



INFRASTRUCTURE COMMITTEE MEETING

AGENDA

1 NOVEMBER 2022

Your attendance is required at an Infrastructure Committee meeting of Council to be held in the Council Chambers, 232 Bolsover Street, Rockhampton on 1 November 2022 commencing at 9:00am for transaction of the enclosed business.

A handwritten signature in black ink that reads "R Cheesman".

ACTING CHIEF EXECUTIVE OFFICER
26 October 2022

Next Meeting Date: 06.12.22

Please note:

In accordance with the *Local Government Regulation 2012*, please be advised that all discussion held during the meeting is recorded for the purpose of verifying the minutes. This will include any discussion involving a Councillor, staff member or a member of the public.

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1 OPENING

1.1 Acknowledgement of Country

2 PRESENT

Members Present:

The Mayor, Councillor A P Williams (Chairperson)
Deputy Mayor, Councillor N K Fisher
Councillor S Latcham
Councillor C E Smith
Councillor C R Rutherford
Councillor D Kirkland
Councillor G D Mathers

In Attendance:

Mr R Cheesman – Acting Chief Executive Officer
Mr P Kofod – General Manager Regional Services (Executive Officer)

3 APOLOGIES AND LEAVE OF ABSENCE

Councillor Drew Wickerson - Leave of Absence from 30 October 2022 to 6 November 2022

4 CONFIRMATION OF MINUTES

Minutes of the Infrastructure Committee held 4 October 2022

5 DECLARATIONS OF INTEREST IN MATTERS ON THE AGENDA

6 BUSINESS OUTSTANDING

6.1 LIFTING MATTERS FROM THE TABLE

File No: 10097

Attachments: Nil

Authorising Officer: Peter Kofod - General Manager Regional Services

Author: Peter Kofod - General Manager Regional Services

SUMMARY

Items laid on the table require a report to be lifted from the table before being dealt with. This report is designed to lift the reports that have been laid on the table at previous Infrastructure Committee Meetings.

OFFICER'S RECOMMENDATION

THAT the following matter be lifted from the table and dealt with accordingly:

- Quay Street Traffic Configuration

7 PUBLIC FORUMS/DEPUTATIONS

At the invitation of the Manager Rockhampton Regional Waste and Recycling, CQG Consulting Company Director, Patrice Brown will be in attendance for **Agenda Item 10.1 – Environmental Data Monitoring Review and Conceptual Site Model for Lakes Creek Road Landfill.**

8 PRESENTATION OF PETITIONS

Nil

9 COUNCILLOR/DELEGATE REPORTS

Nil

10 OFFICERS' REPORTS

10.1 ENVIRONMENTAL DATA MONITORING REVIEW AND CONCEPTUAL SITE MODEL FOR LAKES CREEK ROAD LANDFILL

File No: 6210
Attachments: 1. Presentation
Authorising Officer: Peter Kofod - General Manager Regional Services
Author: Michael O'Keeffe - Manager Rockhampton Regional Waste and Recycling

SUMMARY

The purpose of this report is to inform Council on the Environmental Data Monitoring Review and Conceptual Site Model for Lakes Creek Road Landfill.

OFFICER'S RECOMMENDATION

THAT the Environmental Data Monitoring Review and Conceptual Site Model for Lakes Creek Road Landfill Report be received.

COMMENTARY

Rockhampton Regional Waste and Recycling (RRWR) engaged CQG Consulting (CQG) to undertake a review of the environmental data monitoring and to prepare a conceptual site model (CSM) for the Lakes Creek Road Landfill (LCRL).

The objective was to identify the adequacy of the current monitoring program in determining potential for impacts to sensitive receptors (human and environmental). The scope was undertaken in parallel with the Stage 2 expansion concept design review and update conducted by ATC Williams (ATCW).

Environmental monitoring has been conducted at LCRL since the early 1990's, with CQG conducting quarterly environmental monitoring and reporting since 2014. CQG has been engaged under the current Environmental Monitoring Services Contract (Ref: 14432) since 2021. There have been many modifications to the program over its life, including in relation to environmental values, sample locations and parameters monitored.

The current scope included a desktop review of the historical monitoring data available as well as other environmental investigations conducted at LCRL by RRWR and their specialist consultants, including CQG.

CQG and ATCW were also involved in the initial piggyback concept and securing the LCRL environmental authority (EA) amendment in 2015 to enable the current expansion works.

CONCLUSION

The performance of the Lakes Creek Road Landfill is important for Council and the community. Ongoing environmental monitoring and data reviews play an important part to ensure awareness and to identify any required actions.

ENVIRONMENTAL DATA MONITORING REVIEW AND CONCEPTUAL SITE MODEL FOR LAKES CREEK ROAD LANDFILL

Presentation

Meeting Date: 1 November 2022

Attachment No: 1



Environmental Data Monitoring Review and Conceptual Site Model for Lakes Creek Road Landfill

Rockhampton Regional Council – Infrastructure Committee Meeting
1 November 2022

Investigation Scope

- Review of environmental monitoring data for the Lakes Creek Road Landfill (LCRL)
- Determine suitability of monitoring program for identifying potential risks to sensitive receptors to inform the detailed design for LCRL expansion
- Develop Preliminary Conceptual Site Model (CSM)
- Assess the risk to sensitive receptors



Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, OSpial - Cadastral Boundaries, Roads

Legend
 Site Boundary
 Cadastral Boundaries

N
 Scale 1:5,000 (A3)
 0 50 100 200
 Metres
 Coordinate System: GDA2020 MGA Zone 56

Figure 1.1
 Rockhampton Regional Council
 Lakes Creek Road Landfill
 Site Locality

CQG Consulting
 801 Ross Street, Rockhampton QLD 4700
 PO Box 6294, Mackay QLD 4750
 Ph: +61 7 4922 9302 Fax: +61 7 4922 9390
 Project No: 22037
 Map No: 22037-01
 Revision: Rev B
 19 September 2022



Regulatory Context

Site is licensed to operate in accordance with environmental authority (EA)
EPPR00626313 issued under the *Environmental Protection Act 1994* (EP Act).

EA includes monitoring requirements for:

- Groundwater (GW);
- Surface water (SW);
- Leachate (also specific requirements under Trade Waste Permit); and
- Landfill gas (LFG) (methane).

EP Act includes the general environmental duty to avoid environmental harm unless all reasonable and practicable measures taken to prevent or minimise the harm

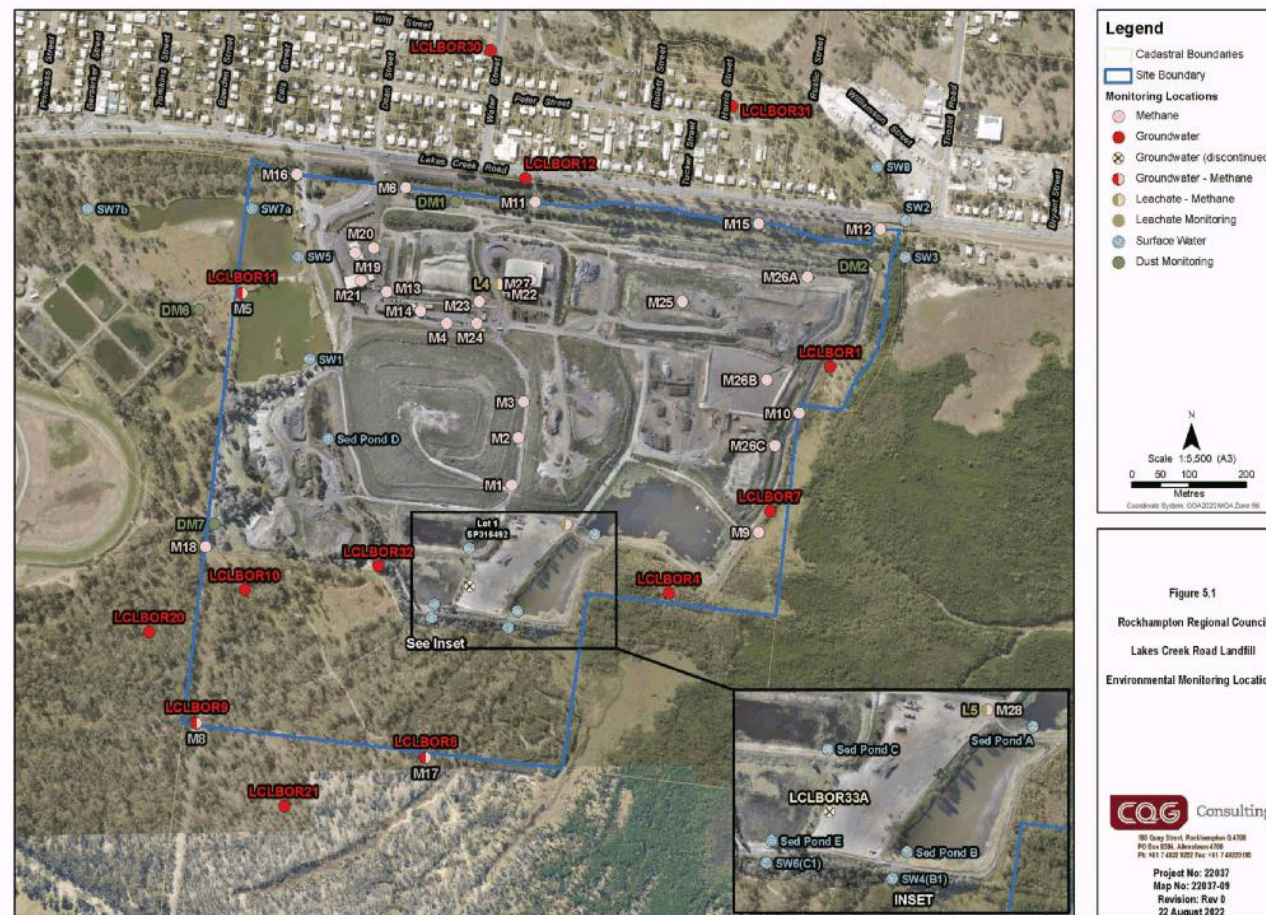
Desktop Assessment

- Climate
- Surrounding land uses and sensitive environmental values
- Geology and soils
- Hydrogeology (GW)
- LCRL development and operations including stormwater, leachate and LFG management

Reviewed historic LCRL data and reports prepared by CQG and others



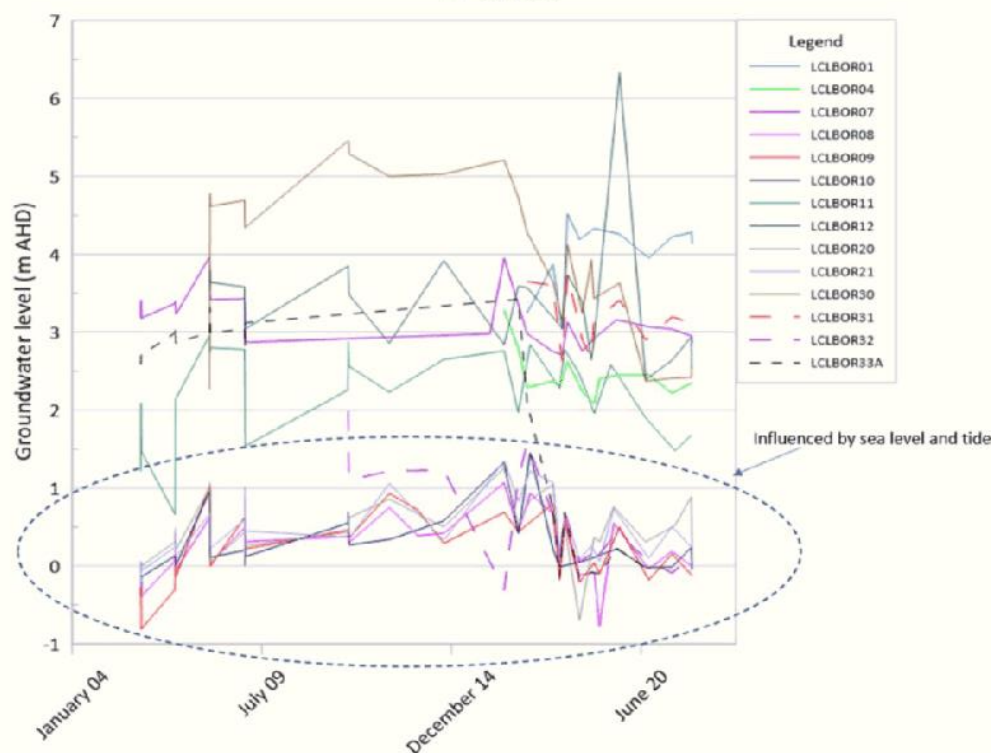
Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community; QGpatial - Cadastral Boundaries, Railway, Regulated vegetation, Suburbs; CQG - Receptor offsets



Groundwater (GW) Data Overview

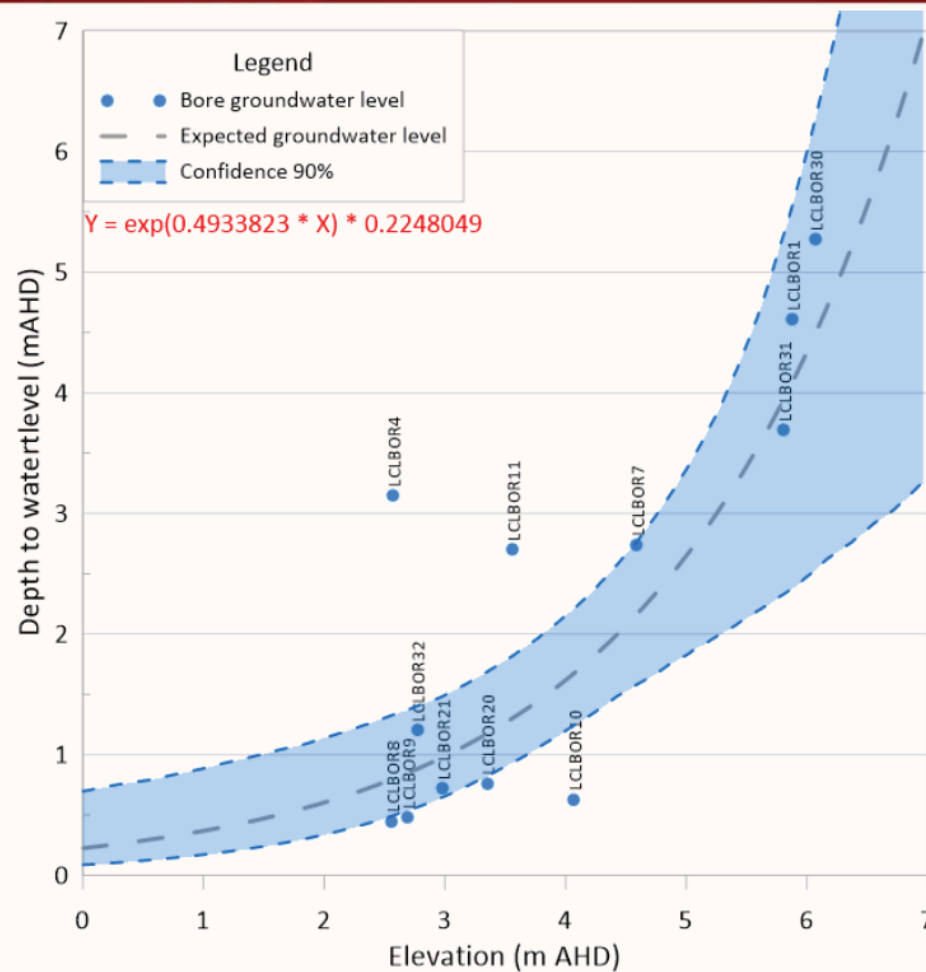
- GW common contaminant pathway at landfills
- Historic data does not indicate a GW contamination plume at LCRL, but gaps in data identified
- Onsite bores do not interact with basement aquifer – no need for such a bore identified
- South-west bores influenced by tides – difficult to interpret GW data – some risk leachate could mobilise from low elevation unlined sections of LCRL as tidal waters raise GW

All-Time Series Groundwater Level Monitoring Data



GW Data Gaps

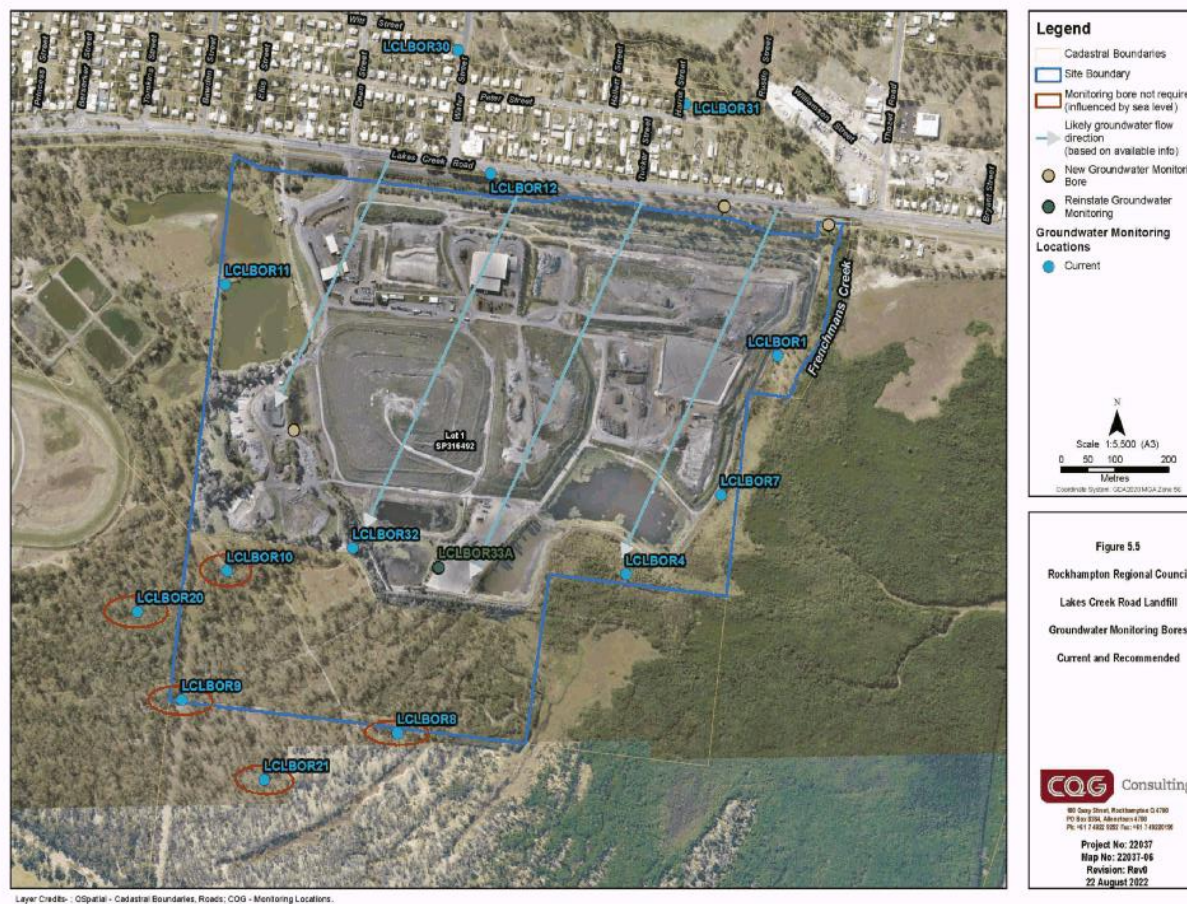
- Potential interaction between leachate, surface water (incl Frenchman's Creek) and GW – correlation of parameters required / additional bores required in network
- Historic understanding that GW flows to south-west, however, current network gaps to north, north-east and west – additional bores required in network
- Hydraulic conductivity has been estimated based on assumed aquifer – additional understanding of bores required



Groundwater
level vs ground
surface LCRL

GW Monitoring Recommendations

- Align parameters with leachate including adding formaldehyde to GW suite and major ions to the leachate suite
- Consider adding PFAS across all water monitoring suites (noting PFAS NEMP current V2 and upcoming V3 recommendations)
- Reduce number of tidally influenced GW bores in south-west from full suite of analysis (retain *insitu* analysis)
- Install three new GW bores (with two upgradient and one of these adjacent to Frenchman's Creek) and recommence sampling of an existing downstream bore (requires repair / replacement)
- Once bores installed collect consistent contextual data (i.e., survey elevations, hydraulic conductivity testing and camera inspection of stratigraphy and screen location)



Surface Water (SW) Data Overview

- No release of SW from LCRL ponds since 2017 due to improved site management
- No data downstream of C&D waste area (Pond F)
- Limited data on water quality in receiving environment (Frenchman's Creek and Fitzroy River)

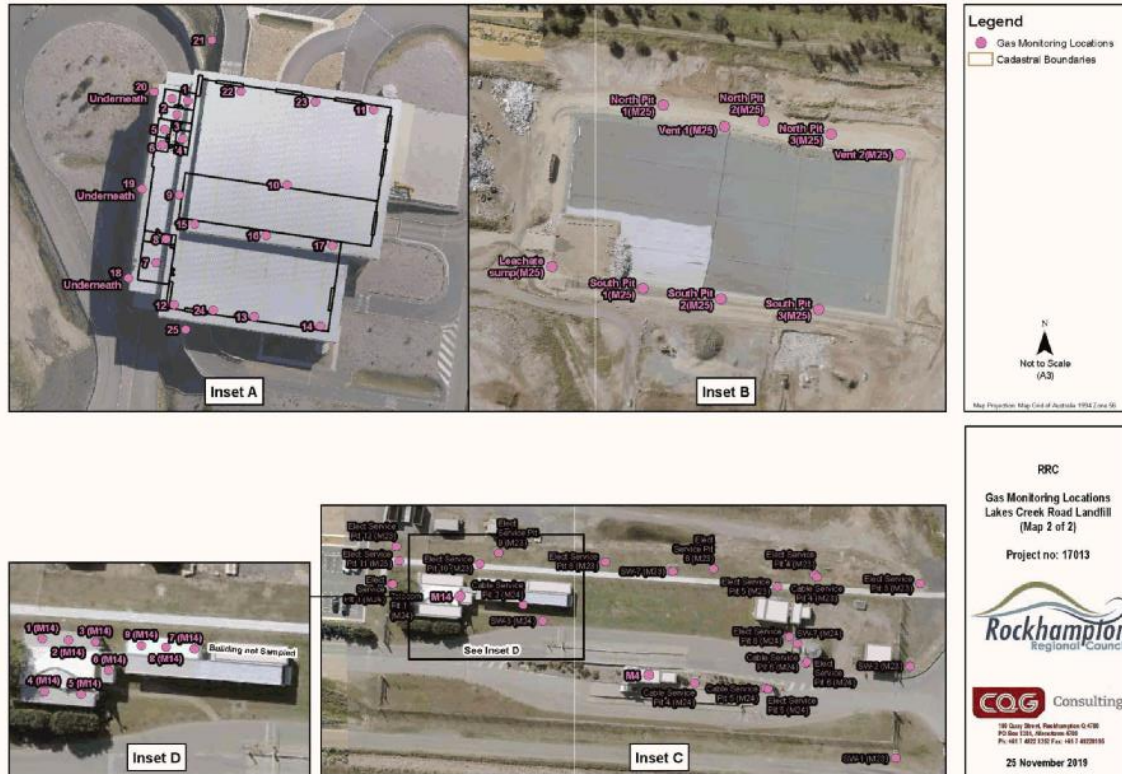
SW Data Gaps & Recommendations

- Align parameters with leachate including adding formaldehyde to SW suite and major ions to the leachate suite
- Add Pond F (and discharge when possible) to SW monitoring locations
- Contractor to implement sediment and erosion controls (and an acid sulfate soil management plan if excavating below 5 mAHD) and associated monitoring during construction of new cells

Landfill Gas (LFG) Data Overview

- Monitoring conducted onsite in building, services pits and at boundaries, but no dedicated LFG monitoring wells
- Gas levels in service pits found to exceed standards at times
- Migration pathways for LFG are likely associated with more permeable geological structures and below ground services
- Nearby creeks and Fitzroy River present natural barriers to gas migration





LFG Data gaps

- Limited data for methane in GW and no volatile organic compound (VOC) data for gas
- No data on potential migration towards residents on Lakes Creek Road
- Monitoring for gases has not been conducted under a worst-case barometric pressure

LFG monitoring recommendations

- Install four dedicated LFG monitoring bores on the northern side of LCRL > 20 m from buried waste area and include in quarterly monitoring (noting worst case barometric pressure over sampling event)
- Conduct methane monitoring in GW
- Monitor VOCs within enclosed structures / buildings



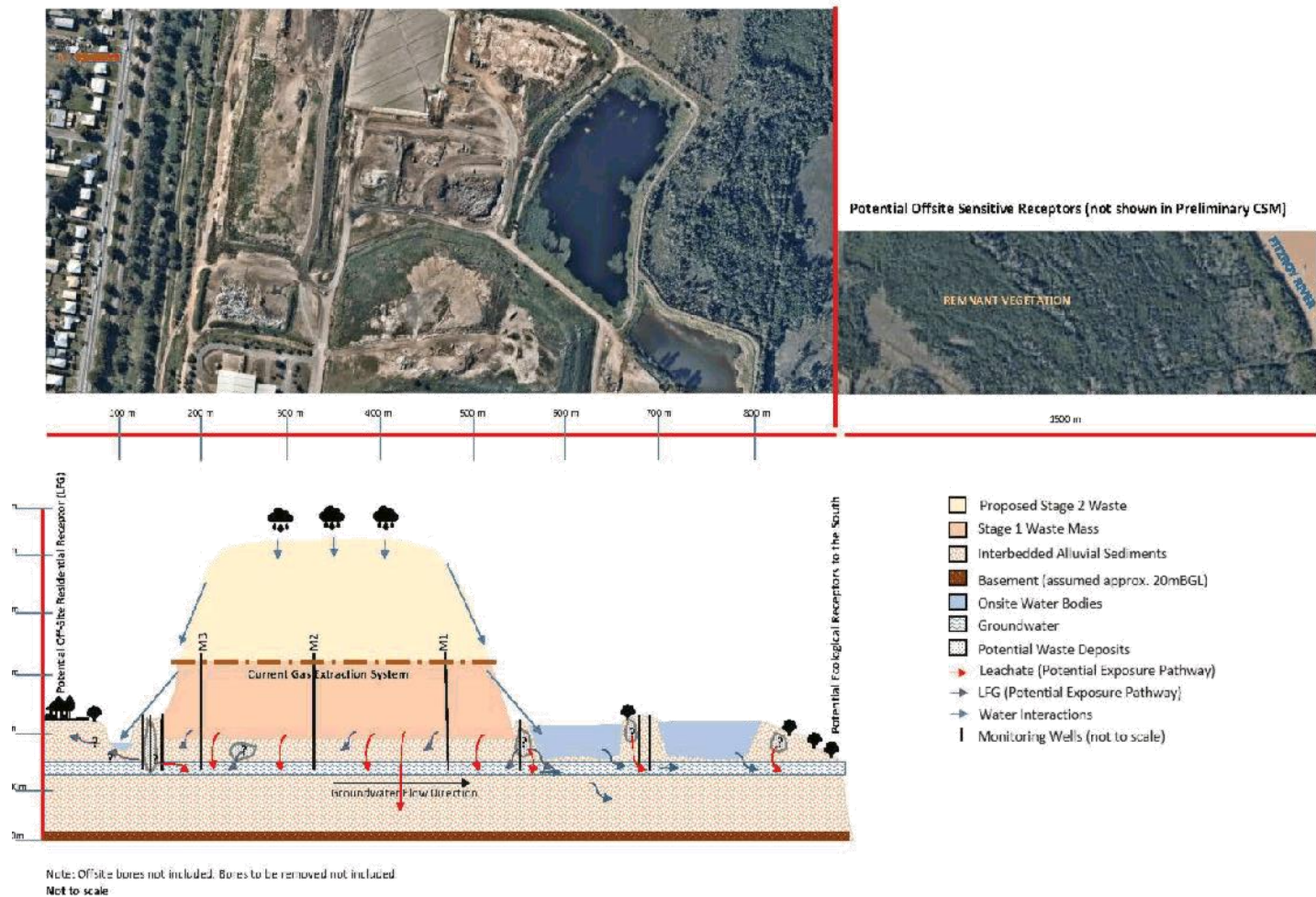
Layer Credits: - CSpatial - Cadastral Boundaries, Roads; CQG - LFG Well locations

Ecology & other

- Receiving environment includes mangrove communities, watercourses and wetlands that flow to Fitzroy River which discharges into the Great Barrier Reef Marine Park – impacts on vegetation health from LCRL over a period of time is unknown
- Blue green algae has been detected in ponds in the past post dry conditions
- Greenwaste could introduce weed seeds and pests
- Extent of waste burial onsite relies on historic records

Ecology & other monitoring recommendations

- Undertake a review of historical aerial imagery of vegetation surrounding LCRL
- Conduct visual monitoring for dieback of mangroves every five years, if detected conduct an investigation
- Consider ecological values in the selection of new bore locations
- Where buried waste onsite is detected record findings
- Manage blue green algae onsite if detected and implement measures to ensure risk to human exposure is avoided





Limitations

This presentation has been prepared for the use of the client, Rockhampton Regional Council, for the purpose of this commission only.

CQG takes no responsibility and disclaims all liability for any loss or damage that any party may suffer because of using or relying on any such information or recommendations contained in this presentation.

To the maximum extent permitted by law CQG expressly disclaims responsibility for or liability arising from:

Any error in, or omission in connection with assumptions, or reliance on the presentation, by a third party or use of the report other than for the purpose stated.

The presentation relates only to the project described herein and must be reviewed by a competent expert before being used for any other purpose. CQG accepts no responsibility for other use of the data.

This presentation does not provide a complete assessment of the environmental status of the Site but is limited to the scope defined herein.

It is the reader's responsibility to verify the correct interpretation and intention of the recommendations presented herein. CQG assumes no responsibility for misunderstandings or improper interpretations that result in unsatisfactory or unsafe work products. It is the reader's further responsibility to acquire copies of any supplementary reports, addenda or responses to public agency reviews that may supersede recommendations in this presentation.

This presentation does not comprise a Detailed Site Investigation, hydrogeological report, validation report, remediation action plan, environmental or waste audit, sampling of stygofauna or any ecological surveys. No geotechnical information was reviewed in the preparation of this presentation.

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10.2 QUAY STREET TRAFFIC CONFIGURATION

File No:	5252
Attachments:	1. Quay Street Angle Parking Concepts <u>↓</u> 2. Community Consultation Responses <u>↓</u>
Authorising Officer:	Martin Crow - Manager Infrastructure Planning Peter Kofod - General Manager Regional Services
Author:	Stuart Harvey - Coordinator Infrastructure Planning
Previous Items:	10.4 - Quay Street Traffic Configuration - Infrastructure Committee Meeting - 04 Oct 2022 9:00am

SUMMARY

Following on from the preliminary investigation completed in November 2017, an investigation into the impacts of permanently changing Quay Street to one way traffic configuration, as opposed to two way vehicle flow, has been undertaken. The results of this investigation are included for Council's consideration.

OFFICER'S RECOMMENDATION

THAT Council return the operation of Quay Street to two way flow as per the design intent of the shared zone.

COMMENTARY

The proposal of a permanent, one way configuration along the upgraded Quay Street has been raised for Council officers to investigate. Throughout construction, a one way configuration from South to North between William St and Fitzroy St has been implemented to allow construction space for both the lower bank and upper bank construction works. This has been continued as the configuration post construction. This report objectively investigates the two options and the various impacts associated with each.

One Way Configuration:

One way configurations allow for vehicles to easily parallel park as the 6m carriageway allows for wider vehicle swept paths. It also facilitates vehicles passing a vehicle who is about to undertake a parking movement. For pedestrians, a one way configuration means they only have to look in one direction when crossing the road and reduces the number of conflict areas for pedestrians within the shared zone. However there are concerns that vehicle speeds will be higher under a one way configuration. Generally vehicle speeds increase when a vehicle has a wider field of vision; in this instance a 6m wide carriageway provides a wide field of vision for drivers.

Traffic speeds were recorded along the link for the period between Friday 23rd March 2018 and Monday 2nd April 2018. This data identified that an average of 2,671 vehicles per day were recorded travelling at speeds above the posted 20km/h speed limit within the shared zone, with an average vehicle speed of 30km/h and an 85th% speed of 38km/hr. This increase in vehicles speed is anticipated to have significant safety implications for pedestrians, reducing vehicle stopping potential and dramatically increasing the severity of any vehicle-pedestrian accidents in the area. A more recent survey in 2022 has indicated that speeds have not significantly increased since the survey in 2018 and still represent a large proportion of vehicles exceeding the 20km/hr speed limit.

Mitigation measures are available to help reduce the speed of drivers under a one way configuration. Such measures would include further traffic calming devices being retrofitted to Quay Street. This could include further speed humps, chicanes along the alignment or slow points. However, given the investment made already, the addition of retrofitted Local Area Traffic Management (LATM) devices would impact both the look of the road environment and the integrity of the original design. Any further works with regards to build

outs or chicanes would also likely impact on street parking. A one way configuration will also require changes to be made to the roundabout at the intersection of Quay St and William St.

There have been suggestions that the change to one way configuration could allow an increase in parking spaces along Quay Street. Some conceptual design had been undertaken to determine what could be achieved in this location. It identified that, without encroaching onto the footpath, only one side of the road could achieve angle parking bays. These parking bays would either require the removal and re-lay of tiles in the parking bays to reflect angle arrangement or linemarking over the existing tiles. In doing so, a maximum of 11 additional spaces could be achieved (Attachment 1). Due to the significant alterations required to achieve this, this is not considered a feasible option and has not been progressed any further.

Traffic count data from before the Quay Street reconstruction identified an average daily traffic (ADT) volume of approximately 4,500 vpd, with the directional split along the link reflecting a 60% (2,800 vpd) / 40% (1,700 vpd) directional split in favour of northbound vehicles. Under a one way configuration, there has been an increase in vehicles travelling in the proposed northbound direction, however the net result is a reduction in overall vehicles numbers along the link. This is a positive outcome in terms of the shared space environment. This has however caused an increase in vehicle volumes along Quay Lane. Vehicle Counts have indicated a volume in excess of 400vpd on Quay Lane travelling southbound. With Council's CBD Revitalisation Strategy placing increased focus on increasing pedestrian activity in laneways, such an increase in vehicle traffic on Quay Lane could potentially reduce the attractiveness of these lanes for pedestrians. Impacts within the laneways has also been raised as an issue by businesses along Quay Street with a rear frontage onto Quay Lane.

Two Way Configuration:

The two way configuration is the original intended design for Quay Street. The design of Quay Street has been specifically based around two way flow with the intent to provide the same level of access to businesses on Quay Street as before the reconstruction works and to increase the legibility of the CBD and riverfront space. This was also the design configuration that was originally consulted on with businesses and residents of Quay Street.

It is anticipated that the two way configuration will significantly slow down vehicles due to the narrow 6m wide, two way carriageway making drivers drive closer to the line of parked cars to avoid oncoming vehicles. The two way configuration will require drivers parking on Quay Street to use less of the carriageway when undertaking parking manoeuvres which may be perceived as an impediment to parking on Quay Street. The provision of two way flow will require pedestrians to look both ways before crossing and may require increased perception of gaps in traffic to cross the road as the number of conflict points will be greater than a one way configuration. It is envisaged that, with parking movements and slow speeds two way traffic will still present sufficient breaks in vehicles to allow pedestrians to cross the road (noting that in a shared zone environment, pedestrians have right of way).

Due to the road's function as a traffic carrying road, both North and South along the riverbank, there is a likelihood that volumes along Quay Street will increase to similar volumes experienced before the riverbank works. Whilst the shared zone and slow speed environment may discourage some vehicles from using Quay Street, Quay Street / Victoria Parade's function as a connector between the two Fitzroy River Bridges will likely still attract many vehicles in both directions to use it. This increase in vehicular traffic, albeit slow, may detract from the pedestrian prioritised environment intended for this shared zone. A two way configuration will however reduce the volumes on Quay Lane as these traffic movements will now take place on Quay Street.

Should vehicle volumes remain high and begin to significantly detract from the shared space road environment, additional works may need to be undertaken at a later date to the extents of the shared zone to restrict through moving traffic volumes.

Consultation:

Residents and Businesses of Quay Street were consulted during a door knock on 12 September as to whether they had a preferred traffic configuration. The sentiment from majority of businesses was that it be returned to two way traffic. The reasons for this varied but included:

- improved readability of the area for visitors,
- reduction to vehicle speeds,
- reduction of volumes on Quay Lane and,
- because this was the original proposal they were consulted with

A summary of the consultation has been included as Attachment 2.

Discussions regarding the proposed one way operation of Quay Street were undertaken with URBIS, the planning consultations for the Riverbank redevelopment. Glen Power and Natalie Hoitz from URBIS advised the following regarding a one way configuration of the Quay Street shared zone:

- The intent of the original design was to create a two way scenario, narrow the lane widths and curate parking spaces and garden beds to enhance the slow speed environment. They feel that this has been successful in the perspective of slowing vehicles and they cannot see why this would change under a two way flow.
- URBIS is not concerned about the adoption of either one way or two way flow from a master planning perspective as long as the traffic environment remains lower speed, calm and relaxed and that pedestrians and cyclists remain the priority within the shared zone. They raised concerns about the wider traffic management issues that a one way configuration may cause and whether the business owners would see a one way configuration as a positive or negative change for their businesses.
- A one way configuration could make the CBD area less readable for those who are unfamiliar with the CBD. As this is a destination street, it needs to be easy to navigate and locate desired destinations in unfamiliar surrounds. It was felt that there has always been a sense that it is not overly obvious on how to get to the riverbank and that a one way configuration may further complicate this.
- URBIS expressed that they would not support any retrofitted LATM devices to the design.

The Quay Street shared zone is the first of its kind in the region and there will be a transition period for drivers and pedestrians to adapt to it. Additionally there will be some apprehension to the shared space and how it will work. For a shared space to work effectively, vulnerable road users (pedestrians and cyclists) need to feel safe to share the road with vehicles. This is predominantly achieved by lowering vehicle speeds to 20km/hr. By adopting a one way configuration, there is a risk that vehicles will speed down Quay Street due to the large lane width available, undermining the redevelopment shared space work. As Council is trying to encourage increased pedestrian activity in this location, it is imperative that this work is not undermined by a reputation for speeding vehicles. Whilst a two way configuration may increase volumes on the road, it should create a slower speed environment for pedestrians and cyclists.

Based on the information provided, it is recommended that the two way configuration (as per the approved design) of Quay Street be allowed to be implemented. As the adjacent businesses change to more active frontage business types (including the development of the Art Gallery) pedestrian activity is expected to improve and increase. The configuration of Quay Street can be monitored over time and revisited, if required, to ensure that the space remains prioritised for vulnerable road users.

In order to facilitate the two way configuration, the splitter island on Denham Street will need to be removed and a new splitter island at the roundabout of Quay Street and William Street will need to be constructed. Some follow up consultation with the businesses and residents along Quay Street will be required to inform them of the change and any impacts as a result of the change. Also a wider communications package to the Rockhampton Region will be required to inform the community of the change in configuration on Quay Street as well as a reminder on how shared zones operate. This will also include advanced warning signage for drivers along Quay Street highlighting the change in traffic flow. Council officers will also engage with Queensland Police Service to request some enforcement of the speed limit along Quay Street to reinforce the speed environment.

BACKGROUND

In September 2015, Council voted to commence construction of the new Quay street redevelopment and proceed to detailed design for the parkland on the lower bank of the river. The design for Quay Street was a shared zone of 20km/hr and had a two way carriageway at the same level as the pedestrian footpath. The shared zone was intended to prioritise vulnerable road users over vehicular traffic to encourage pedestrian and cyclist activity in Quay Street.

Upon completion of the construction of the Quay Street redevelopment works a question has been asked by Council regarding the potential of retaining the “in construction” traffic operation of one way traffic flow.

A high level investigation was subsequently undertaken by Strategic Infrastructure regarding the potential benefits and issues of the proposed one way configuration of Quay Street. The results this high level assessment were presented to Council's CBD Steering Committee in November 2017, which identified that the one way operation was anticipated to lead to vehicles speeds in excess of the posted 20km/h speed limit within the shared zone on Quay Street, which in turn was expected to have significant impacts to pedestrian safety along the link.

PREVIOUS DECISIONS

This report was presented at the Infrastructure Committee meeting 4 October 2022 and resolved as follows:

“THAT the matter lay on the table and be referred to the next Infrastructure Committee meeting.”

Moved by: Councillor Rutherford

Seconded by: Councillor Wickerson

MOTION CARRIED

Councillor Kirkland recorded her vote against the motion.

There are no official Council resolutions that relate to the configuration of Quay Street.

BUDGET IMPLICATIONS

The cost of the works to take Quay Street back to two way traffic will likely be in the order of \$40,000

RISK ASSESSMENT

- There is a risk that a one way configuration will increase vehicle speeds and undermine the intent of the shared space (i.e. the pedestrian priority over vehicles). This could be mitigated through enforcement of speeds however the risk is more of a potential damage to the reputation of the shared space, leading to an underutilization of the facilities by pedestrians.
- There is a risk that any retrofitted devices to slow vehicles or provide pedestrian facilities will detract from the streetscape design of Quay Street. This can be mitigated through designing devices with similar materials however this is expected to be costly and retrofitted devices are difficult to seamlessly install into the newly constructed redevelopment works.

- There is a risk that a two way configuration will increase vehicle volumes along Quay Street which, whilst a low speed environment, may become congested with vehicles using Quay Street as a through route.

CORPORATE/OPERATIONAL PLAN

The report contributes to Council's Corporate Plan goals, specifically:

3.1.1 Consult on, advocate, plan, deliver and maintain a range of safe urban and rural public infrastructure appropriate to the Region's needs, both present and into the future.

CONCLUSION

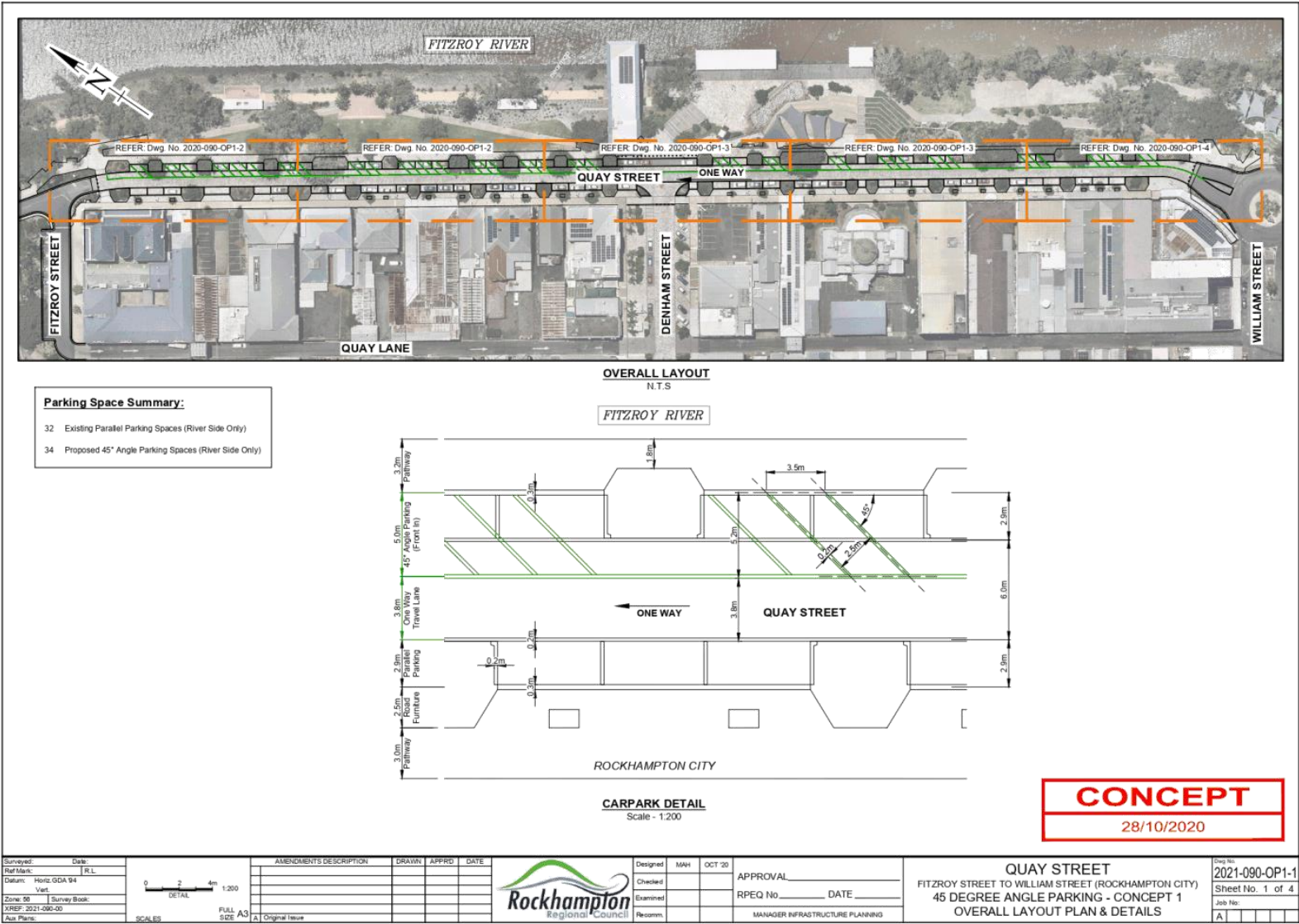
An assessment of the two different configurations of Quay Street has been undertaken and a report recommending the preferred option is presented to Council for endorsement.

QUAY STREET TRAFFIC CONFIGURATION

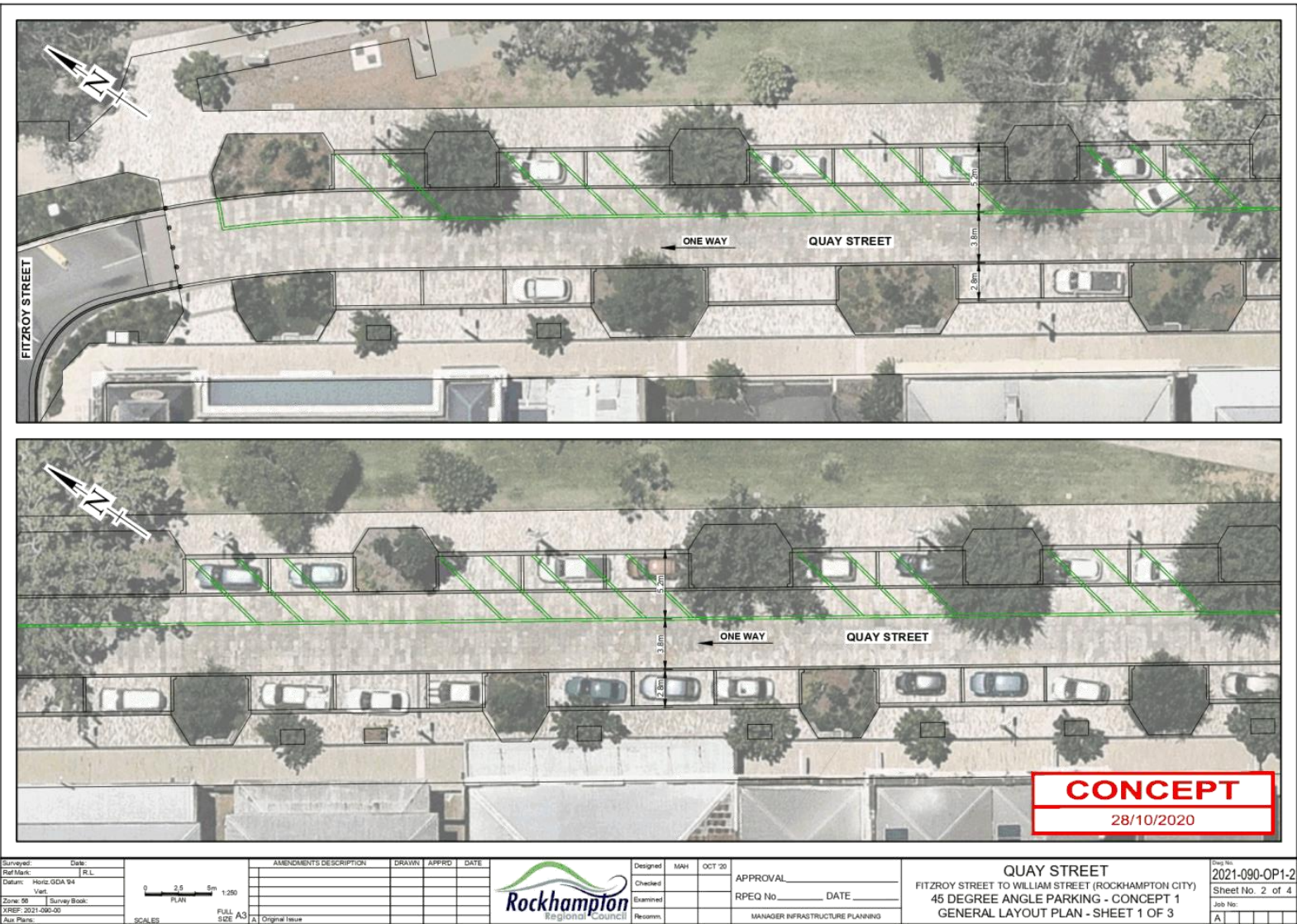
Quay Street Angle Parking Concepts

Meeting Date: 1 November 2022

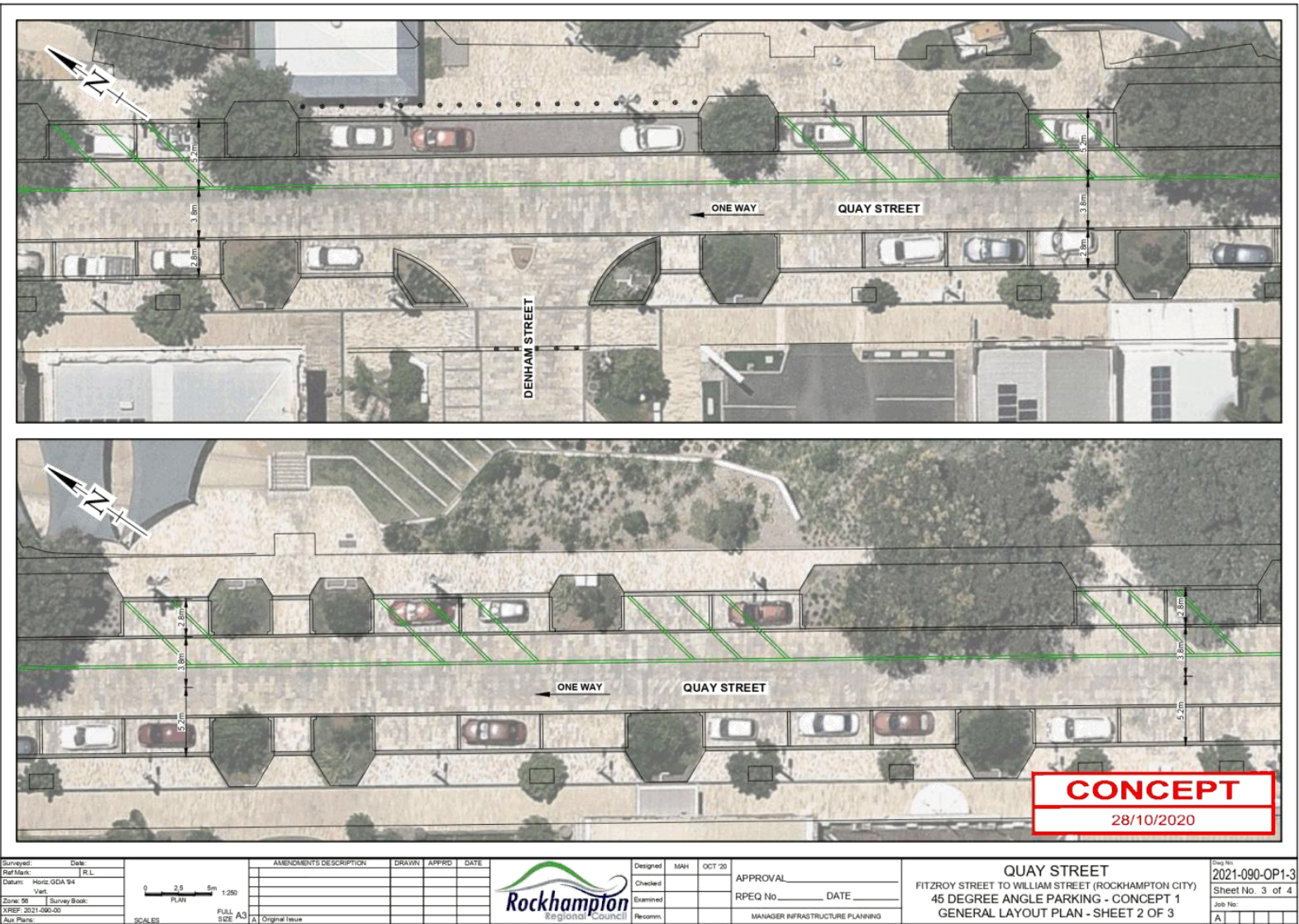
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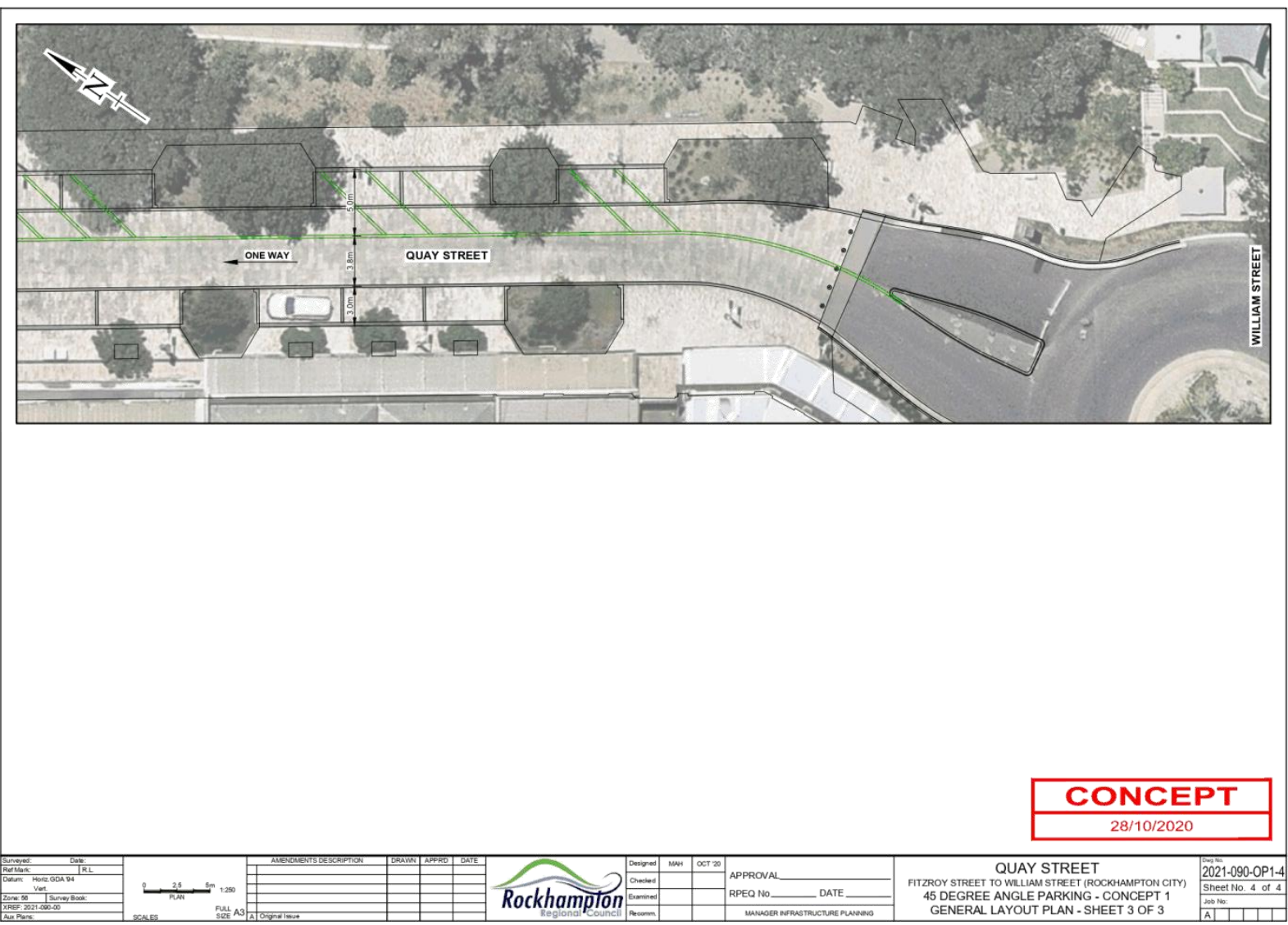
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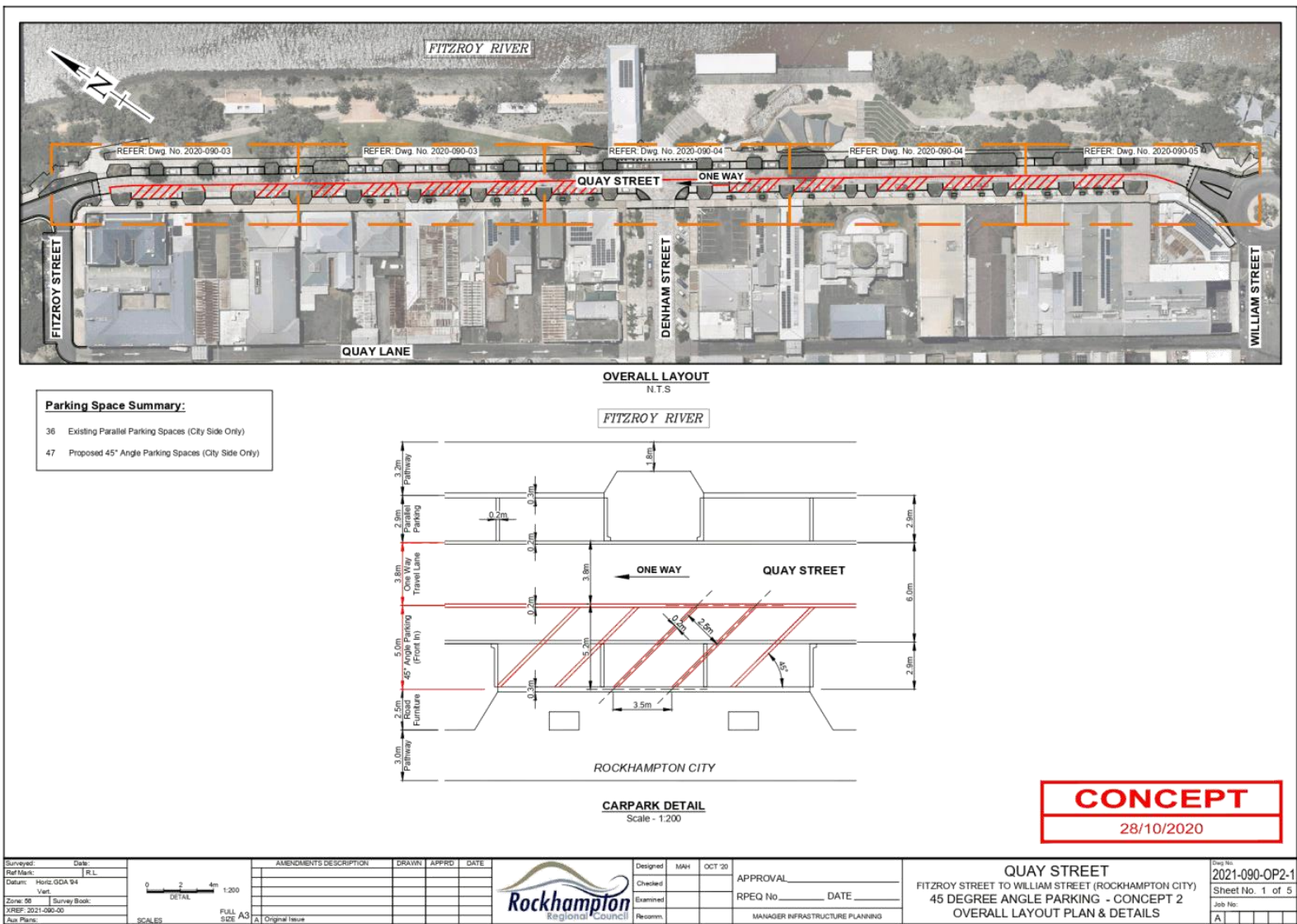


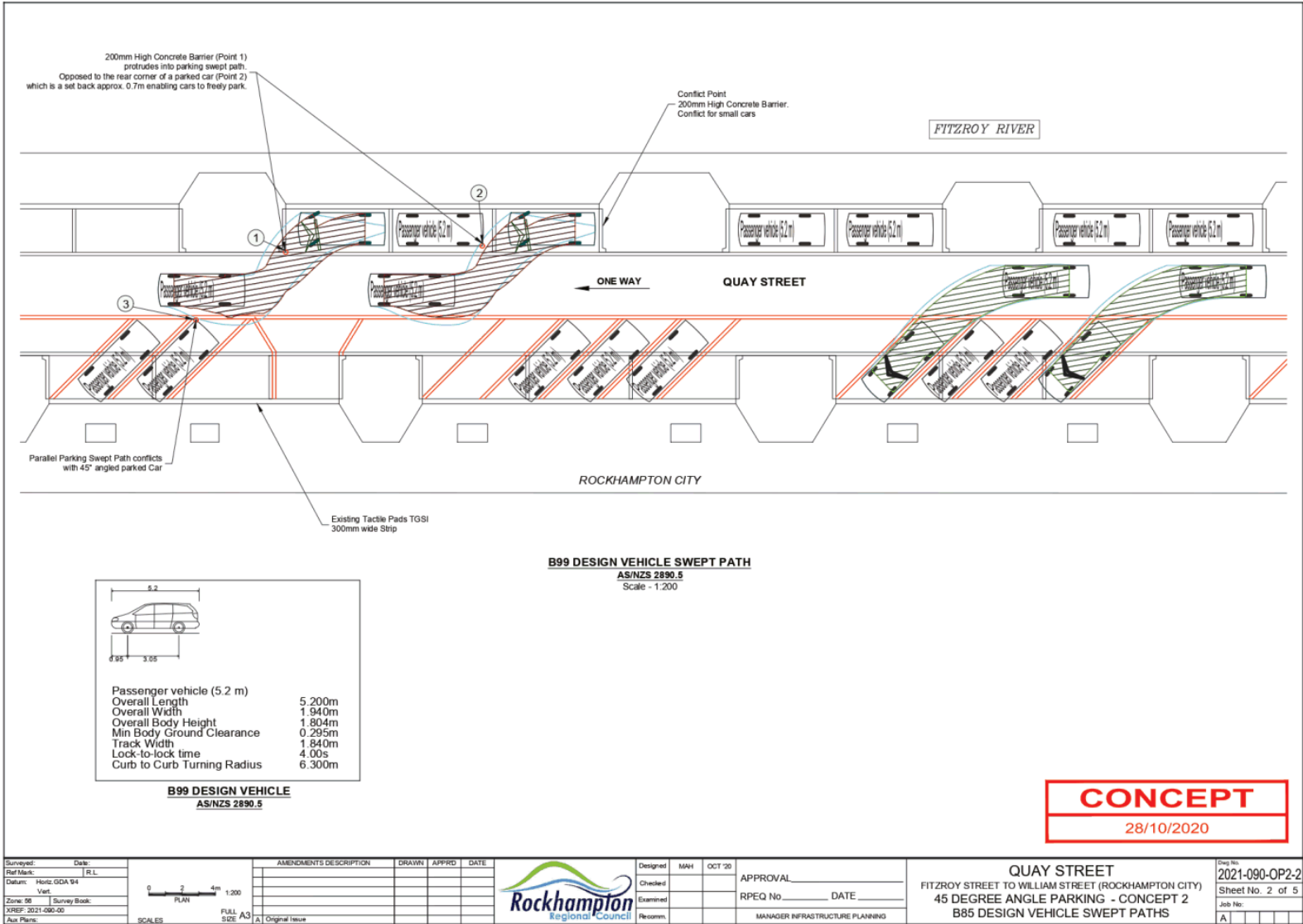
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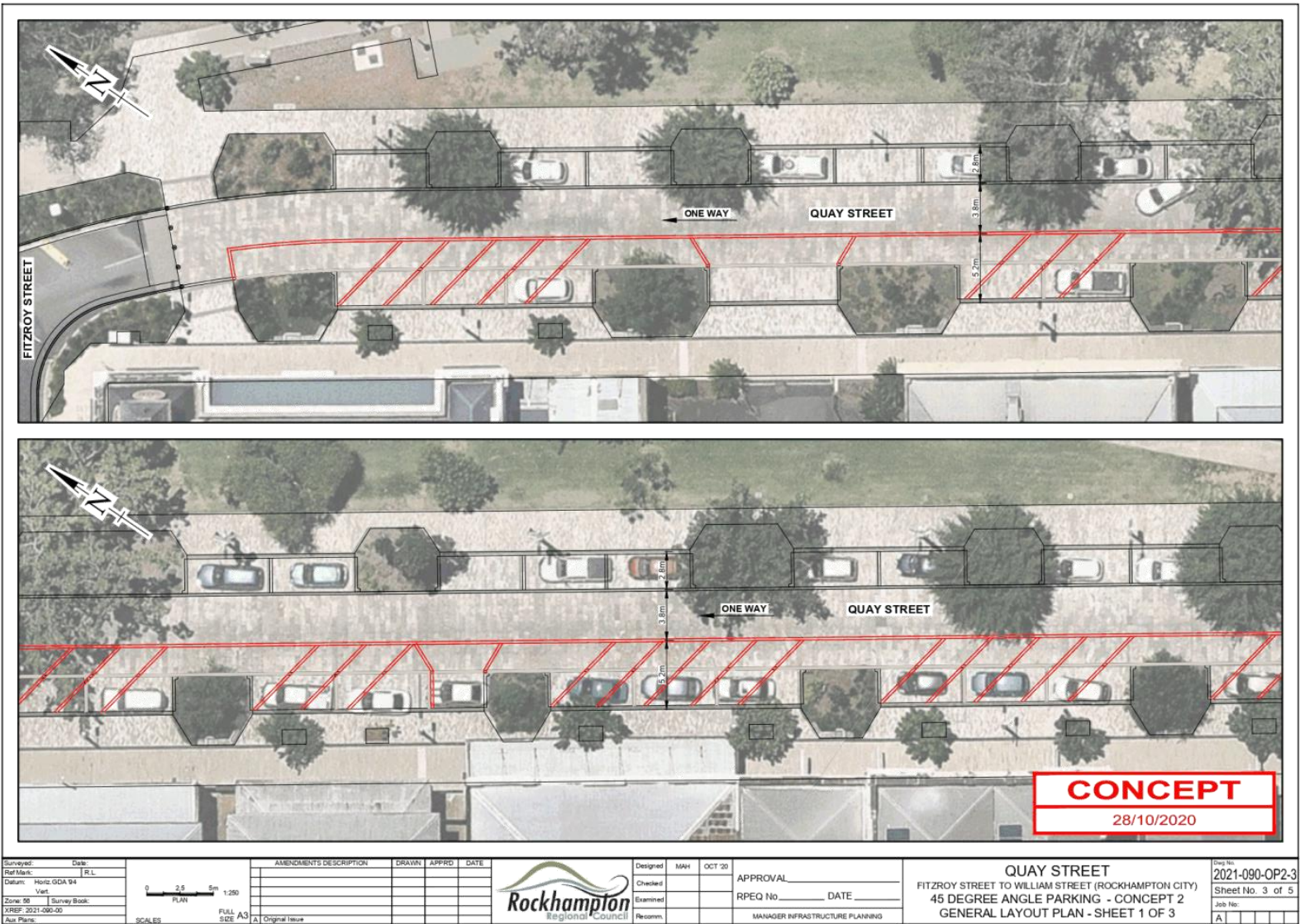
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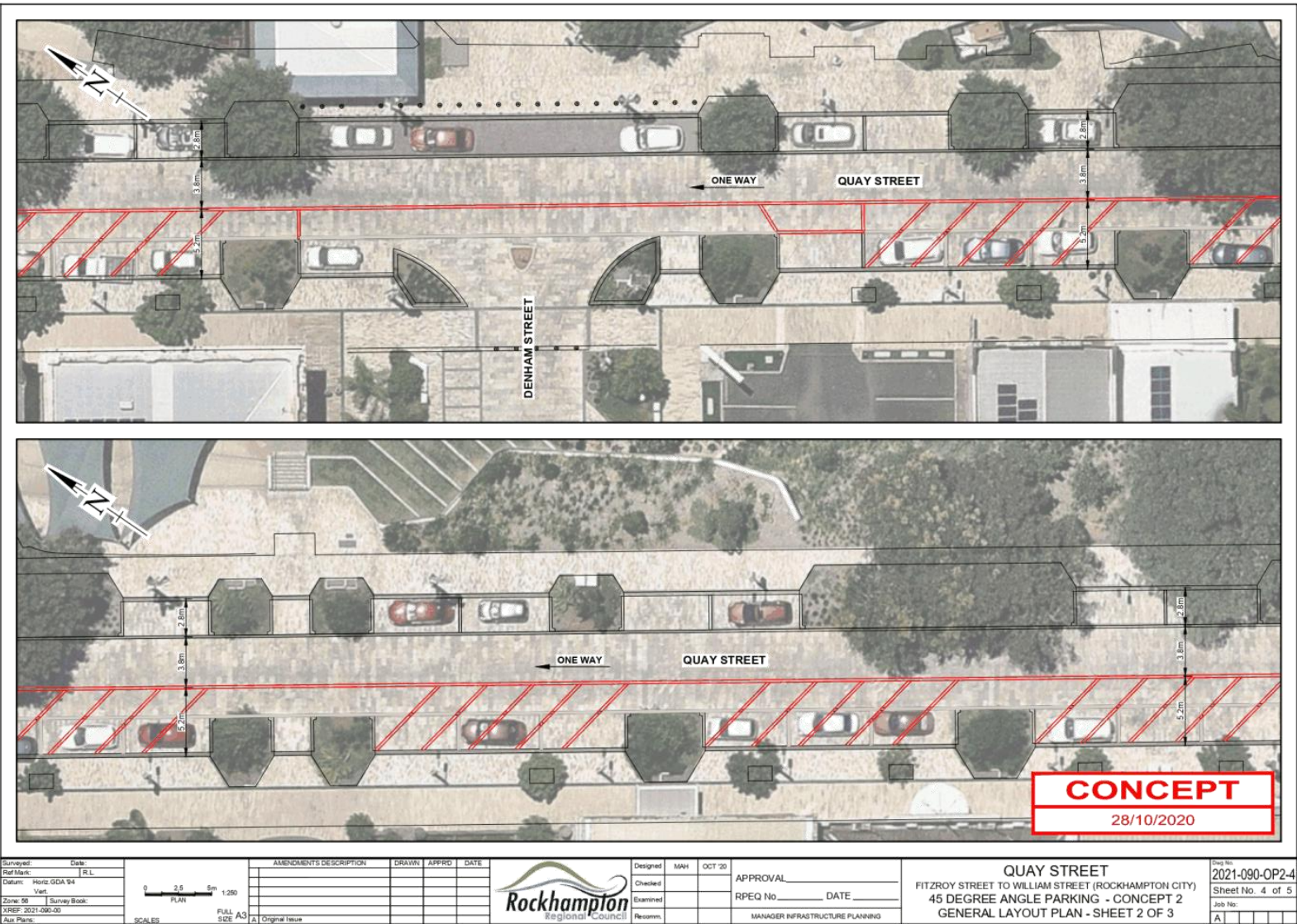


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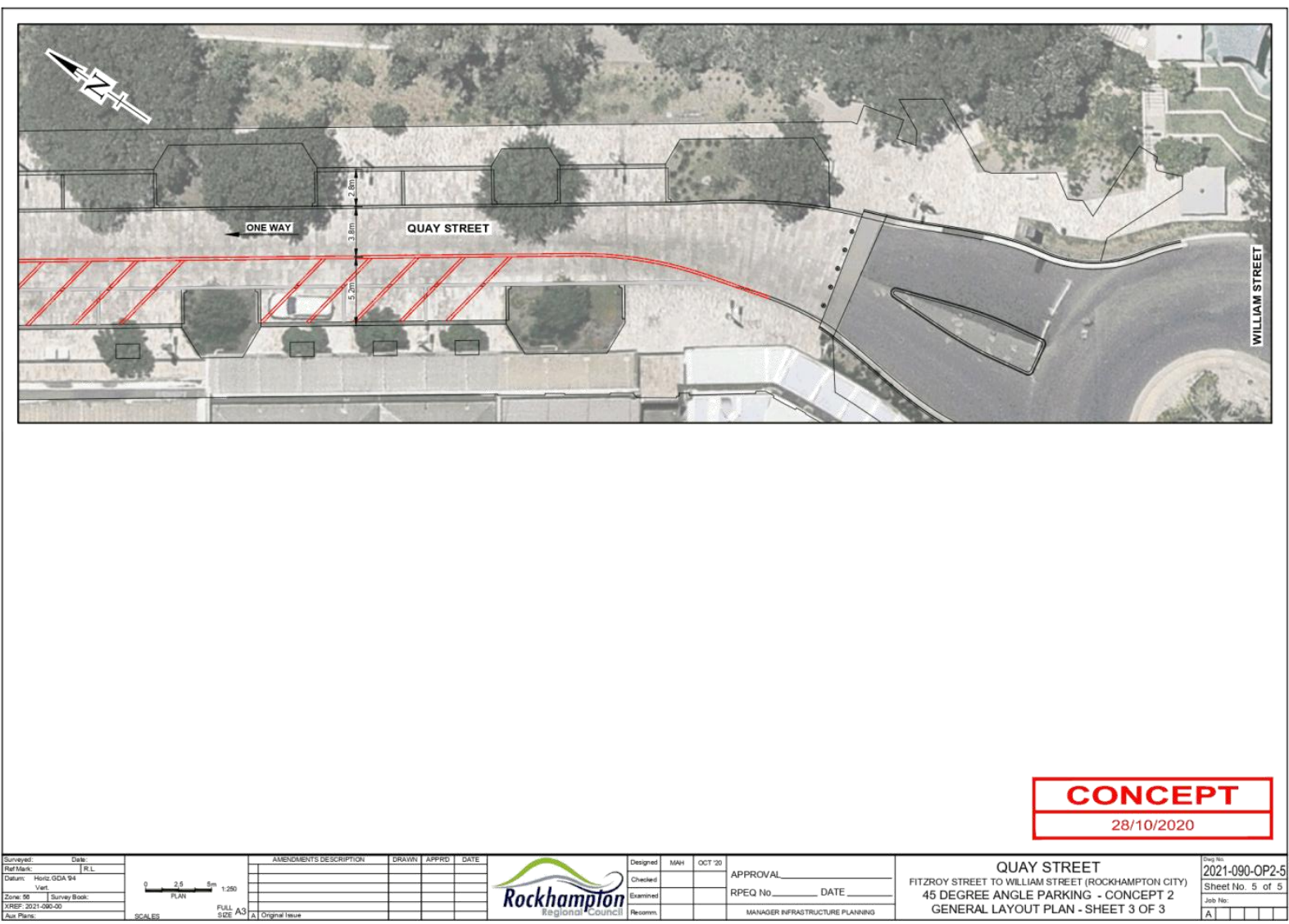


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QUAY STREET TRAFFIC CONFIGURATION

Community Consultation Responses

Meeting Date: 1 November 2022

Attachment No: 2

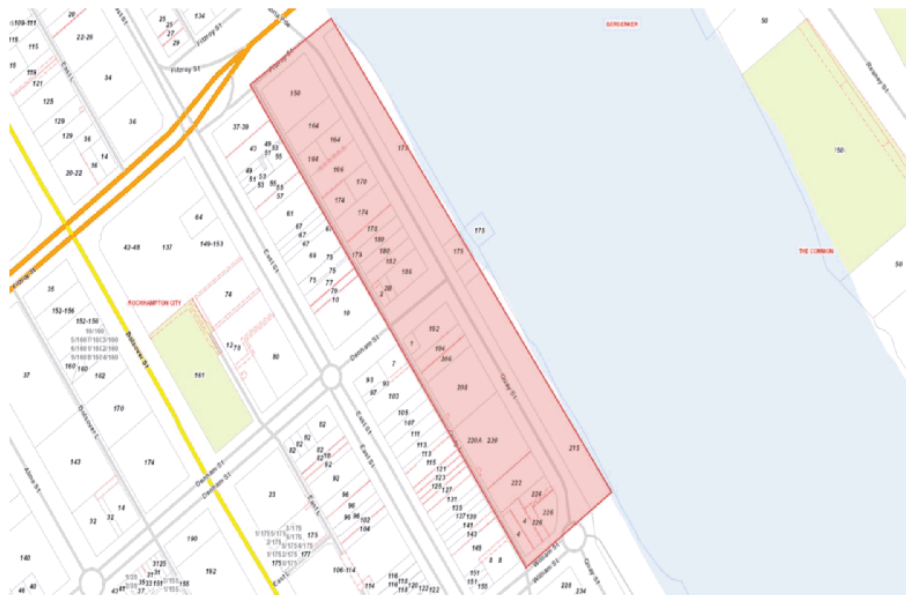
Quay Street Traffic Configuration – Community Consultation Responses September 12, 2022

On 12 September, a doorknock was carried out along Quay Street and letters delivered to business and property owners to seek their views on potentially reconfiguring traffic in that area from one-way to two-way.

The Key Messages in the consultation were:

- No decision has been made and Council wants to understand the views of affected residents and businesses before investigating a reconfiguration of traffic further;
- No car parks would be lost if there was a reconfiguration of the traffic flow;
- If a decision is made to reconfigure the traffic flow, Council would engage with affected businesses and residents again in planning scope of works.

The figure below indicates the properties that were visited during the door knock.



Letters were left with each property that Council officers visited, and 6 Letters were posted as the property was either vacant or there was no one available to receive the letters. Appendix A includes the letters provided to businesses and property owners.

The comments received on the day demonstrated a majority in favour, or non opposition, to opening up Quay Street to two way traffic flow.

Since the delivery of the letters, Council have received 2 phone calls to us directly enquiring about the potential reconfiguration. These 2 respondents indicated a strong favour to it returning to two way traffic.

Quay Street Traffic Configuration – Community Consultation Responses September 12, 2022

Comments received through consultation:

- "In favour of 2 way. It was always meant to be that way. Better accessibility. Keen to see something done about the planter boxes"
- "In favour of two way. May make traffic slower if two way. Speed has been the cause of the cracked tiles. "
- "In favour of two way. Laneway congestion an issue as it is relied upon as a thoroughfare. Issues around illegal parking. Preferred Quay Lane direction would be Northbound.
- "In favour of two way. Bought the business based on the assumption it would be two way. One way means difficulty providing clear direction to customers. Concerns with Quay Lane congestion.
- "Parking concerns but not opposed to opening up two way."
- "In favour of two way. Concerns around current speeding enforcement and associated safety concerns. People still drive the wrong way anyway. Concerns around lack of parking in CBD"
- "No issue with two way. Riverfront parking safety issues. Don't want to park there, feel unsafe, especially when in the dark."
- "In favour of two way. More accessible. Some concerns with disability access and pedestrian crossing with traffic flow. Parking isn't such a concern, businesses and staff just need to be prepared to walk further. This would allow more parking for customers. "
- "Two way traffic was decided through consultation with businesses and was the consensus agreement. Experienced caravans getting caught by one way and forced to travel down Quay Lane. If one way to remain the Bus Zone in Fitzroy Street should be a shared zone to provide way to exit without using Quay Lane. Requested meetings with Council to discuss the configuration and none have occurred"
- "Consulted on two way traffic so that is the preference. Speaking for a number of properties within the Quay Street area. Congestion experienced in Quay Lane as a result of one way traffic. Especially when vehicles are loading and unloading there is added congestion from traffic trying to travel south. Vehicle speeds in the laneway are high as well as a result of people using it instead of Quay Street."

[Quay Street Traffic Configuration – Community Consultation Responses](#) [September 12, 2022](#)

[Appendix A: Letter to Businesses / Property Owners:](#)

Rockhampton Regional Council – Infrastructure Planning

3



Rockhampton Office
232 Bolsover St, Rockhampton
Gracemere Office
1 Ranger St, Gracemere
Mount Morgan Office
32 Hall St, Mount Morgan

7 September 2022

Our Ref: 11359
Enquiries: Regional Services
Telephone: 07 4932 9000 or 1300 22 55 77
Fax: 07 4936 8862 or 1300 22 55 79
Email: enquiries@rrc.qld.gov.au

To the Resident / Business Owner

Notice of Consultation - Quay Street Traffic Flow

Dear Sir / Madam

Rockhampton Regional Council (Council) are inviting feedback from businesses, property owners and residents along Quay Street, between William Street and Fitzroy Street, on their preferred traffic configuration in this area (as one-way or two-way).

It is important to note that no decision has been made and Council wants to understand the views of affected residents and businesses before investigating a reconfiguration of traffic.

Furthermore, no car parks would be lost if there was a reconfiguration of the traffic flow.

If a decision is made to reconfigure the traffic flow, Council will conduct further consultation with affected businesses and residents again in planning the scope of works.

Should you have any questions or would like to discuss this matter further, please do not hesitate to get in touch on 4932 9000 or email enquiries@rrc.qld.gov.au.

Yours faithfully

A handwritten signature in black ink, appearing to read "Stuart Harvey".

Stuart Harvey
Coordinator Strategic Infrastructure
Regional Services

Rockhampton Regional Council PO Box 1860, Rockhampton Q 4700
P: 07 4932 9000 or 1300 22 55 77 | E: enquiries@rrc.qld.gov.au | W: www.rrc.qld.gov.au



10.3 GRACEMERE WASTE TRANSFER STATION OPERATING HOURS REVIEW**File No:** 7284**Attachments:** Nil**Authorising Officer:** Peter Kofod - General Manager Regional Services**Author:** Michael O'Keeffe - Manager Rockhampton Regional Waste and Recycling**SUMMARY**

The purpose of this report is to present the findings of the Gracemere Waste Transfer Station operating hours review. The key objective of this review is to address concerns raised by customers to ensure the operating hours of the Waste Transfer Station meet the needs of the community.

OFFICER'S RECOMMENDATION

THAT Council resolves to maintain the current operating hours for the Gracemere Waste Transfer Station.

COMMENTARY

To ensure the operating hours of the Gracemere Waste Transfer Station (WTS) reflect the needs of the community a review was undertaken during the month of September 2022. The review included consultation with key contractors servicing the WTS, a review of the facility's patronage and a community survey providing alternative options for operational hours.

The community survey was available online through Council's Facebook page, physical copies were handed out at the Gracemere WTS, QR Codes were available at the Gracemere WTS and Service Centre, and a consult day was held at the Gracemere Shopping Centre to speak with the community directly. A summary of the survey results is provided below in **Table 1**. As shown below, the preferred option is Option 1 – for the current hours of service to remain unchanged.

Table 1. Gracemere Waste Transfer Station Operating Hours Community Survey Results			
Option	Proposed Hours	First Preferred Option	First Preferred Option %
Option 1	Status Quo: Current hours of service remain unchanged	43	45%
Option 2	Reduced Days of Operation: Monday, Wednesday, Friday 7am – 5pm Saturday 7am – 3pm Sunday 7am – 1pm	23	24%
Option 3	Alternating early & late hours: Monday, Wednesday, Friday 7am – 1pm Tuesday, Thursday 11am – 5pm Saturday 7am – 3pm Sunday 7am – 1pm	17	18%
Option 4	Reduced Weekend Hours: Monday – Friday 9am – 5pm Saturday – Sunday 9am – 12pm	12	13%
Total		95	100%

Furthermore, consultation was undertaken with key contractors servicing the WTS including Cleanaway, Nugrow and MEGZ Pty Ltd. During these discussions there was a consensus for maintaining the current operating hours as this was the most suitable option considered by all stakeholders.

BACKGROUND

During the 2020/2021 budget process a number of operational areas were nominated for review with operational savings to be generated. Within RRWR, the operation of the Waste Transfer Stations (WTSs) were reviewed to ensure that the level of service provided was supported by the level of patronage at the WTSs.

On 8 December 2020 Council resolved to amend Gracemere WTS operating hours, reducing the hours by 22.5 hours a week. This resolution took effect 1 February 2021. The operation of Council's regional WTSs are under contract and this reduction of hours saved Council approximately \$72,000 per annum in contractor fees.

Since the commencement of the new operational hours Council has received 8 complaints/enquiries regarding the change of hours to Gracemere WTS including an enquiry received from the Gracemere Community Voice Association Inc. requesting a reassessment of the WTS hours on behalf of its members.

On 15 March 2022 Council resolved to undertake a review of the operating hours of the Gracemere WTS including community and stakeholder consultation.

BUDGET IMPLICATIONS

Nil.

LEGAL IMPLICATIONS

Nil.

CONSULTATION EXTERNAL/INTERNAL

Consultation has been undertaken with key stakeholders and the community.

CORPORATE/OPERATIONAL PLAN

The key objectives of RRWR are to deliver commercially viable waste and recycling services that satisfy adopted customer service standards.

CONCLUSION

The findings of the review have identified that the current operating hours of the Gracemere WTS meet the needs of the community and are the majority preferred option by all stakeholders. It is recommended that Council resolve to maintain the current operating hours of the Gracemere WTS.

10.4 PROJECT DELIVERY CAPITAL PROJECT REPORT OCTOBER 2022

File No: 7028
Attachments: 1. Project Delivery Capital Project Report October 2022 [↓](#)
Authorising Officer: Peter Kofod - General Manager Regional Services
Author: Andrew Collins - Manager Project Delivery

SUMMARY

Monthly status report on all projects currently managed by the Project Delivery unit.

OFFICER'S RECOMMENDATION

THAT the Project Delivery Monthly Report for October 2022 be received.

COMMENTARY

The Project Delivery section submits a monthly project report outlining the status of capital projects managed by the Unit.

The following projects are reported on for the month of October 2022.

- Mount Morgan Water Supply Pipeline Project
- Hail Damage Insurance Claim
- Alliance Maintenance Facility
- Botanic Gardens & Zoo Redevelopment
- Glenmore Water Treatment Plant Upgrade
- Gracemere & South Rockhampton STP Strategy
- Glenmore Water Treatment Plant Solar Farm
- Mount Morgan Pool
- North Rockhampton Sewage Treatment Plant Upgrade
- Rockhampton Airport Parking
- Arthur Street Sewage Pump Station

PROJECT DELIVERY CAPITAL PROJECT REPORT OCTOBER 2022

Project Delivery Capital Project Report October 2022

Meeting Date: 1 November 2022

Attachment No: 1

Regional Services – Project Delivery

Monthly Dashboard Update

Reporting Period: October 2022



Scope

Deliver the annual capital works program, achieving a capital program within 95% of the budget.

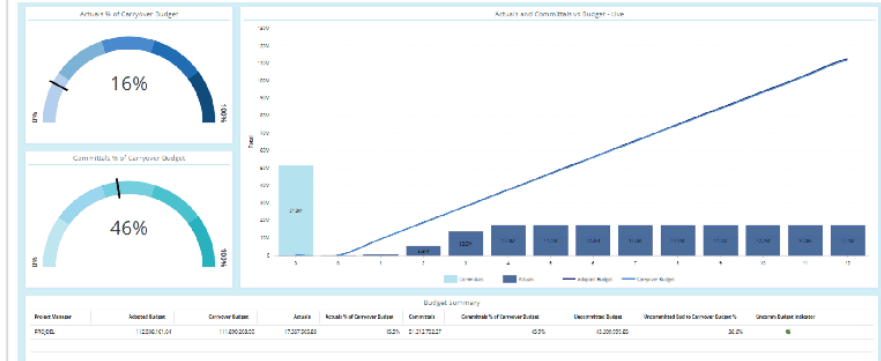
Ensure the delivery of infrastructure projects meet objectives set out in the 2022/23 Operational Plan.

Traffic Light Reporting

Item	Last Month	This Month	Comments
Scope	A	A	No current scope issues
Budget	G	G	No current budget issues.
Schedule	R	R	Glenmore Solar Farm, contract termination has impacted project delivery times. Delivery of Council funded works on AMF has been rescheduled to suit delivery method. Botanic Gardens Playground. Delays in Dingo Structure from OS.

2022/23FY R1 Summary

Project Delivery Budget Summary View



Status Overview

Key Milestones & Deliverables This Month (October)

- **Mount Morgan Water Supply Pipeline Project**
Tender package called
- **Alliance Maintenance Facility**
Main civil works achieved Practical Completion
- **North Rockhampton Sewage Treatment Plant**
Piling works completed, concrete structures being constructed
- **Glenmore WTP Solar**
Tenders called
- **Botanic Gardens & Zoo Redevelopment**
Visitor Hub tenders called.
- **Airport Paid Parking Replacement**
Works completed
- **Arthur St SPS**
Tenders called

Three Month Horizon

- | November | December | January |
|--|--|--|
| <ul style="list-style-type: none"> • Alliance Maintenance Facility
Hangar Door cladding / Site Power /carpark • North Rockhampton Sewage Treatment Plant
Concrete structures and under slab drainage to continue. • Mount Morgan Pool
Community Information Session • Mount Morgan Water Supply Pipeline
Pipe procurement finalised, tenders called for main works, Community Information Session. • Glenmore Water Treatment Plant
Dosing shed structure completion • Botanic Gardens & Zoo Redevelopment
Tender adjudication | <ul style="list-style-type: none"> • Alliance Maintenance Facility
Carpark and hangar works continue • North Rockhampton Sewage Treatment Plant
Construction of concrete structures to continue. • Mount Morgan Water Supply Pipeline
Tender adjudication • Mount Morgan Pool
Pool construction procurement • Botanic Gardens & Zoo Redevelopment
Tender award for Visitor Hub, civil works for Playground. • Arthur St SPS
Award contract | <ul style="list-style-type: none"> • Mount Morgan Pool
D&C award • Mount Morgan Water Supply Pipeline
Project site works commence • North Rockhampton Sewage Treatment Plant
Concrete structures to continue • Arthur St SPS
Commence Construction • Botanic Gardens & Zoo Redevelopment
Construction Commencement |

Regional Services – Project Delivery
Monthly Dashboard Update
Reporting Period: October 2022



Project Name	Current Status	Monthly Update			
		Scope	Budget	Schedule	
Mount Morgan Water Supply Pipeline Project	Construction	G	G	G	<ul style="list-style-type: none"> Procurement of pipe and valves supply now underway with a tender closed and being adjudicated. Design development continues with Package B- Razorback works, reservoirs and pump stations scheduled for completion in October. Tender package developed, tender package called 21 October 2022. Tenders called for the upgrade of the WTP. Community Information session planned for early November.
Hail Damage Insurance Claim	Construction	G	G	G	<ul style="list-style-type: none"> Works to Dooley Street depot is completed. North Rockhampton Library is completed. Boathouse Café hail damaged solar panels is completed. Elfin House Childcare Centre is complete. 152 Lakes Creek Road landfill is complete with minor defects to be rectified. Kershaw Gardens Precinct roof structures are complete, minor defects to be rectified. Victoria Park shade structures is complete. North Rockhampton Sewage Treatment Plant is awarded and works yet to be scheduled.
Alliance Maintenance Facility	Construction	G	G	A	<p>The main civil contract with the bulk of the funded works has reached practical completion on the 11 October 2022 and begun to demobilise from site. Work is currently being undertaken on the car park by Ahrens. Work on the hangar continues with internal cladding now complete. Hangar doors cladding to commence end of month, epoxy flooring in annex to commence late October and main Hangar area programmed for November. Alliance Airlines working through site power connection.</p> <p>Milestone 1 fund of \$3.75M has been received.</p> <p>Milestone 2 fund of \$7.5M has been received.</p> <p>Milestone 3 fund of \$11.25M has been received.</p>

Regional Services – Project Delivery
Monthly Dashboard Update
Reporting Period: October 2022



Project Name	Current Status	Monthly Update			
		Scope	Budget	Schedule	
Botanic Gardens & Zoo Redevelopment	Design	A	G	R	<ul style="list-style-type: none"> Package 2 Visitor Hub Construction: Construction tender was advertised on the 16th of September, with a tender briefing on 28th September and closing on 4th November. Package 3 Playground: Project Program has had a major change due to shipping delays of Custom Dingo equipment; The Dingo equipment is now scheduled for delivery on 23rd January 2023. Civil design works is completed which include sandstone retaining walls and pathways to adjust level differences. Civil works started on the 10th October 2022 with removal of existing play equipment and commencement of the cut and fill area. Package 4 Enclosure Refurb: Negotiations have started with successful tenderer of the eagle enclosure, looking to award contract by 21st October 2022.
Glenmore Water Treatment Plant Upgrade	Design & Construction	G	G	G	<ul style="list-style-type: none"> External cladding of the new dosing shed progressing. Soft demolition of the control room completed. Inlet works Switchboard Factory Acceptance Testing completed. Contractor has updated methodology for filter upgrades. Proposed program on hold due to water security risks during the summer months. Contractor is reviewing its program.
Gracemere & South Rockhampton STP Strategy	Strategic Assessment	G	G	G	<p>Current work relates to developing and implementation of stages to be able to realise the strategic plan. A consultant has been engaged to develop the design strategy for both Gracemere and South Rocky STPs.</p> <ol style="list-style-type: none"> 1. New caustic soda dosing system at SRSTP (preliminary designs completed) 2. New wet well for sludge pump station (planning works undertaken) 3. Design and installation of penstocks in bioreactors to commence in November 4. Condition assessments & replacement of diffusers (waiting penstock install) 5. Condition assessments & upgrade of sludge digesters (investigation work underway) 6. Upgrade of sludge lagoons both at SR & G STPs (Gracemere works complete / NRSTP underway/ SRSTP preparation works underway) 7. Effluent pipeline at GSTP (FRW works underway) 8. Sewer diversion; Gracemere to South R'ton STP (Geotech complete at GSTP, pipeline prelim design completed. Pump station design to commence) 9. New aerator to be installed at GSTP

Regional Services – Project Delivery
Monthly Dashboard Update
Reporting Period: October 2022



Project Name	Current Status	Monthly Update			
		Scope	Budget	Schedule	
Glenmore Water Treatment Plant Solar Farm	Design & Construction	G	G	R	<ul style="list-style-type: none"> Design and construction work package currently out for tender, due late-October.
Mount Morgan Pool	Preliminary Evaluation	G	G	G	<ul style="list-style-type: none"> Tender specification being prepared Community feedback session to be held on 9 November 2022
North Rockhampton Sewage Treatment Plant Upgrade	Construction	G	G	G	On site CFA pile activities are now completed and the plant demobilized from site. Work on the concrete structures on site continues with the inlet works structure now around 60% completed. Work on the bioreactor and oxidation ditch continues with floor slab now 85% completed and walls 30% completed. Clarifier work has begun on the excavation for the sludge pocket and the installation of pipes.
Rockhampton Airport Parking	Design & Construction	G	G	G	Equipment installs complete, final system commissioning and checks.
Rockhampton Airport Screen and Security Upgrade	Design & Construction	G	G	G	Project on-track. Defect rectification ongoing. Scope increased to include design of solar system for terminal and application to Ergon for connection approval for Airport and tenant's solar applications.
Arthur Street Pump Station	Construction	G	G	G	Issue for construction drawings completed, tender package compiled, and tenders called closing 16 November 2022.

10.5 ADDITION OF ROAD TO ROAD REGISTER - NINE MILE ROAD ADJUSTMENT

File No: 6833
Attachments: 1. Location Map [↓](#)
Authorising Officer: Peter Kofod - General Manager Regional Services
Author: John Gwydir - Manager Civil Operations

SUMMARY

Council recently decided at its meeting of 16 August 2022 to add a number of roads to Council's Road Register and maintenance program. This report seeks to add a small section which was omitted from that report.

OFFICER'S RECOMMENDATION

THAT Council assumes responsibility for the opening and maintenance of the 145 metre segment of road identified in Attachment 1 off Nine Mile Road, Mount Morgan.

COMMENTARY

As previously discussed with Council, officers are attempting to apply some consistent rules in relation to existing properties with habitable dwellings and missing links on the road register. The subject road segment was missed in the previous report. This road segment measures approximately 145 metres in length, will provide access to a property with an existing habitable dwelling and abuts Nine Mile Road, an existing maintained road on Council's Road Register.

BUDGET IMPLICATIONS

Being only a short segment of road abutting a significant length of maintained road, the cost of the additional 145 metres is negligible.

CONCLUSION

It is recommended that Council take over the additional short section of road.

ADDITION OF ROAD TO ROAD REGISTER - NINE MILE ROAD ADJUSTMENT

Location Map

Meeting Date: 1 November 2022

Attachment No: 1



Legend

- | | |
|-----------------------------------|---|
| ● Effluent Joints | ● Sewer Joints Private |
| ● Effluent Meters | ● Sewer Valves Private |
| ■ Effluent Structures | ● Sewer Gravity Mains Private |
| ⌵ Effluent Valves | ● Sewer Rising Mains Private |
| — Effluent Mains | ● Sewer Jump Ups Private |
| — Effluent gravity main | ● Sewer Mains Abandoned Pri |
| — Effluent rising main | ● Sewer Access Chambers Abandoned Private |
| ● Flood Mitigation Devices | □ Easements |
| ▲ Culverts | □ Property Parcels (Main) |
| ● Headwalls | □ Roads2 |
| ● Stormwater Junctions | — Main Roads |
| ■ Pollution Trap | — Major Council Roads |
| ◆ Subsoil Clean-Out pit | — Standard Council Ro |
| — Stormwater Jump ups | — Access Roads |
| — Stormwater Main | — Private Roads |
| — Connector: Reticulati | — Unconstructed |
| — Culvert Pipe: LinkSta | — Ocean |
| — Inter-Alignment | — Rivers |
| — Low Flow Pipe | — DCD Parks |
| — Other | — National Park |
| — Stormwater Drop Structures | — Reserves |
| — Open Channel | — State Forest |
| — Batter Chute, Open C | |
| — Drain | |
| — Bio-Retention Swale | |
| — Subsoil Drain | |
| — Weirs | |
| ■ Abandoned Junctions | |
| ▲ Abandoned Culverts | |
| ● Abandoned Headwalls | |
| ■ Abandoned Mains | |
| ■ Stormwater Basins | |
| ■ Bio-Retention | |
| ■ Detention/Retention | |
| ● Culverts Private | |
| ● Headwalls Private | |
| ■ Stormwater Junctions Private | |
| ● Pollution Trap Private | |
| ◆ Subsoil Clean-Out pit Private | |
| — Stormwater Jump Up Private | |
| — Stormwater Main Private | |
| — Open Channel Private | |
| — Subsoil Drain Private | |
| ■ Retention Basins Private | |
| ■ Sewer Network Structures | |
| ■ Pump Station | |
| ■ Treatment Plant | |
| ■ Sewer Access Chambers | |
| ● Access Chambers | |
| ● Roll Over | |
| ● Lamp Hole Inspects | |
| ■ Overflow Chamber | |
| ● Sewer Valves | |
| — Sewer Jump Ups | |
| — Sewer Gravity Mains | |
| — Overflow Main | |
| — Combined Main | |
| — Reticulation Main | |
| — Trunk Main | |
| — Sewer Rising Mains | |
| ● Sewer Access Chambers Abandoned | |

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10.6 ASSET MANAGEMENT PLAN - UNSEALED ROADS

File No: 5960
Attachments: 1. **Asset Management Plan - Unsealed Roads**[↓](#)
Authorising Officer: Martin Crow - Manager Infrastructure Planning
Peter Kofod - General Manager Regional Services
Author: Andrew Whitby - Coordinator Assets and GIS

SUMMARY

This report presents a new Asset Management Plan for Unsealed Roads to the Infrastructure Committee for adoption.

OFFICER'S RECOMMENDATION

THAT Council adopt the Asset Management Plan for Unsealed Roads.

COMMENTARY

A new Asset Management Plan (AMP) has been developed for all unsealed roads that are owned by Council. This document will replace the unsealed roads component of the current Roads AMP that was adopted in 2014.

This AMP includes 1,078 km of unsealed roads across 6 different road classes:

- Class 150 roads – 2 km
- Class 125 roads – 37 km
- Class 100 roads – 109 km
- Class 75 roads – 431 km
- Class 30 roads – 393 km
- Class 10 roads – 106 km

The above infrastructure assets have a replacement value estimated at \$215,236,545.

The new AMP includes the following:

Levels of Service

The AMP considers both Customer Levels of Service (quality, function and capacity) and Technical Levels of Service (acquisition, operation, maintenance and renewals) when assessing current performance and determining future needs.

Future Demand

The AMP identifies the drivers affecting demand and considers the impact these may have on future service delivery.

Asset Lifecycle Management

The AMP considers the asset lifecycle demands (renewals, acquisitions, disposals, operations and maintenance) to deliver the agreed service levels, and the availability of funding through the Long-Term Financial Forecast (LTFF) and other external sources.

Risks Management

The AMP documents the treatment plans for critical risks associated with the delivery of services.

Financial Summary

The AMP summaries the medium-term financial requirements for the asset sub-class and considers the key indicators for sustainable service delivery.

BACKGROUND

Council principally exists to provide services that meet the needs of the community. Asset management planning is a comprehensive process; the purpose of which is to ensure the delivery of services from Council owned infrastructure are financially sustainable.

PREVIOUS DECISIONS

Council adopted the current Roads AMP in 2014.

BUDGET IMPLICATIONS

The overall quantum of capital demand identified in the AMP exceeds the funding available in the LTFF over the 10-year planning period. Likewise, the annual maintenance demand identified in the AMP exceeds the funding available in the 2022/23 operating budget. These funding shortfalls are manageable in the short-term (1-3 years), however current service levels will begin to gradually decline.

LEGISLATIVE CONTEXT

A local government must prepare and adopt a long-term asset management plan under the Local Government Act (Local Government Regulation 2012).

LEGAL IMPLICATIONS

There are no legal implications.

STAFFING IMPLICATIONS

There are no staffing implications.

RISK ASSESSMENT

The AMP documents the treatment plans for critical risks associated with the delivery of services. The costs associated with these risk treatments are included in the asset lifecycle management plan.

The need for good quality AMPs is identified in Council's Operational Risk Register.

CORPORATE/OPERATIONAL PLAN

The AMP supports of the following Corporate Plan goals:

- We are fiscally responsible
- We plan for growth with the future needs of the community, business and industry in mind
- Our Region is resilient and prepared to manage climate-related risks and opportunities
- We are motivated to provide excellent service and have a strong organisational culture
- Our Region has infrastructure that meets current and future needs

CONCLUSION

The new Unsealed Roads AMP is a comprehensive document. It identifies the service levels, future demand, lifecycle demand (renewals, acquisitions, disposals, operations and maintenance) and critical risks associated with the asset sub-class.

ASSET MANAGEMENT PLAN - UNSEALED ROADS

Asset Management Plan – Unsealed Roads

Meeting Date: 1 November 2022

Attachment No: 1



ASSET MANAGEMENT PLAN

Rockhampton Regional Council
Unsealed Roads

Document Control		Asset Management Plan		
Version	Description	Plan Type	Author	Reviewed By
1	Draft	Asset Sub-Class	Brett Cagney	Andrew Whitby Martin Crow Cornelius Claassen Steven Hughes
2	Final Review	Asset Sub-Class	Brett Cagney	Andrew Whitby
3	Updated with adopted budget and LTFF changes	Asset Sub-Class	Brett Cagney	Martin Crow John Gwydir Mamie Taylor Andrew Whitby
4	Updated with further modelling and commentary	Asset Sub-Class	Brett Cagney	John Gwydir Andrew Whitby

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The Institute of Public Works Engineering Australasia

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1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

The Rockhampton Regional Council (Council) principally exists to provide services that meet the needs of the community. Asset management planning is a comprehensive process; the purpose of which is to ensure the delivery of services from Council owned infrastructure that is financially sustainable.

This Asset Management Plan (AMP) details information about Council's unsealed road assets with actions required to provide an agreed level of service in the most cost-effective manner while also outlining associated risks with this approach. The AMP defines the services to be provided, how the services are provided and what funds are required to provide over the 10 year planning period. The AMP will link to a Long Term Financial Forecast (LTFF) which typically considers a 10 year planning period.

1.2 Asset Description

This AMP covers all unsealed roads that are owned by Council. Unsealed roads form part of the Road Infrastructure Asset Class:

Asset Class	Sub-Class
Road Infrastructure	Sealed Roads
	Unsealed Roads
	Access Roads and Car Parks
	Footpaths
	Traffic Management Devices and Street Furniture

The infrastructure assets covered by this AMP include 1,078 km of unsealed roads across 6 different road classes:

- Class 150 roads – 2 km
- Class 125 roads – 37 km
- Class 100 roads – 109 km
- Class 75 roads – 431 km
- Class 30 roads – 393 km
- Class 10 roads – 106 km

The above infrastructure assets have an estimated replacement value of \$215,236,545 as at 30/06/2022.

1.3 Levels of Service

The funding available for unsealed roads is **insufficient** to continue providing existing services at **current levels** for the planning period. With a 15% reduction in funding for resheeting and an 18% reduction in funding for grading, it is expected that up to 16km less resheeting and 95km less grading will occur per year. Current service levels will be impacted through a gradual reduction in gravel coverage, and a gradual increase in road roughness.

The funding shortfalls will be partially offset by continued investment in the rural road sealing program over the 10-year period, which will address high-use, high-risk unsealed roads.

1.4 Future Demand

The factors influencing future demand and the impacts they have on service delivery are created by:

- Changing traffic volumes and loads
- Changing weather patterns (climate change)
- Standards and regulatory requirements; and
- Community expectations

These demands will be approached using a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures:

- Review design standards and optimise treatments for whole of life costs
- Implement resilience focus for all works
- Identify opportunities to improve road drainage and flood immunity
- Test treatments and options for minimising the use of water during construction

1.5 Lifecycle Management Plan

What do we need?

The forecast lifecycle demand to provide the services covered by this AMP includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AMP may be prepared for a range of time periods, it typically informs a LTFF period of 10 years. Therefore, a summary output from the AMP is the 10 year forecast lifecycle demand, which for Unsealed Roads is estimated as \$73,671,650 or \$7,367,165 on average per year.

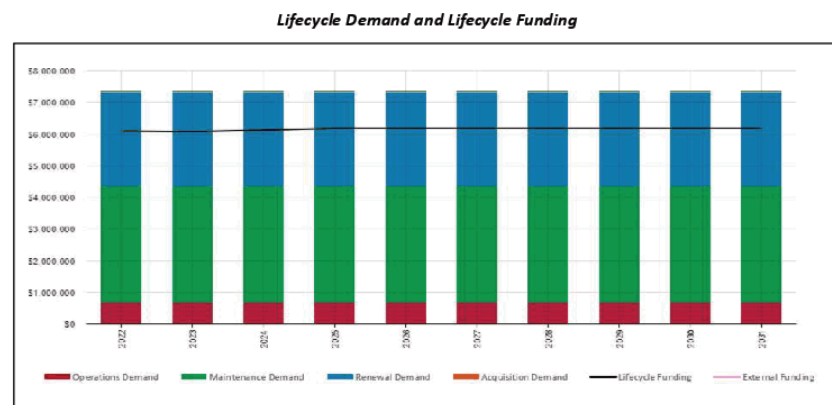
1.6 Financial Summary

What funding do we have?

The forecast lifecycle funding (LTFF + External Funding + Operations & Maintenance) for the 10 year period is \$61,620,000 or \$6,162,000 on average per year. This is 84% of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded can be provided. Informed decision making depends on the AMP emphasising the consequences of funding on the service levels provided and risks.

The forecast lifecycle funding for Unsealed Roads indicates a shortfall compared to the lifecycle demand required to provide services in the AMP. This is shown in the figure and table below. Figure and table values are shown in current day dollars.



Lifecycle Demand and Lifecycle Funding

Financial Year	Lifecycle Demand	Lifecycle Funding				Surplus / Shortfall	Cumulative Surplus/ Shortfall
		Council Funding		External Funding	TOTAL		
		Capital	Operational (O&M)				
22/23	\$7,337,165	\$2,420,000	\$3,685,000	\$0	\$6,105,000	-\$1,232,165	-\$1,232,165
23/24	\$7,337,165	\$2,400,000	\$3,685,000	\$0	\$6,085,000	-\$1,252,165	-\$2,484,330
24/25	\$7,337,165	\$2,450,000	\$3,685,000	\$0	\$6,135,000	-\$1,202,165	-\$3,686,495
25/26	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$4,838,660
26/27	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$5,990,825
27/28	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$7,142,990
28/29	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$8,295,155
29/30	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$9,447,320
30/31	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$10,599,485
31/32	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$11,751,650
TOTAL	\$73,371,650	\$24,770,000	\$36,850,000	\$0	\$61,620,000	-\$11,751,650	

What we will do

We plan to provide the following services over the 10 year planning period:

- Operation, maintenance, and renewal of unsealed roads to meet the existing service levels

Managing the Risks

Our present funding levels are generally **insufficient** to continue to manage risks in the medium term. We will continue to manage our risks associated with this asset class by:

- Monitoring and adjusting service levels where required to meet budgets
- Conducting timely maintenance actions
- Prioritising renewals and maintenance to address risk and maintain efficiency of works delivery

1.7 Asset Management Planning Practices

Key assumptions made in this AMP are:

- Renewal costs are based on the most recent works programming rates
- The current operations and maintenance budgets have been used and only increased in the forecast relative to the acquisition of new assets
- In determining the useful life stored in the asset register, assumptions were used in the Unsealed Roads Model to simplify the process

Our systems to manage assets include:

- Finance 1 is Council's financial system
- R1 is Council's asset system
- Esri ArcGIS is Council's GIS system

Assets requiring renewal/replacement are identified from either the asset register or an alternative method. These methods are part of the Lifecycle Model.

- The timing of capital renewals is applied using the asset register expiry date,
- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems (such as Pavement Management Systems) and may be supplemented with, or based on, expert knowledge.

The Asset Register Method was used to forecast the renewal life cycle costs for this AMP. This AMP is based on a reliable level of confidence in the information.

1.8 Monitoring and Improvement Program

The next steps resulting from this AMP to improve asset management practices are:

- Continue developing an efficient Pavement Management System (PMS)
- Continue collecting data required by each section of the PMS
- Developing a procedure related to the safety of our roads subjected to heavy vehicle loadings
- Improve the quality of the existing data related to the acquisition year and useful lives of unsealed road pavements
- Review the AMP regularly to incorporate new risks and opportunities
- Arrange discussions and prepare documents, to assure the consistency of understanding of terminologies amongst different Council's departments
- Continue updating the staff knowledge in different sections of asset management
- Continue having effective communications within a department and amongst different disciplines
- Monitor the effectiveness of AMP regularly
- Continue utilising the state of the art technologies, materials, and engineering services to complete the operation, maintenance, and capital activities
- Provide sufficient and timely information related to the completed works to be used in AMP
- Consider the above items in the next council revaluation of Unsealed Roads and improve the reliability and accuracy of the current replacement costs, remaining lives, depreciated replacement costs, etc.

2.0 Introduction

2.1 Background

This AMP communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the long term planning period.

This AMP is to be read in conjunction with the following:

- Corporate Plan
- Operational Plan
- Long Term Financial Forecast (LTFF)
- Risk Management Framework
- Advance Rockhampton Region - Rockhampton Regional Council Economic Action Plan
- Asset Management Policy
- Asset Custodianship Policy
- Asset Management Responsibilities Policy
- Capital Works Program
- Local Government Infrastructure Plan (LGIP)

This AMP covers all unsealed road assets that are owned by Council. Unsealed roads form part of the Road Infrastructure Asset Class:

Asset Class	Sub-Class
Road Infrastructure	Sealed Roads
	Unsealed Roads
	Access Roads and Car Parks
	Footpaths
	Traffic Management Devices and Street Furniture

The infrastructure assets covered by this AMP include 1,078 km of unsealed roads across 6 different road classes:

- Class 150 roads – 2 km
- Class 125 roads – 37 km
- Class 100 roads – 109 km
- Class 75 roads – 431 km
- Class 30 roads – 393 km
- Class 10 roads – 106 km

These assets are an integral part of the transport network servicing our Local Government Area. For a detailed summary of the assets covered in this AMP refer to Table in Section 5.

The infrastructure assets included in this plan have an estimated total replacement value of \$215,236,545 as at 30/06/2022.

Key stakeholders in the preparation and implementation of this AMP are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AMP

Key Stakeholder	Role in Asset Management Plan
Elected Council	<ul style="list-style-type: none"> Represent the needs of community. Provide the strategic direction and priorities for Council Ensure services are sustainable
Chief Executive Officer	Implement the policies and strategic direction provided by Council.
General Manager of Regional Services	Setting direction and facilitating approval of policies on asset management, ensuring integration with corporate planning.
Chief Financial Officer	Financial management and reporting. Annual review of Council's long term financial forecast.
Manager Infrastructure Planning and Coordinator Assets & GIS	<p>Corporate asset management governance functions including:</p> <ul style="list-style-type: none"> Asset Management Framework, Policy, and Strategy Administration and development of Council's corporate asset management and geographic information systems. <p>Asset management functions related to Unsealed Roads including:</p> <ul style="list-style-type: none"> Coordination of condition assessment activities related to the revaluation of unsealed roads. Asset Management Plan development. Financial asset modelling.
Manager Infrastructure Planning and Coordinator Infrastructure Planning	Identification of new and upgrade projects.
Asset Custodians	Responsible for assets and services including financial, planning, operation, risk management and works execution.

2.2 Goals and Objectives of Asset Ownership

Our goal in managing infrastructure assets is to provide a defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing, and appropriately controlling risks, and
- Linking to a Long-Term Financial Forecast which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are

- Levels of service – specifies the services and levels of service to be provided,
- Risk Management,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices – how we manage provision of the services,

- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

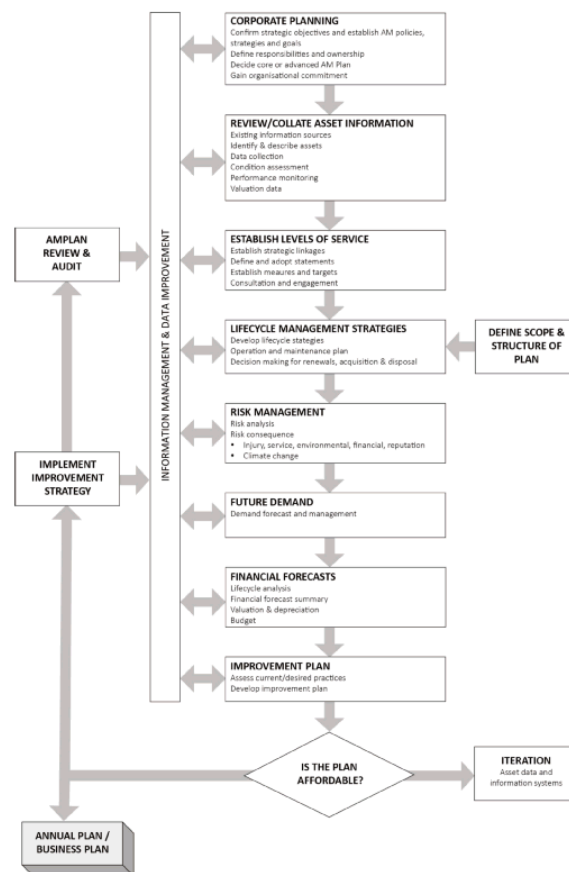
Other references to the benefits, fundamentals principles and objectives of asset management are:

- International Infrastructure Management Manual 2015 ¹
- ISO 55000²

A road map for preparing an Asset Management Plan is shown below.

Road Map for preparing an Asset Management Plan

Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



¹ Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2 | 13

² ISO 55000 Overview, principles and terminology

3.0 LEVELS OF SERVICE

3.1 Community Expectations

The primary means of identifying community expectations is through the Corporate Plan. The Local Government Act 2009 requires Council to develop a 5 year corporate plan that incorporates community engagement. Table 3.1 outlines the communities expectations relevant to Unsealed Roads. These expectations are recorded as goals in the Corporate Plan.

Table 3.1: Customer Expectations

Theme	Goals (Community Expectations)
Our Council	<ul style="list-style-type: none"> We are fiscally responsible We are motivated to provide excellent service and have a strong organisational culture
Our Economy	<ul style="list-style-type: none"> We plan for growth with the future needs of the community, business, and industry in mind
Our Environment	<ul style="list-style-type: none"> Our region is resilient and prepared to manage climate-related risks and opportunities
Our Infrastructure	<ul style="list-style-type: none"> Our region has infrastructure that meet current and future needs.

3.2 Strategic and Corporate Goals

This AMP is prepared under the direction of the Council's vision and corporate objectives.

Our vision is:

**One Great Region
Live. Visit. Invest**

The Corporate Plan identifies the corporate objectives related to the goals listed in Table 3.1. Table 3.2 demonstrates that this AMP supports these corporate objectives.

Table 3.2: Corporate Objectives and how these are addressed in this AMP

Goals	Corporate Objectives	How objective is supported in AMP
We are fiscally responsible	Our budgets are financially sustainable and provide value and accountability to the community	Section 7.1 - Financial Sustainability and Projections
We are motivated to provide excellent service and have a strong organisational culture	We have a workplace culture that is safe, engaged, responsive, professional and accountable	Sections 3.4 and 3.5 - Customer and Technical Services Levels Section 8.2 - Improvement Plan
We plan for growth with the future needs of the community, business and industry in mind	Our strategic planning supports the Region's growing population and enables economic development	Section 4.3 - Demand Impact and Demand Management Plan Section 5.4 - Acquisitions
Our region is resilient and prepared to manage climate-related risks and opportunities	We have a greater understanding of climate risks and their impacts on the Region, which prepares us for challenges and opportunities in the future	Section 6 – Risk Management Planning Section 4.3 - Demand Impact and Demand Management Plan
Our region has infrastructure that meet current and future needs.	Our Council assets are well maintained Our future projects are planned and prioritised	Section 5 – Lifecycle Management Plan

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the unsealed roads service are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
<i>Local Government Act 2009 and Local Government Regulations 2010</i>	Sets out role, purpose, responsibilities and powers of local governments including the preparation of the Corporate Plan, LTFF supported by infrastructure and asset management plans for sustainable service delivery
<i>Heavy Vehicle National Law Act 2012</i>	Administers one set of laws (the HVNL) for heavy vehicles over 4.5 tonnes gross vehicle mass. It manages the impact of heavy vehicles on the environment, road infrastructure and public amenity
<i>Transport Operations (Road Use Management – Road Rules) Regulation 1999</i>	Establishes road rules in Queensland that are substantially uniform with road rules elsewhere in Australia
<i>Transport Planning and Co-ordination Act 1994</i>	Sets agenda for overall transport effectiveness and efficiency through strategic planning and management of transport resources
<i>Transport Operations (Road Use Management) Act 1995</i>	The overall objective of this Act is to provide for the effective and efficient management of road use in the State
<i>Transport Infrastructure Act 1994</i>	Provides a structure, which sets and enables effective integrated planning and efficient management of the Council's transport and drainage
<i>Environmental Protection Act 1994</i>	Its objective is to protect Queensland's environment while allowing ecologically sustainable development
<i>Australian Standards</i>	Australian standards related to design and construction of structures which provides technical knowledge for the structural condition evaluation

3.4 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Quality How good is the service ... what is the condition or quality of the service?

Function Is it suitable for its intended purpose is it the right service? Is it safe?

Capacity/Use Is the service over or under used ... do we need more or less of these assets?

In Table 3.4 under each of the service measures types (Quality, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

These are measures of fact related to the service delivery outcome (e.g. number of occasions when service is not available or proportion of replacement value by condition %'s) to provide a balance in comparison to the customer perception that may be more subjective. In Table 3.4 the main factor considered is the condition of the road network for users.

Table 3.4: Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget		
Quality	Condition of the roads for users	Number of complaints per month	6 month avg. – 16/month	Increasing from current average over time as network service levels decline		
		% Gravel Coverage (by length)	<u>Road Class & Gravel Coverage (Last survey)</u> 150 – 98% 125 – 92% 100 – 82% 75 – 75% 30 – 60% 10 – 40% Previous resheeting budgets have maintained gravel coverage levels since the 2018 service level review.	<u>Road Class & Gravel Coverage</u> 150 – 98% 125 – 92% 100 – 82% 75 – 65% 30 – 50% 10 – 30% The recent 2022/23 budget and revised LTFF have reduced funding for resheeting by \$500K/yr. This is expected to have an impact on gravel coverage over time with less resheeting being undertaken. Refer to Section 5.3 for more details.		
		Confidence levels		High	High	
Function	Is the asset appropriate for intended use (smooth, safe access to and from properties)	Road Roughness – International Roughness Index (IRI)	<u>Road Class & IRI (Last survey)</u> 150 – 6.9 125 – 6.4 100 – 6.8 75 – 7.2 30 – 7.1 10 – 7.9 Previous maintenance budgets have maintained roughness levels since the 2018 service level review. The intervention level for inclusion in a future grading program has previously been an IRI > 7 for all road classes.	<u>Road Class & IRI</u> 150 – up to 7 125 – up to 7 100 – up to 7 75 – up to 8.2 30 – up to 8.2 10 – up to 8.2 The recent 2022/23 budget has reduced funding for grading activities by \$615K/yr. This will require an adjustment of intervention levels in order to match reduced grading capacity. Refer to Section 5.7 for more details. Road roughness is one of the main variables considered when developing grading programs.		
			Confidence levels		High	High
			Capacity / Use	Do the assets have sufficient capacity (traffic, design/geometric, hydraulic, strategic)?	% of network with sufficient capacity	95%
	Data from program of unsealed roads identified for future replacement with sealed roads. These roads form part of the Sealed Roads AMP and were identified in accordance with Council’s Rural Road Network Policy.	Continued road sealing expenditure at the current rates will allow the majority of identified roads to be replaced with sealed roads within the 10yr planning period				
Confidence levels			High	High		

Confidence Levels**High** - Professional Judgement supported by extensive data**Medium** - Professional judgement supported by data sampling**Low** - Professional Judgement with no data evidence

3.5 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

- **Acquisition** – the activities to provide a higher level of service (e.g. widening a road, pavement strengthening, extension of the unsealed network).
- **Operation** – the regular activities to provide services (e.g. gravel pit management, water source management, traffic counts and road inspections, etc).
- **Maintenance** – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. gravel patching, unsealed road grading),
- **Renewal** – the activities that return the service capability of an asset up to that which it had originally provided (e.g. gravel resheeting and pavement reconstruction),

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.³

Table 3.5 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the Forecast activity requirements being recommended in this AMP.

Table 3.5: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance**
TECHNICAL LEVELS OF SERVICE				
Acquisition	Construct new unsealed roads to meet current and future demands	Properties with habitable dwellings are serviced by a constructed unsealed road to the point adjacent the nearest property boundary	95% of properties serviced by a constructed unsealed road	95% of properties serviced by a constructed unsealed road
		Budget	<i>As required</i>	<i>As required</i>
Operation	Roads meet community's expectations for quality and safety	Network condition surveys	Condition assessment – full network survey every 5 years	Condition assessment – full network survey every 5 years
		Regular programmed safety and defect surveys	Survey of network Once per year	Survey of network Once per year
		Adhoc safety and defect surveys	As initiated (Customer requests & operations staff travel)	As initiated (Customer requests & operations staff travel)
		Resources to coordinate operations	1 Roads Inspector + Operations Support Staff	1 Roads Inspector + Operations Support Staff
		Budget	<i>\$6,850,000 for 10 years</i>	<i>\$6,850,000 for 10 years</i>

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance *	Recommended Performance **
Maintenance	Roads are safe and smooth	Roads are graded in accordance with defined intervention levels	Higher order roads exceeding IRI 7 and lower order roads exceeding IRI 8 are included in a future maintenance grading program. As recommended in Section 5.7	All roads exceeding IRI 7 are included in a future maintenance grading program (as per 2018 service level review)
	Roads are functional	Drainage, signage, and vegetation and maintained in accordance with RRC Road Management Plan	95% compliance with response times detailed in RMP	95% compliance with response times detailed in RMP
		Budget	<i>\$30,000,000 for 10 years</i>	<i>\$36,750,000 for 10 years</i>
Renewal	Roads are renewed adequately to maintain gravel coverage	Length of resheeting (km) per year	~82 km/year	~98 km/year
		Budget	<i>\$24,770,000 for 10 years</i>	<i>\$29,771,650 for 10 years</i>
Disposal	Roads are maintained in accordance with Council policies	Constructed roads removed from asset register when no longer servicing any habitable dwellings	0km of constructed roads servicing no habitable dwellings	0km of constructed roads servicing no habitable dwellings
		Budget	<i>\$0 per year</i>	<i>\$0 per year</i>

Note: * Current Performance for Maintenance and Renewal activities is based on Planned Funding.
 ** Recommend Performance is based on Funding Demand.

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged that changing circumstances in technology and customer expectation will impact service levels over time, for example:

- As new vehicles with larger permitted loadings are introduced to our road networks, the current level of service needs to increase to meet the demand
- The adoption of autonomous driving technologies will introduce higher serviceability standards for our road network, including our unsealed roads
- Community expectations for the provision and operation of Council's Unsealed Roads can change over time

4.0 FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented.

4.3 Demand Impact and Demand Management Plan

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 4.3.

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices can include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this Asset Management Plan.

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Changing traffic volumes and loads	Traffic volumes and loads handled by current pavement depths and grading frequencies	Heavier traffic volumes and loads (Static loads, and dynamic loads due to changes in speed and, axle configuration)	Requirement for thicker pavements and/or more frequent resheets and grading activities Replacing unsealed road with a sealed road	<ul style="list-style-type: none"> Monitor traffic volumes and analyse trends with traffic counters Increase condition monitoring surveys Review design standards and optimise treatments for whole of life costs
Changing weather patterns (climate change)	Extreme events are infrequent and disaster funds available for restoration of damaged assets	More extreme events, more often (flooding and drought), more damaged assets	More frequent extreme events and potential for asset restoration costs to be borne by Council	<ul style="list-style-type: none"> Implement resilience focus for all works Identify opportunities to improve road drainage and flood immunity
Community's expectations	Council's performance in providing access is satisfactory now.	Community may become less satisfied in general with the service provided, especially at the time of extreme events.	Complaints may increase especially about the serviceability after a flood or weather event	<ul style="list-style-type: none"> Discuss the risks with the community, and explain the funding needed to enhance the current level of service. Implementing this AMP and keep updated regularly.

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.4.

Acquiring new assets will commit Council to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial forecast (Refer to Section 5).

4.5 Climate Change and Adaption

The impacts of climate change can have a significant impact on the assets we manage and the services they provide. In the context of the Asset Management Planning process, climate change can be considered as both a future demand and a risk.

How climate change will impact on assets can vary significantly depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.

As a minimum we should consider both how to manage our existing assets given the potential climate change impacts, and then also how to create resilience to climate change in any new works or acquisitions.

Opportunities identified to date for management of climate change impacts on existing assets are shown in Table 4.5.1.

Table 4.5.1 Managing the Impact of Climate Change on Assets

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Increase in average rainfall and global mean sea level	Increase in frequency and severity of flooding	Higher vulnerability of pavement damage during rain events Lower flood immunity	Ensure drainage structures are adequately sized and regularly cleaned Incorporate stabilised pavements where suitable in low lying areas
Mean surface air temperature increase and extended periods of drought	Water sources (dams & creeks) dry more often	Difficulty supplying water for resheeting and grading activities in remote locations	Review and revise construction and maintenance practices to minimise water usage and maximise time between treatments.
	Drier, more frequent dusty roads	More customer complaints	Investigate dust suppressant additives
Ref: https://www.climatechangeinaustralia.gov.au/en/changing-climate/climate-trends/australian-trends/			

Additionally, the way in which we construct new assets should recognise that there is opportunity to build in resilience to climate change impacts. Building resilience will have benefits:

- Assets will withstand the impacts of climate change
- Services can be sustained
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this Asset Management Plan.

Table 4.5.2 summarises some asset climate change resilience opportunities.

Table 4.5.2 Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact These assets?	Build Resilience in New Works
Unsealed road pavements	Higher vulnerability of pavement damage during rain events	<ul style="list-style-type: none">• Ensure road drainage design standards make allowance for climate change scenarios• Stabilisation (cement/lime/bitumen) of unsealed pavements in low lying areas and adjacent to waterways and natural flow paths

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Rockhampton Regional Council plans to manage and operate the assets at the agreed levels of service (Refer to Section 3) while managing life cycle costs.

5.1 Background Data

5.1.1. Physical parameters

The infrastructure assets covered by this AMP include 1108.4 km of constructed unsealed roads, supporting the region across a vast geographic area of 6,560km². Council has three types of unsealed roads within its network:

1. Constructed Roads – formed or formed and gravelled roads, maintained by Council; the assets included in this AMP
2. Private Roads – identified property roads or tracks within the road reserve, not maintained by Council
3. Unconstructed Roads – general road reserve where future roads could be constructed

All constructed roads in the network are built and renewed with the same pavement gravel depth (100mm). The road pavements are therefore categorised by the traffic volumes on the road (in vehicles per day), which ultimately drives the gravel loss and degradation of the road and hence determines the asset useful life and maintenance requirements.

The assets covered by this AMP are shown in Table 5.1.1.

Table 5.1.1: Assets covered by this Plan

Component	Road Class	Vehicles per day	Length (km)	Replacement Value
Pavement	Class 150	>125 (~150 avg.)	2	\$ 92,605
	Class 125	>100 ≤125	37	\$ 1,248,628
	Class 100	>75 ≤100	109	\$ 3,512,956
	Class 75	>30 ≤75	431	\$ 13,071,354
	Class 30	>10 ≤30	393	\$ 10,037,525
	Class 10	≤10	106	\$ 2,434,866
Formation	All		1078	\$ 84,838,611
TOTAL				\$ 215,236,545

5.1.2. Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions.

The asset hierarchy is shown in Table 5.1.2.

Table 5.1.2: Asset Hierarchy and Components

Road Class	Definition
150	>125 – 150 vpd
125	>100 – 125 vpd
100	>75 – 100 vpd
75	>30 – 75 vpd
30	>10 – 30 vpd
10	Up to 10 vpd

5.1.3. Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.1.3.

Table 5.1.3: Known Service Performance Deficiencies

Location	Service Deficiency
Various locations across network	Poor sight distances
	Insufficient road width
	Insufficient radius and/or superelevation at bends

5.1.4. Asset Condition

Condition is assessed using a whole-of-network survey every 5 years, coinciding with asset revaluations. It is based on an assessment of the pavement condition index (PCI) per road segment and is measured using a 1 – 5 grading system³ as detailed in Table 5.1.4.

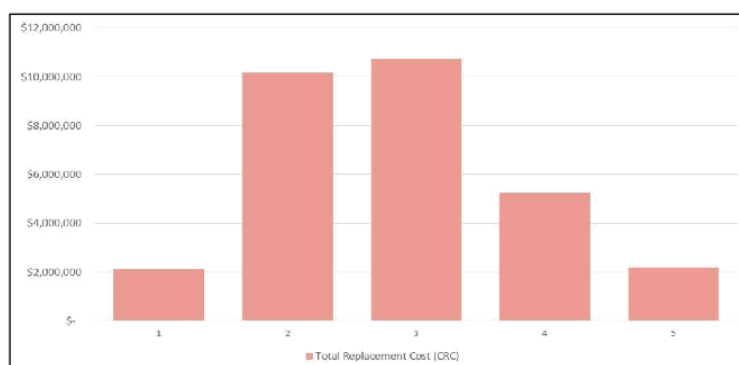
It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level for particular asset classes, however, for reporting in the AMP results are translated to a 1 – 5 grading scale for ease of communication.

Table 5.1.4: Condition Grading System

Condition Grading	PCI	Description of Condition
1	80-100%	Very Good
2	60-80%	Good
3	40-60%	Fair
4	20-40%	Poor
5	0-20%	Very Poor

The condition profile of our assets is shown in Figure 5.1.4.

Figure 5.1.4: Asset Condition Profile



All figure values are shown in current day dollars.

³ IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.

The condition data is taken from the last whole-of-network condition survey. The condition distribution generally approximates a normal distribution which would be expected for this type of asset class with many short-life assets (~1500 road segments). The majority of assets sit within Condition ratings 2 and 3, reflecting the network is generally in satisfactory condition. Assets identified as Condition 5 (PCI 0-20%) are generally very low order roads (Class 10 or Class 30).

5.2 Renewals

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces, or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an acquisition resulting in additional future operations and maintenance costs.

Assets requiring renewal are identified from one of two approaches in the Lifecycle Model.

- The first method uses Asset Register data to project the renewal costs (current replacement cost) and renewal timing (expiry year), or
- The second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The standard useful life of pavement assets used to develop projected asset renewal forecasts are shown in Table 5.2. Asset useful lives were last reviewed as part of the road revaluation in 2019.⁴

Table 5.2: Useful Lives of Pavement Assets

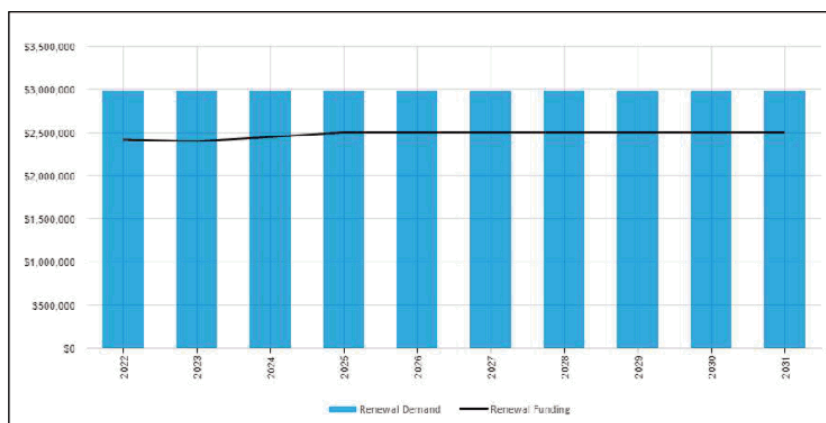
Asset (Sub)Category	Useful life (years)
Class 150	9
Class 125	9
Class 100	12
Class 75	12
Class 30	15
Class 10	20

The estimates for renewals in this AMP were based on asset register data which was updated following the last whole-of-network condition survey of the network. Renewal demand identified for the next 10 years in resheeting has been annualised to reflect the nature of the capital works delivery. For more information on how resheeting programs are developed for an annual program, please refer to Appendix H.

5.3 Summary of renewal demand

Renewal demand is the renewal works required over the planning period of the AMP. It has been determined after comprehensive investigations and planning discussions among Council units. The renewal demand is shown relative to the renewal funding (LTFF + External Funding) in Figure 5.3. A detailed summary of the renewal demand is included in Appendix A.

⁴ RRC Condition Survey and Valuation Methodology November 2019

Figure 5.3: Renewal Demand

All values are shown in current day dollars.

Over the 10-year planning period there is a shortfall in renewal funding compared to renewal demand. This is due to a 15% (\$500K) reduction in resheet funding in the 2022/2023 budget and updated LTFF, which equates to approximately 16km less resheeting per year. Table 5.3 summarises the predicted reduction in gravel coverage based on two possible strategies for managing the funding shortfall.

Table 5.3: Future resheeting strategies and long-term impact on gravel coverage

Road Class	Network Length km	Current Gravel Coverage*	Strategy 1: Maintain higher classes		Strategy 2: Reduce all classes equally	
			Future Gravel Coverage	Difference	Future Gravel Coverage	Difference
150	2	97.9%	97.9%	0%	89.3%	-8.6%
125	37	92.3%	92.3%	0%	83.8%	-8.6%
100	109	81.8%	81.8%	0%	73.3%	-8.6%
75	431	75.4%	65.3%	-10.1%	66.9%	-8.6%
30	393	60.4%	50.3%	-10.1%	51.9%	-8.6%
10	106	40.1%	29.9%	-10.1%	31.5%	-8.6%
	1078					

* Based on network survey and 2021/22 budget

It is recommended that Strategy 1 be employed to minimize impact to community and that further service level monitoring occur to improve Council's deterioration modelling.

The decline in renewal funding will be partially offset by continued investment in the rural road sealing program over the 10-year period. All sealing of unsealed roads will be included in the Sealed Roads AMP.

5.4 Acquisitions

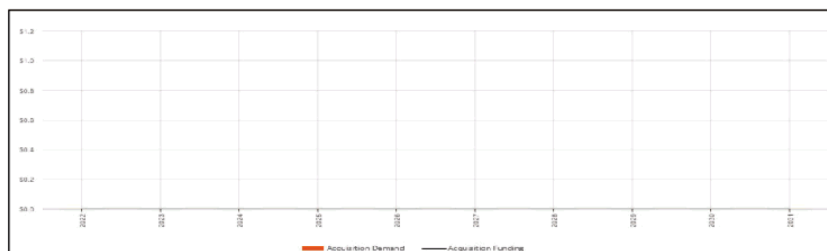
Acquisitions are new assets or works which will upgrade or improve an existing asset beyond its current capacity. They may result from growth, demand, social or environmental needs. Assets may also be contributed to Council through the development approval process or by other levels of government.

5.5 Summary of acquisition demand

Acquisition demand is the asset acquisitions required over the planning period of the AMP. The acquisition demand is shown relative to the acquisition funding (LTFF + External Funding) in Figure 5.5. The forecast acquisition demand is shown in Appendix C.

There are no unsealed road acquisitions identified for Council's network in the 10 year AMP period. Note that there are unsealed roads identified for replacement with sealed roads, and these assets form part of the acquisition demand detailed in the Sealed Roads AMP.

Figure 5.5: Acquisition Demand



All values are shown in current day dollars.

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 5.6. Any costs or revenue gained from asset disposals is included in the long-term financial plan.

Table 5.6: Assets Identified for Disposal

Asset ID	Asset Description	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
Numerous	Unsealed roads that have reached capacity and are identified for replacement with sealed roads	No longer unsealed roads	TBC – Dependent on scope of work and available budgets	N/A Existing road assets to be utilised	N/A Very minor qty in relation to the network

5.7 Operations and Maintenance Plan

Operations

Operations include regular activities to provide services. Examples of typical operational activities include network operations management and AM activities such as inspections or condition assessments.

Based on historical data, it has been assumed that operational costs of \$685,000 per year will be required for the existing asset base. These assumptions will be further refined in later revisions of this document. Operational funding levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Further information on the operational costs is detailed in Appendix D.

Maintenance

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include grading, drainage maintenance, signage, and vegetation control.

Assessment and priority of maintenance is undertaken by staff using experience and judgement. The service hierarchy adopted for maintenance grading during the 2018 service level review is shown in Table 5.7.1.

Table 5.7.1: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
All road classes	International Roughness Index (IRI) <= 7 Roads exceeding this service level objective (i.e. an IRI > 7) have met intervention level and are included in a future maintenance grading program

Based on historical data, it has been assumed that maintenance costs of \$3.675M per year will be required for the existing asset base. For more information on how grading programs are developed, please refer to Appendix H.

The trend in maintenance budgets are shown in Table 5.7.2.

Table 5.7.2: Maintenance Budget Trends

Year	Maintenance Budget \$
2020/21	\$3,650,000
2021/22	\$3,675,000
2022/23	\$3,000,000

The maintenance budget for 2022/23 has been reduced significantly compared to recent budgets and is not considered adequate to meet current service levels. There has been an 18% reduction (\$615K) in funding for grading in the 2022/23 operational budget, which is equivalent to 95 km less grading of the network per year. The service level impact will be a gradual increase in road roughness across the unsealed network. Table 5.7.3 summarises the predicted increase in road roughness, which impacts safe driving speed, based on two possible strategies for managing the funding shortfall.

Table 5.7.3: Future grading strategies and long-term impact on road roughness

Road Class	Network Length km	Current Intervention IRI	Strategy 1: Maintain higher classes			Strategy 2: Reduce all classes equally		
			Future Intervention IRI	Difference	Safe Driving Speed	Future Intervention IRI	Difference	Safe Driving Speed
150	2	7	7	-	75-80	7.7	0.7	70-75
125	37	7	7	-	75-80	7.7	0.7	70-75
100	109	7	7	-	75-80	7.7	0.7	70-75
75	431	7	8.2	1.2	65-70	7.7	0.7	70-75
30	393	7	8.2	1.2	65-70	7.7	0.7	70-75
10	106	7	8.2	1.2	65-70	7.7	0.7	70-75
	1078							

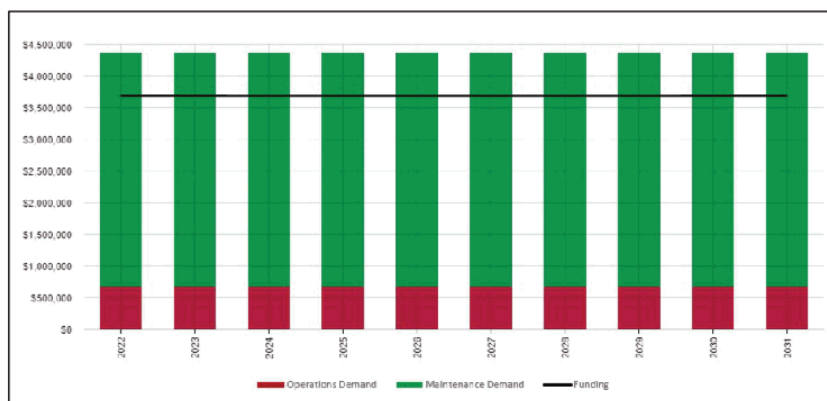
* Based on network survey and 2021/22 budget

It is recommended that Strategy 1 be employed to minimize impact to community and that further service level monitoring occur to improve Council's deterioration modelling.

Further information on the maintenance costs is detailed in Appendix E.

5.8 Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed the forecast operation and maintenance costs are expected to decrease. Figure 5.8 shows the forecast operations and maintenance costs relative to the estimated operations and maintenance funding.

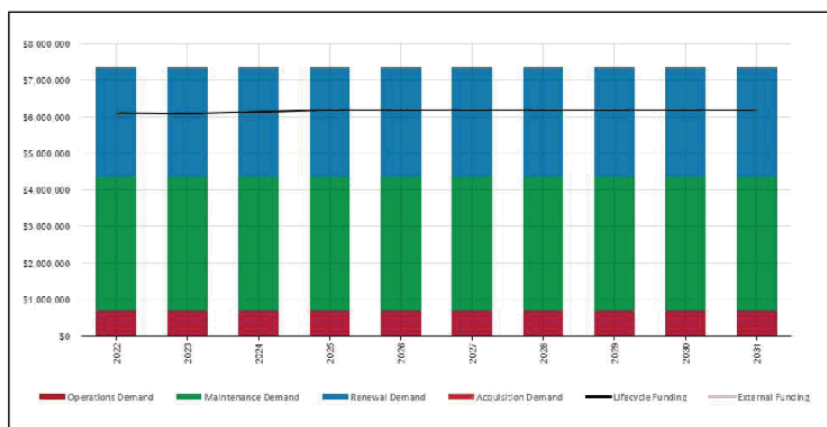
Figure 5.8: Operations and Maintenance Summary

All figure values are shown in current day dollars.

5.9 Summary of lifecycle demand

The lifecycle demand for this AMP is shown in Figure 5.9. This includes demand for operation, maintenance, renewal, acquisition and disposal. This demand is shown in comparison to the lifecycle funding (LTFF + Operations & Maintenance + External Funding).

The bars in the graphs represent the demand to minimise the life cycle costs associated with the service provision. The gap between the lifecycle demand and the lifecycle funding is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

Figure 5.9: Lifecycle Summary

All figure values are shown in current day dollars.

6.0 RISK MANAGEMENT PLANNING

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: ‘coordinated activities to direct and control with regard to risk’⁵.

An assessment of risks⁶ associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a ‘financial shock’, reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 6.1.

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
All Class 125 & Class 150 roads	Loss of gravel coverage and/or insufficient pavement depth or width	Limited wet weather access and subgrade failures. Road safety affected. Council’s unsealed road network is generally a “branch” network, meaning many unsealed road users will travel across higher order unsealed roads to get to and from their properties located on lower order roads. This means any asset failures on higher order road classes will generally affect many users, hence their criticality.

By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets. A comprehensive assessment of criticality for all unsealed roads will be undertaken and included in later revisions of this AMP.

6.2 Risk Assessment

The risk management process used is shown in Figure 6.2 below.

It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of International Standard ISO 31000:2018.

⁵ ISO 31000:2009, p 2

⁶ Rockhampton Regional Council Enterprise Risk Management Policy

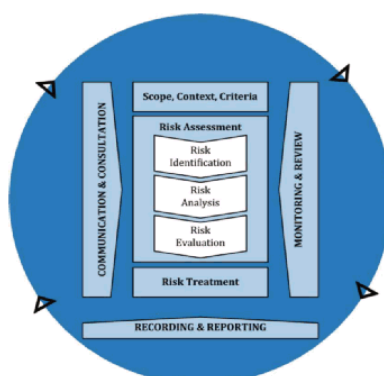


Fig 6.2 Risk Management Process – Abridged

Source: ISO 31000:2018, Figure 1, p9

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks. An assessment of risks⁷ associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and the custodians of the assets in Council.

Table 6.2: Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Insufficient budgets for unsealed roads to be maintained at current service levels	Service levels decline Increased number of maintenance requests	H	Revise budgets and LTFF to match identified demand	L	\$500K/yr capital \$615K/yr operational
Sections of unsealed roads do not meet current design standards	Frequent vehicle accidents	H	Upgrade high risk roads to reach 95% of network having design compliance within 10 years	L	Address issues when capital works undertaken on road
Drainage deficiencies	Access restrictions during wet weather events	H	Improve flood immunity in lowest immunity areas to minimum of Q2	L	Address issues when capital works undertaken on road

Note * The residual risk is the risk remaining after the selected risk treatment plan is implemented.

In the above table the risk/s evaluated high/very high are due to the significant consequence of failure.

⁷ Rockhampton Regional Council Enterprise Risk Management Framework

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to 'withstand a given level of stress or demand', and to respond to possible disruptions to ensure continuity of service.

Resilience is built on aspects such as response and recovery planning, financial capacity, climate change risk assessment and crisis leadership. We do not currently measure our resilience in service delivery. This will be included in future iterations of the AMP.

6.4 Service and Risk Trade-Offs

The decisions made in adopting this AMP are based on the objective to achieve the optimum benefits from the available resources.

6.4.1 Service trade-off

If there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. These service consequences include:

- Slow travel speeds and ongoing road safety deficiencies
- Delays and inaction on roads requiring resheeting or grading activities
- Frequent road closures after significant rain events

6.4.2 Risk trade-off

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences. These risk consequences include:

- No network safety improvements or likely reduction in the frequency of road accidents
- Continued pavement damage and repair costs after significant rain events

These actions and expenditures are considered and included in the forecast costs, and where developed, the Risk Management Plan.

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this AMP. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Sustainability and Projections

Sustainability of service delivery

There are three key indicators of sustainable service delivery that are considered in the AMP for this service area. The indicators are the:

- asset renewal funding ratio (renewal funding for the next 10 years / renewal demand for next 10 years)
- asset sustainability ratio (avg. annual renewal funding for next 10 years / annual depreciation)
- lifecycle funding ratio (lifecycle funding for the next 10 years / lifecycle demand for next 10 years)

Asset Renewal Funding Ratio – 10 year financial planning period

Asset Renewal Funding Ratio⁸ 83% (\$24,770,000 renewal funding / \$29,771,650 renewal demand)

The Asset Renewal Funding Ratio illustrates that over the next 10 years we expect to have 83% of the funds required for the renewal of all identified assets in this plan. In practical terms, this means that rather than resheeting an average of 98km of road per year as targeted in previous budgets, only an average of 82km per year will be achievable with the current LTFF. This is expected to have flow-on effects with regards to maintenance demands and service levels.

The forecast renewal demand along with the forecast renewal funding, and the cumulative surplus/shortfall, is illustrated in Appendix B.

Asset Sustainability Ratio – 10 year financial planning period

Asset Sustainability Ratio 99% (\$2,477,000 avg. renewal funding / \$2,498,511 annual depreciation)

The Asset Sustainability Ratio is a Queensland Treasury Corporation (QTC) statutory reporting ratio. It should be noted that the annual depreciation in the asset register is based on the 2019 revaluation, whereas the renewal budget is based on an assessment of recent resheeting projects with a higher average unit rate for resheeting (i.e. \$5.59/m² vs \$6.00/m²). As such, the Asset Sustainability Ratio would be expected to be lower if the depreciation rate was based on a more recent revaluation with likely higher unit rates (Asset Sustainability Ratio estimated to be ~92% in this case).

The sustainability ratio of greater than 90% meets the QTC target benchmark for this measure and indicates that Council can generally continue to provide its unsealed roads network over the medium term. Having a ratio less than 100% does however limit Council's capacity to absorb changes in demand (such as increased demand after prolonged weather events where resheeting demands may be higher).

Lifecycle Funding Ratio – 10 year financial planning period

Lifecycle Funding Ratio 84% (\$61,620,000 lifecycle funding / \$73,671,650 lifecycle demand)

Providing services in a financially sustainable manner requires a balance between the lifecycle demand required to deliver the agreed service levels, and the anticipated lifecycle funding (LTFF + External Funding + Operations & Maintenance). Table 7.1 shows the lifecycle demand versus the lifecycle funding for the 10 year planning period.

⁸ AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

Table 7.1: Lifecycle Demand vs Lifecycle Funding

Financial Year	Lifecycle Demand	Lifecycle Funding				Surplus / Shortfall	Cumulative Surplus/ Shortfall
		Council Funding		External Funding	TOTAL		
		Capital	Operational (O&M)				
22/23	\$7,337,165	\$2,420,000	\$3,685,000	\$0	\$6,105,000	-\$1,232,165	-\$1,232,165
23/24	\$7,337,165	\$2,400,000	\$3,685,000	\$0	\$6,085,000	-\$1,252,165	-\$2,484,330
24/25	\$7,337,165	\$2,450,000	\$3,685,000	\$0	\$6,135,000	-\$1,202,165	-\$3,686,495
25/26	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$4,838,660
26/27	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$5,990,825
27/28	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$7,142,990
28/29	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$8,295,155
29/30	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$9,447,320
30/31	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$10,599,485
31/32	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$11,751,650
TOTAL	\$73,371,650	\$24,770,000	\$36,850,000	\$0	\$61,620,000	-\$11,751,650	

The shortfall between the lifecycle demand and the lifecycle funding indicates network decline over time - current service levels will not be maintained. Ongoing monitoring and assessment will be required to better understand the impacts on the network over time.

The lifecycle demand is further discussed in Appendix G.

7.2 Funding Strategy

The proposed funding for assets is outlined in Council's budgets and Long Term Financial Forecast.

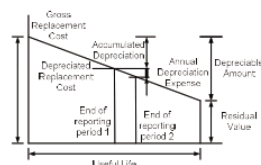
The financial strategy of the entity determines how funding will be provided, whereas the AMP communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

Asset valuations

The best available estimate of the value of assets included in this AMP are shown below. The assets are valued at the current replacement cost to serve its equivalent purpose at the time of replacement:

Current (Gross) Replacement Cost	\$215,236,545
Depreciable Amount	\$215,236,545
Depreciated Replacement Cost ⁹	\$197,074,897
Annual Depreciation	\$ 2,498,511



Valuation Forecast

Asset values are forecast to increase as additional assets are added.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

⁹ Also reported as Written Down Value, Carrying or Net Book Value.

7.4 Key Assumptions Made in Financial Forecasts

In compiling this AMP, it was necessary to make some assumptions. This section details the key assumptions made in the development of this AMP and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this AMP are:

- In estimating the useful life and remaining life, assumptions are used to simplify the process. The risk associated with that is the poor prediction of the optimum time for maintenance or renewal intervention. Adopting more advanced methods for prediction of the life and deterioration rates will reduce this risk.
- The condition assessments in this document are based on visual assessment techniques performed remotely, supplemented with pavement sampling. By performing more in-depth condition assessments for particular cases the reliability of the outcomes increases, and consequently helps to make more informed decisions.

7.5 Forecast Reliability and Confidence

The forecast demand, forecast funding, and valuation projections in this AMP are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale¹⁰ in accordance with Table 7.5.1.

Table 7.5.1: Data Confidence Grading System

Confidence Grade	Description
A. Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate $\pm 2\%$
B. Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate $\pm 10\%$
C. Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated $\pm 25\%$
D. Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy $\pm 40\%$
E. Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this AMP is shown in Table 7.5.2.

Table 7.5.2: Data Confidence Assessment for Data used in AMP

Data	Confidence Assessment	Comment
Demand drivers	C	Professional Judgement
Growth projections	C	Professional Judgement
Acquisition forecast	B	Included in long term financial plan
Operation forecast	B	Included in long term financial plan, developed using Unsealed Roads Model and verified against historical data

¹⁰ IPWEA, 2015, IIMM, Table 2.4.6, p 2 | 71.

Maintenance forecast	B	Included in long term financial plan, developed using Unsealed Roads Model and verified against historical data
Renewal forecast - Asset values	C	From Roads Revaluation which included first principles derivation and review against recent actuals
- Asset useful lives	B	From Condition Survey and Unsealed Roads Model - based on historical records, field sampling and industry researched gravel loss models.
- Condition modelling	B	From Condition Survey and Unsealed Roads Model
Disposal forecast	B	Included in long term financial plan (no disposals forecast)

The estimated confidence level for and reliability of data used in this AMP is considered to be reliable e.g. Grade B.

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices¹¹

Accounting and financial data sources

This AMP utilises accounting and financial data. The source of the data is the Finance section of Council. Finance 1 is the accounting and financial software used by Rockhampton Regional Council.

Asset management data sources

This AMP also utilises asset management data. The source of the data is inspection reports, financial data from Finance 1 and spreadsheets, relevant legislations, policies, standards, technical documents, etc. The asset condition and useful life data stored in R1 was sourced from Council's Unsealed Roads Model (excel spreadsheet). The templates available on the IPWEA website and the NAMS+ modelling tools were also used to produce this document.

8.2 Improvement Plan

It is important that an entity recognise areas of their Asset Management Plan and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this Asset Management Plan is shown in Table 8.2.

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Develop and document a better understanding of demand drivers and growth projects for the unsealed roads network	Asset Team in consultation with the Strategic Planning Team	Asset Team	1 year
2	Useful Lives for the asset groups require validation and further calibration through ongoing sampling and analysis	Asset and Rural Operations Teams	Asset and Rural Operations Team	Prior to next revaluation
3	Review customer level of service measures through community consultation and redo survey to update data on customer satisfaction levels	Asset Custodian and Community Engagement Team	Asset Custodian and Community Engagement Team	1 year
4	Continue to develop the integration between Council's strategic plans, asset plans and long term financial plans	Asset Management Steering Committee	Staff resources as required	Ongoing
5	Ensure future needs as reflected in this AMP are considered in the development of the Long Term Financial Plan	Asset and Finance Teams in consultation with Rural Operations	Asset and Finance Teams	Ongoing

8.3 Monitoring and Review Procedures

This AMP will inform the LTFF and will be considered during the annual budget planning process. A review of this AMP will be triggered when there is a material change to service levels, asset values, forecast demand, assets risks or allocated funding.

¹¹ ISO 55000 Refers to this as the Asset Management System

8.4 Performance Measures

The effectiveness of this AMP can be measured in the following ways:

- The degree to which the required forecast demand identified in this AMP are incorporated into the long-term financial forecast,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures take into account the 'global' works program trends provided by the AMP,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 1.0).

9.0 REFERENCES

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- Advance Rockhampton Region - Rockhampton Regional Council Economic Action Plan (2016-2020)
- Rockhampton Region Towards 2050 Strategic Framework
- Rockhampton Regional Council Asset Management Policy
- Rockhampton Regional Council Capital Works Program
- Local Government Infrastructure Plan
- Rockhampton Regional Council Satisfaction and Importance Survey Report (November 2016)
- Rockhampton Regional Council Budget 2021-2022
- Rockhampton Regional Council Enterprise Risk Management Policy, Reviewed in April 2018
- Rockhampton Regional Council Enterprise Risk Management Procedure, Reviewed in April 2018
- Rockhampton Regional Council Enterprise Risk Management Framework, Reviewed in January 2018
- Rockhampton Regional Council Flood Management Strategy
- Rockhampton Regional Council Bushfire Management Strategy
- Rockhampton Regional Council Asset Management Plan 2022 (Unsealed Roads)
- DTMR, 2016, Structure Inspection Manual, Department of Transport and Main Roads, Queensland
- Climate Change in Australia Projections for Australia's NRM Regions/Australian climate trends, (last update February 2018), <https://www.climatechangeinaustralia.gov.au/en/changing-climate/climate-trends/australian-trends/>

10.0 APPENDICES

Appendix A Capital Demand

A.1 – Assumptions and Source

Capital Demand includes all renewals and acquisitions identified in the AMP over the 10 year planning period. It is the total value of all infrastructure capital works to be undertaken, regardless of the funding source. It has been developed in consultation with the various asset custodians and Infrastructure Planning. It is based on an assessment of the current and future levels of service for the asset class, including the condition of existing network.

A.2 – Capital Demand Summary

The projects included in the Capital Demand are shown in Table A2.

Table A2 – Capital Demand Summary

Project Ref	Asset ID	Structure / Project Name	Financial Year	Renewal Demand	Acquisition Demand	Capital Demand
H.1	MISC	Resheeting Program	21/22	\$2,977,165		\$2,977,165
			22/23	\$2,977,165		\$2,977,165
			23/24	\$2,977,165		\$2,977,165
			24/25	\$2,977,165		\$2,977,165
			25/26	\$2,977,165		\$2,977,165
			26/27	\$2,977,165		\$2,977,165
			27/28	\$2,977,165		\$2,977,165
			28/29	\$2,977,165		\$2,977,165
			29/30	\$2,977,165		\$2,977,165
			30/31	\$2,977,165		\$2,977,165
			TOTALS	\$29,771,650	\$0	\$29,771,650

Appendix B Renewal Demand**B.1 – Assumptions and Source**

Renewal Demand represents the renewal component of any capital project. Adequate and timely renewal of existing assets ensures levels of service are maintained and operational/maintenance costs are minimised.

Resheeting Program

Table B1 shows the renewal demand for the next 10 years based on the current works programming resheet rate (\$30,000/km) and the asset register expiry dates:

Table B1 – 10 Year Renewal Demand

Financial Year	Renewal Demand
22/23	\$535,431
23/24	\$3,375,734
24/25	\$2,380,216
25/26	\$2,833,184
26/27	\$9,647,476
27/28	\$1,670,257
28/29	\$2,444,562
29/30	\$3,915,825
30/31	\$1,462,998
31/32	\$1,505,965
TOTAL	\$29,771,650
Average	\$2,977,165

Gravel resheeting is resourced and undertaken as an annual network expenditure, with works programming being undertaken based on the network condition and levels of service. Therefore the renewal demand in any year of the AMP is best represented by the average annual renewal demand over the 10 year planning period.

B.2 – Renewal Funding Comparison

Table B2 shows a summary of the renewal demand in Table A2 compared to the renewal funding.

Table B2 - Renewal Funding Comparison

Financial Year	Renewal Demand	Renewal Funding	Surplus / Shortfall	Cumulative Surplus/Shortfall
22/23	\$2,977,165	\$2,420,000	-\$557,165	-\$557,165
23/24	\$2,977,165	\$2,400,000	-\$577,165	-\$1,134,330
24/25	\$2,977,165	\$2,450,000	-\$527,165	-\$1,661,495
25/26	\$2,977,165	\$2,500,000	-\$477,165	-\$2,138,660
26/27	\$2,977,165	\$2,500,000	-\$477,165	-\$2,615,825
27/28	\$2,977,165	\$2,500,000	-\$477,165	-\$3,092,990
28/29	\$2,977,165	\$2,500,000	-\$477,165	-\$3,570,155
29/30	\$2,977,165	\$2,500,000	-\$477,165	-\$4,047,320
30/31	\$2,977,165	\$2,500,000	-\$477,165	-\$4,524,485
31/32	\$2,977,165	\$2,500,000	-\$477,165	-\$5,001,650
TOTAL	\$29,771,650	\$24,770,000	-\$5,001,650	

Appendix C Acquisition Demand

C.1 – Assumptions and Source

Acquisition Demand represents the acquisition component (i.e. upgrade, new & contributed) of any project. When Council upgrades existing assets or builds new assets, it needs to plan for the associated acquisition, operation, maintenance, renewal, and potentially disposal costs. When Council receives a contributed asset it does NOT need to plan for the initial acquisition cost. However, it will need to plan for the operation, maintenance, renewal and potentially disposal costs in the future.

C.2 – Acquisition Funding Comparison

Table C2 shows a summary of the Acquisition Demand in Table A2 compared to the acquisition funding. It also highlights the external funding that is required over the 10 year period.

Table C2 - Acquisition Funding Comparison

Financial Year	Acquisition Demand	Acquisition Funding			Surplus / Shortfall	Cumulative Surplus/Shortfall
		Council Funding	External Funding	TOTAL		
21/22						
22/23						
23/24						
24/25						
25/26						
26/27						
27/28						
28/29						
29/30						
30/31						
TOTAL	\$0	\$0	\$0	\$0	\$0	\$0

There are no acquisitions identified for the unsealed road network over the 10 year AMP period.

Appendix D Operations Demand**D.1 – Forecast Assumptions and Source**

Operations Demand in this AMP is an estimate of the operational activities (inspections, monitoring, admin support, etc.) associated with management of the unsealed road network. The demand shown in Table D2 is the average demand over the 10 year period in today's dollars, and was developed based on the 21/22 approved budget.

D.2 – Operations Demand Summary

Table D2 shows the total Operations Demand, including additional Operations Demand related to acquisition of additional or upgraded structures.

Table D2 - Operations Demand Summary

Financial Year	Operations Demand (Existing Assets)	Additional Operations Demand (From Acquisitions)	Total Operations Demand
21/22	\$685,000	-	\$685,000
22/23	\$685,000	-	\$685,000
23/24	\$685,000	-	\$685,000
24/25	\$685,000	-	\$685,000
25/26	\$685,000	-	\$685,000
26/27	\$685,000	-	\$685,000
27/28	\$685,000	-	\$685,000
28/29	\$685,000	-	\$685,000
29/30	\$685,000	-	\$685,000
30/31	\$685,000	-	\$685,000
TOTAL	\$685,000	\$0	\$685,000

Appendix E Maintenance Demand**E.1 – Assumptions and Source**

Maintenance Demand is an estimate of the operational funding required for maintenance activities on the unsealed road network. It was developed using historical expenditure for relevant activities captured in Council's finance system.

E.2 – Maintenance Demand Summary

Table E2 shows the average maintenance demand for the next ten years considered in the AMP. The Additional Maintenance Demand is added maintenance cost related to the acquisition of additional or upgraded structures.

Table E2 - Maintenance Demand Summary

Year	Maintenance Demand	Additional Maintenance Demand (From Acquisitions)	Total Maintenance Demand
21/22	\$3,675,000	-	\$3,675,000
22/23	\$3,675,000	-	\$3,675,000
23/24	\$3,675,000	-	\$3,675,000
24/25	\$3,675,000	-	\$3,675,000
25/26	\$3,675,000	-	\$3,675,000
26/27	\$3,675,000	-	\$3,675,000
27/28	\$3,675,000	-	\$3,675,000
28/29	\$3,675,000	-	\$3,675,000
29/30	\$3,675,000	-	\$3,675,000
30/31	\$3,675,000	-	\$3,675,000
TOTAL	\$36,750,000	\$0	\$36,750,000

Appendix F Disposal Activity**F.1 – Assumptions and Source**

The disposal costs for assets being replaced have been considered in their replacement cost (such as unsealed roads being replaced with sealed roads). As there are no assets being disposed only, the disposal forecast and funding are considered zero.

Table F1 – Disposal Activity Summary

Financial Year	Asset ID	Structure Name	Disposal Forecast	Disposal Funding
21/22			\$0	\$0
22/23			\$0	\$0
23/24			\$0	\$0
24/25			\$0	\$0
25/26			\$0	\$0
26/27			\$0	\$0
27/28			\$0	\$0
28/29			\$0	\$0
29/30			\$0	\$0
30/31			\$0	\$0
TOTAL			\$0	\$0

Appendix G Demand and Funding Summary by Lifecycle Activity**G.1 – Demand Summary**

Table G1 shows the demand summary by lifecycle activity over the 10 year period.

Table G1 – Demand Summary by Lifecycle Activity

Financial Year	Renewal Demand	Acquisition Demand *	Disposal Demand	Operations Demand	Maintenance Demand	Lifecycle Demand
22/23	\$2,977,165			\$685,000	\$3,675,000	\$7,337,165
23/24	\$2,977,165			\$685,000	\$3,675,000	\$7,337,165
24/25	\$2,977,165			\$685,000	\$3,675,000	\$7,337,165
25/26	\$2,977,165			\$685,000	\$3,675,000	\$7,337,165
26/27	\$2,977,165			\$685,000	\$3,675,000	\$7,337,165
27/28	\$2,977,165			\$685,000	\$3,675,000	\$7,337,165
28/29	\$2,977,165			\$685,000	\$3,675,000	\$7,337,165
29/30	\$2,977,165			\$685,000	\$3,675,000	\$7,337,165
30/31	\$2,977,165			\$685,000	\$3,675,000	\$7,337,165
31/32	\$2,977,165			\$685,000	\$3,675,000	\$7,337,165
TOTAL	\$29,771,650	\$0	\$0	\$6,850,000	\$36,750,000	\$73,371,650

G.2 – Funding Summary

Table G2 shows the funding summary by lifecycle activity over the 10 year period.

Table G2 – Funding Summary by Lifecycle Activity

Financial Year	Renewal Funding	Acquisition Funding		Disposal Funding	Operations Funding	Maintenance Funding	Lifecycle Funding
		Council Funded	External Funding				
22/23	\$2,420,000				\$685,000	\$3,000,000	\$6,105,000
23/24	\$2,400,000				\$685,000	\$3,000,000	\$6,085,000
24/25	\$2,450,000				\$685,000	\$3,000,000	\$6,135,000
25/26	\$2,500,000				\$685,000	\$3,000,000	\$6,185,000
26/27	\$2,500,000				\$685,000	\$3,000,000	\$6,185,000
27/28	\$2,500,000				\$685,000	\$3,000,000	\$6,185,000
28/29	\$2,500,000				\$685,000	\$3,000,000	\$6,185,000
29/30	\$2,500,000				\$685,000	\$3,000,000	\$6,185,000
30/31	\$2,500,000				\$685,000	\$3,000,000	\$6,185,000
31/32	\$2,500,000				\$685,000	\$3,000,000	\$6,185,000
TOTAL	\$24,770,000	\$0	\$0	\$0	\$6,850,000	\$30,000,000	\$61,620,000

G.3 – Overall Comparison

Table G3 shows the overall comparison between lifecycle demand and lifecycle funding over the 10 year period.

Table G3 – Lifecycle Demand vs Lifecycle Funding

Financial Year	Lifecycle Demand	Lifecycle Funding				Surplus / Shortfall	Cumulative Surplus/ Shortfall
		Council Funding		External Funding	TOTAL		
		Capital	Operational (O&M)				
22/23	\$7,337,165	\$2,420,000	\$3,685,000	\$0	\$6,105,000	-\$1,232,165	-\$1,232,165
23/24	\$7,337,165	\$2,400,000	\$3,685,000	\$0	\$6,085,000	-\$1,252,165	-\$2,484,330
24/25	\$7,337,165	\$2,450,000	\$3,685,000	\$0	\$6,135,000	-\$1,202,165	-\$3,686,495
25/26	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$4,838,660
26/27	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$5,990,825
27/28	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$7,142,990
28/29	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$8,295,155
29/30	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$9,447,320
30/31	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$10,599,485
31/32	\$7,337,165	\$2,500,000	\$3,685,000	\$0	\$6,185,000	-\$1,152,165	-\$11,751,650
TOTAL	\$73,371,650	\$24,770,000	\$36,850,000	\$0	\$61,620,000	-\$11,751,650	

This table shows that the total value of the lifecycle funding (LTFF + External Funding + Operations & Maintenance) is insufficient to meet the lifecycle demand (renewals, acquisitions, disposals, operations & maintenance) identified in this AMP. This will negatively affect service levels over time and will require further monitoring.

Appendix H Capital and Maintenance Works**Activities**

Renewal and maintenance of the unsealed road network is primarily focused on two activities:

1. Resheeting
2. Grading

Resheeting is capital works to replenish the pavement asset and maintain wet weather access. It involves the importation, placement, shaping and compaction of gravel material to reconstruct a pavement of 100mm total thickness.

Grading is maintenance works to maintain the shape and running surface of the pavement and involves collecting, reshaping and recompacting of insitu pavement material. There are three types of grading depending on the level of pavement disturbance and reworking undertaken:

- Light Formation Grading (~3% of grading budget)
- Medium Formation Grading (~25% of grading budget)
- Heavy Formation Grading (~72% of grading budget)

Network Monitoring

Council has numerous network condition monitoring initiatives:

- Scheduled surveys of the entire network once a year by the Roads Inspector
- Scheduled surveys of specific regions prior to grader crews being in the area
- Ad-hoc surveys resulting from customer requests
- Ongoing surveillance by supervisors and management during normal duties

Roads with all or substantial extents surveyed with an IRI roughness of greater than 7 are added for inclusion in a future works program.

Resourcing

Council has seven grader crews that maintain the unsealed network, delivering resheeting and grading activities across the region. Each crew has the capacity perform either activity depending on what works have been programmed for the road. One grader crew currently works mostly full time on construction projects. While crews will move geographically around a region to deliver the works program, the same crew will generally work on the same roads each rotation so that local knowledge and community relationships are developed over time.

Budget

The current budgets for resheeting and grading are based on a 2018 service level review. Increased budgets were adopted at this time to ensure that the service levels measured in the field would be maintained. These service levels were higher than previous budgets had allowed and had been raised through external funding sources (flood damage funding).

Works Programming

Works are identified in a 3 to 4 month look ahead, with Councillors provided a confirmed 3 week program of upcoming works.

There is a general rolling program of work regions where the crews will travel to commence a package of works. Given the extent of the network, crews will generally not travel large distances across the network for

isolated projects as it is not an efficient use of resources to do so. All roads within an upcoming region are surveyed prior to crews being onsite and consideration is made to the current (and likely future) condition of the roads when programming works, as it may be some period of time before crews are back in the area.

The cost of programmed works is estimated based on the chainage extents and activity, assigned a unique job number and included in a budget and productivity tracking worksheet. Average cost per kilometre is used to compare actuals against estimated costs and to guide future budget programs.

10.7 QRA FUNDING APPLICATIONS

File No: 12534
Attachments: Nil
Authorising Officer: Martin Crow - Manager Infrastructure Planning
Peter Kofod - General Manager Regional Services
Author: Stuart Harvey - Coordinator Infrastructure Planning

SUMMARY

The Queensland Reconstruction Authority have released a Floodplain Risk Management Program Funding for Councils. Council officers wish to submit several applications for funding, and these are presented to Council for their information and endorsement.

OFFICER'S RECOMMENDATION

THAT Council endorse the following prioritised applications for funding under the QRA Flood Risk Management Program:

1. West Rockhampton and Wandal Floodplain Risk Management Study
2. Splitters Creek Floodplain Risk Management Study
3. Gracemere Creeks Local Catchment Flood Model update
4. Flood Forecasting software module

COMMENTARY

The Queensland Reconstruction Authority (QRA) has opened funding applications for Flood Risk Management projects. The Flood Risk Management Program was developed following the 2021-22 disaster season and applies to 39 local government areas activated under the Disaster Recovery Funding Arrangements (DRFA). It consists of several packages, Council is eligible for Work Package 3, which relates to Flood Studies, Risk Assessment, management studies and flood intelligence systems. Applications for funding close on 4 November with successful projects announced by 30 January 2023. The funding requires projects to be delivered by 30 June 2024.

QRA have requested that Council provide a preferred priority of projects nominated under the program. The order reflected within the Officers Recommendation is the officer's proposed prioritisation.

It is proposed to contribute 20% of the proposed project costs as a co-contribution to the funding application. The initial estimate for a 20% contribution is \$156,000. This will be funded through Infrastructure Planning operational budgets.

The QRA program does not require a Council contribution, however Council's co-contribution is considered as a part of the assessment process. It is proposed to submit the following projects:

Flood Risk Management Studies:

Council is progressing flood risk management studies, with South Rockhampton, Frenchmans/ Thozets Creek and Moores Creek Catchments Flood Risk Management Studies being undertaken in this financial year. It is proposed to progress development of Floodplain Risk Management Studies in the remaining, well developed, urban catchments to inform a region wide floodplain management plan. The proposal is to undertake floodplain risk management studies for West Rockhampton and Wandal Local Catchment and Splitters Creek Local Catchment. These studies will aim to quantify and develop mitigation strategies for the existing flood risks within the catchment and prioritise required works.

The estimated costs are as follows:

West Rockhampton and Wandal Local Catchment Study: \$200,000

Splitters Creek Local Catchment Study: \$250,000

Update to Local Catchment Modelling:

The existing flood studies were completed in Gracemere between 2012 and 2016. These cover several creeks in the locality namely: Washpool Creek, Neerkol Creek, Middle Creek and Gracemere Creek, and the Gracemere Industrial Area Local Catchment. It is proposed to update these flood studies to reflect changes in LIDAR, and advances in modelling practices. It is also planned to extend the flood modelling for a portion of the Gracemere urban footprint. The estimated cost is \$270,000.

Flood Forecasting Software:

Council has a large amount of flood modelling for both riverine and local catchment flooding events that is used as a key input into Council's Disaster management operations. There are several proprietary products available on the market that have the capability of analysing Bureau of Meteorology rainfall predictions, and Riverine and Rainfall gauge data to predict and display anticipated flood inundation in significant rainfall and riverine flooding events. This tool provides Council with the ability to understand and prepare for significant flooding events utilising real-time rainfall and gauge information. It has many purposes within Council's disaster management systems and can provide timely and accurate predictions to facilitate timely and confident decisions within the Local Disaster Coordination Centre. The estimated cost of application is approximately \$60,000.

BACKGROUND

The Flood studies, risk assessment and management strategies and intelligence systems (WP3) work package is part of the Flood Risk Management (FRM) program - a component of the jointly funded Australian and Queensland Government (50:50) 2021-22 Rainfall and Flooding - Exceptional circumstances Category C and D funding package, approved under the DRFA.

The aim of the \$15.25 million Flood Risk Management (FRM) funding for eligible Councils (2021-22) is to:

- Identify priority catchments for improvements to flood risk understanding
- Deliver flood studies for river, creek and/or overland flooding, risk assessments and management strategies, scoped to meet the specific local needs
- Improve Council flood intelligence to be better prepared and able to respond to flooding events, for example, intelligence to support Councils in translating peak height forecasts from the Bureau into on-the-ground consequences during the response phase.

BUDGET IMPLICATIONS

It is proposed to contribute 20% of the proposed project costs as a co-contribution to the funding applications. The initial estimate for a 20% contribution is \$156,000. This will be funded through Infrastructure Planning operational budgets.

STAFFING IMPLICATIONS

No implications.

RISK ASSESSMENT

Council has a duty of care to residents to take appropriate measures to understand, manage and mitigate the impacts, to people and property, of inundation from stormwater and local catchment flooding.

CORPORATE/OPERATIONAL PLAN

This funding application aligns with the corporate plan outcome of 1.1 Safe, accessible, reliable and sustainable infrastructure

CONCLUSION

This report seeks Council endorsement of the proposed projects for submission under the QRA Flood Risk Management Program.

11 NOTICES OF MOTION

Nil

12 QUESTIONS ON NOTICE

Nil

13 URGENT BUSINESS/QUESTIONS

Urgent Business is a provision in the Agenda for members to raise questions or matters of a genuinely urgent or emergent nature, that are not a change to Council Policy and can not be delayed until the next scheduled Council or Committee Meeting.

14 CLOSURE OF MEETING