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Regional Renewable Organics Network Facility

Application for a planning permit

Barwon Water

19 September 2024

→ The Power of Commitment

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Our ref: 12585384

19 September 2024

Thomas Gallagher
Senior Planner – Planning Facilitation
Department of Transport and Planning
8 Nicholson Street,
East Melbourne, VIC 3002

Barwon Water RRON Facility – Application for a planning permit

Dear Thomas

This planning report has been prepared by GHD Pty Ltd (GHD) on behalf of Barwon Water Region Corporation (Barwon Water) to support an application for a planning permit for the use and development of the Regional Renewable Organics Network (RRON) facility (the Project) at 400 Blackrock Road, Connewarre VIC 3227.

The RRON facility is a world-leading project which will convert organic materials into high value products that enrich compost and soil, capture carbon for reuse in agribusiness and sustainable manufacturing, and produce renewable energy. The Project will deliver significant environmental, social, and economic benefits to the region, reducing landfill volumes and supporting Victoria's transition towards a circular economy.

In accordance with the provisions of the Greater Geelong Planning Scheme, a planning permit is being sought for:

– The use and development of the RRON facility under clause 36.01 – PUZ1
– A reduction in the number of car parking spaces required under clause 52.06
– A reduction in the number of bicycle spaces required under clause 52.34

This report details the proposal and provides an assessment against the relevant provisions of the Greater Geelong Planning Scheme. A list of supporting documentation has been provided in the Contents section.

We look forward to working collaboratively with you and receiving a favourable decision for this Project.

Regards

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1. Introduction

This report has been prepared by GHD Pty Ltd (GHD) on behalf of Barwon Water Region Corporation (Barwon Water) (the applicant) to accompany an application for a planning permit for the proposed Regional Renewable Organics Network (RRON) facility at 400 Blackrock Road, Connewarre VIC 3227.

The RRON facility will be located at Barwon Water's existing Black Rock Water Reclamation Plant (Black Rock WRP) in Connewarre. The facility will convert organic waste materials into biochar, digestate and renewable energy, which provide significant environmental, community, and economic benefits.

A planning permit application is required under the Greater Geelong Planning Scheme (the Scheme) for the use and development of a materials recycling facility under the Public Use Zone – Schedule 1 (PUZ1), to reduce the provision of car parking under clause 52.06, and to reduce the provision of bicycle facilities under clause 52.34-5.

A summary of the application details is provided in Table 1 below.

Table 1 Application details

Application details	
Applicant	Barwon Water Region Corporation.
Property details	400 Blackrock Road, Connewarre VIC 3227.
Title details	1\TP600591.
Responsible Authority	Minister for Planning.
Zones	Clause 36.01 – Public Use Zone 1 (PUZ1).
Overlays	None.
Particular provisions	Clause 52.05 – Signs. Clause 52.06 – Car parking. Clause 52.34 – Bicycle facilities. Clause 53.10 – Uses and activities with potential adverse impacts. Clause 53.14 – Resource recovery. Clause 53.22 – Significant economic development.
General exemptions	None.
Land use definition	Clause 73.03 – Materials Recycling.
Permit triggers	Clause 36.01 – PUZ1 for use and development for materials recycling. Clause 52.06 – Car parking to reduce the provision of car parking spaces required. Clause 52.34 – Bicycle facilities to reduce the provision of bicycle facilities required.
Notice, referrals and exemptions	The EPA is a determining referral authority. Clause 53.22-4 exempts the decision requirements of section 64(1), (2) and (3), and the review rights of sections 82(1) of the Act. Section 52 of the Act is the mechanism for the giving of notice. The application can be advertised for a minimum of 14 days.
Contact person	**Nicole Bartley – Technical Director, Planning & Approvals** GHD Pty Ltd Level 8, 180 Lonsdale Street VIC 3000 Nicole.Bartley@ghd.com

1.1 Purpose of this report

The purpose of this report is to describe the Project, detail stakeholder engagement and technical assessments undertaken to inform its design and provide an assessment against the provisions of the Greater Geelong Planning Scheme (the Scheme).

2. About the Project

This section provides details around the Project including the background and benefits, subject site, policy context, and the proposed use and development.

2.1 Project background

2.1.1 Context

As Victoria's largest regional urban water service corporation, Barwon Water services nearly 300,000 people over an area of 8000 square kilometres (km^2). Their function goes beyond that of a traditional water utility provider, as a regional enabler of economic, social, and environmental prosperity. Barwon Water is leading the transition to renewable energy, with a commitment to achieve 100% renewable electricity by 2025 and net zero emissions by 2030. As identified in their *Strategy 2030* (Barwon Water 2023), Barwon Water's core value is *regional prosperity* which they are seeking to deliver through a variety of mechanisms, including emissions and waste minimisation.

Approximately one third of household waste is food which ends up in landfill. Most organic waste produced in the Barwon region is landfilled or transported outside the region for processing, due to a shortage of organic waste processing facilities. This presents environmental and health risks, generating greenhouse gas (GHG) emissions and wasting a potential multi-purpose resource.

Barwon Water has partnered with the Borough of Queenscliffe, City of Greater Geelong, Golden Plains Shire, and Surf Coast Shire to develop the RRON facility at the Black Rock Water Reclamation Plant (Black Rock WRP). This Project will help enable Barwon Water and the Councils to achieve their renewable energy and emissions reduction goals, divert organic waste from landfill, and reduce waste and energy costs for the benefit of all communities within the region.

The Project seeks to manage the increasing amount of waste generated within the Barwon region, driving the transition towards a circular economy and innovation in the waste and resource recycling area.

2.1.2 Project description

The RRON will be located at BW's Black Rock WRP, located at 400 Blackrock Road, Connewarre, approximately 18 km south of Geelong. The Black Rock WRP is an established organic waste recycling facility that treats wastewater and produces Class A and Class C recycled water, as well as processing approximately 60,000 t/y of biosolids.

The RRON facility is proposed to process approximately 40,000 t/y of comingled food organics and garden organic (FOGO) waste predominately from local Municipalities. This FOGO stream will be pre-processed and separated into a food organics (FO) rich stream and a garden organics (GO) rich stream. The facility will also process other feedstocks including bulk green waste (~9,000 t/y), commercial and industrial (C&I) organic waste (~2,000 t/y), and biosolids (from BW's WRPs). The main processes proposed for the RRON include:

- Thermal processing via carbonisation of the GO-rich stream (separated from FOGO), bulk green waste and biosolids
- Plug flow anaerobic digestion (PFAD) of the FO-rich stream (separated from FOGO) and FO-rich C&I organic waste

The RRON will produce the following product streams:

- Biochar (from carbonisation), a high-value product for agriculture and production of advanced sustainable materials
- Syngas (from carbonisation), which will be used within the RRON facility to dry the carbonisation feedstocks down to a suitable moisture content for carbonisation
- Digestate (from the PFAD), a product containing high levels of nutrients, which is beneficial in agricultural applications
- Biogas (from the PFAD), which will be transferred to the neighbouring biosolids drying facility and converted into heat via a biogas boiler, reducing the demand for natural gas

2.1.3 Project benefits

Barwon Water is a leading driver of the circular economy, continually recycling and reusing resources to keep waste to a minimum and grow the regional economy. Barwon Water's role extends beyond that of a traditional water corporation, providing services that are essential to the prosperity of the region. It has a leading role to play in improving the environment, harnessing the latest technology, and exploring new opportunities that benefit the region.

The Project would be the first of its kind in Australia to produce biochar, digestate and renewable energy from FOGO and other C&I organic wastes. It will also provide a long-term biosolids solution within the Barwon Water region and provide substantial social, economic, and environmental benefits, including (but not limited to):

- Net reduction of GHG emissions by 330,000 tonnes CO_2-e over the life of the project
- Production of 60,000 gigajoules of clean, green, low-cost energy each year in the form of biogas
- Creation of 75 construction jobs and up to 36 ongoing jobs
- Diversion of organic waste away from landfills
- Reduction in carbon footprint
- Reduction in high energy costs of treating sewage and wastewater
- Generation of non-regulated revenues, ensuring Barwon Water's customer bills remain affordable

Generation of biochar and digestate, which can be used in agricultural applications to return nutrients and carbon back to the soil. This Project aligns with Barwon Water's *Strategy 2030* which aims to achieve zero waste, zero emissions and enable regional prosperity. It also aligns with several State-level strategies, providing substantial community and environmental benefits.

Further information on biochar has been provided in Attachment 5.

2.2 Subject site and surrounding environs

The Project will be located at 400 Blackrock Road, Connewarre in parcel 1\TP600591, approximately 6.5 kilometres (km) south-west of the Barwon Heads township and 14 km south-east of Geelong (refer to Figure 1 and Figure 2).

Subject site

The majority of the property is occupied by existing Barwon Water assets, namely the Black Rock WRP which services the majority of the Geelong region. It is located within the Bellarine Peninsula coastal landscape, a peri-urban area of environmental, economic, social, and cultural heritage significance.

The property is bounded by Blackrock Road to the west, intersecting with Thirteenth Beach Road which runs east to Barwon Heads, and terminating at Barwon Heads Road, a main arterial road connecting the Bellarine Peninsula to Geelong. The Black Rock Bike Path passes through the northern portion of the site, forming part of the Principal Bicycle Network that links to the broader region.

The property is protected by a corrugated wire fence with timber poles approximately one metre (m) high and the grass reserves situated between Blackrock Road and the property boundary are well-maintained. Two paved internal roads, labelled Gate 2 and Gate 3, provide entry to the property from the east. The property features extensive planted vegetation along the roadway areas, lawn spaces, and revegetated mounds. The property is subject to regular landscaping and maintenance works and no native vegetation has been identified.

Surrounding environs

The surrounding landscape is relatively flat, with unobscured sight lines to the north, east, and south. To the west, the Project is shielded from view from Blackrock Road by a grassy knoll and patches of vegetation. The surrounding land uses broadly comprise renewable energy infrastructure, agricultural farming land, and coastal reserves. The Black Rock WRP and associated facilities including the storage lagoons are located immediately north, east, and west surrounding the Project site. A three-megawatt solar farm and the Black Rock Wind Turbine are located further north of the Project site.

Land immediately south of the Project comprises significant expanses of coastal reserves, with Thirteenth Beach to the east and Bancoora Beach to the west. The Breamlea Native Plants reserve bounds the south-west of the

property. The Black Rock lookout is located adjacent to the far south corner of the property boundary where Blackrock Road terminates. This lookout is occasionally frequented by tourists for its ocean views and proximity to a walking track that runs along the coastline.

Figure 1 *Detailed view of Black Rock WRP site at 405 Blackrock Road, Connewarre*

The nearest neighbouring residential property boundary is located approximately 370 m west of the Project site. Other nearby residential properties and their approximate distance from the proposed facility include:

- 1A Horwood Drive, Breamlea VIC 3227 located 1715 m south-west
- 291 Breamlea Rd, Connewarre VIC 3227 located 1265 m west
- 211- 229 Breamlea Rd, Connewarre VIC 3227 located 1345 m north-west
- 262- 290 Bluestone School Rd, Connewarre 3227 located 1510 m north
- 342 - 400 Bluestone School Rd, Connewarre 3227 north-north-east
- 550 Thirteenth Beach Rd, Connewarre 3227 located 922 m north-north-east

2.2.1 Land tenure

The Project will be located within the south-west portion of parcel 1\TP600591 of 400 Blackrock Road, Connewarre (refer to Figure 3). Barwon Water owns the land at 400 Blackrock Road, which comprises approximately 290 ha of land across eight land parcels. A 3.36 m by 167.75 m drainage and sewerage easement exists along the southern portion of the parcel which will not be affected by the Project. Therefore, only the part of the site that is subject to the application for a planning permit has been included and outlined in Figure 3.

Details of land tenure are provided in Table 2 below and the Certificate of Title is enclosed at Attachment 2.

Table 2 Details of land tenure

Address of land	Parcel ID	Landowner details	Relevant encumbrances etc.
400 Blackrock Road, Connewarre VIC 3227	1\TP600591	Barwon Region Water Corporation of 55-57 Ryrie Street, Geelong VIC 3220	Drainage and sewerage easement in favour of Geelong Waterworks & Sewerage Trust (Instrument 713965)

Figure 2 *Project location and surrounding environs*

Figure 3 Land tenure

2.3 Proposed use and development

2.3.1 How will the RRON work?

The RRON facility will have the capability to process a range of organic wastes including municipal organic waste (FOGO), commercial and industrial organic waste and biosolids. The main processes proposed for the RRON include:

– Thermal processing via carbonisation of the GO-rich stream (separated from FOGO), bulk green waste and biosolids
– Plug flow anaerobic digestion (PFAD) of the FO-rich stream (separated from FOGO) and FO-rich C&I organic waste

The RRON will produce the following product streams:

– Biochar (from carbonisation), a high-value product for agriculture and production of advanced sustainable materials
– Syngas (from carbonisation), which will be used within the RRON facility to dry the carbonisation feedstocks down to a suitable moisture content for carbonisation
– Digestate (from the PFAD), a product containing high levels of nutrients, which is beneficial in agricultural applications
– Biogas (from the PFAD), which will be transferred to the neighbouring biosolids drying facility and converted into heat via a biogas boiler, reducing the demand for natural gas

The facility cannot process non-organic materials such as plastics, glass, metal, or other hazardous materials. Non-organic materials present as contamination in the feedstock will be removed as part of the pre-processing. In addition to decontamination, shredding and screening will occur in preparation for downstream anaerobic digestion and carbonisation. Any contaminated material will be transported to a licensed facility for further treatment or landfill.

The RRON facility will be net energy positive, with the generated biogas being utilised to offset natural gas usage at the existing biosolids drying facility. It is designed to generate an estimated 60,000 gigajoules (GJ) per year of renewable energy in the form of biogas and reduce onsite natural gas energy demands by an estimated 95,000 GJ per year. The carbonisation process will also produce around 5000-6700 tonnes of biochar, which sequesters carbon. Further information on biochar has been provided in Attachment 5.

A summary diagram is shown in Figure 4.

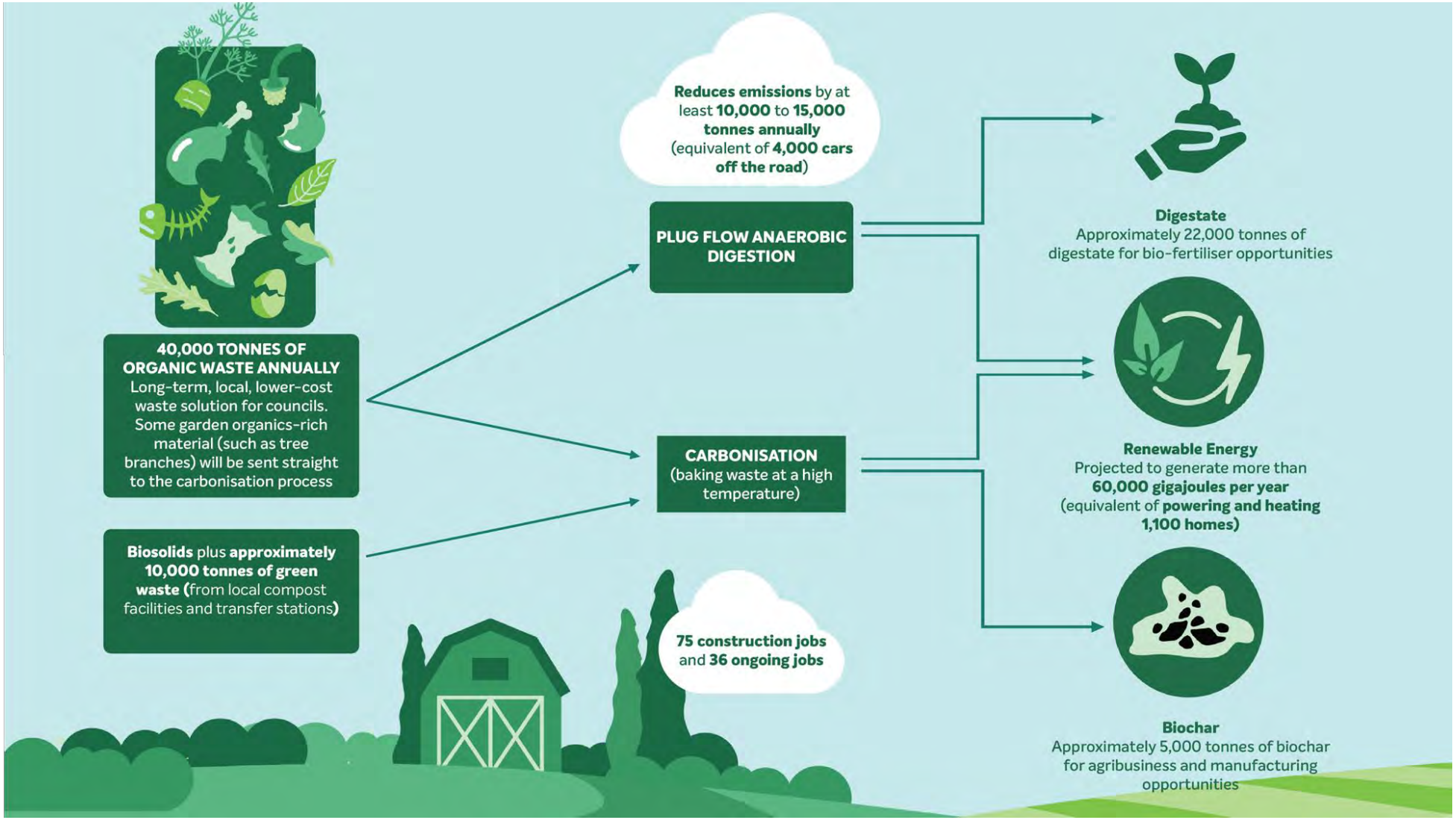

Figure 4 *Diagram showing a high-level process description of the RRON.*

2.3.2 What will it look like?

Key infrastructure, materials, and landscaping considerations are described in Table 3.

Refer to Figure 5a-d for 3-dimensional (3D) digital renders of the proposed RRON facility. Design drawings have been enclosed at Attachment 3.

Table 3 Components of the RRON facility

Infrastructure	The Project will occupy a total of 6586 square metres (m^2) of floor area and approximately 15,000 m^2 of site area, and include: – The main building, comprising the RRON facility, biofilter, carbon building, and digestate drying building – A two-storey extension to the east of the main building for administrative offices comprising a security office, lunch room, laboratory, manager's office, board room, bathrooms, and offices, and will be used solely to support RRON operations – The digester, intermediate biogas storage tank, and three fire water tanks (two of which are existing) are proposed to the north of the main building – Road infrastructure including a carpark, weighbridge, new access roads, and road upgrades The Project does not necessitate the removal of any vegetation. Refer to Section 5.1.1, Attachment 7, and Attachment 8 for further information.
Materials	The facility will be constructed using Colourbond with the chosen colours to blend with the surrounding environment and deflect heat. This could be a condition on any approval given.
Landscaping	A landscaping plan has been prepared for the Project and is included as Attachment 4. Large lawn areas are proposed to the west of the buildings and smaller lawned areas are proposed along the driveway entrance to the east. A number of trees will be planted along the driveway and around the car park and the landscaping will be completed using appropriate species detailed in the landscaping plans.

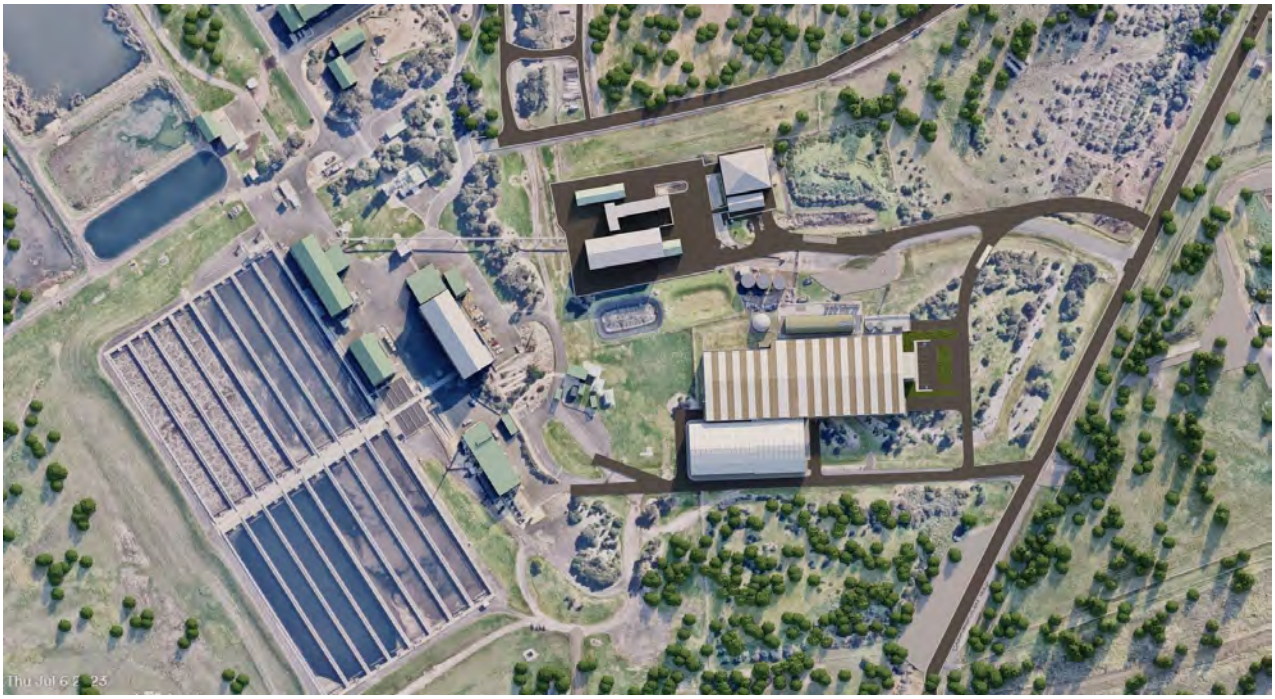

Figure 5a *3D renders of the RRON facility and existing infrastructure*

Figure 5b *3D renders of the RRON facility and existing infrastructure*

Figure 5c 3D renders of the RRON facility and existing infrastructure

Figure 5d 3D renders of the RRON facility and existing infrastructure

2.3.3 When will it be built?

Once approved, construction of the facility is anticipated to commence in 2025 with commissioning and operations commencing in late 2026.

2.3.4 Other considerations

Table 4 Proposed use and development – other considerations

Consideration	Details
Energy consumption	On average, the electrical energy demand of the RRON will be approximately 4.7 gigawatt hours (GWh) per year. The RRON facility will be net energy positive, including use of biogas to offset natural gas demand at the existing biosolids drying facility.
Hours of operation	The RRON facility will operate 24 hours a day, 7 days a week, with waste receipt usually occurring between the hours of 7am-4pm, Monday to Friday
Employees	The RRON facility is expected to be operated by a team of 14 Full Time Equivalent (FTE) employees.
Vehicle movements	There will be truck activity during construction, from 2025. Truck movements would commence when the site is expected to be commissioning in 2026. It is estimated that the facility will generate around 90 daily traffic movements, which Blackrock Road is expected to accommodate. Daily traffic generation is estimated to comprise 28 light vehicle movements per peak hour and 62 heavy vehicle movements spread across the day. Trucks would operate on weekdays during normal working hours, generally between 7am and 4pm. Times may vary depending on when residential waste is collected from the kerbside and how far trucks need to travel from the collection area. Trucks are expected to enter the site from Black Rock Road, via Barwon Heads Road, mostly from the west and less frequently from the east. Thirteenth Beach Road and Bluestone School Roads will not be used as they are subject to three tonne load limits. Truck movements are not expected to impact existing cycling routes. Thirteenth Beach Road, which connects to the Black Rock Cycle Path, is a busy cyclist route. Therefore, truck drivers will be given a site induction including information about the nearby cyclist route once the site is operational. For further information, refer to Section 5.2.1 and Attachment 11.
Construction works	The construction of the RRON facility will include: – Bulk earthworks (cut and fill areas for the facility footprint and access roads) – Hardstand laydown areas – Civil works for utility installations and re-locations – Drainage works – Road works including a carpark, weighbridges, new access roads, and road upgrades

2.4 Economic assessment

The financial viability of the RRON project was assessed on an Internal Rate of Return (IRR) and Net Present Value (NPV) basis, which incorporates capex, opex and revenue over the 25-year life of the asset. A key criterion in the development of the initiative was to ensure that Barwon Water's weighted average cost of capital (WACC) is covered under all scenarios to minimise the potential of Barwon Water customers needing to cross subsidise the initiative.

The capital cost of the facility is expected to be $85 million and the annual operational cost is expected to be $5.4 million (at year of operation, 2029/30). The expected financial outcome offers value to Barwon Water and its customers, with revenue streams obtained over the life of the project from gate fees, sale of products (e.g. biochar), renewable energy and carbon offsets. The financial returns of the project remain commercial in confidence.

2.5 Siting, Design and Technology considerations

The siting, design, and components of the proposed RRON facility were developed over time by Barwon Water to achieve the most optimal outcome for the Project whilst also achieving best practice principles.

2.5.1 The Location

The site for the proposed RRON facility was chosen so it can leverage off the existing wastewater treatment infrastructure, roadways, grid connections and drainage infrastructure. However, the main advantage to this site is that the biosolids drying facility is a high consumer of fossil derived natural gas which can be significantly offset through the use of the biogas that is generated by the proposed RRON project. Further to this, the WRP is a high consumer of electricity which provides a future opportunity to switch to power generation from biogas and also offset behind the meter demand at Black Rock WRP.

In addition to the infrastructure available at the site, the RRON facility will be located in close proximity to the FOGO material to be received from the four Councils in the region (Borough of Queenscliffe, City of Greater Geelong, Golden Plains Shire Council, Surf Coast Shire Council). This is a major driver for the project to provide a regional processing solution for organic waste from the region, some of which is currently transported long distances for treatment or disposal.

2.5.2 Process and Technology

GHD prepared a technology options assessment report for BW in November 2022 (GHD 2022) following an options assessment phase undertaken by GHD and BW. The report expanded on a previous feasibility study undertaken in 2020-2021 which assessed food organic and garden organic (FOGO) processing technologies. A list of process options was developed which was comprised of various combinations and configurations incorporating plug flow dry anaerobic digestion (AD), batch dry AD, wet AD, composting, and thermal processing (or carbonisation) including the following:

- 1a Plug flow AD with thermal processing (carbonisation) of digestate
- 1b Plug flow AD with composting of digestate
- 1c Plug flow AD with combination of compost & thermal processing (carbonisation) of digestate
- 2a Batch AD and thermal processing (carbonisation) of digestate
- 2b Batch AD and composting of digestate
- 2c Batch AD and combination of compost & thermal processing (carbonisation) of digestate
- 3 Thermal processing (carbonisation) only
- 4a Combined thermal processing (carbonisation) and wet AD (with composting of digestate)
- 4b Combined thermal processing (carbonisation) and wet AD (with digestate fed to thermal process)

A fatal flaws assessment was undertaken to eliminate some options based on a preliminary screening against some core BW objectives for the RRON facility including the following criteria:

- Ability to process the waste profile specified by the council waste supply agreements
- Ability to manage risk of feedstock contamination impacting end product viability
- Ability to produce high value end product/s
- Net energy positive
- Net emissions negative
- Ability to convert to biosolids drying facility at year 8 (or beyond) if the councils ceased feedstock supply after this point. This objective maximises flexibility of the facility

Following the fatal flaws analysis, the following four options remained:

- **Option 1a** Plug flow AD with thermal processing (carbonisation) of digestate:
  - Incoming feedstock is decontaminated, sorted, and shredded before being fed into a plug flow digester. Biodegradable organics are broken down through the digester liberating biogas in the process
  - The residual solid digestate is then thermally dried, further shredded/milled (if required) and fed to a carbonisation step which thermally decomposes the solids to produce biochar and syngas
  - Biogas and syngas are used to produce electricity and/or heat which can be utilised on the existing site, including for the neighbouring Black Rock WRP or biosolids drying facility
- **Option 3** Thermal processing (Carbonisation) only

    - Incoming feedstock is decontaminated, sorted, and shredded before being dried and further shredded/milled in preparation for direct carbonisation
    - The dried, shredded material is then fed to carbonisation which thermally decomposes the solids to produce biochar and syngas
    - Syngas is used to produce energy for drying the incoming feedstock
- **Option 4a** Combined thermal processing (carbonisation) and wet AD (with composting of digestate)
    - This option is the same as Option 3 with an additional parallel wet AD stream processing only C&I feedstock. The wet AD digestate is composted in this option
- **Option 4b** Combined thermal processing (carbonisation) and wet AD (with digestate feed to thermal process (carbonisation))
    - This option is identical to Option 4a described above, however, instead of composting the wet AD digestate, the digestate is withdrawn, dewatered, and combined with pre-processed council waste for drying and carbonisation

These four options were then further assessed, which included the following:

- Further technology review
- Supplier engagement for technology comparison
- Preparation of a risk and opportunity register
- Preferred option selection process including:
    - Development of key multi-criteria assessment (MCA) criteria and weightings to enable the targeted development of the shortlisted options against these criteria to enable the assessment
    - Technical development of the shortlisted options against the MCA criteria
    - Development of a techno-economic model (TEM) to generate key technical and commercial outputs
    - Development of an options summary sheet to inform the MCA
    - MCA workshop to arrive at a preferred process technology option

Based on the results of the MCA, Option 1a - Plug flow AD with thermal processing of digestate was selected as the preferred option.

One of the key considerations related to the potential risk and lack of experience among carbonisation vendors with direct carbonisation of the proposed RRON feedstock. In contrast, Option 1a involved homogenisation of the feedstock via the PFAD prior to carbonisation in addition to the added benefit of biogas generation.

As part of the early contractor involvement (ECI) design the thermal processing of digestate is no longer proposed and the digestate will now be dewatered and dried via an aeration process. Following this process the low-risk digestate (which is rich in nutrients) will likely be transported to a local composting facility for blending with organic compost material. Section 2.1 provides further details on the ECI design.

Furthermore, EPA Victoria has released a Safe production and use of digestate guidelines and the Designation for low risk digestate came into effect on 21 December 2023. Based on the guidelines, it is expected that the digestate produced at the RRON facility will comply with the Designation specifications, as digestate from the RRON facility will be generated from the low risk feedstocks outlined in Appendix 1 (Table 4) of the Designation and the organic wastes processed via the PFAD will meet the pasteurisation of the Designation for low risk feedstocks requirements (due to thermophilic anaerobic digestion process at ≥55°C). The digestate generated is also expected to meet the chemical and physical contaminant limits listed in Appendix 1 of the Designation.

2.5.3 Contractor Design

Barwon Water appointed Hitachi Zosen Inova (HZI) Australia the Principal Contractor for the Early Contractor Involvement (ECI) design of the RRON facility. Based on the ECI design, the RRON facility will consist of the following primary process units located across the facility:

- Feedstock pre-processing
- Plug Flow Anaerobic Digester
- Biogas co-generation equipment

- Digestate dewatering and aeration
- Carbonisation feedstock thermal drying
- Carbonisation unit
- Syngas thermal oxidiser and associated heat recover equipment
- Air treatment
- Ancillary pumps, pipework, and conveyers

Design drawings are located at Attachment 3.

3. Policy and approvals context

This section describes the strategic and statutory policy considerations and other relevant approvals associated with the Project.

3.1 Strategic policy context

3.1.1 Water for Victoria

Water for Victoria is a state strategy developed by the Department of Environment, Land, Water and Planning (DELWP) (now known as DEECA) which seeks to create an efficient, innovative, water system that fosters climate adaptation and a healthy, liveable environment.

This strategy identifies that the water sector is the largest contributor to government-produced carbon emissions and encourages action by Victoria's water authorities to implement innovation strategies to reduce their emissions. Additionally, the strategy recognises the importance of technological innovation and shared service delivery to deliver safe, reliable, and affordable water services. Key ambitions of the *Water for Victoria* strategy including achieving net-zero emissions, promoting innovation, and building capabilities within the water sector.

3.1.2 Recycling Victoria

Recycling Victoria (DELWP 2020) is a state government initiative that seeks to transform Victoria's waste and recycling system. This policy encourages investment in facilities that reduce the need for landfills and a transition to the circular economy, as well as introducing reforms for household waste that will make FOGO recovery services mandatory by 2030.

A key foundation of this plan is the 'circular economy' which is an economic process that seeks to foster economic growth while reducing the environmental impacts of production and consumption. *Recycling Victoria* relies on a collaborative approach that engages all levels of government, Victorian businesses, and the waste and resource recovery industry.

Barwon Water is collaborating with six local Councils to deliver the RRON facility. The Project will support Victoria in reaching the targets outlined in *Recycling Victoria*, including:

– Aiding resource recovery from waste streams
– Increasing the use of recycled content by government and industry
– Reducing the amount of organic waste sent to landfill for disposal

The proposed RRON facility has received public support from the Victorian Government, including the Minister for Water and Minister of Energy, Environment, and Climate Change.

3.1.3 Victoria's Gas Substitution Roadmap

The Victorian Government is taking bold steps to speed up the transition to renewable energy and is targeting a 75-80% reduction in emissions by 2035. In 2022-23, renewable sources accounted for 38% of Victoria's electricity generation, highlighting the state's commitment to a cleaner future.

Whilst the Gas Substitution Roadmap is currently focused on residential properties, the Government has committed to continue to assist industry to improve efficiency, electrify and prepare to take up alternative gases (i.e. biogas).

The RRON is projected to produce over 60,000GJ/yr of biogas, enabling Barwon Water to offset a large portion of its natural gas usage, reducing demand on the grid, and supporting Victoria in its targets within the gas substitution roadmap.

3.1.4 Bellarine Peninsula Statement of Planning Policy

The purpose of the *Bellarine Peninsula Statement of Planning Policy* (Bellarine Peninsula SPP) has been developed to guide the use, development, and management of land within the Bellarine Peninsula declared area for the next 50 years. This Policy is applicable via the state standard provisions of the Victoria Planning Provisions.

Black Rock WRP falls within the boundary of the Bellarine Peninsula declared area. An assessment of the Project against the relevant objectives and strategies outlined in the Bellarine Peninsula SPP is provided in Table 5 below.

Table 5 Assessment of the Project against the Bellarine Peninsula SPP

Objective	Assessment against Project
Objective 1 *To conserve, strengthen and promote the declared area's Aboriginal cultural heritage values and partner with the Wadawurrung to care for Country.*	The Black Rock WRP is located on Wadawurrung Country. Barwon Water is committed to applying a Caring for Country approach to the Project, engaging with the Wadawurrung Traditional Owners Aboriginal Corporation (WTOAC), the Registered Aboriginal Party (RAP), by preparing and receiving an approved Cultural Heritage Management Plan (CHMP) for the Project (Attachment 9 and Attachment 10). Landscaping is proposed as part of the works, including planting additional plants and trees to help screen the facility and blend it with the surrounding environment (refer to Attachment 4). The facility has been designed to manage stormwater and integrate it with existing stormwater management practices onsite to prevent runoff into the natural environment.
Objective 2 *To conserve and enhance the significant biodiversity, ecological and environmental values of the declared area.*	Ecological assessments undertaken for the Project confirmed that there are no anticipated vegetation or ecological impacts associated with the construction of the facility. Landscaping is proposed to protect and enhance the natural biodiversity of the landscape using appropriate species (refer to Attachment 4). Refer to Section 5.1.1 for further detail.
Objective 3 *To protect and enhance the identified landscape character, physical features, view corridors and natural and cultural values of the declared area's significant landscapes.*	The Project is proposed to be located on land zoned PUZ1, where the Black Rock WRP operates. A grassy knoll and existing patches of vegetation will shield the Project from view along sightlines from Blackrock Road. Additional proposed landscaping including planted trees along the driveway will provide a further visual buffer (refer to Attachment 4). The colour preferences of the exterior building façade will be informed by their ability to blend with the surrounding environment, reduce visibility, and deflect heat. A CHMP has been developed and approved to ensure cultural heritage values are protected during the Project's construction and operation (Attachment 9 and Attachment 10).
Objective 4 *To achieve a zero-carbon future and support the resilience of the declared area's distinctive attributes by taking sustained measures to reduce greenhouse gas emissions, mitigate climate change and natural hazards risks and adapt to their impacts.*	The RRON facility is a significant project that will offer numerous benefits, including reducing GHG emissions and producing renewable energy The RRON facility has been designed to integrate with existing stormwater management practices onsite to prevent runoff into the natural environment and will be set back from the coastline to minimise any potential exacerbation of coastal erosion. A Climate Change Risk Assessment and Fire Safety Assessment have been prepared to address these issues (Attachment 16 and Attachment 18). Climate change and bushfire risk considerations are discussed in further detail in Section 5.3.2 and 5.3.4. The Project is not expected to compromise existing cycling routes along Thirteenth Beach Road and the Black Rock Cycle Path. Traffic impact considerations are discussed further in Section 5.2.1.
Objective 5 *To protect, strengthen and promote the declared area's post-colonial historic heritage values.*	No historic heritage values registered on the Victorian Heritage Register or Victorian Heritage Inventory have been identified within the Project area or wider property.
Objective 6 *To enable a diverse, sustainable and strong regional economy (including responsible tourism, agriculture and natural resource industries) that protects and promotes the declared area's landscape significance, environment*	The RRON facility will substantially contribute towards Victoria's transition towards a carbon-neutral, circular economy by diverting organic waste away from landfills, producing renewable energy, and creating biochar and digestate to be used for agribusiness and sustainable manufacturing practices. The Project has been designed and sited to minimise impacts on landscape, environmental, and cultural values. Proposed landscaping and building façade colouring has been designed to minimise visual impacts and ensure the facility

Objective	Assessment against Project
and biodiversity, agriculture and Wadawurrung living cultural heritage and historic heritage values.	blends with the surrounding environment. The proposed trees and vegetation species are identified in the landscape plans provided as Attachment 4. A Sustainable Management Plan (Attachment 19) has been prepared for the Project which demonstrates that the Project achieves best practice scores for the Built Environment Sustainability Scorecard assessment. The facility will be constructed on land zoned PUZ1 alongside the Black Rock WRP and will not result in any loss to agriculturally viable land. It will not impact the significance of the surrounding coastal landscapes or cultural heritage values as evidence by the supporting specialist reports. Ecological assessments have confirmed that there will be no impacts to native vegetation. For further information, refer to Section 5.1.
Objective 7 *To ensure the integrated provision and protection of transport, strategic water assets, essential services and community infrastructure that meets the community's needs while increasing resilience to climate change.*	The Project has been designed to minimise detriment to the landscape, visual amenity, environmental, or cultural heritage values associated with the land due to its siting, bult form characterises and careful consideration of operation techniques which have been informed by suitably qualified specialists. The Project will support the ongoing operation of the Black Rock WRP and associated infrastructure. A Climate Change Risk Assessment (Attachment 16) was undertaken for the Project which has demonstrated that all climate change risks can be minimised by implementing appropriate mitigation and adaptation measures. Key vehicle and active transport routes are not expected to be compromised by the construction or operation of the RRON facility. Trucks are expected to enter and exit the facility via two existing connections to Blackrock Road. The proposed truck movements are not anticipated to impact existing cycling routes along Thirteenth Beach Road or Black Rock Cycle Path. Traffic considerations are discussed further in Section 5.2.1.
Objective 8 *To plan and manage the sustainable development of settlements in the declared area consistent with the protection of the area's landscape significance, environment and biodiversity values, Wadawurrung living cultural heritage and historic heritage values and consistent with the unique character and hierarchy designation of each settlement.*	The RRON facility will be co-located with the Black Rock WRP. The immediately surrounding land is used for similar purposes, including the Black Rock solar farm to the north and the Black Rock Wind Turbine to the east. The RRON facility has been designed and sited to minimise impacts to the identity, heritage, and coastal character of the surrounding landscape. The facility is setback from the nearby coastal reserve and will be obscured from view from Blackrock Road and Thirteenth Beach Road. Its construction and operation has been designed to achieve best practice, environmentally sustainable design. Refer to Attachment 19 for a copy of the Sustainable Management Plan. The Project will deliver significant environmental, social, and economic benefits by producing renewable energy, lowering GHG emissions, creating jobs, and contributing towards Victoria's transition to a circular economy.

3.2 Approvals context

3.2.1 Planning permit – pre-application discussions

A planning permit is being sought for the development of the Project. The timeline and key milestones associated with the planning approvals process to date is presented below.

Table 6 ***Planning permit application – Timeline and key milestones***

June 2023	GHD requested written confirmation from the City of Greater Geelong (Council) to confirm whether an application for a planning permit is required for the RRON facility.
July 2023	Council provided a letter confirming that a planning permit is required to use and develop land in the PUZ1 for materials recycling under the Scheme.
September 2023	Barwon Water attended a pre-application meeting with Council on 20 September 2023 to discuss the Project. In this pre-application meeting Council recommended addressing amenity impacts for onsite operations and the surrounding area, drainage considerations, and impact assessments relating to traffic, air quality, human health risk, waste, ecology, and cultural heritage.
November 2023	GHD met with the State Project Concierge on 13 November 2023 to discuss the Project and determine the appropriate planning pathway.
December 2023	The State Project Concierge confirmed that the Clause 52.33 – Significant Economic Development provision was the most appropriate approval pathway for the Project. The benefit of this pathway is its shorter

	assessment timeframes, the removal of potential objector reviews, and it can run concurrently with the EPA Development Licence application and notice process. The proposal was allocated to the State Project Facilitation team headed by Tom Gallagher. GHD and Barwon Water representatives attended a project inception meeting with Tom on 19 December 2023 to confirm the approvals pathway, the permit triggers, and the technical assessments required to support the application.
August 2024	A pre-application meeting between GHD, Barwon Water and DTP and EPA representatives, was held on 07 August 2024. During this meeting, Barwon Water and GHD provided a status update on the Project, the most recent phases of stakeholder engagement, and the progress of the planning report and development licence application. Both DTP and the EPA confirmed outstanding requests for the final technical assessments and drawings.

3.2.2 EPA Development Licence

The timeline and key milestones associated with obtaining a Development Licence is presented below.

Table 7 ***EPA Development Licence – Timeline and key milestones***

2020	Barwon Water engaged the EPA to discuss the Project and has provided regular updates as it has progressed.
2022	A permissions pathway was submitted to the EPA in November which confirmed that a Development Licence is required for the construction of the Project.
2023	Subsequent engagement with the EPA confirmed the nature of the technical assessments required to accompany the Development Licence application, including air and odour emissions, acoustics, traffic, human health risk, and bushfire risk.
2024	All technical assessments have been completed and Barwon Water lodged the application on 26 August 2024. The application is currently with the EPA for assessment.
2025 – onwards	Contact will be made with the EPA prior to the commencement of the commissioning phase to advise of the commissioning plan. A proof of performance report will be issued at the end of the commissioning phase to validate that the requirements of the development licence are met. An operating licence application will then be submitted to the EPA to start operating the RRON facility.

3.2.3 Cultural Heritage Management Plan

A CHMP has been prepared and approved for the Project. Key milestones associated with the CHMP are described below.

Table 8 ***CHMP – Timeline and key milestones***

2022	A Notice of Intention to prepare a CHMP was issued to the WTOAC RAP and Council on 06 December 2022.
2023	A project inception meeting between GHD, Barwon Water, and WTOAC representatives was held via video conference on 28 February 2023. This meeting confirmed that monitoring would be required for the geotechnical works as part of the standard assessment. The standard assessment was undertaken on 26-27 April 2023 in conjunction with geotechnical testing. An additional standard assessment was undertaken on 11 July 2023 due to changes in the activity area. Standard assessment results were discussed via a video conference meeting on 20 July 2023 with GHD, Barwon Water, and WTOAC representatives in attendance. The proposed testing methodology for the complex assessment was endorsed by the WTOAC on 05 October 2023. Field work for the complex assessment was conducted in October 2023 and the results were presented to the WTOAC in November 2023. The CHMP report was prepared and lodged with the WTOAC in December 2023.
2024	The WTOAC RAP issued a Notice of Approval for the CHMP (no.19285) on 04 April 2024. The approved CHMP and Notice of Approval are enclosed at Attachment 9 and Attachment 10, respectively.

3.2.4 Other approvals legislation

Additional primary approvals have been considered for the Project and are identified and discussed below.

Table 9 Other primary approvals legislation considered relevant to the Project

Legislation	Relevance to this report	Applicability
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	The EPBC Act focuses Australian Government interests on the protection of Matters of National Environmental Significance (MNES). There are no MNES located within or nearby the project site.	× Referral under the EPBC Act is not required.
Environment Effects Act (EE Act)	The EE Act provides a framework for the integrated assessment of effects of a project on the environment. The Project does not meet any of the criteria to require a referral.	× Referral under the EE Act is not required.
Marine and Coastal Act 2018 (MACA)	The MACA informs the planning and management for Victoria's marine and coastal environment. The Project area does not meet the definition of marine and coastal Crown land per Section 4 of the MACA.	× Consent under the MACA is not required.
Aboriginal Heritage Act 2006 (AH Act) and *Aboriginal Heritage Regulations 2018 (AH Regulations)*	The AH Act provides for the protection of tangible and intangible Aboriginal cultural heritage in Victoria and empowers traditional owners to protect and manage their heritage. The principal method of protecting cultural heritage under the Act is the preparation and implementation of a CHMP.	✓ A CHMP has been prepared for this Project (refer to Section 5.1.2, Attachment 9, and Attachment 10 for more detail).
Heritage Act 2017 (Heritage Act)	The Heritage Act provides for the protection and conservation of heritage of State significance in Victoria, including the establishment of the Victorian Heritage Register (VHR) for places and objects, and the Victorian Heritage Inventory (VHI) for archaeological sites. There are no VHR or VHI listed sites within the Project area.	× There are no approvals required under the Heritage Act.
Flora and Fauna Guarantee Act 1988 (FFG Act)	The FFG Act is the key piece of legislation in Victoria for the conservation of threatened species and communities for the management of potentially threatening processes. The Project will not impact any native vegetation.	× There are no approvals required under the FFG Act.
Water Act 1989	The Water Act provides for the equitable and integrated management and conservation of Victoria's water resources and waterways. There are no nearby waterways present for the Project site.	× A Works on Waterways permit is not required.
Road Management Act 2004	The Road Management Act provides for an overall coordinated road management framework that promotes safe and efficient state and local public road networks and the responsible use of road reserves for other legitimate purposes such as the provision of utility and public transport services.	✓ A Works within the Road Reserve permit may be required.

4. Stakeholder engagement

Barwon Water has undertaken comprehensive stakeholder consultation across the Project lifecycle, engaging with Traditional Owners, state and local government, other regulatory groups, Barwon Water customers, and the local community, including local landowners. The consultation undertaken to date has been summarised below.

Table 10 Stakeholder engagement

Community

Barwon Water has regularly engaged with the Bellarine and Greater Geelong community since November 2020 to July 2024, sharing information about the Project and seeking feedback.

The Community Engagement Program has been undertaken in two phases, with each phase including social media outreach, correspondence, webinars, online forums and conversations, media releases, and presentations.

Barwon Water has directly engaged with over 20 neighbouring landowners to maintain transparency and regular communication about the Project.

Local councils

The Council partners have been engaged with in the RRON since July 2020, with monthly Joint Steering Committee meetings chaired by Barwon Water since that time. These meetings provide regular updates on the Project, discuss a diverse range of Project factors, and provide direction for the RRON.

Further to that, a specific council communications and engagement working group has been established and meets regularly to align messaging across the region, with an objective to minimise the contamination present in FOGO bins.

Regulatory authorities

Key state government and regulatory agencies that Barwon Water has briefed includes:

- State government representatives including the Minister for Energy, Minister for Water, and DTP
- Environment protection Agency (EPA)
- Regional Roads Victoria
- Department of Energy, Environment and Climate Action (DEECA)
- WTOAC
- Local, state, and federal MPs
- Regional Development Victoria
- Sustainability Victoria
- Major Road Projects Victoria
- Regional Roads Victoria

Other stakeholders

Other agencies that Barwon Water has engaged with and briefed throughout the Project includes:

- Barwon Water's Customer Advisory Committee and Environmental Advisory Committee
- Black Rock Water Reclamation Plant site neighbours and landowners
- G21 Alliance
- Geelong Sustainability
- RMIT
- Barwon Coast
- Victorian Bioenergy Network
- Regional Development Victoria
- Water Services Association of Australia (WSAA)
- Institute Water Administration
- Barwon South West Waste Recovery and Recycling Group
- Rotary Club of Geelong
- Friends of the Barwon River
- Geelong Sustainability
- Barwon Heads Association
- Barwon Region Partnership
- Deakin University

Barwon Water also chairs a monthly Agency Reference Group (ARG) to keep key groups briefed on the RRON's progress, whilst staying abreast of any impending regulatory changes. The ARG consists of: DEECA Water, Waste and Energy, Recycling Victoria, Regional Development Victoria, and the EPA.

Overall, feedback throughout the various phases of stakeholder engagement has been consistently positive, with some key areas of interest and/or concern including:

- Interest in Project funding, the types of technologies being utilised, how the facility is powered, and how/where renewable energy will be used
- Interest in opportunities, access, and potential markets for biochar and digestate

– Concerns around increased truck movements and the management of noise, odour, and safety
– Concerns around ensuring adequate screening of facility and ensuring it blends into the local coastal environment

Barwon Water has utilised this stakeholder feedback to inform the final functional design and future operation of the RRON facility. In particular, building heights, screening, odour control technologies, traffic assessments, and external building treatments.

A Community Engagement Report has been enclosed at Attachment 6 which provides further detail.

5. Technical assessments

This section details the environmental, amenity, and risk technical assessments undertaken for the Project.

5.1 Environment

5.1.1 Ecology

Site inspection

On 3 August 2023, a suitably qualified Barwon Water staff member undertook a vegetation site inspection of the proposed Project area to assess whether a detailed flora and fauna assessment by an ecological consultant would be required. This assessment included a walkover of the entire Black Rock WRP property and concluded that there are no native vegetation values present at the site that would require planning approval if impacted.

Figure 6 Site photography from site inspection indicating non-native understorey vegetation (left) and planted native trees on grassy knoll adjacent to RRON location (right) (Flower 2023)

The full findings of the Vegetation Site Inspection are enclosed at Attachment 7.

Desktop assessment

Qualified ecologists at GHD conducted a desktop assessment of the Project area in November 2023. This desktop assessment determined that flora and communities listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and *Flora and Fauna Guarantee Act 1988* (FFG Act) are unlikely to occur at the site. However, habitat for threatened and migratory fauna may occur in the planted trees of the revegetated mounds. Therefore, the assessment concluded that although a detailed vegetation assessment is not required, the following should be undertaken:

– A fauna pre-clearance inspection should be completed immediately before removal of any vegetation or trees
– A fauna spotter-catcher should be available in case native fauna are impacted during clearing or construction works

The Desktop Ecology Report is enclosed at Attachment 8.

5.1.2 Cultural heritage

A CHMP has been prepared in accordance with Section 46(a) of the *Aboriginal Heritage Act 2006* and Section 7 of the *Aboriginal Heritage Regulations 2018*. GHD prepared and submitted a CHMP for this Project on behalf of Barwon Water to the WTOAC who are the RAP for the Project location.

The key findings of the CHMP are presented below.

Desktop assessment findings

The desktop assessment identified one registered Aboriginal Place (VAHR 7721-0570) previously recorded 15 m north of the Project area. The assessment concluded that it was likely that the recorded Aboriginal cultural heritage material was not *in-situ* and has been subject to the earthworks that have occurred within the extent of the Black Rock WRP. The Project area is located on the volcanic plains, adjacent to a swamp deposit that is an area of cultural heritage sensitivity. Low density artefact scatters were identified in similar contexts. Past earth works for the WRP facilities, roads, and underground utilities have reduced the archaeological potential of Aboriginal cultural heritage material to be present.

Standard assessment findings

A standard assessment was undertaken between 26 and 27 April 2023 and 11 July 2023 due to various alterations in the Project area. The findings supported the results of the desktop assessment, demonstrating extensive ground disturbance across the Project area, from facility construction and underground utility installation. Geotechnical investigations identified fill in the centre of the Project area further supporting the ground disturbing works identified during the desktop assessment. While no areas of potential were identified, a complex assessment was requested by the RAP to test any assumptions regarding the level of ground disturbance within the Project area.

Complex assessment findings

The complex assessment comprised of one test pit and three shovel test pits excavated to a maximum depth of 40 centimetres (cm). It demonstrated the presence of fill in all locations with no topsoil present between the fill and sterile base, confirming the results of the desktop and standard assessments. No Aboriginal cultural heritage material was identified during the complex assessment, indicating past land use activities have removed any Aboriginal cultural heritage that may have been present.

The approved CHMP and Notice of Approval are enclosed at Attachment 9 and Attachment 10, respectively.

Figure 7 Aboriginal cultural heritage values

5.2 Amenity

5.2.1 Traffic

A Traffic Impact Assessment (TIA) has been prepared by Traffix Group to undertake a detailed traffic engineering assessment of the parking and traffic arrangements associated with the Project.

The TIA concluded that:

– The proposed on-site car parking provision of 10 spaces will be sufficient to accommodate the predicted peak parking demand generated by staff and any occasional visitors of the facility based on conservative estimates
– The proposed parking layout and access arrangements accord with the requirements of the Scheme, Australian Standards (where relevant) and good current practice
– Bicycle parking can satisfactorily be accommodated in an informal arrangement within the site
– The proposed loading and unloading arrangements are appropriate and in accordance with the requirements of the relevant standards
– The level of traffic generated by the Project will be relatively low and can be adequately accommodated by the surrounding road network and intersections

The TIA is enclosed at Attachment 11.

5.2.2 Noise

A Noise Assessment was undertaken by GHD to understand environmental noise risks from operation of the facility and to support the DLA submission for the proposed RRON through an operational noise assessment in accordance with EPA Guidelines.

The operational noise levels from the proposed RRON facility were predicted to comply with the established relevant Noise Protocol noise limits at each identified noise sensitive receivers without additional noise mitigation measures. The noise model assumed that all identified major noise sources operate simultaneously in conjunction with the existing WRP and biosolids facilities. Furthermore, no characteristic noise penalties were considered in the predicted noise levels. It is noted that the existing operations were not audible during noise logger deployment or retrieval at the noise monitoring locations.

The Noise Assessment is enclosed at Attachment 12.

5.2.3 Air quality

An Air Quality Assessment has been prepared by GHD to assess the emissions discharged from the proposed facility.

All organic waste delivered to the facility will be processed within a building or enclosed equipment. Trucks delivering waste material will be sealed to reduce odours during transport and delivery will occur within the main building whose doors will be sealed prior to the trucks emptying their waste for pre-treatment. All trucks will be cleaned prior to leaving the facility to reduce any potential odours being emitted. The main building will be under negative pressure with air being extracted out at regular intervals and filtered through a fit-for-purpose biofilter. This biofilter is a layered filter bed which air will pass through and be treated by bacteria prior to being released into the environment via a stack.

The Air Quality Assessment is enclosed at Attachment 13.

5.2.4 Waste

A Waste Assessment has been prepared by GHD to assess the proposed waste management procedures used in the facility.

Incoming waste loads will be inspected at various locations within the RRON facility to ensure it only accepts appropriate waste products. Council FOGO, solid C&I wastes and WRP sludge will be unloaded into dedicated unloading bunkers within the receivals building. Liquid C&I wastes will be unloaded into a holding tank.

Outgoing wastes will be properly disposed of. Biochar will be bulk bagged and periodically stockpiled inside the carbonisation building prior to being exported offsite. Digestate will likely be further processed offsite at a composting facility with EPA permission to accept the low risk digestate. Small amounts of fly ash produced inside the carbonisation building will be recycled by slowly feeding it into the carbonisation plant or disposed to a facility licensed to accept it.

The Waste Assessment is enclosed at Attachment 14.

5.3 Risk

5.3.1 Human health risk

GHD prepared a Human Health Risk Assessment in July 2024 to assess the impact of the proposed RRON facility on sensitive receptors surrounding the Project location. Key findings from this assessment include:

– Six residential properties have been identified close to the Project site, with the closest sensitive receptor being located approximately 922 m north-north-east
– The assessment focused on deposition and accumulation of non-volatile COPC in soils and rainwater tanks in the surrounding properties
– Accumulation of deposition in soil and domestic rainwater tanks was based on the RRON facility design-life of 25 years
– Exposure to COPC by adults and children was calculated for a rural residential/agricultural setting and included the inhalation of airborne emissions and deposition of particulates
– The estimated Hazard Index (HI) for the highest exposed sensitive receptor from deposition is 0.052, which is well below the allowable HI of 1.0. The largest contributor to HI was mercury (82%). It is noted that the mercury emissions modelled in the AQA were based on biosolids feedstock stream only, whereas in the RRON facility biosolids are expected to be a small proportion of the overall feedstock (~12%) and as such the actual mercury emissions from the RRON facility are expected to be less than the modelled values
– The estimated incremental lifetime cancer risk for the highest exposed sensitive receptor from deposition is 5.4 x 10-8, which is below the acceptable level of 1 x 10-6 (or 1 in 1,000,000)
– Based on the Air Quality Assessment and the quantitative Human Health Risk Assessment for deposition, it was concluded that human health risk of nearby sensitive receptors is low and acceptable

The HHRA is enclosed at Attachment 15.

5.3.2 Climate change risk assessment

GHD prepared a Climate Change Risk Assessment (CCRA) for the Project to assess the risks associated with climate change impacting on the development of the RRON and to identify mitigation and adaptation measures to manage these risks. The key findings of the CCRA are presented as follows:

– A total of 29 climate change risks were identified, including extreme heat, extreme rainfall, severe storms, bushfires, drought, and sea level rise
– A residual risk assessment to evaluate the effectiveness of the proposed controls confirmed that, where controls were implemented, there would be no risks rated as ‘high’ or ‘extreme’
– Potential adaptation measures for reducing ‘high’ risks included:
    - Contingency storage capacity in the carbonisation building
    - Implementation of fire identification cameras and sensors
    - Sprinkler systems and automated temperature monitoring systems for biochar containment
    - Back-up generators or batteries in the event of a power outage for critical infrastructure
    - Odour control to allow for expected increases in high temperature days
    - Appropriately air-conditioned amenities for operators that are separate to main building and workplace
    - On-site stormwater management design for extreme rainfall events integrated with Black Rock stormwater management

- Drought-tolerant landscaping and land care services

The CCRA is enclosed at Attachment 16.

5.3.3 Environmental risk assessment

GHD has prepared an Environmental Risk Assessment (ERA) to support the Project in order to identify potential environmental hazards associated with the operation of the RRON and assess these risks on the surrounding environment.

The ERA identified the following potential risks:

– The emergency stack release scenario only occurs in abnormal plant operation under emergency conditions (i.e., there is total power cut-off, main fan failure, or higher than critical biofilter inlet air temperature)
– Biochar produced via the carbonisation of the feedstock (biosolids, bioprill and green waste) is to be used as a soil enhancer. If the biochar is contaminated (e.g., by heavy metals, PFAS) this could lead to environmental impacts when it is applied to land as a soil enhancer product. However, it should be noted that the RRON process design includes carbonisation, which was selected to destroy PFAS compounds.
– Digestate trucked off-site to a local compositing facility is contaminated (i.e., chemical and/or physical contamination) and therefore does not meet the requirements of EPA's Designation for low risk digestate

The assessment identified 22 risks, one risk was associated with air emissions and two risks were deemed a medium rating. For these medium rated risks, the following controls were recommended:

– A bypass of the emergency stack release to the scrubber system should be considered in circumstances where the biofilter inlet air temperature is higher than critical
– An A16 permit or waste designation will be sought by Barwon Water for the supply and use of biochar as a soil enhancer or for other purposes
– As part of commissioning and ongoing operations, testing of the biochar material will be undertaken to confirm that the supply and use of the biochar will not present a risk to the environment and human health
– A separate biochar management and monitoring plan will be prepared before operations commence to outline the testing requirements of the biochar and document processes to limit the potential chemical contamination of the biochar
– Testing of the digestate to confirm it meets the chemical and physical contaminant limits
– A digestate management and monitoring plan will be prepared prior to operation commencing

For further information, refer to the ERA enclosed at Attachment 17.

5.3.4 Fire safety

GHD has prepared a Fire Safety Study (FSS) for the RRON facility to identify possible hazards and provide a detailed list of recommendations to mitigate these hazards.

The FSS identified several potential hazardous materials at the RRON, including biogas and syngas. Due to the presence of methane within the biogas, this is considered to be the most likely contributor towards a fire at the facility. The syngas is not stored onsite and is combusted immediately following generation, therefore it is considered relatively low risk.

The RRON facility is designed to be an enclosed facility under negative air pressure. It is not possible to remove oxygen from the building, therefore the fire management strategy focuses on targeting source of ignitions, the prevention of leaks or uncontrolled vents, and complying stockpile limits.

The FSS provides a comprehensive discussion of fire prevention, detection, and isolation strategies, fire safety systems, and an emergency response plan. The Fire Safety Assessment is enclosed at Attachment 18.

6. Planning scheme provisions

The Project is subject to the provisions of the Scheme and the *Planning and Environment Act 1987*.

This section outlines the relevant planning provisions under the Scheme, including the Municipal Planning Strategy (MPS), Planning Policy Framework (PPF), zones, overlays, and particular provisions.

6.1 Responsible authority

Pursuant to clause 72.01-1, the Minister for Planning is the responsible authority (RA) for any application relating to the use or development of land where clause 53.22 applies. As discussed in Section 6.3.4, this application meets the requirements of clause 53.22, thus the Minister for Planning is the RA.

6.2 Strategic planning provisions

6.2.1 Municipal Planning Strategy

The MPS intends to strategically guide the use and development of land within the region that responds to local character, issues, and challenges. Key clauses within the MPS are identified and discussed below in Table 11.

Table 11 Assessment of the MPS

Clause	Assessment against the Project
Clause 02.01 – Context	The City of Greater Geelong is Victoria's largest regional municipality, comprising 1247 square kilometres (km^2) of suburban, coastal, and country landscapes. It sits within the traditional lands of the Wathaurong Aboriginal clans and is home to a diversity of flora and fauna, rare species, major waterways, and complex freshwater and marine areas.
Clause 02.02 – Vision	Council's vision for the municipality is to promote *prosperity and cohesive communities in an exceptional environment*. It seeks to facilitate a *prosperous economy that supports jobs and education opportunities* and a *sustainable development that supports population growth and protects the natural environment*. The Project is expected to provide significant benefits to the surrounding and wider community, creating 75 construction jobs and up to 36 ongoing jobs, reducing GHG emissions, and the impacts of landfill. As demonstrated in Section 4.1 and 4.2, the Project is expected to have negligible impacts to the natural environment and cultural heritage values.
Clause 02.03-2 – Environmental and landscape values	This clause describes the importance of protecting and enhancing the natural environment and supporting sustainable development. In particular, the municipality's extensive coastlines are a key landscape feature vulnerable to development, climate change, and natural processes. Due to the design and siting of the proposed infrastructure, the Project is not expected to result in any notable visual or environmental impacts to the Black Rock coastline. Landscaping is proposed to enhance the biodiversity values of the natural environment (refer to Attachment 4).
Clause 02.03-3 – Environmental risks and amenity	Non-residential uses can reduce the amenity of residential areas due to impacts associated with air and noise pollution, traffic, and hours of operation. This clause seeks to protect the character and amenity of residential areas by regulating non-residential uses. The Project has been designed to ensure that the surrounding amenity of the rural area is not impacted by air and noise pollution, or traffic associated with construction or operation of the facility. The facility has been designed to minimise noise impacts, with appropriately enclosed equipment and noise dampening protection measures where required. The delivery, processing, treatment, and disposal of organic material will be managed with dedicated odour treatment units. Regular odour inspections will be conducted around the site to assess for any off-site odour impacts and to ensure ongoing compliance with EPA requirements. Amenity considerations are discussed in detail in Section 5.2.
Clause 02.03-5 – Built environment and sustainability	Council seeks to ensure development is environmentally sustainable and provides high quality urban design and landscaping. This clause also seeks to conserve and enhance all heritage places of pre-contact and post-contact heritage significance.

Clause	Assessment against the Project
	The RRON facility will be setback from the property boundary, obscured from view from Blackrock Road by a grassy knoll and existing vegetation. Further vegetation will be planted as part of the Project's construction to provide further visual concealment and enhance the natural environment (refer to Attachment 4). Six employee bicycle spaces will be provided to support active commuter transport options and two electrical vehicle charging stations will be provided in the outdoor carpark. Due to its proposed location and a minimal increase in traffic movements, the Project is not expected to result in any short- or long-term impacts to the surrounding bicycle network. The Project has achieved a best practice rating for the BESS assessment. A Development Licence application is currently under assessment with the EPA to ensure ongoing compliance with EPA regulations and to prevent environmental impacts. A CHMP has been prepared and approved for this Project (Attachment 9). The complex assessment undertaken as part of the CHMP did not identify any Aboriginal cultural heritage material.
Clause 02.03-7 – Economic development	Council recognises the importance of supporting diverse employment and economic development, particularly within emerging industry sectors. The RRON project delivers an innovative solution to managing waste production and landfills, supporting Victoria's transition towards a circular, carbon-neutral economy. As outlined in Section 2.1.3, the Project is expected to deliver a number of environmental, economic, and social benefits for the surrounding community.
Clause 02.03-9 – Infrastructure	There is anticipated growing demand for materials recycling industries within the Greater Geelong region for their role in reducing waste at landfill sites. This clause seeks to inform the location and design of materials recycling facilities to ensure they do not adversely affect the amenity of surrounding areas. The proposed location of the RRON facility is on vacant land zoned PUZ1 at the Black Rock WRP and would occupy 0.5 per cent of the property. The facility will complement existing operations at the site which comprises recycled water production, biosolids recycling, and renewable energy generation. Locating the RRON facility at this site will allow the facility to reduce the carbon emissions associated with the operation of the Black Rock WRP.

6.2.2 Planning Policy Framework (PPF)

The PPF seeks to ensure the objectives of planning in Victoria are fostered through appropriate land use and development planning policies. The relevant policies are identified and discussed below.

Table 12 Assessment of the relevant PPF

Clause	Assessment against the Project
Clause 11.03-5S – Distinctive areas and landscapes	This clause seeks to protect and enhance the valued attributes and unique features of distinctive locations within Victoria. The Project will be sited nearby areas of distinct value, including the Breamlea Flora and Fauna reserve situated to the west, Bancoora Beach to the south-west, and Thirteenth Beach to the south-east. Additionally, a small portion of the western boundary of the property boundary, near the Project site, is protected by an Environmental Significance Overlay, Schedule 2 (ESO2). Despite this, the Project is not anticipated to adversely impact any nearby locations of distinct landscape value. The Project will not result in any vegetation removal, it has been strategically sited and designed to blend with the surrounding landscape, and it will integrate with the existing stormwater management practices to ensure there is no runoff into the surrounding environment.
Clause 12.01-1S – Protection of biodiversity	This clause seeks to strategically protect, conserve, and enhance Victoria's biodiversity. A small portion of the western boundary of the subject land is encumbered by an ESO2. The Project footprint does not fall within this ESO2. There are no vegetation impacts associated with the Project construction or operation (refer to Section 5.1.1 for further detail).
Clause 12.02-1S – Protection of the marine and coastal environment	This clause seeks to minimise direct, cumulative, and synergistic effects on ecosystems and habitats. Zeally Bay, Bancoora Beach, and Thirteenth Beach are located to the south of the site. Based on the proposed location and scope of works, the Project is not anticipated to adversely impact the surrounding marine and coastal environment due to the location and adequate setbacks from this area.

Clause	Assessment against the Project
Clause 12.03-1S – River corridors, waterways, lakes, and wetlands	This clause seeks to protect the environmental, cultural, and landscape values of water bodies by ensuring development is sensitively designed and sited to maintain and enhance these assets. The Project site is located within 10 km of a Ramsar wetland. Due to the proposed design and siting of the Project, the proposed works are not expected to impact this Ramsar site.
Clause 13.02-1S – Bushfire planning	Clause 13.02-1S encourages risk-based planning that protects human life, settlements and communities from bushfire. The Project is located within a designated Bushfire Prone Area (BPA) (refer to Figure 8). The RRON facility has been carefully designed to a high standard to minimise fire risk and ensure high standards of safety. Accordingly, the Project is not expected to increase the vulnerability of the surrounding rural properties to bushfire. For further information, refer to Section 5.3.4.
Clause 13.05-1S – Noise management	This clause seeks to ensure community amenity and human health is not adversely impacted by noise emissions. The RRON facility has been designed to prevent noise impacts associated with its construction and operation. Noise impacts will be minimised via appropriately enclosed equipment and noise dampening protection measures. A noise assessment has been undertaken for the Project, which is discussed in further detail in Section 5.2.2.
Clause 13.06-1S – Air quality management	This clause seeks to reduce risks to human health and amenity due to air pollutants. Odour impacts will be managed via dedicated odour treatment units and regular odour inspections around the site. Assessments undertaken to assess air quality and human health impacts associated with the Project concluded that human health risk of nearby sensitive receptors is low and acceptable. For further information, refer to Section 5.2.3 and 5.3.1.
Clause 13.07-1S – Land use compatibility	This clause seeks to facilitate compatible and appropriate commercial and industrial uses while protecting community amenity, human health, and safety. The proposed location of the Project is considered compatible with the surrounding land uses. The Project will be located within the site of the existing Black Rock WRP and 3MW solar power station. Furthermore, there are no nearby community facilities or sensitive uses, therefore the Project is unlikely to present adverse risks to community amenity, human health, or safety.
Clause 15.01-2S – Building design	This clause seeks to ensure buildings are designed and sited in a manner that positively contributes to the local context and public realm and supports environmentally sustainable development. The RRON facility will be concealed from view from Black Rock Road and the neighbouring properties by the natural landforms. The exterior façade colours will be selected to minimise its visibility, blend with the surrounding natural environment, and deflect heat. It will not create visual incompatibilities with any sightlines. Additional landscaping is proposed to improve biodiversity values and further shield the facility from the surrounding properties (refer to Attachment 4).
Clause 15.03-2S – Aboriginal cultural heritage	This clause seeks to ensure the protection and conservation of pre-contact and post-contact places of Aboriginal cultural heritage significance. The Project area is situated near a previously registered Aboriginal cultural heritage place (Black Rocks). No other Aboriginal cultural heritage material has been identified within the Project area. In accordance with the *Aboriginal Heritage Regulations 2018*, a CHMP has been pursued. A copy of the approved CHMP has been included as Attachment 9. For further information, refer to Section 5.1.2.
Clause 17.01-1S – Diversified economy	This clause seeks to protect, strengthen, and diversify existing and planned areas of employment. A key driver of this Project is to facilitate the establishment of a circular economy in organics for the Greater Geelong region and broader Victoria. The Project is expected to positively strengthen and diversify the rural economy in the shift towards renewable energy. In addition, this Project will support the local economy by providing additional local employment opportunities during the construction and operation of the facility.
Clause 19.01-2S – Renewable energy	This clause seeks to facilitate the appropriate siting and design of renewable energy developments which balance economic, social, and environmental benefits while minimising adverse impacts on the local community and environment. The construction of the RRON facility will rely on the conversion of organic waste into renewable energy, biochar and digestate, which support renewable energy operations, reduce landfill levy costs, and GHG emissions. The operation of this facility will result in substantial local and regional economic and social benefits.
Clause 19.03-5S – Waste and resource recovery	This clause seeks to reduce waste and maximise resource recovery to reduce reliance on landfills and minimise environmental, amenity, and public health impacts.

Clause	Assessment against the Project
	The primary purpose of the RRON facility is to recycle organic waste materials to reduce landfill impacts in the region and produce products including biochar and digestate, which can be sold to third parties. The facility will also produce renewable energy which will offset the energy requirements of the neighbouring WRP.
Local PPF	
Clause 12.02-1L – Protection of coastal areas	This clause seeks to ensure development is appropriately setback from coastal areas and wetlands to accommodate the landward migration of coastal wetland vegetation communities. There are several wetlands located within and around the subject site and Black Rocks beach is located to the south. The Project construction and operation is unlikely to have any direct or indirect impacts to any nearby coastal areas or wetlands due to its location and substantial distance from these areas.
Coastal 12.03-1L – River corridors, waterways, lakes, and wetlands	This clause seeks to ensure waterways and wetlands are not adversely affected by development. There are several wetlands located within the subject site, to the north, west, and south-west of the Project area. The Project construction and operation is unlikely to have any direct or indirect impacts to any nearby wetlands. Furthermore, the RRON facility has been designed to integrate with the existing stormwater management practices at Black Rock to prevent any runoff into the natural environment and potential contamination of nearby waterways.
Clause 15.01-2L – Environmentally sustainable development	This clause seeks to achieve best practice environmentally sustainable development throughout the Project lifecycle. The Project has been designed with numerous initiatives to enhance the environmental performance of the facility including reducing energy and water consumption, stormwater and waste management, daylight access and ventilation, sustainable transport movements, and vegetation retention. The Project will utilise 'carbon positive' technology which will result in emissions saving of approximately 13,300 t CO_2-e per annum. With a minimum 25-year design life, this will equate to a net reduction in emissions of 330,000 t CO_2-e. Class A recycled water will be utilised where rainwater harvest is insufficient. Electricity and water consumption in the facility will be monitored constantly to explore opportunities to reduce consumption. Additionally, all landscaping will be completed with drought-resistant native plants and mulching of garden beds to eliminate the need for irrigation after establishment (refer to Attachment 4). A Sustainable Management Plan has been prepared for the Project, which can be viewed at Attachment 19.
Clause 19.03-5L – Materials recycling	This clause applies to all applications for the use or development of land for materials recycling. It seeks to ensure these facilities are appropriately located, adverse impacts to the surrounding environment are minimised, and have sufficient landscaping. The Project is considered to be appropriately located due to its proximity to the existing Black Rock WRP and its proposed function to directly offset GHG emissions associated with the WRP. The Project has been designed to minimise environmental impacts where possible and vegetation assessments have confirmed that the construction and operation of the facility are not expected to have any notable impacts to biodiversity (refer to Section 5.1.1). Furthermore, the RRON facility will be designed with colours complementary to the surrounding landscape and existing vegetation onsite will provide natural visual screening from the surrounding areas so the RRON facility will not compromise visual amenity.

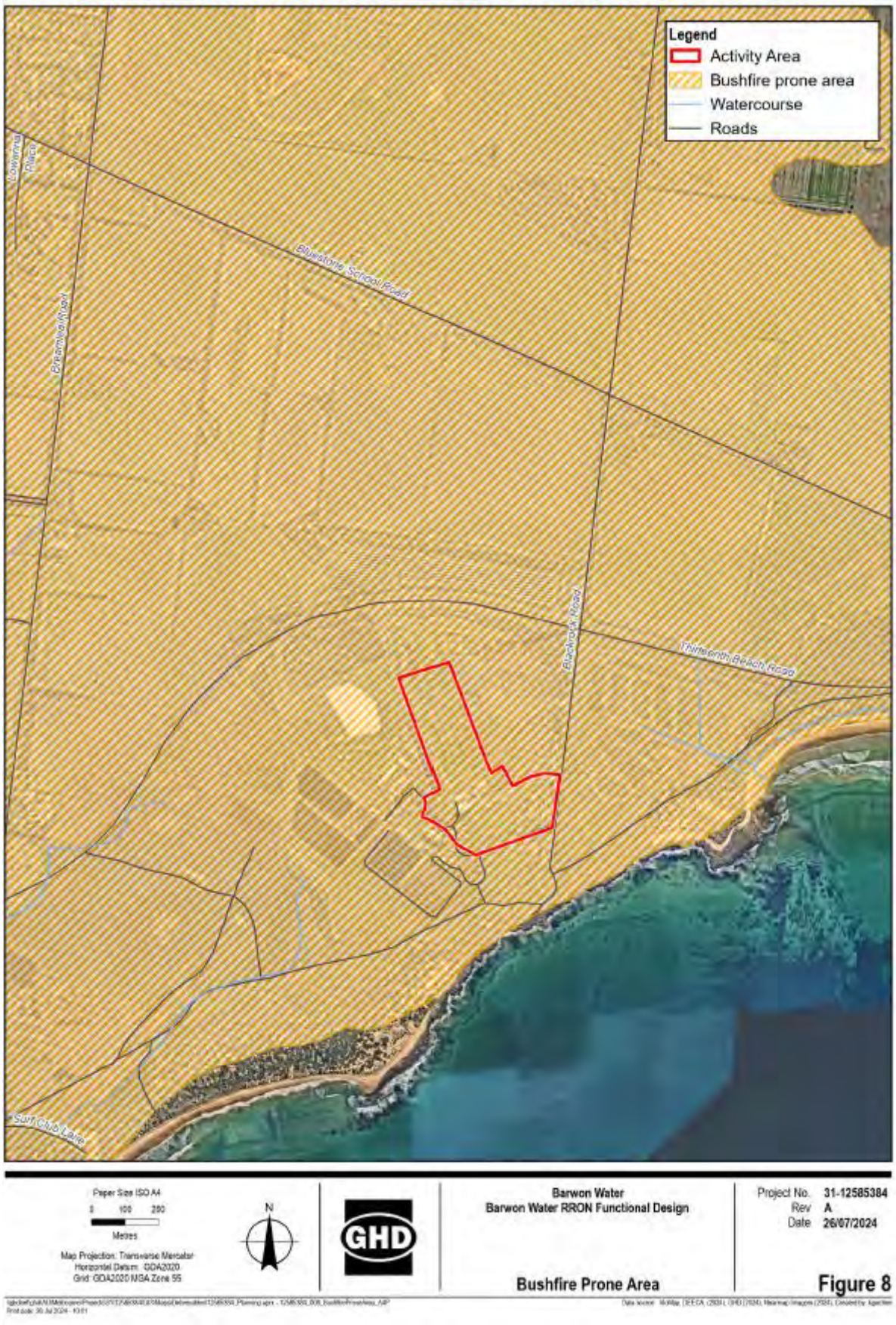

Figure 8 Bushfire Prone Area

6.3 Statutory planning provisions

6.3.1 Land use definition

The Project meets the definition of *Materials Recycling*. Pursuant to clause 73.03 of the Scheme, *Materials Recycling* is defined as *land used to dismantle, treat, process, store, recycle, or sell refuse, use or surplus materials*.

The Project intends to collect organic waste, which will undergo plug flow anaerobic digestion and carbonisation processes to be converted into renewable energy, biochar and digestate. The renewable energy will be used to operate the RRON facility and WRP, the biochar will be sold for use by third parties, and the digestate will be transferred to a third-party composting facility for further processing.

6.3.2 Zones

The Project area is wholly contained within the Public Use Zone 1 (PUZ1) (refer to Figure 9).

Clause 36.01 – Public Use Zone 1 (PUZ1)

The purpose of PUZ is:

– *To implement the Municipal Planning Strategy and the Planning Policy Framework*
– *To recognise public land use for public utility and community services and facilities*
– *To provide for associated uses that are consistent with the intent of the public land reservation or purpose*

The purpose of the PUZ1 is for the use of land for service and utility. Under the PUZ1, a planning permit is required to use and construct or carry out works on land for the purpose of materials recycling.

The administration building located to the eastern end of the facility is deemed to be ancillary to the main use by virtue of its scale, its direct nexus with the main use, its operation, no retail or commercial footprint, and attachment to the main RRON facility.

Pursuant to clause 36.01-3, an application for a permit under the PUZ1 must be accompanied by written consent from the public land manager (PLM). Barwon Water is the public land manager for this land; therefore, PLM consent is not required to accompany the application.

6.3.3 Overlays

An Environmental Significance Overlay, Schedule 2 (ESO2) covers a small portion of the subject site to the south-west. However, the Project Area does not fall under the ESO2 (refer to Figure 10).

Therefore, there are no permit triggers relating to the Project under the ESO2.

Figure 9 Planning zones

Figure 10 Planning overlays

6.3.4 Particular provisions

Table 13 Assessment of relevant particular provisions

Particular provision	Assessment against the Project
Clause 52.05 – Signs	Clause 52.05 seeks to regulate the development of land for signs and similar structures to ensure their compatibility with the amenity and visual appearance of the surrounding area. Pursuant to clause 52.05-6, a permit is not required to construct or display a sign that: – Identifies the functions or property of a public authority – Is located within the road reserve that provides guidance about a facility of interest to road users, displayed to the satisfaction of the responsible authority – Is smaller than two square metres concerning construction work The PUZ1 is attributed Category 4 – Sensitive areas under Clause 52.05. Under Category 4, a permit is not required to display a direction sign. The Project includes the installation of three signs for the purpose of identifying the function of the site as a materials facility operated by Barwon Water (a public authority). The signs will be constructed to a similar size and appearance as shown in Figure 11 and placed in the locations identified in Figure 12. Any construction signs temporarily displayed will be less than two square metres. Therefore, the proposed signs do not require a permit under clause 52.05-10.
Clause 52.06 – Car parking	Clause 52.06 seeks to regulate the provision of car parking. Pursuant to clause 52.06-2, before a new use commences, the number of car parking spaces required by clause 52.06-5 must be provided to the satisfaction of the RA. In accordance with clause 52.06-5, 10 per cent of the site area of land used for materials recycling must be allocated to the provision of car parking spaces. The Project will occupy a site area of 15,000 m^2 so 1500 m^2 must be allocated for car parking. The proposed car park is approximately 145 m^2, accommodating 10 parking spaces. Therefore, a planning permit is required to reduce the required provision of parking. The Project is assessed against clause 52.06 in Section 7.2.
Clause 52.34 – Bicycle provisions	The purpose of clause 52.34 is to ensure development encourages and provides for cycling as a mode of transport. In accordance with Table 1 to clause 52.34, one bicycle space must be provided to each 1000 m^2 of net floor area for the use of land for industry. Materials recycling falls within the umbrella term of 'Industry' as defined within clause 73.03. Table 2 requires one shower to be provided for the first five bicycle spaces, plus one for each 10 bicycle spaces thereafter. Table 3 requires one change room or direct access to a communal change room to be provided per shower. The Project will occupy a total floor space of 6586 m^2. Therefore, a total of seven bicycle spaces, one shower, and one communal change room must be provided in accordance with this clause. Only six bicycle spaces and one shower/communal change room facility has been provided on the ground floor of the administration building (refer to Attachment 3). As such, approval is being sought to reduce the number of bicycle spaces provided under clause 52.34-5. The Project is assessed against clause 52.34-5 in Section 7.3.
Clause 53.10 – Uses and activities with potential adverse impacts	The purpose of clause 53.10 is to *identify those types of uses and activities, which if not appropriately designed and located, may cause offence or unacceptable risk to the neighbourhood.* The table to clause 53.10-1 states there is no threshold distance specified for organic materials recycling. Therefore, in accordance with clause 53.10-1 any application to use the land for this purpose must be referred to the Environment Protection Authority (EPA) under Section 55 of the Act.
Clause 53.22 – Significant economic development	The key purpose of clause 53.22 is *to prioritise and facilitate the planning, assessment and delivery of projects that will make a significant contribution to Victoria's economy and provide substantial public benefit, including jobs for Victorians.* In accordance with clause 53.22-1, this application meets the requirements of 'Category 1' as a use listed within Table 2 (Industry) with an estimated cost of development over $10 million on land that is not within metropolitan Melbourne. An assessment against clause 53.22 has been included in Section 7.3.

Figure 11 *Existing signage at the Project site*

Figure 12 *Proposed location of signage (3) for signage purposes only*

6.3.5 Mandatory referrals and notifications

Mandatory referrals required under clause 66.02 of the Scheme are identified in Table 14 below.

Table 14 *Mandatory referrals applicable to the Project*

Clause	Type of application	Referral authority
66.02-1	For a use or development application requiring a Development Licence in accordance with Part 4.4 of the *Environment Protection Act 2017*.	EPA as a determining referral authority
66.02-7	To use land for an industry for a purpose listed in the table to clause 53.10 with no threshold distance specified.	EPA as a determining referral authority

7. Planning assessment

A planning permit is required under:

– Clause 36.01 to develop land for materials recycling in the PUZ1
– Clause 52.06 to reduce the required number of car parking spaces
– Whilst clause 53.22 is not a permit requirements provision, an assessment has been included below to demonstrate its relevance to this Project.

A response to the application requirements and decision guidelines of each planning control is provided within this section.

7.1 Assessment against Clause 36.01 – PUZ1

Table 15 Assessment against Clause 36.01 – PUZ1

Application requirements
As identified in Section 6.3.2, Barwon Water is the public land manager of the property that the RRON facility will be located on. Therefore, written consent is not required.
Decision guidelines
The RRON facility will complement existing operations within the Black Rock WRP which include recycled water production, biosolids recycling, and renewable energy generation. It has existing high quality road access that is not relied upon heavily by the surrounding community. As discussed in Section 5.2.1, it is anticipated that Black Rock Road and the Project site will be able to comfortably accommodate the proposed traffic volumes and vehicle movements associated the Project. The size and energy-intensive nature of treating and transporting wastewater makes Black Rock WRP one of the region's biggest carbon emitters. Locating the RRON facility at this location will allow Barwon Water to directly offset the GHG emissions currently produced onsite. Additionally, the facility will complement the existing operations at Black Rock WRP, such as recycled water production, biosolids recycling, and renewable energy generation.

7.2 Assessment against Clause 52.06 – Car parking

Table 16 Assessment against Clause 52.06 – Car parking

Application requirements
A Car Parking Demand Assessment has been prepared and is included within the Traffic Assessment at Attachment 11. A car parking plan has been prepared as part of the design drawings in Attachment 3. The car parks have been designed to meet the design standards of clause 52.06-9.
Decision guidelines
The car park will be located at the entrance to the RRON facility, on the eastern side of the buildings directly outside the administration building. This car park will be used by employees and visitors. Four separate parking bays for truck deliveries have been provided at the southern side of the facility within the digestate drying area. All vehicles will enter the site from the eastern entrance off Blackrock Road via a driveway. The provision of 10 car parking spaces is considered reasonable on the basis that no more nine of 14 employees will be onsite at any one time (including during shift change) and visitors will be infrequent. Conservative estimates anticipate that 10 car parking spaces will sufficiently meet peak car parking demand. On the rare occasion that additional spaces may be require, there are additional car parking vacancies related to other operations at the site which may be utilised. The parking bays are all allocated on the western side of the car park, providing pedestrians direct access to the footpaths and the administration building to maintain separation from incoming and outgoing traffic. Vehicles are provided one-way access through the carpark, being circulated via a roundabout which permits entry from the south and exit from the north. One parking bay for use by people with disabilities and a shared zone cyclist parking has been allocated directly adjacent to the front entrance of the administrative building. The RRON facility will be setback from the property boundary, obscured from view from Blackrock Road by a grassy knoll and existing vegetation. Further vegetation will be planted as part of the Project's construction to provide further visual concealment and enhance the natural environment. Security, lighting, and shading can be conditioned on any approval given.

The car park will be set back from all property boundaries, and the nearest residential dwelling is located more than 370 m west of the facility. It is not expected to result in any significant increases in noise or disturbance to the surrounding users. Due to the siting of the car park, it will not compromise any pedestrian or cyclist movements along Blackrock Road. The design, siting, and layout of the carpark are consistent with the design standards specified by clause 52.06-9 and Australian Standards AS2890.1-2004 (off street) and AS2890.6-2009 (disabled). For further detail, refer to the Traffic Assessment enclosed at Attachment 11 and the design drawings enclosed at Attachment 3.

7.3 Assessment against Clause 52.34 – Bicycle facilities

Table 17 Assessment against Clause 52.06 – Car parking

Application requirements
The proposed bicycle facilities will be designed to the design requirements of clause 52.34-6. Design drawings have been included in Attachment 3.
Decision guidelines
The Project has included the provision of six bicycle spaces and one shower/communal changing facility located on the ground floor of the administration building. A TIA prepared for the Project confirmed that given the location of the facility and the fact that there will be only 14 full time employees and only nine onsite at any one time, it is unreasonable to expect 50 per cent of employees to cycle to work and therefore the provision of six spaces (as opposed to the seven required under clause 52.34-6) is considered sufficient (Attachment 11). There are generally limited pedestrian and cyclist facilities within the vicinity of the Project site. The Black Rock Bike Path which forms part of the Strategic Cycling Corridor, passes through the northern section of the Project site, and does not directly connect to the Project area. Pedestrian footpaths are not present along Blackrock Road. The bicycle facilities will be constructed in accordance with Australian Standard AS 2890.3 1993 Parking facilities Part 3: Bicycle parking facilities. For further detail, refer to the Traffic Assessment enclosed at Attachment 11 and the design drawings enclosed at Attachment 3.

7.4 Assessment against Clause 53.22 – Significant economic development

Table 18 Assessment against Clause 53.22 – Significant economic development

Application requirements
Clause 53.22-3 states that an application must be accompanied by a quantity surveyor report prepared by a suitably qualified person specifying the estimated cost of the development, and the written advice of the Chief Executive Officer of Invest Victoria. Per pre-application discussions with DTP, a quantity survey report and the written advice of the Chief Executive Officer of Invest Victoria has not been provided and is not required as the Project is partly funded by the State government.
Decision guidelines
Prior to making a decision on this application, the RA must consider the following: – Purpose of clause 53.22 – Decision guidelines of clause 65.01 – Views of the Office of the Victorian Government Architect The purpose of clause 53.22 is to facilitate high quality projects that will significantly contribute to the Victorian economy and provide substantial public benefit. As demonstrated throughout this application, the Project will benefit the local and broader community by reducing Victoria's carbon footprint, providing clean energy, creating additional jobs, and supporting a circular economy. The matters to be considered under clause 65.01 have been adequately considered and addressed throughout this report, as there is unlikely to be any effect on the environment, human health, and amenity of the area, and the Project will not impact on the current and future development and operation of the transport system given its location and the nature of the use.

8. Conclusion

This report has been prepared on behalf of Barwon Water to support an application for a planning permit for the development of the RRON facility at 400 Blackrock Road, Connewarre. Under the Greater Geelong Planning Scheme, a planning permit is required for the use and development of a materials recycling facility under the PUZ1, to reduce the provision of car parking under clause 52.06, and to reduce the provision of bicycle facilities under clause 52.34-5.

The RRON facility is a materials recycling facility that will convert organic waste into carbon-capture products for renewable energy production and high value use in agribusiness and sustainable manufacturing and construction materials. The Project is expected to deliver significant environmental, economic, and community benefits to the region, including reduced GHG emissions, clean energy production, job creation, and a reduced carbon footprint.

The Project is considered to align with the provisions and policies of the Greater Geelong Planning Scheme as:

- The Project will deliver significant environmental, social, and economic benefits to the wider community
- It is expected to have negligible impacts to the natural and coastal environment and cultural heritage values
- The Project has been sited and designed to ensure that the surrounding amenity of the rural area is not negatively impacted by air and noise pollution, or traffic associated with the construction or operation of the facility
- Barwon Water has upheld best practice community and stakeholder engagement practices across the Project lifecycle to date, maintaining transparency and addressing community concerns through the Project's design
- Significant consideration has been given to screening measures, with the RRON facility being setback from the property boundary and obscured from view by existing and planted vegetation
- The Project will be a key driver in establishing a circular economy in the management of organics waste, aligning with local and state strategic policies
- The variations to clauses 52.06 and 52.34 are unlikely to have a detrimental effect on the community
- The construction and operation of the RRON facility will support the local economy by providing local employment opportunities and shifting the region towards a renewable energy operations
- The Project will utilise 'carbon positive' technology that will result in a net reduction in emissions by 330,000 tonnes CO_2-e over its 25-year design life

Accordingly, given Barwon Water are anticipating commencement of construction by early 2025 we respectfully request that the Minister grants a timely planning permit for the proposed use and development.