

2020-24 Key Investment Areas

Year 4

To 30 June 2024



Government of
South Australia

Summary

Regulated Infrastructure Programs	Total spend allowed 2020-24 (millions, including inflation)	Approved carry-over (millions, including inflation)	Spend actuals 2020-24 (millions, including inflation)	Total 2020-24 (millions, including inflation)
Water network reliability	\$547.0	\$34.9	\$519.9	\$554.8
Water quality	\$219.4	\$0	\$180.1	\$180.1
Reducing wastewater overflows	\$91.1	\$0	\$113.3	\$113.3
External responsibilities	\$257.1	\$41.1	\$269.4	\$278.0
Dam safety	\$102.8	\$0	\$39.2	\$39.2
Enabling growth	\$371.7	\$17.7	\$444.6	\$462.3
Operating our business	\$165	\$0	\$126.2	\$126.2
Total	\$1,754.0	\$93.7	\$1,660.3	\$1754.0

For the period 2020-24, we have invested all of the \$1,754 million allowed for capital delivery. Key highlights include:

Significant improvements in water network reliability

This includes 249 kilometres of water main relays in metropolitan and country areas over the 4 years and 45 kilometres of new sewer mains and associated valves, aimed at reducing service interruptions for customers in the future.

Kangaroo Island desalination project

The Kangaroo Island Desalination Plant is set to deliver up to two-megalitres per day of safe, clean drinking water to the townships of American River, Island Beach, Sapphiretown and Baudin Beach with first waters expected in July 2024 and a projected handover date in December 2024. The project includes construction of a new desalination plant and installation of 50 kilometres of large underground trunk pipeline between Penneshaw and Kingscote, along with reticulation mains in the 4 townships. This initiative will enhance drinking water security and will also support the Island's tourism and agriculture industries.

Tea Tree Gully wastewater works

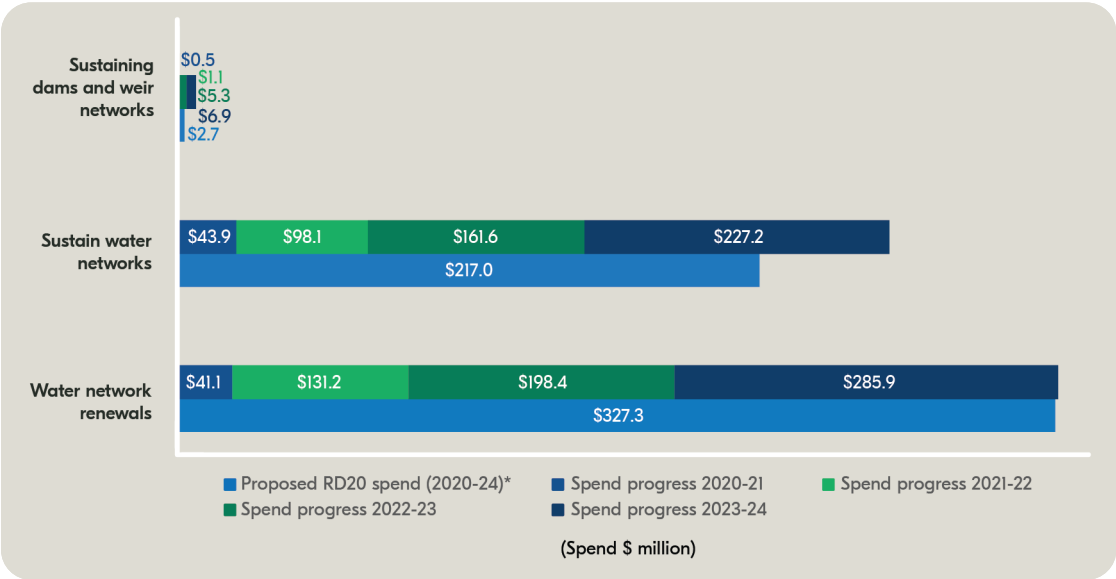
This project is progressing well with the goal of transitioning approximately 4,800 properties connected to the City of Tea Tree Gully's Community Wastewater Management System to our sewer system. As of 30 June 2024, 696 properties have been connected to our wastewater network, including 381 connections made in 2023-24. An additional 101 properties are near completion. Approximately 50 per cent of the on-property works involve the installation of low pressure sewer systems. To date, 15.4 kilometres of sewer mains and one wastewater pump station have been constructed.

Water network reliability



Service outcome for customers

- Reliable water supply with minimal unplanned water service interruptions



*Adjusted for inflation.

Water network renewals

Through our water main management program from 2020 to 2024, 249 kilometres of new water reticulation mains were laid, 73 kilometres in metropolitan Adelaide and 176 kilometres in regional areas. Additionally, we installed 498 valves across the metropolitan network, which is expected to prevent 1,877 temporary service interruptions in 2024-25.

The largest water network renewal projects for 2024 involved third party works currently under construction including the South Road Torrens to Tonsley tunnels, Victor Harbor Road duplication, Main South Road duplication (stages 1 and 2), and the new Women's and Children's Hospital.

Sustaining water networks

This program focuses on the renewal of water storage facilities (including water tanks and earth banks) and pump stations, emphasising structural integrity and operational reliability. From 2020 to 2024, \$227 million was invested in water storage renewals and pump station upgrades.

New high voltage switchboards have been commissioned on 3 pump stations along the Mannum to Adelaide Pipeline to enhance system reliability and operability. Additionally, a new \$19.4 million 32 megalitre water storage facility near Port Lincoln was constructed and commissioned in June 2024, ensuring a reliable water supply for Eyre Peninsula customers.

The Nettle Hill Earth Bank Storage has been rehabilitated with a new liner and cover, improving supply reliability for customers in the Victor Harbor - Goolwa region.

Sustaining dams and weirs networks

From 2020 to 2024, the renewal of dam assets and infrastructure included upgrades at Barossa Dam, and the design and development on several weir screen upgrades including those at Gorge Weir. Work began in June 2023 at Warren Dam to replace control valves and pipework to enhance the reliability of mechanical equipment. The project was completed in mid-September.

Network reliability projects

Key network reliability projects completed at the end of year 4 include Main South Road stage 1, Victor Harbor Road and initial packages of South Road (Torrens to Darlington).

The Morgan to Whyalla Pipeline renewal works experienced delays due to Environmental Protection and Biodiversity Conservation approval from the federal government after a new protected species

Water network reliability (continued)



Service outcome for customers

- Reliable water supply with minimal unplanned water service interruptions.

area was declared in the months before construction was due to begin.

Key focuses for the coming year include:

- Renewal of Torrens Road, Port Pirie and Beetaloo stage 4 trunk mains.
- Implementation of water conditioning at Anstey Hill Water Treatment Plant.
- Finalising environmental approvals and starting construction for the Morgan to Whyalla Pipeline renewal works.
- Network installation as part of major third-party projects on South Road (Torrens to Darlington), Victor Harbor Road, Main South Road (stages 1 and 2) and the new Women's and Children's Hospital, to meet expected customer service requirements.
- Completion of valve installation and reticulation renewal programs.
- Advancing the smart network program to deploy leakage and pressure sensors on pressure reducing valves, trunk mains and facilities for proactive monitoring protection of the water network.
- Implementing operational boundary changes to lower static operating pressure in high pressure areas of the network.



Water network reliability (continued)



Service outcome for customers

- Reliable water supply with minimal unplanned water service interruptions.

Temporary service interruption

The target for the number of customers experiencing 3 or more unplanned service interruptions was set at less than 1,750 by 2024. At the end of the regulatory period, we achieved 2,031 properties with 3 or more interruptions, down from 2,397 in July 2020 - a decrease of 366. Within the Metro network 1,217 properties experienced 3 or more interruptions, compared to a target of 1,100 while the regional network saw 814 against a target of 650.

A drier period from April to July 2024 resulted in a significant increase in ground movement related failures late in the financial year, contributing to the rise in the 3 or more-interruption figure. Continued implementation of the water network management strategy, along with meeting climate conditions is expected to manage this figure in the medium term, as it is predicted that drying climates will continue.

The number of customers (per 1,000 properties) experiencing an unplanned interruption event has remained stable at 188.

How this is measured	Target by 2024	Achieved in 2020-21	Achieved in 2021-22	Achieved in 2022-23	Achieved in 2023-24
Number of customers experiencing 3 or more temporary service interruptions a year by 2024	<1,750	2,073.0	1,482.0	1,848.0	2,031.0
Number of properties a year experiencing an unplanned temporary service interruption	<153 per 1,000 properties	169.4	145.7	188.7	188.2

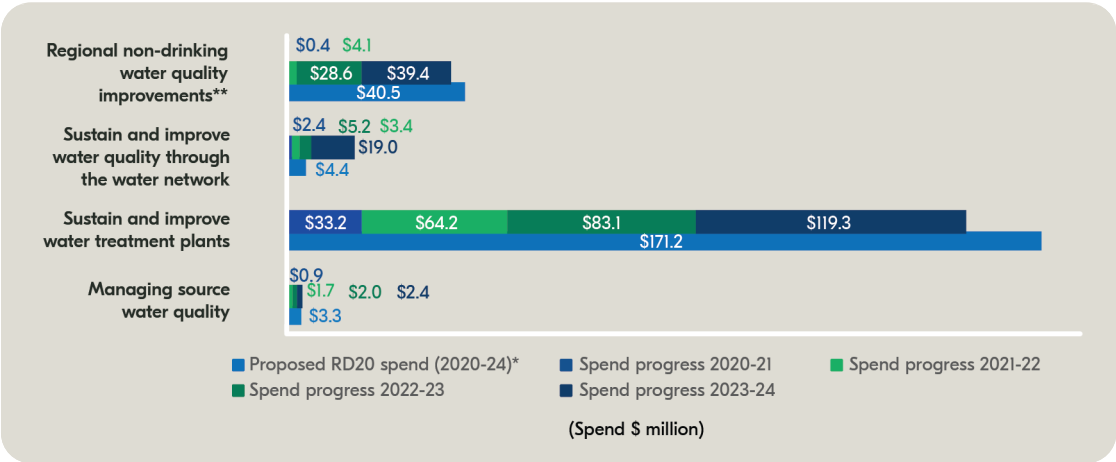


Water quality improvements



Service outcome for customers

- Supply of safe, quality drinking water.



*Adjusted for inflation.
** Investment as directed by the South Australian Government under the *Public Corporations Act 1993* and the *South Australian Water Corporations Act 1994*.

How this is measured	Target by 2024	Achieved in 2020-21	Achieved in 2021-22	Achieved in 2022-23	Achieved in2023-24
Compliance with the <i>Safe Drinking Water Act 2011</i>	100%	100%	100%	100%	100%
Customer perception of overall quality of water	80%	84%	78%	79%	77%

Our 10 reservoir reserves welcomed 412,000 visitors in 2023-24. These green open spaces are available to support the health and well being of our active thriving communities. We continue to effectively manage water quality risks associated with recreational access at these sites which are home to important drinking water sources.

During 2023-24 we continued to manage drinking water quality from catchment to tap in accordance with our Drinking Water Quality Management System. This ensures a consistent and reliable supply of high quality, safe drinking water for our customers.

We met all requirements of the *Safe Drinking Water Act 2011*, achieving an above target 99.94 per cent result for compliance with the Australian Drinking Water Guidelines’ health-related parameters across customer tap sample locations.

Our drinking water supplies serve customers throughout the metropolitan and regional South Australia including 2 new drinking water supplies commissioned this financial year at Oodnadatta and Marla. Both sites feature newly constructed desalination plants that use reverse osmosis technology to treat and remove salt and other impurities naturally present in the groundwater.

During the same period, we continued investment in sustaining and improving water quality with key investments including a new desalination plant at Penneshaw which is expected to deliver water in late-2024.

Progress is ongoing in upgrading infrastructure to deliver drinking water in systems currently supplying non-drinking water in the regional towns of Yunta, Manna Hill and Terowie in the state’s north-east.

On the Eyre Peninsula, we are addressing water security by collaborating with the community and stakeholders to construct a desalination plant at Billy Lights Point.

New desalination plants were commissioned at Marla (\$8.7m) and Oodnadatta (\$9.5m) in 2023-24, providing safe drinking water to our customers in these towns.

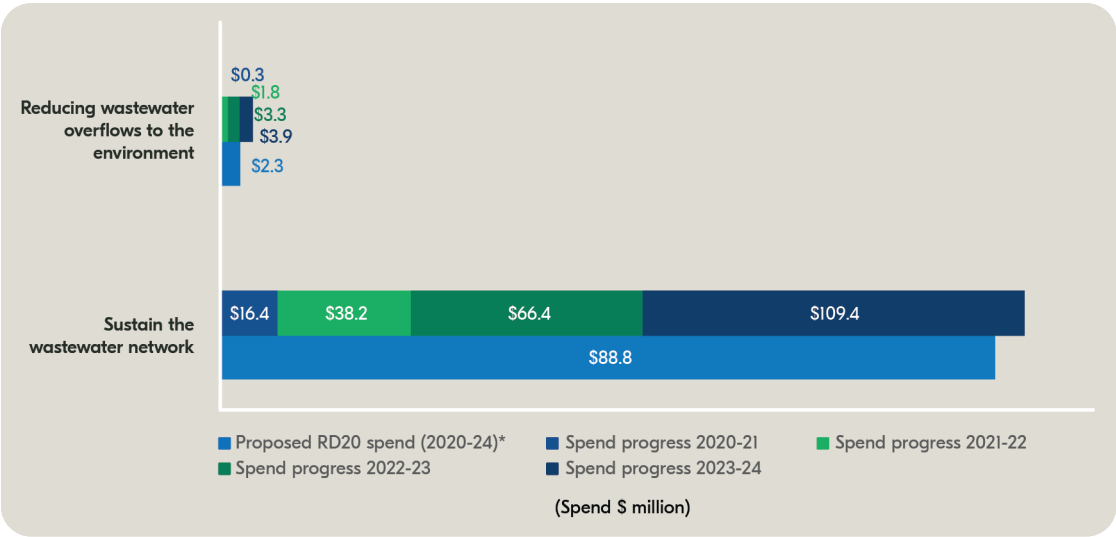
There has been a small decrease in customer satisfaction with overall water quality in 2023-24, with 77 per cent satisfaction (compared to 79 per cent in the previous year).

Reducing wastewater overflows



Service outcome for customers

- Improved environmental protection from reduced number of wastewater overflows to the environment.
- Reliable wastewater services for customers.



*Adjusted for inflation.

Sustaining the wastewater network

In 2023-24 wastewater network reliability capital program delivered:

- 2 km of replacement wastewater rising mains
- 2.5 km of relined wastewater trunk main
- 15 km of relined wastewater reticulation main

Reducing wastewater overflows to the environment

In 2023-24 we completed the installation of permanent generators across 4 wastewater pump stations in the Hahndorf and Mount Barker area to mitigate recurrent overflows caused by power outages. These projects were delivered with other upgrades to the wastewater pump stations including switchboard replacements to further improve reliability and are currently in final commissioning stages.

Additionally, we used historical fault data to identify key hotspot locations within the wastewater network prone to chokes and overflows, primarily due to root intrusion. Our approach involved initially jetting and cleaning these areas, followed by CCTV inspections to assess the cleanliness and identify any structural issues that could lead to further root intrusion or breaks.

Proactive CCTV inspections enable us to identify the risks and implement the most appropriate intervention, such as further cleaning, dig up repairs or relining to address the root cause to prevent service disruption to customers and/or impacts on the environment.



Reducing wastewater overflows (continued)



Service outcome for customers

- Improved environmental protection from reduced number of wastewater overflows to the environment.
- Reliable wastewater services for customers.

How this is measured	Target by 2024	Achieved in 2020-21	Achieved in 2021-22	Achieved in 2022-23	Achieved in 2023-24
Number of customers experiencing more than one wastewater internal overflow in 5 years	36	34	34	48	43
Number of Type 1 and Type 2 environmental overflow events reported to the Environment Protection Authority (5-year annual average)*	< 135	120	128	131	130
Number of customers that have had an internal overflow in the past 12 months	< 191	212	296	235	216

* Type 1 event is an overflow >100kL, Type 2 event is an overflow to a watercourse or stormwater >5kL

Whilst there has been a decrease in the number of customers experiencing repeat overflows compared to last year, our focus remains dedicated to implementing the identified actions aimed at further reducing this figure. We aim to continue to reduce the number of repeat overflows to within target by optimising the sewer cleaning process to effectively address root causes.

Communication and media campaigns in May and June 2024, highlighting what should not be flushed or rinsed, led to a notable decrease in 'unflushables' like cooking fats, oils and wet wipes entering the state's sewers. The campaign provided practical tips to change flushing and rinsing habits, and its effect continued even after the promotion ended. The initiative was further supported by a targeted sewer cleaning program and proactive maintenance aimed at reducing blockages and overflows in key suburbs such as Morphet Vale, Athelstone and Rostrevor.

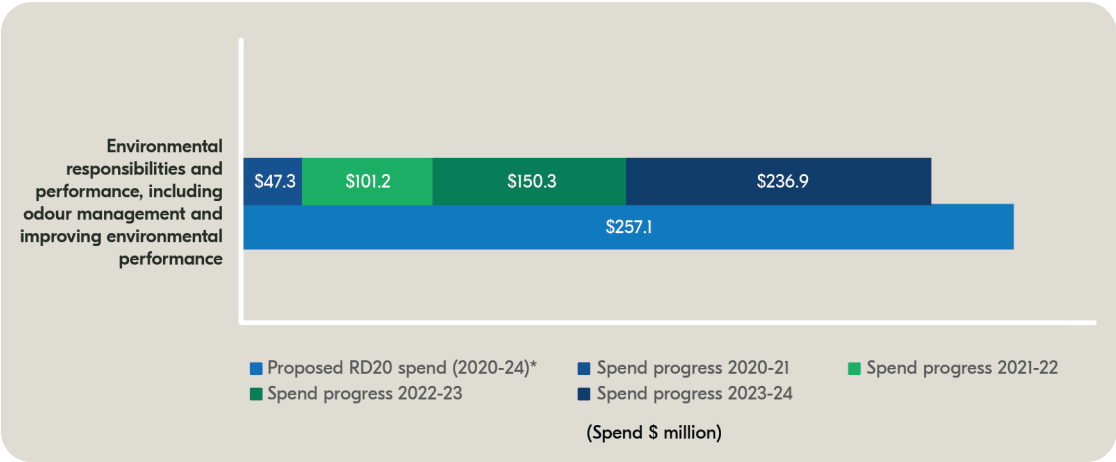
Over the past two years, the overall trend has shown a steady decline, reflecting the success of our focus on advanced cleaning methods and improved monitoring of repeat incident locations through enhanced data quality.

External responsibilities



Service outcome for customers

- Our environmental responsibilities are met.
- Security of future water supply.
- Odour is well managed with minimal customer impact.



*Adjusted for inflation.

Between 2020 and 2024, more than \$200 million was spent renewing our wastewater treatment facilities to sustain services, improve reliability and enable the safe treatment of wastewater, including:

- \$35.5 million at Christies Beach Wastewater Treatment Plant renewing assets, refurbishing primary sedimentation tanks, renewal of return activated sludge pump station, and replacing membranes.
- \$102.3 million to renew ageing assets at Bolivar including replacing \$33 million of pipework in multiple process areas, refurbish digesters 1, 2 and 3, switchboard renewals and Lagoon repairs.

- \$33.1 million to renew ageing assets, refurbish concrete structures and galleries, bioreactors, clarifiers and install new primary effluent pipeline at Glenelg Wastewater Treatment Plant.
- \$25.3 million to renew assets in regional facilities including switchboard and control system renewals, reline of the Finger Point outfall main, and refurbishment of decanters.



External responsibilities (continued)



Service outcome for customers

- Our environmental responsibilities are met.
- Security of future water supply.
- Odour is well managed with minimal customer impact.

How this is measured	Target by 2024	Achieved in 2020-21	Achieved in 2021-22	Achieved in 2022-23	Achieved in 2023-24
Compliance with environmental protection obligations	98%	99%	100%	99%	99%
Number of odour complaints received	< 450	556	576	611	601

Compliance with environmental protection obligations

In 2023-24, we exceeded our target of 98 per cent achieving 99 per cent compliance with legislated environmental protection responsibilities. A total of \$16.5 million has been invested on the following key projects:

- Smart wastewater networks — \$1.3 million.
- Investment at Port Augusta West Wastewater Treatment Plant for hardstand upgrade — \$2.8 million.
- Hahndorf Environment Improvement Plan — \$1.25 million.
- Glenelg Wastewater Treatment Plant improvements — \$1.96 million.
- Infiltration assessment to reduce infiltration across the regional network — \$1.7 million.
- Mount Gambier wastewater system improvements — \$1.8 million.
- RD24 Improve Environmental Performance related project development — \$1.5 million.
- Improving the Northern Adelaide Irrigation Scheme infrastructure — \$148,000.
- Research into Adelaide coastal waters — \$155,000.

Number of odour complaints received

In 2023-24 there was a slight reduction in number of odour complaints. While historical odour hot spots are being addressed through capital investment and proactive maintenance of wastewater network, new emerged odour hotspots are forming. These new hot spots are a result of growth and sub optimal outcomes which were not accounted for in the original target of <450 odour complaints. Consequently, we have experienced higher odour complaints than the original target which are continuously prioritised for investigation.

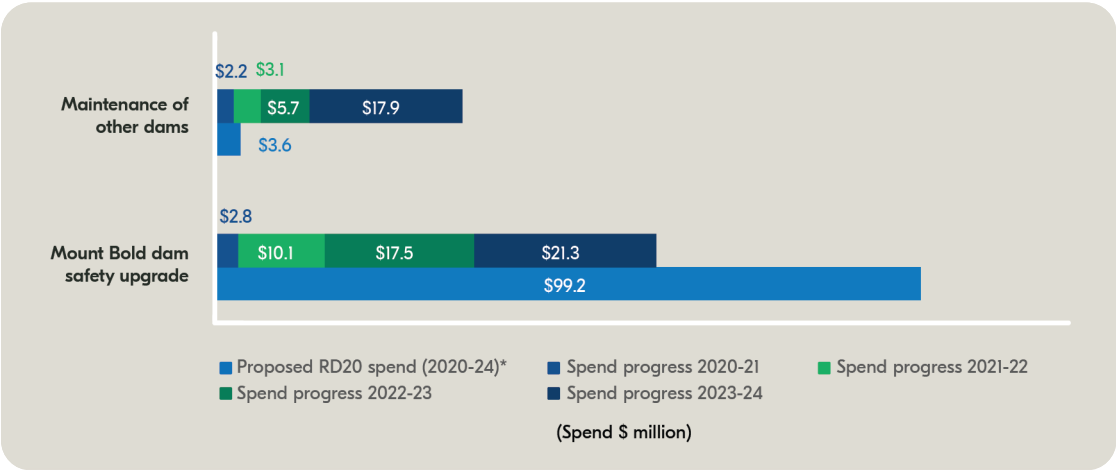
A \$7 million capital investment was made in 2023-24 in Largs Bay and Queensbury odour control unit construction. These units are in operation and since they have been completed, no odour complaints have been recorded in their proximity. Port Lincoln network modification to improve turbulent discharge hydraulics resulting in H2S release was also completed. Whyalla odour control unit construction is well progressed as well as design of Morphett Vale odour control unit, Bolivar North chemical dosing unit and Andrews Farm network modification.

Dam safety



Service outcome for customers

- Dam structures are safe.



*Adjusted for inflation.

How this is measured	Target by 2024	Achieved in 2020-21	Achieved in 2021-22	Achieved in 2022-23	Achieved in 2023-24
Meet guidelines set by the Australian National Committee on Large Dams (ANCOLD) by July 2028	17 of 20 dams compliant	16 of 20 compliant	16 of 20 compliant	16 of 20 compliant	16 of 20 compliant

We proactively manage 20 large dams across South Australia, to ensure trusted water services for our customers. To minimise dam safety risks, we implement an ongoing dam safety upgrade program, prioritising works across our portfolio to progressively reduce risk. The program is scheduled to ensure we maintain water security, balance other corporate risks and deliver best value for money.

Currently all 20 of our dams are operated safely and efficiently, with 4 dams (Baroota, Warren, Sturt and Mount Bold) being assessed and requiring upgrades according to the updated guidelines set by the Australian National Committee on Large Dams Alignment (ANCOLD).

The upgrade at Mount Bold will be one of the largest dam projects ever delivered in our history. A change to the delivery timeframe allows for the optimisation of design options and the evaluation of dam safety. Early construction work is expected to commence in 2028, with the upgrade completed in 2034.

The Warren Dam Safety Works Project is still in the Options Study phase and is due to be completed in early 2028. Earlier in the year, engineering investigations found there have been changes in the condition of the dam causing a reduction in stability at full capacity, which is consistent with the dam’s age and engineering standards at the time it was constructed. The detailed review found the need to implement interim measures to improve the stability of the dam during major rainfall events so it can continue to operate safely. Work was completed in September 2024 to lower the height of the dam’s spillway. These works improve the stability of the dam during major rainfall events, and ensures it continues to operate safely.

The Baroota Dam Safety Upgrade experienced some delays as the project was rescoped to a staged reduction in dam safety risks. The first stage of works is taking place in 2025, while investigations into the future stages of work continue.

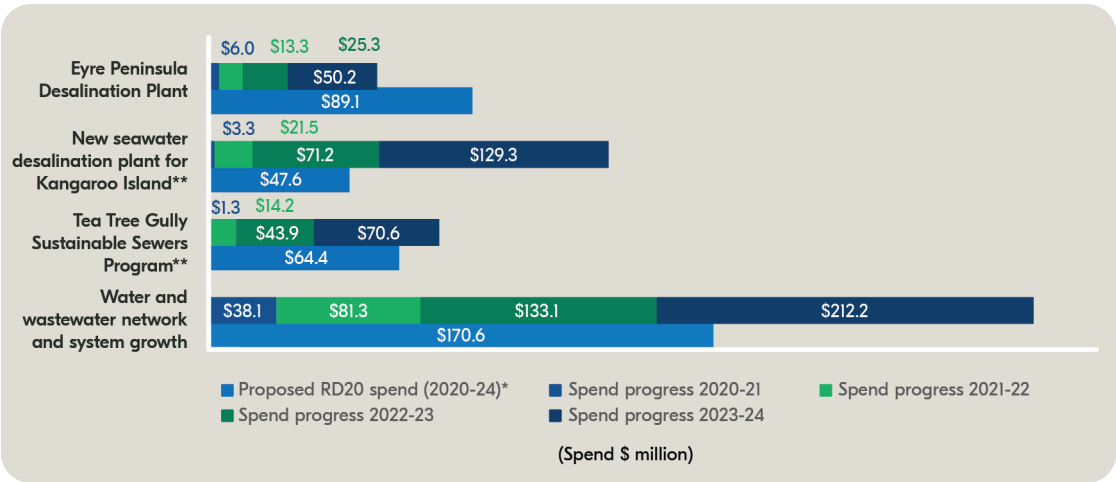
The Myponga Dam Safety Works project began in February 2024 and involved maintenance on our spillway gate system. Other investigations and designs have progressed in readiness for the delivery of a range of smaller asset renewal projects to continue to maintain overall dam safety.

Enabling growth



Service outcome for customers

- Increased demand for water and wastewater services is met.



*Adjusted for inflation.
** Investment as directed by the South Australian Government under the *Public Corporations Act 1993* and the *South Australian Water Corporations Act 1994*.

How this is measured*	Achieved in 2020-21	Achieved in 2021-22	Achieved in 2022-23	Achieved in 2023-24
Number of water connections constructed	9,988	10,305	9,684	9,807
Number of wastewater connections constructed	2,957	2,263	2,358	2,311

*This is connections data only and is not the same as the number of customer accounts used for billing purposes reported elsewhere.

Water and wastewater network and system growth

Water and wastewater network and system growth projects have included a \$212.2 million investment over 2023-24.

An investment of \$12 million in wastewater network growth (excluding Tea Tree Gully Sustainable Sewers) includes the following:

- Wastewater Network Projects Definition – \$1.935 million.
- Development of master plans – \$1.5 million.
- Glenside Wastewater Network Diversions – \$3.6 million.
- Metro Growth project development – \$2.3 million.
- Buckland Park wastewater servicing – \$231,000.
- Virginia and Angle Vale wastewater network – \$229,000.

In addition, about \$34 million has been spent on wastewater treatment plant upgrades in 2023-24 including:

- \$30.7 million in upgrades for the Bolivar inlet.
- \$3.2 million for other wastewater treatment plants including Aldinga and Murray Bridge.

An additional \$590,000 has been spent on extensions and capital subdivision repayments for metro wastewater and recycled water connections.

Key water network and system growth projects include:

- Upgrades in Metro North Adelaide (Barossa System) – \$13.7 million.
- Upgrades to increase supply to the Murray Bridge and Monarto area – \$12.6 million.
- Increase capacity in the Yankalilla system – \$5.5 million.

Enabling growth (continued)



Service outcome for customers

- Increased demand for water and wastewater services is met.

Tea Tree Gully Sustainable Sewers Program

The Tea Tree Gully Sustainable Sewers Program will convert approximately 4,800 properties connected to the City of Tea Tree Gully's Community Wastewater Management System to our modern sewer system. This includes gravity mains, low-pressure systems, pump stations and associated rising mains. The Program is being delivered in stages, following the successful completion of two pilot projects. At the time of this report, 696 properties are now converted to our sewer network of which 381 were connected in 2023-24.

Kangaroo Island Desalination Plant

The Kangaroo Island desalination plant is expected to deliver its first waters in July 2024 with final handover of the plant expected in December 2024. Three large underwater pipelines were laid off the coast of Penneshaw to support the new facility. The 200-metre-long submerged pipelines will include two intake pipes that draw in seawater for treatment into safe, clean drinking water at the new, 2 million litre-per day-capacity desalination plant near Hog Bay Road.

The third outfall pipe returns saline concentrate from the desalination process to the ocean, in accordance with strict environmental guidelines.

The plant and its associated have been fully commissioned and is proposed to deliver water to new customers in December 2024. This includes providing water to the people living in American River, Island Beach, Baudin Beach and Sapphiretown.

Penneshaw's desalination plant will work alongside the existing nearby desalination facility and Middle River Water Treatment Plant to increase the security of Kangaroo Island's drinking water supply for future generations.

Eyre Peninsula Desalination Plant

In April 2023, the state government accepted SA Water's recommendation of Billy Lights Point, (the former BHP site) as the site for a desalination plant on Eyre Peninsula.

The initial plant with a capacity of 5.3GL/a will provide a new reliable, climate-independent source of drinking water, alleviating pressure on existing Uley South Basin groundwater sources and progressively the River Murray connection via the Lock to Iron Knob pipeline.

In March 2024, a select committee of the legislative council was established to inquire into and report on the water supply needs of the Eyre Peninsula, with a focus on the potential location of the desalination plant.

Subject to obtaining all required development approvals, construction of the plant is planned to begin early 2025, with first water to be delivered by mid-2026 to coincide with expected reduced bore field allocations.

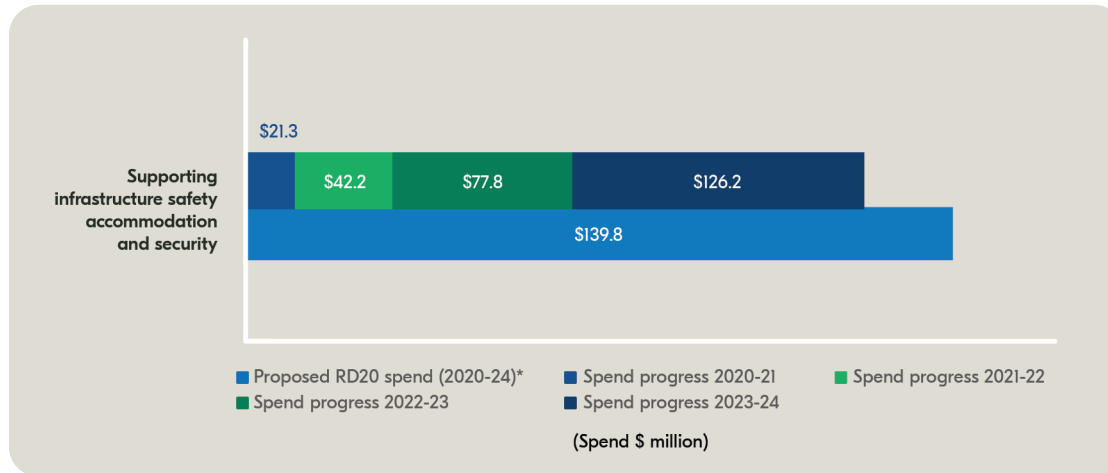
Once operational, the desalination plant will be able to produce 16 megalitres of safe, clean drinking water per day.

Operating our business



Service outcome for customers

- Safe and secure operation of our business.



*Adjusted for inflation.

The majority of our investment for this category in included costs relating to:

- safe access to water tanks, electrical equipment and workshops (\$14.7 million in 2023-24 and \$35.792 million over 4 years)
- purchasing major plant and equipment (\$7.1 million in 2023-24 and \$14.89 million over 4 years)
- replacing customers' damaged water meters (\$3.376 million in 2023-24 and \$11.175 over 4 years)
- upgrading work sites (\$6.648 million in 2023-24 and \$14.890 million over 4 years)
- supervisory control and data acquisition (SCADA) upgrades (\$6.87 million in 2023-24 and \$12.82 million over 4 years).



2020-2024 key highlights

At the completion of the RD20 period, we have successfully delivered the total spend allowed including Approved Carry-over (as per the 'Summary' Table - page 2) while managing a number of challenges including the River Murray Floods and Covid. During this period there were factors affecting delivery of projects which we addressed including sourcing supplies and labour, and associated cost escalations.

There will be some agreed carry over of expenditure from RD20 to the next regulatory period for projects including Morgan Whyalla Pipeline, Eyre Peninsula Desalination Project and Kangaroo Island Desalination Plant of \$75.8 million, and Northern Adelaide Irrigation System of \$17.9 million. This is due to reasons such as unforeseen project timing delays, external forces and latent conditions.

The 2020-24 regulatory period program has delivered hundreds of water and wastewater mains renewals and rehabilitation projects as part of the 4-year, \$1.7 billion investment. This program included both major and minor infrastructure augmentations, sourcing water from the River Murray, bores and other surface water resources. Our treatment plants deal with both water treatment and the complexities of wastewater management, supported by extensive pumping and piping networks across the state.

A few project highlights are outlined below.

Our regional desalination plants project, delivered by our John Holland Guidera O'Connor Joint Venture partners, won the South Australia Project of the Year award at the Engineering Australia Excellence Awards. The project addresses the challenge of delivering drinking water to the remote communities of Marla, Oodnadatta and Marree, requiring innovative solutions and meticulous planning. The positive impact on the communities underscores the real-world benefits of our engineering efforts, demonstrating how we address critical needs and improve daily life.

We successfully completed the installation of around 1,500 metres of water main along Waterport Road, Port Elliot, enhancing the capacity of the water network to provide greater security in the event of a pipe leak or break. This essential infrastructure upgrade reflects our ongoing commitment to supporting future growth and ensuring a reliable water supply for homes and businesses. The project was delivered on schedule, allowing for the timely reopening of this important thoroughfare which was a priority for the community.



Marla Desalination Plant

2020-2024 key highlights (continued)

The launch of the construction phase for the Bolivar Wastewater Treatment Plant Inlet Works upgrade is now underway, the project team has begun removing solids and debris from the influent at the inlet works. With a projected completion date for September 2025.

The Finger Point relining project in the state's South East successfully mitigated a leaking wastewater pipeline by relining a challenging section of pipe and using drone technology to monitor progress.

Bolivar Wastewater Treatment Plant upgrades

