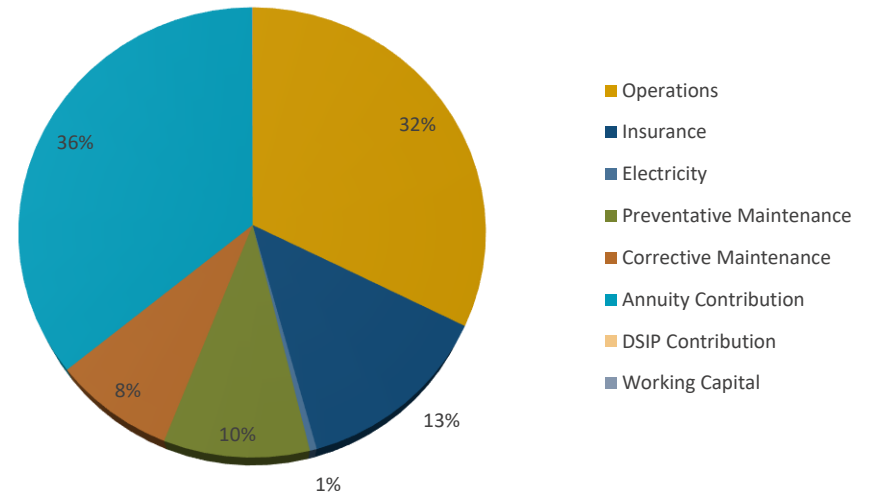


Figure 4: Breakdown of total service contract costs – 2019/20 to 2023/24 forecasts



4. Cost of delivering services – routine expenditure

Routine (or annual) expenditure includes funds for operations activities (operations, electricity and insurance), preventative maintenance and corrective maintenance.

SunWater has budgeted an increase in Nogoia Mackenzie Bulk Water Service Contract’s routine operating expenditure in 2018/19 (refer to Table 6). SunWater’s proposed budgets for routine operating expenditure for 2019/20 to 2023/24 are also presented in this table.

From 2019/20, SunWater has built into forecast costs an efficiency saving of 0.2 per cent every year (cumulative).

Following consultation with customers on the draft NSPs and a further review of potential savings in non-direct costs, SunWater has included an additional one-off reduction in routine non-direct expenditure from 2019/20 onwards comprising: an 8.00 per cent reduction in corporate support costs, a 1.00 per cent reduction in local area support costs and a 1.75 per cent reduction in indirect costs.

The data presented in Table 6 includes direct expenses and a share of local area support costs, indirect costs and corporate support costs. For a more detailed breakdown and explanation of these costs, refer to **Appendix 2**.

Table 6: Routine operating expenditure^{1,2}

Nogoia Mackenzie Service Contract	2016/17			2017/18 ³		2018/19 ³		2019/20	2020/21	2021/22	2022/23	2023/24
	SunWater Actual \$'000	QCA Recommended \$'000	Variance \$'000	SunWater Estimate \$'000	2016/17 QCA Recommended (adjusted) \$'000	SunWater Forecast \$'000	2016/17 QCA Recommended (adjusted) \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000
Electricity	14.4	17.5	(3.1)	17.0	18.0	18.0	18.4	17.9	17.8	18.4	18.8	18.5
Insurance	505.5	211.9	293.6	505.5	217.2	490.2	222.6	501.5	513.1	524.9	536.9	549.3
Operations	1074.5	1759.5	(684.9)	1278.0	1803.4	1378.4	1848.5	1197.9	1229.1	1261.1	1293.9	1327.6
Operations Total	1594.4	1988.9	(394.5)	1800.4	2038.6	1886.7	2089.6	1717.3	1759.9	1804.3	1849.7	1895.4
Preventative maintenance	390.5	274.6	115.9	276.1	281.5	417.9	288.5	362.4	372.0	381.8	392.0	402.3
Corrective maintenance	114.1	207.9	(93.9)	269.2	213.1	348.9	218.5	303.1	311.1	319.2	327.5	336.1
Routine Total	2098.9	2471.4	(372.5)	2345.6	2533.2	2653.4	2596.6	2382.8	2443.0	2505.3	2569.2	2633.8

1. Totals may not add due to rounding.

2. SunWater’s 2019/20 to 2023/24 budget figures are draft as at the time of consultation. These figures will not be locked down until late in the financial year prior.

3. For 2017/18 and 2018/19 SunWater has included and reported against the 2016/17 QCA recommended costs adjusted for inflation which was assumed to be 2.5%.

4.1 Operations

Nogoa Mackenzie Bulk Water Service Contract's total operations budget in 2018/19 is broadly in line with the QCA's recommended costs (adjusted for inflation). Lower than projected labour costs and overheads have been offset by higher than projected insurance costs. For further detail on what is included in operations expenditure, refer to **Appendix 3**.

Electricity

One of the key challenges for SunWater is managing the cost of electricity. SunWater is therefore targeting several initiatives over the next 24 months to help manage these costs, including:

- annual tariff reviews to match electricity usage with the best electricity tariff
- testing the contestable market for potential savings
- ensuring our assets are operating as efficiently as possible
- operational management of usage and demand patterns to reduce the impact of demand charges.

Insurance

Insurance is one of SunWater's largest expenditure items and 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.

Although insurance premiums are forecast to increase globally in 2018/19, SunWater is forecasting a small reduction in our insurance costs in 2018/19 compared to the 2017/18 budget as a result of the review of our insurance coverage and recent market testing.

4.2 Preventative maintenance

Preventative maintenance underpins the ongoing operational performance and service capacity of Nogoa Mackenzie Bulk Water Service Contract's physical assets.

Preventative maintenance is cyclical in nature with a typical interval of 12 months or less, however, the intervals can be longer. Nogoa Mackenzie Bulk Water Service Contract's preventative maintenance for 2018/19 is budgeted to be 44.84 per cent above the QCA's recommended costs (adjusted for inflation). This variance is largely driven by higher than projected contractor costs and overheads.

For more information on what is included as preventative maintenance, refer to **Appendix 3**.

4.3 Corrective maintenance

Corrective maintenance is identified in several ways including:

- through the performance of preventative maintenance
- operation of assets and equipment
- operational inspections where defects are identified
- through continuous monitoring by control systems, hazard inspections, safety audits and from incident and accident investigation outcomes.

Corrective maintenance includes activities to correct unexpected failures or to return an asset to an acceptable level of performance or condition. While these are difficult to forecast with accuracy, history has shown that such events can be expected and need to be factored into expenditure forecasts. SunWater conducts two types of corrective maintenance: scheduled and emergency.

Corrective maintenance expenditure forecasts include provision for labour, materials and plant hire, but do not include costs of damage arising from major unexpected events, such as floods. These costs are categorised as non-routine corrective maintenance, which is discussed in the following section.

Nogoa Mackenzie Bulk Water Service Contract's corrective maintenance for 2018/19 is budgeted to be 59.68 per cent above the QCA's recommended costs

(adjusted for inflation). This variance is largely driven by higher than projected labour and contractor costs, and overheads.

Scheduled corrective maintenance

Scheduled corrective maintenance is maintenance that can be planned and scheduled. For a list of what this typically includes, refer to **Appendix 3**. This work is managed on a risk and priority basis with as much forward planning as possible to cater for pricing cycles.

Emergency corrective maintenance

Emergency corrective maintenance (or breakdown maintenance) includes works required to restore system supply and capacity or equipment operation after an unplanned event. It is carried out immediately to restore normal operation or supply to customers or to meet regulatory obligations (eg rectify a safety hazard). For a list of what this typically includes, refer to **Appendix 3**.

5. Cost of delivering services – non-routine expenditure

SunWater’s approach to managing non-routine expenditure is underpinned by the concept of ‘optimised life cycle cost’, which seeks to optimise capital outlays and ongoing maintenance spend.

Our whole-of-life asset replacement and maintenance strategy looks at the risk and condition of each asset and uses this information to estimate the future work required to ensure it will continue to provide the required level of service into the future.

Having up-to-date knowledge of asset conditions is essential to this process. Information from our continuous program of asset inspections and condition assessments feeds into the annual review of the renewals program.

Non-routine expenditure is funded via an annuity. This expenditure could be capital or operating expenditure. The annuity approach acknowledges a long-term view of renewals spend and seeks to reduce the burden on future generations of water users.

The QCA applied a 20 year planning period for the purpose of calculating the 2012/13 to 2016/17 renewals annuity. For 2018/19 to 2023/24, SunWater is proposing to adopt a 30 year planning period. Our forecast annuity funded non-routine expenditure presented in Table 7 and elsewhere in this NSP reflects this proposal.

While the immediate program for the 2018/19 budget is well defined, estimates become more uncertain further into the planning timeline. As such, the program of works is not a specific forecast of when individual projects are expected to be executed, but rather a portfolio-level estimate based on the best-available risk and condition information for the Service Contract as a whole.

At SunWater, we focus on ensuring our assets are maintained to the required standard at the lowest cost. Our review of the renewals profiles also extends to considering the key asset replacement assumptions so that the profile better reflects likely spend each year and moves away from assuming assets are replaced at end of standard life, based on their replacement costs.

Table 7 sets out our non-routine annuity and non-annuity funded expenditure.

Details of the major non-routine projects planned for the period from 2018/19 to 2023/24 are set out in **Appendix 4**.

Table 7: Non-routine expenditure¹

Nogoa Mackenzie Service Contract	2016/17			2017/18 ²		2018/19 ²		2019/20	2020/21	2021/22	2022/23	2023/24
	SunWater Actual \$'000	QCA Recommended \$'000	Variance \$'000	SunWater Estimate \$'000	QCA Forecast \$'000	SunWater Forecast \$'000	QCA Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000
Annuity funded												
Operations	26.6	-	26.6	8.0	-	-	-	-	-	-	-	-
Preventative maintenance	-	-	-	-	-	-	-	-	-	-	-	-
Corrective maintenance (flood)	-	-	-	-	-	-	-	-	-	-	-	-
Renewals	1298.6	887.0	411.6	1436.9	445.2	789.9	30.1	952.9	934.3	701.4	1129.3	884.2
Non-routine total	1325.2	887.0	438.2	1444.8	445.2	789.9	30.1	952.9	934.3	701.4	1129.3	884.2
Non annuity funded												
Other	23,484.9			33,821.7		35,453.8		48,475.2	-	-	-	-

1. Totals may not add due to rounding.

2. The QCA Forecast for 2017/18 and 2018/19 are based upon the modelling undertaken by the QCA as part of the 2012 irrigation pricing review.

6. 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/rehabilitation of the assets over a pre-determined period of time. The forecast annuity balances, and the impacts of budgeted non-routine spend, are shown in Table 8 below.

The QCA and SunWater closing balances will differ due to differences in the expenditure profile allowed by the QCA in 2012 and actual expenditure incurred by SunWater between 2012/13 and 2018/19. The QCA allowance for the period was not reflective of the requirements of the SunWater asset management program or long-term asset requirements.

Table 8: Annuity balance¹

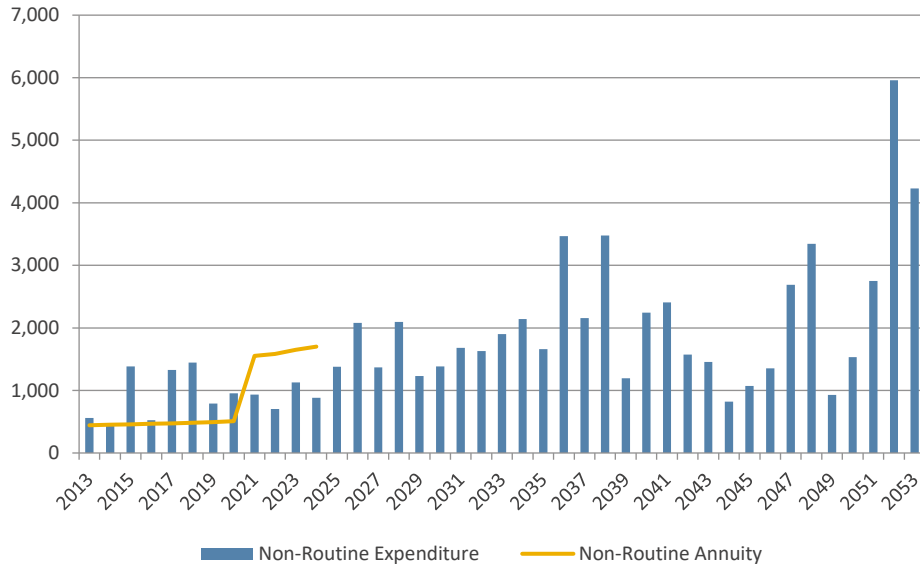
Nogoa Mackenzie Service Contract	2016/17 Actual \$'000	2017/18 Estimate \$'000	2018/19 Forecast \$'000	2019/20 Forecast \$'000	2020/21 Forecast \$'000	2021/22 Forecast \$'000	2022/23 Forecast \$'000	2023/24 Forecast \$'000
Annuity								
Opening balance ²	(1968.5)	(2970.8)	(4156.0)	(4763.1)	(6306.4)	(6053.9)	(5519.9)	(5317.3)
Spend	(1325.2)	(1444.8)	(789.9)	(952.9)	(934.3)	(701.4)	(1129.3)	(884.2)
Insurance proceeds receipts (if applicable)								
Prior year	-	-	-	-	-	-	-	-
Current year	-	-	-	-	-	-	-	-
Annuity contribution ³	470.4	482.1	494.2	506.5	1551.8	1585.6	1651.4	1700.3
Interest/financing costs	(147.4)	(222.5)	(311.3)	(356.8)	(364.9)	(350.3)	(319.4)	(307.7)
SunWater – Closing Balance	(2970.8)	(4156.0)	(4763.1)	(5566.3)	(6053.9)	(5519.9)	(5317.3)	(4808.9)
QCA – Closing Balance	(1625.6)	(1710.4)	(1374.4)					
Difference	(1345.3)	(2445.7)	(3388.7)					

- Totals may not add due to rounding.
- The difference in the closing balance for 2019/20 and the opening balance for 2020/21 relates primarily to expenditure incurred prior to the start of the 2012 price path. For example, flood repairs associated with an insurance claim that were still outstanding in 2012. These amounts have been carried forward to 2020/21 so that they can be considered as part of the QCA's review of expenditure for the new irrigation price path.
- The annuity contribution is included in the prices paid by customers. It was set by the QCA for 2012/13 to 2016/17 and is rolled forward with CPI for 2017/18, 2018/19 and 2019/20. Thereafter the annuity contribution is based upon SunWater's forecast and will be included as part of SunWater's submission to the QCA for the upcoming price review.

6.1 Overview of annuity-funded, non-routine projects to 2052/53

The estimated renewals expenditure out to 2052/53 is shown in Figure 5 below.

Figure 5: Annuity expenditure to 2052/53 (\$'000)



The renewals annuity presented above is calculated over a 30 year planning period, with projects forecast to occur up to 2052/53 affecting the renewals annuity. The greater the value of the project, the more significant impact upon the renewals annuity.

6.2 Options assessment

SunWater is committed to maintaining assets that are fit for service with the lowest possible lifecycle cost.

In response to a recommendation from the QCA in 2012, SunWater has been preparing options analyses for all material renewals projects within the planning period. SunWater now has the benefit of learnings, having applied this approach for number of years, and has reflected and considered whether it is the most efficient approach or whether there is another way to approach this which provides customers with reassurance that SunWater's renewals expenditure is prudent and justified.

Following consultation with IACs, SunWater has decided to implement a new procedure for options assessments.

SunWater will continue to prepare an options analysis and supporting investigation where:

- there is no obvious solution
- the current maintenance strategy is changing
- technology has changed significantly, or
- there is a high risk in the project execution.

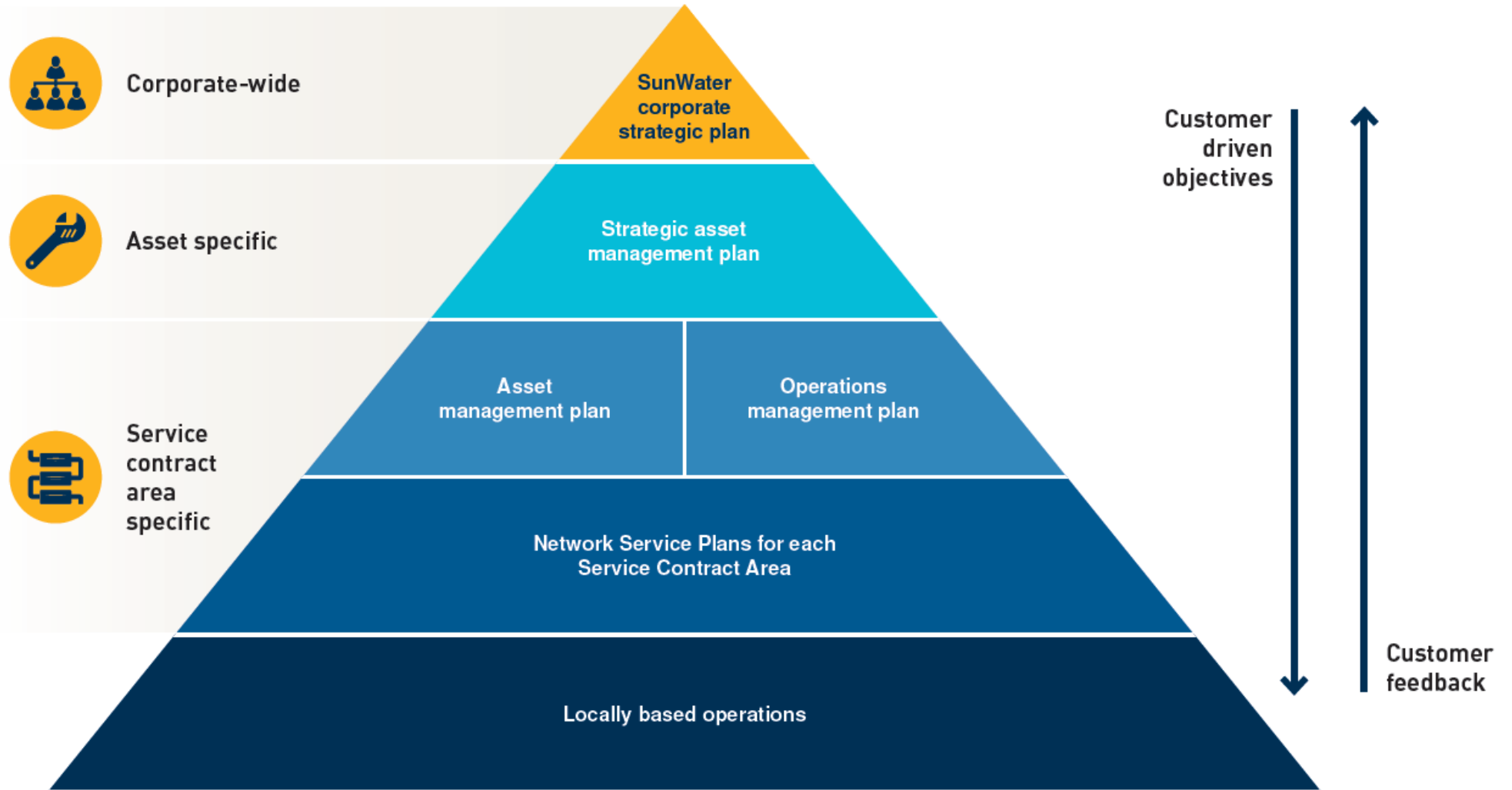
For less complex (more routine) renewals projects with fewer practical outcomes, SunWater will use its engineering knowledge and experience to determine the optimum solution.

This approach takes the emphasis off the value of the renewals project and focuses on solutions and risk. It ensures that SunWater invests resources appropriately in those projects that would benefit from an options analysis.

SunWater will transition to this new approach, given options analyses have already been prepared for the 2018/19 material renewals projects. In the future, the Network Service Plans will identify renewals projects that we expect to prepare an options analysis for under the new approach. Customers will be able to provide feedback through the consultation process.

Appendix 1: SunWater's asset management framework

Figure 6: SunWater's asset management framework



Appendix 2: Total expenditure by expense type

Table 9: Expenditure for activity by type¹

Nogoa Mackenzie Service Contract	2014/15			2015/16			2016/17			2017/18		2018/19		2019/20	2020/21	2021/22	2022/23	2023/24
	SunWater Actual \$'000	QCA Recommended \$'000	Variance \$'000	SunWater Actual \$'000	QCA Recommended \$'000	Variance \$'000	SunWater Actual \$'000	QCA Recommended \$'000	Variance \$'000	SunWater Estimate \$'000	2016/17 QCA Recommended (Adjusted) \$'000	SunWater Forecast \$'000	2016/17 QCA Recommended (Adjusted) \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000
Routine spend																		
Operations																		
Labour	257.2	516.4	(259.2)	251.5	532.9	(281.4)	251.5	549.9	(298.4)	308.6	563.7	245.0	577.8	217.5	223.9	230.4	237.1	244.0
Contractors	220.0	71.0	149.1	124.9	73.3	51.6	158.4	74.5	83.9	200.0	76.4	175.0	78.3	154.5	158.2	162.0	165.9	169.9
Materials	30.1	28.9	1.2	11.3	29.9	(18.6)	15.4	30.4	(15.0)	21.0	31.1	20.0	31.9	17.6	18.0	18.5	18.9	19.3
Electricity	14.6	15.2	(0.6)	11.6	16.4	(4.8)	14.4	17.5	(3.1)	17.0	18.0	18.0	18.4	17.9	17.8	18.4	18.8	18.5
Insurance	439.3	204.8	234.5	398.5	208.3	190.2	505.5	211.9	293.6	505.5	217.2	490.2	222.6	501.5	513.1	524.9	536.9	549.3
Other	99.2	48.7	50.6	111.7	49.7	62.0	129.8	50.5	79.3	142.0	51.8	134.0	53.1	118.2	120.9	123.7	126.5	129.4
Local area support costs	187.8	-	187.8	216.3	-	216.3	216.1	-	216.1	240.7	-	313.6	-	274.3	281.5	288.8	296.4	304.1
Corporate support costs	128.2	522.8	(394.6)	102.7	513.9	(411.2)	110.8	525.2	(414.4)	173.9	538.3	159.2	551.8	128.2	131.5	134.9	138.5	142.1
Indirect costs	212.2	574.8	(362.6)	266.2	545.0	(278.8)	192.4	528.9	(336.5)	191.7	542.1	331.6	555.7	287.6	295.1	302.8	310.7	318.8
Preventative maintenance																		
Labour	61.0	83.0	(22.0)	105.1	85.7	19.5	123.8	88.4	35.4	82.6	90.6	99.9	92.9	88.7	91.3	94.0	96.7	99.5
Contractors	8.8	7.1	1.7	20.7	7.3	13.3	37.8	7.5	30.4	50.0	7.6	50.0	7.8	44.1	45.2	46.3	47.4	48.5
Materials	0.5	7.6	(7.2)	11.3	7.9	3.4	3.4	8.0	(4.6)	5.0	8.2	5.0	8.4	4.4	4.5	4.6	4.7	4.8
Other	11.3	7.3	4.0	9.1	7.5	1.6	8.1	7.6	0.5	10.0	7.8	11.0	8.0	9.7	9.9	10.2	10.4	10.6
Local area support costs	45.7	-	45.7	90.4	-	90.4	106.5	-	106.5	64.5	-	127.9	-	111.9	114.8	117.8	120.9	124.0
Corporate support costs	21.8	82.2	(60.4)	31.7	80.7	(49.0)	37.1	82.5	(45.3)	38.2	84.5	65.0	86.6	52.3	53.6	55.0	56.5	57.9
Indirect costs	45.7	88.2	(42.5)	92.1	83.7	8.4	73.6	80.7	(7.0)	25.8	82.7	59.1	84.7	51.3	52.6	54.0	55.4	56.8
Corrective maintenance																		
Labour	35.1	48.4	(13.3)	23.7	49.9	(26.2)	12.3	51.5	(39.2)	74.9	52.8	74.1	54.1	65.8	67.7	69.7	71.7	73.8
Contractors	54.1	24.6	29.5	50.9	25.4	25.6	64.6	25.8	38.8	55.0	26.4	60.0	27.1	53.0	54.2	55.6	56.9	58.3
Materials	11.7	21.3	(9.6)	0.3	22.0	(21.7)	5.8	22.4	(16.5)	10.0	22.9	15.0	23.5	13.2	13.5	13.8	14.2	14.5
Other	13.6	10.3	3.4	24.9	10.5	14.4	6.3	10.7	(4.4)	12.0	11.0	13.0	11.3	11.5	11.7	12.0	12.3	12.6
Local area support costs	25.6	-	25.6	20.4	-	20.4	10.5	-	10.5	58.4	-	94.8	-	83.0	85.1	87.3	89.6	91.9
Corporate support costs	16.3	50.2	(33.9)	10.4	49.5	(39.0)	7.3	50.5	(43.3)	35.5	51.8	48.2	53.1	38.8	39.8	40.8	41.9	43.0
Indirect costs	26.5	51.4	(24.9)	18.0	48.8	(30.8)	7.3	47.0	(39.7)	23.4	48.2	43.8	49.4	38.0	39.0	40.0	41.0	42.1
Routine total	1966.5	2464.1	(497.6)	2003.7	2448.2	(444.5)	2098.9	2471.4	(372.5)	2345.6	2533.2	2653.4	2596.6	2382.8	2443.0	2505.3	2569.2	2633.8
Non-routine spend																		
Labour	283.5	72.6	210.9	122.1	44.5	77.5	176.5	147.6	28.9	210.6	71.4	66.7	4.8	142.1	124.1	87.5	150.1	137.3
Contractors	516.8	88.8	428.0	222.4	44.4	177.9	786.1	154.8	631.2	805.5	81.2	308.2	5.5	356.9	361.1	352.6	434.5	265.6
Materials	5.5	78.1	(72.6)	42.4	44.4	(2.0)	10.0	154.8	(144.8)	12.0	75.9	258.4	5.1	91.8	120.2	46.8	139.8	113.2
Other	71.8	42.6	29.2	(104.8)	29.7	(134.4)	16.8	89.3	(72.5)	54.0	43.2	-	2.9	62.9	63.3	32.9	84.1	75.3
Local area support costs	200.1	103.1	96.9	103.8	49.5	54.3	144.6	183.6	(38.9)	164.3	91.0	73.9	6.1	65.4	89.5	60.0	116.2	102.7
Corporate support costs	115.2	-	115.2	(249.2)	-	(249.2)	89.0	-	89.0	132.6	-	43.3	-	156.3	103.0	72.6	124.6	114.0
Indirect costs	190.6	96.8	93.8	386.2	45.1	341.1	102.2	156.8	(54.6)	65.8	82.4	39.4	5.6	77.5	73.0	48.9	80.0	76.0
Non-routine total	1383.4	482.0	901.4	522.8	257.7	265.2	1325.2	887.0	438.2	1444.8	445.2	789.9	30.1	952.9	934.3	701.4	1129.3	884.2
Total spend	3349.8	2946.1	403.7	2526.5	2705.8	(179.3)	3424.2	3358.5	65.7	3790.5	2978.4	3443.3	2626.6	3335.8	3377.3	3206.7	3698.5	3518.0

1. Totals may not add due to rounding.

Direct costs

Direct costs are those costs which are able to be directly attributable to either an asset or a service contract eg maintenance or insurance of an asset or the electricity and other operations costs for a service contract.

Local area support costs

Local area support costs are spread across service contracts managed in each locality. They are costs which support local people doing their jobs eg regional accommodation costs, local administration support and training.

In 2018/19 the Nogoia Mackenzie Bulk Water Service Contract is allocated 2.546 per cent of the forecast total local area support costs. Forecast local overheads in 2018/19 are higher than previous years and now more closely reflect actual local overheads in each region rather than local overheads averaged across SunWater.

Indirect costs

Indirect cost pools capture costs such as billing and customer support, irrigation pricing regulation and asset management (including dam safety, asset systems, channels and drainage) that have not been directly charged. They also include flood room operations, the Inspector-General Emergency Management (IGEM) emergency management program, water planning, hydrographic services, and environmental support costs. Indirect costs are based on a user pays approach eg service contracts without a dam or weir are not apportioned dam safety costs.

In 2018/19 the Nogoia Mackenzie Bulk Water Service Contract is allocated 2.465 per cent of the forecast total indirect costs. Increases in indirect costs allocated to Operations are largely driven by new IGEM costs, which are \$159,000 in 2018/19 for this Service Contract.

Corporate support costs

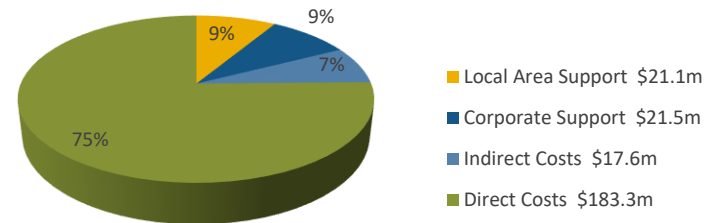
Corporate support costs are more generic than indirect costs and local area support costs, and are spread across all service contacts based on direct labour. They include the cost of human resources and payroll, information and communications technology, corporate communications, legal, property, finance,

and internal audit, plus the costs of the Chief Executive Officer, Chief Financial Officer and the SunWater Board, where these costs are not directly charged to activities within service contracts.

In 2017/18 SunWater completed a corporate restructure which resulted in a net reduction of 20 positions from the business and a reduction in total corporate overhead costs. Despite this, corporate overheads allocated to each service contract have increased since 2017/18. Contributing factors to the increase are: the transfer of St George and potential transfer of Dawson distribution schemes to locally managed entities and less charging of labour to direct costs.

In 2018/19 the Nogoia Mackenzie Bulk Water Service Contract is allocated 1.266 per cent of the forecast total corporate support costs.

Figure 7: Total SunWater cost pools – 2018/19 forecast



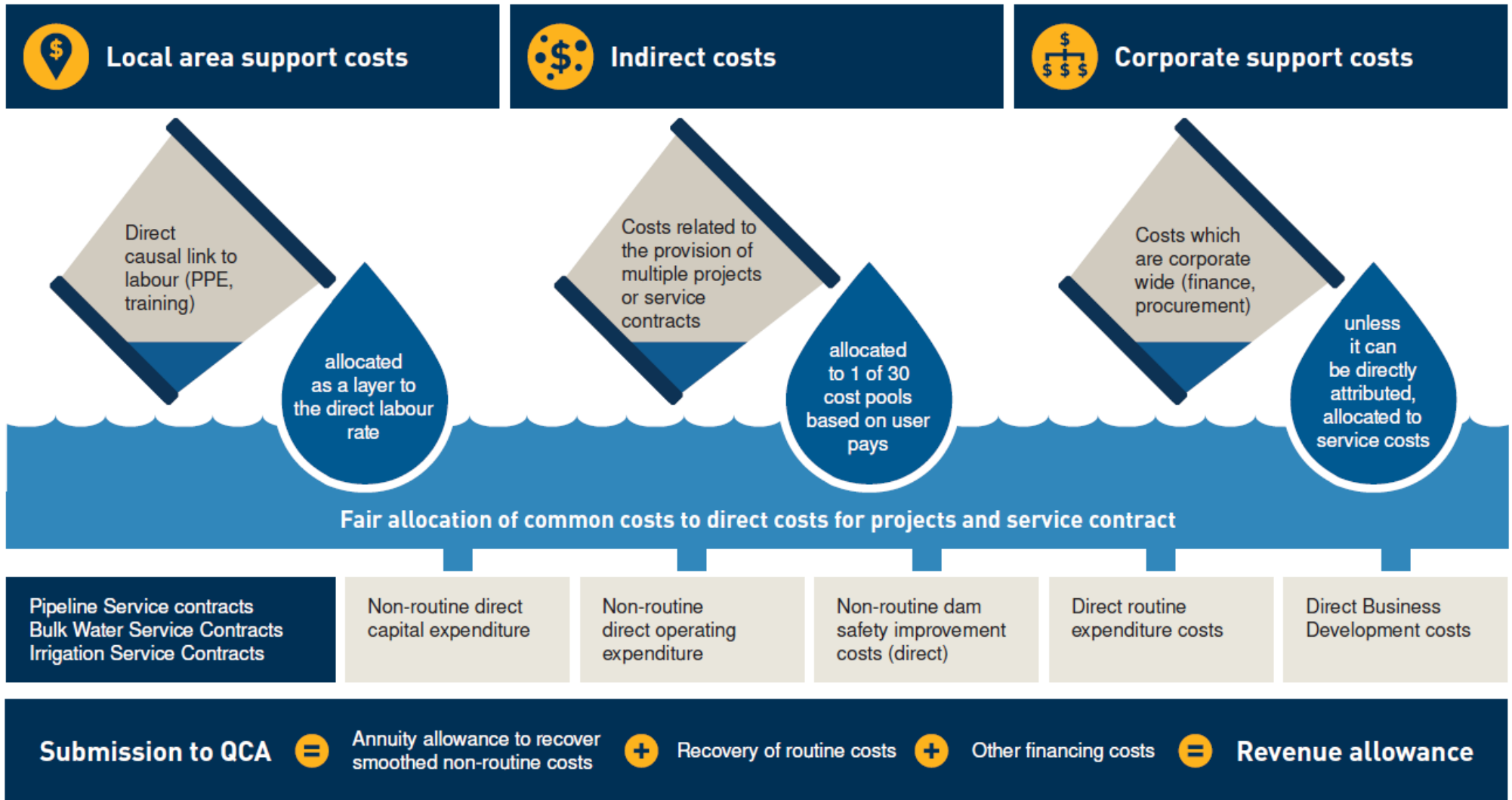
In the 2012 irrigation pricing review, the QCA reviewed and accepted SunWater’s methodology for recovering local area support costs, indirect costs and corporate support costs. In 2018 we reviewed the cost allocation methodology and made changes to increase the transparency of local overhead costs and the allocation of corporate support costs to direct expenses. We also:

- removed the cascading of corporate overheads into indirect costs
- made the local overhead rate specific to each region
- simplified the cost drivers to labour only, removing the 5 per cent on direct cash costs excluding labour and electricity.

Forecast figures contained in this NSP reflect this change in approach.

Figure 8 below illustrates the allocation of costs associated with providing services.

Figure 8: How are SunWater’s costs allocated to each service contract?



Appendix 3: Routine expenditure

Operations

Operations expenditure includes day-to-day costs associated with management of the Service Contract, water delivery and meeting compliance obligations. Specific activities include the direct and non-direct costs of:

- scheduling and delivering water, including processing water orders, releasing water and monitoring customer deliveries
- Emergency Action Plans and seasonal event responses
- meter reading
- administration of water accounts, billing and receipting payments
- customer management, including enquiries, complaints and maintaining the customer service help desk
- Service Contract management, including licences and permits, rates, land management, planning and reporting
- insurance
- monitoring the security of infrastructure and unauthorised access
- managing engagement associated with the Service Contract
- managing enquiries from adjoining landholders and developers that require input from and negotiations with SunWater's property and legal sections
- daily dam inspections and other surveillance activities
- supplying treated water to the Fairbairn township and waste water services.

Preventative maintenance

Preventative maintenance for the Nogo Mackenzie Bulk Water Service Contract includes:

- Condition monitoring — the inspection, testing or measurement of physical assets to report and record condition and performance to determine

maintenance requirements. Condition monitoring is carried out on electrical, mechanical and civil assets.

- Servicing — planned maintenance activities carried out routinely on physical assets including valves, gauging stations, cranes, sump pumps and associated equipment.
- Weed control — management of weeds, including spraying and other activities to control nuisance and noxious weeds.

Scheduled corrective maintenance

Scheduled corrective maintenance varies by asset type and typically includes minor corrective works on:

- Service Contract roads:
 - repairing pot holes and grading roads
 - repairing, replacing, and painting guide posts and signs.
- Storages (headworks and weirs):
 - repairing control gates, valves and concrete structures
 - repairing walls, embankments and spillways.
- Meters:
 - repairing bulk water meters and customer meters.

Emergency corrective maintenance

Emergency corrective maintenance typically includes restoring systems and equipment after faults or unplanned events, and responding to theft or vandalism associated with Service Contract assets, in particular at site facilities.

Appendix 4: Non-routine projects for 2018/19 to 2023/24

Non-routine projects are asset-related projects required to support service delivery which are undertaken less frequently than annually.

Table 10: Non-routine projects (or planning items) 2018/19 to 2023/24

Year	Project Title	Project Scope	Budget (\$'000)
2018/19	Fairbairn Dam – Refurbish Weemah channel regulating gate No. 4	One of the regulating gates on the Weemah channel outlet needs patch painting and new seals. The 2015 condition assessment states that it leaks badly enough to warrant seal replacement.	61
	Replace two lift gates on Weemah channel bullring outlet	The third gate was replaced during 2017 as it had deteriorated to an extent it could not be refurbished. The remaining two gates are in similar condition so will be replaced in 2018/19.	112
	Nogoa Mackenzie system – New gauging stations	New gauging stations will be installed along the system to improve water delivery and monitoring.	116
	Fairbairn Dam sewage treatment plant – Replace level transmitters	A condition assessment undertaken in 2015 by Jacobs recommended replacing the automatic pump level transmitters in the sewage pump stations to ensure ongoing safe operation.	37
	Fairbairn Dam – Comprehensive risk assessment (CRA)	The CRA of Fairbairn Dam will continue into 2018/19. CRAs are needed to assess and prioritise deficiencies in current design and construction standards that have been identified in a 20 year safety review. They are also completed after major projects to ensure the risks have been fully addressed.	96
	Other works	There are 12 other non-routine projects for 2018/19.	367
	2018/19 Total		789
2019/20	Fairbairn Dam Town Water Supply (TWS) – Control system upgrade	The 2015 Jacobs report recommended that the TWS control system be upgraded to a modern equivalent. This business case will determine if the work is cost effective and provide preliminary solutions to the upgrade.	165
	Fairbairn Dam – Bathymetric survey	A bathymetric survey will be completed to identify hidden obstacles. This is a public safety initiative.	368

Year	Project Title	Project Scope	Budget (\$'000)
	Bedford Weir – Refurbish trash racks	A condition assessment undertaken in 2015 by Jacobs recommended that the screens need repainting to preserve their life; however, only those above the water level could be assessed. Failed anodes, if any, will also be replaced. Those that do not need repainting will not be done yet.	47
	Bedford Weir – Refurbish inlet baulks	Similarly for the trash racks, the inlet baulks need repainting. It is more economical to do both jobs in the one year to avoid procurement costs.	45
	Comprehensive inspections – 4 weirs	SunWater conducts comprehensive inspections on its weirs every five years. This allows us to maintain a current knowledge of the asset condition and risks so projects can be brought in and deferred as needed in order to maintain the asset in serviceable condition.	135
	Other works	There are 8 other non-routine projects for 2019/20.	193
	2019/20 Total		953
2020/21	Fairbairn Dam TWS – Storage enhancements	The 2015 Jacobs report recommended that the chemicals storage and dosing equipment be upgraded to a modern equivalent based on their current condition. At the same time, the treatment plant will be automated rather than rely on staff to operate the plant.	317
	Fairbairn Dam TWS – Replace the low-level storage tank	The 2015 Jacobs report recommended that the low-level storage tank that stores treated water be replaced due to its current condition.	229
	Fairbairn Dam TWS – Control system upgrade	The 2015 Jacobs report recommended that the TWS control system be upgraded to a modern equivalent. This is the next stage of upgrading the control system based on the outcome of the business case in 2019/20.	170
	Bedford Weir – Control system upgrade	A business case to install a Programmable Logic Controller (PLC) and Supervisory Control and Data Acquisition (SCADA) system at Bedford Weir will be prepared prior to design and installation. Bedford Weir is remote so a study into whether remote operation is more cost effective and provides better water reliability will be completed.	111
	Other works	There are 3 other non-routine projects for 2020/21.	107
	2020/21 Total		934

Year	Project Title	Project Scope	Budget (\$'000)
2021/22	Fairbairn Dam TWS – Clarifier tank refurbishment	The 2015 Jacobs report recommended that the clarifier tank be replaced due to its current condition.	227
	Fairbairn Dam diversion tunnel – Sediment removal	This is an allowance to remove the sediment from the diversion tunnel. It is known to be moving slowly downstream and is thought to be affecting the flow patterns in the bullring causing unwanted vibration; however, vibration monitoring equipment is not showing any short-term concerns.	126
	Bingegang Weir – Reinststate slumped crump weir	The downstream measuring (crump) weir at Bingegang Weir has some undermining and outflanking that should be repaired to ensure accurate releases are being recorded.	36
	Bedford Weir – Reinststate downstream rock mattresses	The 2014 weir inspection identified a number of rock mattresses on the downstream right abutment were breaking open. They should be reinstated to ensure the abutment is protected during flood waters. Until now the number of mattresses has not posed a high risk; however, more are opening up.	36
	Bedford Weir – Control system upgrade	This is the design and procurement phase of the PLC and SCADA system upgrade at Bedford Weir if the business case determines it is viable.	181
	Other works	There are 4 other non-routine projects for 2021/22.	95
	2021/22 Total		701
2022/23	Fairbairn Dam – Right bank rock face stability	This is the final phase of the rock face stability project. The work is to resurvey the site after 5 years to check for any movement, then complete the remainder of the benching work on the face.	664
	Fairbairn Dam – Comprehensive inspection	SunWater conducts comprehensive inspections on its dams every five years to comply with the dam safety condition schedules attached to the dam. This allows us to maintain a current knowledge of the asset condition and risks so projects can be brought in and deferred as needed in order to maintain the asset in serviceable condition.	133
	Fairbairn Dam outlet works – Lift gates	The four lift gates at the gatehouse need patch painting and new seals.	92
	Selma Weir – Outlet pipe refurbishment	The outlet pipe at Selma Weir is now about 50 years old after which time the concrete should need patching. The 2020 inspection will confirm the need for this work. It can only be inspected during a shutdown.	53

Year	Project Title	Project Scope	Budget (\$'000)
	Other works	There are 12 other non-routine projects for 2022/23.	187
	2022/23 Total		1129
2023/24	Fairbairn Dam water treatment plant – Repaint clarifier tank No. 2	The 2015 Jacobs report recommended that clarifier tank No. 2 be repainted due to its current condition.	239
	Fairbairn Dam – Refurbish Weemah channel regulating gates x 2	This is a time-based refurbishment of two regulating gates in the Weemah channel inlet tower. If a condition assessment closer to 2023 determines they remain in serviceable condition, the funds will remain in the annuity.	107
	Fairbairn Dam – Refurbish 2 trash racks and guides in Saddle Dam	This is a time-based refurbishment of trash racks and guides in Saddle Dam. If a condition assessment closer to 2023 determines they remain in serviceable condition, the funds will remain in the annuity.	39
	Other works	There are 22 other non-routine projects for 2023/24.	499
	2023/24 Total		884



Contact us

To have your say and shape future NSPs, please contact us via email or post:

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Brisbane Qld 4002

We consider and respond to all submissions, publishing all responses on our website.

Addendum to the 2018/19 to 2023/24 Network Service Plan

Nogoa Mackenzie Bulk Water Service Contract

6 November 2018

Final

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How to read this addendum

Several changes have been made to our forecast costs since we published our 2019 Network Service Plan for the Nogoia Mackenzie Bulk Water Service Contract in August 2018. We have therefore prepared this addendum to aid our customers' understanding of the changes and to assist the Queensland Competition Authority (QCA) in their review.

We have:

- updated for 2017/18 actual expenditure. This has positively impacted the annuity balances for this service contract going forward, when compared to the 2019 Network Service Plan.
- revised market parameters, such as escalators and the Weighted Average Cost of Capital, for the latest available information
- used the scheme's 15-year average water usage over the 2002/03 to 2016/17 period to determine the Part B cost per megalitre
- added a table showing forecast dam improvement program (DIP) expenditure for this service contract.

Note:

- All financial figures contained in this addendum are nominal dollars.
- Totals may not add due to rounding.

Table 1: Irrigation charges for 2018/19¹ – Restatement of Table 2 from the 2019 Network Service Plan

Product		2018/19 (\$/ML)	Cost (\$/ML)^{2,3,4}	Subsidy (\$/ML)
Bulk water customers				
Medium Priority Allocation Charge	Bulk Water Charge – Part A (fixed charge based upon entitlement)	11.92	6.83	N/A
Medium Priority Allocation Water	Bulk Water Charge – Part B (variable charge based upon usage)	1.29	1.42	0.13
Bulk water customers who are also customers of a distribution system				
Medium Priority Allocation Charge	Bulk Water Charge – Part A (fixed charge based upon entitlement)	8.63	6.83	N/A
Medium Priority Allocation Water	Bulk Water Charge – Part B (variable charge based upon usage)	1.29	1.42	0.13

1. This table includes bulk water charges only. For distribution charges (Part C and Part D) please refer to the Addendum to the Distribution Service Contract NSP.
2. Costs reflect lower bound cost recovery, ie recovery of future replacement and ongoing maintenance and operations. Charges do not allow for any returns on existing assets.
3. The notional High Priority Allocation Charge cost per megalitre is \$35.75.
4. Costs reflect a revised Medium Priority Headworks Utilisation Factor of 28 per cent (previously 45 per cent at the time of the 2012 review).

Table 2: Routine operating expenditure¹ – Restatement of Table 6 from the 2019 Network Service Plan

	2016/17			2017/18 ²		2018/19 ²		2019/20	2020/21	2021/22	2022/23	2023/24
	SunWater Actual \$'000	QCA Recommended \$'000	Variance \$'000	SunWater Actual \$'000	2016/17 QCA Recommended (adjusted) \$'000	SunWater Forecast \$'000	2016/17 QCA Recommended (adjusted) \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000	SunWater Forecast \$'000
Electricity	14.4	17.5	(3.1)	38.0	18.0	18.0	18.4	16.6	16.3	16.8	18.3	18.2
Insurance	505.5	211.9	293.6	463.6	217.2	490.2	222.6	500.3	511.8	523.6	535.6	547.9
Operations	1074.5	1759.5	(684.9)	1530.3	1803.4	1378.4	1848.5	1195.4	1225.8	1257.0	1288.5	1320.7
Operations Total	1594.4	1988.9	(394.5)	2031.8	2038.6	1886.7	2089.6	1712.3	1753.9	1797.4	1842.4	1886.9
Preventative maintenance	390.5	274.6	115.9	332.8	281.5	417.9	288.5	361.7	371.0	380.6	390.2	400.1
Corrective maintenance	114.1	207.9	(93.9)	262.7	213.1	348.9	218.5	302.5	310.2	318.2	326.1	334.3
Routine Total	2098.9	2471.4	(372.5)	2627.3	2533.2	2653.4	2596.6	2376.5	2435.1	2496.2	2558.8	2621.3

1. SunWater's 2019/20 to 2023/24 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. For 2017/18 and 2018/19 SunWater has included and reported against the 2016/17 QCA recommended costs adjusted for inflation which was assumed to be 2.5%.

Table 3: Dam improvement program

	2019/20 Forecast \$'000	2020/21 Forecast \$'000	2021/22 Forecast \$'000	2022/23 Forecast \$'000	2023/24 Forecast \$'000
DIP Expenditure ¹	61,350.0	9600.0	-	-	-
DIP Contribution ²	-	194.3	393.4	403.3	413.4
DIP Contribution - % of Total Costs	0.0%	5.4%	10.3%	10.2%	10.2%

1. DIP expenditure is based on current cost estimates.
2. The DIP contribution is based on an "as incurred" approach for transparency of potential cost impacts on customers to 2023/24.

Table 4: Annuity balance – Restatement of Table 8 from the 2019 Network Service Plan

	2016/17 Actual \$'000	2017/18 Actual \$'000	2018/19 Forecast \$'000	2019/20 Forecast \$'000	2020/21 Forecast \$'000	2021/22 Forecast \$'000	2022/23 Forecast \$'000	2023/24 Forecast \$'000
Annuity								
Opening balance ¹	(1968.5)	(2970.8)	(3797.9)	(4378.1)	(5893.8)	(5640.6)	(5105.9)	(4902.5)
Spend	(1325.2)	(1086.7)	(789.9)	(952.9)	(934.3)	(701.4)	(1129.3)	(884.2)
Insurance proceeds receipts (if applicable)								
Prior year	-	-	-	-	-	-	-	-
Current year	-	-	-	-	-	-	-	-
Annuity contribution ²	470.4	482.1	494.2	505.3	1532.1	1565.9	1631.3	1680.0
Interest/financing costs	(147.4)	(222.5)	(284.5)	(327.9)	(344.6)	(329.8)	(298.5)	(286.6)
SunWater – Closing balance	(2970.8)	(3797.9)	(4378.1)	(5153.7)	(5640.6)	(5105.9)	(4902.5)	(4393.3)
QCA – Closing balance	(1625.6)	(1710.4)	(1374.4)					
Difference	(1345.3)	(2087.5)	(3003.7)					

1. The difference in the closing balance for 2019/20 and the opening balance for 2020/21 relates primarily to expenditure incurred prior to the start of the 2012 price path. Table 5 provides further details.
2. The annuity contribution is included in the prices paid by customers. It was set by the QCA for 2012/13 to 2016/17 and is rolled forward with the Consumer Price Index (CPI) for 2017/18, 2018/19 and 2019/20. Thereafter the annuity contribution is based on SunWater's forecast.

Table 5: Adjustments to 2020/21 opening annuity balance

Adjustment	\$'000
Actual spend adjustment	(75)
Bedford Weir adjustment	(441)
Annuity income difference	82
Intersafe project spend adjustment	0
Interest difference	1
Alignment to previously reported data	7
Interest	(314)
Total	(740)

Table 6: Cost building blocks and notional cost allocations

	2018/19 Forecast \$'000	2019/20 Forecast \$'000	2020/21 Forecast \$'000	2021/22 Forecast \$'000	2022/23 Forecast \$'000	2023/24 Forecast \$'000
Cost building blocks						
Routine costs	2653.4	2376.5	2435.1	2496.2	2558.8	2621.3
Non-routine costs (Annuity contribution)	494.2	505.3	1532.1	1565.9	1631.3	1680.0
Dam improvement program ¹	-	-	-	-	-	-
Working capital	2.1	1.9	-	-	-	-
Revenue offsets	-	-	-	-	-	-
Transfers (Distribution losses)	(434.0)	(397.7)	(553.9)	(567.1)	(585.1)	(600.7)
Total costs	2715.6	2486.0	3413.3	3494.9	3605.0	3700.6
Notional cost allocations						
Irrigation customers	1349.6	1229.5	1544.0	1581.4	1628.6	1670.7
Urban/Industrial customers	1162.1	1069.0	1590.8	1628.4	1681.9	1727.5
SunWater	204.0	187.6	278.5	285.1	294.5	302.5
Total costs	2715.6	2486.0	3413.3	3494.9	3605.0	3700.6

1. For the purposes of this table, DIP costs have been excluded.

Table 7: Historical actual water usage

Year	Usage (ML)
2002/03	224,055
2003/04	120,343
2004/05	193,063
2005/06	164,703
2006/07	136,502
2007/08	102,007
2008/09	200,713
2009/10	196,010
2010/11	78,314
2011/12	169,236
2012/13	166,681
2013/14	189,851
2014/15	157,152
2015/16	183,846
2016/17	168,908
15-year average	163,426