



Status of major projects supplement

Outcomes report 2018-19

7 November 2019



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Overview to major projects in 2018-19

The commission's approved pricing determinations for the 2018-19 to 2022-23 pricing period included 169 major capital projects for the 16 urban retail water businesses, Southern Rural Water and Lower Murray Water - Rural. Melbourne Water's 15 major projects were included in the commission's approved pricing determination for its 2016-17 to 2020-21 pricing period.

Major project delivery is part of the package that customers pay for and is reflected in pricing. Each year, water businesses provide an update on the status of major project commitments made in their price submission. Table 1 summarises the status of each business's scheduled major projects after the first year of the pricing period for all businesses (except Melbourne Water which is on its third year).

Table 1 2018-19 summary of major projects scheduled for 2018–23

	No. major projects	Completed on time	Completed late	On-schedule	Cancelled	Deferred	Delayed
City West	10	1	0	7	0	0	2
South East	10	0	0	6	0	2	2
Yarra Valley	10	0	0	8	0	0	2
Barwon	10	0	0	4	0	4	2
Central Highlands	10	0	0	8	0	0	2
Coliban	10	0	0	9	0	0	1
East Gippsland	10	0	0	8	0	2	0
Gippsland	10	0	0	5	0	2	3
Goulburn Valley	10	0	0	5	0	3	2
GWMWater	12	0	0	7	0	0	5
Lower Murray – Urban	9	2	0	6	0	0	1
Lower Murray – Rural	5	1	0	1	0	0	3
North East	10	0	0	7	0	1	2
South Gippsland	9	1	0	6	0	2	0
Wannon	10	0	0	10	0	0	0
Western	5	1	0	3	0	0	1
Westernport	10	0	0	8	0	0	2
Southern Rural	9	1	0	6	0	2	0
Melbourne Water ¹	15	6	1	4	0	1	3
TOTAL	184	13	1	118	0	19	33

Of the 184 major projects listed in the pricing determinations, a total of 14 projects have already been completed at the end of the 2018-19 financial year, which is the first year of the 2018–23

¹ Note that Melbourne Water has a different regulatory period from the other businesses: Melbourne Water's regulatory period is from 1 July 2016 to 30 June 2021 and its projects for this period are shown in Table 1.

pricing period (noting seven of these were Melbourne Water, which is three years into its pricing period). A total of 52 projects have been reported as either delayed or deferred, with some of these projects expected to be completed in the next pricing period. Where a business has deferred major projects, we expect them to explain the impact on customers, including what it will do with the revenue included in pricing for those projects.

Melbourne Water has six projects completed on time, one project completed late and half of its remaining projects are on schedule.² Lower Murray Water – Urban has completed two projects on time, with most of its remaining projects on schedule. City West Water, South Gippsland Water and Southern Rural Water have all completed one project on time, with the majority of their remaining projects on schedule. Lower Murray Water – Rural and Western Water have both completed one project on time from a total of five projects each, with most of Lower Murray Water – Rural's remaining projects delayed and the majority of Western Water's remaining projects on schedule.

All ten of Wannon Water's projects are on schedule to be completed by 2021-22 or earlier. Coliban Water has nine out of ten projects on schedule with one project delayed. Yarra Valley Water, Central Highlands Water, East Gippsland Water and Westernport Water have eight of 10 projects on schedule with the remaining two either deferred or delayed. Most of South East Water, North East Water, Southern Rural Water and South Gippsland Water's projects are on schedule.

Barwon Water has reported six of its ten projects are either deferred or delayed, with three projects deferred into the next pricing period. Gippsland Water and Goulburn Valley Water both reported half of their projects either deferred or delayed, with Goulburn Valley Water already deferring three projects into the next pricing period and Gippsland Water having deferred one project into the next pricing period. GMMWater has five delayed projects, with the remaining seven of its projects on schedule.

So far, there have been no projects cancelled for this period.

Read all our 2018–19 water performance resources

Find all of our 2018-19 performance information at <https://www.esc.vic.gov.au/water/water-sector-performance-and-reporting>, including:

- our outcomes report comparing businesses' customer outcomes commitments with their actual performance
- this supplement discussing how water businesses are tracking on major project delivery

² Melbourne Water is in the third year of its regulatory period, whereas the other businesses are in the first year of the regulatory period.

Later this year we will also publish:

- our annual comparative performance report comparing the 16 urban water businesses across a range of standard key performance indicators and other measures, including water consumption, typical bills, and payment management processes
- water business profiles that provide a snapshot of each business's performance
- a summary of the data behind our tables and charts in the report.

Background

In their pricing submissions for the 2018–23 pricing period, water businesses included their proposed major capital investment projects that were to be progressed or completed during the period. Some of these projects commenced in the previous 2013–18 pricing period, but rolled-over to incur major capital expenditure in the 2018–23 period. The commission’s final pricing determination for each business included a scheduled list of these projects allowed for in pricing, along with the anticipated start and completion years.

Customers’ prices include recovering capital investment costs in accordance with this approved project schedule. Therefore, it is appropriate that water businesses explain delays or alterations to their project schedules, because approved funds will flow from pricing whether the expenditure is incurred or not, unless the water businesses lower their prices accordingly. Also, changes to project delivery schedules may materially impact the services received by customers.

This section tracks the businesses’ reported progress against their original project schedule as reflected in their price submissions and our pricing determinations.

The major project status categories are:

- on-schedule — no significant changes to the project start and end dates
- delayed — either the project start was delayed, or completion will be later than scheduled
- deferred — the business rescheduled the entire project, either within the current pricing period or into a future period
- cancelled — the project will not proceed in the foreseeable future
- completed on time — the project was completed in accordance with the original scheduled completion date (includes early completion)
- completed late — the project was completed within the period, but later than the original scheduled completion date.

Project details

Project delays

Project schedules can be delayed for a range of reasons, both internal and external to the water business. Projects might be delayed in the early stages for additional design or investigation work, or during construction due to unforeseen difficulties. External factors can be beyond the direct control of the water businesses, such as local government approvals or planning appeals, supplier issues, as well as weather impacts on construction.

Projects may also fall behind schedule simply because the project timeline is unrealistic, or is too tight with no allowance for any unforeseen delays.

Of the 33 projects listed as delayed this year, the reasons provided by the water businesses included:

- eleven projects were delayed due to undergoing further planning or design work or to meet construction and permit requirements
- five projects encountered ministerial, environmental or cultural heritage approval delays
- five projects were delayed due to a longer than expected tender process
- four projects were delayed as a result of changes or an expansion of the project scope
- two projects were delayed to undergo public consultation
- two projects were delayed due to interruptions from other concurrent or prerequisite works.

The remaining projects are just slightly behind schedule, and will likely be completed within one year of the original target completion date and all are scheduled to be completed within the current pricing period.

Project deferrals

Deferring or cancelling projects does not necessarily reflect poor project management, but may in fact show prudent investment decisions if priorities changed or the need for a particular project no longer exists. Water businesses may reinvest the available capital funds by bringing forward other pressing projects, or they may choose to return the unrequired funds to customers through lower prices. We expect businesses would engage with their customers to inform such decisions.

The water businesses identified the following reasons for deferring 19 of the 184 projects:

- eight projects were deferred to reallocate resources to deliver higher priority projects
- five projects required additional time for further planning or investigation into alternative solutions, or because an alternative solution had already been done

- three projects were deferred to complete related prerequisite or concurrent projects
- two projects were deferred due to a changed or expanded project scope
- one system upgrade project was deferred to align with the revision of the Australian Drinking Water Guidelines (2011).

So far, no projects listed for the current pricing period have been cancelled. However, eleven projects have already been deferred into the next pricing period. By way of comparison, water businesses deferred a total of 18 of 100 major projects scheduled for the 2013–18 pricing period to the 2018–23 pricing period or beyond, and three major projects were cancelled.

New projects for 2018–23

Water businesses commenced two new projects that were not previously outlined in the 2018–23 price determination:

- Coliban Water has a water treatment plant upgrade which is proceeding on schedule.
- Southern Rural Water has a Macalister Irrigation District Siphon replacement to ensure there is a reliable supply of water for customers, which is proceeding on schedule.

Carried over projects

As well as the scheduled major projects for the current pricing period, we also include uncompleted projects from the previous pricing period so they can be stewarded through to completion. A total of 22 major projects across 12 businesses have been carried over from the 2013–18 period. These projects were not specified in the price determinations for the 2018–23 period.³ Of these, eight have now been completed and six are due for completion by 2019-20. Three have now been deferred until the next pricing period, and one has been deferred longer term due to an alternative solution being found.

Table 2 provides details for each scheduled major project for each water business, including:

- a brief description or project name
- the original scheduled start and end years (as per the pricing determination)
- businesses' latest updates of the actual or expected start and end years
- an overall project status (on-schedule, delayed, deferred, cancelled or completed)
- general comments by the water business to explain any relevant details of the project and its current status.

³ Many major capital investment projects that were underway and mostly completed at the end of the 2013–18 pricing period had incurred much of the expenditure. The remaining expenditure to be incurred in the 2018–23 pricing period did not put the project into the water corporation's 'major project' category.

Table 2 also includes some projects from the 2013–18 pricing period that were not completed before the end of 2017-18, and were therefore carried over into the 2018–23 pricing period. We will monitor all major capital projects through to their conclusion.

Summary of Major Projects

Table 2 Summary of major projects by water corporation

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
City West Water						
West Werribee dual water supply scheme	Carried over	2016-17	2010-11	2018-19	Completed late	The project began delivery of potable water to customers in 2014 via the potable water network, and a blend of recycled water and potable water via the recycled water network in November 2016. The Salt Reduction Plant was commissioned in 2018-19 and has commenced delivering an alternative water supply to customers.
CBD sewerage strategy stage 1 (Spencer Street)	In progress	2018-19	2017-18	2018-19	Completed on time	Construction at the Spencer Street sewer commenced in 2017-18 and was completed in 2018-19 ahead of schedule and under budget. The Spencer Street sewer is an integral part of our CBD sewer network, and its upgrade has reduced the risk of sewer spills from this branch.
Nicholson Street (Carlton/Carlton North) water main Renewal	In progress	2019-20	2019-20	2020-21	Delayed	Detailed design work on the Nicholson street water main renewal is well progressed. We have undertaken extensive consultation with the community regarding alignment selection in Canning Street and is now expected to be completed by early 2020-21.
West Werribee sewage pump station upgrade	In progress	2019-20	2019-20	2020-21	Delayed	The detailed design for West Werribee sewage pump station including environmental and heritage approval and connection to the Western Trunk Sewer took longer than anticipated. Construction will commence on the upgrade in mid 2019-20 and completed in mid 2020-21.

Continued on next page

Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
City West Water (continued)						
Greek Hill water supply (Dohertys Rd, Derrimut Rd & Davis Rd mains and Melbourne-Geelong pipeline interconnection)	2018-19	2019-20	2018-19	2019-20	On schedule	All project components have been tendered in 2018-19 and will be completed in 2019-20. Minor change in scope as no road alignment is available for part of Dohertys Road, and some temporary works being constructed before permanent works are constructed in the future.
Greek Hill recycled water supply (Dohertys Rd, Derrimut Rd & Davis Rd mains)	2018-19	2019-20	2018-19	2019-20	On schedule	Recycled water components of the Greek Hill area will be laid in parallel to the potable water mains. Minor change in scope to part of the Dohertys Road section where no recycled water pipes will be installed until the permanent water works are constructed.
CBD sewerage strategy stage 2 (Lonsdale Street)	2018-19	2020-21	2018-19	2020-21	On schedule	Tendering of the Lonsdale Street sewer renewal commenced in 2018-19 and construction will commence in 2019-20 and be completed by 2020-21.
Mt Atkinson outlet sewer	2019-20	2020-21	2019-20	2020-21	On schedule	The Mt Atkinson outlet sewer works is currently undergoing design development with construction expected to commence in late 2019-20. We are co-ordinating the delivery of the works with Western Water and anticipate the asset to be commissioned in late 2020-21.
Billing and collection system replacement	2020-21	2022-23	2020-21	2022-23	On schedule	Investigations will commence in 2019-20 for the Billing and Collections solution.
Ravenhall outlet sewer	2020-21	2022-23	2019-20	2022-23	On schedule	The Ravenhall outlet sewer will be delivered in two stages. It will be partially delivered by developers over the next two years and the remainder by City West Water will be delivered in 2022-23.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
City West Water (continued)						
Tarneit West outlet sewer (section 1)	2020-21	2022-23	2020-21	2022-23	On schedule	The Tarneit West outlet sewer crosses the Werribee River and through major council parks. As such we will commence preliminary work on investigations, design and consultation with key stakeholders in 2019-20, with construction to commence the following year.
South East Water						
Boneo treatment plant capacity upgrade	Carried over	2016-17	2016-17	2018-19	Completed late	Interim works to defer the Boneo upgrade were completed.
Rye–Portsea backlog scheme	Carried over	Beyond 2017-18	2013-14	Ongoing	On schedule	Portsea, Sorrento, Blairgowrie, Rye and St Andrews Beach property connections are continuing beyond 2018 as originally planned. As at end of June 2019, around 5,200 properties have been connected to the network in the ECO Peninsula and Backlog regions.
Pakenham East sewer servicing	In progress	2019-20	2019-20	2020-21	Delayed	The Pakenham East Precinct Structure Plan (PSP) has been delayed and is awaiting Ministerial approval by late 2019. Once the PSP is approved the project will be tendered with completion anticipated in 2020-21.
Ballarto Road East sewer pump station	In progress	2019-20	2017-18	2019-20	On schedule	Construction was initially delayed due to the Cultural Heritage Management Plan. Works are now well progressed onsite and the project is on schedule to be completed by the end of 2019-20.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
South East Water (continued)						
Digital capability pilot	In progress	2019-20	2019-20	2020-21	Delayed	Our trial of digital meters in Melbourne's south east is in full deployment. We've installed 630 meters including 44 at employee properties. Based on this we've notified 41 customers about potential leaks in their home, booked 19 plumbing audits and fixed 36 leaks detected by the meters with 1,200 litres per hour being the largest leak detected. By the end of 2019, we're planning to install up to 3,500 digital meters and in 2020 trial an additional 10,000 meters.
Boneo water recycling plant upgrade	In progress	2020-21	2018-19	2020-21	On schedule	We received DTF business case approval for the Stage 4 upgrade of our Boneo Water Recycling Plant in 2017-18. EPA works approval were received in October 2018, followed by planning permit approval by Mornington Peninsula Shire Council in January 2019. The contract for the Stage 4 upgrade was awarded to the John Holland SUEZ Beca (JHSB) joint venture in September 2018. JHSB took operational and maintenance responsibility in February 2019. JHSB started construction in April 2019 including diversion of the incoming sewage rising mains and bulk earthworks. As of 30 June 2019, more than 60 per cent of design has been completed.
Land purchase	In progress	2021-22	2018-19	2021-22	On schedule	Several suitable options have been identified and negotiations are under way.
Water recycling plant drying pan and stockpile area upgrades	In progress	2022-23	2018-19	2022-23	On schedule	This project included CTCR (concrete treated crushed rock) lining of the drying pans and stockpile areas at Boneo, Mt. Martha, Somers, Pakenham and Blind Bight. Upgrade works are complete for Mt. Martha, Boneo and Blind Bight water recycling plants. Planning is underway for the outstanding upgrade works for Somers and Pakenham water recycling plants and expected to be delivered by 2022-23 financial year.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
South East Water (continued)						
Land purchase	In progress	2022-23	2018-19	2022-23	On schedule	A land procurement strategy for the regional treatment plant is under preparation and we are working with local government on adjacent land zoning to protect our future operations.
Hanna Street sewerage capacity improvements	2018-19	2021-22	2020-21	2021-22	On schedule	The business case is currently being developed with the aim of approval by early 2020. Engagement with Melbourne Water has commenced to address interface issues.
Elster Creek sewer catchment capacity improvement works	2018-19	2022-23	n/a	n/a	Deferred	<p>Planning investigations have progressed incorporating new rainfall standards which has reduced the scope of works required under a business as usual solution.</p> <p>Through the Price Submission review process we have made the decision that cost recovery of the Elster Creek and Clayton East & West Catchment Capacity Improvement Works will not be included in the 2018 Price Submission. A lower cost alternative will be sought. If the project is required cost recovery will start in the following regulatory period.</p>
Clayton East and West sewer catchment capacity improvement works	2020-21	2022-23	n/a	n/a	Deferred	<p>The planning project to apply new rainfall standards to the catchment and assess the required capacity will be progressed throughout 2019-20. This will be a joint study between South East Water and Yarra Valley Water as we share the catchment boundary.</p> <p>Through the Price Submission review process we made the decision that cost recovery of the Elster Creek and Clayton East & West Catchment Capacity Improvement Works will not be included in the 2018 Price Submission. A lower cost alternative will be sought. If the project is required cost recovery will start in the following regulatory period.</p>

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Yarra Valley Water						
Donvale sewerage project	Carried over	2015-16	2013-14	2019-20	Delayed	The project was delayed due to planning approval and construction being slower than expected due to rock and inconsistent ground conditions. The project is being delivered as four construction packages. Two have been completed - servicing 70% of properties in the area. The remaining two construction packages will be completed in 2019-20.
Kalkallo Creek BS – stage 1E	2018-19	2018-19	2018-19	2019-20	Delayed	The project was delayed due to a longer than planned tendering phase. The project is now progressing well and is due for completion in 2019-20.
Epping branch sewer To MCM – tunnel extension	2018-19	2019-20	2018-19	2019-20	On schedule	The project is well advanced and is expected to be completed on schedule in 2019-20.
Drinking water (DW) pumping station 610 Kalkallo pumping station augmentation (Mt Ridley to Bald Hill)	2018-19	2019-20	2019-20	2019-20	On schedule	The Project is currently in construction and is expected to be completed in 2019-20 on schedule.
Doreen pressure main sewage pumping station 651 to ELT49	2018-19	2020-21	2018-19	2020-21	On schedule	The Project is currently in construction and is expected to be completed on schedule in 2019-20.
Craigieburn flow storage and distribution – stage 2A tank3	2018-19	2020-21	2020-21	2022-23	Delayed	A change in the sequencing of connecting assets has delayed this project. The project is now scheduled to be completed in 2022-23.
Lockerbie main sewer	2018-19	2021-22	2019-20	2021-22	On schedule	The project is at tendering stage and the construction is anticipated to be completed on schedule in 2021-22.
CSA034A The Patch (West) – community sewerage program	2018-19	2023-24	2018-19	2023-24	On schedule	The project is currently in detailed design and on track to be completed on schedule in 2023-24.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Yarra Valley Water (continued)						
CSA032 Monbulk (Central) – community sewerage program	2018-19	2024-25	2017-18	2024-25	On schedule	The project is currently in detailed design and on track completed on schedule in 2024-25.
CSA033 Sherbrooke / Kallista (West) – community sewerage program	2018-19	2024-25	2018-19	2024-25	On schedule	The project is currently in detailed design and on track completed on schedule in 2024-25.
CSA030A Sassafras (East) – community sewerage program	2019-20	2024-25	2019-20	2024-25	On schedule	The Project is currently in functional design and on track completed on schedule in 2024-25.
Barwon Water						
Torquay West high level feeder main	Carried over	2013-14	2019-20	2025-26	Deferred	Deferred due to delays in the land use planning for this future growth area. Project to be completed in stages as development proceeds through growth area.
Black Rock water reclamation plant hydraulic capacity upgrade	Carried over	2015-16	2013-14	2019-20	Completed late	Completed later than scheduled due to modifications required to inlet screens.
Property realisation (Thornhill Rd Highton)	In progress	2018-19	2018-19	2019-20	Delayed	Delays experienced in 2018-19 due to council approval of engineering plans. Expected completion period is now 2019-20.
Colac water treatment plant clear water storage upgrade	In progress	2019-20	2018-19	2019-20	On schedule	Project progressing as per schedule with works due for completion in 2019-20.
Colac water reclamation plant sludge dewatering upgrade	In progress	2019-20	2019-20	2022-23	Deferred	Upgrade project was deferred to reallocate resources to deliver higher priority projects.
Property realisation (Scenic Rd Highton)	In progress	2020-21	2021-22	2022-23	Delayed	A delay has occurred relating to the purchase of ~4ha of Crown Land. The project timeline has been modified to reflect the delay.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Barwon Water (continued)						
Colac pipeline upgrade	In progress	2027-28	2022-23	2027-28	On schedule	Planning works progressing. Project on track for expected construction commencement in 2022-23.
Black Rock renewable energy project stage 2	2018-19	2019-20	2018-19	2019-20	On schedule	Project progressing as per schedule with works due for completion in 2019-20.
Gellibrand water treatment plant upgrade	2019-20	2021-22	2022-23	2026-27	Deferred	Upgrade project was deferred to reallocate resources to deliver higher priority projects.
Telemetry RTU PLC HMI hardware & software	2020-21	2021-22	2020-21	2021-22	On schedule	Planning works progressing. Project on track for expected commencement in 2020-21.
Forrest water treatment plant upgrade	2020-21	2022-23	2022-23	2027-28	Deferred	Upgrade project was deferred to reallocate resources to deliver higher priority projects.
Black Rock water reclamation plant effluent storage	2021-22	2023-24	2024-25	2026-27	Deferred	Modifying existing infrastructure in 2018-19 avoided the need for storage. Detailed modelling identified that by modifying the decant channel the need for storage would be mitigated. The project has been deferred indefinitely.
Central Highlands Water						
Ballarat South wastewater treatment plant lagoon pipeline upgrade	In progress	2018-19	2018-19	2019-20	Delayed	This project was delayed due to design changes to cater for growth and compliance needs. The tender process has closed with expected project completion prior to June 2020.
Evansford raw water pipeline renewal	In progress	2018-19	2018-19	2019-20	Delayed	In construction – all open trenching complete with expected completion October 2019. Construction start delayed due to Cultural Heritage and Environmental approvals.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Central Highlands Water (continued)						
Fellmongers siphon replacement	In progress	2019-20	2018-19	2019-20	On schedule	Commissioning planned for July 2019.
Daylesford water supply upgrade	In progress	2020-21	2018-19	2020-21	On schedule	Currently working on planning approvals and land acquisition needs.
Ballan wastewater treatment plant – increase in recycled water winter storage capacity	In progress	2020-21	2018-19	2019-20	On schedule	In construction and expected completion February 2020.
Ballarat South outfall sewer duplication	In progress	2022-23	2018-19	2022-23	On schedule	Investigations, approvals and design underway.
Ballarat South wastewater treatment plant inlet works upgrade	2018-19	2020-21	2018-19	2020-21	On schedule	Concept design nearing completion.
Ring Road trunk water main duplication	2018-19	2022-23	2018-19	2022-23	On schedule	Concept design nearing completion.
Maryborough wastewater reuse scheme improvements	2019-20	2020-21	2019-20	2020-21	On schedule	Site/land area investigations commenced.
Ballarat East sewer duplication and flow storage	2019-20	2022-23	2019-20	2022-23	On schedule	Options and preliminary design work underway.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Coliban Water						
Heathcote backlog sewerage	Carried over	2014-15	2018-19	2019-20	Delayed	The project is being delivered as a design and construct project under 4 separable portions. Construction commenced in September 2018 and has been progressing steadily following some delays in the early stages of the project due to design, approvals and a latent condition at one of the creek crossings. Works are scheduled for completion in November 2019.
Echuca and Cohuna water treatment plant upgrades	Carried over	2015-16	n/a	n/a	Cancelled	These scheduled works were for PAC dosing at each plant. Recent feedback from customers has demonstrated a good level of satisfaction with water quality in both systems, so these works may not be required. Deferral of this project resulted in approximately \$1.7M capital expenditure being available for other projects during WP3.
Digital customer metering	2018-19	2022-23	2018-19	2021-22	On schedule	The Digital Customer metering program has been implemented in stage 1 towns including Trentham, Mysia, Korong Vale, Borung, Whychitella, and Wedderburn. Stage 2 has commenced with installation in Rochester and Boort underway. We anticipate completion of the rollout ahead of the original schedule.
Western Bendigo water network growth and pressure	2018-19	2021-22	2018-19	2021-22	On schedule	Capital works commenced on schedule in 2018-19. Design works for storages are advanced and will be tendered late 2019 to allow delivery to commence mid-2020. Design of water mains commenced in July 2019 as part of a package of works including water mains in Marong, Maiden Gully, Strathfieldsaye and Huntly. Tendering to be scheduled to allow delivery to commence during 2020-21.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Coliban Water (continued)						
Strathfieldsaye water network augmentation	2018-19	2021-22	2018-19	2022-23	Delayed	<p>Capital works commenced on schedule in 2018-19.</p> <p>Concept design works for storages has been developed. Storages will be delivered as stage 3 of a tank delivery program and are scheduled to commence in 2021-22 with completion in 2022-23.</p> <p>As detailed above (Western Bendigo water network growth and pressure) design of water mains commenced in July 2019 with tendering to be scheduled to allow delivery to commence during 2020-21.</p>
Kyneton water reclamation plant lagoon compliance works	2018-19	2021-22	2018-19	2021-22	On schedule	Capital works are progressing on schedule.
Heathcote water reclamation plant compliance	2018-19	2021-22	2018-19	2021-22	On schedule	<p>Initial works have focussed on the reduction of waste water from Heathcote water treatment plant. This work is scheduled for completion in Dec 2019.</p> <p>Further stages of work will be undertaken based upon the success of the initial works.</p>
Echuca water treatment plant security of supply	2018-19	2022-23	2018-19	2022-23	On schedule	This project has been combined with a number of other Echuca WTP upgrade projects scheduled for the PS18 regulatory period to drive innovation and delivery efficiencies. Design works for this project are advanced. A small enabling works package has been tendered. The main contract to be tendered in Sep 2019, with construction commencing in March 2020. Works for the entire project are scheduled for completion in 2022-23.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Coliban Water (continued)						
Echuca West tank	2019-20	2021-22	2018-19	2020-21	On schedule	Design works for storages are advanced and will be tendered late 2019 to allow delivery to commence mid 2020.
Castlemaine water reclamation plant sludge handling upgrades	2020-21	2022-23	2020-21	2022-23	On schedule	Design works scheduled to commence in 2020-21.
Epsom Huntly water main augmentation	2020-21	2022-23	2019-20	2022-23	On schedule	As detailed above (Western Bendigo water network growth and pressure) design of water mains commenced in July 2019 with tendering to be scheduled to allow delivery to commence during 2022-23.
Bendigo water reclamation plant sludge processing upgrades	2020-21	2023-24	2020-21	2023-24	On schedule	Design works scheduled to commence in 2020-21.
Heathcote WTP upgrades ***NEW PROJECT***	2018-19	2019-20	2018-19	2019-20	On schedule	\$4.8M project to deliver upgrades to disinfection system and other required capital works. Project is amalgamation of three smaller related projects.

Continued on next page

Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
East Gippsland Water						
Paynesville main supply pipeline (stage 2)	Carried over	2015-16	2017-18	2025-26	Cancelled	This project was deferred pending a condition assessment to ensure a targeted approach to replacement. Following the condition assessment it has been re-scoped and rescheduled under the project listed below 'Bairnsdale to Eagle Point main supply pipeline renewal'.
Bairnsdale wastewater treatment plant upgrade	Carried over	2017-18	2014-15	2018-19	Completed late	This project is now complete. Main components of this upgrade include digester refurbishment, combined heat and power unit, gas storage unit and a head-of-plant flow balancing tank which was commissioned in 2018-19. The new 1.3ML tank will improve plant process performance (environmental outcome) and overall efficiency (reduce operating costs). The project was completed over budget..
Sarsfield clear water storage augmentation	In progress	2019-20	2017-18	2019-20	On schedule	Construction of a new six mega litre tank is in progress and is on track for completion in the 2019-20 financial year.
Upgrade main supply pipeline (Sarsfield to Johnsonville)	In progress	2020-21	2017-18	2019-20	On schedule	Construction of pipeline upgrades commenced in 2018-19 and is on track for completion in 2019-20
Lakes Entrance wastewater treatment plant odour management	2018-19	2019-20	2017-18	2021-22	Deferred	Stage 1 of this project was completed in 2018-19. Stage 2 has been deferred due to the need to complete some additional odour monitoring to inform design standards.
Wy Yung clear water storage	2018-19	2020-21	2017-18	2020-21	On schedule	Design of 36ML reinforced concrete tank is complete and tender process underway. Construction is on schedule to commence in 2019-20 financial year.

Continued on next page

Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
East Gippsland Water (continued)						
Dinner Plain recycled water storage augmentation	2019-20	2020-21	2017-18	2021-22	Deferred	Design of 14ML new winter storage basin is in progress. Construction has been deferred to enable the completion of some sewer network infiltration rectification works. These works may reduce the volume of winter storage required.
Paynesville recycled water storage and irrigation augmentation	2020-21	2022-23	2018-19	2022-23	On schedule	Functional design commenced to increase winter storage capacity and increase irrigation capacity.
Bairnsdale to Eagle Point main supply pipeline renewal	2020-21	2022-23	2017-18	2022-23	On schedule	Detail design has commenced.
Mallacoota clear water storage	2020-21	2022-23	2018-19	2022-23	On schedule	Functional design commenced.
Lindenow storage water quality improvement	2020-21	2022-23	2019-20	2022-23	On schedule	Functional design of new 1ML tank to commence in 2019-20
Woodglen raw water storage—dam safety upgrades	2021-22	2023-24	2018-19	2022-23	On schedule	Detailed design complete.

Continued on next page

Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Gippsland Water						
Sale sewer – outfall sewer pump station	In progress	2019-20	In progress	2019-20	On schedule	Construction works has commenced on the project and is progressing to schedule.
Drouin sewer – new wastewater treatment plant	In progress	2021-22	In progress	2022-23	Delayed	The Drouin WWTP Upgrade project has progressed from Phase 4 Detailed Design and Procurement Strategy to Phase 5 Procure Tender Process. The project has undergone a revised business case, approved by the Minister and is now scheduled for completion 2022-23.
Moe water – treatment plant basin liner and cover replacement	2018-19	2018-19	2020-21	2021-22	Delayed	Changes to the strategy to manage operational risks associated with this project has resulted in a delay. The project is scheduled to be completed in current price submission period.
Mirboo north water – rising main replacement	2018-19	2019-20	2018-19	2019-20	On schedule	Tendering process underway. Project is progressing and on schedule.
Coongulla water – interconnect to Heyfield	2018-19	2020-21	2018-19	2021-22	Delayed	Detailed design is well progressed and the project is scheduled to be completed in current price submission period.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Gippsland Water (continued)						
Sale sewer – convert sewer pump station no. 2 to underground facility	2019-20	2021-22	2021-22	2022-23	Deferred	Project timing re-scheduled following prioritisation of capital program. The project is scheduled to be completed in current price submission period.
Warragul water – Western Ring main to South Basin	2019-20	2022-23	2019-20	2022-23	On schedule	Functional Design well underway. Project is on schedule.
Warragul sewer – North East branch augmentation (to Sutton Street)	2019-20	2022-23	2019-20	2022-23	On schedule	Project is on schedule with conceptual design underway.
Saline waste outfall pipeline – stages 4 and 5 upgrade	2021-22	2022-23	2021-22	2023-24	Deferred	Project timing re-scheduled following prioritisation of capital program. A review of the operational asset requirements for this project to commence in 2019-20.
Churchill water – sanders treated water basin liner and cover replacement	2021-22	2022-23	2021-22	2022-23	On schedule	Conceptual Design commencing in 2019-20. Project is on schedule.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Goulburn Valley Water						
Mansfield wastewater management facility additional winter storage	Carried over	2020-21	2015-16	2023-24	Deferred	This project started in Pricing Period 3 as a winter storage and irrigation upgrade project. The project option has changed to an alternate innovative solution for environmental offsets. Current timing is based on an updated assessment of when plant capacity will be exceeded by growth. Note that the project name and scheduled dates have been updated to reflect the above points.
Shepparton wastewater management facility high rate anaerobic lagoon cover replacement	2016-17	2020-21	2016-17	2021-22	Delayed	Majority of project capital expenditure is scheduled for 2019-20 to meet anticipated contract commitments (lagoon cover materials). Project rescheduled for completion in 2021-22 on advice from tenderers regarding lead times for materials; and time required to carry out project risk mitigation activities.
Shepparton outfall rising main replacement	2017-18	2019-20	2017-18	2020-21	Delayed	Successful project outcomes are reliant on delivery of other works to install new isolation valves at Sewer Pump Station 05 which has delayed the start of construction. Works are expected to be substantially completed in 2019-20, with the defects liability period to extend into 2020-21.
Broadford water treatment plant upgrade	2017-18	2020-21	2017-18	2024-25	Deferred	Project works will now be competed over an extended period. A new storage will be constructed first which enables WTP upgrade works to be deferred to completion in 2024-25.

Continued on next page

Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Goulburn Valley Water (continued)						
Shepparton raw water pump station augmentation	2017-18	2021-22	2017-18	2020-21	On schedule	The project is on schedule and due for completion in 2020-21
Kilmore wastewater management facility offsets	2017-18	2021-22	2017-18	2020-21	On schedule	The project is on schedule and due for completion in 2020-21
Climate change mitigation strategy	2017-18	2023-24	2017-18	2023-24	On schedule	The project is on schedule and due for completion in 2023-24
Digital enablement strategy	2017-18	2024-25	2018-19	2023-24	On schedule	Some resourcing delays may impact internal project milestones throughout the life of the project; however, the expected completion date of 2023/24 is not affected.
Seymour sewer pump station no.1 rising main replacement	2019-20	2020-21	2023-24	2024-25	Deferred	Deferred based on review of asset condition to allow higher priority project works to be completed in 2019-20. Construction not scheduled to commence until 2023-24
Nathalia treated water pipeline	2020-21	2023-24	2023-24	2026-27	Deferred	Deferred based on implementation of short term works to address risks. Construction not scheduled to commence until 2023-24
Replacement of Abbinga reservoir	2021-22	2022-23	2017-18	2020-21	On schedule	Project is scheduled to finish ahead of original schedule. The project was brought forward to improve an existing shortfall in water supply reliability earlier than originally programmed.

Continued on next page

Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
GWMWater						
South West Loddon Rural Water Supply Project	2016-17	2018-19	2016-17	2019-20	Delayed	Project completion delayed due to delays experienced with planning and environmental approvals earlier in the project. Pipeline construction and pipe fittings installation is close to completion. Pump station construction and pipe pressure testing due for completion in early 2019-20. Scheduled final network commissioning and project completion is currently forecast for September 2019.
Mallee Towns Drinking Water Project – Brim, Beulah, Woomelang and Sea Lake	2017-18	2018-19	2017-18	2019-20	Delayed	The Mallee Towns Drinking Water Supply projects was delayed due to a combination of delays in obtaining planning permits and pipe manufacturing constraints. Pipeline construction from Warracknabeal Water Treatment Plant to Sea Lake and facility works were completed during 2018-19. System commissioning was completed in late May 2019. Gazettal of the towns as a drinking water supply is expected early August 2019.
Sewerage scheme – Goroke	2018-19	2018-19	2018-19	2019-20	Delayed	The Goroke Sewerage Project has been delayed due to delays in procuring a suitable design consultant and an extended period for engagement with project stakeholders including a Consultative Committee, residents, West Wimmera Shire Council (WWSC) and the EPA. This consultation is on-going and currently focused on the location of the Wastewater Treatment Plant. A review of treatment plant options and preparation of a functional design was completed in 2018-19. Construction works planned for delivery in 2019-20
Urban remote metering and customer portal	2018-19	2019-20	2018-19	2019-20	On schedule	Meter replacements have commenced and are on schedule for completion in 2019-20. GWMWater's Customer Portal will be extended and made available to Urban customers during 2019-20.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
GWMWater (continued)						
East Grampians Rural Water Supply Project – Stage 1 Funding	2018-19	2020-21	2018-19	2020-21	On schedule	<p>Procurement and planning processes commenced during 2018-19. The Victorian Minister for Planning formally accepted GWMWater’s referral of the project under the <i>Environmental Effects Act 1978</i> (EEA) and tender documents were publicly released on 28 June 2019.</p> <p>A Community Consultative Committee has been established to support the Project Steering Committee particularly in relation to landowner consultation activities associated with the process for connecting and planning of the scheme.</p>
Water treatment plant upgrades – health based treatment targets	2018-19	2020-21	2018-19	2021-22	Delayed	Project timing dependent on outcome of review of Murray River water quality management options which commenced in June 2019. Further investigation and planning to be undertaken in 2019-20. Completion of construction works currently scheduled for 2021-22.
Treated water supply – Ultima	2019-20	2019-20	2019-20	2020-21	Delayed	Project completion expected to carry over to 2020-21. The planning and delivery of the Ultima Water Quality Upgrade has been reprogrammed to occur over two years to enable thorough investigation of options and engagement with stakeholders.
Upgrade wastewater treatment plant & reuse system – Donald	2019-20	2020-21	2019-20	2020-21	On schedule	Project planning and design commencing in 2019-20 for completion in 2020-21.
Treated water supply – Kaniva	2020-21	2020-21	2020-21	2020-21	On schedule	Project not yet started. Project planning to commence later in 2019-20.

Continued on next page

Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
GWMWater (continued)						
Development servicing – pressure improvements commercial and industrial – fire services	2020-21	2021-22	2018-19	2021-22	On schedule	Water pressure in Horsham was increased during 2018-19 impacting the performance of infrastructure as anticipated. The impact of increasing pressure to support fire services has resulted in the advance of renewal of infrastructure in Horsham. Further renewals and upgrades across Horsham, Stawell and Ararat are expected over the next couple of years.
Dam safety works – Lake Fyans	2021-22	2021-22	2021-22	2021-22	On schedule	Project not due to commence until 2021-22.
Treated water supply – Moyston and Elmhurst	2022-23	2022-23	2021-22	2022-23	On schedule	Project planning due to commence late 2021-22.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Lower Murray Water – Urban						
WTP water quality improvements	Carried over	2016-17	2011-12	2018-19	Completed late	This is a program of works across several water treatment plants, which began in 2011-12 and has been undertaken progressively over the 2013–18 pricing period. Robinvale WTP was completed in 2011 12. Mildura 7th Street WTP was completed in June 2015. Swan Hill WTP was completed in 2016. Murrabit WTP was completed in 2018. Koondrook WTP was completed in 2018. The Kerang WTP was the last project in Southern Region to be completed. The other three (3) plants were upgraded sequentially to assist with constraints on internal resourcing from Northern and Southern regions and this delayed completion into 2019. Outcomes – reliability, improved control, plant resilience in poor raw water quality events. Improved efficiency – remote control rather than the need to be at plant to control.
WTP PLC replacement	Carried over	2016-17	2011-12	2018-19	Completed late	This is a program of works to be conducted in parallel with the WTP water quality improvements project, following the same timeline as described above. Outcomes – as above.
Kerang replace treated water pump station	2018-19	2018-19	2017-18	2018-19	Completed on time	This project provides new infrastructure to ensure the supply of potable water to the township of Kerang.
Merbein wastewater treatment plant divert to Koorlong	2018-19	2018-19	2018-19	2019-20	Delayed	This project has commenced with construction continuing into 2019-20. The decommissioning of the Merbein wastewater treatment plant will occur post diversion works are commissioned. Project delayed due to scope changes and budget considerations.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Lower Murray Water – Urban (continued)						
Swan Hill – replace wastewater treatment plant rising main stage 2	2018-19	2018-19	2018-19	2018-19	Completed on time	Replaced the final section of sewer rising main to the WWTP reducing the risk of breaks and associated operational outages and environmental impacts
Koorlong – wastewater treatment plant construct 400 ML wet weather storage no 1	2018-19	2019-20	2018-19	2019-20	On schedule	Investigations and designs are complete with the storage to be open tendered in the near future to enable construction by mid-2020.
All sites – ultraviolet treatment plants	2018-19	2022-23	2018-19	2022-23	On schedule	Works are currently proceeding with UV installation on four of LMW's Water Treatment Plants. A multiple contract approach will occur for future UV installations as LMW's WTP's.
Koorlong – wastewater treatment plant upgrade to clear supervisory control and data acquisition	2019-20	2021-22	2019-20	2021-22	On schedule	Development works scheduled later in the year
Swan Hill DN450 Truck main Arnoldt/Stratbroke (1,245 m)	2020-21	2020-21	2019-20	2020-21	On schedule	Design works commenced.
Swan Hill – North water treatment plant 6 ML ground level storage	2020-21	2020-21	2019-20	2020-21	On schedule	Design works commenced.
Swan Hill – North water treatment plant treated water pump station (stage 1)	2020-21	2020-21	2019-20	2020-21	On schedule	Design works commenced.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Lower Murray Water – Rural						
Mildura central pump station replace manifold/rising main	2018-19	2018-19	2018-19	2019-20	Delayed	Works are currently underway and will be completed by end of August 2019. Project required substantial outage of irrigation supply and this required works to be scheduled over Winter 2019.
Millewa replace river pump station	2018-19	2018-19	2018-19	2019-20	Delayed	Design and investigations commenced. Construction phase requires MDBA funding which has been sought and we are currently awaiting approval
Red Cliffs main pump station upgrade to clear supervisory control and data acquisition	2018-19	2018-19	2018-19	2019-20	Delayed	Works are currently underway and will be completed by end of August 2019. Project required substantial outages of irrigation supply and this required works to be scheduled over Winter 2019.
Robinvale – HPPS 100 kilowatt solar photovoltaic pilot	2018-19	2018-19	2018-19	2018-19	Completed on time	Completed and generating solar power since March 2019.
Millewa upgrade to clear supervisory control and data acquisition	2019-20	2020-21	2019-20	2020-21	On schedule	Development works scheduled later in the year.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
North East Water						
Yackandandah reclaimed water management	Carried over	2016-17	2018-19	2019-20	Deferred	This project has commenced. The EPA has approved a change in the discharge licence, North East Water will complete this project in 2019-20.
Wangaratta wastewater treatment stage 1 upgrade	Carried over	2017-18	2014-15	2019-20	Delayed	This project is now advanced and will be completed in 2019-20.
Beechworth wastewater system upgrade	2018-19	2019-20	2018-19	2020-21	Delayed	The scope of the project has been expanded to increase the plants chemical load capacity to accommodate recent significant growth in wet industry within the catchment area, and hence will take longer than originally scheduled. This project has reached the detailed design stage
Wodonga wastewater treatment plant capacity & emissions reduction	2018-19	2021-22	2020-21	2022-23	Delayed	Potential significant scope change. A number of Wodonga based industrial customers, RDV and specialist consultants are exploring alternative options to offset rising energy costs and achieve sustainability targets. Study work is progressing to provide each party with an informed understanding of strategic options potentially available to meet their respective business commitments. As such the assumed most likely option for this project may not be progressed.
Region-wide digital business sustainability	2018-19	2021-22	2018-19	2021-22	On schedule	Project commenced and on schedule.
Wodonga wastewater treatment plant solar power	2018-19	2022-23	2018-19	2022-23	On schedule	Project reached the Full Systems Definition stage and is pending approvals form electrical regulator.
Region-wide information and communications technology infrastructure	2018-19	2027-28	2018-19	2027-28	On schedule	Project commenced and on schedule.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
North East Water (continued)						
Benalla water distribution upgrade	2019-20	2020-21	2019-20	2020-21	On schedule	Project expected to commence on schedule in 2019-20
Wodonga sewerage transfer capacity	2019-20	2022-23	2021-22	2024-25	Deferred	Program reprioritisation sees this project rescheduled.
Wodonga wastewater treatment plant major upgrade	2020-21	2024-25	2019-20	2024-25	On schedule	Early start for this complex project to manage risks associated with delivery timeframes.
Benalla wastewater treatment plant upgrade	2023-24	2025-26	2019-20	2025-26	On schedule	Early start for this complex project to manage risks associated with delivery timeframes.
Wangaratta water distribution	2023-24	2025-26	2023-24	2025-26	On schedule	Preliminary system review has commenced.
South Gippsland Water						
Foster wastewater treatment plant — rising main pipeline and storage	Carried over	2017-18	2023-24	2023-24	Deferred	A reuse scheme has been completed and a minor treatment plant upgrade is currently underway and will be completed in 2019. This work has allowed the original project to be deferred to 2023-24.
Lance Creek water connection project	2018-19	2018-19	2016-17	2018-19	Completed on time	This contract received funding in the 2016-17 State Budget, later than originally anticipated. The project has now been completed before the completion date specified in the funding agreement and within budget. Customers in the connected towns are now benefiting from a more secure water supply with fewer restrictions forecast. The project has also help improve taste and odour of drinking water delivered to customers.
Sewer system major renewal item	2018-19	2019-20	2018-19	2019-20	On schedule	Project is under construction and on track for completion in 2019-20

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
South Gippsland Water (continued)						
Wonthaggi wastewater treatment plant inlet pump station renewal	2018-19	2019-20	2018-19	2019-20	On schedule	Project is under construction and on track for completion in 2019-20
Fish Creek treated water distribution main renewal	2018-19	2022-23	2019-20	2027-28	Deferred	Project scope and schedule changed in 2018-19
Sewer system expansion (Wonthaggi) mains	2018-19	2026-27	2018-19	2026-27	On schedule	Project is under construction
Water treatment plant disinfection upgrade projects	2018-19	2026-27	2018-19	2026-27	On schedule	Disinfection upgrades at water treatment plants are occurring in two phases. The first will be completed in 2019-20 and the second phase later in Regulatory Period 5.
Carbon emission reduction upgrades	2018-19	2027-28	2018-19	2023-24	On schedule	Installation of behind the meter solar installations in three phases. The first is complete, the second due for completion in 2019-20 and the third due to be completed in 2023-24. The projects will help meet South Gippsland Water's obligations to reduce greenhouse gas emissions.
Leongatha raw water transfer main renewal	2019-20	2021-22	2019-20	2027-28	Deferred	Project scope and schedule changed in 2018-19
Sewer system expansion (Inverloch) sewer pump station	2019-20	2027-28	2019-20	2021-22	On schedule	Upgrade of three sewer pump stations in Inverloch

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Wannon Water						
Cobden and Casterton water reclamation plant irrigation works	Carried over	2017-18	2014-15	2018-19	Completed late	<p>Wannon Water has prevented the need for significant works and expenditure on additional winter storages at these sites. An amended discharge licence was applied for and has been received for Cobden WRP. The application and approval process took longer than expected. No further works are required at either site.</p> <p>Outcomes – increased environmental water flows</p>
Portland reclamation plant wind energy project	Carried over	2015-16	2014-15	2019-20	Delayed	<p>This major project is expected to deliver a significant reduction in energy costs at the site. The project experienced a number of delays in relation to the negotiation of commercial terms with the turbine supplier, as well as some delays associated with electrical connectivity into the power grid. The wind turbine was erected on site during May 2019. Connection to the power grid is scheduled for 9th August 2019, which will effectively bring this project to a close.</p>
Hamilton – new biosolids drying area	2018-19	2019-20	2018-19	2019-20	On schedule	<p>Design was completed and construction commenced on site in 2018-19. Project is 80% complete and the new biosolids drying area is on track for completion in 2019-20.</p>
New clear water storage for Hamilton water treatment plant	2018-19	2019-20	2018-19	2019-20	On schedule	<p>Design commenced in 2018-19 and construction of a new clear water storage tank is planned for 2019-20.</p>
Warrnambool – water reclamation plant augmentation project	2018-19	2021-22	2018-19	2021-22	On schedule	<p>Progress on Wannon Water's largest ever capital project to upgrade Warrnambool WRP is on schedule. Detailed design commenced in 2018-19. Tendering and approval stages are expected to occur in 2019-20, followed by construction in the 2020-21 and 2021-22 years.</p>

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Wannon Water (continued)						
Warrnambool – Wangoom Road water tower and pump station	2018-19	2021-22	2018-19	2021-22	On schedule	Design commenced in 2018-19, and construction of a new water tower and pump station is planned for 2021-22.
Substitution works to improve summer flows in Gellibrand River	2018-19	2021-22	2018-19	2021-22	On schedule	Project study and design phase is underway. Completion of works will be dependent on matching external funding.
Camperdown – refurbish Camperdown biosolids facility	2019-20	2020-21	2018/19	2020-21	On schedule	Design and approvals are underway. Construction of the refurbished biosolids drying facility is planned to commence in 2019-20 for completion in 2020-21.
Warrnambool water treatment plant – install ultraviolet	2019-20	2020-21	2019-20	2020-21	On schedule	Design will commence in 2019-20, with installation of UV equipment planned for 2020-21.
Warrnambool – Wollaston Road Tower and water pump station	2019-20	2020-21	2019-20	2020-21	On schedule	This project is not funded within the Wannon Water’s current Price Submission period. Concept design and community consultation stages only are planned to occur by 2020-21. Delivery of infrastructure will be deferred to a future Price Submission period, or will be funded by Wannon Water at the back end of the current Price Submission period.
Hamilton water reclamation plant – effluent reuse upgrade	2019-20	2020-21	2018-19	2020-21	On schedule	Design and approvals are underway. Construction of infrastructure to upgrade the effluent reuse options at Hamilton WRP are planned to commence in 2019-20 for completion in 2020-21.
Port Campbell – second bore	2020-21	2021-22	2019-20	2021-22	On schedule	Design and approvals were brought forward to 2019-20 to facilitate construction of a new bore in 2021-22.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Western Water						
Surbiton Park RWP upgrade (digester)	Carried over	2014-15	2013-14	2018-19	Completed late	Contract awarded in September 2016. Project completion delayed due to delays in slow contract progression from the Contractor. Contractual liquidated damages applied to account for the contract completion delay. Construction works have reached contract completion and the new digester is operational.
Sunbury additional water storage — Bald Hill tank	Carried over	2016-17	2013-14	2022-23	Deferred	Land acquisition and construction was previously deferred due to Fair Water Bills and slower growth. Latest planning horizon indicates the additional water storages at Bald Hill are required by 2022-23. The owner of the preferred land site has price expectations higher than the Valuer-Generals land valuation. Documentation relating to the compulsory acquisition of the site is proceeding, and design and construction will commence once the acquisition is finalised.
Bacchus Marsh rising main	Carried over	2017-18	2018-19	2035-36	Deferred	This project is to provide some redundancy and capacity increase of a critical asset. The project was deferred to the next pricing period. Testing found the existing main was in better condition than expected with air valves installed on the existing main to address air entrainment issues which caused the historical inefficiencies. Additional air valves are being installed shortly to further remove air entrapment. This is expected to further increase the flow rate from the pump station. If this work is successful, the upgrade of this rising main can be deferred until 2035.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Western Water (continued)						
Bacchus Marsh sewer rising main Geelong Road	Carried over	2017-18	2016-17	2019-20	Delayed	This Project forms part of the wider Bacchus Marsh sewage servicing strategy to cater for the growth in Maddingley, south west of Bacchus Marsh. The detailed design is completed and a Cultural Heritage Management Plan (CHMP) of the rising main is currently with the Registered Aboriginal Party (RAP) for review/approval. The project will proceed to tender in late 2018 with construction expected to be awarded in early 2019. Due to the extensive project delays encountered as part of the CHMP approval process, construction funds were reallocated to 2019-20.
Melton Recycled Water Plant - additional onsite storage	2018-19	2020-21	2019-20	2020-21	On schedule	This project addresses EPA compliance requirements after June 2022, by installing an additional 1.0 GL of on-site storage at the recycled water plant. Draft Detailed Design is completed, and tender documentation is being developed. Tender expected to be released to the market by mid 2019-20.
Bacchus Marsh recycled water plant to Melton recycled water plant interconnector	2018-19	2020-21	2019-20	2020-21	On schedule	This project connects the Melton and Bacchus Marsh recycled water plants to allow recycled water to be transferred between the sites to meet customer demand needs and enable the best use of the onsite storages. Planning and Statutory approvals are being sought –with some delay to the completion of the Cultural Heritage Management Plan (CHMP) due to findings at the Werribee River. The detailed design of pipeline is currently underway.
Grant Street sewer pump station, Bacchus Marsh	2018-19	2020-21	2018-19	2020-21	On schedule	After initial delays with approvals, this project is now on schedule with construction to commence in 2019-20.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Western Water (continued)						
Melton South Exford Road sewer pump station/rising main/ sewer	2018-19	2020-21	2018-19	2021-22	Delayed	This project caters for growth in Melton South facilitating the construction of a new sewer pump station and rising main. Discussion for the purchase of the pump station site is commencing with the land owner. The detailed design is currently being updated for business case approval with the site configuration changing from original design to improve accessibility for maintenance. Delivery of the Sewer Pump Station and rising Main has been delayed to match in with slow-down of lots released within the Toolern development. Development currently serviced by a temporary pump station until the permanent pump station and rising main are triggered. Construction is expected to commence in 2020-21.
Sunbury recycled water plant upgrade	2018-19	2022-23	2018-19	2018-19	Completed on time	The official opening of the upgraded Sunbury Recycled Water Plant took place in June 2019. The \$53 million government funded upgrade is the largest capital works project in Western Water's history.
Westernport Water						
Business transformation project	2018-19	2019-20	2019-20	2020-21	Delayed	This project includes renewing Westernport Water's Billing, Finance, Payroll and HRIS ICT systems. Contracts have been awarded for the supply and implementation of the above systems, with the exception of Billing. Due to the extensive procurement process, the project start date has been delayed.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Westernport Water (continued)						
Building asset management plan – stage 3	2018-19	2019-20	2018-19	2019-20	On schedule	This project includes the upgrade of existing warehousing and workshop with a focus on safety and reducing the risk to staff undertaking mechanical works. It will also ensure pipes and fittings are stored under cover to improve water quality. The Business Case has been approved and the concept design has been completed. The project will proceed to detailed design & tender phase in 2019-20 with no change to the expected completion date.
Phillip Island water supply security project	2018-19	2020-21	2018-19	2020-21	On schedule	The scope of this project includes constructing a storage tank and pipework to reduce water supply interruptions on Phillip Island. The concept design and hydraulic designs have been completed. Tenders have been received and are currently under review. The project will be delivered as planned.
Cowes wastewater treatment plant upgrade – stage 2	2018-19	2021-22	2019-20	2021-22	Delayed	The Cowes Wastewater Treatment Plant (Cowes WWTP) is Westernport Water’s major wastewater treatment plant that services Phillip Island and the township of San Remo. Stage 1 upgrade was completed in Water Plan 3. Stage 2 will increase the clarifier capacity to meet 2036 demand. A Business Case has been prepared, however the concept design and EPA works approval have been delayed. The expected completion date will not change.
Zone metering and pressure management	2018-19	2022-23	2018-19	2022-23	On schedule	This project aims to reduce the water pressure in reticulation mains to extend asset life and delay renewal. The concept design has been completed. Tenders have been received and are currently under review.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Westernport Water (continued)						
Emissions reduction pledge implementation	2018-19	2022-23	2018-19	2022-23	On schedule	This project has been initiated to meet Westernport Water's emissions reductions pledge. The project includes installing solar photovoltaic renewable energy across the 3 top energy-consuming Westernport Water sites (Stage 1), which involves solar arrays at Church Street Pump Station, Newhaven office and depot, and King Road WWTP. The supply and install for contract stage 1 has been awarded with the installation to be completed in 2019-20. Stage 2 will commence in 2021-23.
San Remo basin renewal project	2020-21	2022-23	2020-21	2022-23	On schedule	Not commenced yet.
Sustainable water reuse & land management	2020-21	2022-23	2018-19	2022-23	On schedule	Not commenced yet.
San Remo basin to Cowes '648 pipeline valve renewal program	2020-21	2022-23	2020-21	2022-23	On schedule	Not commenced yet
San Remo to Newhaven Bridge pipeline and fittings renewal project	2021-22	2022-23	2021-22	2022-23	On schedule	Not commenced yet.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Southern Rural Water						
Werribee office redevelopment	2018-19	2018-19	2018-19	2018-19	Completed on time	This project reached practical completion at the end of the financial year. The budget was increased subsequent to the Price Submission. The redevelopment is to be funded from non-prescribed asset sales, and so doesn't impact customer prices.
Werribee irrigation district modernisation	2018-19	2019-20	2018-19	2019-20	On schedule	Stage 3 works have commenced and are expected to be completed in 2020. This will include construction of the pipeline to improve water delivery efficiency, as well as automation which will allow us to realise future operational savings
Bacchus Marsh irrigation district modernisation	2018-19	2019-20	2018-19	2018-19	On schedule	Stage 3 due for completion at the end of 2019. Benefits include improved efficiency and delivery times for customers, as well as future operational savings.
Maffra weir operating gear	2018-19	2019-20	2018-19	2019-20	On schedule	Due to be completed in 2020. This will ensure infrastructure continues to comply with safety standards, ensuring service to customers continues at expected levels of service, whilst improving safety for operational staff.
Asset management system upgrade	2018-19	2019-20	2020-21	2021-22	Deferred	The project has been deferred until the Strategic Asset Management Plan has been developed and implemented, including the development of several asset class plans.
Macalister irrigation district 2030 1B	2018-19	2020-21	2018-19	2020-21	On schedule	Stage 4 and the remainder of Stage 2 will be completed during 2019 and Stage 3 will be completed in 2020. This continues to deliver water savings, increasing customer productivity and economic growth for the region.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Southern Rural Water (continued)						
<p>Macalister irrigation district 2030 2</p> <p>ESC note: We misunderstood that this is not a scheduled project in this pricing period during the price review. We will work with Southern Rural Water to ensure appropriate financial treatment of accumulated revenue. Since this is not a scheduled project we will remove it from this table in future years.</p>	2018-19	2022-23	TBC	TBC	Not applicable	<p>This was not a scheduled project within our Price Submission. This was included as a provision for contribution towards future modernisation – in agreement with customers.</p> <p>The final stage of modernisation under the MID2030 strategy is a \$40m program. As with previous modernisation stages, we are seeking co-contribution from federal and state governments towards this project. At this stage we do not have funding secured, and so we do not have a schedule for completing this final stage of works.</p> <p>However, with the savings and investments we have achieved on behalf of Macalister irrigators, we were able to provide for \$10m towards this final stage of modernisation within our Price Submission, without any real price increase. We agreed with the Customer Consultative Committee to provide for this contribution within the current price submission, to provide price stability by avoiding the likelihood of a otherwise reducing prices in this regulatory period, only to have a steeper increase in the future when plans for the final stage of modernisation are finalised.</p> <p>If we are unsuccessful in securing additional funding to complete this project, we will consult with customers on options for completing a reduced scope of works, or reducing prices.</p>
Macalister irrigation district channel bank renewal	2018-19	2022-23	2018-19	2022-23	On schedule	<p>This represents an annual provision of funds for an on-going preventative maintenance program progressively refurbishing eroded earthen channels in the MID. Following a capital prioritisation review we have reduced the scope somewhat to provide funds within our revenue cap more critical emerging projects, including replacement of Siphon No 1</p>

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Glenmaggie re-paint spillway gates	2018-19	2022-23	2020-21	2024-25	Deferred	Project was reprioritised and delayed for two years.
Groundwater and rivers meter replacement	2018-19	2022-23	2018-19	2022-23	On schedule	This represents an annual provision of funds to continually undertake meter replacements and upgrades to ensure we meet our obligations under the National Framework for Non-Urban Meters and associated State Implementation Plan, as far as reasonably practicable. By upgrading or replacing these meters, customers are able to rely on the accurate usage information and we can rely on the information to assist and make decisions around resource management.
Macalister Irrigation District Siphon replacement ***NEW PROJECT***			2018-19	2019-20	On schedule	The MID siphons are typically between 50 and 100 years old. Siphon failures cause significant disruption to supply and can take several weeks to return supply to customers. Siphon No 1 has previously had preventative maintenance work carried out but a recent detected leak has required this siphon to be replaced during the 2019 winter period. The expected cost to replace Siphon No 1 is \$1.65m. Funding for this project has required some reprioritisation of other projects, such as channel bank renewal and Glenmaggie spillway gate painting.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Melbourne Water⁴						
WTP treatment capacity increase	2011-12	2016-17	2014-15	2018-19	Completed late	Practical Completion was achieved on 26 April 2019. The project met the revised schedule and was within budget. Benefit is increased treatment capacity for future population growth.
Maroondah aqueduct renewal	2009-10	2017-18	2015-16	2017-18	Completed on time	Project completed on schedule and within budget. Benefit is renewal of aqueduct to manage risk of water loss due to age of asset.
St Georges Road water main renewal	2010-11	2017-18	2015-16	2017-18	Completed on time	Project completed on schedule and within budget. Benefit is renewal of existing water main to reduce water losses.
Holden supply tank and inlet augmentation	2010-11	2019-20	2010-11	2019-20	On schedule	The project is currently on schedule and within budget. Benefit is to provide for future population growth.
Winneke WTP UV system upgrade	2010-11	2021-22	2022-23	2024-25	Deferred	Project deferred to May 2023 to be in line with the upcoming revision of the Australian Drinking Water Guidelines (2011) where a microbial health based target (HBT) of 1 microDALY per person per year is to be introduced. When this HBT gets introduced it is anticipated there will be an implementation period for water utilities to make any changes required to achieve compliance. Deferral of Winneke UV project to 2021 pricing submission is expected to align with the implementation period. Benefit is to meet new water quality compliance requirements.

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⁴ Note that Melbourne Water has a different regulatory period from the other businesses: Melbourne Water's regulatory period is from 1 July 2016 to 30 June 2021.

Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Melbourne Water (continued)						
WTP 55E renewal	2010-11	2024-25	2011-12	2024-25	On schedule	The project is currently on schedule and within budget. Benefit is increased energy efficiency and level of service for asset.
Upper Hobsons Bay sewer renewal	2011-12	2018-19	2017-18	2018-19	Completed on time	Project completed on schedule and within budget. Benefit is renewal of existing sewer main to prevent uncontrolled spills and service disruptions.
Merri Creek to MCG main renewal	2014-15	2019-20	2018-19	2019-20	On schedule	The project is currently on schedule and within budget. Benefit is renewal of existing water main to reduce water losses.
ETP sludge digester augmentation	2014-15	2022-23	2019-20	2022-23	Delayed	The Project has gone through a new Innovative Phase which has extended the tendering period by 8 months. Tender will be awarded mid-September 2019 with work commencement early October 2019. Benefit is to increase sludge digestion capacity for future growth.
Regan St Flood mitigation project	2015-16	2017-18	2019-20	2020-21	Delayed	The Regan Street Retarding Basin project was intended to be delivered as part of land development works with the developer constructing the retarding basin as an integral component of their works. The developer has delayed delivery of their project and hence the retarding basin construction has also been delayed. Construction is currently scheduled to commence July 2020 and be completed by September 2021. Benefit is a reduction in the risk of flood events.

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Table 2 Summary (continued)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water corporation comments
Melbourne Water (continued)						
Mile Creek East retarding basin upgrade	2015-16	2017-18	2013-14	2016-17	Completed on time	Project completed on schedule and within budget. Benefit of upgrade is to reduce risk of asset failure and compliance with relevant guidelines.
Jacana retarding basin upgrade	2015-16	2017-18	2013-14	2016-17	Completed on time	Project completed on schedule and within budget. Benefit of upgrade is to reduce risk of asset failure and compliance with relevant guidelines.
Murrumbeena main drain flood mitigation	2015-16	2019-20	2015-16	2019-20	On schedule	The project is currently on schedule and is forecasting to be 2% over the approved budget. Benefit is a reduction in the risk of flood events.
WTP sludge drying capacity	2016-17	2019-20	2019-20	2020-21	Delayed	The commencement date of the project was delayed to allow for learnings from optimisation work on existing drying pans to be incorporated into the technical design. Functional design was completed in June 2019. Tender for design and construction package planned to run from mid July 2019 through to early September 2019 with awarding of preferred Service Provider by early November 2019. Construction to commence in early 2020 and be finished by end of 2021. Benefit is to increase sludge drying capacity for future growth.
Alexandra Parade main drain redecking	2018-19	2021-22	2017-18	2018-19	Completed on time	Project completed on schedule and within budget. Benefit of redecking is improved safety of the asset.