

Business Case - Coralvale Regional Council - 25/09/2026

Executive Summary & Investment Proposal

Ridgeback Creek Water Treatment Plant cannot meet peak-day demand within its firm capacity. The plant relies on a single 1980s clarifier train, uses manual dosing and has no redundancy. It is rated at IPWEA NAMS+ Condition Grade 4, the level at which immediate capital replacement planning is required.

This business case recommends Option 3: full automation of the plant and an increase to 25 megalitres per day (MLD) of firm capacity. The capital cost is \$18,500,000 ex-GST, including a contingency of 10 per cent of construction cost. The upgrade delivers duty/standby treatment trains, SCADA integration and 1-in-100 year flood immunity.

At the Queensland Government central real discount rate of 7 per cent, Option 3 returns a **Net Present Value of \$1,246,000 ex-GST and a Benefit-Cost Ratio of 1.07**. The result is positive but narrow. It rests mostly on a reduction in operating costs of \$1,200,000 ex-GST each year.

Doing nothing is not a cost-free choice. It costs Council \$350,000 ex-GST each year in reactive maintenance and expected failure and outage cost, and it leaves a Grade 4 plant with no standby train. A like-for-like clarifier replacement at \$6,200,000 ex-GST would restore capacity but would provide neither redundancy nor flood immunity.

Funding is \$13.5M ex-GST in borrowings under the Long Term Financial Plan 2024-2034 and a \$5.0M ex-GST Works for Queensland grant. Practical Completion is locked to the State grant funding deed at 15/12/2027. That makes the completion date a condition of the grant funding, not a scheduling preference.

Council resolved Option 3 in June 2026. Council has also decided that capital cost is capped at \$18,500,000 ex-GST, that the works will be procured by open public tender, and that this matter will be considered in open session. The decision-maker for this matter is [VERIFY].

Strategic Context & Problem Statement

Coralvale Regional Council serves a regional city of 68,000 residents across 5,480 km². This business case has been prepared with reference to the QLD Business Case Development Framework (BCDF) & Project Assessment Framework (PAF).

The problem at Ridgeback Creek Water Treatment Plant has four parts:

1. Condition. The plant is at IPWEA NAMS+ Condition Grade 4, which requires immediate capital replacement planning. While it stays in service without a funded replacement, it is an asset renewal gap on Council's books.
2. Capacity. Peak-day demand now exceeds firm capacity. On the highest-demand days, the plant cannot meet demand within the capacity it can reliably provide.
3. Redundancy. Treatment depends on a single 1980s clarifier train. There is no standby train to carry the load during a fault or planned maintenance.
4. Operation. Chemical dosing is manual, and the plant has no SCADA integration.

The target state is a fully automated plant with 25 MLD of firm capacity, duty/standby trains, SCADA integration and 1-in-100 year flood immunity. Each element answers one part of the problem: capacity answers the peak-day shortfall, duty/standby trains answer the lack of redundancy, and automation answers manual dosing.

The project maps to the Coralvale Corporate Plan 2024-2029, Pillar 3 Sustainable Infrastructure, Goal 3.2. It is funded in part by borrowings under the Long Term Financial Plan 2024-2034.

Timing is fixed by two limits. Practical Completion is locked to the State grant funding deed at 15/12/2027, and the wet season constrains the construction window. Together, they leave the program little room to absorb delay in tendering or construction. Council resolved Option 3 in June 2026, so this business case tests that resolution before funds are committed.

The top concerns for this matter are [VERIFY]. Any further project constraints are [VERIFY].

Options Analysis (Minimum 3 Scenarios)

Three options were considered. Council resolved Option 3 in June 2026. This option analysis states that resolution and tests it against the alternatives on its merits.

The base case is Option 1, do nothing. Council would keep operating the existing plant as it is. Doing nothing costs \$350,000 ex-GST each year: \$150,000 in reactive maintenance and \$200,000 in expected failure and outage cost. It also leaves the plant at Condition Grade 4, the level at which immediate capital replacement planning is required. Do-nothing is therefore not consistent with the intervention level the plant has already reached.

The options were compared on six criteria:

1. Asset condition.
2. Peak-day capacity.
3. Redundancy.
4. 1-in-100 year flood immunity.
5. Automation and SCADA integration.
6. Whole-of-life cost.

The table below compares the options side by side.

Option	Capital cost	Service outcome	Risk	Strategic fit
1. Do nothing (base case)	No new capital; \$350,000 ex-GST per year in reactive maintenance and expected failure and outage cost	Peak-day demand continues to exceed firm capacity; manual dosing continues	Grade 4 asset with no redundancy; one failure stops treatment	Does not deliver the target state or respond to the Grade 4 intervention level
2. Like-for-like clarifier replacement	\$6,200,000 ex-GST	Restores capacity	No redundancy and no 1-in-100 year flood immunity; a single train remains	Delivers part of the target state only
3. Full automation plus 25 MLD firm capacity (preferred)	\$18,500,000 ex-GST, including 10 per cent construction contingency	25 MLD firm capacity, duty/standby trains, SCADA integration	Removes the single-train failure point; adds 1-in-100 year flood immunity	Delivers the full target state; maps to Corporate Plan Pillar 3, Goal 3.2

The table below scores each option against the six criteria.

Criterion	Option 1	Option 2	Option 3
Asset condition	Remains at Grade 4	Clarifier replaced	Plant replaced and upgraded
Peak-day capacity	Demand exceeds firm capacity	Capacity restored	25 MLD firm capacity
Redundancy	None	None	Duty/standby trains

Criterion	Option 1	Option 2	Option 3
1-in-100 year flood immunity	No	No	Yes
Automation and SCADA integration	No	Scope to be confirmed [VERIFY]	Yes
Whole-of-life cost	\$350,000 ex-GST per year in avoidable cost	Whole-of-life cost to be confirmed [VERIFY]	\$18,500,000 ex-GST capital; operating cost reduced by \$1,200,000 ex-GST per year

Option 1 is rejected. It leaves a Grade 4 asset with no redundancy in service and carries a recurring cost of \$350,000 ex-GST each year without improving the service.

Option 2 is rejected. It restores capacity at lower capital cost, but it leaves the plant on a single train with no flood immunity. The top delivery risk for this project, plant failure before completion, would remain a risk after Option 2 was built.

Option 3 is preferred. It is the only option that meets all six criteria, including the two that decide the case: redundancy and flood immunity. The comparison therefore supports Council's June 2026 resolution on its merits.

Options 1 and 2 were not appraised in dollars, so no Net Present Value or Benefit-Cost Ratio is given for them. The preference for Option 3 over Option 2 rests on redundancy and flood immunity, not on a dollar comparison between the two. Whether a non-asset option was considered is [VERIFY].

Cost-Benefit & Financial Analysis

The appraisal is an incremental cost-benefit analysis of Option 3 against the do-nothing base case. All values are real, ex-GST and in today's dollars. The capital cost of \$18,500,000 ex-GST is counted in year 0, and benefits run from year 1 to year 29. The evaluation period is 29 years.

Because the asset life is 40 years, the plant still has value at the end of the evaluation period. That residual value is \$5,087,500 ex-GST, counted in year 29. It is calculated by straight-line depreciation: the capital cost multiplied by the years of asset life remaining after the evaluation period, divided by the asset life.

The full capital cost is used whatever the funding source. The Works for Queensland grant is a transfer between governments and does not reduce the cost to the community.

The discount rate is the Queensland Government central-case real discount rate of 7 per cent, with sensitivity tests at 4 and 10 per cent. The source is the Business Case Development Framework Cost Benefit Analysis Guide, Release 3, June 2021, sections 4.4.2 and 4.7.1. This is Queensland Government guidance adopted by reference; it is not stated to bind councils. Whether Council has adopted this rate for its own appraisals is [VERIFY].

The annual benefit of Option 3 over the base case is \$1,550,000 ex-GST. It is made up of:

1. An operating cost reduction of \$1,200,000 ex-GST per year.
2. Avoided do-nothing reactive maintenance of \$150,000 ex-GST per year.
3. Avoided do-nothing expected failure and outage cost of \$200,000 ex-GST per year.

Each of these is a cost saving or an avoided cost. None is revenue.

All figures in the table below are real, ex-GST, in today's dollars.

Discount rate (real)	Present value of benefits incl. residual	Present value of costs (CAPEX)	Net Present Value	Benefit-Cost Ratio
4% (sensitivity)	\$27,956,000	\$18,500,000	\$9,456,000	1.51
7% (central)	\$19,746,000	\$18,500,000	\$1,246,000	1.07
10% (sensitivity)	\$14,844,000	\$18,500,000	-\$3,656,000	0.80

The breakeven annual benefit is the benefit per year at which the Benefit-Cost Ratio is 1.00. It is \$993,000 ex-GST at 4 per cent, \$1,449,000 ex-GST at 7 per cent and \$1,940,000 ex-GST at 10 per cent. At the central rate, Option 3 clears breakeven by \$101,000 ex-GST per year.

What this means for the decision:

1. The result depends on the discount rate. The Benefit-Cost Ratio is above 1.00 at 4 and 7 per cent and falls to 0.80 at 10 per cent, where the Net Present Value is -\$3,656,000 ex-GST.
2. The margin is thin. If the combined annual benefit falls more than \$101,000 ex-GST short of the estimate, the ratio drops below 1.00 at the central rate.
3. The margin rests mainly on the \$1,200,000 ex-GST operating cost reduction, the largest part of the annual benefit. The \$200,000 ex-GST expected failure and outage cost is the next largest.
4. The result assumes the capital cost holds at the \$18,500,000 ex-GST cap, which already includes the 10 per cent construction contingency.

Several benefits of Option 3 carry no dollar value and are excluded from the Benefit-Cost Ratio:

1. Redundancy through duty/standby trains.
2. 1-in-100 year flood immunity.
3. Automation and SCADA integration.
4. Firm capacity of 25 MLD against peak-day demand.
5. Replacement of a Grade 4 asset.

These benefits are the grounds for proceeding if Council's view of the discount rate sits closer to the 10 per cent test.

Funding is split as follows.

Funding source	Amount
Borrowings under the Long Term Financial Plan 2024-2034	\$13.5M ex-GST
Works for Queensland grant	\$5.0M ex-GST
Total capital cost	\$18,500,000 ex-GST

The investment moves cost from operating to capital. A one-off capital cost, funded mostly by borrowing, is followed by an operating cost reduction of \$1,200,000 ex-GST in each year from year 1. The effect of the \$13.5M ex-GST borrowing on Council's financial sustainability ratios is [VERIFY]. The \$5.0M ex-GST grant depends on Practical Completion by 15/12/2027.

Whole-of-Life Asset Costing (IPWEA NAMS+)

The options are costed with reference to the IPWEA NAMS+ Asset Management Framework. The existing plant is at Condition Grade 4, which requires immediate capital replacement planning. The whole-of-life horizon for the new plant is 40 years, with a residual value of 15 per cent at year 40.

Option	Capital cost	Annual operating effect	Asset life and residual value	Whole-of-life position
1. Do nothing	No new capital	\$350,000 ex-GST per year in reactive maintenance and expected failure and outage cost	Remaining life of the existing plant to be confirmed [VERIFY]	Recurring cost with no improvement in condition
2. Like-for-like clarifier replacement	\$6,200,000 ex-GST	Operating effect to be confirmed [VERIFY]	Asset life to be confirmed [VERIFY]	Whole-of-life cost to be confirmed [VERIFY]
3. Full automation plus 25 MLD firm capacity	\$18,500,000 ex-GST, including 10 per cent construction contingency	Operating cost reduced by \$1,200,000 ex-GST per year	40 years; residual value 15 per cent at year 40	Capital cost offset each year by lower operating cost, with residual value at year 40

Option 3 is the only option with a complete whole-of-life profile. The whole-of-life cost comparison supports Option 3 on the evidence available, but it is not a full comparison. Option 2's operating cost and asset life must be confirmed before the two can be compared on the same basis.

The \$1,200,000 ex-GST operating cost reduction is a net figure. The annual maintenance and renewal allocation the new plant will need over its 40-year life is [VERIFY]. Without that allocation, the new plant risks recreating the asset renewal gap this project is meant to close.

Whether the 40-year asset life allows for changing climate conditions is [VERIFY]. This matters because the plant is being designed for 1-in-100 year flood immunity, so its exposure to flood is part of the design case.

Strategic & Community Benefits

Option 3 maps to the Coralvale Corporate Plan 2024-2029, Pillar 3 Sustainable Infrastructure, Goal 3.2. It delivers these benefits:

1. Reliability. Duty/standby trains mean a fault or planned maintenance on one train no longer stops treatment at the plant.
2. Flood resilience. The plant gains 1-in-100 year flood immunity.
3. Capacity. Firm capacity rises to 25 MLD, in response to peak-day demand that now exceeds firm capacity. Current peak-day demand and current firm capacity, in MLD, are [VERIFY].
4. Modern operation. Automation and SCADA integration replace manual dosing.
5. Lower operating cost. Operating costs fall by \$1,200,000 ex-GST each year.

These are public benefits in the form of service reliability and avoided cost. The project does not claim any increase in revenue, and none is counted in the Benefit-Cost Ratio.

For a regional city of 68,000 residents, the value of the project lies mainly in the risk it removes. Today, one failure on the single clarifier train stops treatment at the plant. After the upgrade, a second train carries the load.

The key stakeholders for this matter are [VERIFY].

Risk Management & Governance Plan

The three top risks are set out below, each with a single-role owner.

No.	Risk	Likelihood	Consequence	Owner	Meaning for the decision
1	Plant failure before completion	Likely	Major	Manager Water Operations	The existing plant must run with no redundancy until 15/12/2027. The risk the project exists to remove stays live throughout delivery.
2	Grant deed date missed	Possible	Major	Director Infrastructure Services	Missing Practical Completion on 15/12/2027 puts the \$5.0M ex-GST grant at risk.
3	Wet season delay	Likely	Moderate	Project Manager	The wet season narrows the construction window and feeds directly into Risk 2.

Treatment actions for each risk are [VERIFY]. Interim operating arrangements for the existing plant until Practical Completion are [VERIFY]. Because Risk 1 is rated Likely and Major, these arrangements should be settled before contract award.

Governance arrangements:

1. Council has resolved that this matter will be considered in open session.
2. The decision-maker for this matter is [VERIFY].
3. Capital cost is capped at \$18,500,000 ex-GST. The cap includes a contingency of 10 per cent of construction cost.
4. The works will be procured by open public tender. The public tender threshold under the Coralvale Regional Council Procurement Policy 2026, adopted 24/06/2026, is \$200,000 ex-GST, and this project is well above it.
5. Chapter 6 of the Local Government Regulation 2012 governs contracting. The section relied on is [VERIFY].
6. J. Smith, Manager Capital Delivery, has declared no conflict of interest in this matter.

The cap and the fixed completion date work together. Cost growth beyond the contingency, or delay beyond the wet-season window, would each put the funded scope or the grant at risk.

Implementation & Procurement Roadmap

Delivery runs backwards from a fixed end date. Practical Completion on 15/12/2027 is locked to the State grant funding deed, and the wet season constrains when construction can take place.

Milestone	Date	Note
Council resolution of Option 3	June 2026	Resolved
Business case completed	25/09/2026	This document
Open public tender released	To be confirmed [VERIFY]	Open public tender, as resolved
Contract award	To be confirmed [VERIFY]	Subject to the \$18,500,000 ex-GST cap
Construction window	To be confirmed [VERIFY]	Constrained by the wet season
Practical Completion	15/12/2027	Locked to the State grant funding deed

Tender timing is the key control point. A late tender pushes construction into the wet season, which raises Risk 3 and, through it, Risk 2. The tender release date, contract award date and construction window dates are [VERIFY] and should be fixed against 15/12/2027 before the tender is released.

Throughout delivery, the existing plant keeps operating on a single train with no redundancy. The Manager Water Operations owns that risk until Practical Completion. The Director Infrastructure Services owns the risk of missing the grant deed date, and the Project Manager owns the risk of wet season delay.

Any project constraints beyond the wet season and the grant deed date are [VERIFY].